ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- E-1 — DETAIL NUMBER / SHEET
- FLAG NOTE
- 1 — REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- SD — FIRE ALARM SMOKE DETECTOR
- SD — FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM — EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT. SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 2PDX etc. — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP — 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
IN	INCH/INCHES	WO	WITHOUT
		WP	WEATHERPROOF
KCMIL	THOUSAND CIRCULAR MILS	WT	WEIGHT
KO	KNOCK OUT		
KW	KILOWATT/KILOWATTS	XFR	TRANSFORMER
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13228 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09849
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E1-001

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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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c/o: King County Housing Authority,
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13228 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09849
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E1-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

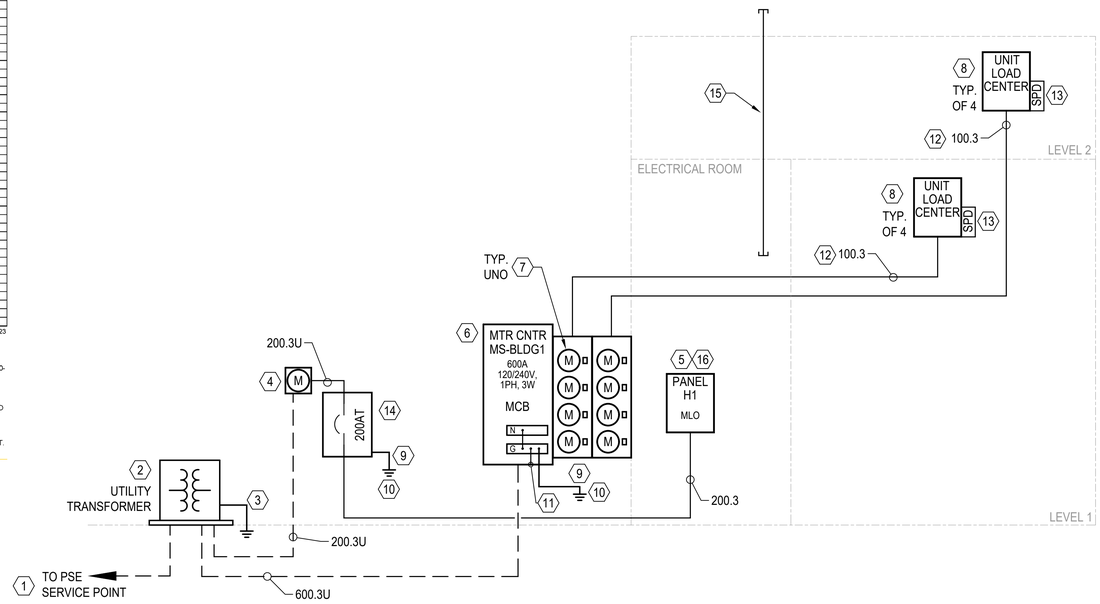
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS, WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH 'U' ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

△1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

△1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 1

UNIT TYPE: 2BR - 2.1 | **AREA (SF): 782** | 5/18/2023
DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] = 2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] = 1	CKTS x 1500VA	=	1.50	kVA
	SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:				
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.35	kVA
> 120,000VA:	25%	=	0.00	kVA
GENERAL LIGHTING LOAD - DEMAND		=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER		AT		=	0.00 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
	SUBTOTAL (CONNECTED)				=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:	75%					
GENERAL APPLIANCE LOAD - DEMAND					=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
GENERAL MOTOR LOAD - DEMAND				=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]		=	3.91	kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA
TOTAL DWELLING UNIT LOAD PER NEC 220, PART III				=	**23.54 kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):			
0 - 10kVA:	100%	=	10.00 kVA
> 10 kVA:	40%	=	5.39 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS; 65% NAMEPLATE		=	2.54 kVA
TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV		=	**17.93 kVA**

UNIT TYPE: 3BR - 3.1 | **AREA (SF): 906** | 5/18/2023
DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] = 2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] = 1	CKTS x 1500VA	=	1.50	kVA
	SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:				
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.48	kVA
> 120,000VA:	25%	=	0.00	kVA
GENERAL LIGHTING LOAD - DEMAND		=	**4.48 kVA**	

FIXED IN PLACE APPLIANCES [220.53]:

	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER		AT		=	0.00 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
	SUBTOTAL (CONNECTED)				=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:	75%					
GENERAL APPLIANCE LOAD - DEMAND					=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
GENERAL MOTOR LOAD - DEMAND				=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]		=	4.53 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA
TOTAL DWELLING UNIT LOAD PER NEC 220, PART III				=	**24.29 kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):			
0 - 10kVA:	100%	=	10.00 kVA
> 10 kVA:	40%	=	5.54 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS; 65% NAMEPLATE		=	2.94 kVA
TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV		=	**18.49 kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL | **MS - 8 unit STACK** | 5/18/2023
DEMAND LOAD (kVA): 95.86 => 399.4 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.6< X < 3.6kW QTY	1.6< X < 3.6kW LOAD (kVA)	3.6kW < X < 8.76kW QTY	3.6kW < X < 8.76kW LOAD (kVA)	8.76kW < X < 12kW QTY	8.76kW < X < 12kW LOAD (kVA)
2BR - 2.1	4	27.38	8.80	0.44	15.64	4	22.00	0	0.00	0	0.00	4	35.20
3BR - 3.1	4	28.87	8.80	0.44	18.12	4	22.00	0	0.00	0	0.00	4	35.20
0								0	0.00	0	0.00	0	0.00
TOTALS:	8	56.26	17.60	0.88	33.76	8	44.00	0	0.00	0	0.00	8	70.40

ADDITIONAL 25% OF LARGEST MOTOR: 0.03

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD		=	222.92 kVA
DEMAND FACTOR FROM TABLE 220.84 =	43%		
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC		=	**95.86 kVA**

KIRKLAND HEIGHTS - 8 UNIT STACK FLAT (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 8):	95.86 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	95.86 kVA
	399.40 AMPS @ 120/240V, 1-PHASE
	PROVIDE 600A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	5.6 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	38.71 kVA
	161.30 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	48.39 kVA
	201.6208 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	144.25 kVA
	601.03 AMPS @ 120/240V, 1-PHASE

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

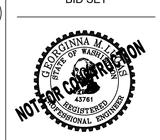
New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13228 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09849
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E1-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 2-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H1 — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — M.L.O OR MCB: MLO — 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY	L	0.15	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	SPARE		0.00		20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-1	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-2	22
23	LTG - SITE POLES	L	0.34	20.1	20 / 1	B						24
25	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	26
27	SPARE		0.00		20 / 1	B	20 / 1			0.00	SPARE	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - "SWH-1"	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP CP-1 & MX VALVE "MV-1	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD		DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.73	kVA	125%	0.91	kVA
R	= RECEPTACLES	3.78	kVA	NEC 220.44	3.78	kVA
M	= MOTORS	0.24	kVA	100%	0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA	25%	0.06	kVA
C	= CONTINUOUS	13.96	kVA	125%	17.45	kVA
N	= NON-CONTINUOUS	1.44	kVA	100%	1.44	kVA
K	= KITCHEN	0.00	kVA	75%	0.00	kVA

PANEL CONNECTED TOTAL: 20.15 kVA, 63.94 AMPS
PANEL DEMAND TOTAL: 23.68 kVA, 99.49 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.L.O OR MCB: MLO — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED. RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.L.O OR MCB: MLO — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED. RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP			1	
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1				1	
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163				2	
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15			3	
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES; DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13228 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

VIRGINNA M. BROWN — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SCHEDULES

PERMIT #	BMF22-09849
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E1-004

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

10/7/2021 7:33:34 AM

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
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117 S. Main St., Suite 400
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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13228 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

GEORGINNA M. LAMPSON
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

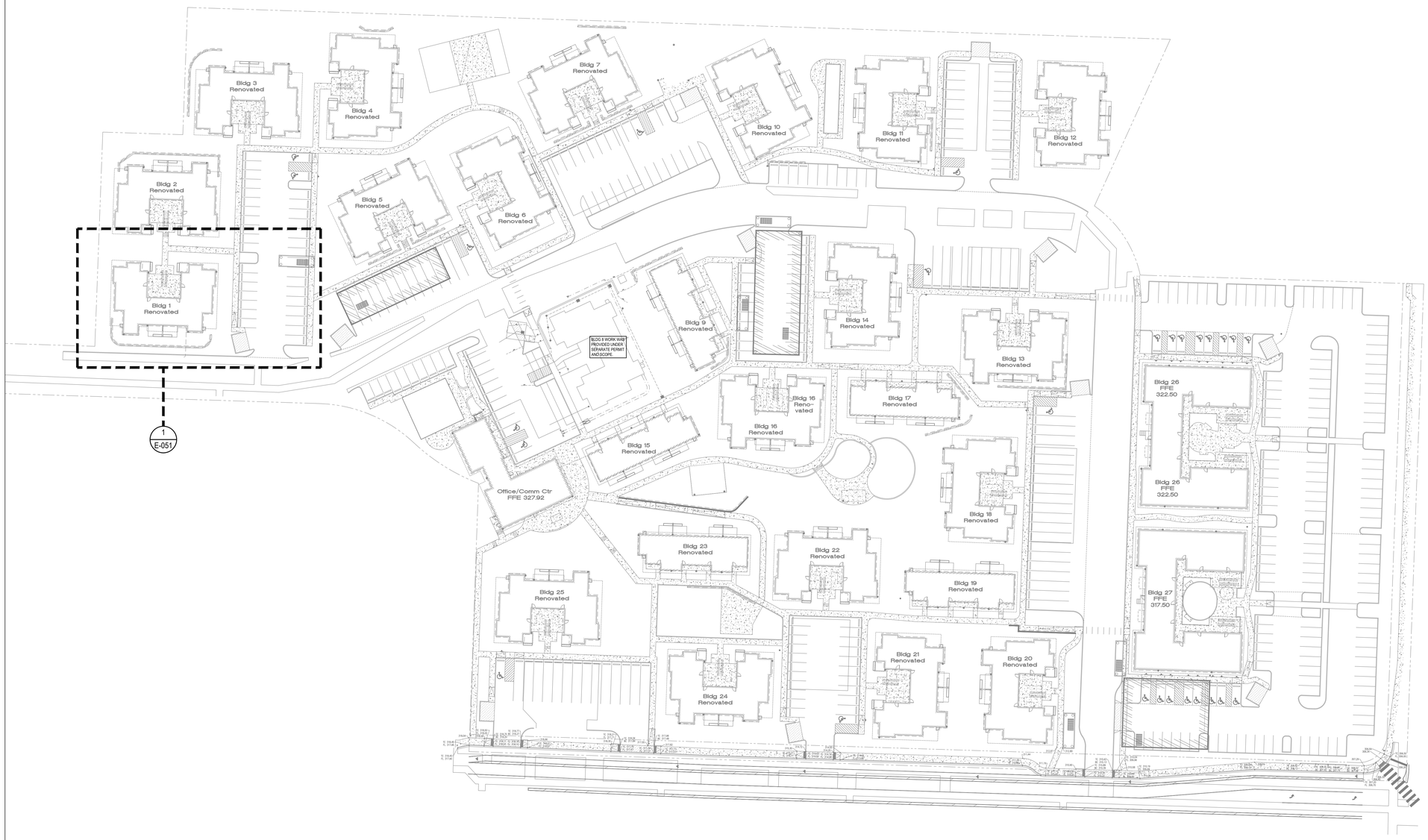
TITLE

LUMINAIRE SCHEDULE

PERMIT #	BMF22-09849
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E1-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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BUILDING 1

BID SET

GEORGINNA M. LEDGERWOOD
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

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DPD STAMP

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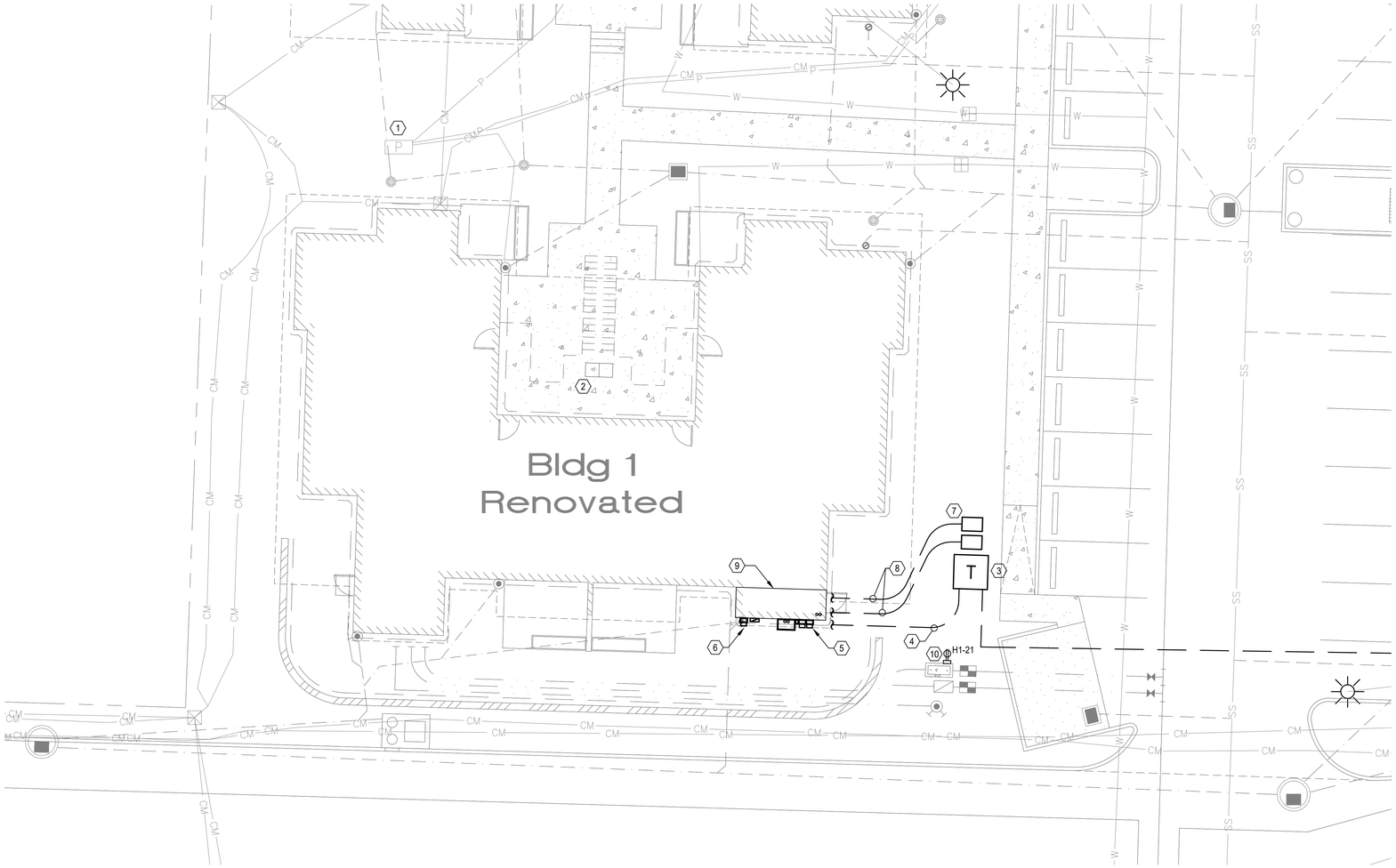
OVERALL PROJECT SITE PLAN

PERMIT #	BMF22-09849
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E1-050

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 1
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE. BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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Kirkland, WA 98034

BUILDING 1

BID SET

JACQUINNA M. STRICKLAND — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

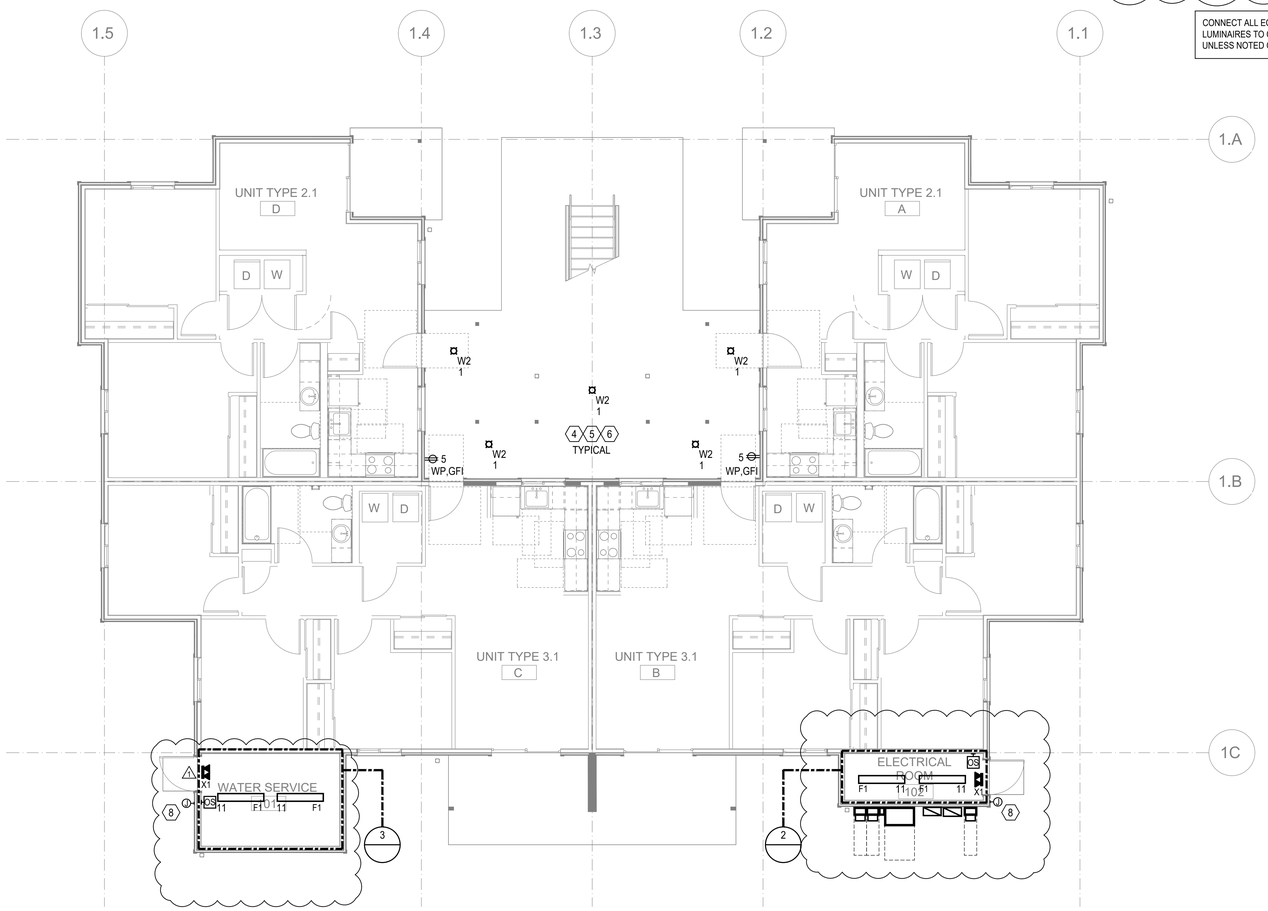
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ELECTRICAL SITE PLAN - BUILDING 1

PERMIT #	BMF22-09849
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SHEET NO.:

E1-051



POWER AND LIGHTING PLAN - BUILDING 1 - LEVEL 1

SCALE: 3/16"=1'-0"

1 EMERGENCY LIGHTING INVERTER LOADS:

INVERTER #1 (CKT H-1): 150 WATTS @ 125% = 188W DEMAND
- PROVIDE 220 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H1 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

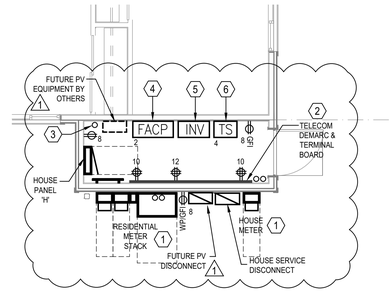
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

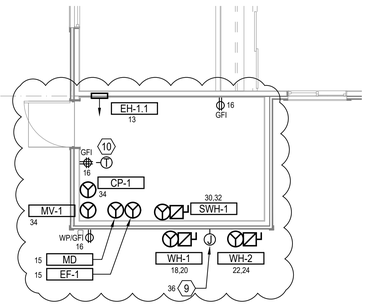
FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR APARTMENT UNITS AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 220 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR LIGHTING FIXTURES TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-220-PB-S-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 E1-101 **ELECTRICAL ROOM**

1/4"=1'-0"



3 E1-101 **WATER ROOM**

1/4"=1'-0"

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BUILDING 1

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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TITLE

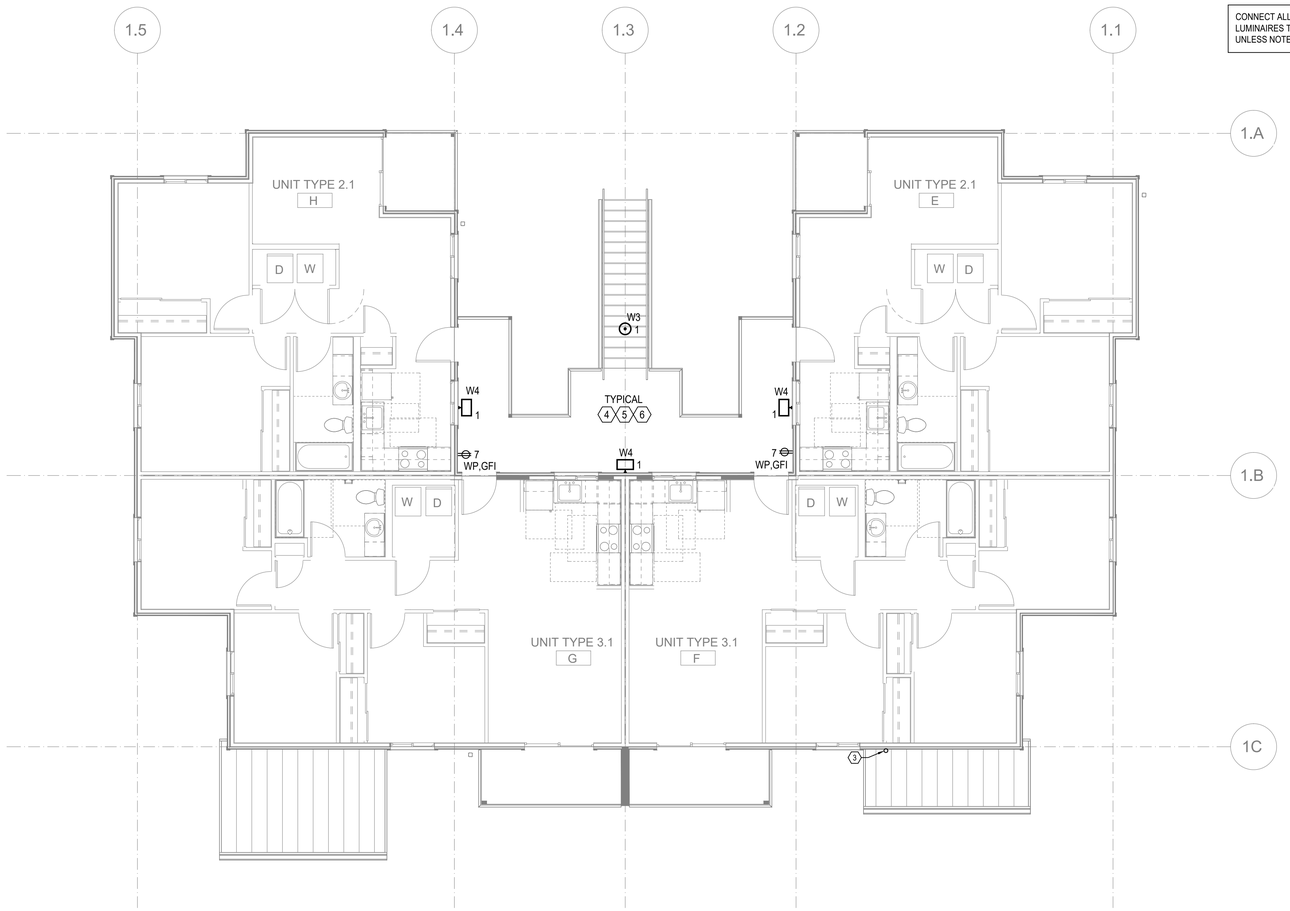
POWER AND LIGHTING PLAN - BUILDING 1 - LEVEL 1

PERMIT #	BMF22-09849
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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H1 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 1 - LEVEL 2

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

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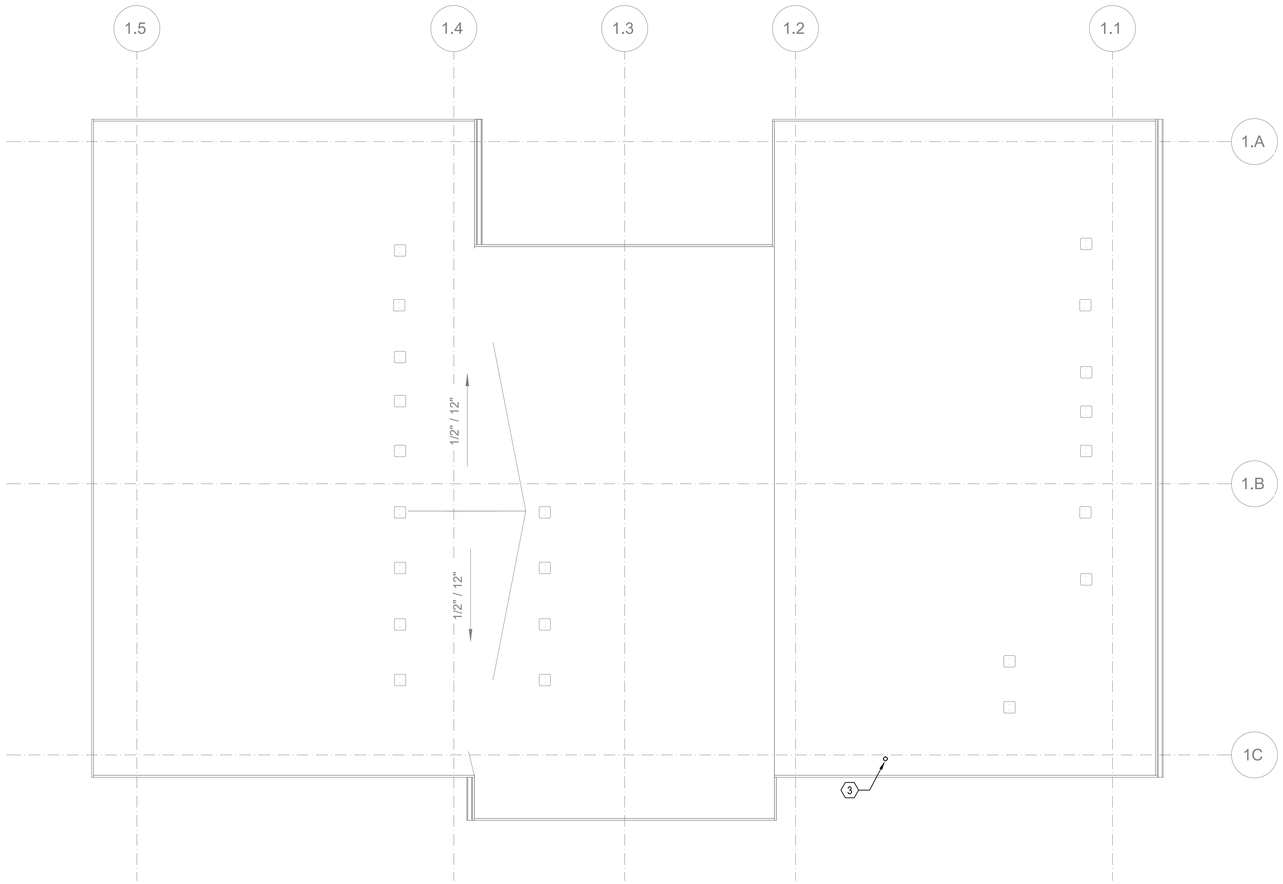
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POWER AND LIGHTING PLAN - BUILDING 1 - LEVEL 2

PERMIT #	BMF22-09849
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CHECKED	GL
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SHEET NO.:

E1-102



POWER PLAN - BUILDING 1 - ROOF

SCALE: 3/16"=1'-0"

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GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

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BID SET

JEROLGINNA M. ... STATE OF WASHINGTON ... 43761 ... REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

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POWER PLAN - BUILDING 1 - ROOF

PERMIT #	BMF22-09849
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SHEET NO.:

E1-103

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GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

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FLAG NOTES (X):

1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

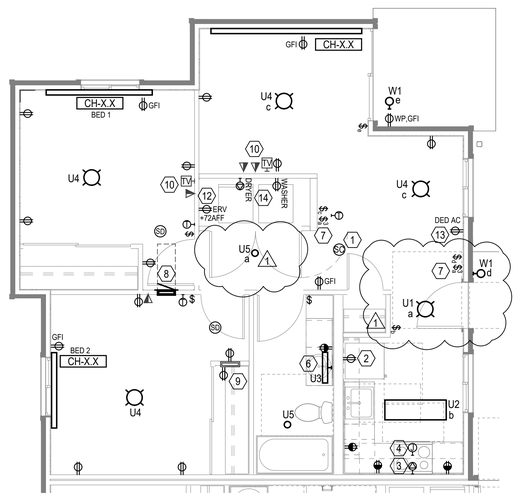
ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES			
		BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:

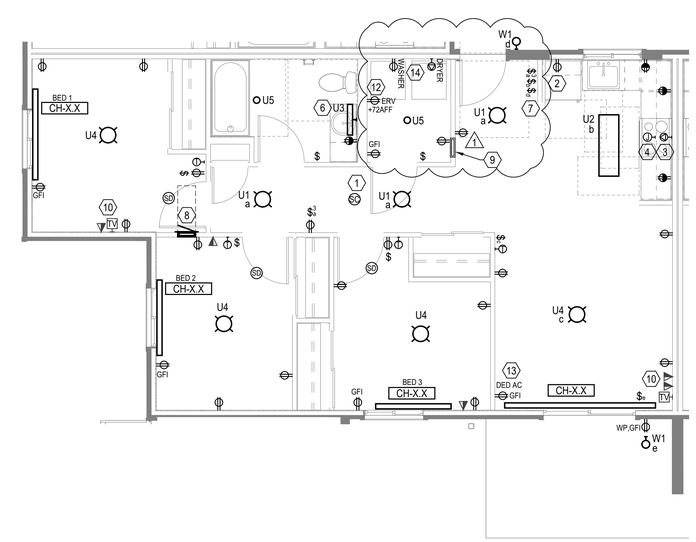
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**

1/4"=1'-0" UNITS: A, D, E, H



1 **ENLARGED PLAN - 3-BED**

1/4"=1'-0" UNITS: B, C, F, G

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13228 NE 133rd St.,
Kirkland, WA 98034

BUILDING 1

BID SET

JOAQUINNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

ENLARGED UNIT PLANS

PERMIT #	BMF22-09849
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- E-1 — DETAIL NUMBER / SHEET
- FLAG NOTE
- 1 — REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- SD — FIRE ALARM SMOKE DETECTOR
- CO — FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM — EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP / F — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $3PDX — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP — 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M / M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
		W/	WITH
IMC	INTERMEDIATE METAL CONDUIT	WO	WITHOUT
IN	INCH/INCHES	WP	WEATHERPROOF
		WT	WEIGHT
KCMIL	THOUSAND CIRCULAR MILS		
KO	KNOCK OUT	XFR	TRANSFORMER
KW	KILOWATT/KILOWATTS		
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13230 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09850
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13230 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09850
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E2-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10
40.3	(1) 1-INCH	CU	(3) #5	#10
40.2N	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10
40.2	(1) 1-INCH	CU	(2) #5	#10
40.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

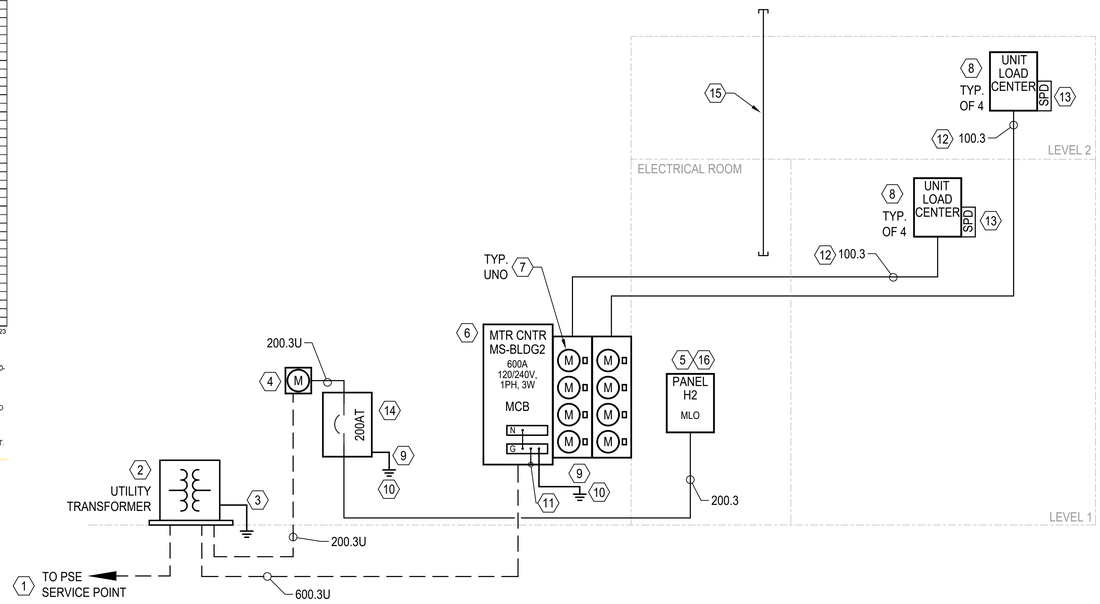
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS, WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH 'U' ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

△1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

△1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 2

UNIT TYPE: 2BR - 2.1 | **AREA (SF): 782** | 5/18/2023
DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] = 2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] = 1	CKTS x 1500VA	=	1.50	kVA
	SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:				
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.35	kVA
> 120,000VA:	25%	=	0.00	kVA
GENERAL LIGHTING LOAD - DEMAND		=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER		AT		=	0.00 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
	SUBTOTAL (CONNECTED)				=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:	75%					
GENERAL APPLIANCE LOAD - DEMAND					=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
GENERAL MOTOR LOAD - DEMAND				=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 3.91 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 23.54 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):			
0 - 10kVA:	100%	=	10.00 kVA
> 10 kVA:	40%	=	5.39 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS: 65% NAMEPLATE = 2.54 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 17.93 kVA

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UNIT TYPE: 3BR - 3.1 | **AREA (SF): 906** | 5/18/2023
DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] = 2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] = 1	CKTS x 1500VA	=	1.50	kVA
	SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:				
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.48	kVA
> 120,000VA:	25%	=	0.00	kVA
GENERAL LIGHTING LOAD - DEMAND		=	**4.48 kVA**	

FIXED IN PLACE APPLIANCES [220.53]:

	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER		AT		=	0.00 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
	SUBTOTAL (CONNECTED)				=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:	75%					
GENERAL APPLIANCE LOAD - DEMAND					=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
GENERAL MOTOR LOAD - DEMAND				=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 4.53 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 24.29 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):			
0 - 10kVA:	100%	=	10.00 kVA
> 10 kVA:	40%	=	5.54 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS: 65% NAMEPLATE = 2.94 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 18.49 kVA

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL | **MS - 8 unit STACK** | 5/18/2023
DEMAND LOAD (kVA): 95.86 => 399.4 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.6< X < 3.6kW QTY	1.6< X < 3.6kW LOAD (kVA)	3.6kW < X < 8.76kW QTY	3.6kW < X < 8.76kW LOAD (kVA)	8.76kW < X < 12kW QTY	8.76kW < X < 12kW LOAD (kVA)
2BR - 2.1	4	27.38	8.80	0.44	15.64	4	22.00	0	0.00	0	0.00	4	35.20
3BR - 3.1	4	28.87	8.80	0.44	18.12	4	22.00	0	0.00	0	0.00	4	35.20
0								0	0.00	0	0.00	0	0.00
TOTALS:	8	56.26	17.60	0.88	33.76	8	44.00	0	0.00	0	0.00	8	70.40

ADDITIONAL 25% OF LARGEST MOTOR: 0.03

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD = 222.92 kVA
DEMAND FACTOR FROM TABLE 220.84 = 43%

TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC = 95.86 kVA

KIRKLAND HEIGHTS - 8 UNIT STACK FLAT (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 8):	95.86 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	95.86 kVA
	399.40 AMPS @ 120/240V, 1-PHASE
	PROVIDE 600A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	5.6 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	38.71 kVA
	161.30 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	48.39 kVA
	201.6208 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	144.25 kVA
	601.03 AMPS @ 120/240V, 1-PHASE

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Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13230 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET



NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09850
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E2-003

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED FOR OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1485	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H2
NORMAL POWER — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
BUS RATING: 200 AMPS — M.L.O. OR MCB: MLO — 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	TG - BREEZEWAY	L	0.15	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	1
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	SPARE		0.00		20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-1	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - "WH-2"	22
23	SPARE		0.00		20 / 1	B						24
25	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	26
27	SPARE		0.00		20 / 1	B	20 / 1			0.00	SPARE	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - "SWH-1"	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP "CP-1" & MIX VALVE "MV-1"	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD		DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.39	kVA	125%	0.49	kVA
R	= RECEPTACLES	3.78	kVA	NEC 220.44	3.78	kVA
M	= MOTORS	0.24	kVA	100%	0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA	25%	0.06	kVA
C	= CONTINUOUS	13.99	kVA	125%	17.48	kVA
N	= NON-CONTINUOUS	1.44	kVA	100%	1.44	kVA
K	= KITCHEN	0.00	kVA	75%	0.00	kVA

PANEL CONNECTED TOTAL: 19.81 kVA / 82.53 AMPS
PANEL DEMAND TOTAL: 23.45 kVA / 97.72 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM
NORMAL POWER — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
BUS RATING: 100 AMPS — M.L.O. OR MCB: MLO — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED. RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM
NORMAL POWER — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
BUS RATING: 100 AMPS — M.L.O. OR MCB: MLO — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED. RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES; DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13230 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

VIRGINNA M. BROWN — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SCHEDULES

PERMIT #	BMF22-09850
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E2-004

10/7/2021 7:33:34 AM

LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13230 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

GEORGINNA M. LAMPMAN
STATE OF WASHINGTON
43761
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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TITLE

LUMINAIRE SCHEDULE

PERMIT #	BMF22-09850
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JOB NO.	22016

SHEET NO.:

E2-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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REVISIONS / NOTES

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TITLE

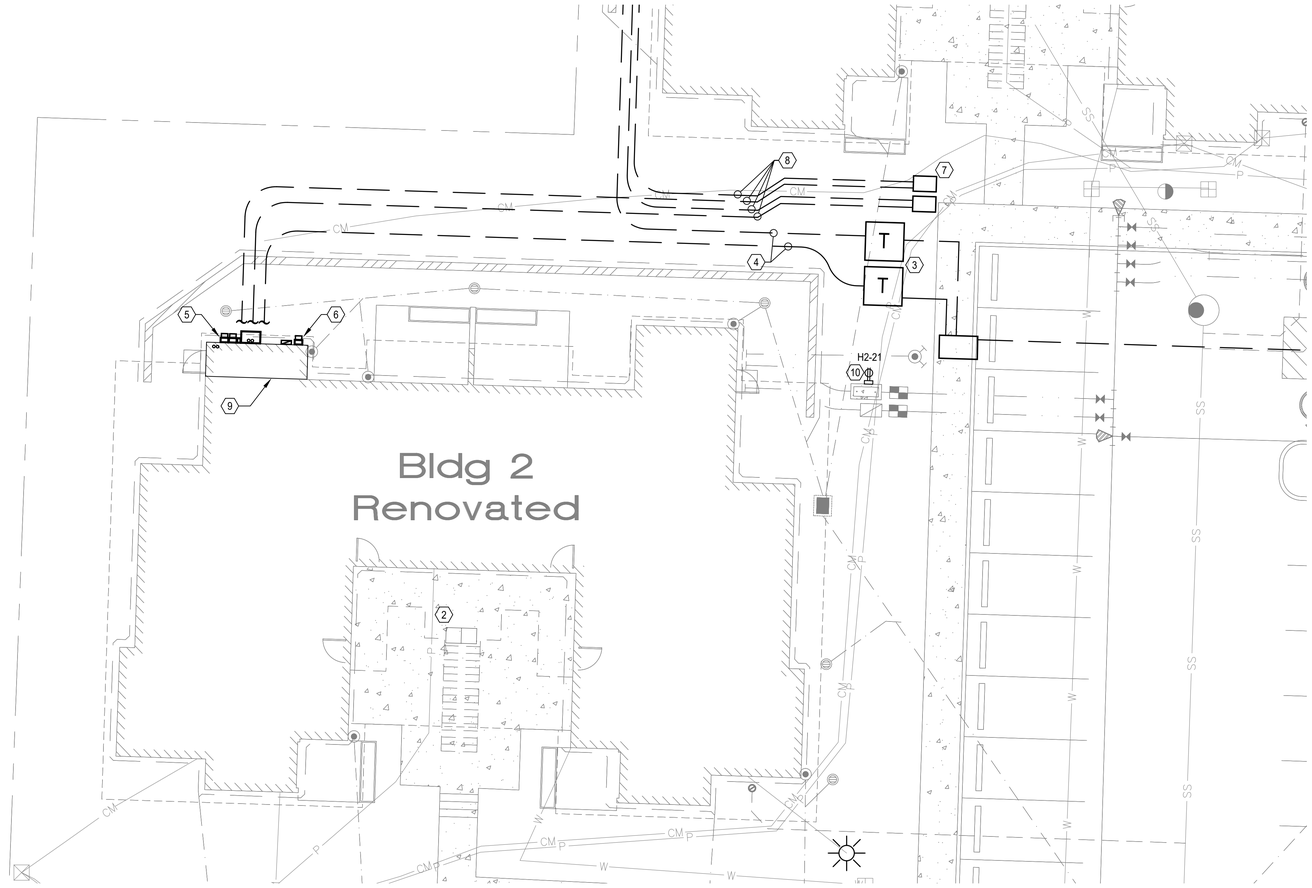
OVERALL PROJECT SITE PLAN

PERMIT #	BMF22-09850
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CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E2-050

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 2
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE; BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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GEORGINNA M. LAMPMAN — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
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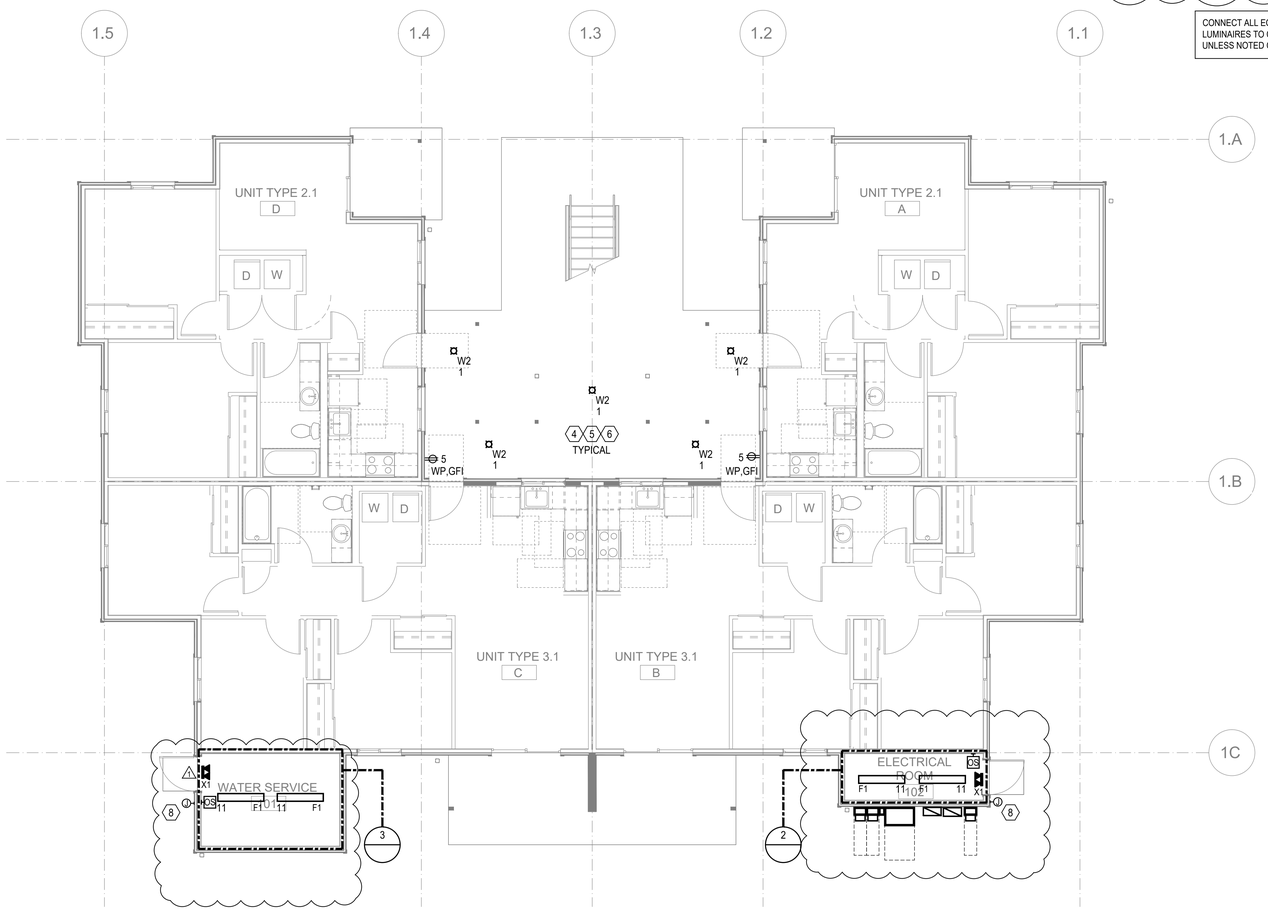
ELECTRICAL SITE PLAN - BUILDING 2

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E2-051

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POWER AND LIGHTING PLAN - BUILDING 2 - LEVEL 1

SCALE: 3/16"=1'-0"

1. EMERGENCY LIGHTING INVERTER LOADS:

   INVERTER #1 (CKT H-1): 150 WATTS @ 125% = 188W DEMAND
   - PROVIDE 220 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H2 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

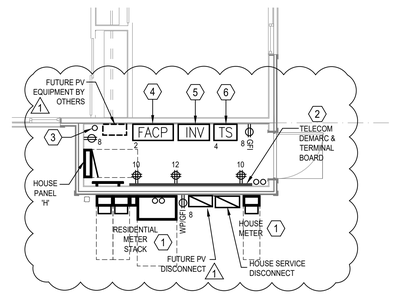
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

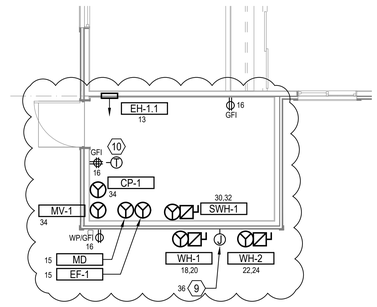
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR APARTMENT UNITS AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 220 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM. TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR LIGHTING FIXTURES TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-220-PB-S-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 E101 ELECTRICAL ROOM
1/4"=1'-0"



3 E101 WATER ROOM
1/4"=1'-0"

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13230 NE 133rd St.,
Kirkland, WA 98034

BUILDING 2

BID SET

JOHANNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
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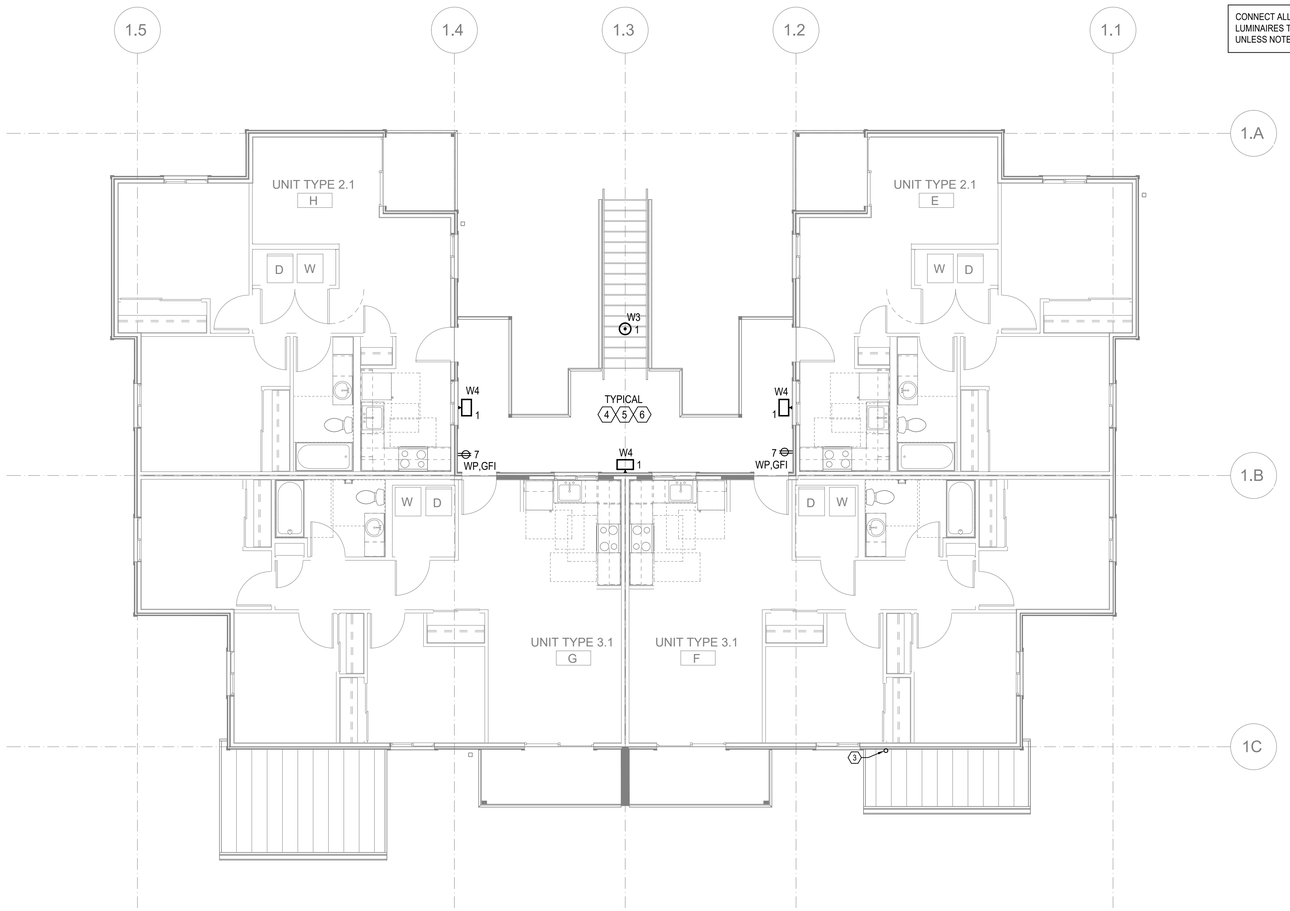
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POWER AND LIGHTING PLAN - BUILDING 2 - LEVEL 1

PERMIT #	BMF22-09850
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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H2 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 2 - LEVEL 2

SCALE: 3/16"=1'-0"

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TITLE

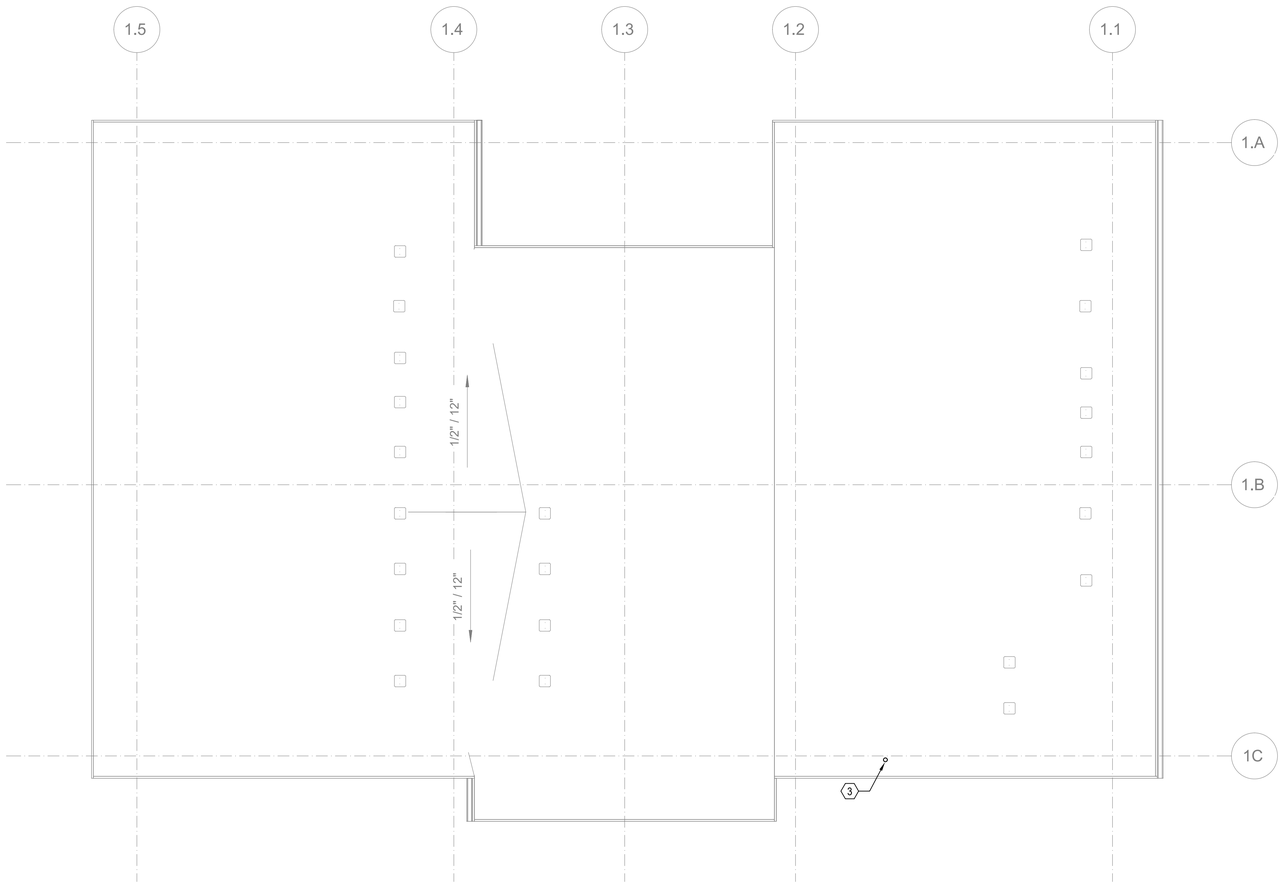
POWER AND LIGHTING PLAN - BUILDING 2 - LEVEL 2

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POEWR PLAN - BUILDING 2 - ROOF

SCALE: 3/16"=1'-0"

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GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

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BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
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POWER PLAN - BUILDING 2 - ROOF

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SHEET NO.:

E2-103

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GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

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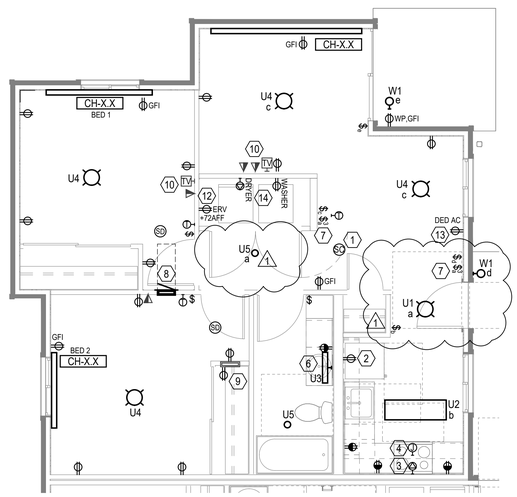
FLAG NOTES (X):

1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

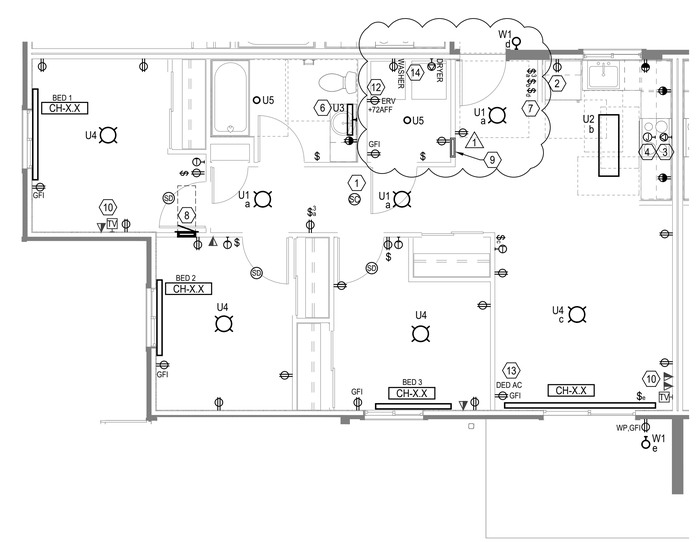
ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES			
		BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**
1/4"=1'-0" UNITS: A, D, E, H



1 **ENLARGED PLAN - 3-BED**
1/4"=1'-0" UNITS: B, C, F, G

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KIRKLAND HEIGHTS APARTMENTS

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BUILDING 2

BID SET

JOAQUINNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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ENLARGED UNIT PLANS

PERMIT #	BMF22-09850
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET
- FLAG NOTE
- REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM — EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT. SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP / F — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 2PDX etc. — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP — 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
		W/	WITH
IMC	INTERMEDIATE METAL CONDUIT	WO	WITHOUT
IN	INCH/INCHES	WP	WEATHERPROOF
		WT	WEIGHT
KCMIL	THOUSAND CIRCULAR MILS		
KO	KNOCK OUT	XFR	TRANSFORMER
KW	KILOWATT/KILOWATTS		
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13232 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

GEORGINA L. BYERS — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13232 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09851
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E3-002

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FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

5/18/2023

GENERAL SCHEDULE NOTES:

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

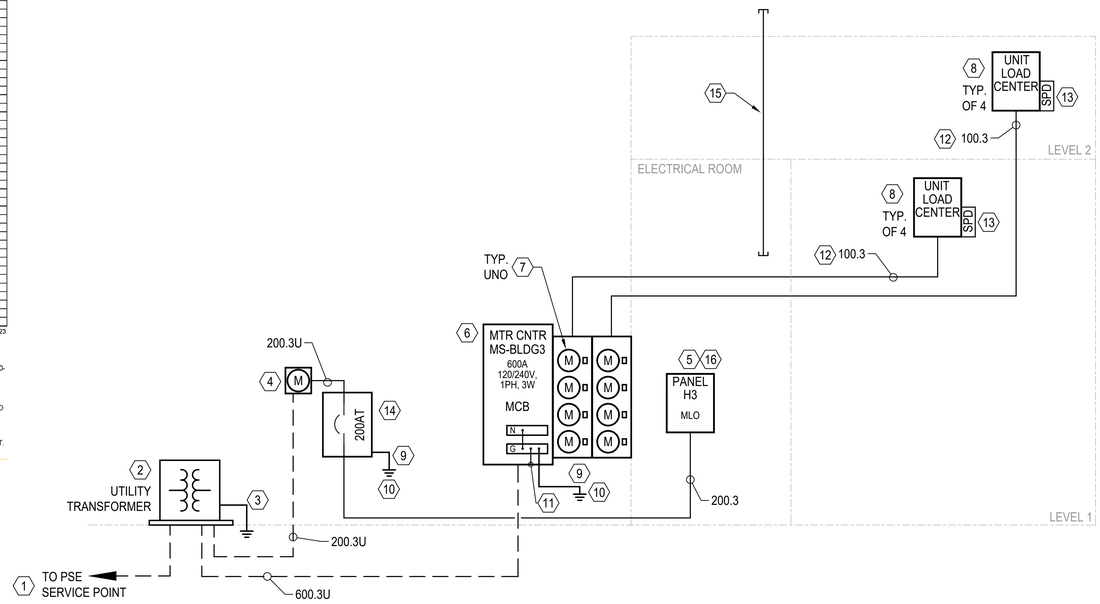
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS, WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH 'U' ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES ⓧ :

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

△1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

△1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 3

UNIT TYPE: 2BR - 2.1 | **AREA (SF): 782** | 5/18/2023

DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.35	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY	AT	LOAD (kVA EACH)			
	REFRIGERATOR	1	AT	0.7	=	0.70	kVA
	RANGE HOOD	1	AT	0.3	=	0.30	kVA
	MICROWAVE		AT		=	0.00	kVA
	DISHWASHER		AT		=	0.00	kVA
	WASHER	1	AT	1.2	=	1.20	kVA
	GARBAGE DISPOSAL		AT		=	0.00	kVA
	WATER HEATER		AT		=	0.00	kVA
				SUBTOTAL (CONNECTED)	=	2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:				75%			
				GENERAL APPLIANCE LOAD - DEMAND	=	**1.65**	**kVA**

MOTORS [220.60]:	QTY	AT	LOAD (kVA EACH)			
TOILET EXHAUST FAN		AT		=	0.00	kVA
ERV UNIT	1	AT	0.11	=	0.11	kVA
KITCHEN EXHAUST FAN		AT		=	0.00	kVA
+25% OF LARGEST MOTOR				=	0.03	kVA
			GENERAL MOTOR LOAD - DEMAND	=	**0.14**	**kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]			=	3.91	kVA
	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA
			TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	=	**23.54 kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:	100%		=	10.00 kVA
> 10 kVA:	40%		=	5.39 kVA
ELECTRIC HEAT AND AC [220.82(C)]:				
LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS: 65% NAMEPLATE		=	2.54 kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**17.93 kVA**

UNIT TYPE: 3BR - 3.1 | **AREA (SF): 906** | 5/18/2023

DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.48	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY	AT	LOAD (kVA EACH)			
	REFRIGERATOR	1	AT	0.7	=	0.70	kVA
	RANGE HOOD	1	AT	0.3	=	0.30	kVA
	MICROWAVE		AT		=	0.00	kVA
	DISHWASHER		AT		=	0.00	kVA
	WASHER	1	AT	1.2	=	1.20	kVA
	GARBAGE DISPOSAL		AT		=	0.00	kVA
	WATER HEATER		AT		=	0.00	kVA
				SUBTOTAL (CONNECTED)	=	2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:				75%			
				GENERAL APPLIANCE LOAD - DEMAND	=	**1.65**	**kVA**

MOTORS [220.60]:	QTY	AT	LOAD (kVA EACH)			
TOILET EXHAUST FAN		AT		=	0.00	kVA
ERV UNIT	1	AT	0.11	=	0.11	kVA
KITCHEN EXHAUST FAN		AT		=	0.00	kVA
+25% OF LARGEST MOTOR				=	0.03	kVA
			GENERAL MOTOR LOAD - DEMAND	=	**0.14**	**kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]			=	4.53	kVA
	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA
			TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	=	**24.29 kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:	100%		=	10.00 kVA
> 10 kVA:	40%		=	5.54 kVA
ELECTRIC HEAT AND AC [220.82(C)]:				
LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS: 65% NAMEPLATE		=	2.94 kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**18.49 kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL | **MS - 8 unit STACK** | 5/18/2023

DEMAND LOAD (kVA): 95.86 => 399.4 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.6< X < 3.6kW QTY	1.6< X < 3.6kW LOAD (kVA)	3.6kW < X < 8.76kW QTY	3.6kW < X < 8.76kW LOAD (kVA)	8.76kW < X < 12kW QTY	8.76kW < X < 12kW LOAD (kVA)
2BR - 2.1	4	27.38	8.80	0.44	15.64	4	22.00	0	0.00	0	0.00	4	35.20
3BR - 3.1	4	28.87	8.80	0.44	18.12	4	22.00	0	0.00	0	0.00	4	35.20
0								0	0.00	0	0.00	0	0.00
TOTALS:	8	56.26	17.60	0.88	33.76	8	44.00	0	0.00	0	0.00	8	70.40
ADDITIONAL 25% OF LARGEST MOTOR:				0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD =	222.92	kVA
DEMAND FACTOR FROM TABLE 220.84 =	43%	
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC =	**95.86**	**kVA**

KIRKLAND HEIGHTS - 8 UNIT STACK FLAT (REHAB)

PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 8):	95.86 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	95.86 kVA
	399.40 AMPS @ 120/240V, 1-PHASE
	PROVIDE 600A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	5.6 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	38.71 kVA
	161.30 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	48.39 kVA
	201.6208 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	144.25 kVA
	601.03 AMPS @ 120/240V, 1-PHASE

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Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13232 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

JOANNA M. DOLAN — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09851
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E3-003

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 2-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H3
NORMAL POWER — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
BUS RATING: 200 AMPS — M.L.O. OR M.C.B.: M.L.O. — 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	CONN LOAD kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	CONN LOAD kVA	DESCRIPTION	CKT #
1	TG - BREEZEWAY	L	0.15	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG-TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	SPARE		0.00		20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM.	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-1*	18
19	SPARE		0.00		20 / 1	B					-	20
21	HEAT TRACE - WATER CONN. (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-2*	22
23	SPARE		0.00		20 / 1	B					-	24
25	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	26
27	SPARE		0.00		20 / 1	B	20 / 1			0.00	SPARE	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH-SWING TANK- SWH-1*	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP CP-1* & MIX VALVE MV-1	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD		DEMAND FACTOR		DEMAND LOAD	
L	= LIGHTING	0.39	kVA	125%		0.49	kVA
R	= RECEPTACLES	3.78	kVA	NEC 220.44		3.78	kVA
M	= MOTORS	0.24	kVA	100%		0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA	25%		0.06	kVA
C	= CONTINUOUS	13.95	kVA	125%		17.45	kVA
N	= NON-CONTINUOUS	1.44	kVA	100%		1.44	kVA
K	= KITCHEN	0.00	kVA	75%		0.00	kVA

PANEL CONNECTED TOTAL: 19.81 kVA, 82.53 AMPS
PANEL DEMAND TOTAL: 23.45 kVA, 97.72 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM
NORMAL POWER — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
BUS RATING: 100 AMPS — M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED. RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM
NORMAL POWER — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
BUS RATING: 100 AMPS — M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED. RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	KW	HP	MCA	MOCP	ALTERNATIVE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES; DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
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SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13232 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

VIRGINNA M. [illegible] — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SCHEDULES

PERMIT #	BMF22-09851
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E3-004

10/7/2021 7:33:34 AM

LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13232 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

GEORGINNA M. LAMPMAN STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

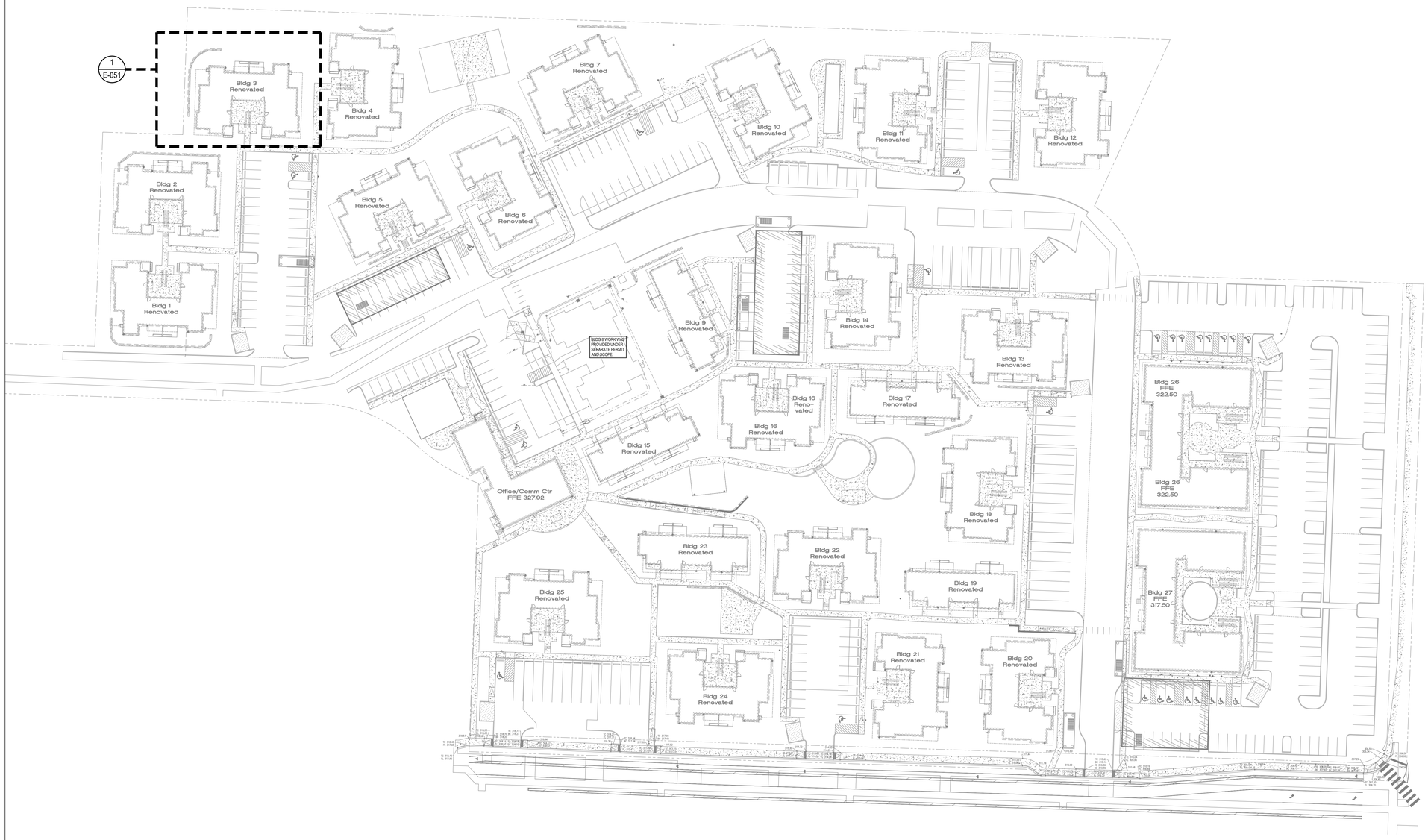
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LUMINAIRE SCHEDULE

PERMIT #	BMF22-09851
DRAWN	RA, JF
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ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E3-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

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1	5.19.23	BID ADDENDUM 2

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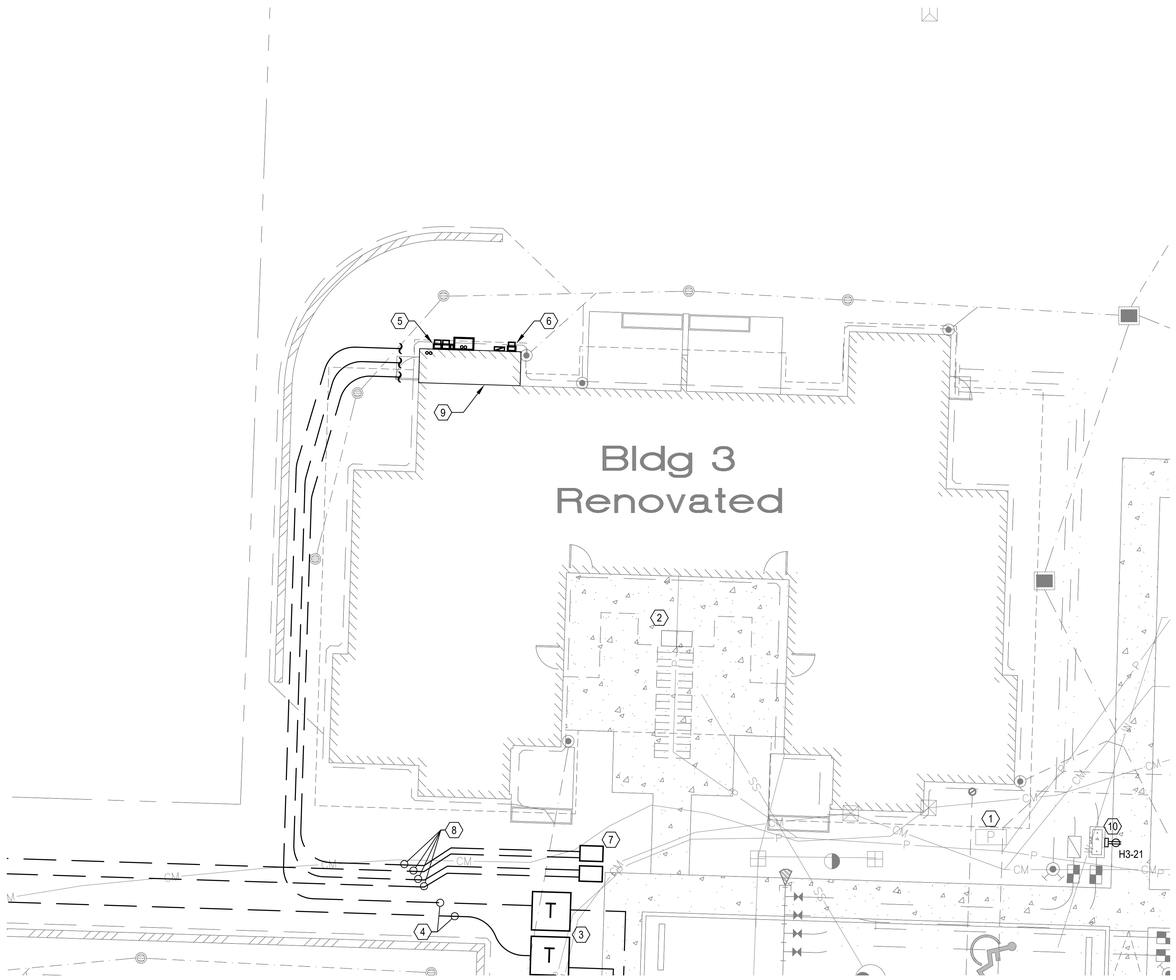
OVERALL PROJECT SITE PLAN

PERMIT #	BMF22-09851
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ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E3-050

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 3
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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KIRKLAND HEIGHTS APARTMENTS

13232 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

JACQUELINE M. FOSTER — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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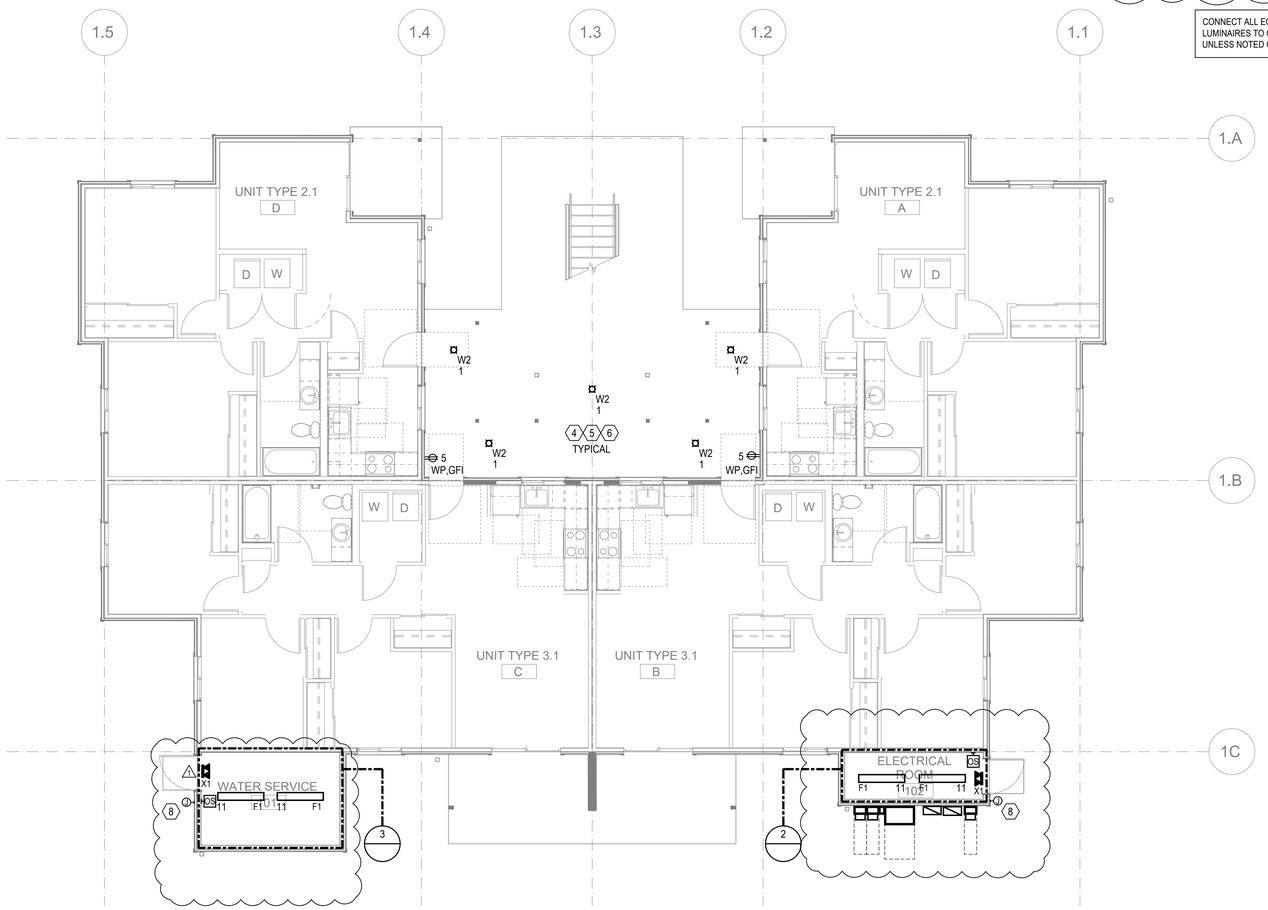
ELECTRICAL SITE PLAN - BUILDING 3

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POWER AND LIGHTING PLAN - BUILDING 3 - LEVEL 1

SCALE: 3/16"=1'-0"

1. EMERGENCY LIGHTING INVERTER LOADS:

   INVERTER #1 (CKT H-1): 150 WATTS @ 125% = 188W DEMAND
   - PROVIDE 220 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H3 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

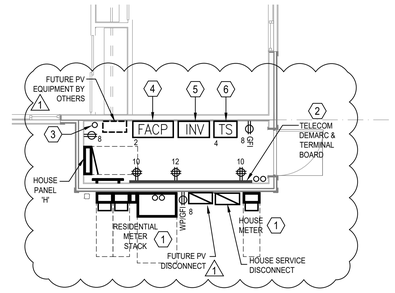
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

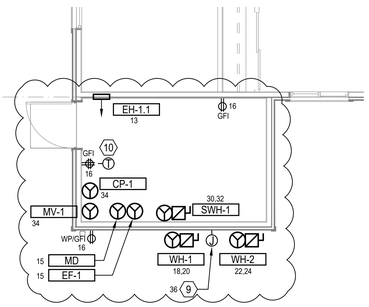
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR APARTMENT UNITS AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 220 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM. TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR LIGHTING FIXTURES TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-220-PB-S-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 E101 ELECTRICAL ROOM
1/4"=1'-0"



3 E101 WATER ROOM
1/4"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

13232 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET

JACQUINNA M. JAMES — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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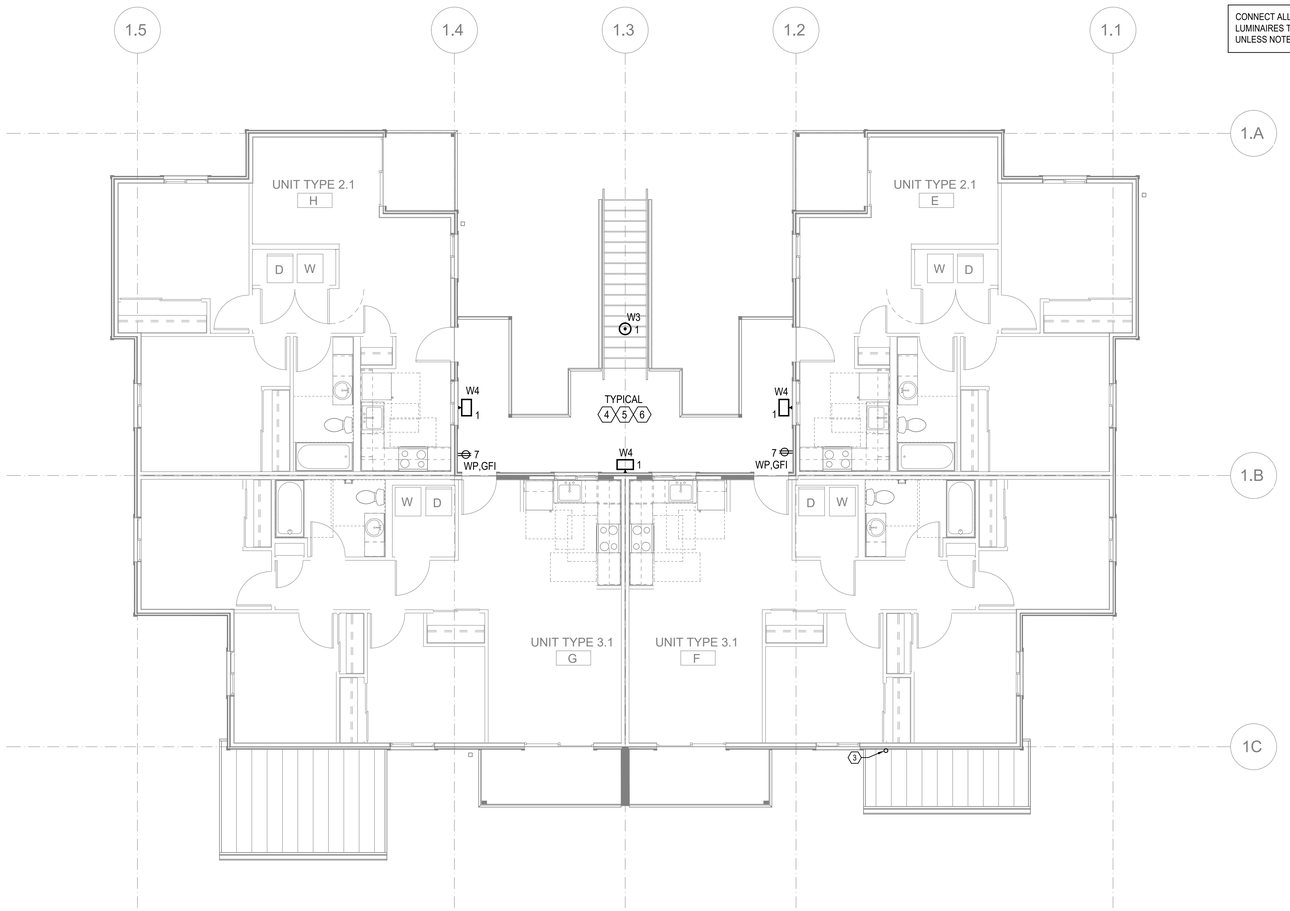
POWER AND LIGHTING PLAN - BUILDING 3 - LEVEL 1

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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H3 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 3 - LEVEL 2

SCALE: 3/16"=1'-0"

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POWER AND LIGHTING PLAN - BUILDING 3 - LEVEL 2

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ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

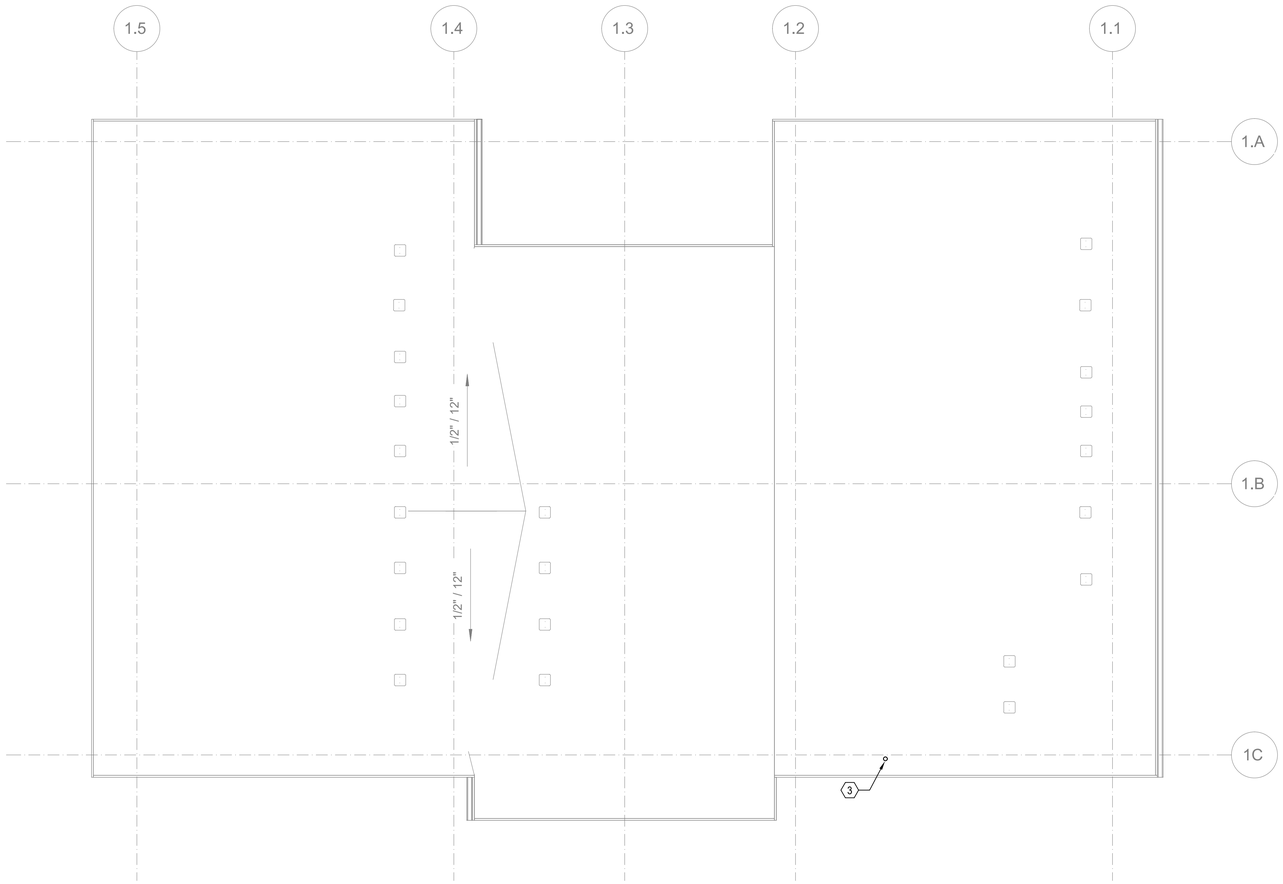
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).



POWER PLAN - BUILDING 3 - ROOF

SCALE: 3/16"=1'-0"

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13232 NE 133rd St.,
Kirkland, WA 98034

BUILDING 3

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER PLAN - BUILDING 3 - ROOF

PERMIT #	BMF22-09851
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E3-103

10/7/2021 7:33:34 AM

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

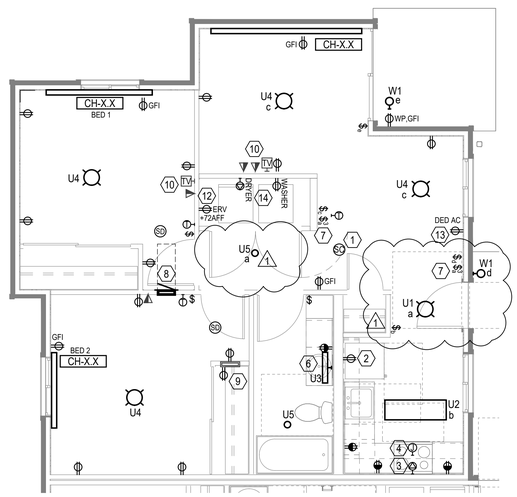
FLAG NOTES (X):

1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

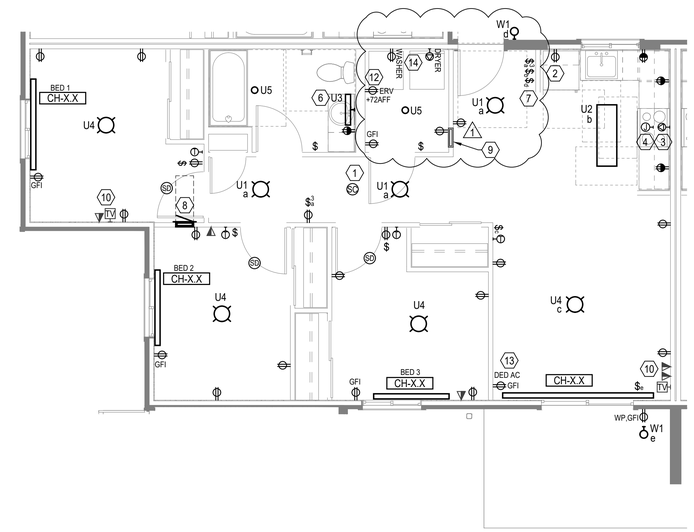
ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES			
		BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**
1/4"=1'-0" UNITS: A, D, E, H



1 **ENLARGED PLAN - 3-BED**
1/4"=1'-0" UNITS: B, C, F, G

SIDER+BYERS
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BUILDING 3

BID SET

JOAQUINNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

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ENLARGED UNIT PLANS

PERMIT #	BMF22-09851
DRAWN	RA, JF
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E3-301

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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET
- FLAG NOTE
- REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM / EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES
- FL1 3a / FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:
  FL1 = LUMINAIRE TYPE
  3 = CIRCUIT NUMBER
  c = SWITCH LEG
  Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT. SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP / F — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $3PDX WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP / 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M / M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
		W/	WITH
IMC	INTERMEDIATE METAL CONDUIT	WO	WITHOUT
IN	INCH/INCHES	WP	WEATHERPROOF
		WT	WEIGHT
KCMIL	THOUSAND CIRCULAR MILS		
KO	KNOCK OUT	XFR	TRANSFORMER
KW	KILOWATT/KILOWATTS		
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13234 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09853
DRAWN	RA, JF
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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13234 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09853
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E4-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

5/18/2023

GENERAL SCHEDULE NOTES:

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

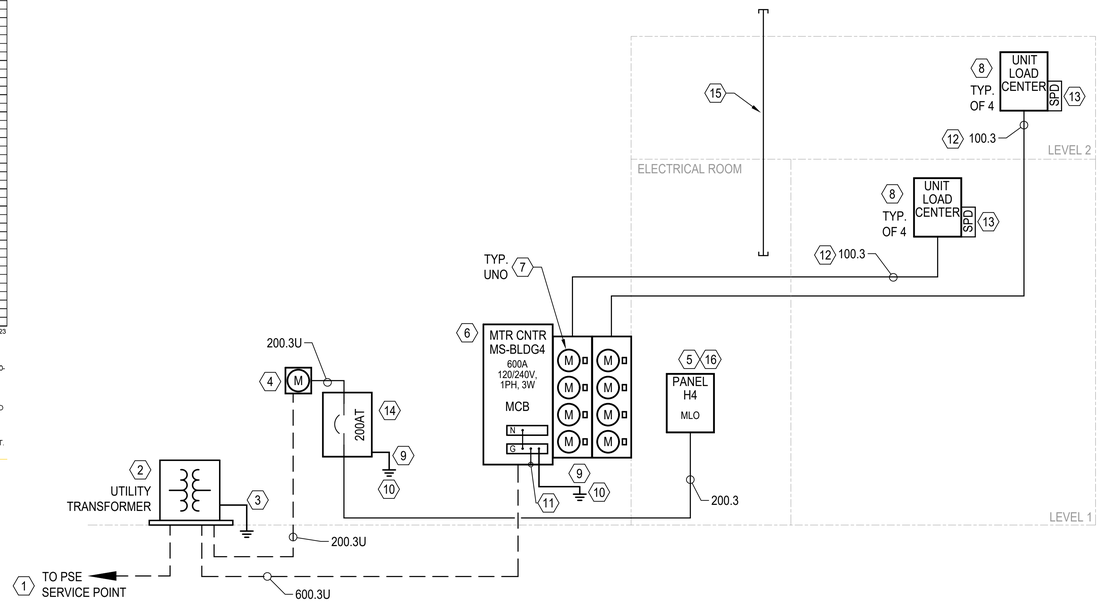
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS, WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH 'U' ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

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12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

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16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 4

UNIT TYPE: 2BR - 2.1 | **AREA (SF): 782** | 5/18/2023

DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.35	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER		AT		=	0.00 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
			SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:			75%			
			GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:		QTY		LOAD (kVA EACH)		
	TOILET EXHAUST FAN		AT		=	0.00 kVA
	ERV UNIT	1	AT	0.11	=	0.11 kVA
	KITCHEN EXHAUST FAN		AT		=	0.00 kVA
	+25% OF LARGEST MOTOR				=	0.03 kVA
			GENERAL MOTOR LOAD - DEMAND		=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]				=	3.91 kVA
	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA
		TOTAL DWELLING UNIT LOAD PER NEC 220, PART III		=	**23.54 kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10kVA:	100%		=	10.00 kVA
> 10 kVA:	40%		=	5.39 kVA
ELECTRIC HEAT AND AC [220.82(C)]:				
LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS: 65% NAMEPLATE		=	2.54 kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**17.93 kVA**

UNIT TYPE: 3BR - 3.1 | **AREA (SF): 906** | 5/18/2023

DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.48	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER		AT		=	0.00 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
			SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:			75%			
			GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:		QTY		LOAD (kVA EACH)		
	TOILET EXHAUST FAN		AT		=	0.00 kVA
	ERV UNIT	1	AT	0.11	=	0.11 kVA
	KITCHEN EXHAUST FAN		AT		=	0.00 kVA
	+25% OF LARGEST MOTOR				=	0.03 kVA
			GENERAL MOTOR LOAD - DEMAND		=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]				=	4.53 kVA
	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA
		TOTAL DWELLING UNIT LOAD PER NEC 220, PART III		=	**24.29 kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10kVA:	100%		=	10.00 kVA
> 10 kVA:	40%		=	5.54 kVA
ELECTRIC HEAT AND AC [220.82(C)]:				
LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS: 65% NAMEPLATE		=	2.94 kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**18.49 kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL | **MS - 8 unit STACK** | 5/18/2023

DEMAND LOAD (kVA): 95.86 => 399.4 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.6< X < 3.6kW QTY	1.6< X < 3.6kW LOAD (kVA)	3.6kW < X < 8.76kW QTY	3.6kW < X < 8.76kW LOAD (kVA)	8.76kW < X < 12kW QTY	8.76kW < X < 12kW LOAD (kVA)
2BR - 2.1	4	27.38	8.80	0.44	15.64	4	22.00	0	0.00	0	0.00	4	35.20
3BR - 3.1	4	28.87	8.80	0.44	18.12	4	22.00	0	0.00	0	0.00	4	35.20
0								0	0.00	0	0.00	0	0.00
TOTALS:	8	56.26	17.60	0.88	33.76	8	44.00	0	0.00	0	0.00	8	70.40
			ADDITIONAL 25% OF LARGEST MOTOR:	0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD =	222.92	kVA
DEMAND FACTOR FROM TABLE 220.84 =	43%	
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC =	**95.86**	**kVA**

KIRKLAND HEIGHTS - 8 UNIT STACK FLAT (REHAB)

PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 8):	95.86 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	95.86 kVA
	399.40 AMPS @ 120/240V, 1-PHASE
	PROVIDE 600A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	5.6 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	38.71 kVA
	161.30 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	48.39 kVA
	201.6208 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	144.25 kVA
	601.03 AMPS @ 120/240V, 1-PHASE

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13234 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

JOHANNA M. DOLAN — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09853
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E4-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H4 — NORMAL POWER — A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FED FROM: XFR — LOCATION: ELECTRICAL ROOM — SURFACE-MOUNTED — BUS RATING: 200 AMPS — M.L.O OR MCB: MLO — 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	CONN LOAD kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	CONN LOAD kVA	DESCRIPTION	CKT #
1	TG - BREEZEWAY	L	0.15	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	SPARE		0.00		20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-1	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-2	22
23	LTG - SITE	L	0.06	20.1	20 / 1	B						24
25	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	26
27	SPARE		0.00		20 / 1	B	20 / 1			0.00	SPARE	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH-SWING TANK- 'SWH-1'	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP 'CP-1' & MIX VALVE 'MV-1'	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD		DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.45	kVA	125%	0.56	kVA
R	= RECEPTACLES	3.78	kVA	NEC 220.44	3.78	kVA
M	= MOTORS	0.24	kVA	100%	0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA	25%	0.06	kVA
C	= CONTINUOUS	13.66	kVA	125%	17.45	kVA
N	= NON-CONTINUOUS	1.44	kVA	100%	1.44	kVA
K	= KITCHEN	0.00	kVA	75%	0.00	kVA

PANEL CONNECTED TOTAL: 19.67 kVA / 82.78 AMPS

PANEL DEMAND TOTAL: 23.53 kVA / 98.03 AMPS

NOTES:

A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):

1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM — NORMAL POWER — A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FED FROM: METER STACKS — LOCATION: DWELLING UNITS — FLUSH-MOUNTED — BUS RATING: 100 AMPS — M.L.O OR MCB: MLO — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED. RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:

A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):

1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM — NORMAL POWER — A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FED FROM: METER STACKS — LOCATION: DWELLING UNITS — FLUSH-MOUNTED — BUS RATING: 100 AMPS — M.L.O OR MCB: MLO — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED. RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:

A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):

1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	KW	HP	MCA	MOCP	ALTERNATIVE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:

1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:

A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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King County Housing Authority

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c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13234 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

VIRGINNA M. BROCKMAN — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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SCHEDULES

PERMIT #	BMF22-09853
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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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King County Housing Authority

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Kirkland, WA 98034

BUILDING 4

BID SET

GEORGINNA M. LAMPMAN STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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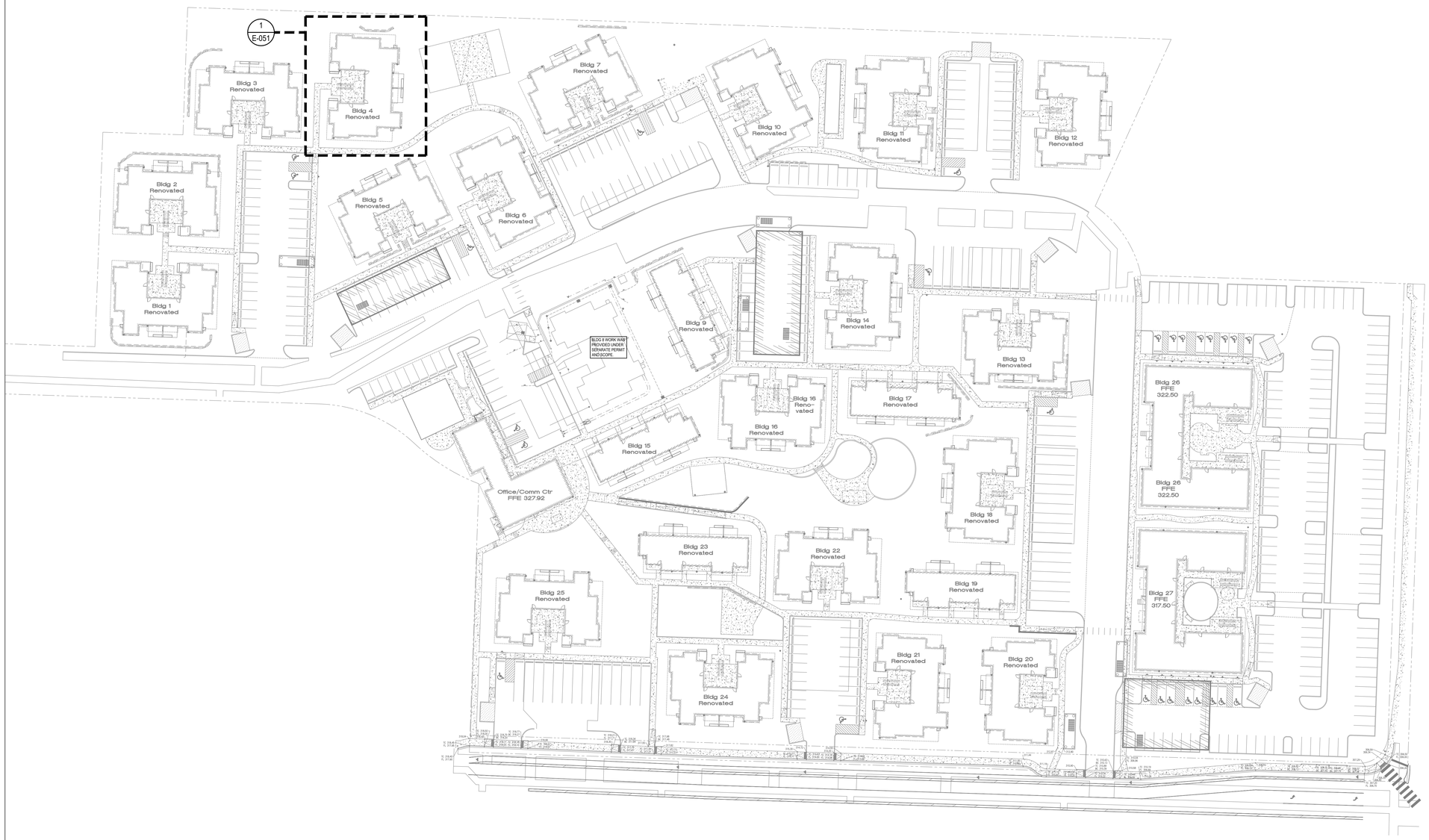
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LUMINAIRE SCHEDULE

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E4-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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43761
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REVISIONS / NOTES

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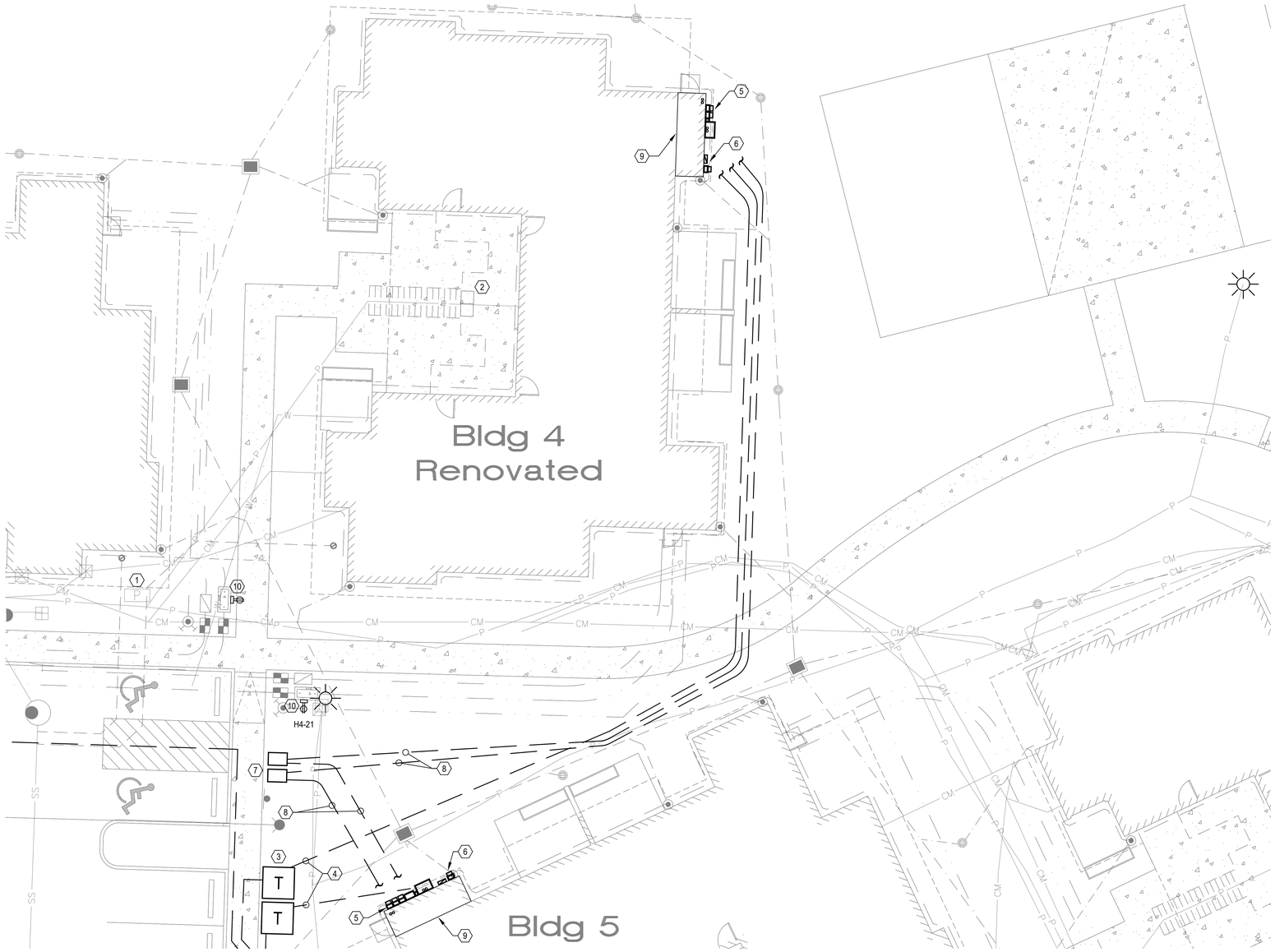
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OVERALL PROJECT SITE PLAN

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E4-050



ELECTRICAL SITE PLAN - BUILDING 4

SCALE: 1/8" = 1'-0"

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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King County Housing Authority

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13234 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET

GEORGINNA M. TAYLOR
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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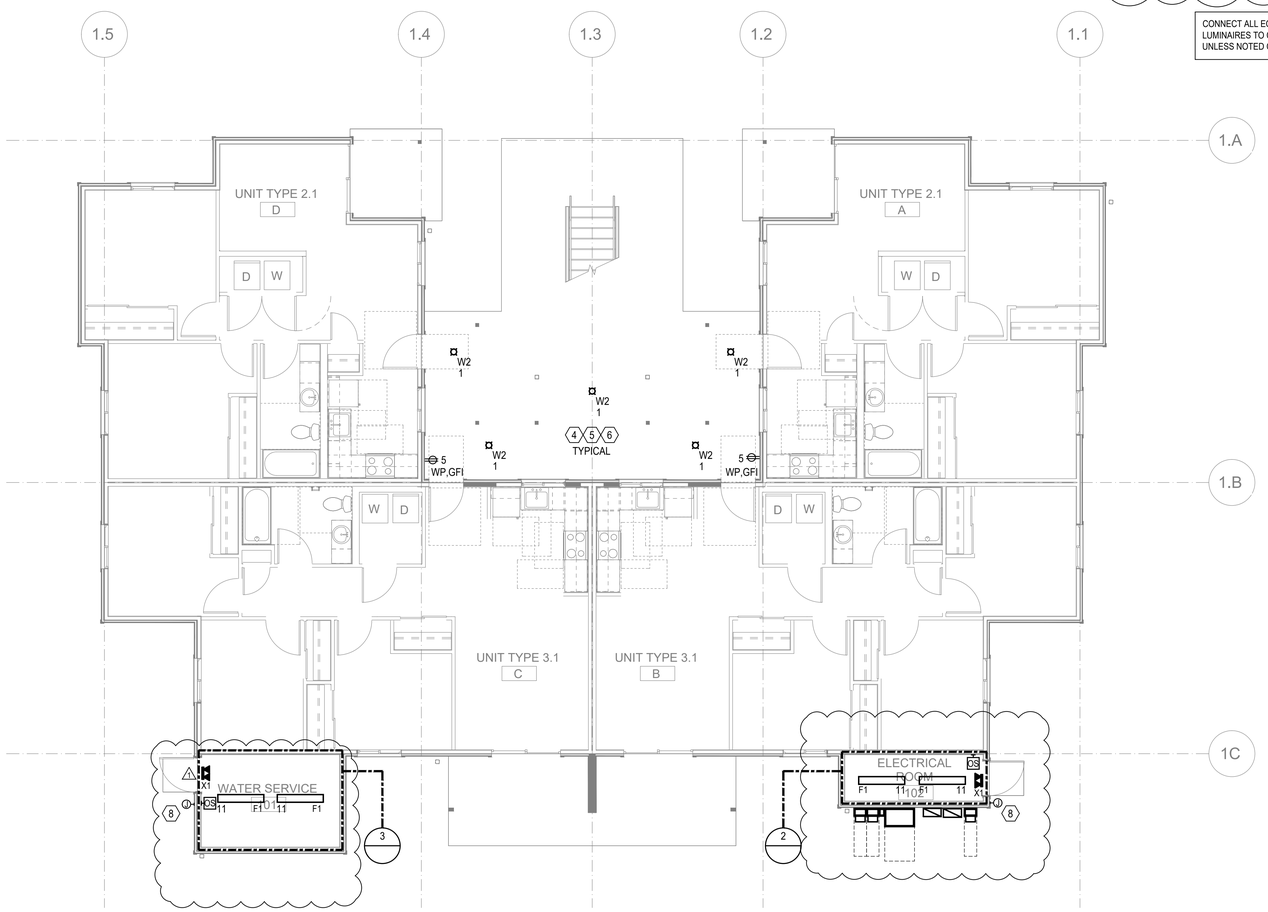
ELECTRICAL SITE PLAN - BUILDING 4

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POWER AND LIGHTING PLAN - BUILDING 4 - LEVEL 1

SCALE: 3/16"=1'-0"

1. EMERGENCY LIGHTING INVERTER LOADS:

   INVERTER #1 (CKT H-1): 150 WATTS @ 125% = 188W DEMAND
   - PROVIDE 220 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H4 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

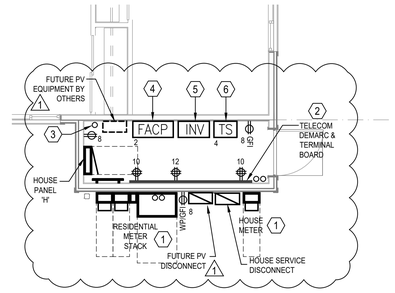
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

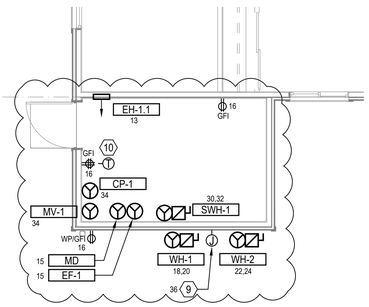
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR APARTMENT UNITS AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 220 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR LIGHTING FIXTURES TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-220-PB-S-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 E101 ELECTRICAL ROOM
1/4"=1'-0"



3 E101 WATER ROOM
1/4"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

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BUILDING 4

BID SET

PROGINNA M. JOHNSON — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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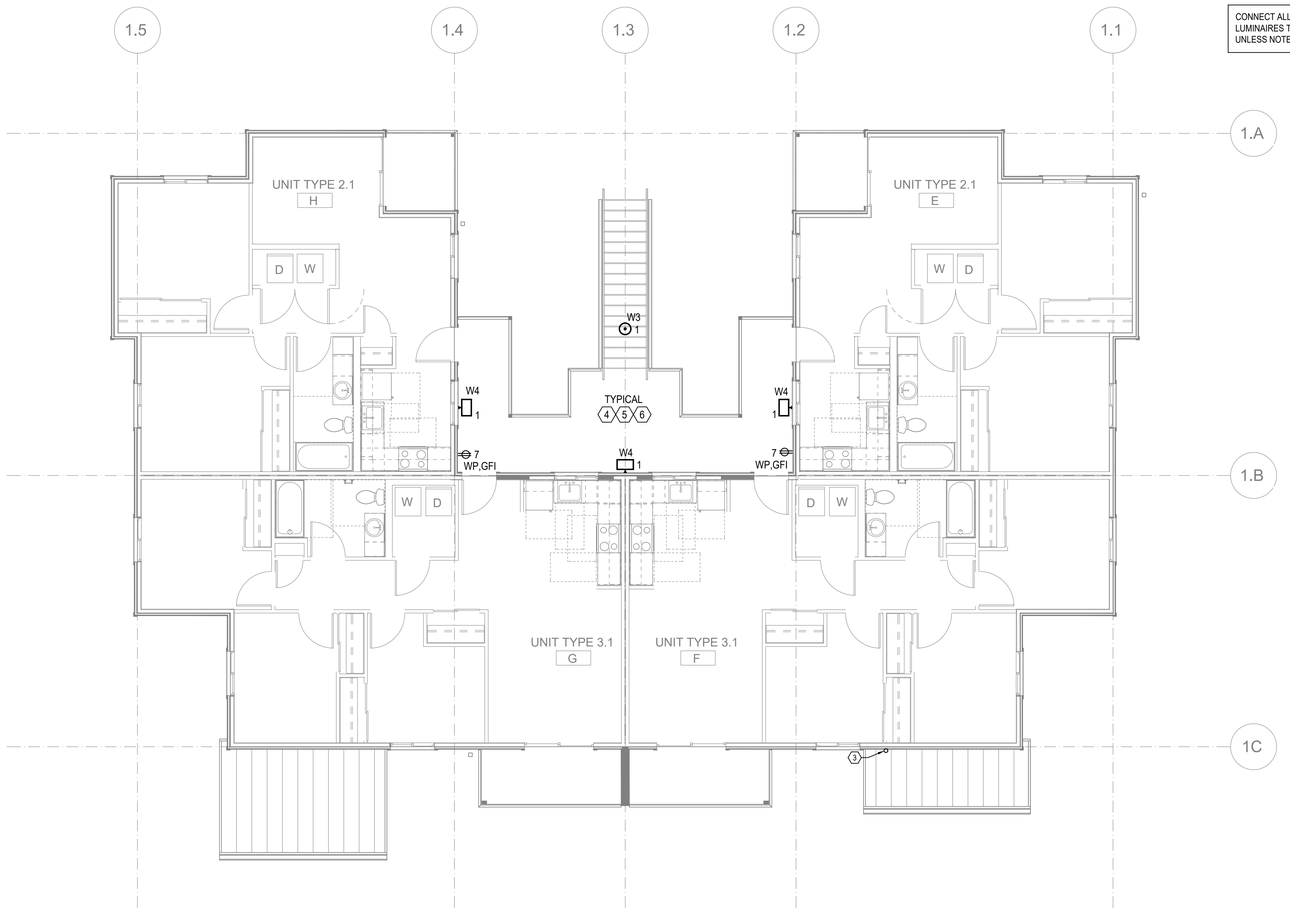
POWER AND LIGHTING PLAN - BUILDING 4 - LEVEL 1

PERMIT #	BMF22-09853
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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H4 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 4 - LEVEL 2

SCALE: 3/16"=1'-0"

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13234 NE 133rd St.,
Kirkland, WA 98034

BUILDING 4

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

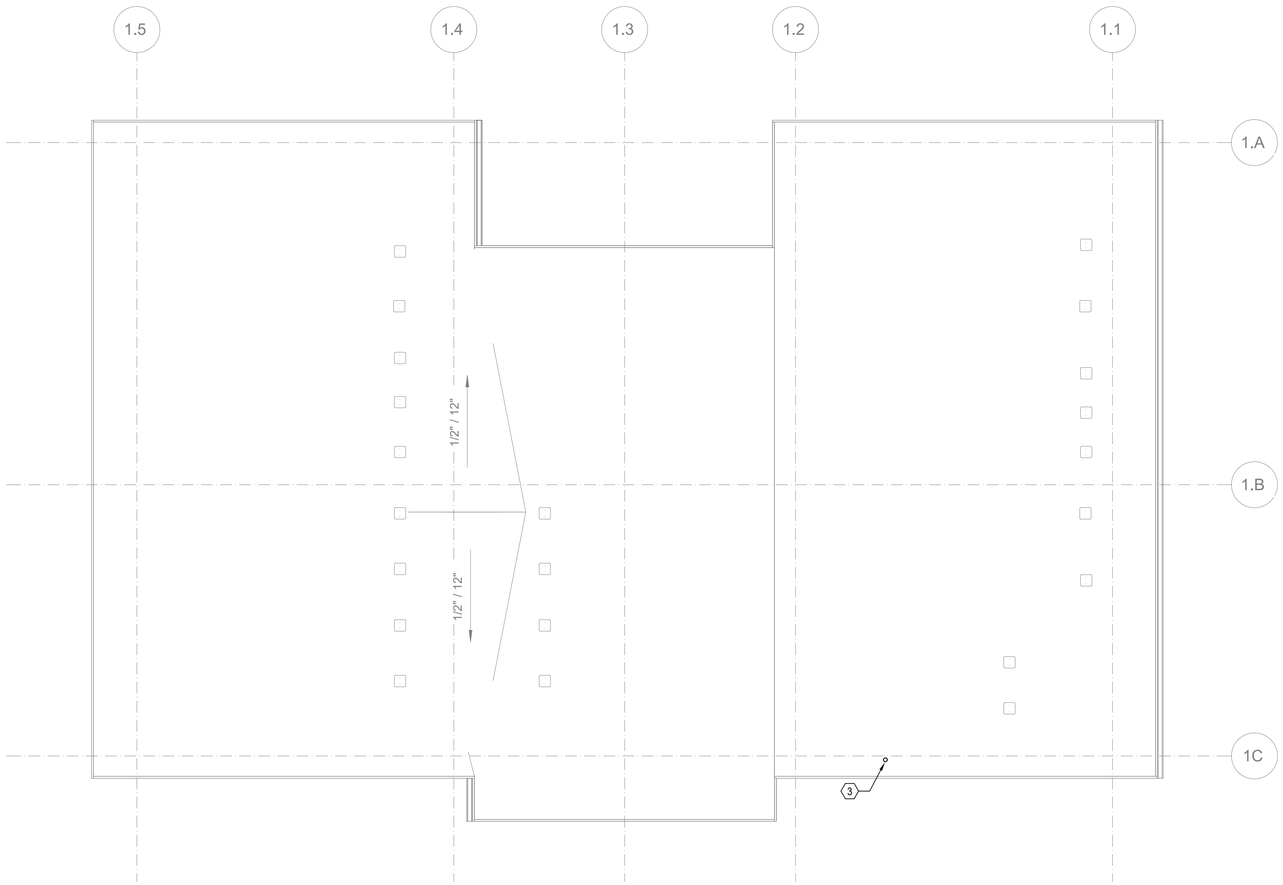
TITLE

POWER AND LIGHTING PLAN - BUILDING 4 - LEVEL 2

PERMIT #	BMF22-09853
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E4-102



POWER PLAN - BUILDING 4 - ROOF

SCALE: 3/16"=1'-0"

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

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BUILDING 4

BID SET

JEROLDINNA M. ALMARIO — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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TITLE

POWER PLAN - BUILDING 4 - ROOF

PERMIT #	BMF22-09853
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E4-103

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GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

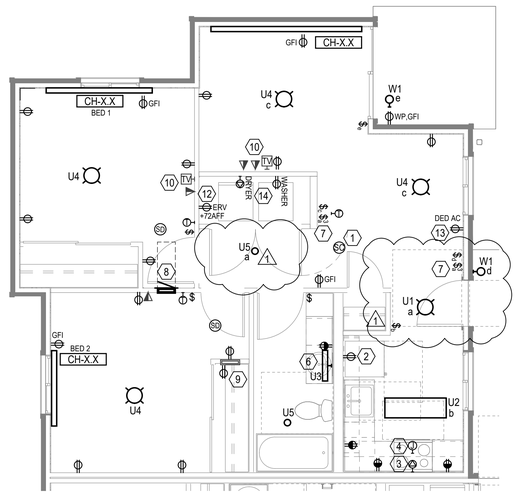
ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES			
		BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:

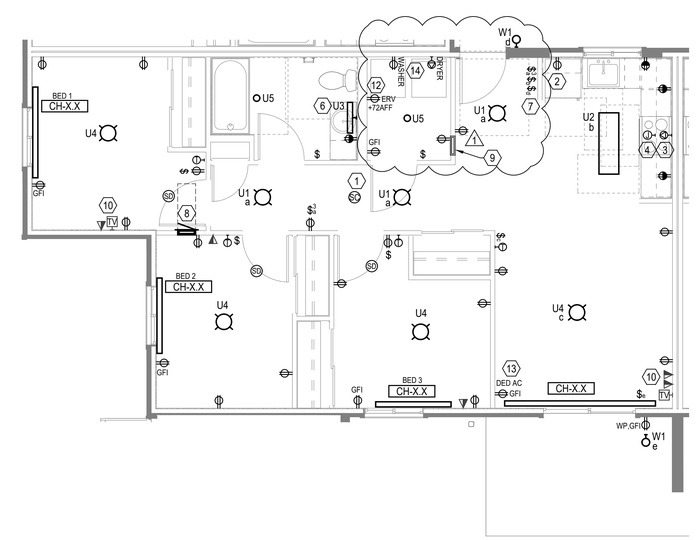
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**

1/4"=1'-0" UNITS: A, D, E, H



1 **ENLARGED PLAN - 3-BED**

1/4"=1'-0" UNITS: B, C, F, G

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BUILDING 4

BID SET

JOAQUINNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

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E4-301

ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET (E-1)
- FLAG NOTE
- REVISION TAG (1)
- MECHANICAL EQUIPMENT (AHU-1)
- FAULT CURRENT TAG (XX kA)

FIRE ALARM SYMBOLS

- COMBINATION SMOKE/FIRE DAMPER (OR)
- FIRE ALARM CONTROL PANEL (FACP)
- FIRE ALARM REMOTE ANUNCIATOR (FARA)
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR (SD)
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM (SD)

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- GROUNDING CONDUCTOR(S) PER CODE (G)
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES (EM)

FL1 3a — FL1 3-Z1.2

TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VARIABLE FREQUENCY DRIVE (VFD)
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD (TV)
- CARD / FOB READER WALL/ MULLION AND BOLLARD MTD (CR)
- SECURITY DOOR POSITION MONITOR (DS)
- ELECTRIC STRIKE (ES)
- KEYPAD WALL/ MULLION AND BOLLARD MTD (KP)
- CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS. (WP, F)
- SPEAKER, CEILING MOUNTED (SP)

CONTROL SYMBOLS

- MOTORIZED CONTROL DAMPER (M)
- THERMOSTAT
- WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- ^{WP} — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- ^{3} — WALL SWITCH, LINE VOLTAGE, 3-WAY
- ^{TS} — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- ^{1P} — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- ^{DX} — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- ^{2P} — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- ^{2PDX} — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP / 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M / M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER AND LIGHTING PLAN - LEVEL 3
E-104	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
		W/	WITH
IMC	INTERMEDIATE METAL CONDUIT	WO	WITHOUT
IN	INCH/INCHES	WP	WEATHERPROOF
		WT	WEIGHT
KCMIL	THOUSAND CIRCULAR MILS		
KO	KNOCK OUT	XFR	TRANSFORMER
KW	KILOWATT/KILOWATTS		
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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KIRKLAND HEIGHTS APARTMENTS

13310 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

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COVER SHEET

PERMIT #	BMF22-09854
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E5-001

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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13310 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09854
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E5-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

5/18/2023

GENERAL SCHEDULE NOTES:

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

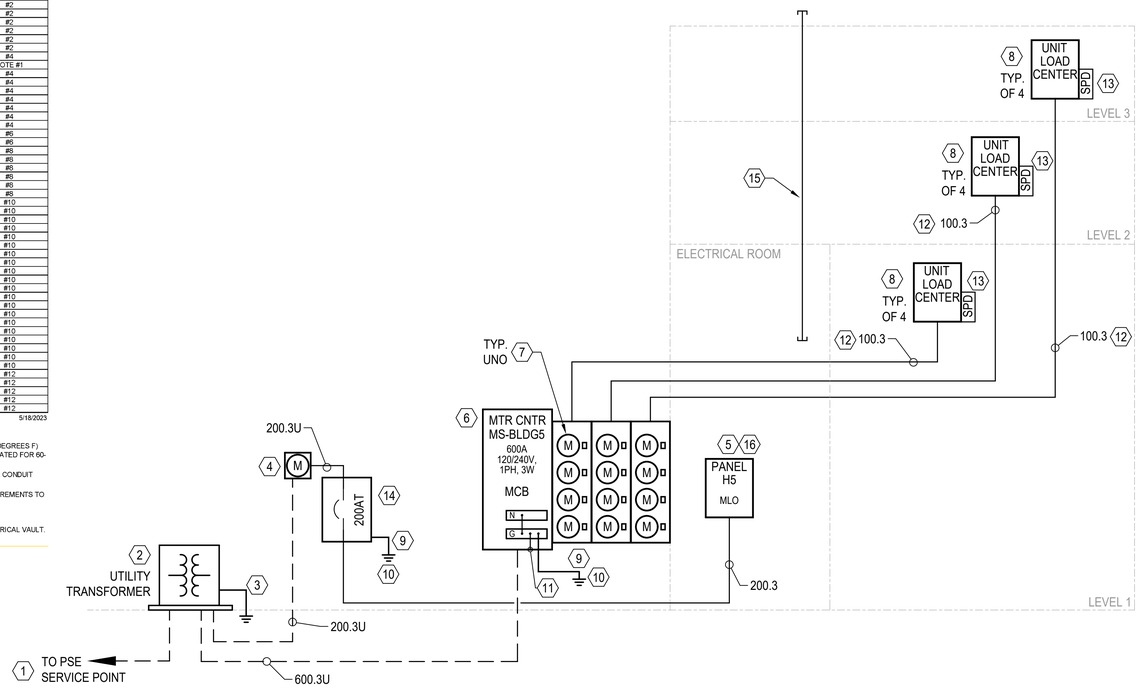
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

△1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

△1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 5

UNIT TYPE: 2BR - 2.1 AREA (SF): 782 — 5/18/2023
DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.35	kVA
> 120,000VA:	25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70	kVA
RANGE HOOD	1	AT	0.3	=	0.30	kVA
MICROWAVE		AT		=	0.00	kVA
DISHWASHER		AT		=	0.00	kVA
WASHER	1	AT	1.2	=	1.20	kVA
GARBAGE DISPOSAL		AT		=	0.00	kVA
WATER HEATER		AT		=	0.00	kVA
			SUBTOTAL (CONNECTED)	=	2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:			75%			
			GENERAL APPLIANCE LOAD - DEMAND	=	**1.65**	**kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00	kVA
ERV UNIT	1	AT	0.11	=	0.11	kVA
KITCHEN EXHAUST FAN		AT		=	0.00	kVA
+25% OF LARGEST MOTOR				=	0.03	kVA
			GENERAL MOTOR LOAD - DEMAND	=	**0.14**	**kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]			=	3.91	kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00	kVA
ELECTRIC OVEN [220.55]		AT		=	0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00	kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	=	**23.54**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]	=	23.48	kVA
DEMAND FACTORS PER NEC 220.82(B):			
0 - 10KVA:	100%	=	10.00	kVA
> 10 KVA:	40%	=	5.39	kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS, 65% NAMEPLATE	=	2.54	kVA
TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**17.93**	**kVA**

UNIT TYPE: 3BR - 3.1 AREA (SF): 906 — 5/18/2023
DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.48	kVA
> 120,000VA:	25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70	kVA
RANGE HOOD	1	AT	0.3	=	0.30	kVA
MICROWAVE		AT		=	0.00	kVA
DISHWASHER		AT		=	0.00	kVA
WASHER	1	AT	1.2	=	1.20	kVA
GARBAGE DISPOSAL		AT		=	0.00	kVA
WATER HEATER		AT		=	0.00	kVA
			SUBTOTAL (CONNECTED)	=	2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:			75%			
			GENERAL APPLIANCE LOAD - DEMAND	=	**1.65**	**kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00	kVA
ERV UNIT	1	AT	0.11	=	0.11	kVA
KITCHEN EXHAUST FAN		AT		=	0.00	kVA
+25% OF LARGEST MOTOR				=	0.03	kVA
			GENERAL MOTOR LOAD - DEMAND	=	**0.14**	**kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]			=	4.53	kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00	kVA
ELECTRIC OVEN [220.55]		AT		=	0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00	kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	=	**24.29**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]	=	23.86	kVA
DEMAND FACTORS PER NEC 220.82(B):			
0 - 10KVA:	100%	=	10.00	kVA
> 10 KVA:	40%	=	5.54	kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS, 65% NAMEPLATE	=	2.94	kVA
TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**18.49**	**kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL MS - 12 unit STACK — 5/18/2023
DEMAND LOAD (kVA): 137.09 => 571.2 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
2BR - 2.1	6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	0	0.00	6	52.80
3BR - 3.1	6	43.31	13.20	0.66	27.18	6	33.00	0	0.00	0	0.00	6	52.80
0								0	0.00	0	0.00	0	0.00
TOTALS:	12	84.38	26.40	1.32	50.64	12	66.00	0	0.00	0	0.00	12	105.60
ADDITIONAL 25% OF LARGEST MOTOR:				0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD	=	334.37	kVA
DEMAND FACTOR FROM TABLE 220.84 =		41%	
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC	=	**137.09**	**kVA**

KIRKLAND HEIGHTS - 12 UNIT STACK FLAT (REHAB)
PRELIMINARY LOAD CALCULATIONS — 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 12):	137.09	kVA
(SEE ATTACHED CALCS)		
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.		
RESIDENTIAL TOTAL:	137.09	kVA
	571.22 AMPS @ 120/240V, 1-PHASE	
PROVIDE 600A RESIDENTIAL METER CENTER		

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):		
LIGHTING - Breezeway +Interior:	1.5	kVA
LIGHTING - SITE:	1.5	kVA
GENERAL RECEPTACLES:	4.0	kVA
MECHANICAL:	1.0	kVA
ELECT HEAT (WATER RMS):	1.0	kVA
CENTRAL HOT WATER (HPWH)	7.7	kVA
ELECT SWING TANK	4.5	kVA
HEAT TRACE	0.5	kVA
MISCELLANEOUS:	2.5	kVA
EV CHARGING (2):	16.6	kVA
HOUSE TOTAL:	40.83	kVA
	170.14 AMPS @ 120/240V, 1-PHASE	
WITH 25% SPARE CAPACITY	51.04	kVA
	212.6708 AMPS @ 120/240V, 1-PHASE	
PROVIDE 200A HOUSE SERVICE		
TOTAL BUILDING SERVICE:	188.13	kVA
	783.89 AMPS @ 120/240V, 1-PHASE	

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13310 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09854
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E5-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H5 — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — M.L.O. OR M.C.B.: M.L.O. — 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY		0.77	20-1	20 / 1	A	20 / 1	20-1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20-1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20-1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20-1	20 / 1	B	20 / 1	20-1	R	0.54	RECEPTS - ELECT RM	8
9	RECEPT - LVL 3 BREEZEWAY	R	0.36	20-1	20 / 1	A	20 / 1	20-1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT MECH CLOSETS	L	0.24	20-1	20 / 1	B	20 / 1	20-1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20-1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.74	20-1	20 / 1	B	20 / 1	20-1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-1'	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24	20-1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-2'	22
23	SPARE		0.00		20 / 1	B						24
25	LTG - SITE POLES	L	0.18	20-1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-3'	26
27	SPARE		0.00		20 / 1	B						28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - 'SWH-1'	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20-1	N	0.36	CIRC PUMP 'CP-1' & MIX VALVE 'MV-1'	34
35	SPACE ONLY					B	20 / 1	20-1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.67	kVA 125%	0.84	kVA
R	= RECEPTACLES	4.14	kVA NEC 220.44	4.14	kVA
M	= MOTORS	0.24	kVA 100%	0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA 25%	0.06	kVA
C	= CONTINUOUS	15.68	kVA 125%	19.61	kVA
N	= NON-CONTINUOUS	1.44	kVA 100%	1.44	kVA
K	= KITCHEN	0.00	kVA 75%	0.00	kVA

PANEL CONNECTED TOTAL: 22.17 kVA, 92.39 AMPS
PANEL DEMAND TOTAL: 26.32 kVA, 109.68 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20-1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20-1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20-1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20-1	20 / 1	B			-	8
9	GENERAL KITCHEN APPLIANCE (1)	20-1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20-1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20-1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20-1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20-1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20-1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20-1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20-1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20-1	20 / 1	B			-	8
9	GENERAL KITCHEN APPLIANCE (1)	20-1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20-1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20-1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20-1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20-1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-3	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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King County Housing Authority

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13310 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

VIRGINNA M. BROOKS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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SCHEDULES

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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BUILDING 5

BID SET

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REVISIONS / NOTES

NO	DATE	DESCRIPTION
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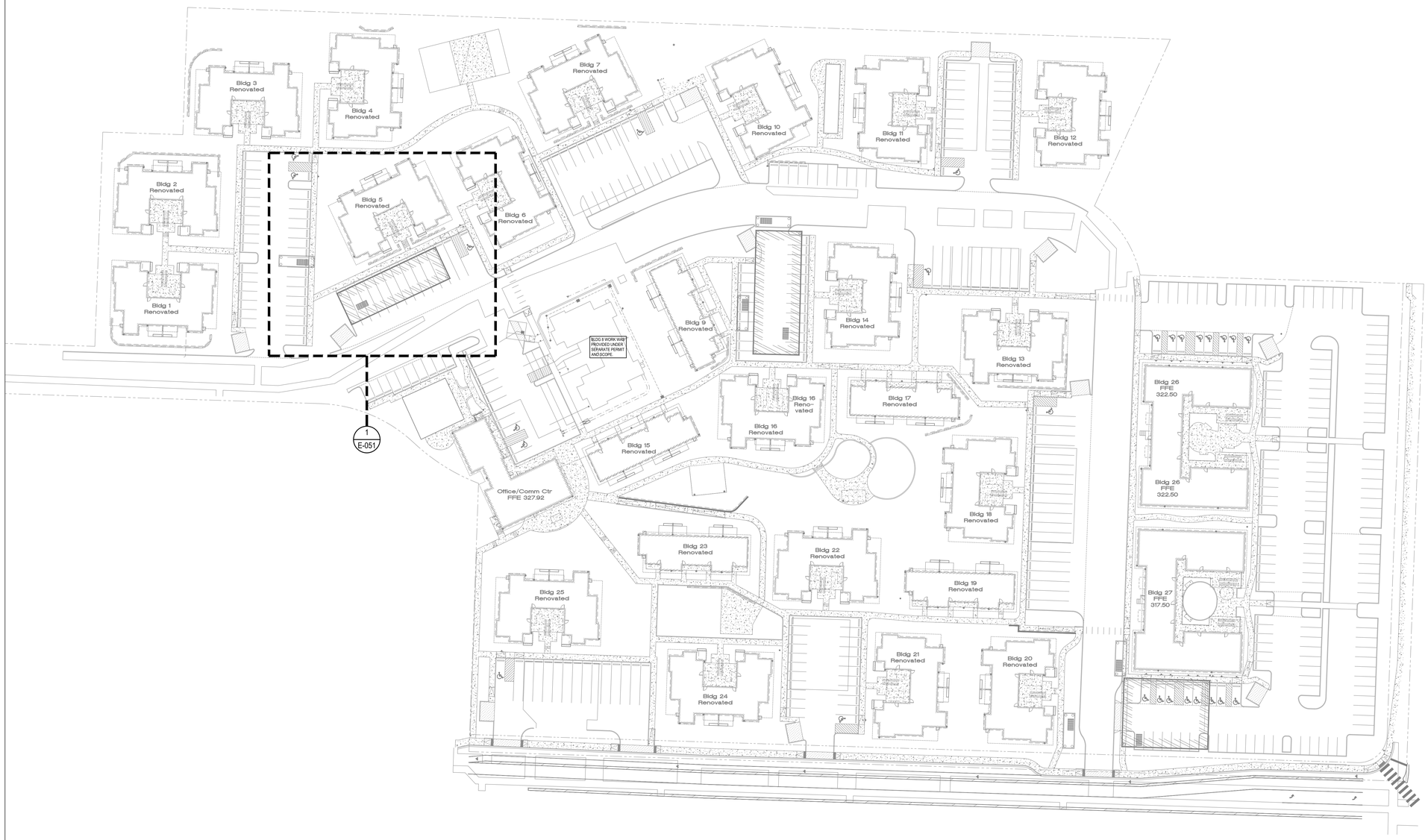
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LUMINAIRE SCHEDULE

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E5-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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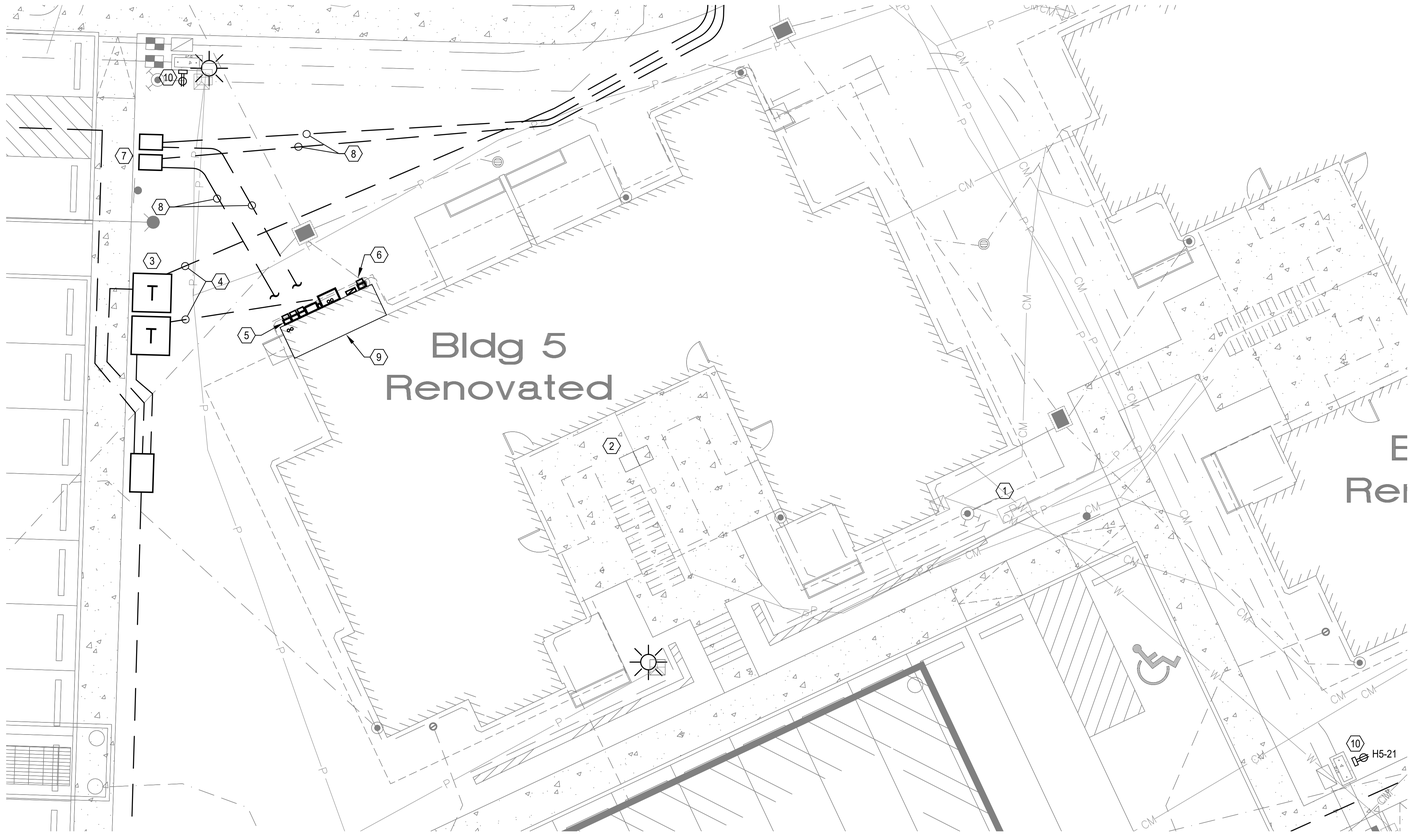
OVERALL PROJECT SITE PLAN

PERMIT #	BMF22-09854
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CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E5-050

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 5
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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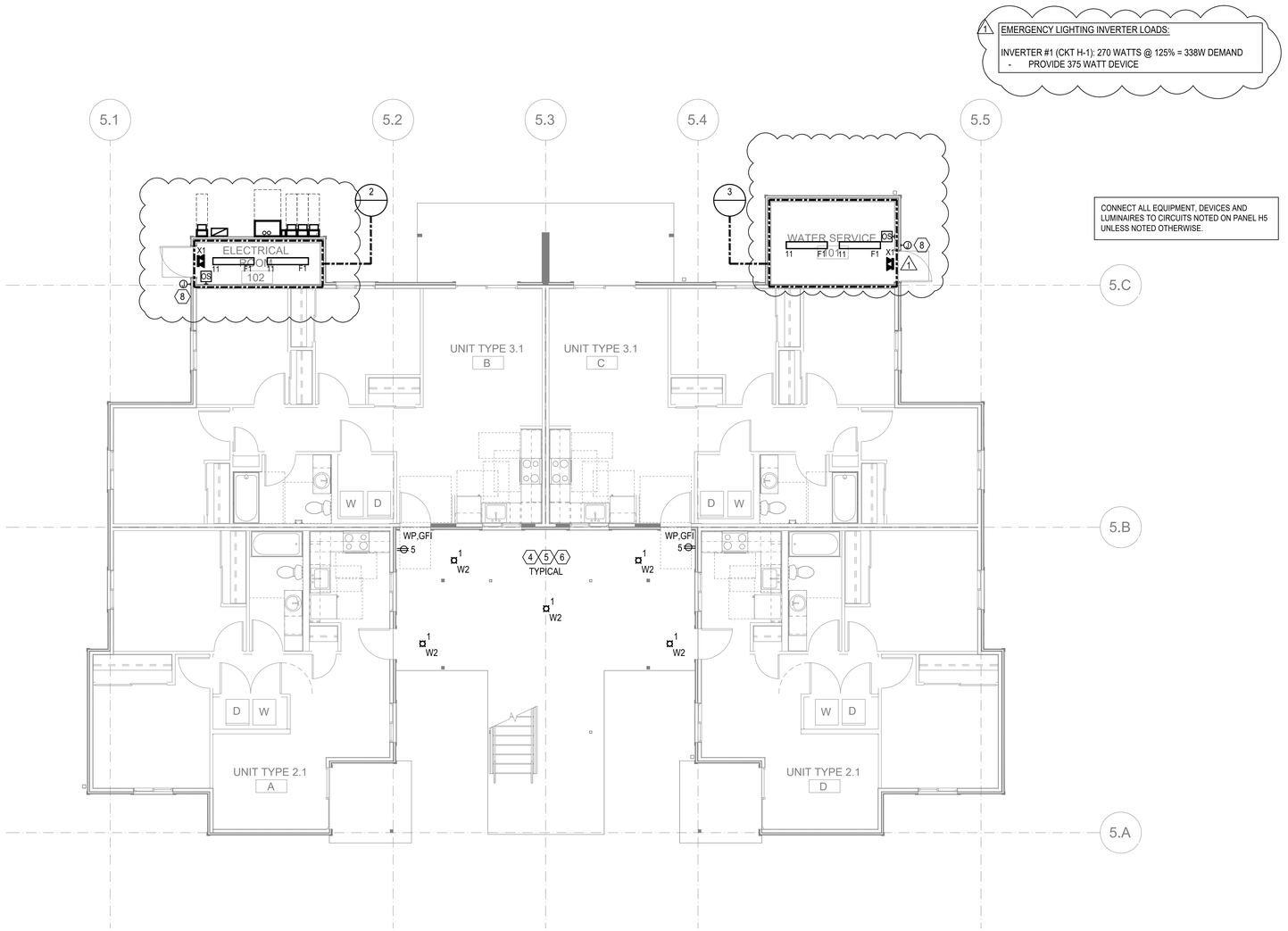
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ELECTRICAL SITE PLAN - BUILDING 5

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E5-051



1 EMERGENCY LIGHTING INVERTER LOADS:

INVERTER #1 (CKT H-1): 270 WATTS @ 125% = 338W DEMAND
- PROVIDE 375 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H5 UNLESS NOTED OTHERWISE.

POWER AND LIGHTING PLAN - BUILDING 5 - LEVEL 1
SCALE: 3/16"=1'-0"

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

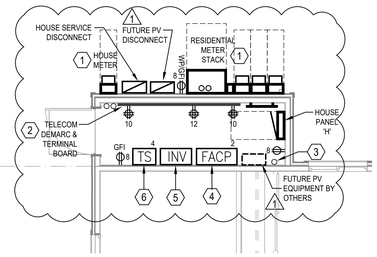
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

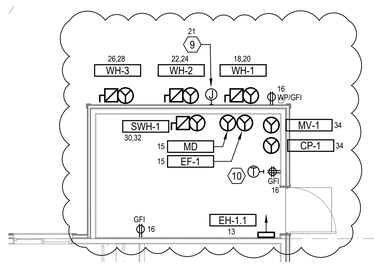
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 375 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM. TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR FIXTURE TO MEET EGRESS LIGHTING REQUIREMENTS.
   BASIS OF DESIGN: SURE-LITES # INV-375-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER.
   BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 ELECTRICAL ROOM
E-101 — 1/4"=1'-0"



3 WATER ROOM
E-101 — 1/4"=1'-0"

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NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

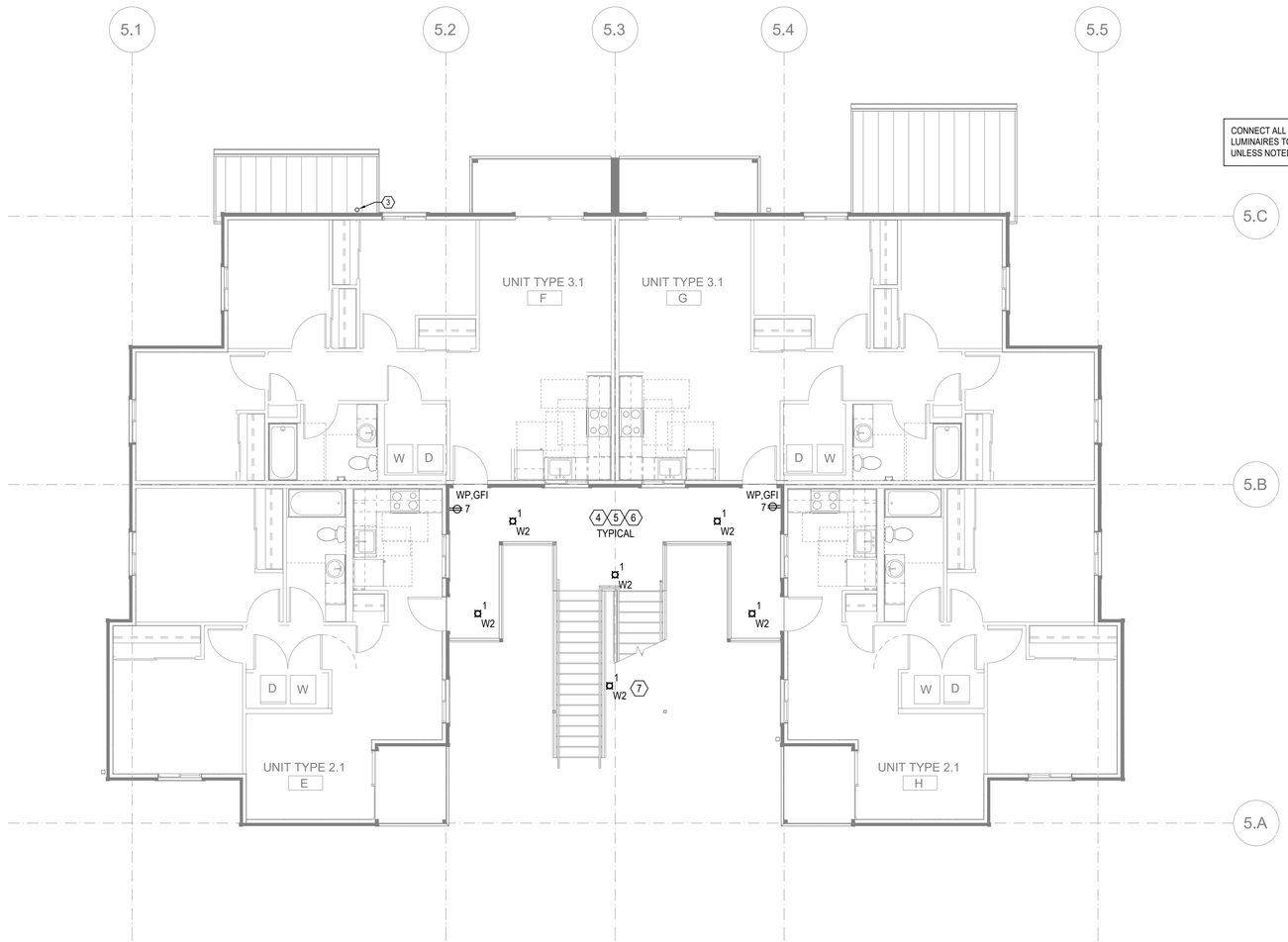
DPD STAMP

TITLE

POWER AND LIGHTING PLAN - BUILDING 5 - LEVEL 1

PERMIT #	BMF22-09854
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E5-101

10/7/2021 7:33:34 AM



CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H5 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.
7. LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.

POWER AND LIGHTING PLAN - BUILDING 5 - LEVEL 2

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
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Phone: 206.285.2966

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PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13310 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

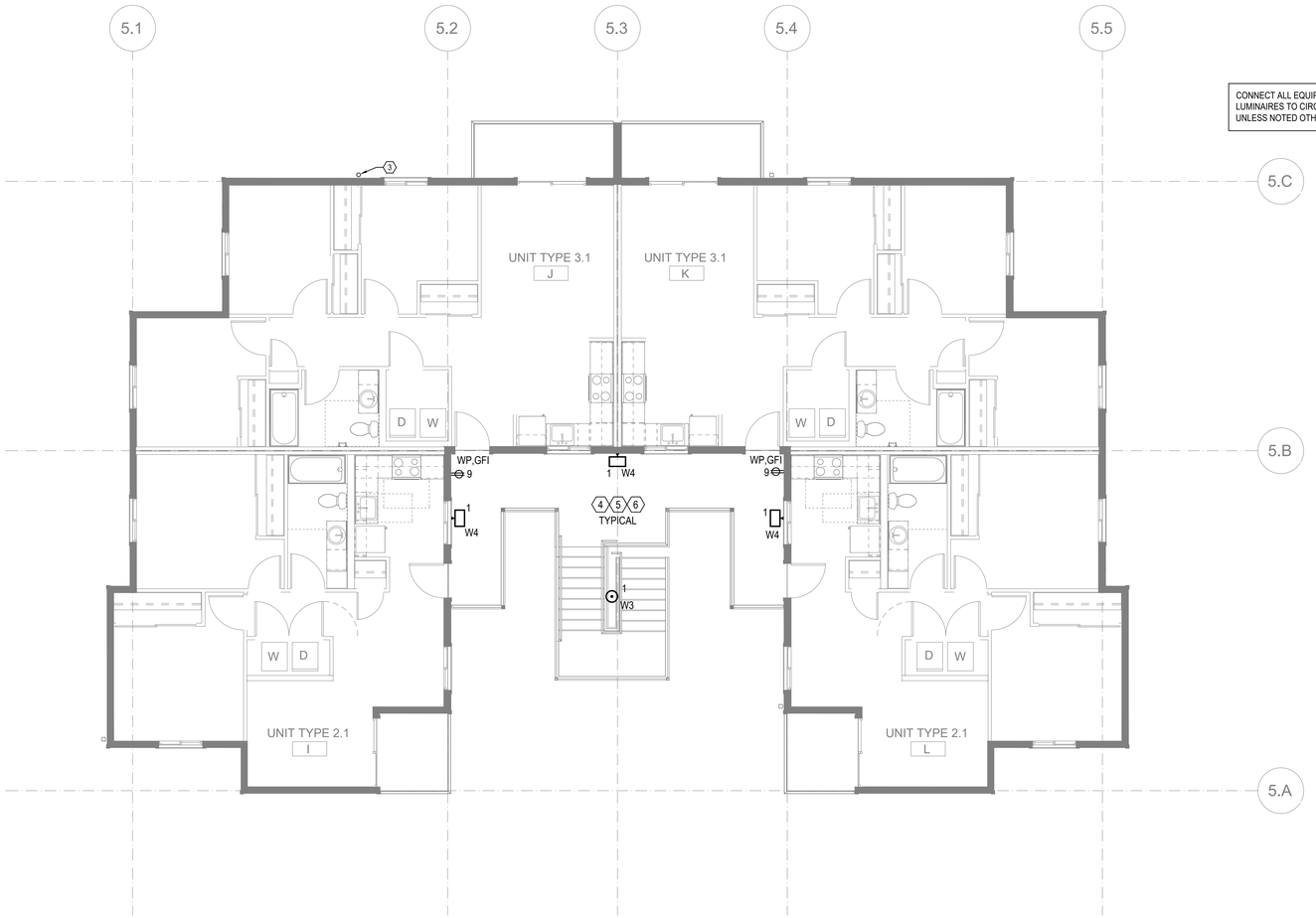
DPD STAMP

TITLE

POWER AND LIGHTING PLAN - BUILDING 5 - LEVEL 2

PERMIT #	BMF22-09854
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E5-102



CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H5 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 5 - LEVEL 3

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13310 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

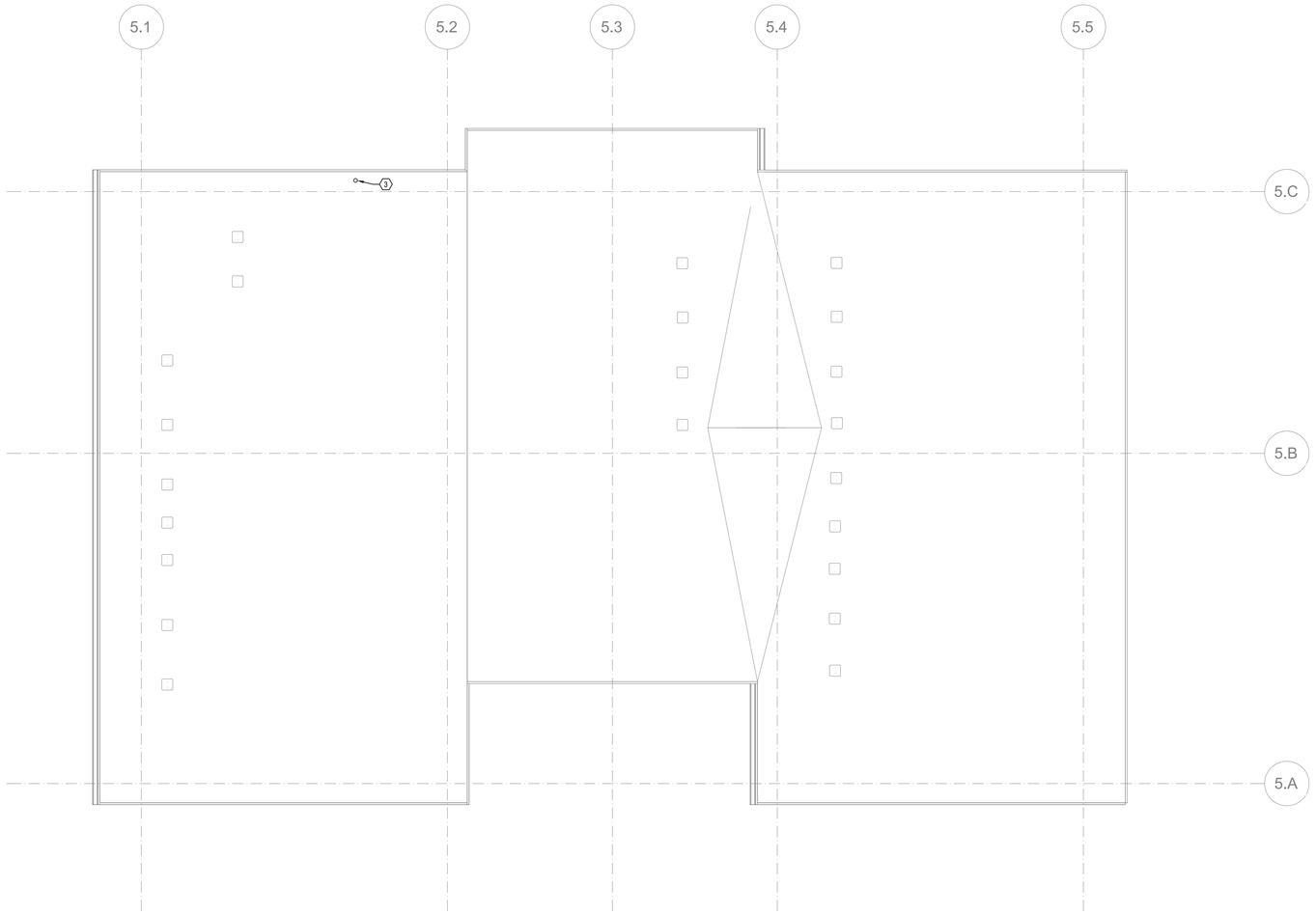
TITLE

POWER AND LIGHTING PLAN - BUILDING 5 - LEVEL 3

PERMIT #	BMF22-09854
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E5-103

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.



GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER PLAN - BUILDING 5 - ROOF

SCALE: 3/16"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

13310 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

GEORGINNA M. LAMPSON
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER PLAN - BUILDING 5 - ROOF

PERMIT #	BMF22-09854
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E5-104

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

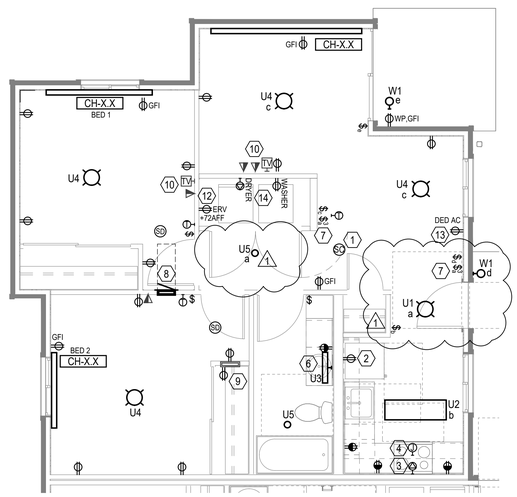
1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

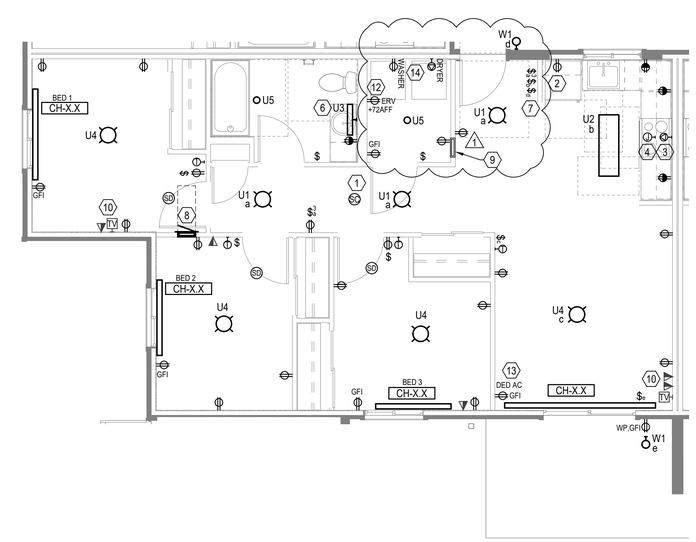
UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES			
		BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**
1/4"=1'-0" UNITS: A, D, E, H, I, L



1 **ENLARGED PLAN - 3-BED**
1/4"=1'-0" UNITS: B, C, F, G, J, K

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13310 NE 133rd St.,
Kirkland, WA 98034

BUILDING 5

BID SET

DEBORAH M. JOHNSON — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

ENLARGED UNIT PLANS

PERMIT #	BMF22-09854
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E5-301

10/7/2021 7:33:34 AM

ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- E-1 — DETAIL NUMBER / SHEET
- FLAG NOTE
- 1 — REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- SD — FIRE ALARM SMOKE DETECTOR
- SD — FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM — EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 2PDX etc. — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP — 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
		W/	WITH
IMC	INTERMEDIATE METAL CONDUIT	WO	WITHOUT
IN	INCH/INCHES	WP	WEATHERPROOF
		WT	WEIGHT
KCMIL	THOUSAND CIRCULAR MILS		
KO	KNOCK OUT	XFR	TRANSFORMER
KW	KILOWATT/KILOWATTS		
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

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c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13320 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

GEORGINA L. BYERS — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09857
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E6-001

10/7/2021 7:33:34 AM

GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13320 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09857
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E6-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10
40.2	(1) 1-INCH	CU	(2) #5	#10
40.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

5/18/2023

GENERAL SCHEDULE NOTES:

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

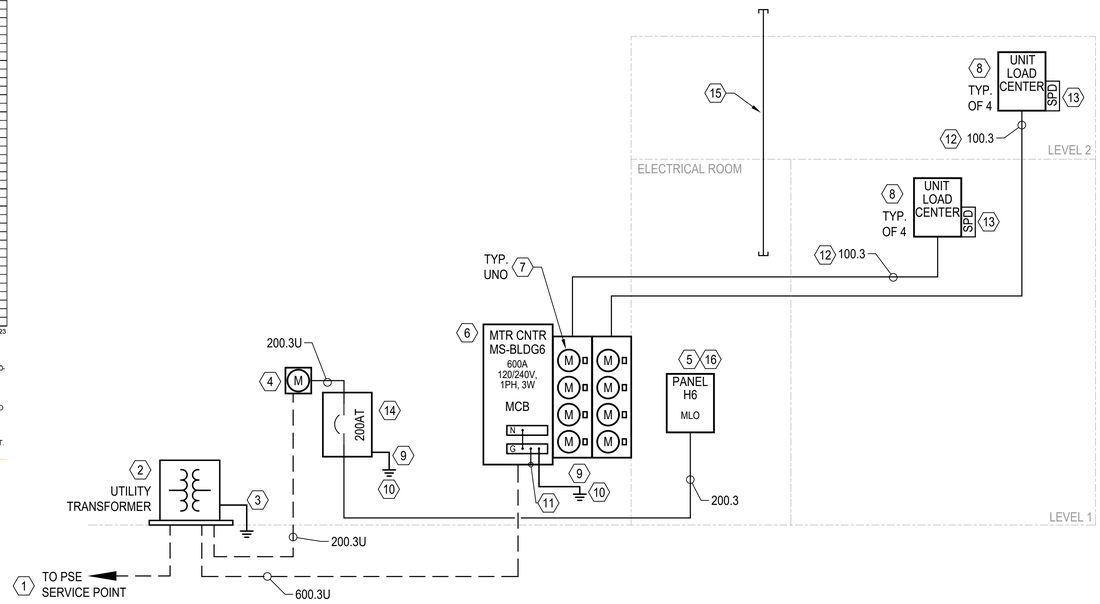
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS, WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH 'U' ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 6

UNIT TYPE: 2BR - 2.1 | **AREA (SF): 782** | 5/18/2023
DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.35	kVA
> 120,000VA:	25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70 kVA
RANGE HOOD	1	AT	0.3	=	0.30 kVA
MICROWAVE		AT		=	0.00 kVA
DISHWASHER		AT		=	0.00 kVA
WASHER	1	AT	1.2	=	1.20 kVA
GARBAGE DISPOSAL		AT		=	0.00 kVA
WATER HEATER		AT		=	0.00 kVA
		SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:	75%				
		GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
		GENERAL MOTOR LOAD - DEMAND		=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]		=	3.91	kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 23.54 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.48	kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10kVA:	100%	=	10.00	kVA
> 10 kVA:	40%	=	5.39	kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS: 65% NAMEPLATE	=	2.54	kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 17.93 kVA

UNIT TYPE: 3BR - 3.1 | **AREA (SF): 906** | 5/18/2023
DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.48	kVA
> 120,000VA:	25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.48 kVA**

FIXED IN PLACE APPLIANCES [220.53]:

TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70 kVA
RANGE HOOD	1	AT	0.3	=	0.30 kVA
MICROWAVE		AT		=	0.00 kVA
DISHWASHER		AT		=	0.00 kVA
WASHER	1	AT	1.2	=	1.20 kVA
GARBAGE DISPOSAL		AT		=	0.00 kVA
WATER HEATER		AT		=	0.00 kVA
		SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:	75%				
		GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
		GENERAL MOTOR LOAD - DEMAND		=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]		=	4.53	kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 24.29 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.86	kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10kVA:	100%	=	10.00	kVA
> 10 kVA:	40%	=	5.54	kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS: 65% NAMEPLATE	=	2.94	kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 18.49 kVA

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL | **MS - 8 unit STACK** | 5/18/2023
DEMAND LOAD (kVA): 95.86 => 399.4 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.6< X < 3.6kW QTY	1.6< X < 3.6kW LOAD (kVA)	3.6kW < X < 8.76kW QTY	3.6kW < X < 8.76kW LOAD (kVA)	8.76kW < X < 12kW QTY	8.76kW < X < 12kW LOAD (kVA)
2BR - 2.1	4	27.38	8.80	0.44	15.64	4	22.00	0	0.00	0	0.00	4	35.20
3BR - 3.1	4	28.87	8.80	0.44	18.12	4	22.00	0	0.00	0	0.00	4	35.20
0								0	0.00	0	0.00	0	0.00
TOTALS:	8	56.26	17.60	0.88	33.76	8	44.00	0	0.00	0	0.00	8	70.40

ADDITIONAL 25% OF LARGEST MOTOR: 0.03

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD	=	222.92 kVA
DEMAND FACTOR FROM TABLE 220.84 =	43%	
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC	=	**95.86 kVA**

KIRKLAND HEIGHTS - 8 UNIT STACK FLAT (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 8):	95.86 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	95.86 kVA
	399.40 AMPS @ 120/240V, 1-PHASE
	PROVIDE 600A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	5.6 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	38.71 kVA
	161.30 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	48.39 kVA
	201.6208 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	144.25 kVA
	601.03 AMPS @ 120/240V, 1-PHASE

10/7/2021 7:33:34 AM

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
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Seattle, Washington 98109
Phone: 206.285.2966

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13320 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

JOHANNA M. BRANDT — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09857
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E6-003

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H6
NORMAL POWER — VOLTAGE: 120 / 240 V — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — 1-PHASE, 3-WIRE — M.L.O. OR MCB: MLO — 200 AMPS — SURFACE-MOUNTED

CKT #	DESCRIPTION	CONN LOAD TYPE	CONN LOAD kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	CONN LOAD kVA	DESCRIPTION	CKT #
1	TG - BREEZEWAY	L	0.15	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	SPARE		0.00		20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-1	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-2	22
23	SPARE		0.00	20.1	20 / 1	B						24
25	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	26
27	TG - SITE	L	0.22	20.1	20 / 1	B	20 / 1			0.00	SPARE	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - SWH-1	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP CP-1 & MIX VALVE MV-1	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00			B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD		DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.61	kVA	125%	0.76	kVA
R	= RECEPTACLES	3.78	kVA	NEC 220.44	3.78	kVA
M	= MOTORS	0.24	kVA	100%	0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA	25%	0.06	kVA
C	= CONTINUOUS	13.66	kVA	125%	17.45	kVA
N	= NON-CONTINUOUS	1.44	kVA	100%	1.44	kVA
K	= KITCHEN	0.00	kVA	75%	0.00	kVA

PANEL CONNECTED TOTAL: 30.03 kVA / 83.44 AMPS
PANEL DEMAND TOTAL: 23.73 kVA / 98.86 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — 1-PHASE, 3-WIRE — M.L.O. OR MCB: MLO — 100 AMPS — FLUSH-MOUNTED

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED. RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — 1-PHASE, 3-WIRE — M.L.O. OR MCB: MLO — 100 AMPS — FLUSH-MOUNTED

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED. RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	KW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13320 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

VIRGINNA M. [illegible] STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13320 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

GEORGINNA M. LAMPMAN STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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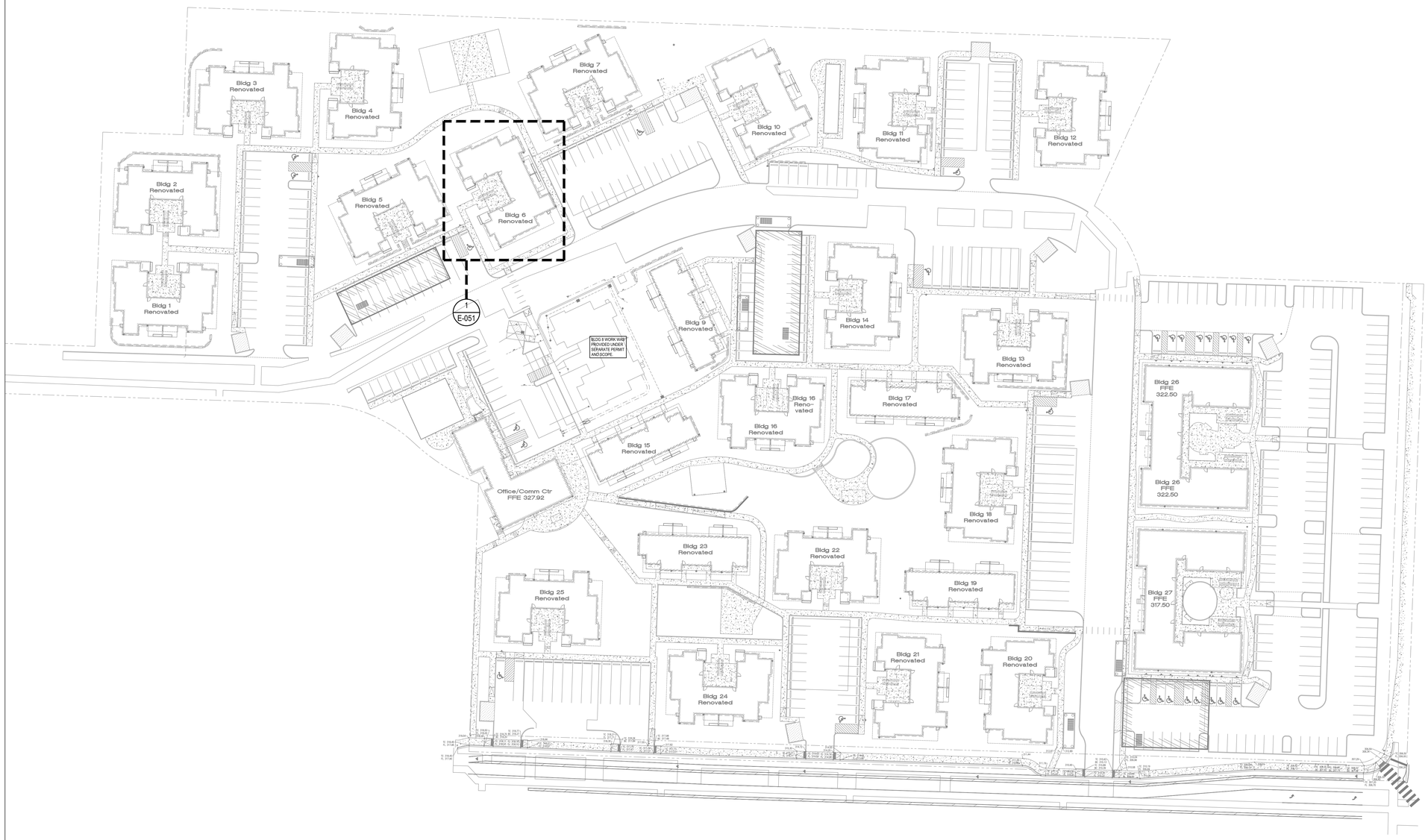
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LUMINAIRE SCHEDULE

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E6-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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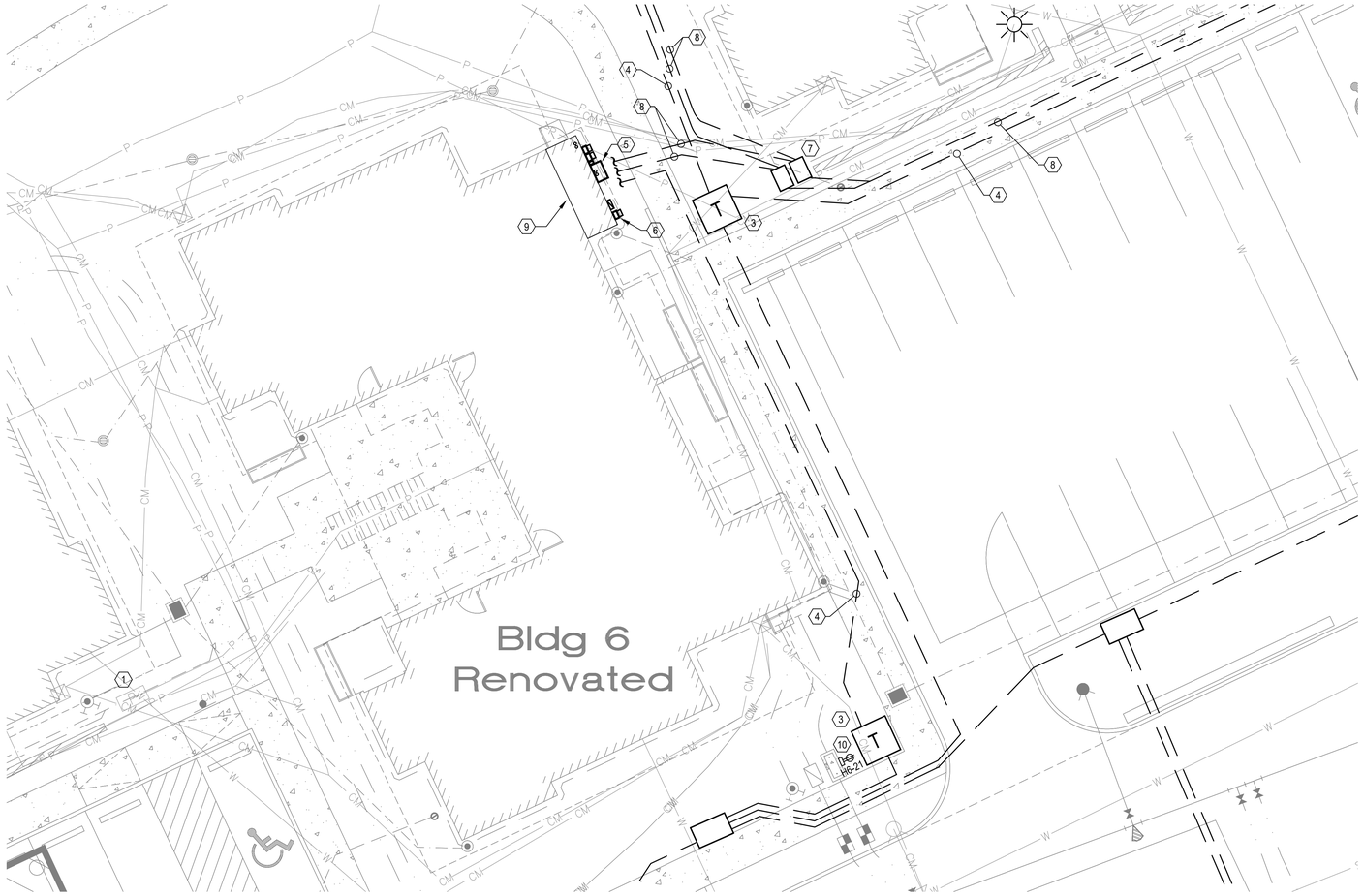
OVERALL PROJECT SITE PLAN

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ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 6
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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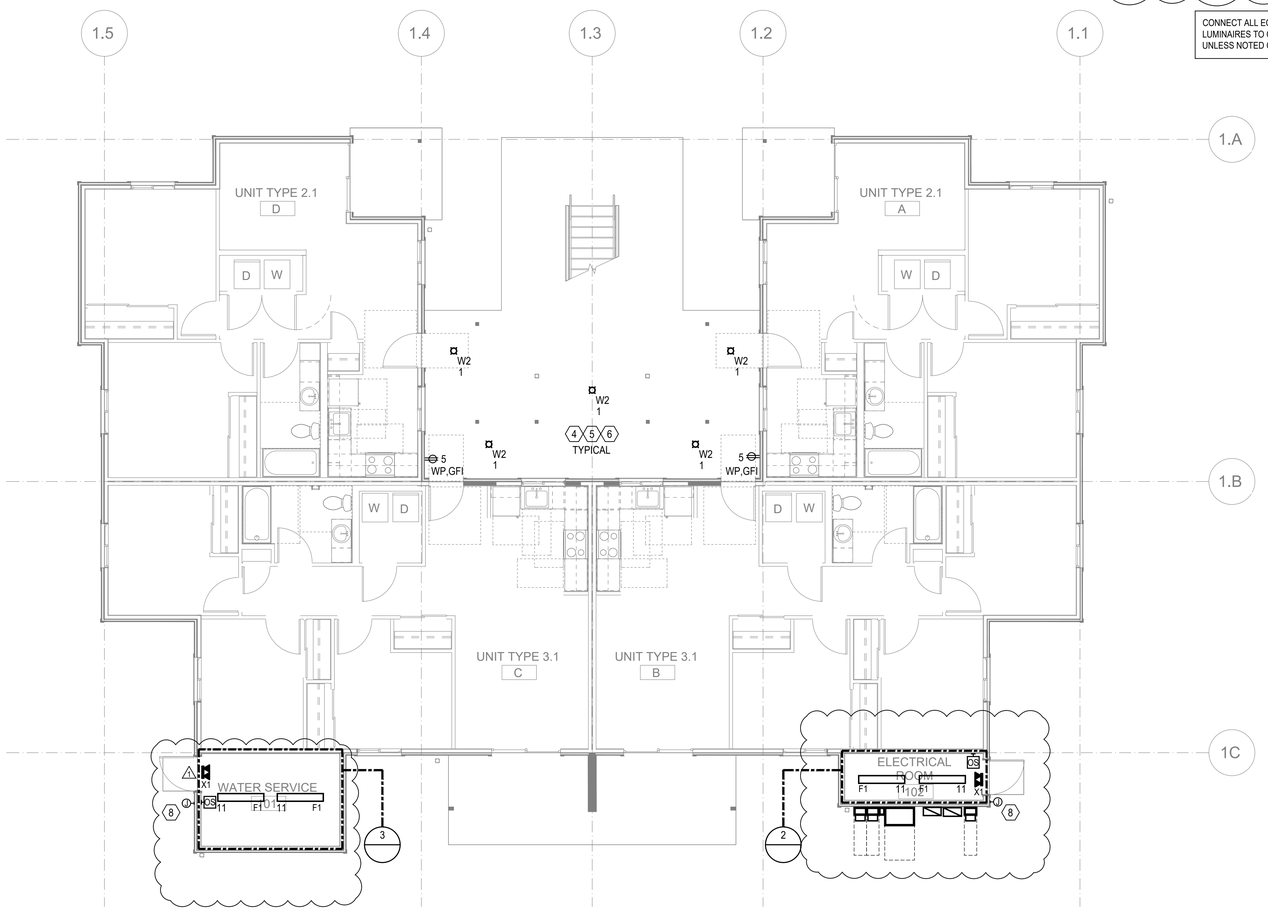
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ELECTRICAL SITE PLAN - BUILDING 6

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POWER AND LIGHTING PLAN - BUILDING 6 - LEVEL 1

SCALE: 3/16"=1'-0"

1. EMERGENCY LIGHTING INVERTER LOADS:

   INVERTER #1 (CKT H-1): 150 WATTS @ 125% = 188W DEMAND
   - PROVIDE 220 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H6 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

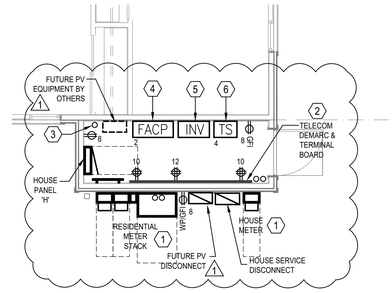
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

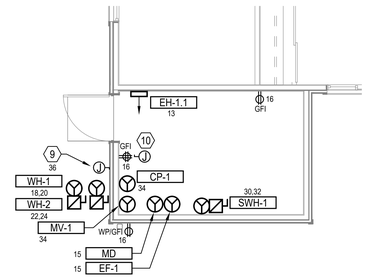
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR APARTMENT UNITS AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 220 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR LIGHTING FIXTURES TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-220-PB-S-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 / E101 ELECTRICAL ROOM
1/4"=1'-0"



3 / E101 WATER ROOM
1/4"=1'-0"

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13320 NE 133rd St.,
Kirkland, WA 98034

BUILDING 6

BID SET

REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — 43761 — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

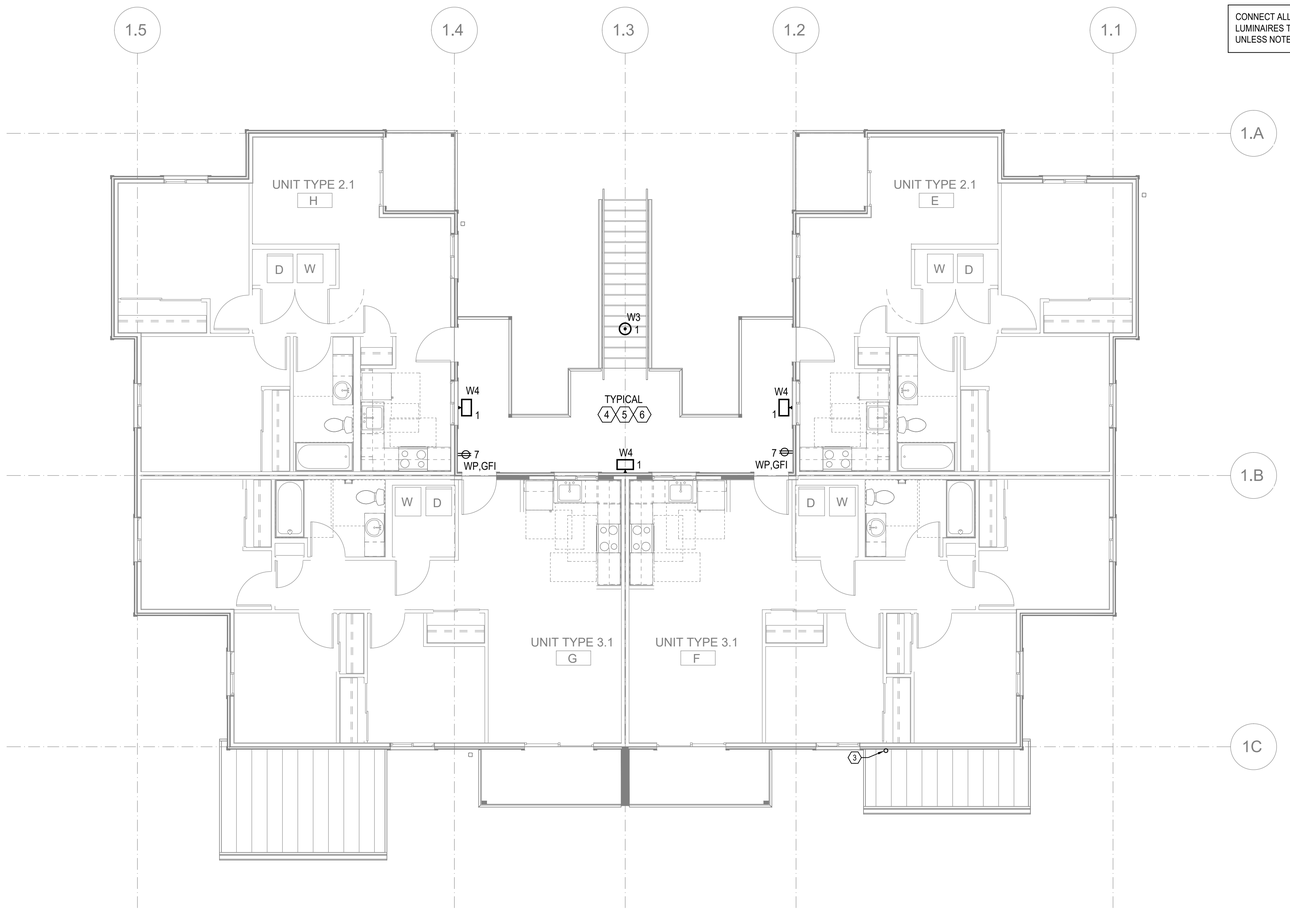
POWER AND LIGHTING PLAN - BUILDING 6 - LEVEL 1

PERMIT #	BMF22-09857
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E6-101

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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H6 UNLESS NOTED OTHERWISE.

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SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 6 - LEVEL 2

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

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BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

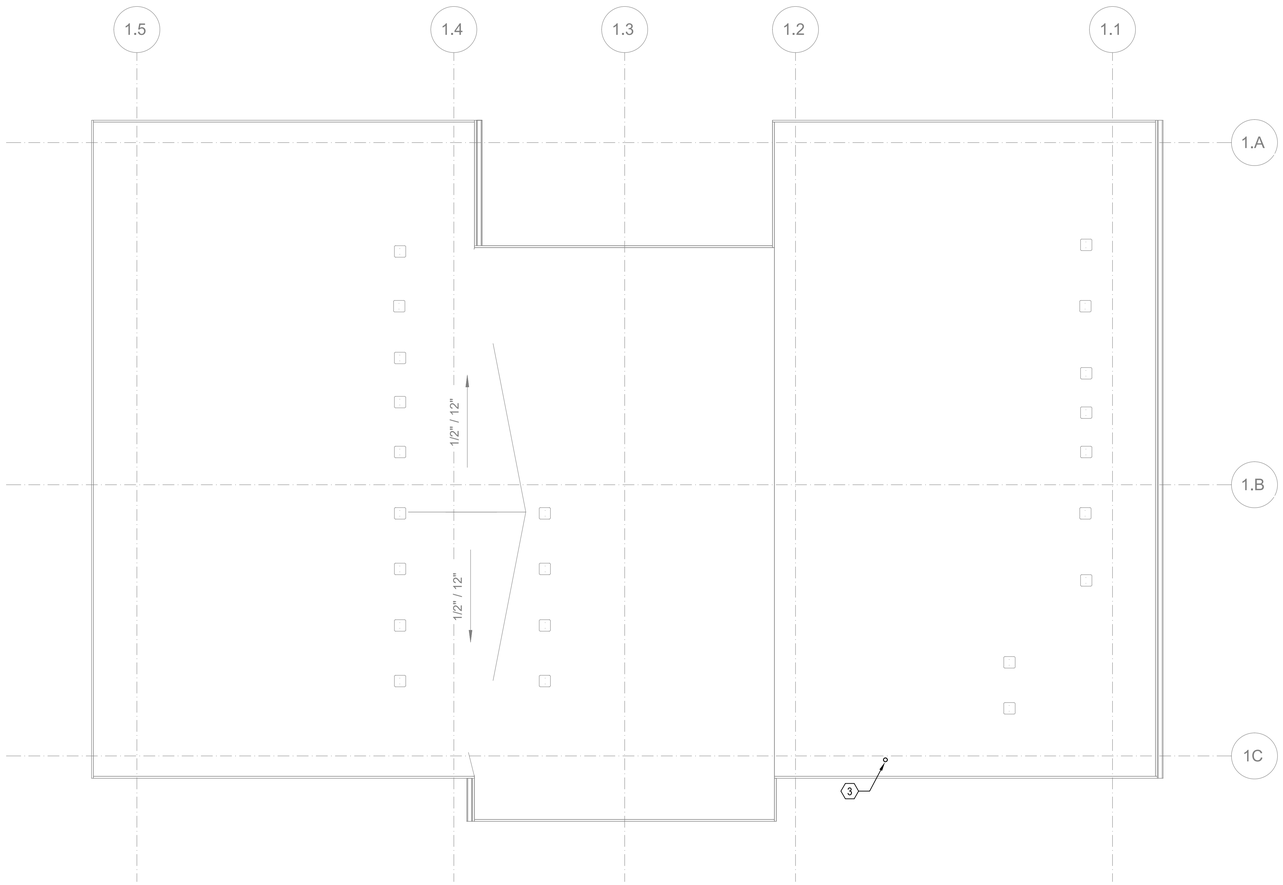
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POWER AND LIGHTING PLAN - BUILDING 6 - LEVEL 2

PERMIT #	BMF22-09857
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E6-102



POWER PLAN - BUILDING 6 - ROOF

SCALE: 3/16"=1'-0"

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GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

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BUILDING 6

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
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TITLE

POWER PLAN - BUILDING 6 - ROOF

PERMIT #	BMF22-09857
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SHEET NO.:

E6-103

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GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

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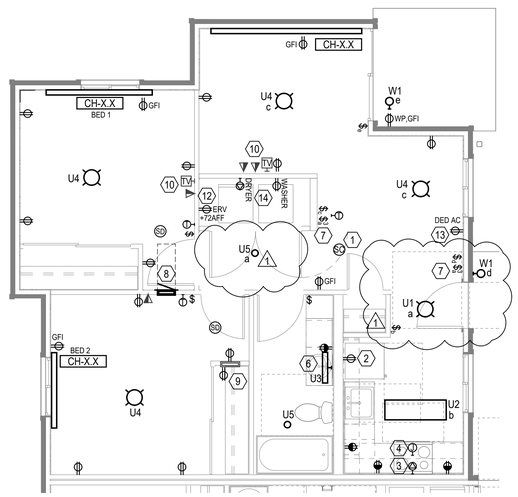
FLAG NOTES (X):

1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

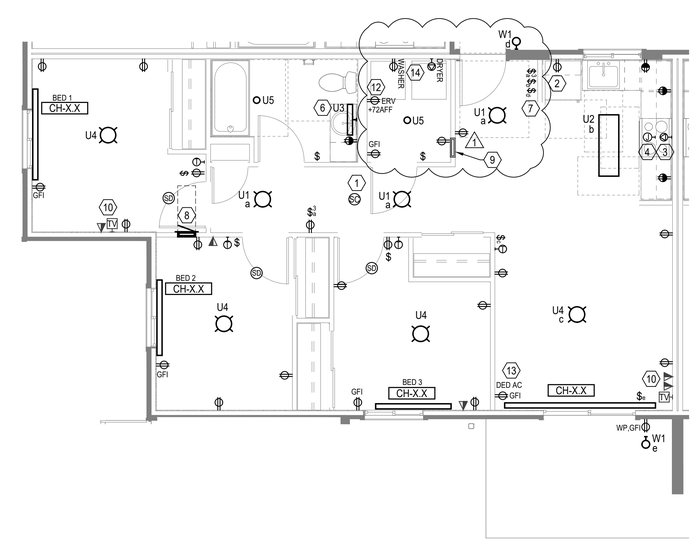
UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES			
		BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 ENLARGED PLAN - 2-BED

1/4"=1'-0" UNITS: A, D, E, H



1 ENLARGED PLAN - 3-BED

1/4"=1'-0" UNITS: B, C, F, G

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BUILDING 6

BID SET

JOAQUINNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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ENLARGED UNIT PLANS

PERMIT #	BMF22-09857
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E6-301

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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET (E-1)
- FLAG NOTE
- REVISION TAG (1)
- MECHANICAL EQUIPMENT (AHU-1)
- FAULT CURRENT TAG (XX kA)

FIRE ALARM SYMBOLS

- COMBINATION SMOKE/FIRE DAMPER (OR)
- FIRE ALARM CONTROL PANEL (FACP)
- FIRE ALARM REMOTE ANUNCIATOR (FARA)
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR (SD)
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM (SD)

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- GROUNDING CONDUCTOR(S) PER CODE (G)
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES (EM)

FL1 3a — FL1 3-Z1.2

TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VARIABLE FREQUENCY DRIVE (VFD)
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC (702)
- WEATHERPROOF (WP)
- GFCI TYPE (GFI)
- FULLY CONTROLLED (NOT HALF-SWITCHED) (C)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD (TV)
- CARD / FOB READER WALL/ MULLION AND BOLLARD MTD (CR)
- SECURITY DOOR POSITION MONITOR (DS)
- ELECTRIC STRIKE (ES)
- KEYPAD WALL/ MULLION AND BOLLARD MTD (KP)
- CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS. (WP, F)
- SPEAKER, CEILING MOUNTED (SP)

CONTROL SYMBOLS

- MOTORIZED CONTROL DAMPER (M)
- THERMOSTAT
- WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- WEATHERPROOF, TYPICAL (WP)
- WALL SWITCH, LINE VOLTAGE, 1-POLE
- WALL SWITCH, LINE VOLTAGE, 3-WAY (3)
- WALL SWITCH, LINE VOLTAGE, TIMER SWITCH (TS)
- LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF (1P)
- LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER (DX)
- LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF (2P)
- LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER (2PDX)
- COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED (OS)
- OCCUPANCY SENSOR: WALL, CLG MTD (OS)
- PHOTO CELL, CLG MTD (PC)
- COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD (OP)

RISER DIAGRAM SYMBOLS

- CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER (100AT GFP / 50AT) AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- FUSED SWITCH. AF= FUSE RATING (100AF)
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- CONTACTOR COIL (C)
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DIGITAL METER (DM)
- UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED. (M)
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SURGE PROTECTION DEVICE (SPD)

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
IN	INCH/INCHES	WO	WITHOUT
		WP	WEATHERPROOF
KCMIL	THOUSAND CIRCULAR MILS	WT	WEIGHT
KO	KNOCK OUT		
KW	KILOWATT/KILOWATTS	XFR	TRANSFORMER
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

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c/o: King County Housing Authority,
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13402 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09855
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E7-001

10/7/2021 7:33:34 AM

GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13402 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09855
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E7-002

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FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10
40.2	(1) 1-INCH	CU	(2) #5	#10
40.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

5/18/2023

GENERAL SCHEDULE NOTES:

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

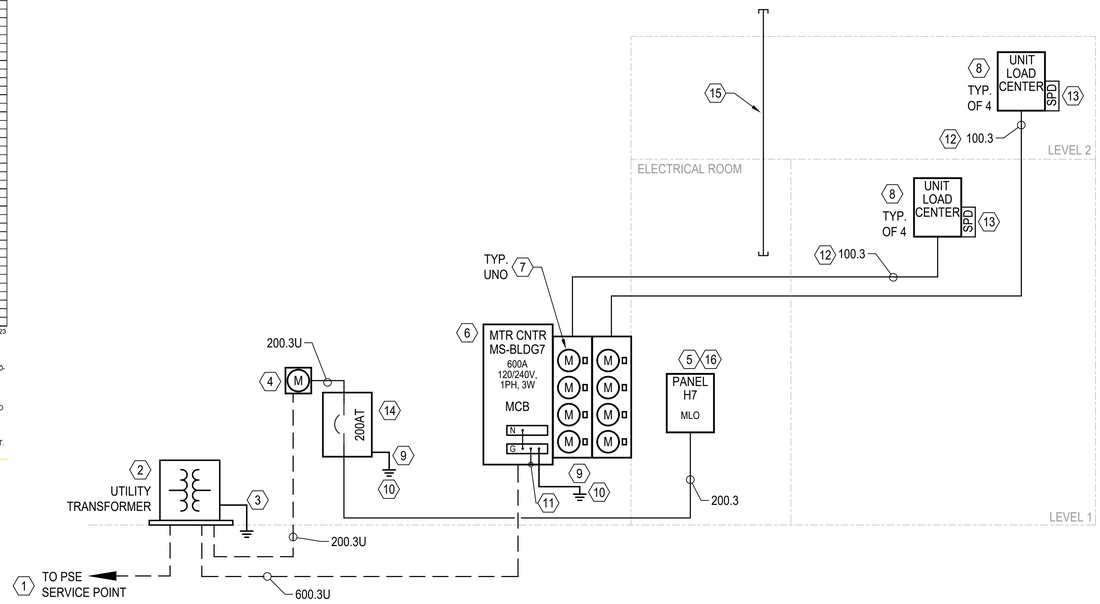
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS, WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH 'U' ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 7

UNIT TYPE: 2BR - 2.1 | **AREA (SF): 782** | 5/18/2023

DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.35	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	= 0.70	kVA
	RANGE HOOD	1	AT	0.3	= 0.30	kVA
	MICROWAVE		AT		= 0.00	kVA
	DISHWASHER		AT		= 0.00	kVA
	WASHER	1	AT	1.2	= 1.20	kVA
	GARBAGE DISPOSAL		AT		= 0.00	kVA
	WATER HEATER		AT		= 0.00	kVA
				SUBTOTAL (CONNECTED)	= 2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:				75%		
				GENERAL APPLIANCE LOAD - DEMAND	= **1.65**	**kVA**

MOTORS [220.60]:		QTY		LOAD (kVA EACH)		
	TOILET EXHAUST FAN		AT		= 0.00	kVA
	ERV UNIT	1	AT	0.11	= 0.11	kVA
	KITCHEN EXHAUST FAN		AT		= 0.00	kVA
	+25% OF LARGEST MOTOR				= 0.03	kVA
				GENERAL MOTOR LOAD - DEMAND	= **0.14**	**kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]				= 3.91	kVA
	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	= 5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		= 0.00	kVA
ELECTRIC OVEN [220.55]		AT		= 0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	= 8.00	kVA
			TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	= **23.54**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:	100%		=	10.00 kVA
> 10 kVA:	40%		=	5.39 kVA
ELECTRIC HEAT AND AC [220.82(C)]:				
LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS: 65% NAMEPLATE		=	2.54 kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**17.93 kVA**

UNIT TYPE: 3BR - 3.1 | **AREA (SF): 906** | 5/18/2023

DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.48	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	= 0.70	kVA
	RANGE HOOD	1	AT	0.3	= 0.30	kVA
	MICROWAVE		AT		= 0.00	kVA
	DISHWASHER		AT		= 0.00	kVA
	WASHER	1	AT	1.2	= 1.20	kVA
	GARBAGE DISPOSAL		AT		= 0.00	kVA
	WATER HEATER		AT		= 0.00	kVA
				SUBTOTAL (CONNECTED)	= 2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:				75%		
				GENERAL APPLIANCE LOAD - DEMAND	= **1.65**	**kVA**

MOTORS [220.60]:		QTY		LOAD (kVA EACH)		
	TOILET EXHAUST FAN		AT		= 0.00	kVA
	ERV UNIT	1	AT	0.11	= 0.11	kVA
	KITCHEN EXHAUST FAN		AT		= 0.00	kVA
	+25% OF LARGEST MOTOR				= 0.03	kVA
				GENERAL MOTOR LOAD - DEMAND	= **0.14**	**kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]				= 4.53	kVA
	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	= 5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		= 0.00	kVA
ELECTRIC OVEN [220.55]		AT		= 0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	= 8.00	kVA
			TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	= **24.29**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:	100%		=	10.00 kVA
> 10 kVA:	40%		=	5.54 kVA
ELECTRIC HEAT AND AC [220.82(C)]:				
LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS: 65% NAMEPLATE		=	2.94 kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**18.49 kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL | **MS - 8 unit STACK** | 5/18/2023

DEMAND LOAD (kVA): 95.86 => 399.4 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.6< X < 3.6kW QTY	1.6< X < 3.6kW LOAD (kVA)	3.6kW < X < 8.76kW QTY	3.6kW < X < 8.76kW LOAD (kVA)	8.76kW < X < 12kW QTY	8.76kW < X < 12kW LOAD (kVA)
2BR - 2.1	4	27.38	8.80	0.44	15.64	4	22.00	0	0.00	0	0.00	4	35.20
3BR - 3.1	4	28.87	8.80	0.44	18.12	4	22.00	0	0.00	0	0.00	4	35.20
0								0	0.00	0	0.00	0	0.00
TOTALS:	8	56.26	17.60	0.88	33.76	8	44.00	0	0.00	0	0.00	8	70.40

ADDITIONAL 25% OF LARGEST MOTOR: 0.03

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD = 222.92 kVA

DEMAND FACTOR FROM TABLE 220.84 = 43%

TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC = 95.86 kVA

KIRKLAND HEIGHTS - 8 UNIT STACK FLAT (REHAB)

PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 8):	95.86 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	95.86 kVA
	399.40 AMPS @ 120/240V, 1-PHASE
	PROVIDE 600A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	5.6 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	38.71 kVA
	161.30 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	48.39 kVA
	201.6208 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	144.25 kVA
	601.03 AMPS @ 120/240V, 1-PHASE

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13402 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09855
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E7-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H7
NORMAL POWER — VOLTAGE: 120 / 240 V — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
MLO OR MCB: MLO — 200 AMPS

CKT #	DESCRIPTION	CONN TYPE	LOAD kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN TYPE	LOAD kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY	L	0.15	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG-TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	SPARE		0.00		20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-1	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-2*	22
23	LTG - SITE POLES	L	0.30	20.1	20 / 1	B						24
25	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	26
27	SPARE		0.00		20 / 1	B	20 / 1			0.00	SPARE	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK- "SWH-1"	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP "CP-1" & MIX VALVE "MV-1"	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.69	kVA 125%	0.86	kVA
R	= RECEPTACLES	3.78	kVA NEC 220.44	3.78	kVA
M	= MOTORS	0.24	kVA 100%	0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA 25%	0.06	kVA
C	= CONTINUOUS	13.66	kVA 125%	17.45	kVA
N	= NON-CONTINUOUS	1.44	kVA 100%	1.44	kVA
K	= KITCHEN	0.00	kVA 75%	0.00	kVA

PANEL CONNECTED TOTAL: 20.11 kVA, 83.78 AMPS
PANEL DEMAND TOTAL: 23.83 kVA, 99.28 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#X):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	KW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13402 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

VIRGINNA M. JOHNSON — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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SCHEDULES

PERMIT #	BMF22-09855
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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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KIRKLAND HEIGHTS APARTMENTS

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Kirkland, WA 98034

BUILDING 7

BID SET

GEORGINNA M. LAMPMAN
STATE OF WASHINGTON
43761
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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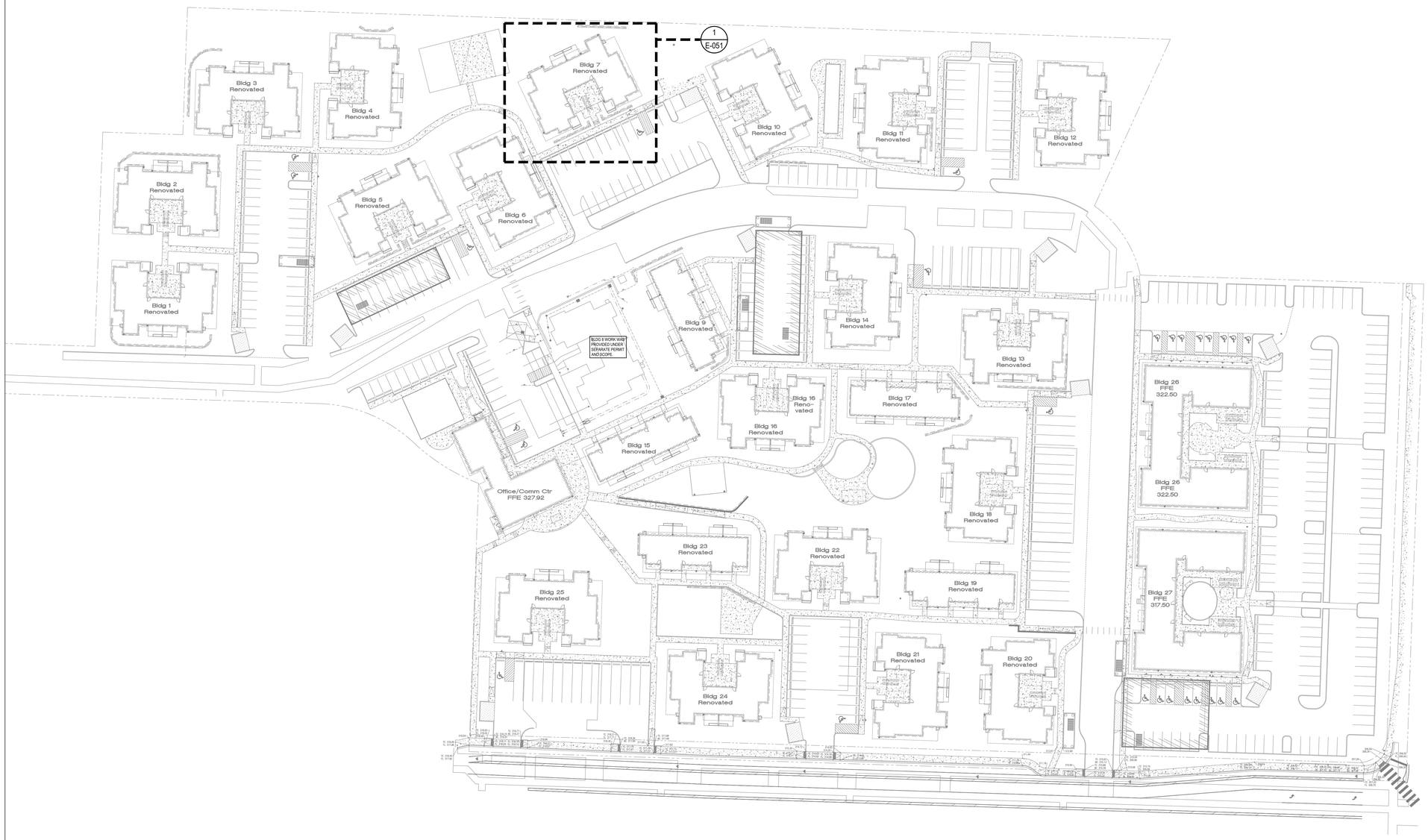
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LUMINAIRE SCHEDULE

PERMIT #	BMF22-09855
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E7-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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REVISIONS / NOTES

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ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 7
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13402 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

JEROLDINNA M. GUILLERMO — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

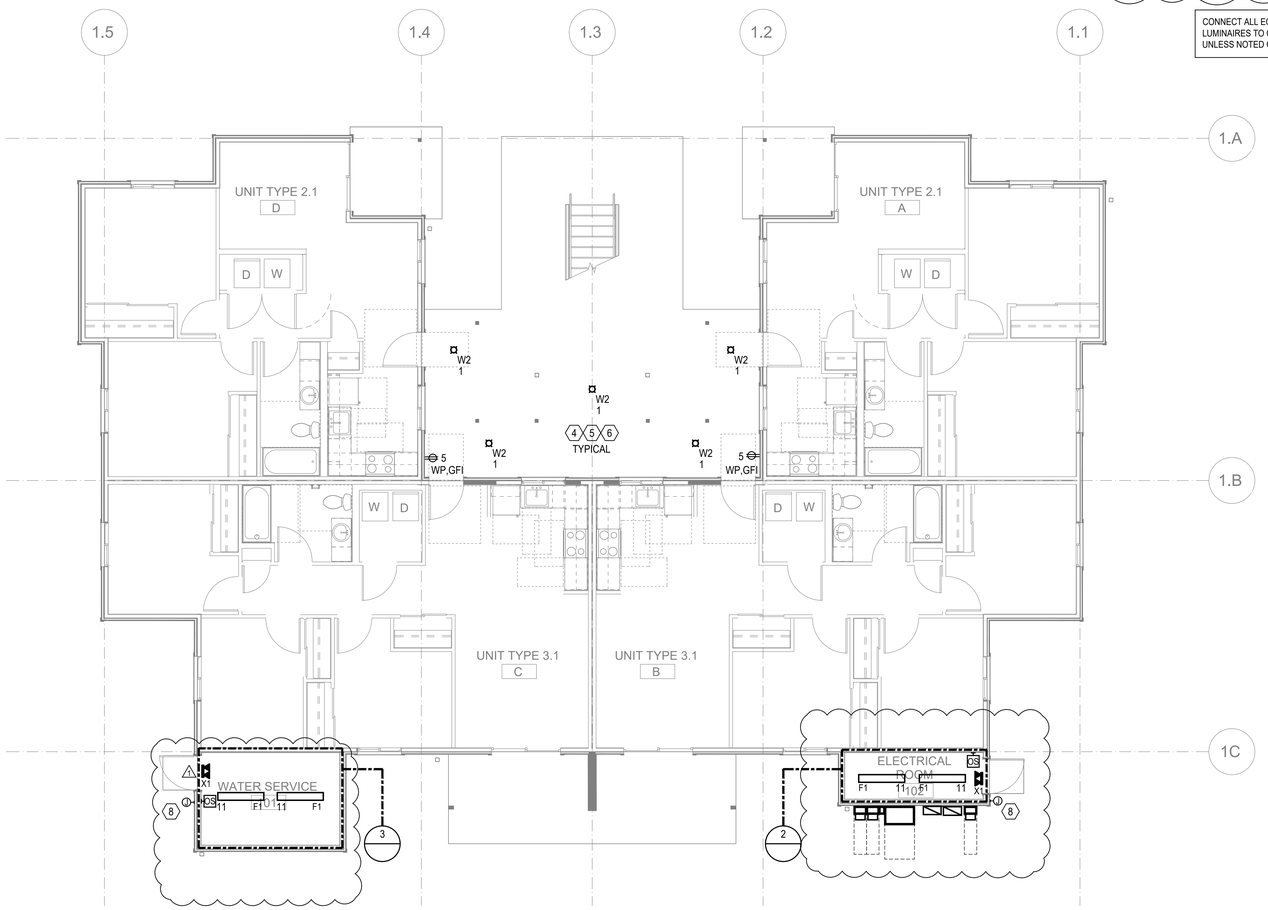
TITLE

ELECTRICAL SITE PLAN - BUILDING 7

PERMIT #	BMF22-09855
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E7-051

10/7/2021 7:33:34 AM



POWER AND LIGHTING PLAN - BUILDING 7 - LEVEL 1

SCALE: 3/16"=1'-0"

1 EMERGENCY LIGHTING INVERTER LOADS:

INVERTER #1 (CKT H-1): 150 WATTS @ 125% = 188W DEMAND
- PROVIDE 220 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H7 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

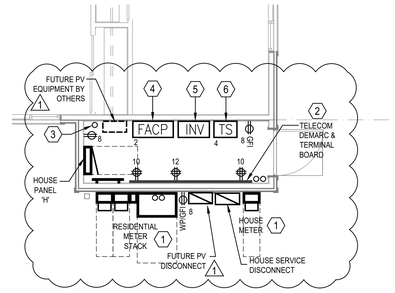
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

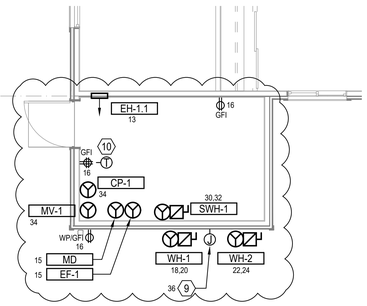
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR APARTMENT UNITS AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 220 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM. TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR LIGHTING FIXTURES TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-220-PB-S-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 E101 ELECTRICAL ROOM
1/4"=1'-0"



3 E101 WATER ROOM
1/4"=1'-0"

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13402 NE 133rd St.,
Kirkland, WA 98034

BUILDING 7

BID SET

JACQUINNA M. JAMES — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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TITLE

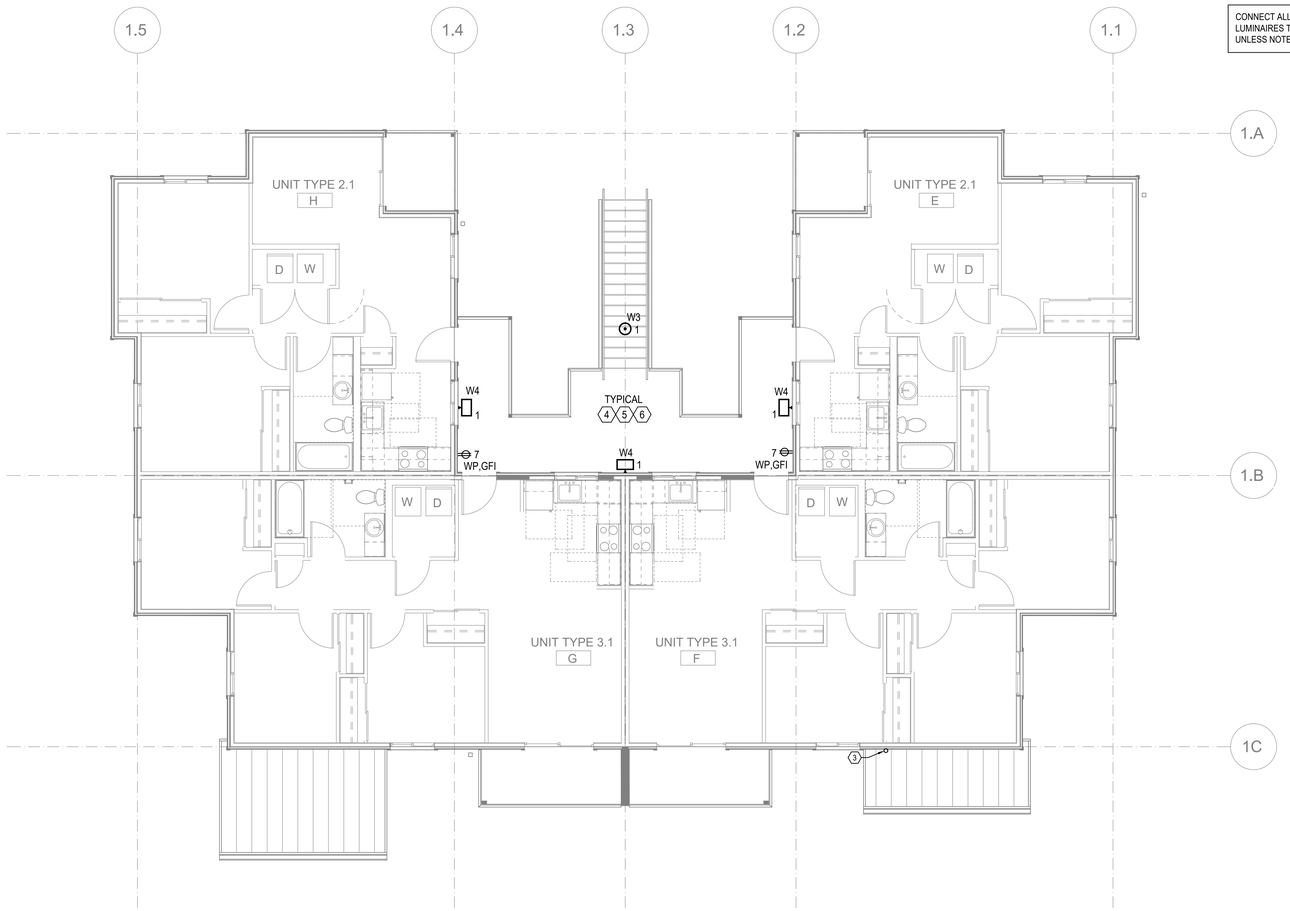
POWER AND LIGHTING PLAN - BUILDING 7 - LEVEL 1

PERMIT #	BMF22-09855
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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H7 UNLESS NOTED OTHERWISE.

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SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 7 - LEVEL 2

SCALE: 3/16"=1'-0"

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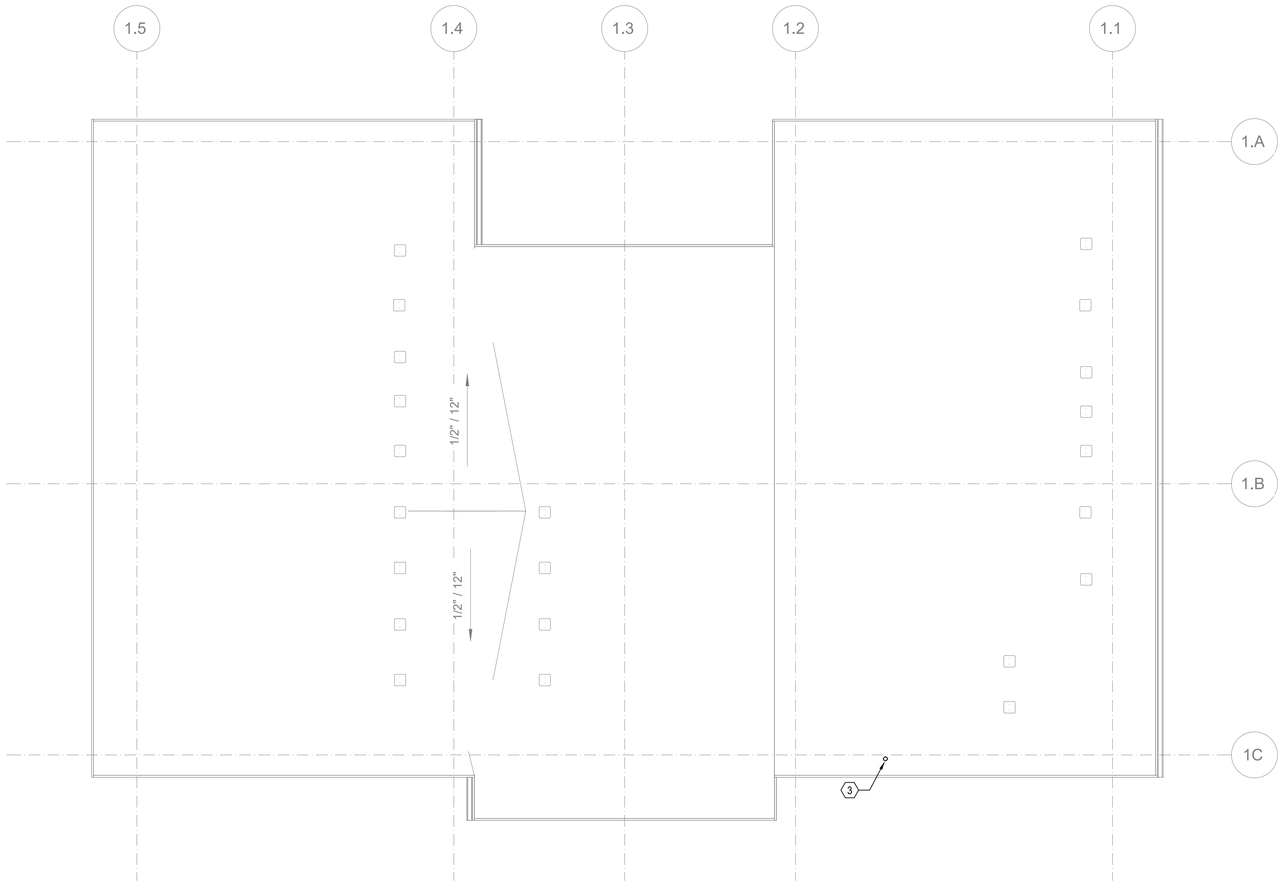
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POWER AND LIGHTING PLAN - BUILDING 7 - LEVEL 2

PERMIT #	BMF22-09855
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SHEET NO.:

E7-102



POWER PLAN - BUILDING 7 - ROOF

SCALE: 3/16"=1'-0"

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GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

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BUILDING 7

BID SET

JEROLDINNA M. GUEVARRA — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
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DPD STAMP

TITLE

POWER PLAN - BUILDING 7 - ROOF

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E7-103

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GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

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FLAG NOTES (X):

1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

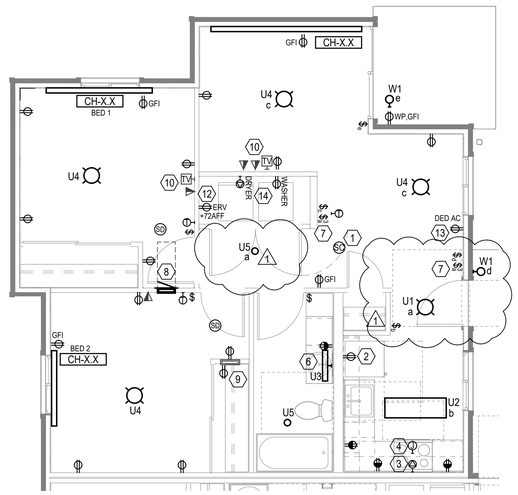
ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES			
		BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:

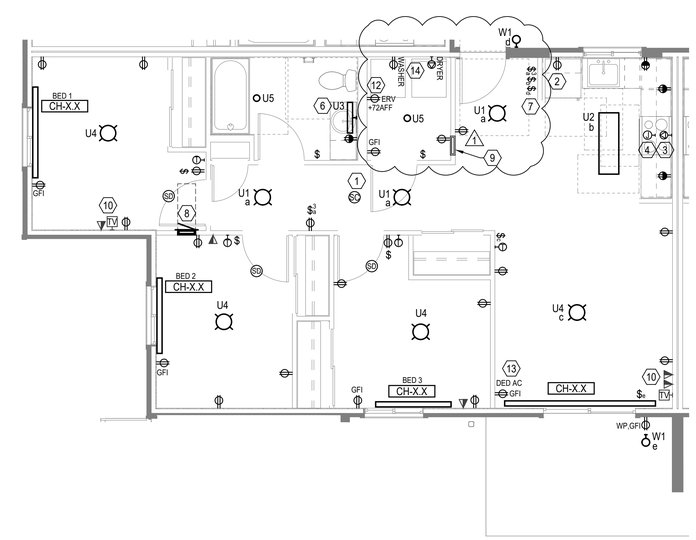
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**

1/4"=1'-0" UNITS: A, D, E, H



1 **ENLARGED PLAN - 3-BED**

1/4"=1'-0" UNITS: B, C, F, G

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ENLARGED UNIT PLANS

PERMIT #	BMF22-09855
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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- E-1 — DETAIL NUMBER / SHEET
- FLAG NOTE
- 1 — REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- SD — FIRE ALARM SMOKE DETECTOR
- SD — FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM — EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT. SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- F
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 2PDX wtc — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP — 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
IN	INCH/INCHES	WO	WITHOUT
		WP	WEATHERPROOF
KCMIL	THOUSAND CIRCULAR MILS	WT	WEIGHT
KO	KNOCK OUT		
KW	KILOWATT/KILOWATTS	XFR	TRANSFORMER
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

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c/o: King County Housing Authority,
General Partner
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Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13405 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09856
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E9-001

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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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King County Housing Authority

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c/o: King County Housing Authority,
General Partner
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13405 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09856
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E9-002

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FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#6
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

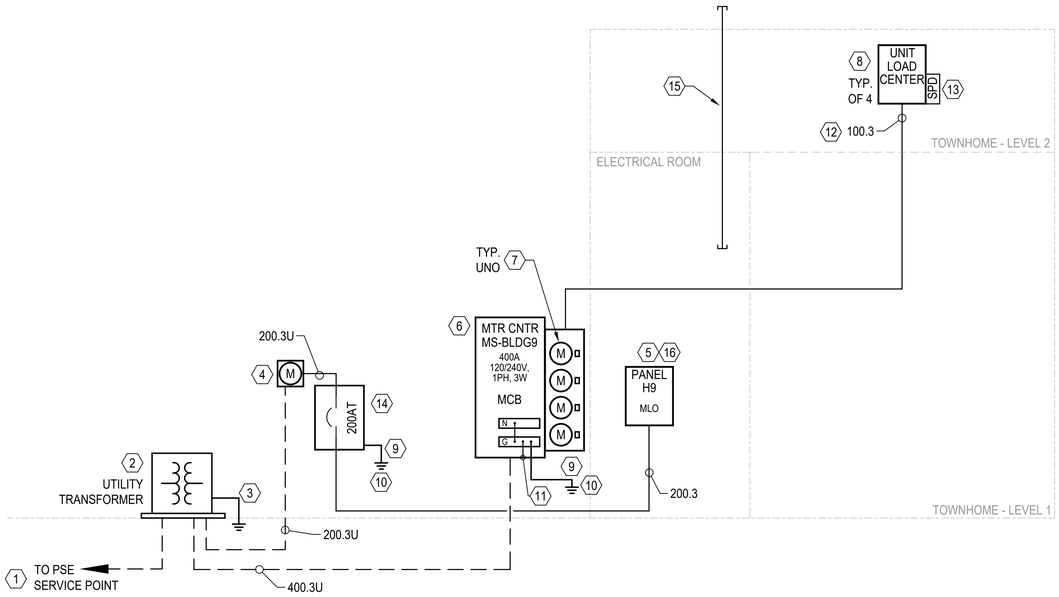
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 9

UNIT TYPE: TOWNHOUSE UNIT	AREA (SF):	1,211					6/18/2023
DEMAND LOAD (kVA):	18.81 =>	78.4 AMPS AT	240	V	1	PH	

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF		=	3.63	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	8.13	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.80	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.80**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER	1	AT	1.2	=	1.20 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
				SUBTOTAL (CONNECTED)	=	3.40 kVA
APPLIANCE DEMAND FACTOR [220.53]:				75%		
				GENERAL APPLIANCE LOAD - DEMAND	=	**2.55 kVA**

MOTORS [220.50]:		QTY		LOAD (kVA EACH)		
	TOILET EXHAUST FAN		AT		=	0.00 kVA
	ERV UNIT	1	AT	0.11	=	0.11 kVA
	KITCHEN EXHAUST FAN		AT		=	0.00 kVA
	+25% OF LARGEST MOTOR				=	0.03 kVA
				GENERAL MOTOR LOAD - DEMAND	=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]					=	6.06 kVA
	QTY		LOAD (kVA EACH)			
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00	kVA
ELECTRIC OVEN [220.55]		AT		=	0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00	kVA
			TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	=	**27.04**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	25.97 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10kVA:	100%		=	10.00 kVA
> 10 kVA:	40%		=	6.39 kVA
ELECTRIC HEAT AND AC [220.82(C)]:				
LARGEST LOAD OF OPTIONS:	> = 4 ELECT SPACE HEATERS, 40% NAMEPLATE		=	2.42 kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**18.81 kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL MS- 4 unit TOWNHOUSE 5/18/2023

DEMAND LOAD (kVA): 57.61 => 240.0 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
0								0	0.00	0	0.00	0	0.00
TOWNHOUSE UNIT	4	32.53	13.60	0.44	24.22	4	22.00	0	0.00	0	0.00	4	35.20
0								0	0.00	0	0.00	0	0.00
TOTALS:	4	32.53	13.60	0.44	24.22	4	22.00	0	0.00	0	0.00	4	35.20
			ADDITIONAL 25% OF LARGEST MOTOR:	0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD	=	128.02	kVA
DEMAND FACTOR FROM TABLE 220.84 =		45%	
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC	=	**57.61**	**kVA**

KIRKLAND HEIGHTS - TOWNHOUSE BLDG (REHAB)

PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 4):	57.61 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	57.61 kVA
	240.04 AMPS @ 120/240V, 1-PHASE
	PROVIDE 400A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	0.5 kVA
LIGHTING - SITE:	1.0 kVA
GENERAL RECEPTACLES:	1.0 kVA
MECHANICAL:	kVA
ELECT HEAT (WATER RMS):	1.0 KVA
CENTRAL HOT WATER (HPWH)	5.3 KVA
ELECT SWING TANK	4.5 KVA
HEAT TRACE	0.5 KVA
MISCELLANEOUS:	2.0 kVA
EV CHARGING (2):	16.64 kVA
HOUSE TOTAL:	32.41 kVA
	89.96 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	40.51 kVA
	112.4556 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	98.12 kVA
	272.36 AMPS @ 120/240V, 1-PHASE

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13405 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

JOANNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09856
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E9-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
50.4	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.3	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

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C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.

B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H9
NORMAL POWER — VOLTAGE: 120 / 240 V — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
MC: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — 1-PHASE, 3-WIRE — SURFACE-MOUNTED — MLO OR MCB: MLO, 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/#P	PH	CB AMPS/#P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	TG - ELECT / MECH CLOSETS	L	0.12	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	B	20 / 1			0.00	SPARE	4
5	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.12	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	SPARE		0.00		20 / 1	A	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	10
11	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	14
15	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-1'	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-2'	22
23	SPARE		0.00		20 / 1	B						24
25	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	26
27	SPARE		0.00		20 / 1	B	20 / 1			0.00	SPARE	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - 'SWH-1'	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP 'CP-1' & MX VALVE 'MV-1'	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY *	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD		DEMAND FACTOR		DEMAND LOAD	
L	= LIGHTING	0.12	kVA	125%		0.15	kVA
R	= RECEPTACLES	2.52	kVA	NEC 220.44		2.52	kVA
M	= MOTORS	0.12	kVA	100%		0.12	kVA
	PLUS 25% OF LARGEST MOTOR	0.12	kVA	25%		0.03	kVA
C	= CONTINUOUS	13.90	kVA	125%		17.45	kVA
N	= NON-CONTINUOUS	1.20	kVA	100%		1.20	kVA
K	= KITCHEN	0.00	kVA	75%		0.00	kVA

PANEL CONNECTED TOTAL:
17.92 kVA
74.65 AMPS

PANEL DEMAND TOTAL:
21.47 kVA
89.44 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 4 BEDROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
MC: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — 1-PHASE, 3-WIRE — FLUSH-MOUNTED — MLO OR MCB: MLO, 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/#P	PH	CB AMPS/#P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19	BEDROOM 4 RECEPTS, LTS, SD (1)	20.1	20 / 1	B	20 / 1	20.1	DED.RECEPT - A/C UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A	20 / 1	20.1	HEAT - KITCHEN, BATH (1)	22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-2	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.135					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES; DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	kW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EWH-T	DWELLING UNITS	KING	PAW WALL HEATER	0.25	120 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	120 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 5

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.
5. UNIT WILL REQUIRE SURFACE MOUNTING.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 4 UNIT TOWNHOMES

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	BED 4	KITCHEN	BATH	LIVING
A	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4
B	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
C	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
D	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13405 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET

VIRGINNA M. [illegible] — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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SCHEDULES

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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BUILDING 9

BID SET

GEORGINNA M. LAMPSON
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

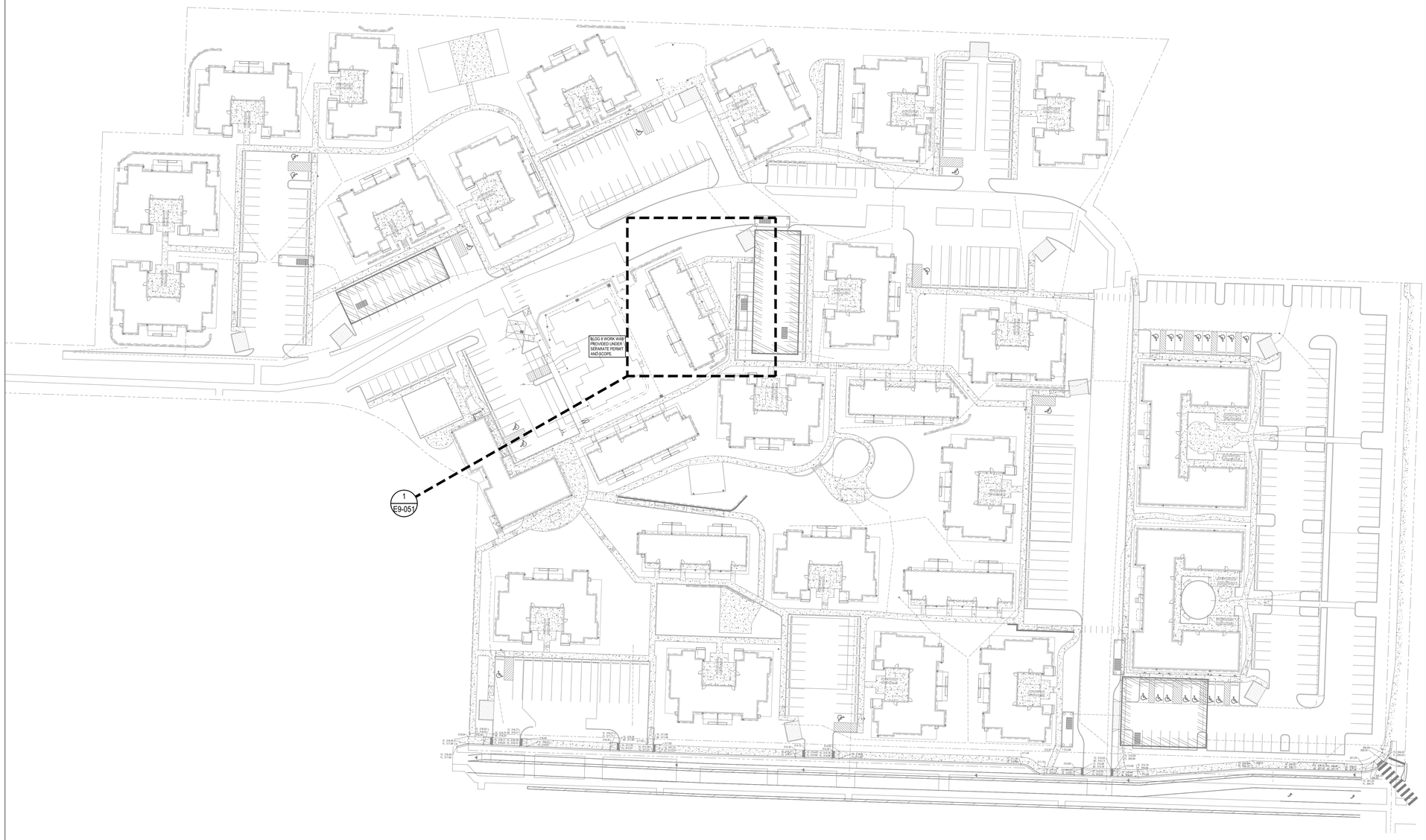
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LUMINAIRE SCHEDULE

PERMIT #	BMF22-09856
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JOB NO.	22016

SHEET NO.:

E9-005



OVERALL PROJECT SITE PLAN
SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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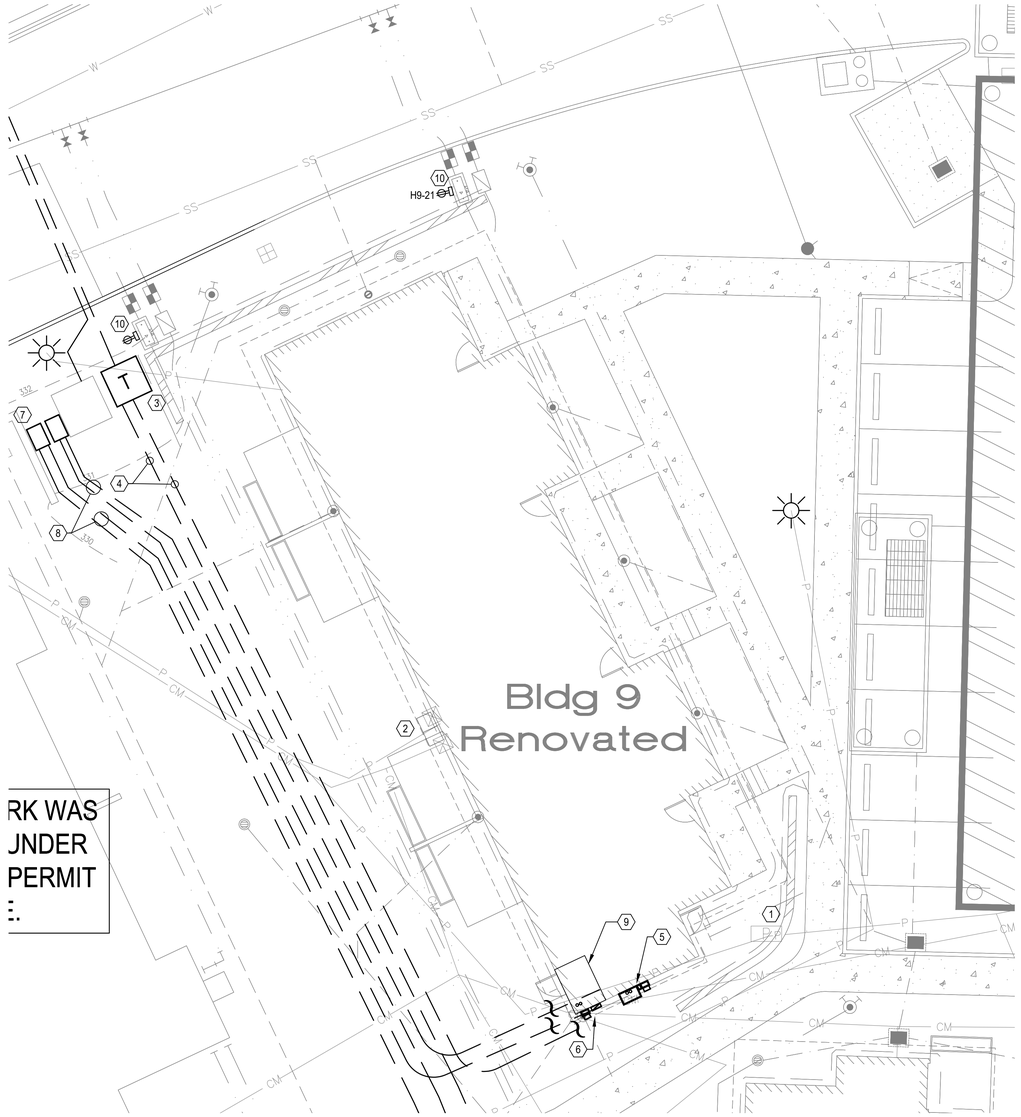
OVERALL PROJECT SITE PLAN

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JOB NO.	22016

SHEET NO.:

E9-050

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 9
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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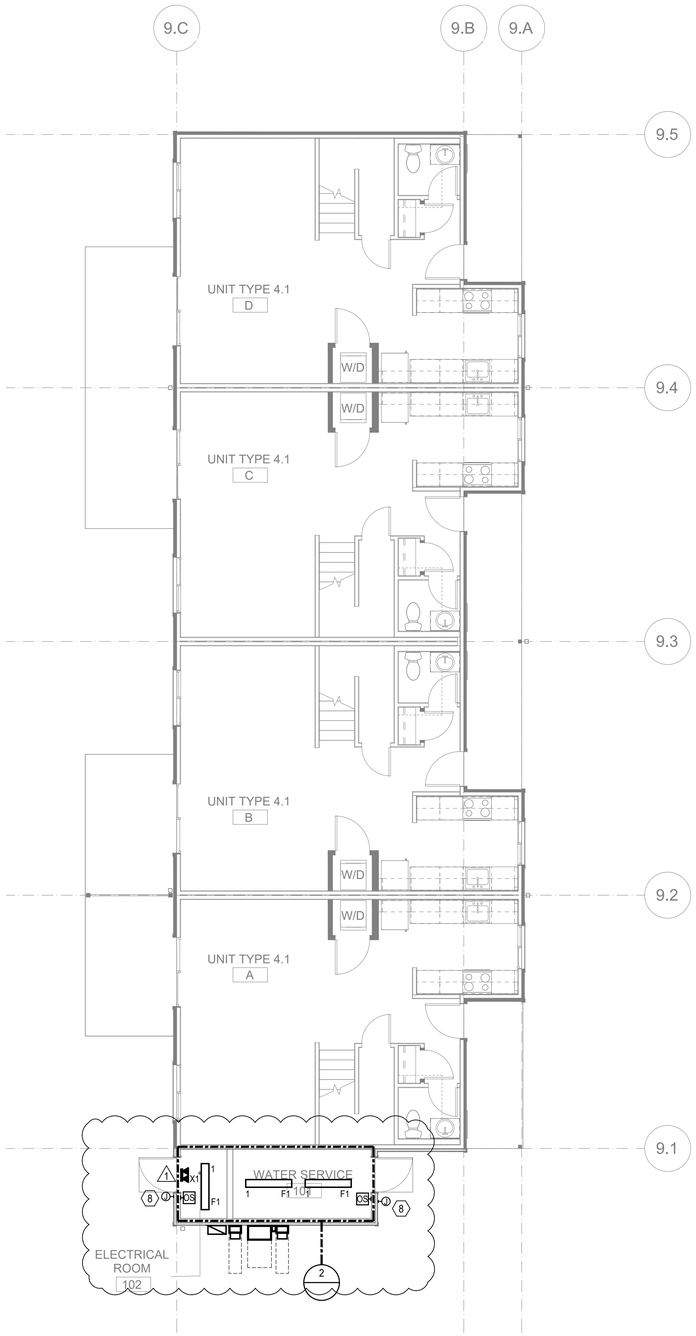
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ELECTRICAL SITE PLAN - BUILDING 9

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POWER AND LIGHTING PLAN - BUILDING 9 - LEVEL 1

SCALE: 3/16"=1'-0"

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H9 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

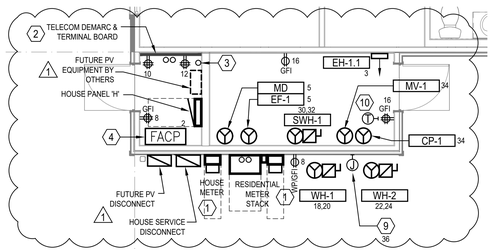
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. NOT USED
6. NOT USED.
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



ELECTRICAL AND WATER ROOM

2 / E-101 — 1/4"=1'-0"

10/7/2021 7:33:34 AM

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13405 NE 133rd St.,
Kirkland, WA 98034

BUILDING 9

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

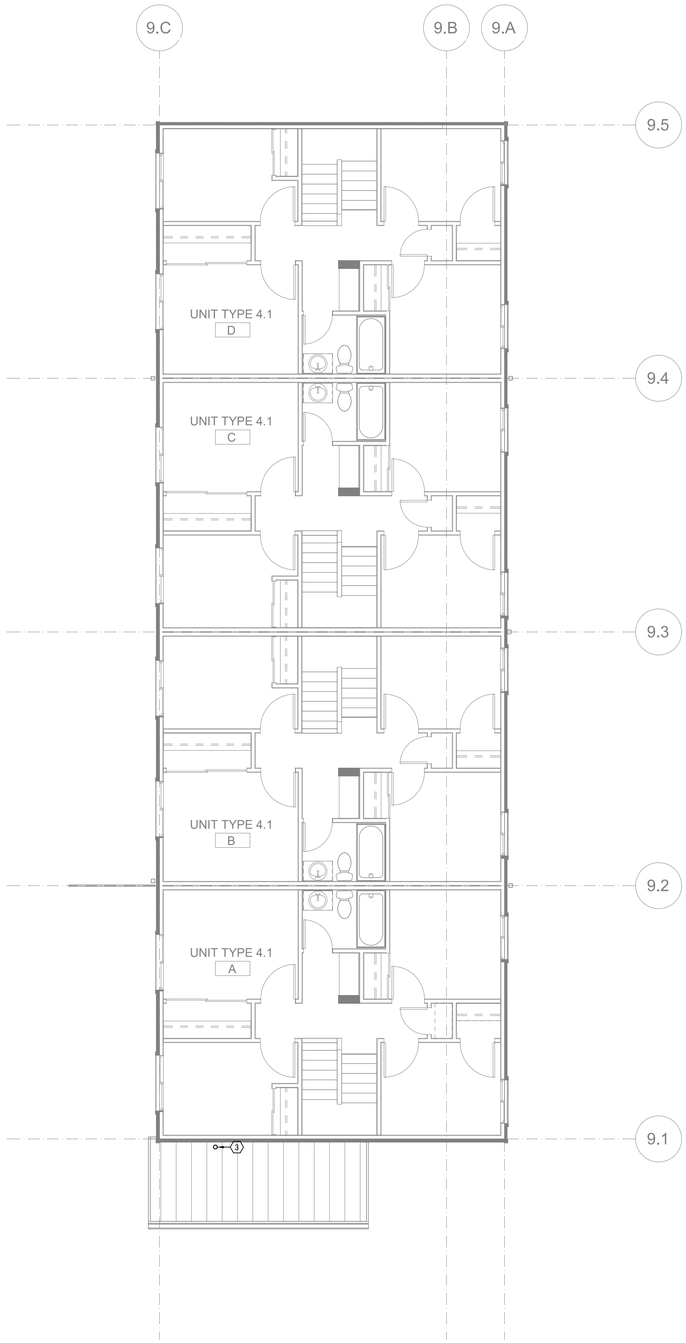
DPD STAMP

TITLE

POWER AND LIGHTING PLAN - BUILDING 9 - LEVEL 1

PERMIT #	BMF22-09856
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E9-101



ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER AND LIGHTING PLAN - BUILDING 9 - LEVEL 2

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

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KIRKLAND HEIGHTS APARTMENTS

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Kirkland, WA 98034

BUILDING 9

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

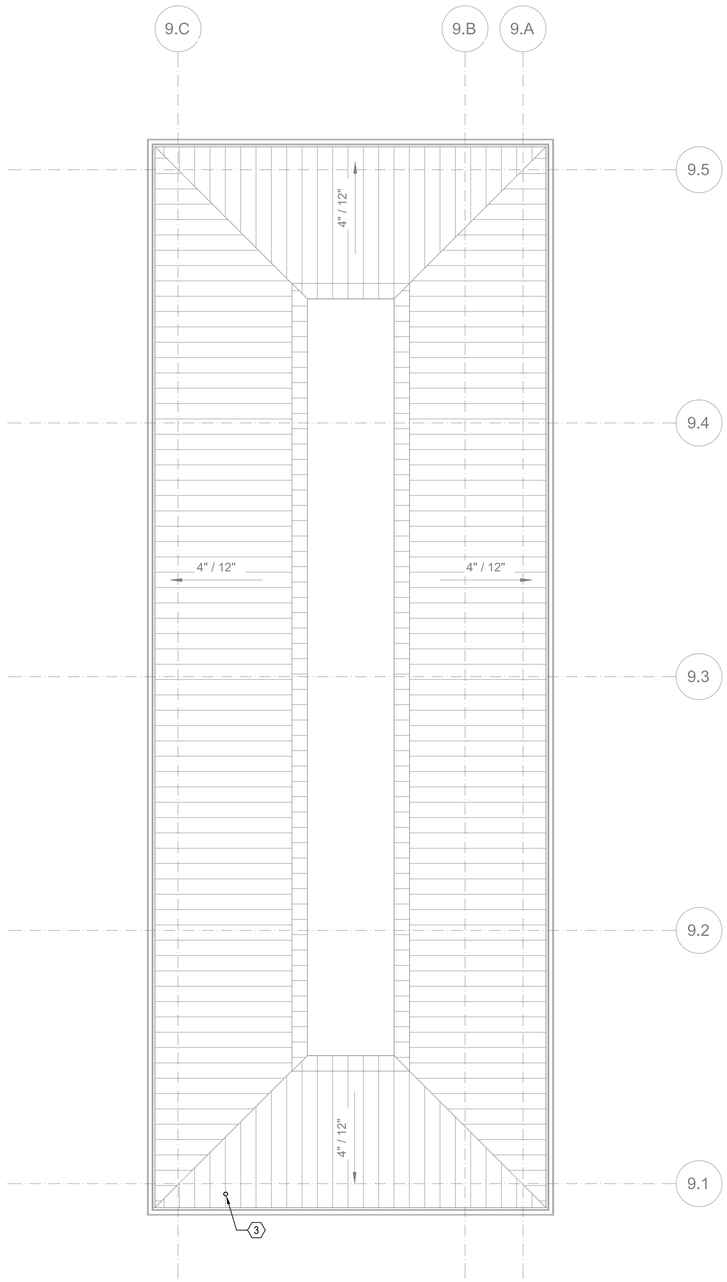
TITLE

POWER AND LIGHTING PLAN - BUILDING 9 - LEVEL 2

PERMIT #	BMF22-09856
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E9-102



ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER PLAN - BUILDING 9 - ROOF

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

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KIRKLAND HEIGHTS APARTMENTS

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Kirkland, WA 98034

BUILDING 9

BID SET

JEONGINNA M. LEE — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER PLAN - BUILDING 9 - ROOF

PERMIT #	BMF22-09856
DRAWN	RA, JF
CHECKED	GL
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JOB NO.	22016

SHEET NO.:

E9-103

ELECTRIC HEATER DWELLING UNIT SUMMARY - 4 UNIT TOWNHOMES

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES						
		BED 1	BED 2	BED 3	BED 4	KITCHEN	BATH	LIVING
A	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4
B	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
C	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
D	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

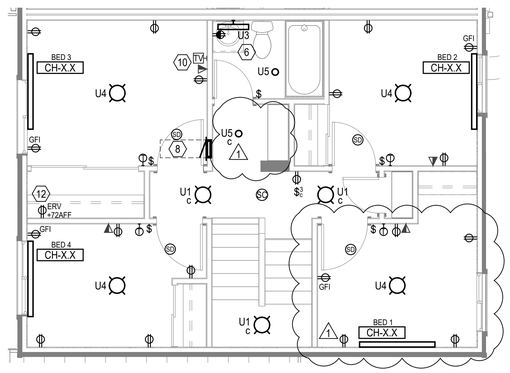
B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

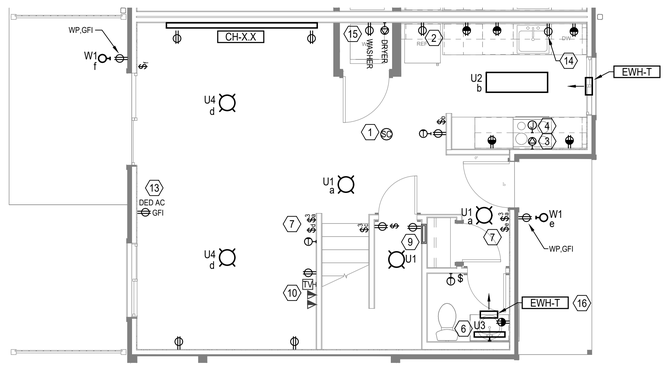
ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. CONNECTION FOR RANGE EXHAUST HOOD IN TYPE A UNITS. FIELD VERIFY EXACT LOCATION. PROVIDE ACCESSIBLE SWITCH FOR RANGE HOOD CONTROL. VERIFY EXACT LOCATION.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. PROVIDE HORN/STROBES IN TYPE A UNITS PER CODE AND AHJ REQUIREMENTS. COORDINATE HORN/STROBE LOCATIONS WITH COVE HEATERS; DO NOT LOCATE HORN/STROBES ABOVE OR IMMEDIATELY ADJACENT TO COVE HEATERS. CONFIRM FINAL LOCATIONS WITH FIRE MARSHAL.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR DISHWASHER. FIELD VERIFY CONNECTION TYPE, LOCATION AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS. LOCATION OF CONNECTION TO BE ACCESSIBLE.
15. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.
16. COORDINATE BATHROOM HEATER LOCATION WITH OWNER AND ARCHITECT.



3 **ENLARGED PLAN - TH - LEVEL 2**
1/4"=1'-0"



1 **ENLARGED PLAN - TH - LEVEL 1**
1/4"=1'-0"

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BUILDING 9

BID SET

JEAN-CLAUDE JOANNA M. LEE STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

ENLARGED UNIT PLANS

PERMIT #	BMF22-09856
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E9-301

10/7/2021 7:33:34 AM

ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- E-1 — DETAIL NUMBER / SHEET
- FLAG NOTE
- 1 — REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- (S) — FIRE ALARM SMOKE DETECTOR
- (C) — FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM / EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES
- FL1 3a / FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:
  FL1 = LUMINAIRE TYPE
  3 = CIRCUIT NUMBER
  c = SWITCH LEG
  Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT. SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP / F — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 2PDX etc. — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP / 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M / M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER AND LIGHTING PLAN - LEVEL 3
E-104	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
IN	INCH/INCHES	WO	WITHOUT
		WP	WEATHERPROOF
KCMIL	THOUSAND CIRCULAR MILS	WT	WEIGHT
KO	KNOCK OUT		
KW	KILOWATT/KILOWATTS	XFR	TRANSFORMER
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

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c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13408 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09927
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E10-001

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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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KIRKLAND HEIGHTS APARTMENTS

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BUILDING 10

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09927
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

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10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

5/18/2023

GENERAL SCHEDULE NOTES:

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

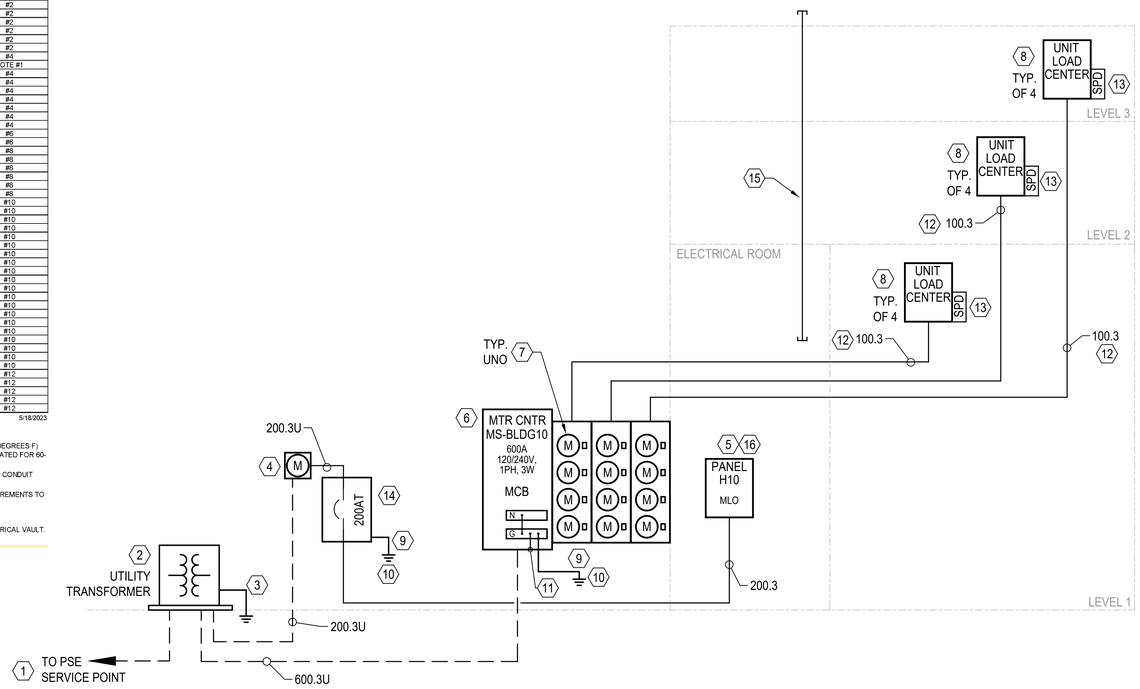
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

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12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 10

UNIT TYPE: 2BR - 2.1 | **AREA (SF): 782** | 5/18/2023

DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.35	kVA
> 120,000VA:	25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70	kVA
RANGE HOOD	1	AT	0.3	=	0.30	kVA
MICROWAVE		AT		=	0.00	kVA
DISHWASHER		AT		=	0.00	kVA
WASHER	1	AT	1.2	=	1.20	kVA
GARBAGE DISPOSAL		AT		=	0.00	kVA
WATER HEATER		AT		=	0.00	kVA
			SUBTOTAL (CONNECTED)	=	2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:			75%			
			GENERAL APPLIANCE LOAD - DEMAND	=	**1.65**	**kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00	kVA
ERV UNIT	1	AT	0.11	=	0.11	kVA
KITCHEN EXHAUST FAN		AT		=	0.00	kVA
+25% OF LARGEST MOTOR				=	0.03	kVA
			GENERAL MOTOR LOAD - DEMAND	=	**0.14**	**kVA**
100% AC EQUIP [220.50] / SPACE HEATING [220.51]				=	3.91	kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00	kVA
ELECTRIC OVEN [220.55]		AT		=	0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00	kVA
			TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	=	**23.54**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.48	kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:	100%	=	10.00	kVA
> 10 KVA:	40%	=	5.39	kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS, 65% NAMEPLATE	=	2.54	kVA
	TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**17.93**	**kVA**

UNIT TYPE: 3BR - 3.1 | **AREA (SF): 906** | 5/18/2023

DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.48	kVA
> 120,000VA:	25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70	kVA
RANGE HOOD	1	AT	0.3	=	0.30	kVA
MICROWAVE		AT		=	0.00	kVA
DISHWASHER		AT		=	0.00	kVA
WASHER	1	AT	1.2	=	1.20	kVA
GARBAGE DISPOSAL		AT		=	0.00	kVA
WATER HEATER		AT		=	0.00	kVA
			SUBTOTAL (CONNECTED)	=	2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:			75%			
			GENERAL APPLIANCE LOAD - DEMAND	=	**1.65**	**kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00	kVA
ERV UNIT	1	AT	0.11	=	0.11	kVA
KITCHEN EXHAUST FAN		AT		=	0.00	kVA
+25% OF LARGEST MOTOR				=	0.03	kVA
			GENERAL MOTOR LOAD - DEMAND	=	**0.14**	**kVA**
100% AC EQUIP [220.50] / SPACE HEATING [220.51]				=	4.53	kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00	kVA
ELECTRIC OVEN [220.55]		AT		=	0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00	kVA
			TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	=	**24.29**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.86	kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:	100%	=	10.00	kVA
> 10 KVA:	40%	=	5.54	kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS, 65% NAMEPLATE	=	2.94	kVA
	TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**18.49**	**kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL | **MS - 12 unit STACK** | 5/18/2023

DEMAND LOAD (kVA): 137.09 => 571.2 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
2BR - 2.1	6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	0	0.00	6	52.80
3BR - 3.1	6	43.31	13.20	0.66	27.18	6	33.00	0	0.00	0	0.00	6	52.80
0								0	0.00	0	0.00	0	0.00
TOTALS:	12	84.38	26.40	1.32	50.64	12	66.00	0	0.00	0	0.00	12	105.60
ADDITIONAL 25% OF LARGEST MOTOR:				0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD	=	334.37	kVA
DEMAND FACTOR FROM TABLE 220.84 =		41%	
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC	=	**137.09**	**kVA**

KIRKLAND HEIGHTS - 12 UNIT STACK FLAT (REHAB)

PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 12):	137.09	kVA
(SEE ATTACHED CALCS)		
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.		
RESIDENTIAL TOTAL:	137.09	kVA
	571.22	AMPS @ 120/240V, 1-PHASE
	PROVIDE 600A RESIDENTIAL METER CENTER	

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):		
LIGHTING - Breezeway +Interior:	1.5	kVA
LIGHTING - SITE:	1.5	kVA
GENERAL RECEPTACLES:	4.0	kVA
MECHANICAL:	1.0	kVA
ELECT HEAT (WATER RMS):	1.0	kVA
CENTRAL HOT WATER (HPWH)	7.7	kVA
ELECT SWING TANK	4.5	kVA
HEAT TRACE	0.5	kVA
MISCELLANEOUS:	2.5	kVA
EV CHARGING (2):	16.6	kVA
HOUSE TOTAL:	40.83	kVA
	170.14	AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	51.04	kVA
	212.6708	AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE	
TOTAL BUILDING SERVICE:	188.13	kVA
	783.89	AMPS @ 120/240V, 1-PHASE

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13408 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

JOHANNA M. BROWN — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09927
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E10-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H10 — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — M.O.OR MCB: M.O. 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY	R	0.77	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	RECEPT - LVL 3 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-1'	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-2'	22
23	SPARE		0.00		20 / 1	B						24
25	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-3'	26
27	SPARE		0.00		20 / 1	B						28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK- 'SWH-1'	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP 'CP-1' & MX VALVE 'MV-1'	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

	CONNECTED LOAD		DEMAND FACTOR	DEMAND LOAD	
L = LIGHTING	0.51	kVA	125%	0.64	kVA
R = RECEPTACLES	4.14	kVA	NEC 220.44	4.14	kVA
M = MOTORS	0.24	kVA	100%	0.24	kVA
PLUS 25% OF LARGEST MOTOR	0.24	kVA	25%	0.06	kVA
C = CONTINUOUS	15.68	kVA	125%	19.61	kVA
N = NON-CONTINUOUS	1.44	kVA	100%	1.44	kVA
K = KITCHEN	0.00	kVA	75%	0.00	kVA

PANEL CONNECTED TOTAL: 22.01 kVA, 91.73 AMPS
PANEL DEMAND TOTAL: 26.12 kVA, 108.84 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.O.OR MCB: M.O. 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.O.OR MCB: M.O. 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

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MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-3	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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King County Housing Authority

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13408 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

VIRGINNA M. BROOKS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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13310 NE 133rd St.
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

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Kirkland, WA 98034

BUILDING 10

BID SET

GEORGINNA M. LAMPMAN STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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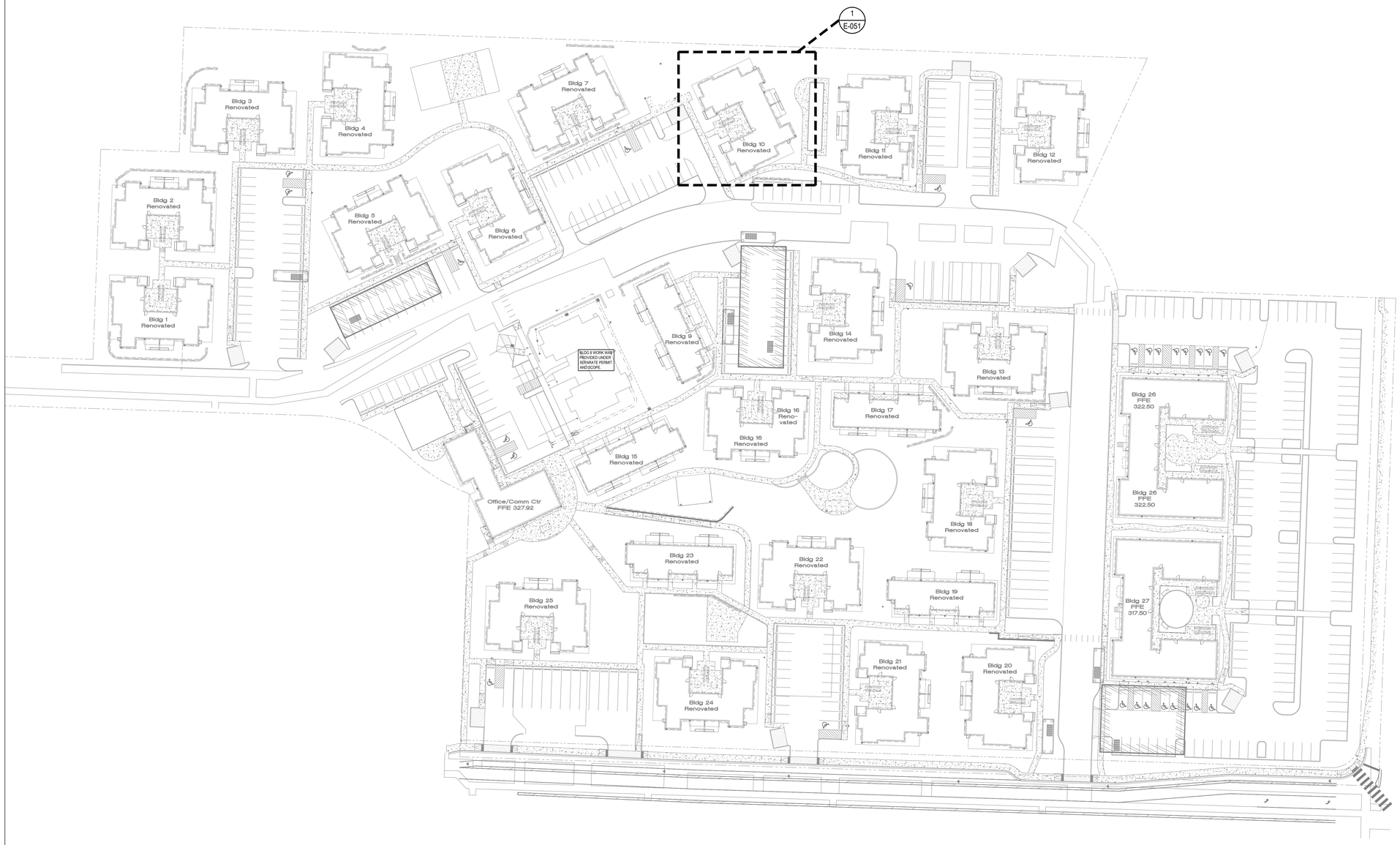
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LUMINAIRE SCHEDULE

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E10-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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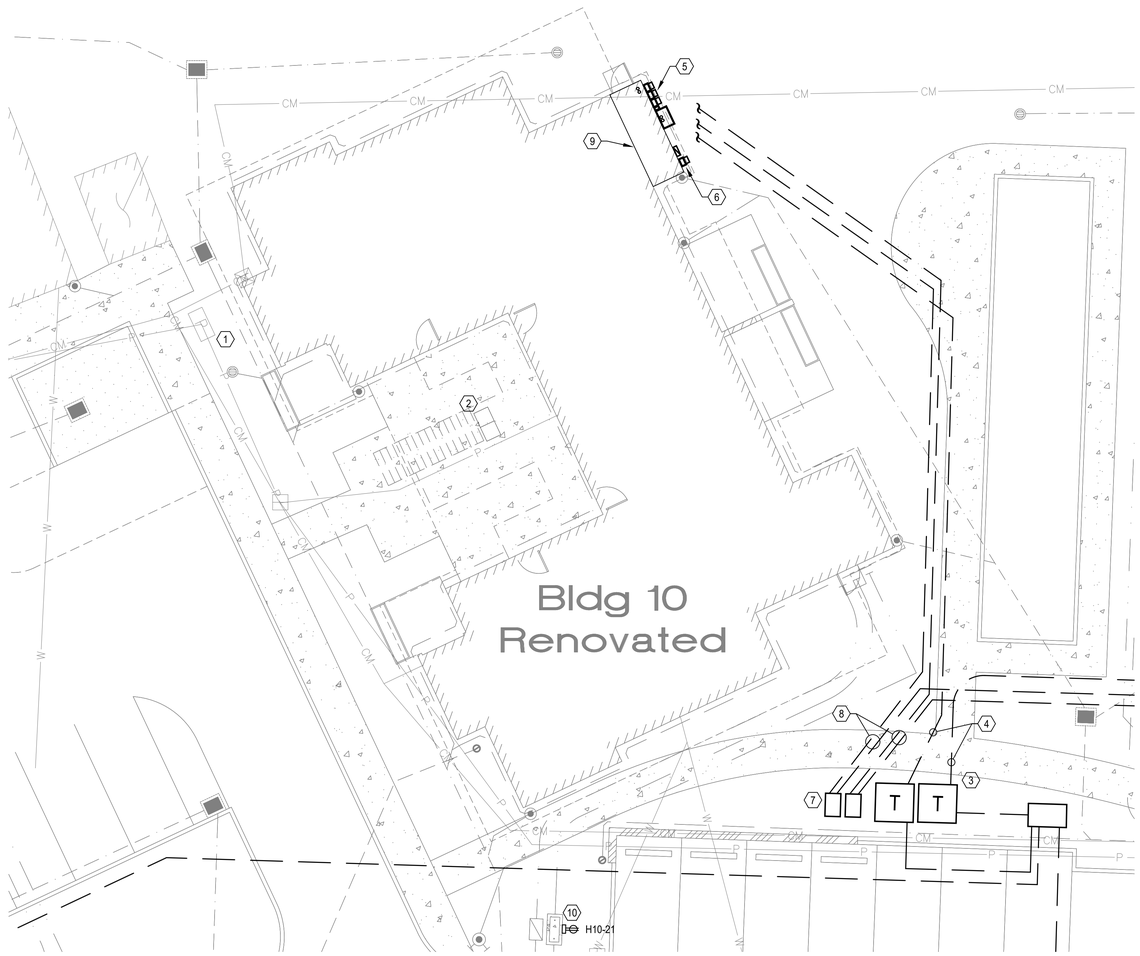
OVERALL PROJECT SITE PLAN

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ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 10
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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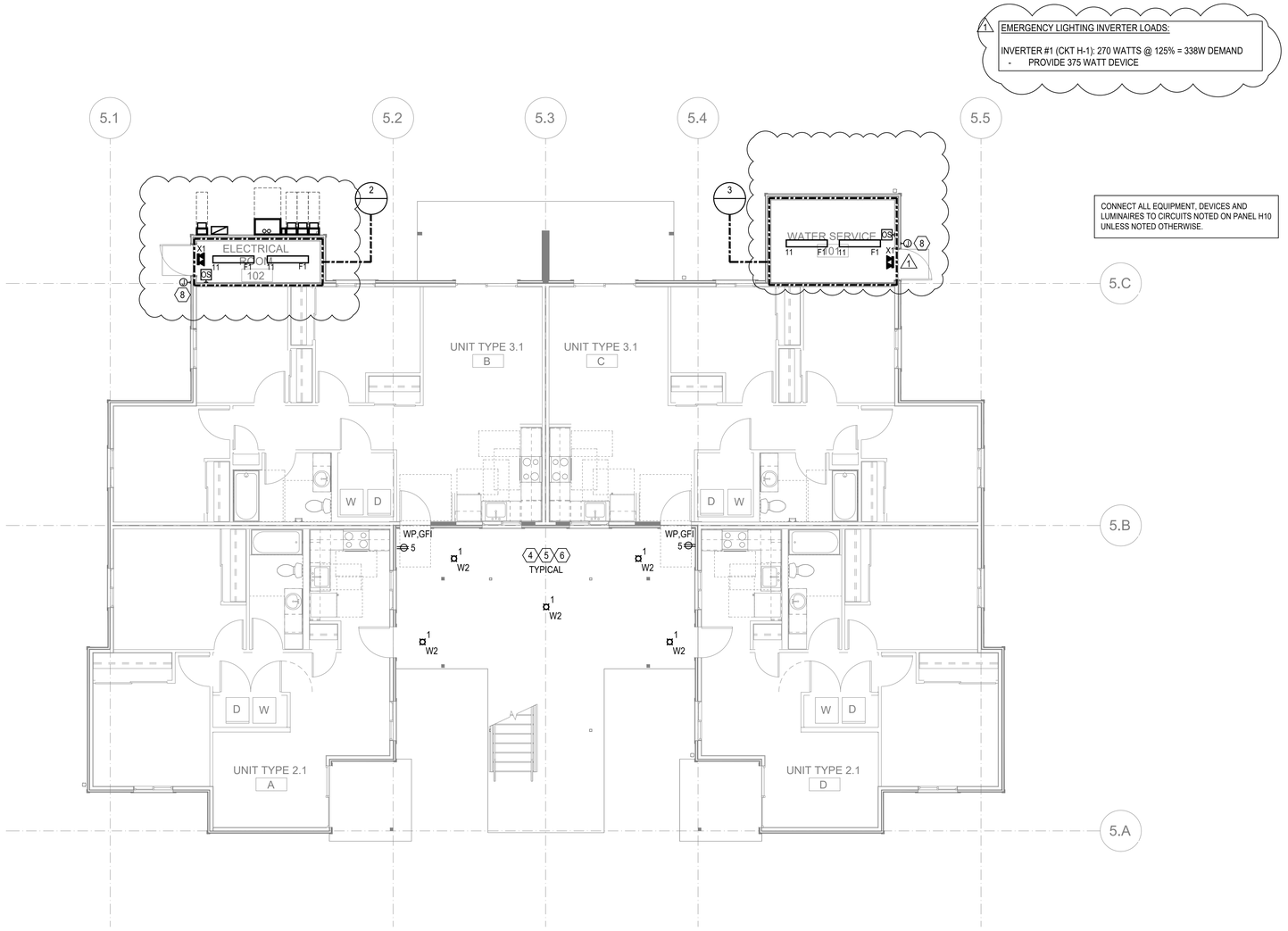
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ELECTRICAL SITE PLAN - BUILDING 10

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E10-051



POWER AND LIGHTING PLAN - BUILDING 10 - LEVEL 1

SCALE: 3/16"=1'-0"

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

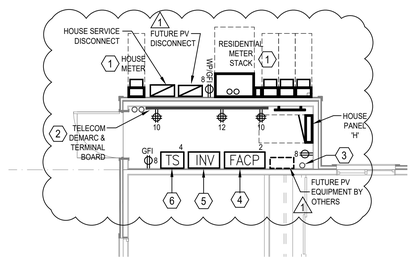
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

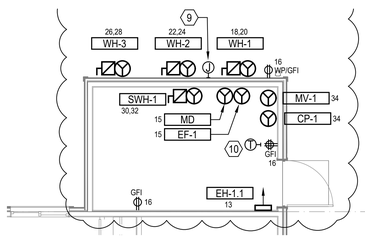
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 375 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM. TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR FIXTURE TO MEET EGRESS LIGHTING REQUIREMENTS.
   BASIS OF DESIGN. SURE-LITES # INV-375-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 / E-101 ELECTRICAL ROOM
1/4"=1'-0"



3 / E-101 WATER ROOM
1/4"=1'-0"

SIDER+BYERS
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Seattle, WA 98104

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13408 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

JEROLDINNA M. GUILLERMO — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

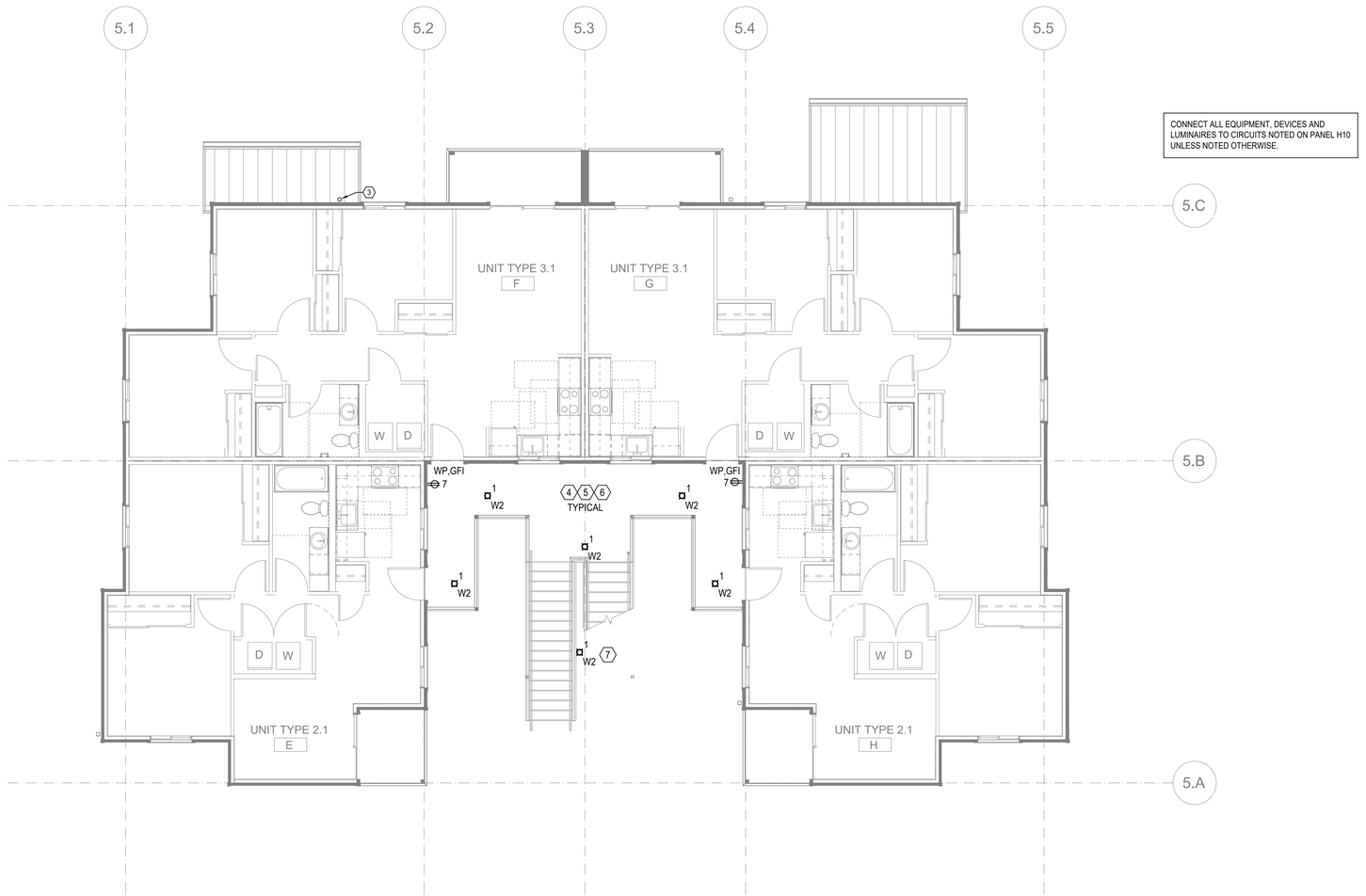
TITLE

POWER AND LIGHTING PLAN - BUILDING 10 - LEVEL 1

PERMIT #	BMF22-09927
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E10-101

10/7/2021 7:33:34 AM



ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H10 UNLESS NOTED OTHERWISE.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. (1) ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. (1) ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.
7. LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.

POWER AND LIGHTING PLAN - BUILDING 10 - LEVEL 2

SCALE: 3/16"=1'-0"

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13408 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

JOANNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

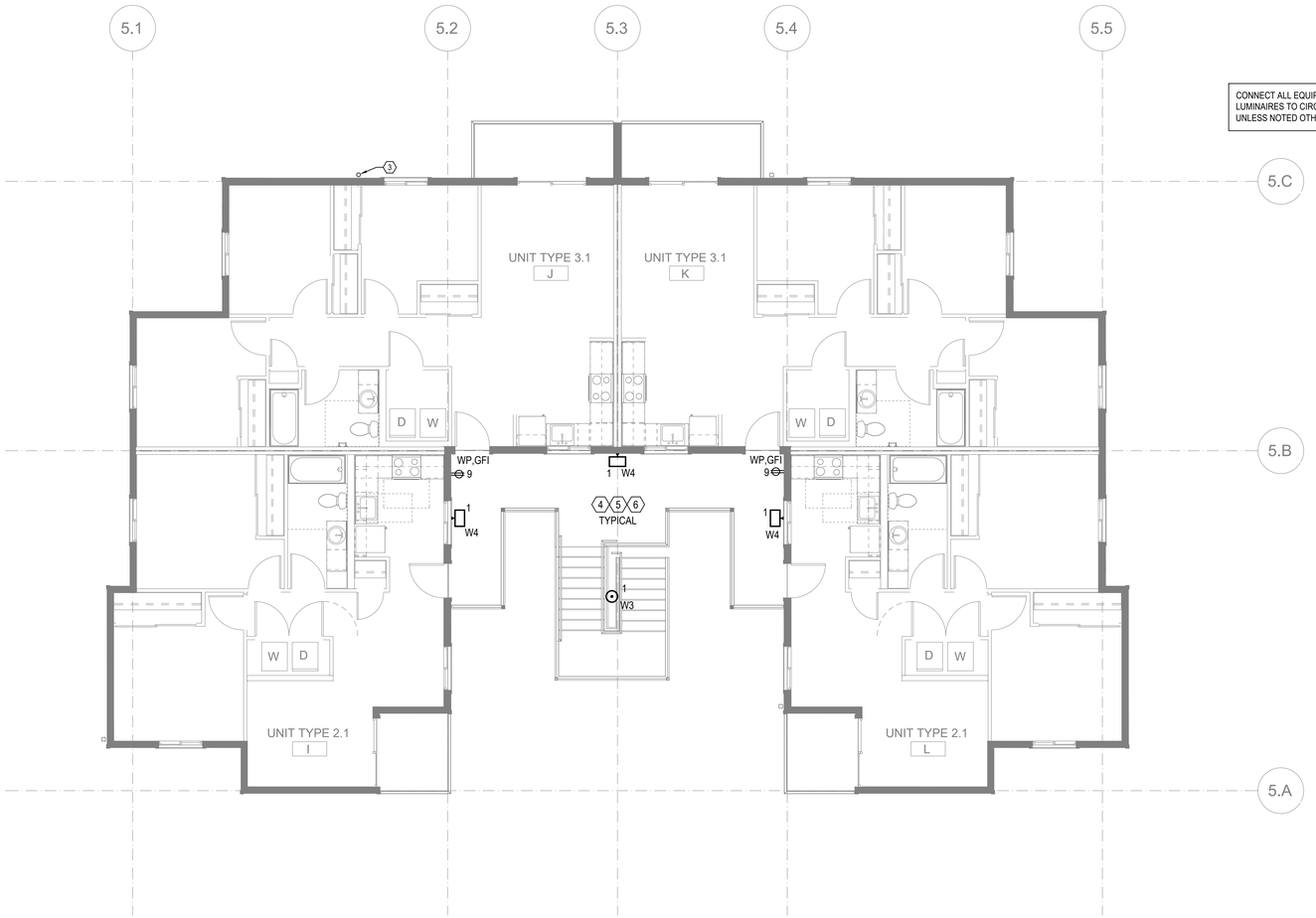
TITLE

POWER AND LIGHTING PLAN - BUILDING 10 - LEVEL 2

PERMIT #	BMF22-09927
DRAWN	RA, JF
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ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E10-102

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ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H10 UNLESS NOTED OTHERWISE.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 10 - LEVEL 3

SCALE: 3/16"=1'-0"

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King County Housing Authority

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13408 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

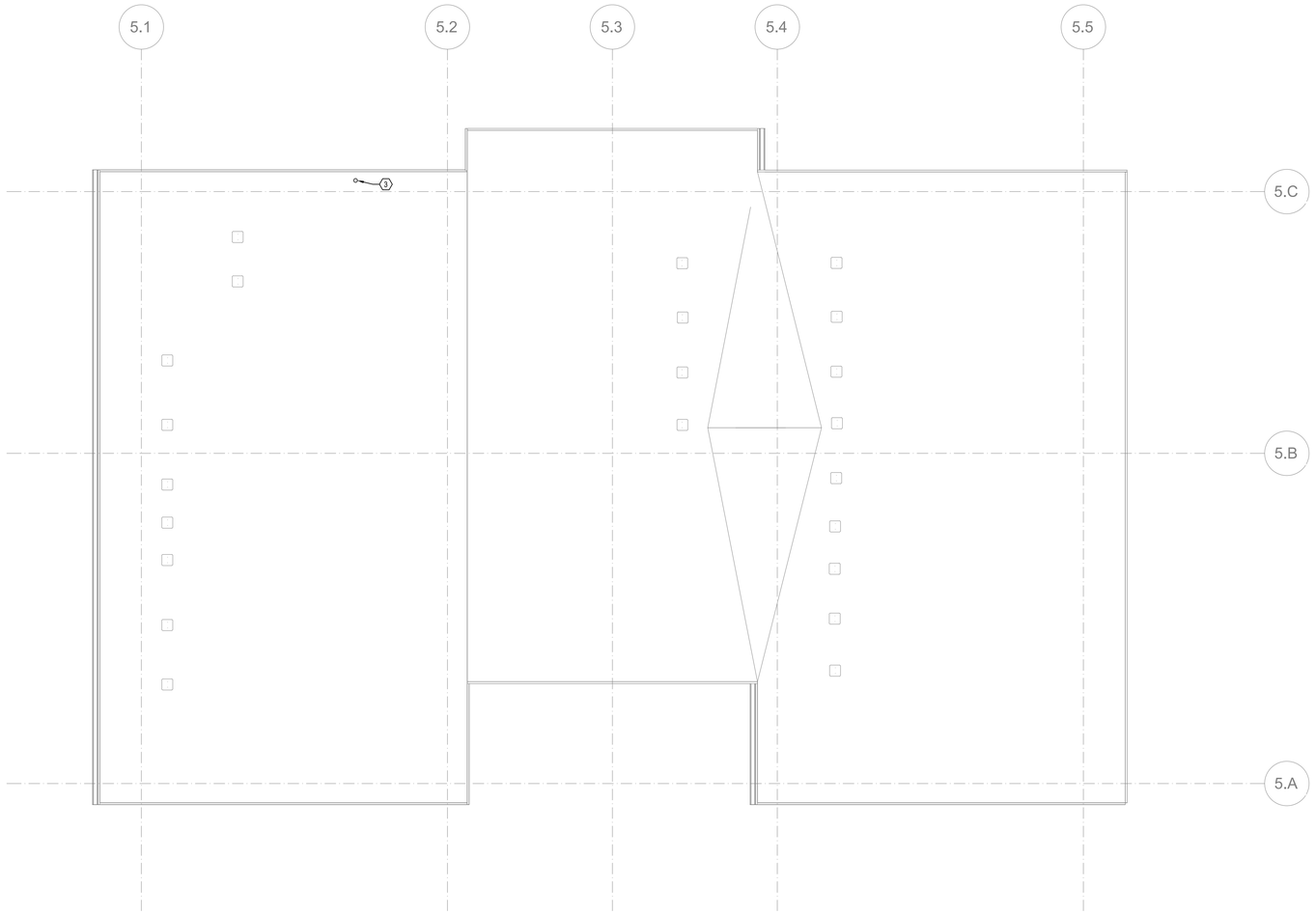
POWER AND LIGHTING PLAN - BUILDING 10 - LEVEL 3

PERMIT #	BMF22-09927
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

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ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.



GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER PLAN - BUILDING 10 - ROOF

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

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King County Housing Authority

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General Partner
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Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13408 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

GEORGINNA M. LAMPMAN
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER PLAN - BUILDING 10 - ROOF

PERMIT #	BMF22-09927
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E10-104

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

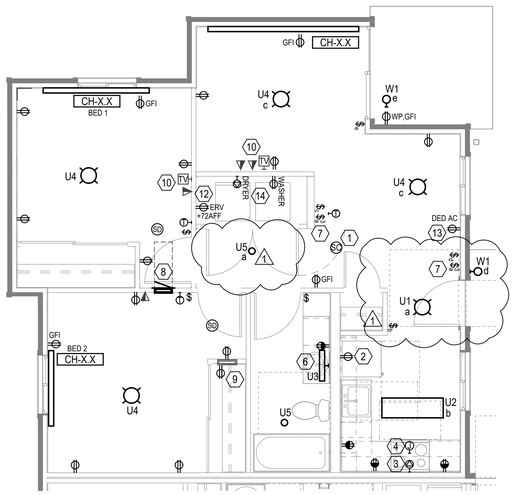
1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

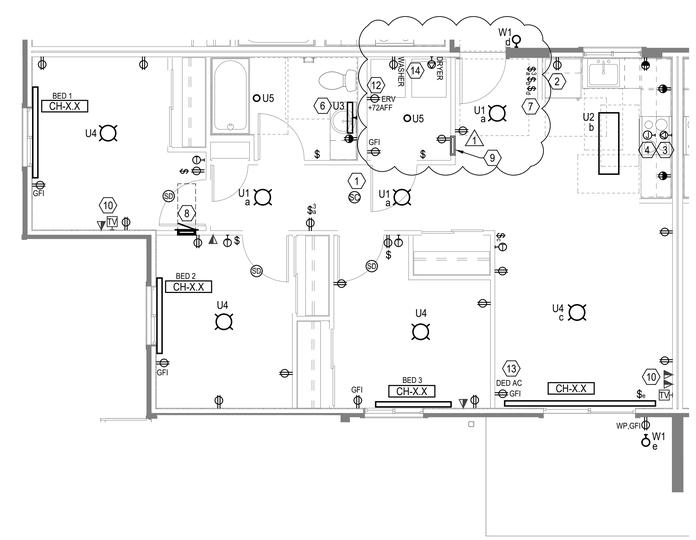
		HEATER TYPES			
UNIT NUMBER(S)	UNIT TYPE	BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**
1/4"=1'-0" UNITS: A, D, E, H, I, L



1 **ENLARGED PLAN - 3-BED**
1/4"=1'-0" UNITS: B, C, F, G, J, K

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KIRKLAND HEIGHTS APARTMENTS

13408 NE 133rd St.,
Kirkland, WA 98034

BUILDING 10

BID SET

DEBORAH M. JANNA — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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TITLE

ENLARGED UNIT PLANS

PERMIT #	BMF22-09927
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E10-301

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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- E-1 — DETAIL NUMBER / SHEET
- FLAG NOTE
- 1 — REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- SD — FIRE ALARM SMOKE DETECTOR
- SD — FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM — EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 2PDX WS,C — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP — 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER AND LIGHTING PLAN - LEVEL 3
E-104	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
		W/	WITH
IMC	INTERMEDIATE METAL CONDUIT	WO	WITHOUT
IN	INCH/INCHES	WP	WEATHERPROOF
		WT	WEIGHT
KCMIL	THOUSAND CIRCULAR MILS		
KO	KNOCK OUT		
KW	KILOWATT/KILOWATTS	XFR	TRANSFORMER
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

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c/o: King County Housing Authority,
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13422 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09886
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E11-001

10/7/2021 7:33:34 AM

GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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c/o: King County Housing Authority,
General Partner
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Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13422 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09886
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E11-002

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FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

5/18/2023

GENERAL SCHEDULE NOTES:

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

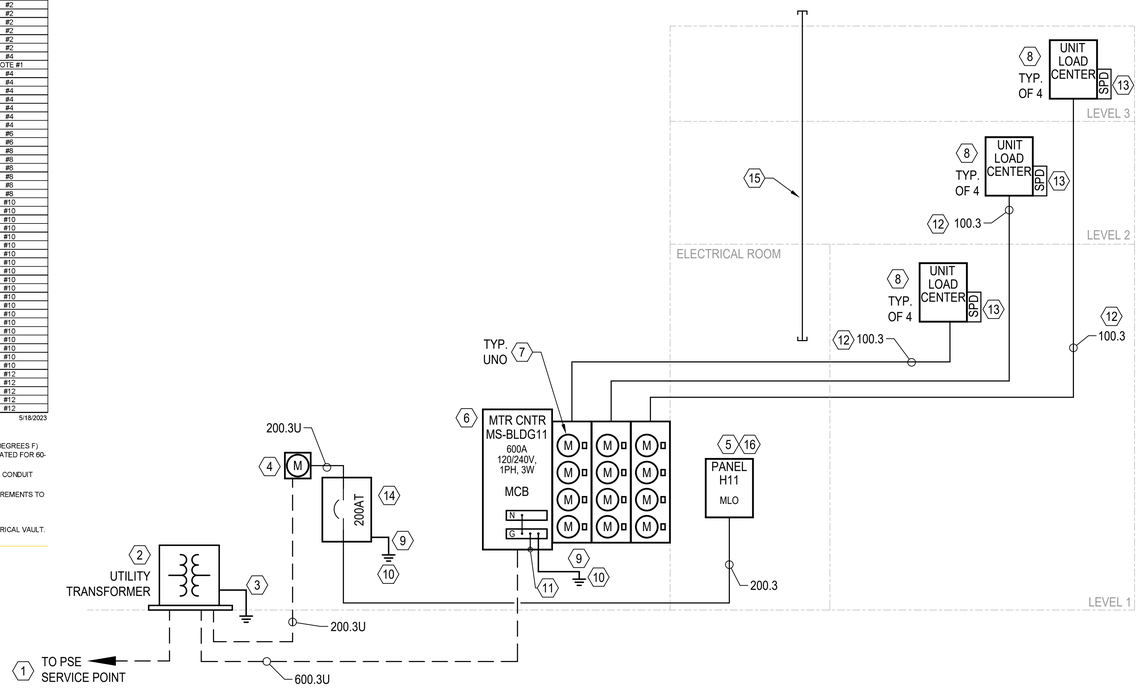
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 11

UNIT TYPE: 2BR - 2.1 | **AREA (SF): 782** | 6/18/2023

DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.35	kVA
> 120,000VA:	25%	=	0.00	kVA
	GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70 kVA
RANGE HOOD	1	AT	0.3	=	0.30 kVA
MICROWAVE		AT		=	0.00 kVA
DISHWASHER		AT		=	0.00 kVA
WASHER	1	AT	1.2	=	1.20 kVA
GARBAGE DISPOSAL		AT		=	0.00 kVA
WATER HEATER		AT		=	0.00 kVA
		SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:		75%			
		GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
		GENERAL MOTOR LOAD - DEMAND		=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]			=	3.91 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 23.54 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):			
0 - 10KVA:	100%	=	10.00 kVA
> 10 KVA:	40%	=	5.39 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS, 65% NAMEPLATE	=	2.54 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 17.93 kVA

UNIT TYPE: 3BR - 3.1 | **AREA (SF): 906** | 6/18/2023

DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.48	kVA
> 120,000VA:	25%	=	0.00	kVA
	GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70 kVA
RANGE HOOD	1	AT	0.3	=	0.30 kVA
MICROWAVE		AT		=	0.00 kVA
DISHWASHER		AT		=	0.00 kVA
WASHER	1	AT	1.2	=	1.20 kVA
GARBAGE DISPOSAL		AT		=	0.00 kVA
WATER HEATER		AT		=	0.00 kVA
		SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:		75%			
		GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
		GENERAL MOTOR LOAD - DEMAND		=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]			=	4.53 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 24.29 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):			
0 - 10KVA:	100%	=	10.00 kVA
> 10 KVA:	40%	=	5.54 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS, 65% NAMEPLATE	=	2.94 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 18.49 kVA

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL | **MS - 12 unit STACK** | 5/18/2023

DEMAND LOAD (kVA): 137.09 => 571.2 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
2BR - 2.1	6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	0	0.00	6	52.80
3BR - 3.1	6	43.31	13.20	0.66	27.18	6	33.00	0	0.00	0	0.00	6	52.80
0								0	0.00	0	0.00	0	0.00
TOTALS:	12	84.38	26.40	1.32	50.64	12	66.00	0	0.00	0	0.00	12	105.60
ADDITIONAL 25% OF LARGEST MOTOR:				0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD	=	334.37 kVA
DEMAND FACTOR FROM TABLE 220.84 =		41%
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC	=	**137.09 kVA**

KIRKLAND HEIGHTS - 12 UNIT STACK FLAT (REHAB)

PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 12):	137.09 kVA	
(SEE ATTACHED CALCS)		
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.		
RESIDENTIAL TOTAL:	137.09 kVA	
	571.22 AMPS @ 120/240V, 1-PHASE	
	PROVIDE 600A RESIDENTIAL METER CENTER	

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):		
LIGHTING - Breezeway +Interior:	1.5 kVA	
LIGHTING - SITE:	1.5 kVA	
GENERAL RECEPTACLES:	4.0 kVA	
MECHANICAL:	1.0 kVA	
ELECT HEAT (WATER RMS):	1.0 kVA	
CENTRAL HOT WATER (HPWH)	7.7 kVA	
ELECT SWING TANK	4.5 kVA	
HEAT TRACE	0.5 kVA	
MISCELLANEOUS:	2.5 kVA	
EV CHARGING (2):	16.6 kVA	
HOUSE TOTAL:	40.83 kVA	
	170.14 AMPS @ 120/240V, 1-PHASE	
WITH 25% SPARE CAPACITY	51.04 kVA	
	212.6708 AMPS @ 120/240V, 1-PHASE	
	PROVIDE 200A HOUSE SERVICE	
TOTAL BUILDING SERVICE:	188.13 kVA	
	783.89 AMPS @ 120/240V, 1-PHASE	

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13422 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

JOHANNA M. DROUGHT — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09886
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E11-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H11 — NORMAL POWER — A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V 1-PHASE, 3-WIRE — BUS RATING: 200 AMPS — FED FROM: XFR — LOCATION: ELECTRICAL ROOM — SURFACE-MOUNTED — M.O. OR MCB: M.O. — M.O. 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY	R	0.27	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG-TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	RECEPT - LVL 3 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TEL/COM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TEL/COM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-1*	18
19	SPARE		0.00		20 / 1	B		"		"	"	20
21	HEAT TRACE - WATER CONN. (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-2*	22
23	SPARE		0.00		20 / 1	B		"		"	"	24
25	LTG - SITE	L	0.34	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-3*	26
27	SPARE		0.00		20 / 1	B		"		"	"	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK- SWH-1*	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP -CP-1* & MIX VALVE -MV-1*	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.85	kVA 125%	1.06	kVA
R	= RECEPTACLES	4.14	kVA NEC 220.44	4.14	kVA
M	= MOTORS	0.24	kVA 100%	0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA 25%	0.06	kVA
C	= CONTINUOUS	15.68	kVA 125%	19.61	kVA
N	= NON-CONTINUOUS	1.44	kVA 100%	1.44	kVA
K	= KITCHEN	0.00	kVA 75%	0.00	kVA

PANEL CONNECTED TOTAL: 22.35 kVA, 93.14 AMPS
PANEL DEMAND TOTAL: 26.55 kVA, 110.61 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM — NORMAL POWER — A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V 1-PHASE, 3-WIRE — BUS RATING: 100 AMPS — FED FROM: METER STACKS — LOCATION: DWELLING UNITS — FLUSH-MOUNTED — M.O. OR MCB: M.O. — M.O. 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B		"	"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B		"	"	8
9	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	B		"	"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B		"	"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM — NORMAL POWER — A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V 1-PHASE, 3-WIRE — BUS RATING: 100 AMPS — FED FROM: METER STACKS — LOCATION: DWELLING UNITS — FLUSH-MOUNTED — M.O. OR MCB: M.O. — M.O. 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B		"	"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B		"	"	8
9	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	B		"	"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B		"	"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE			A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-3	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13422 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

VIRGINNA M. BROOKS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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SCHEDULES

PERMIT #	BMF22-09886
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E11-004

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

10/7/2021 7:33:34 AM

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GEORGINNA M. TAYLOR
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

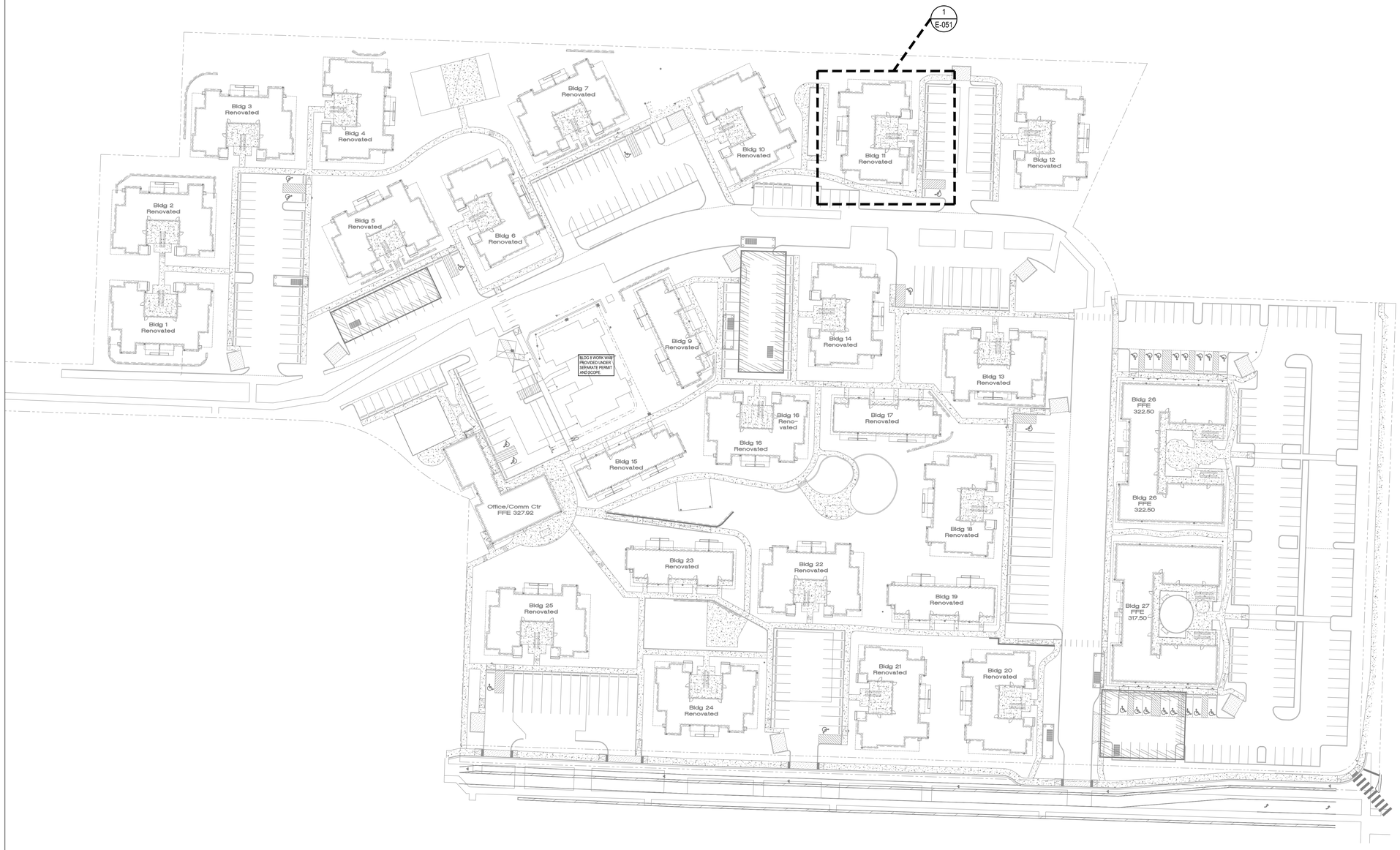
TITLE

LUMINAIRE SCHEDULE

PERMIT #	BMF22-09886
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E11-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

10/7/2021 7:33:34 AM

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DPD STAMP

TITLE

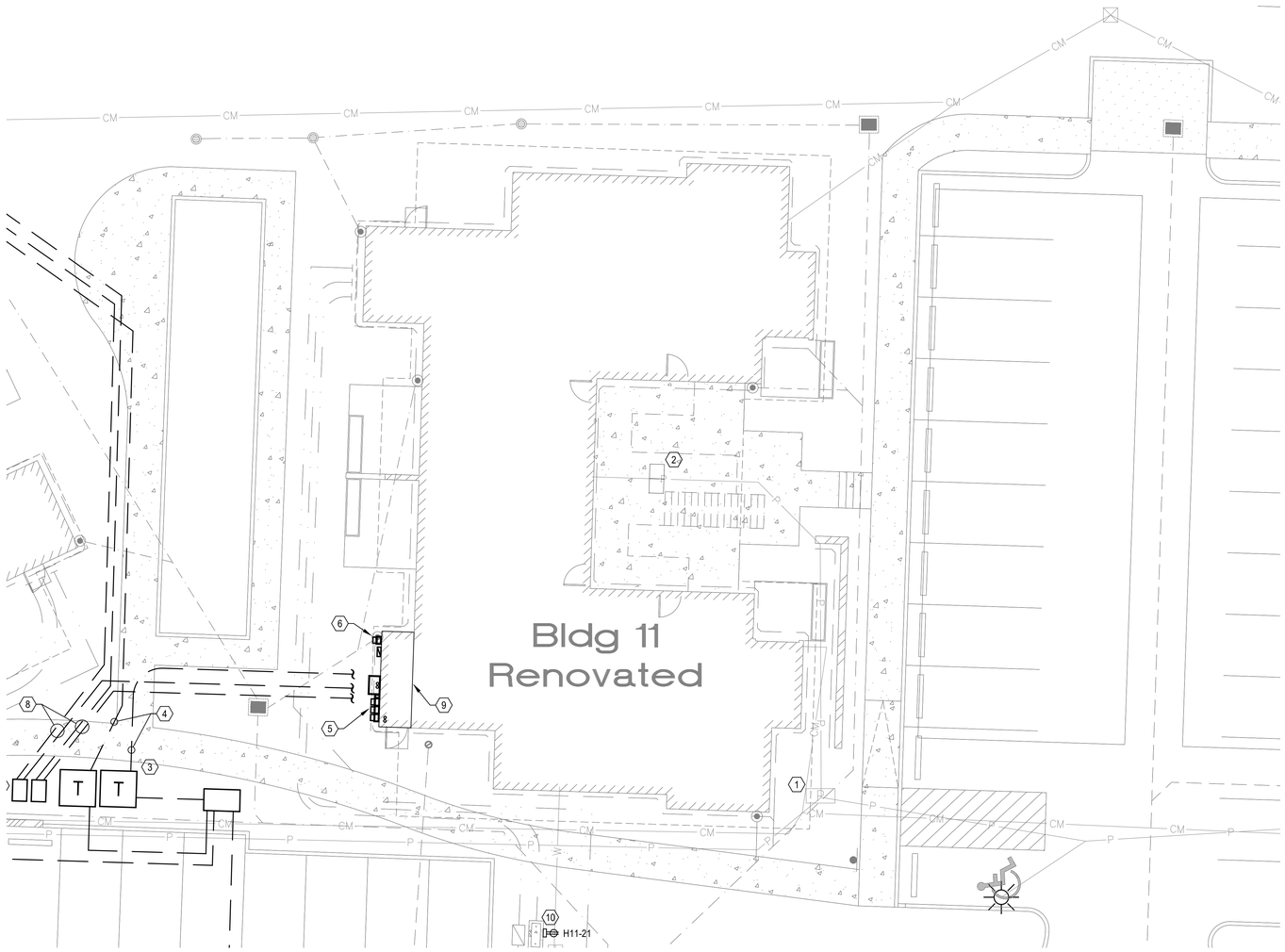
OVERALL PROJECT SITE PLAN

PERMIT #	BMF22-09886
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E11-050

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 11
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

10/7/2021 7:33:34 AM

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13422 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

JEROLDINNA M. FRANCISCO — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

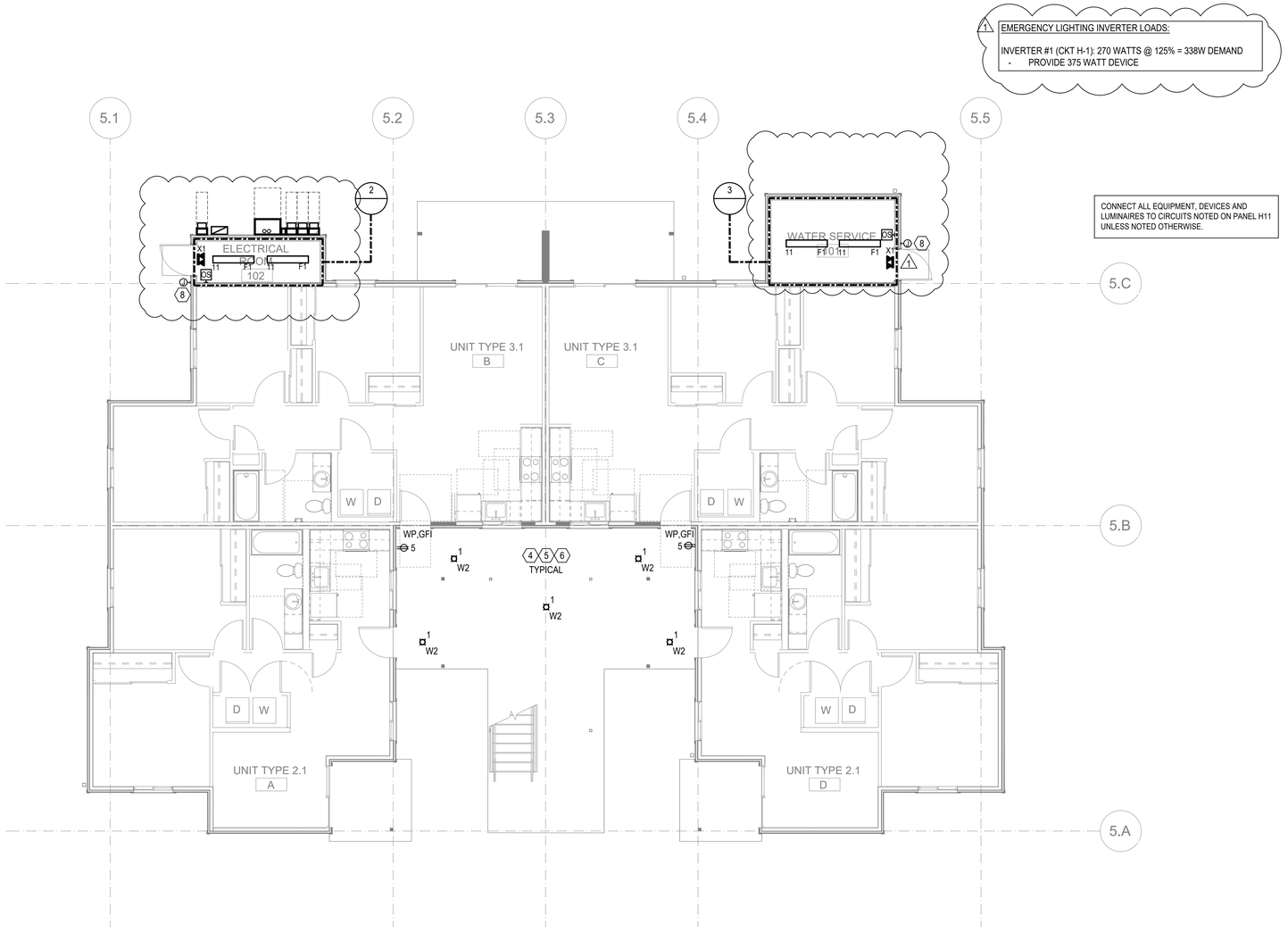
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ELECTRICAL SITE PLAN - BUILDING 11

PERMIT #	BMF22-09886
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E11-051



POWER AND LIGHTING PLAN - BUILDING 11 - LEVEL 1

SCALE: 3/16"=1'-0"

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

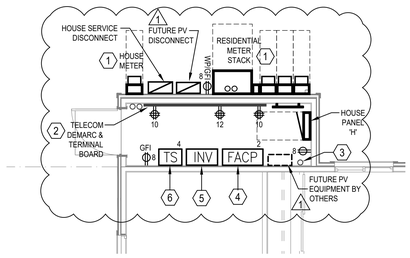
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

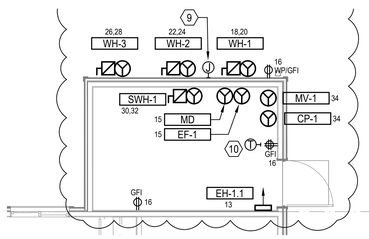
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 375 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR FIXTURE TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-375-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 E-101 ELECTRICAL ROOM
1/4"=1'-0"



3 E-101 WATER ROOM
1/4"=1'-0"

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King County Housing Authority

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General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13422 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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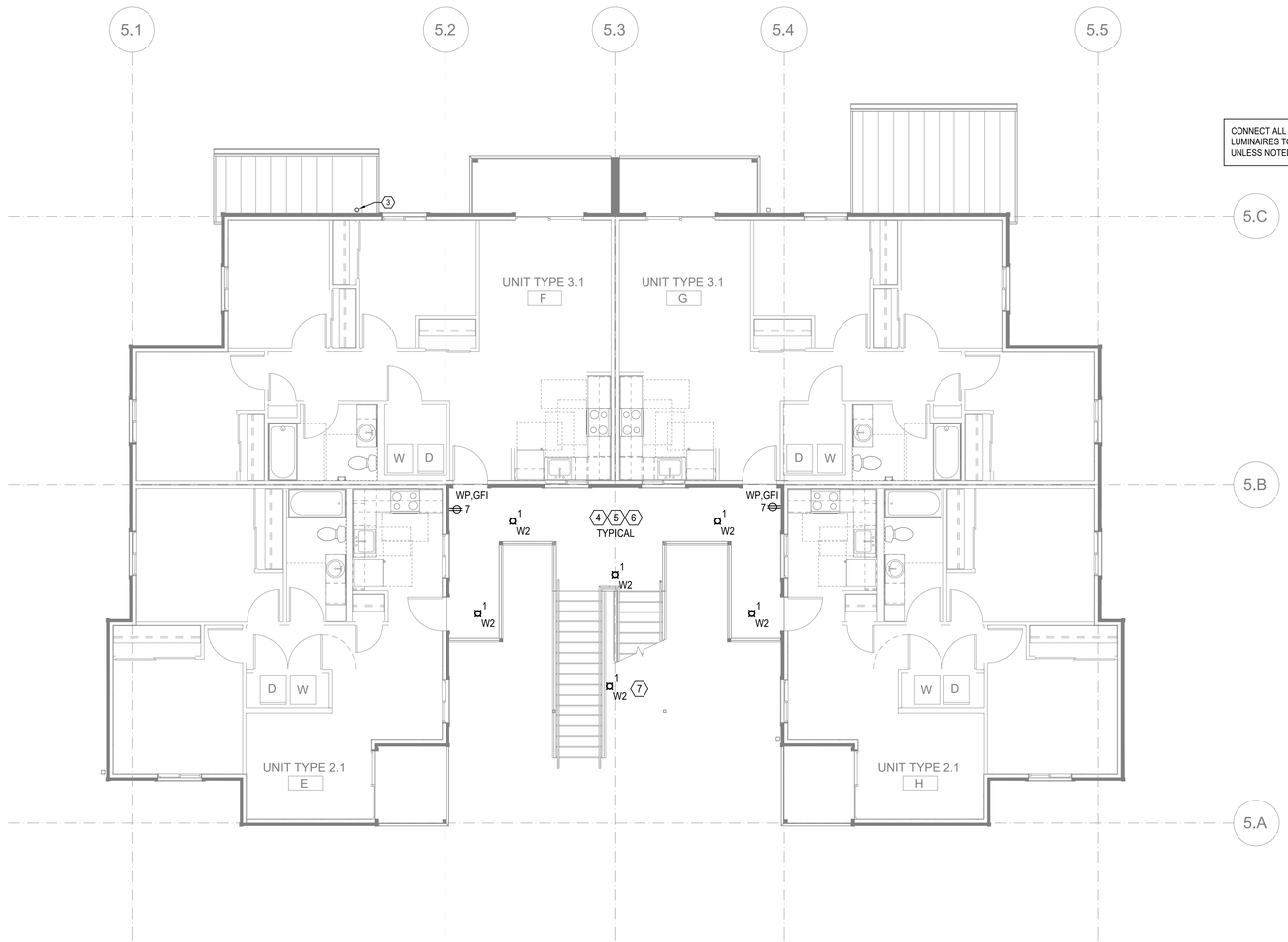
TITLE

POWER AND LIGHTING PLAN - BUILDING 11 - LEVEL 1

PERMIT #	BMF22-09886
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E11-101

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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H11 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. (1) ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. (1) ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.
7. LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.

POWER AND LIGHTING PLAN - BUILDING 11 - LEVEL 2

SCALE: 3/16"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

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BUILDING 11

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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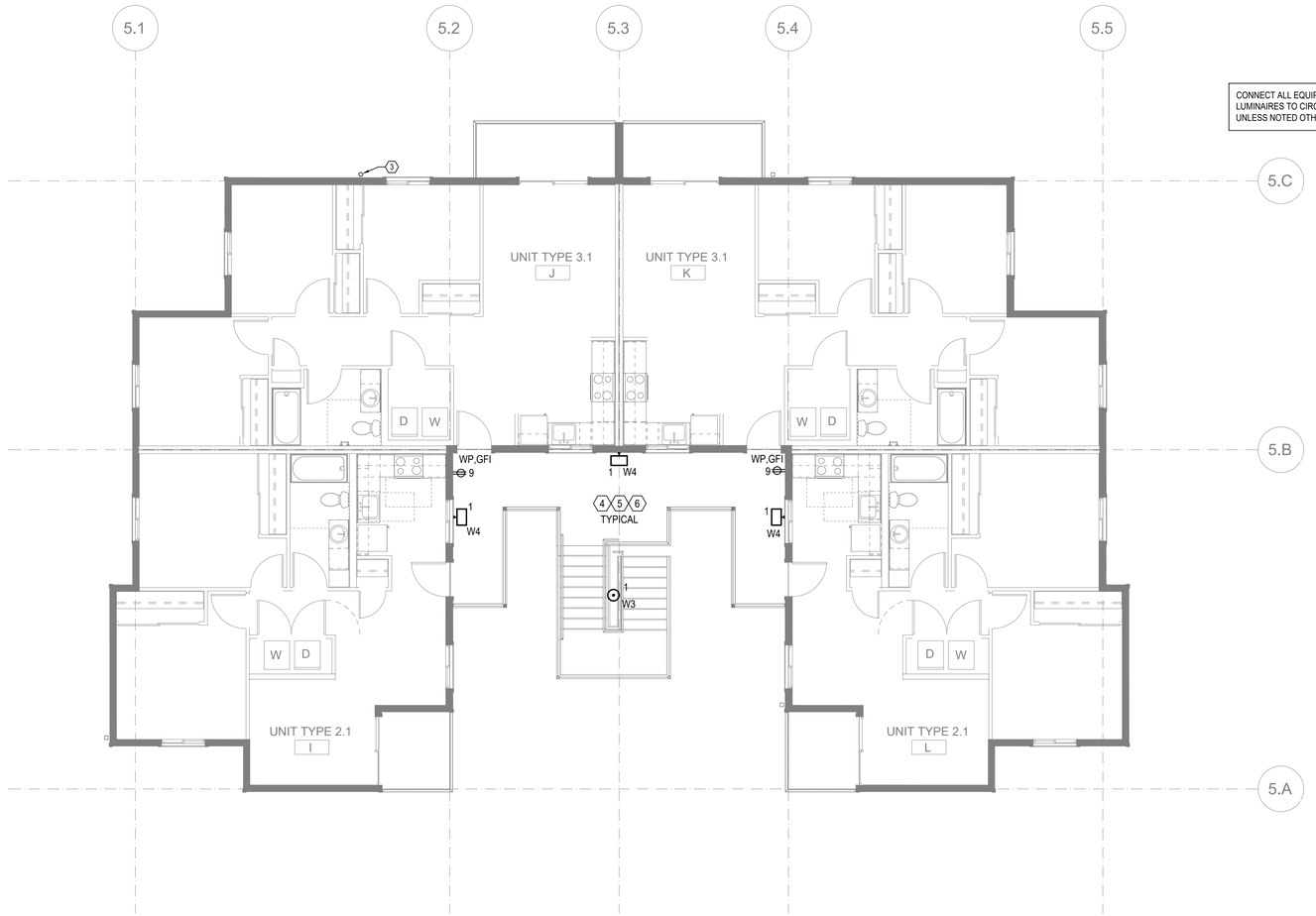
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POWER AND LIGHTING PLAN - BUILDING 11 - LEVEL 2

PERMIT #	BMF22-09886
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SHEET NO.:	

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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H11 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 11 - LEVEL 3

SCALE: 3/16"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

13422 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

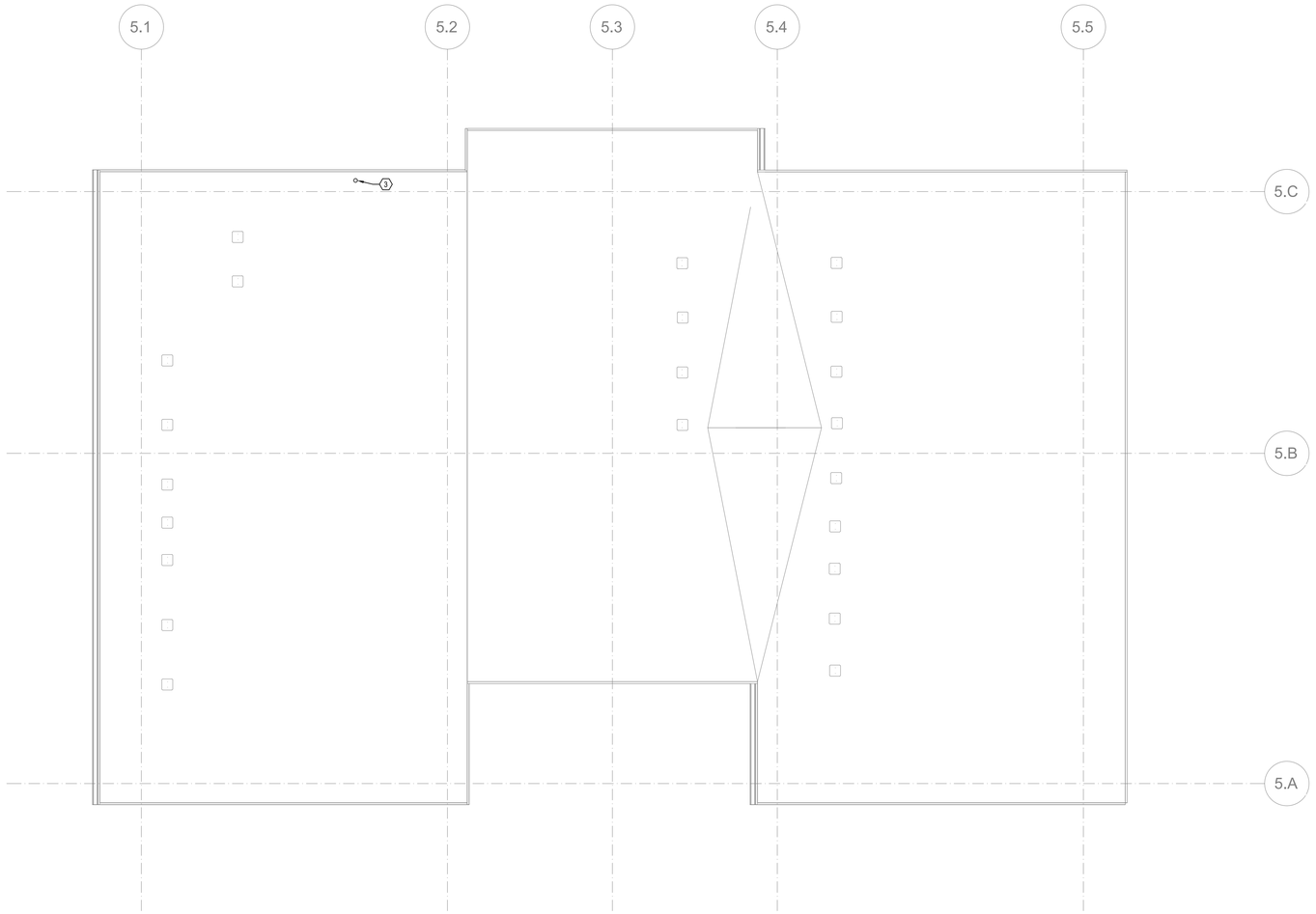
POWER AND LIGHTING PLAN - BUILDING 11 - LEVEL 3

PERMIT #	BMF22-09886
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E11-103

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ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.



GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER PLAN - BUILDING 11 - ROOF

SCALE: 3/16"=1'-0"

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King County Housing Authority

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c/o: King County Housing Authority, General Partner
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Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13422 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

GEORGINNA M. LAMPSON
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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TITLE

POWER PLAN - BUILDING 11 - ROOF

PERMIT #	BMF22-09886
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ISSUE DATE	4/14/2023
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SHEET NO.:

E11-104

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

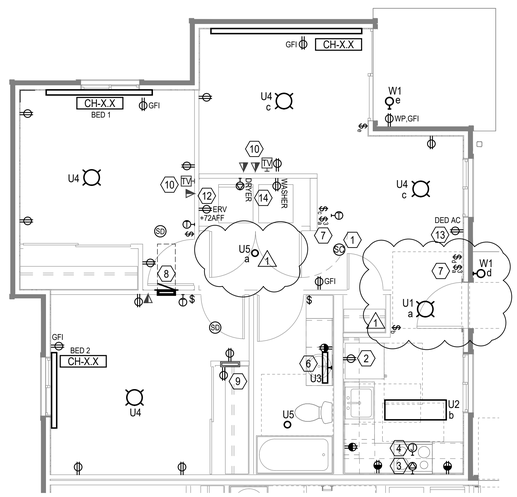
1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

		HEATER TYPES			
UNIT NUMBER(S)	UNIT TYPE	BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

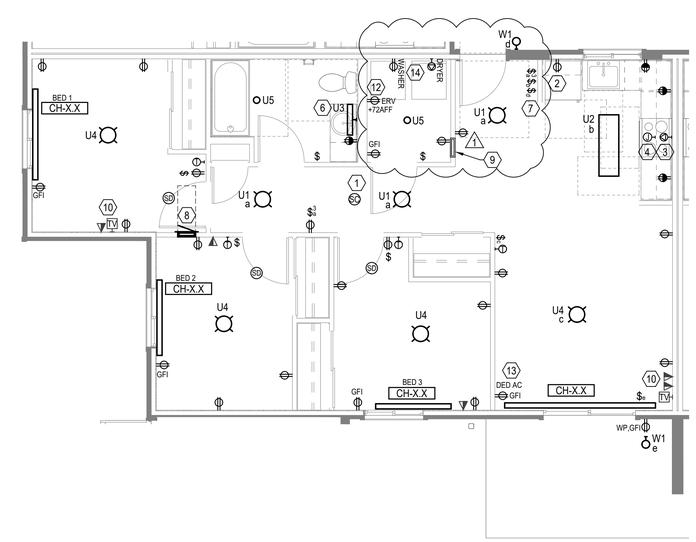
NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 ENLARGED PLAN - 2-BED

1/4"=1'-0" UNITS: A, D, E, H, I, L



1 ENLARGED PLAN - 3-BED

1/4"=1'-0" UNITS: B, C, F, G, J, K

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King County Housing Authority

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c/o: King County Housing Authority,
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13422 NE 133rd St.,
Kirkland, WA 98034

BUILDING 11

BID SET

JEAN-CLAUDE M. GAGNON — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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TITLE

ENLARGED UNIT PLANS

PERMIT #	BMF22-09886
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CHECKED	GL
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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET
- FLAG NOTE
- REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM / EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2

TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT. SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP / F — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 2PDX WS,C — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP / 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M / M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER AND LIGHTING PLAN - LEVEL 3
E-104	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
		W/	WITH
IMC	INTERMEDIATE METAL CONDUIT	WO	WITHOUT
IN	INCH/INCHES	WP	WEATHERPROOF
		WT	WEIGHT
KCMIL	THOUSAND CIRCULAR MILS		
KO	KNOCK OUT	XFR	TRANSFORMER
KW	KILOWATT/KILOWATTS		
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

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c/o: King County Housing Authority,
General Partner
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13426 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
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COVER SHEET

PERMIT #	BMF22-09882
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CHECKED	GL
ISSUE DATE	4/14/2023
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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13426 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09882
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E12-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

5/18/2023

GENERAL SCHEDULE NOTES:

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

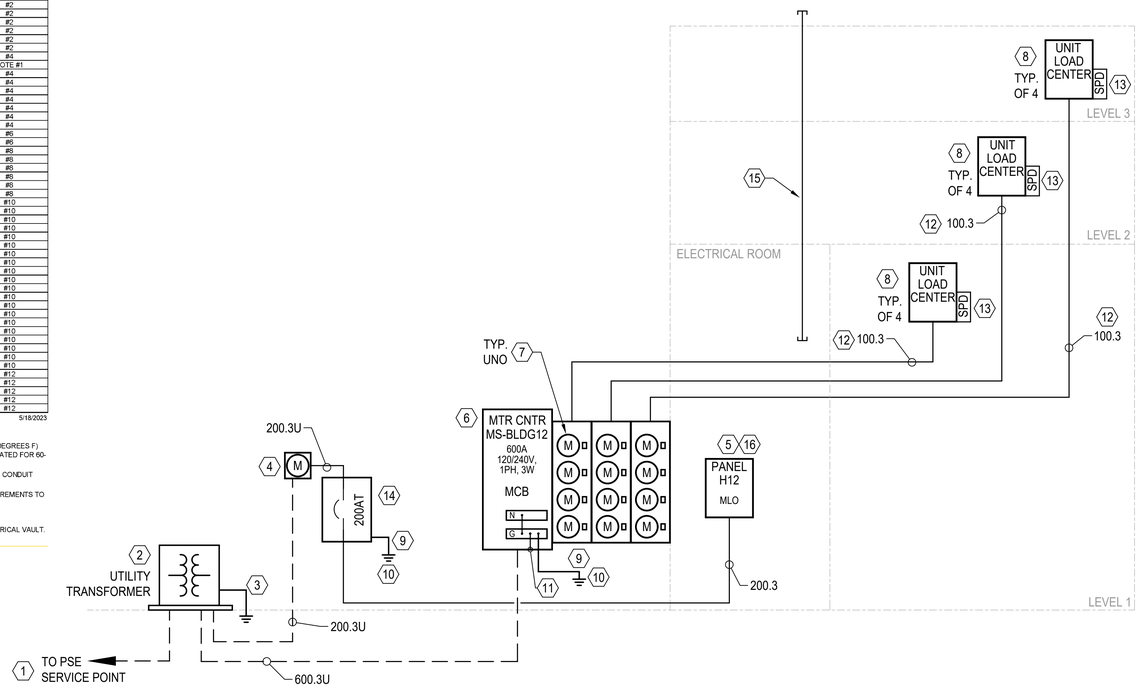
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

△1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

△1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 12

UNIT TYPE: 2BR - 2.1 | **AREA (SF): 782** | 5/18/2023

DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:		100%	=	3.00	kVA
3,001VA - 120,000VA:		35%	=	1.35	kVA
> 120,000VA:		25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER		AT		=	0.00 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
			SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:			75%			
			GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
			GENERAL MOTOR LOAD - DEMAND	=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 3.91 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 23.54 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82] = 23.48 kVA

DEMAND FACTORS PER NEC 220.82(B):

0 - 10kVA:	100%	=	10.00 kVA
> 10 kVA:	40%	=	5.39 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS, 65% NAMEPLATE = 2.54 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 17.93 kVA

UNIT TYPE: 3BR - 3.1 | **AREA (SF): 906** | 5/18/2023

DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:		100%	=	3.00	kVA
3,001VA - 120,000VA:		35%	=	1.48	kVA
> 120,000VA:		25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER		AT		=	0.00 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
			SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:			75%			
			GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
			GENERAL MOTOR LOAD - DEMAND	=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 4.53 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 24.29 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82] = 23.86 kVA

DEMAND FACTORS PER NEC 220.82(B):

0 - 10kVA:	100%	=	10.00 kVA
> 10 kVA:	40%	=	5.54 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS, 65% NAMEPLATE = 2.94 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 18.49 kVA

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL | **MS - 12 unit STACK** | 5/18/2023

DEMAND LOAD (kVA): 137.09 => 571.2 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
2BR - 2.1	6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	0	0.00	6	52.80
3BR - 3.1	6	43.31	13.20	0.66	27.18	6	33.00	0	0.00	0	0.00	6	52.80
0								0	0.00	0	0.00	0	0.00
TOTALS:	12	84.38	26.40	1.32	50.64	12	66.00	0	0.00	0	0.00	12	105.60
ADDITIONAL 25% OF LARGEST MOTOR:				0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD = 334.37 kVA

DEMAND FACTOR FROM TABLE 220.84 = 41%

TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC = 137.09 kVA

KIRKLAND HEIGHTS - 12 UNIT STACK FLAT (REHAB)

PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 12):	137.09 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	137.09 kVA
	571.22 AMPS @ 120/240V, 1-PHASE
	PROVIDE 600A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	7.7 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	40.83 kVA
	170.14 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	51.04 kVA
	212.6708 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	188.13 kVA
	783.89 AMPS @ 120/240V, 1-PHASE

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SIDER+BYERS
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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13426 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

JOHANNA M. PROVINCIANO — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09882
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E12-003

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H12 — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — M.O.OR M.C.B.: M.L.O. — 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY	L	0.27	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	RECEPT - LVL 3 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-1'	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN. (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-2'	22
23	SPARE		0.00		20 / 1	B						24
25	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-3'	26
27	SPARE		0.00		20 / 1	B						28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - 'SWH-1'	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP 'CP-1' & MIX VALVE 'MV-1'	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.51	kVA 125%	0.64	kVA
R	= RECEPTACLES	4.14	kVA NEC 220.44	4.14	kVA
M	= MOTORS	0.24	kVA 100%	0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA 25%	0.06	kVA
C	= CONTINUOUS	15.68	kVA 125%	19.61	kVA
N	= NON-CONTINUOUS	1.44	kVA 100%	1.44	kVA
K	= KITCHEN	0.00	kVA 75%	0.00	kVA

PANEL CONNECTED TOTAL: 22.01 kVA, 91.73 AMPS
PANEL DEMAND TOTAL: 26.12 kVA, 108.84 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.O.OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.O.OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE			A				22
23	"		20 / 2	B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-3	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP			1	
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1				1	
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163				2	
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15			3	
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13426 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

VIRGINNA M. BROOKS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SCHEDULES

PERMIT #	BMF22-09882
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E12-004

10/7/2021 7:33:34 AM

LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR.3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13426 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

GEORGINNA M. LAMPSON
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

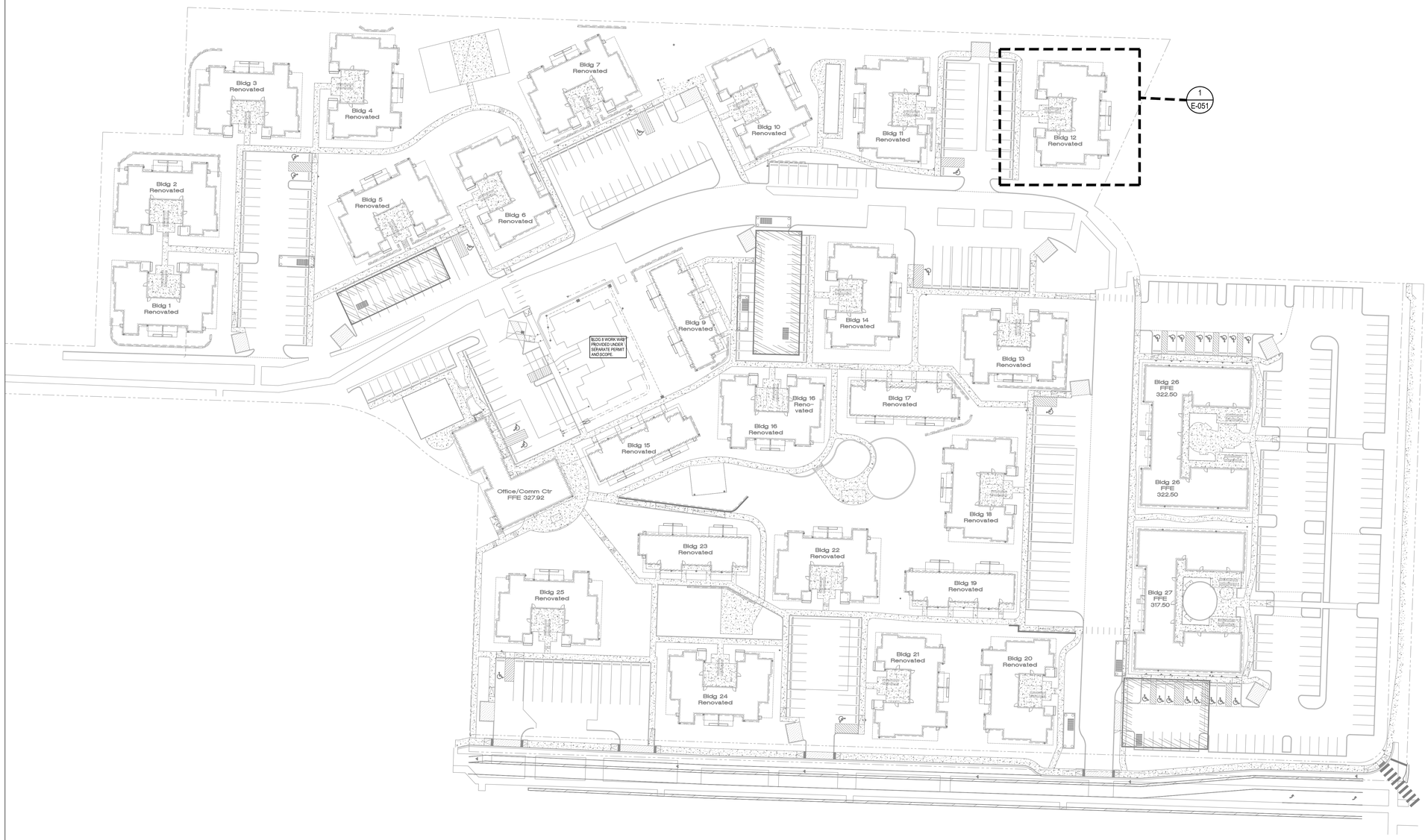
TITLE

LUMINAIRE SCHEDULE

PERMIT #	BMF22-09882
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ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E12-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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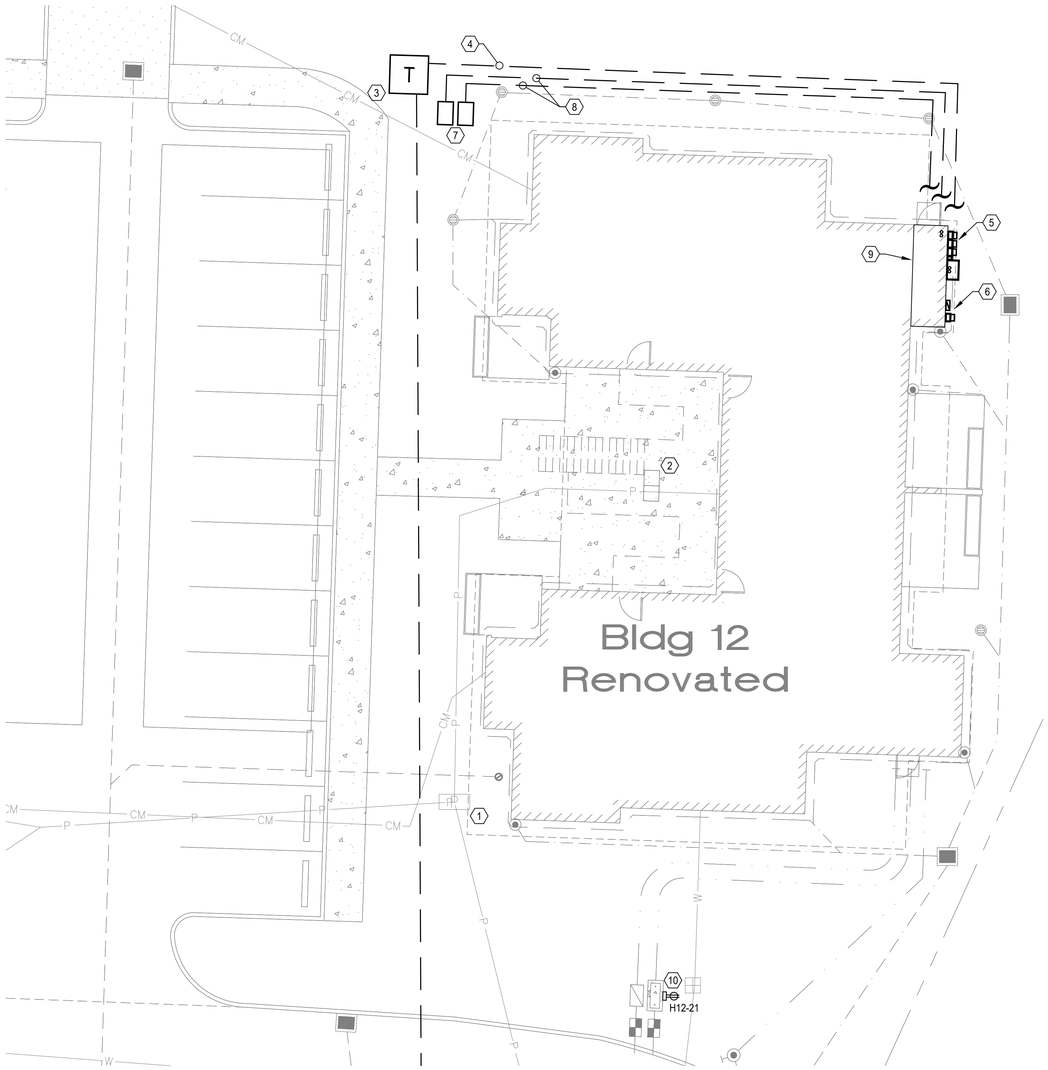
OVERALL PROJECT SITE PLAN

PERMIT #	BMF22-09882
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ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E12-050

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 12
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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KIRKLAND HEIGHTS APARTMENTS

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Kirkland, WA 98034

BUILDING 12

BID SET

DOROTHINA M. JOHNSON — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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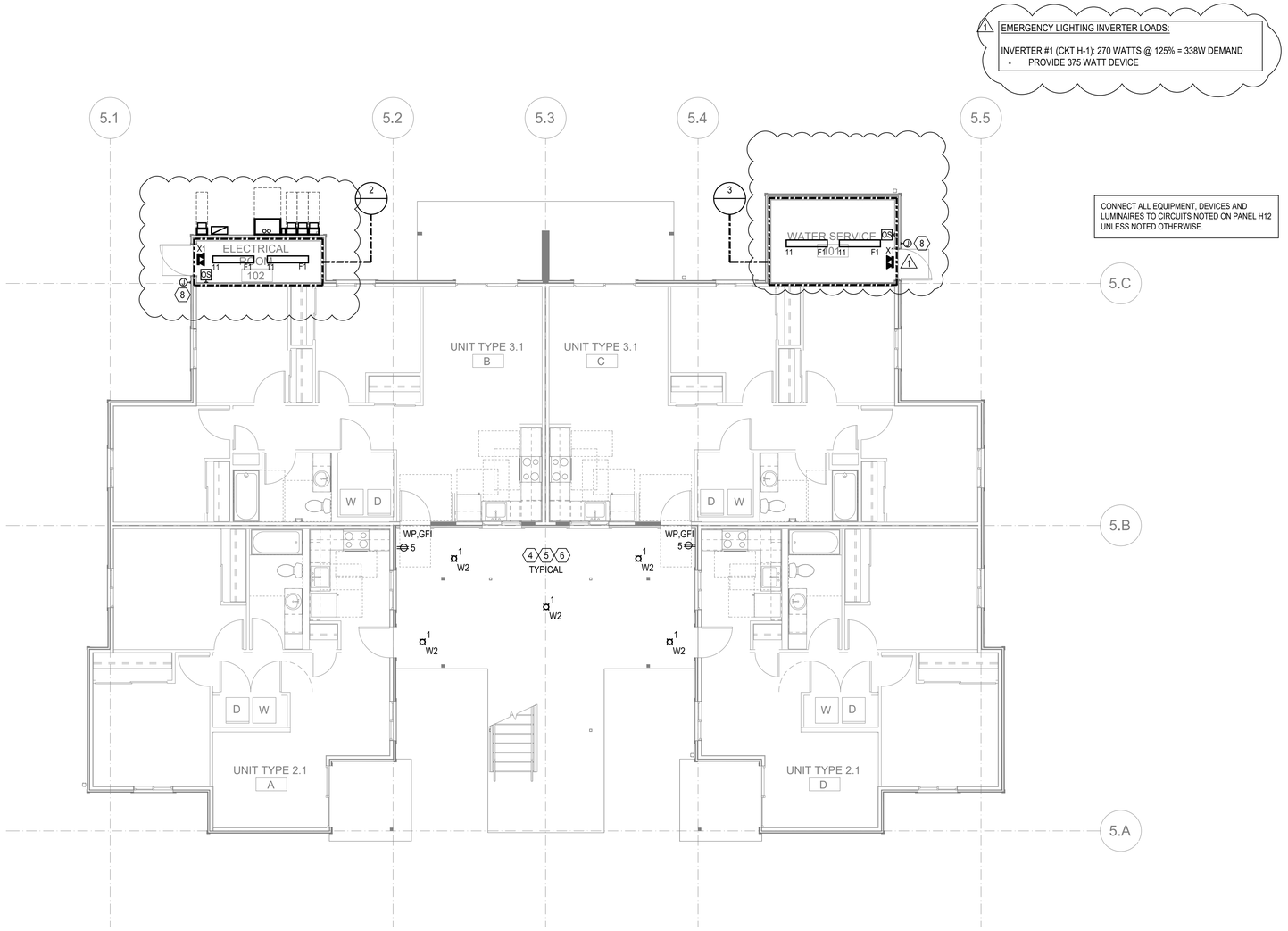
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ELECTRICAL SITE PLAN - BUILDING 12

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1 EMERGENCY LIGHTING INVERTER LOADS:

INVERTER #1 (CKT H-1): 270 WATTS @ 125% = 338W DEMAND
- PROVIDE 375 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H12 UNLESS NOTED OTHERWISE.

POWER AND LIGHTING PLAN - BUILDING 12 - LEVEL 1

SCALE: 3/16"=1'-0"

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

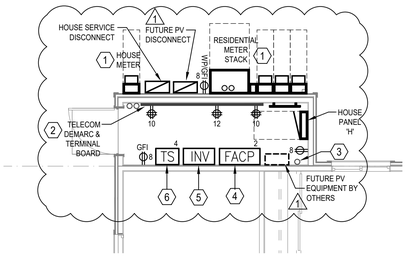
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

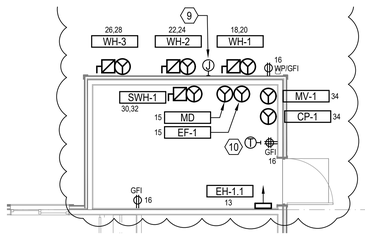
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 375 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR FIXTURE TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-375-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 E-101 **ELECTRICAL ROOM**
1/4"=1'-0"



3 E-101 **WATER ROOM**
1/4"=1'-0"

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King County Housing Authority

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13426 NE 133rd St.,
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BUILDING 12

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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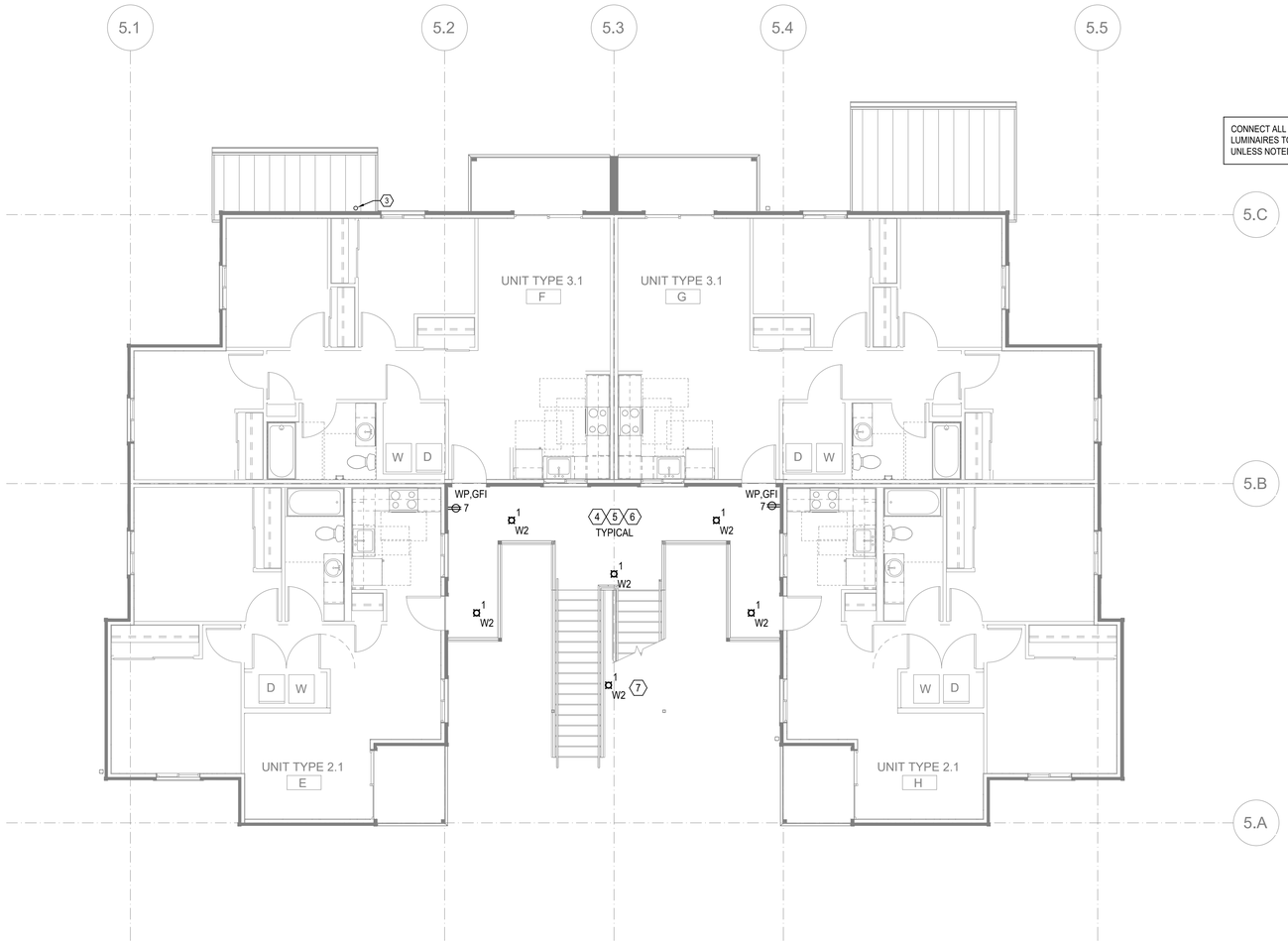
TITLE

POWER AND LIGHTING PLAN - BUILDING 12 - LEVEL 1

PERMIT #	BMF22-09882
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SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H12 UNLESS NOTED OTHERWISE.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.
7. LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.

POWER AND LIGHTING PLAN - BUILDING 12 - LEVEL 2

SCALE: 3/16"=1'-0"

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BUILDING 12

BID SET

JOAQUINNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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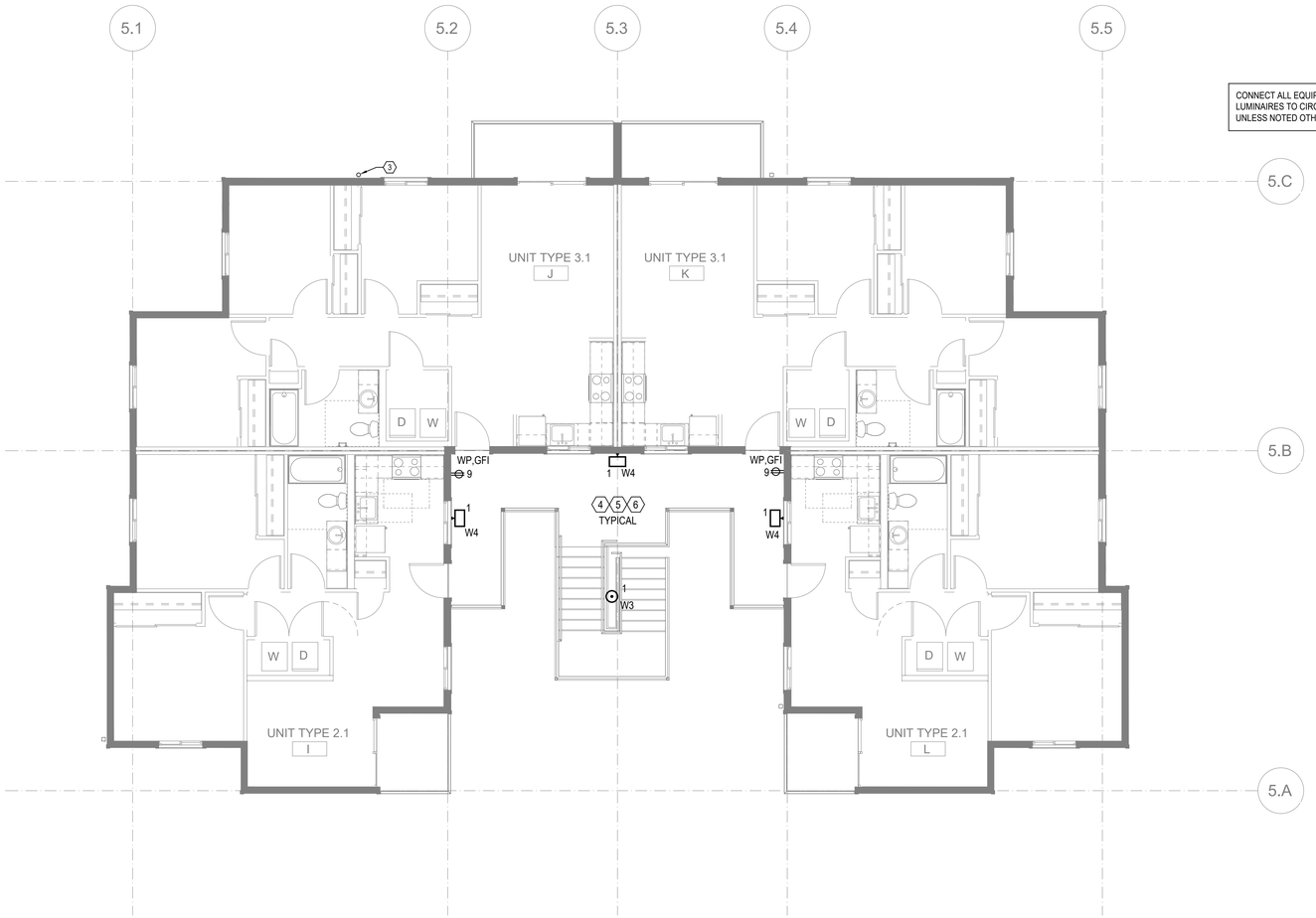
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POWER AND LIGHTING PLAN - BUILDING 12 - LEVEL 2

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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H12 UNLESS NOTED OTHERWISE.

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SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES. IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. (1) ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. (1) ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 12 - LEVEL 3

SCALE: 3/16"=1'-0"

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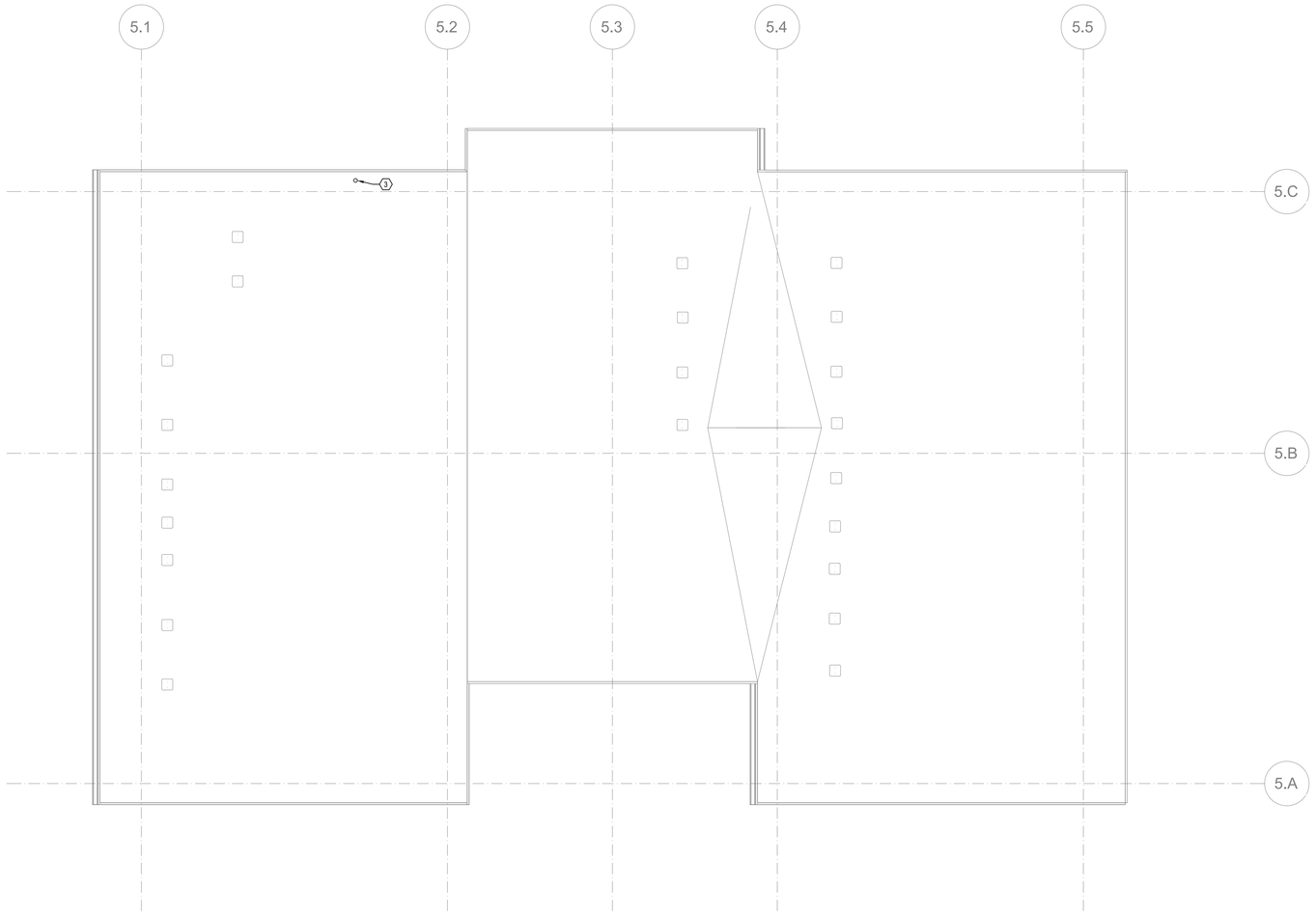
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POWER AND LIGHTING PLAN - BUILDING 12 - LEVEL 3

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JOB NO.	22016
SHEET NO.:	

E12-103



ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED

2. NOT USED.

3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER PLAN - BUILDING 12 - ROOF

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13426 NE 133rd St.,
Kirkland, WA 98034

BUILDING 12

BID SET

GEORGINNA M. LAMPSON
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER PLAN - BUILDING 12 - ROOF

PERMIT #	BMF22-09882
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E12-104

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

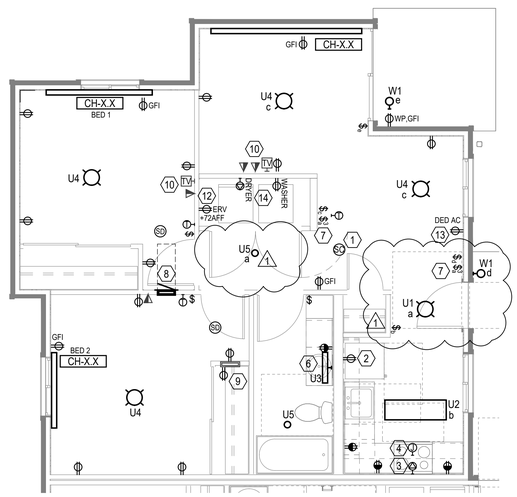
1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

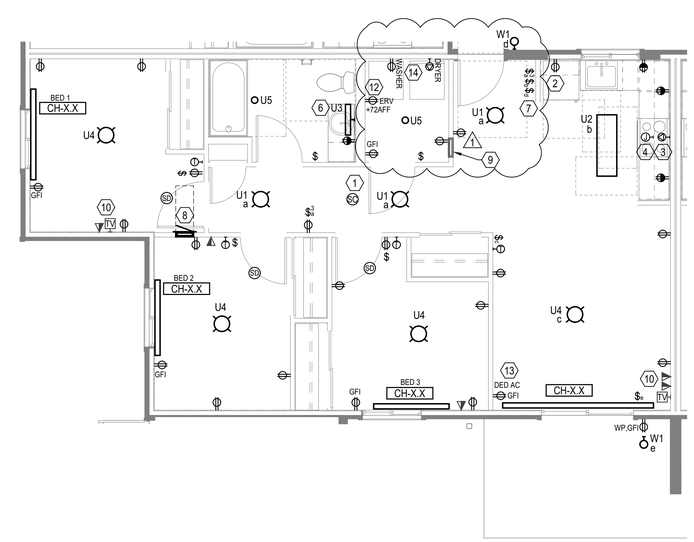
		HEATER TYPES			
UNIT NUMBER(S)	UNIT TYPE	BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**
1/4"=1'-0" UNITS: A, D, E, H, I, L



1 **ENLARGED PLAN - 3-BED**
1/4"=1'-0" UNITS: B, C, F, G, J, K

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BID SET

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NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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ENLARGED UNIT PLANS

PERMIT #	BMF22-09882
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E12-301

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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET (E-1)
- FLAG NOTE
- REVISION TAG (1)
- MECHANICAL EQUIPMENT (AHU-1)
- FAULT CURRENT TAG (XX kA)

FIRE ALARM SYMBOLS

- COMBINATION SMOKE/FIRE DAMPER (OR)
- FIRE ALARM CONTROL PANEL (FACP)
- FIRE ALARM REMOTE ANUNCIATOR (FARA)
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR (SD)
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM (SD)

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- GROUNDING CONDUCTOR(S) PER CODE (G)
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES (EM)

FL1 3a — FL1 3-Z1.2

TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP / F — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $3PDX — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP — 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER AND LIGHTING PLAN - LEVEL 3
E-104	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
IN	INCH/INCHES	WO	WITHOUT
		WP	WEATHERPROOF
KCMIL	THOUSAND CIRCULAR MILS	WT	WEIGHT
KO	KNOCK OUT		
KW	KILOWATT/KILOWATTS	XFR	TRANSFORMER
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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KIRKLAND HEIGHTS APARTMENTS

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Kirkland, WA 98034

BUILDING 13

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09885
DRAWN	RA, JF
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ISSUE DATE	4/14/2023
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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13425 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09885
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E13-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

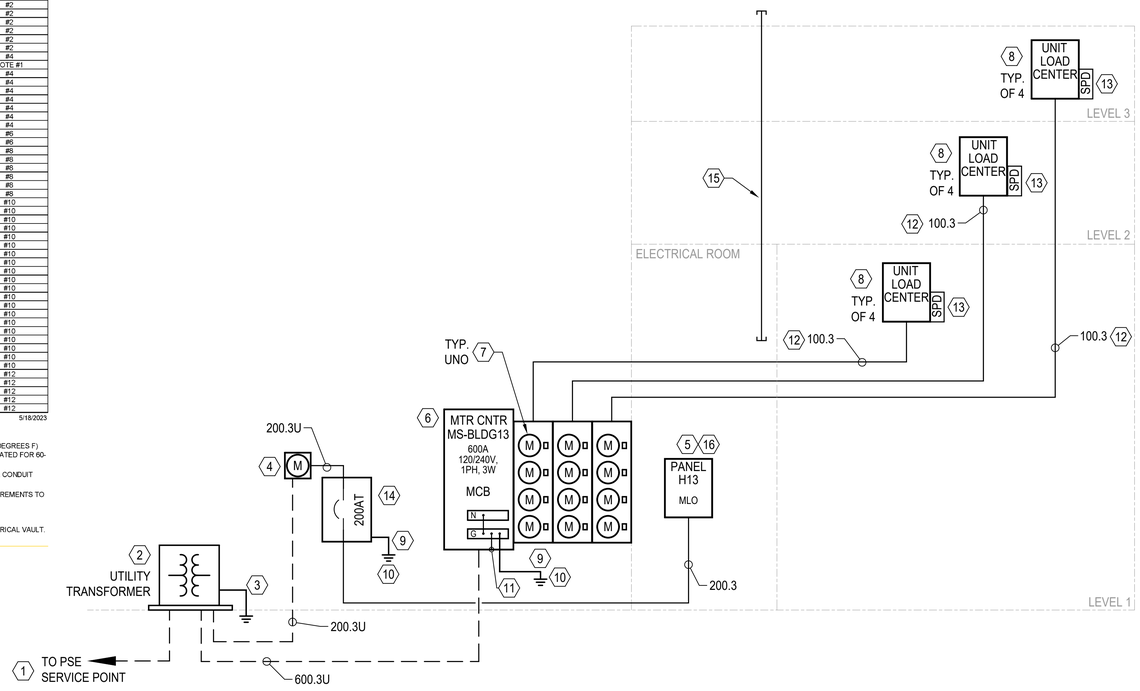
MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

△1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

△1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 13

UNIT TYPE: 2BR - 2.1 AREA (SF): 782 — 5/18/2023
DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:		100%	=	3.00	kVA
3,001VA - 120,000VA:		35%	=	1.35	kVA
> 120,000VA:		25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70 kVA
RANGE HOOD	1	AT	0.3	=	0.30 kVA
MICROWAVE		AT		=	0.00 kVA
DISHWASHER		AT		=	0.00 kVA
WASHER	1	AT	1.2	=	1.20 kVA
GARBAGE DISPOSAL		AT		=	0.00 kVA
WATER HEATER		AT		=	0.00 kVA
		SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:		75%			
		GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
		GENERAL MOTOR LOAD - DEMAND		=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 3.91 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 23.54 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:		100%	=	10.00 kVA
> 10 KVA:		40%	=	5.39 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS, 65% NAMEPLATE		=	2.54 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 17.93 kVA

UNIT TYPE: 3BR - 3.1 AREA (SF): 906 — 5/18/2023
DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:		100%	=	3.00	kVA
3,001VA - 120,000VA:		35%	=	1.48	kVA
> 120,000VA:		25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70 kVA
RANGE HOOD	1	AT	0.3	=	0.30 kVA
MICROWAVE		AT		=	0.00 kVA
DISHWASHER		AT		=	0.00 kVA
WASHER	1	AT	1.2	=	1.20 kVA
GARBAGE DISPOSAL		AT		=	0.00 kVA
WATER HEATER		AT		=	0.00 kVA
		SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:		75%			
		GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
		GENERAL MOTOR LOAD - DEMAND		=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 4.53 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 24.29 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:		100%	=	10.00 kVA
> 10 KVA:		40%	=	5.54 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS, 65% NAMEPLATE		=	2.94 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 18.49 kVA

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL MS - 12 unit STACK — 5/18/2023
DEMAND LOAD (kVA): 137.09 => 571.2 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
2BR - 2.1	6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	0	0.00	6	52.80
3BR - 3.1	6	43.31	13.20	0.66	27.18	6	33.00	0	0.00	0	0.00	6	52.80
0								0	0.00	0	0.00	0	0.00
TOTALS:	12	84.38	26.40	1.32	50.64	12	66.00	0	0.00	0	0.00	12	105.60
ADDITIONAL 25% OF LARGEST MOTOR:				0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD		=	334.37 kVA
DEMAND FACTOR FROM TABLE 220.84 =			41%
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC		=	**137.09 kVA**

KIRKLAND HEIGHTS - 12 UNIT STACK FLAT (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 12):	137.09 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTIUTY METERS.	
RESIDENTIAL TOTAL:	137.09 kVA
	571.22 AMPS @ 120/240V, 1-PHASE
	PROVIDE 600A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	7.7 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	40.83 kVA
	170.14 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	51.04 kVA
	212.6708 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	188.13 kVA
	783.89 AMPS @ 120/240V, 1-PHASE

10/7/2021 7:33:34 AM

SIDER+BYERS MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13425 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

JOSEPH M. JOHNSON — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09885
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E13-003

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H13 — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — M.O.OR MCB: M.O. 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY	L	0.77	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG T/ME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	RECEPT - LVL 3 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE					A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-1'	18
19	SPARE		0.00		20 / 1	B					-	20
21	HEAT TRACE - WATER CONN . (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-2'	22
23	SPARE		0.00		20 / 1	B					-	24
25	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-3'	26
27	LTG - SITE POLES	L	0.36	20.1	20 / 1	B					-	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - 'SWH-1'	30
31	SPACE ONLY					B					-	32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP 'CP-1' & MIX VALVE 'MV-1'	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE . (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD
L = LIGHTING	0.89 kVA	125%	1.11 kVA
R = RECEPTACLES	4.14 kVA	NEC 220.44	4.14 kVA
M = MOTORS	0.24 kVA	100%	0.24 kVA
PLUS 25% OF LARGEST MOTOR	0.24 kVA	25%	0.06 kVA
C = CONTINUOUS	15.68 kVA	125%	19.61 kVA
N = NON-CONTINUOUS	1.44 kVA	100%	1.44 kVA
K = KITCHEN	0.00 kVA	75%	0.00 kVA

PANEL CONNECTED TOTAL: 22.39 kVA, 93.31 AMPS
PANEL DEMAND TOTAL: 26.60 kVA, 110.83 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.O.OR MCB: M.O. 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.O.OR MCB: M.O. 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE			A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-3	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP			1	
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1				1	
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163				2	
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15			3	
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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King County Housing Authority

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13425 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

GEORGINNA M. BROOKS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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SCHEDULES

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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BUILDING 13

BID SET

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STATE OF WASHINGTON
43761
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PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
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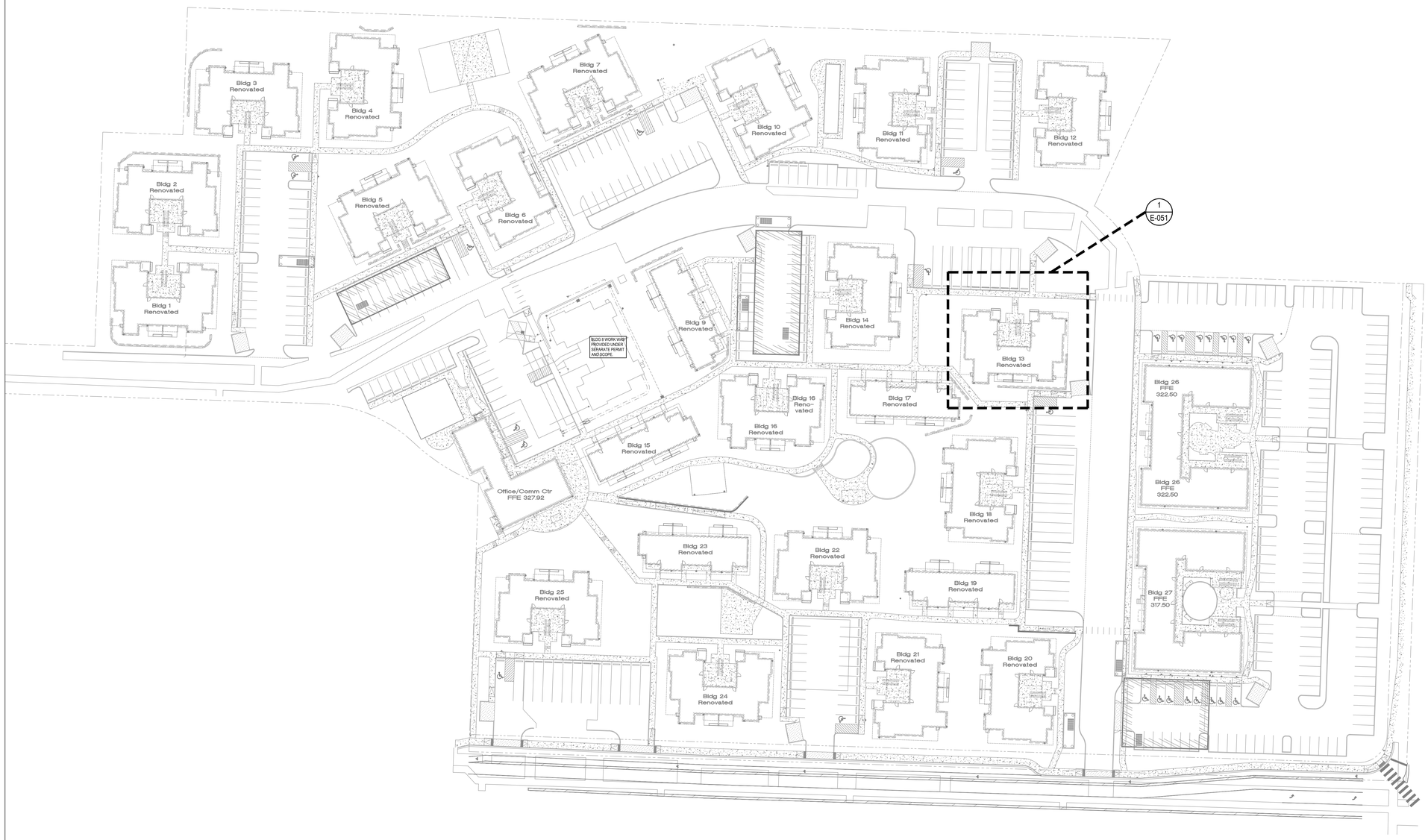
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LUMINAIRE SCHEDULE

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OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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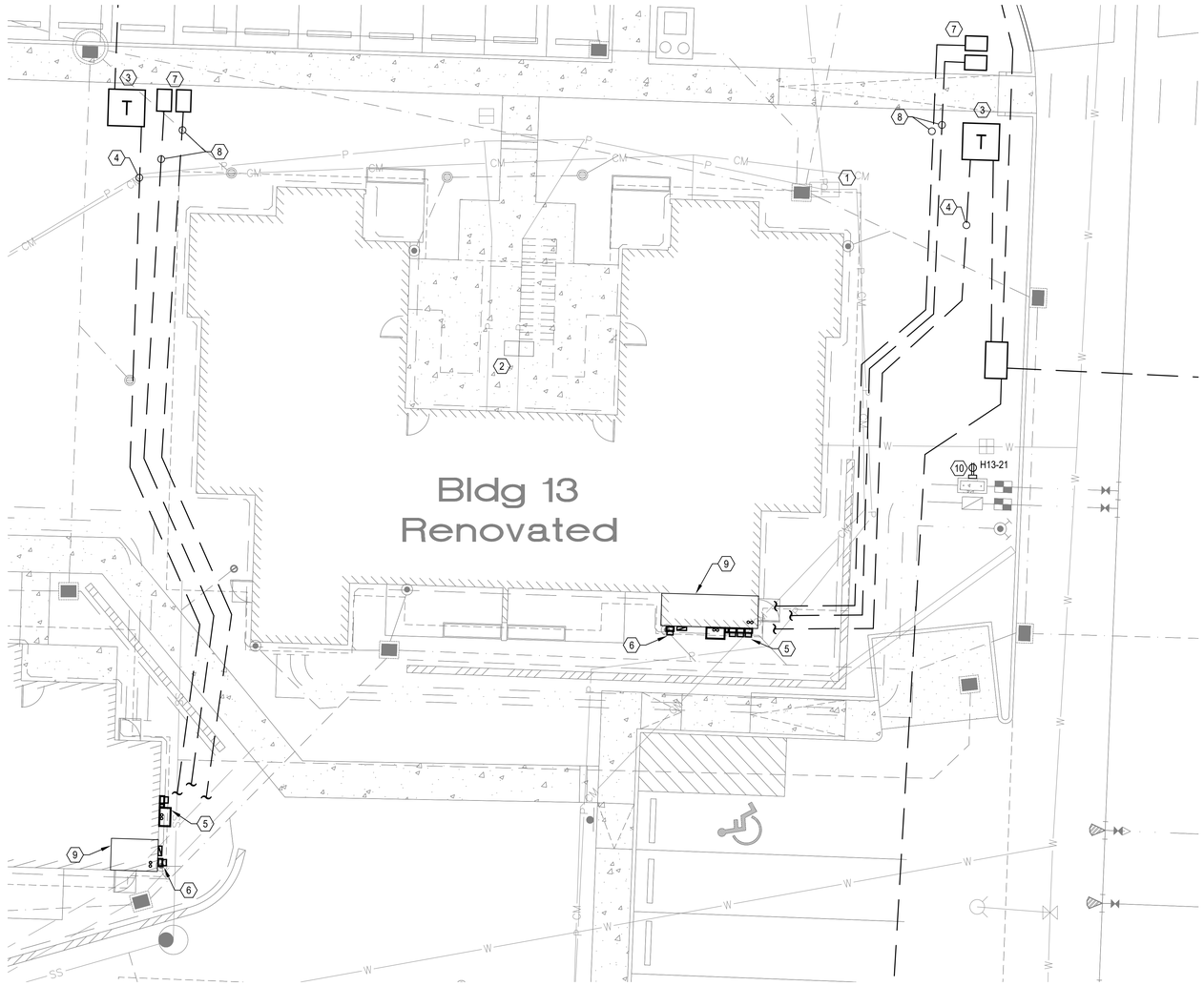
OVERALL PROJECT SITE PLAN

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ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 13
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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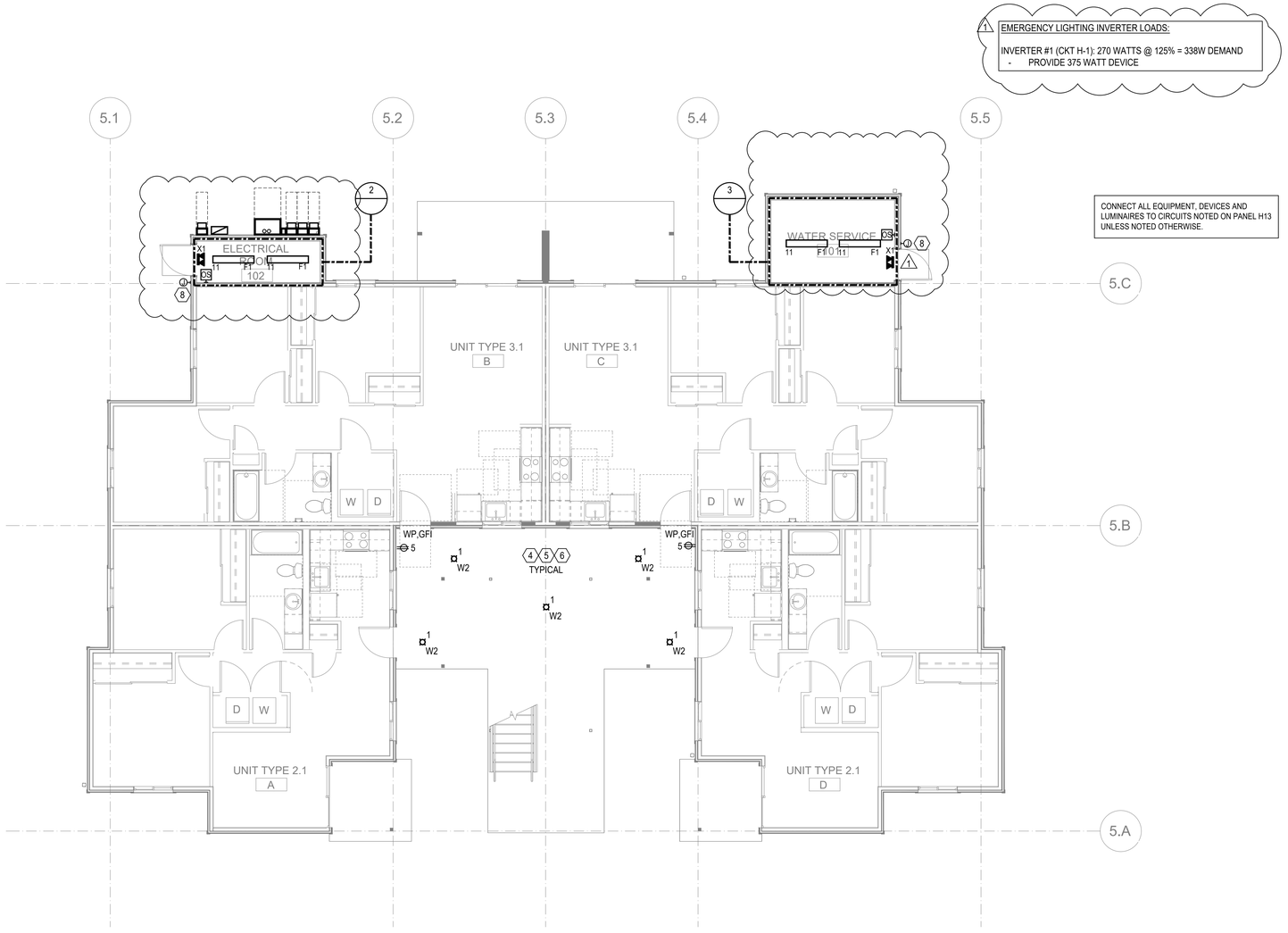
ELECTRICAL SITE PLAN - BUILDING 13

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1 EMERGENCY LIGHTING INVERTER LOADS:

INVERTER #1 (CKT H-1): 270 WATTS @ 125% = 338W DEMAND
- PROVIDE 375 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H13 UNLESS NOTED OTHERWISE.

POWER AND LIGHTING PLAN - BUILDING 13 - LEVEL 1

SCALE: 3/16"=1'-0"

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

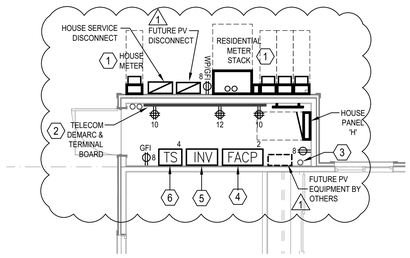
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

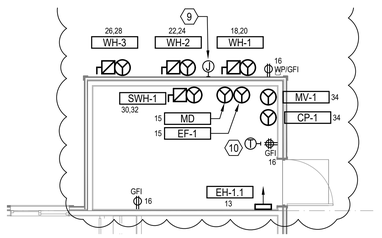
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 375 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR FIXTURE TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-375-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 E-101 **ELECTRICAL ROOM**
1/4"=1'-0"



3 E-101 **WATER ROOM**
1/4"=1'-0"

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JOAQUINNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

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1	5.19.23	BID ADDENDUM 2

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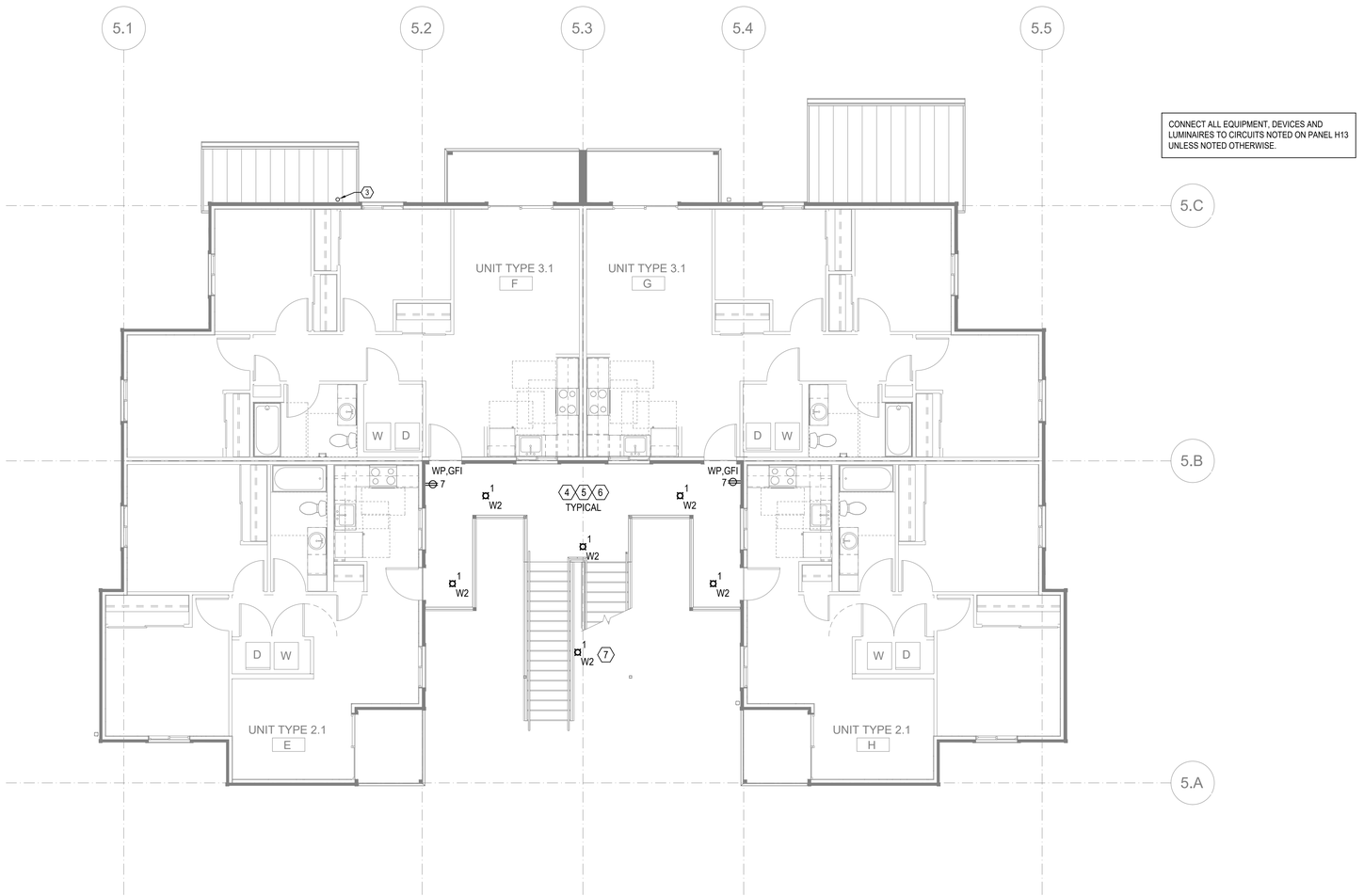
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POWER AND LIGHTING PLAN - BUILDING 13 - LEVEL 1

PERMIT #	BMF22-09885
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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H13 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. (1) ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. (1) ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.
7. LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.

POWER AND LIGHTING PLAN - BUILDING 13 - LEVEL 2

SCALE: 3/16"=1'-0"

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13425 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

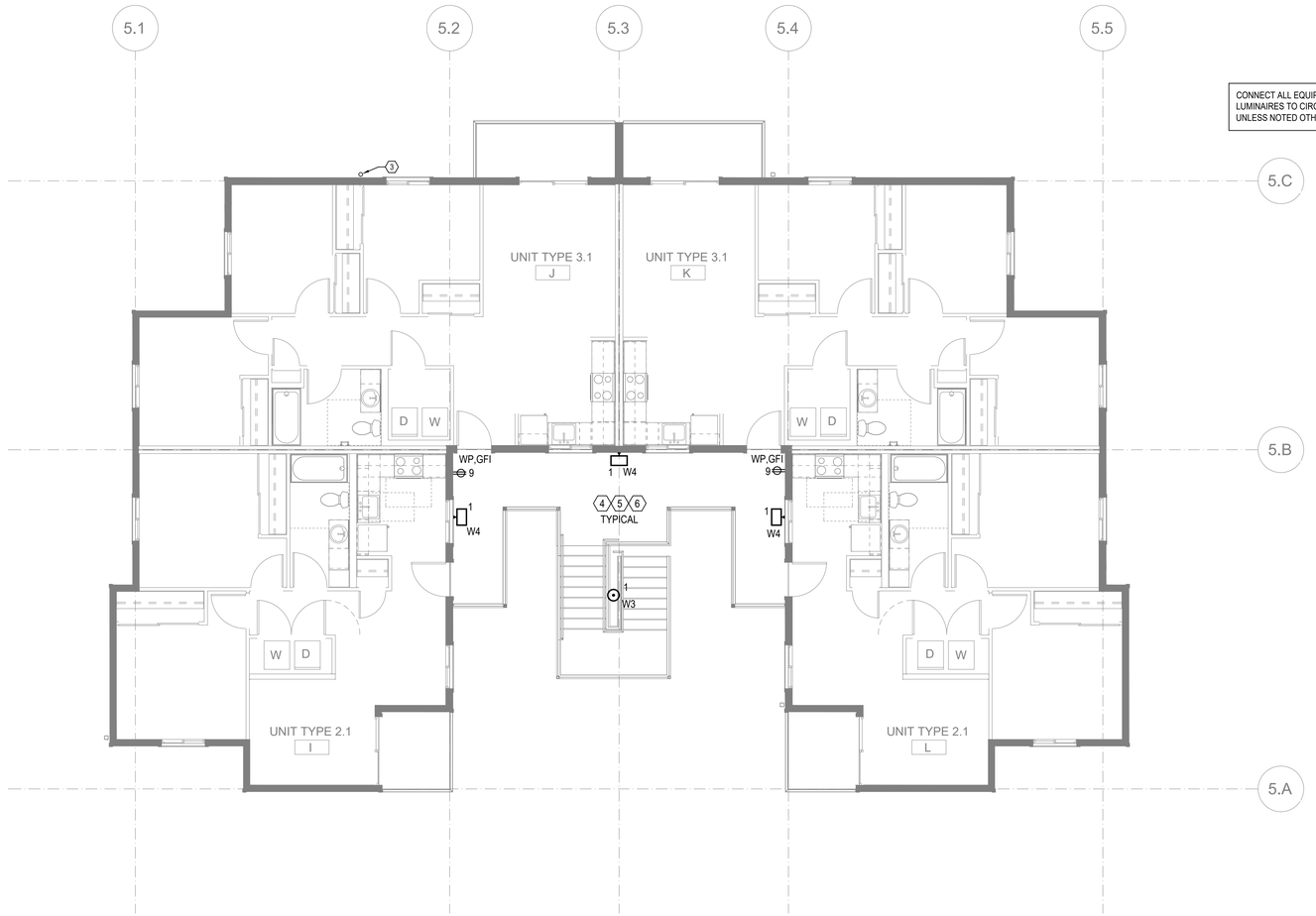
TITLE

POWER AND LIGHTING PLAN - BUILDING 13 - LEVEL 2

PERMIT #	BMF22-09885
DRAWN	RA, JF
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JOB NO.	22016
SHEET NO.:	

E13-102

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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H13 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES. IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

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FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. (1) ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. (1) ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 13 - LEVEL 3

SCALE: 3/16"=1'-0"

SIDER+BYERS
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KIRKLAND HEIGHTS APARTMENTS

13425 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET



NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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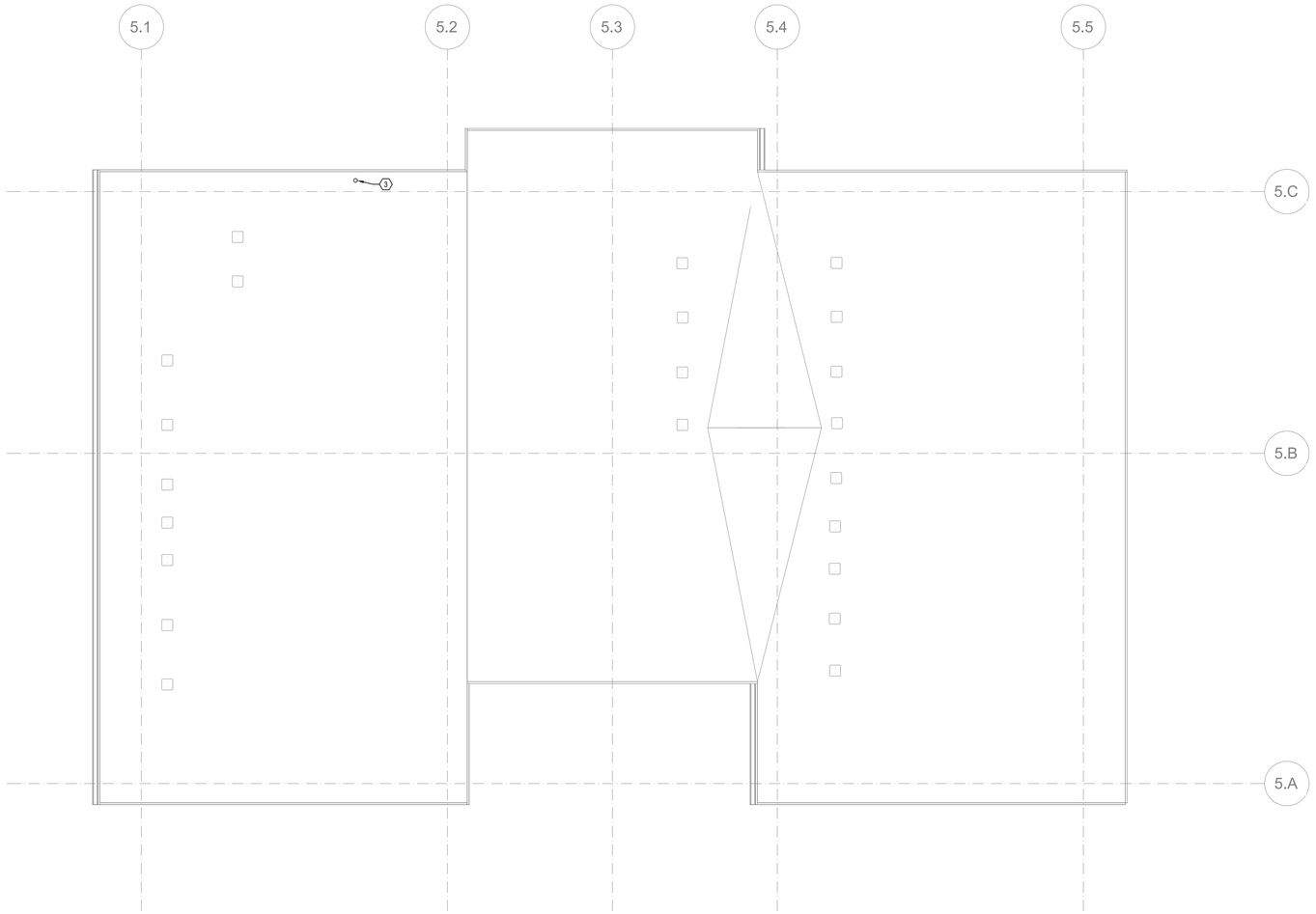
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POWER AND LIGHTING PLAN - BUILDING 13 - LEVEL 3

PERMIT #	BMF22-09885
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ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER PLAN - BUILDING 13 - ROOF

SCALE: 3/16"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

13425 NE 133rd St.,
Kirkland, WA 98034

BUILDING 13

BID SET

GEORGINNA M. LAMPSON
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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TITLE

POWER PLAN - BUILDING 13 - ROOF

PERMIT #	BMF22-09885
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GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

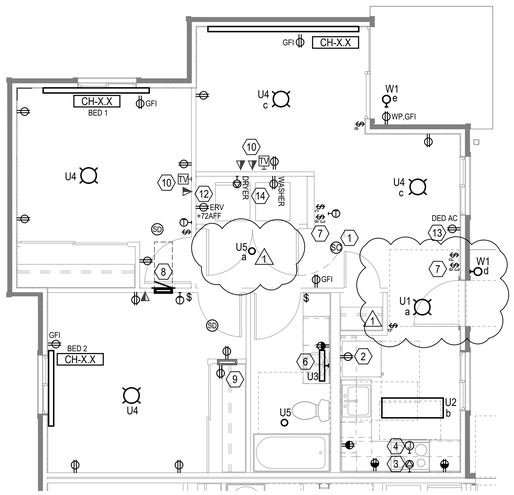
1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

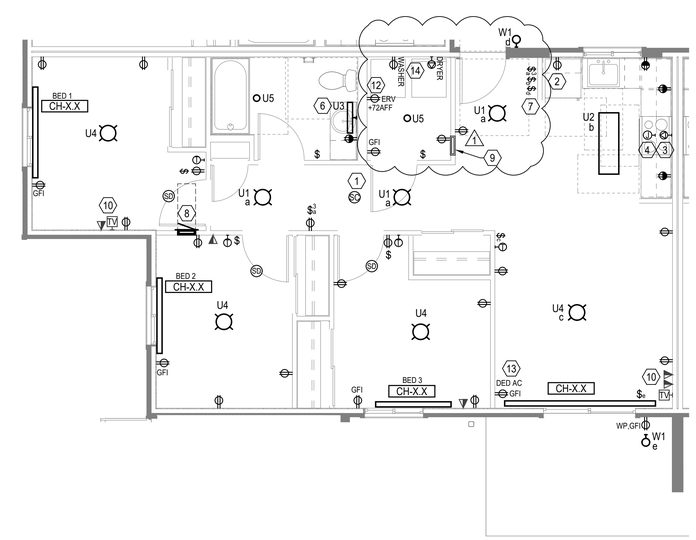
		HEATER TYPES			
UNIT NUMBER(S)	UNIT TYPE	BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**
1/4"=1'-0" UNITS: A, D, E, H, I, L



1 **ENLARGED PLAN - 3-BED**
1/4"=1'-0" UNITS: B, C, F, G, J, K

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REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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TITLE

ENLARGED UNIT PLANS

PERMIT #	BMF22-09885
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E13-301

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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET
- FLAG NOTE
- REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM / EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP / F — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 2PDX etc. — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP / 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER AND LIGHTING PLAN - LEVEL 3
E-104	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
		W/	WITH
IMC	INTERMEDIATE METAL CONDUIT	WO	WITHOUT
IN	INCH/INCHES	WP	WEATHERPROOF
		WT	WEIGHT
KCMIL	THOUSAND CIRCULAR MILS		
KO	KNOCK OUT	XFR	TRANSFORMER
KW	KILOWATT/KILOWATTS		
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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General Partner
13310 NE 133rd St.
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13409 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

GEORGINA L. BYERS — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09883
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E14-001

10/7/2021 7:33:34 AM

GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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c/o: King County Housing Authority,
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13409 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09883
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E14-002

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FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

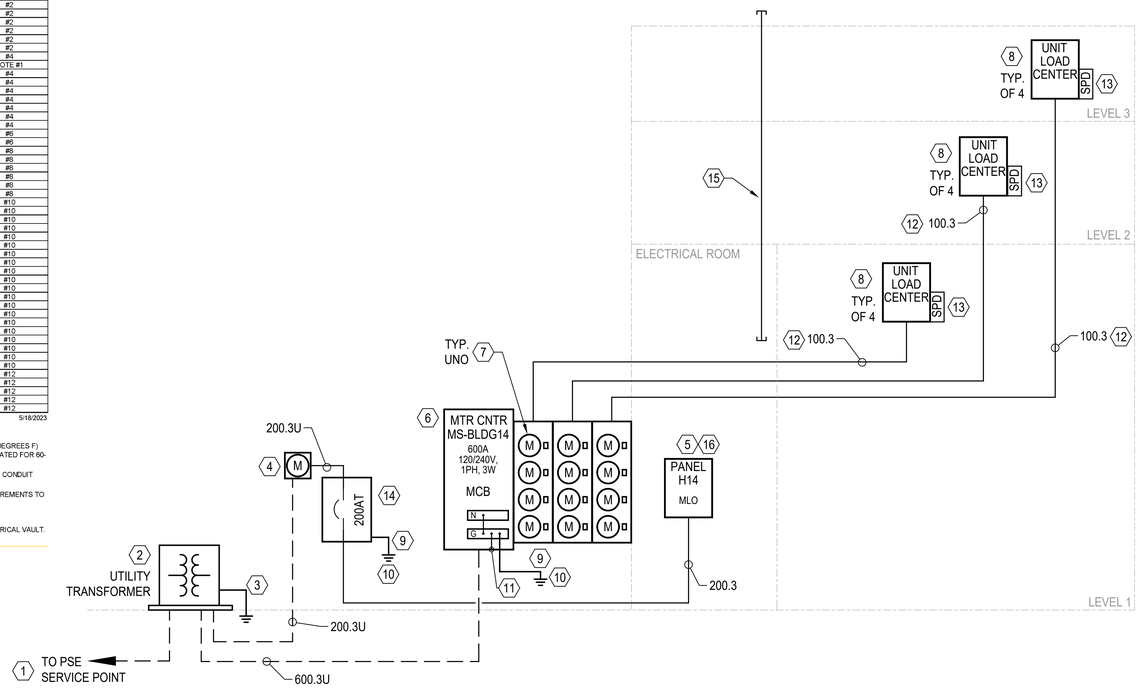
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

△1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

△1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 14

UNIT TYPE: 2BR - 2.1 AREA (SF): 782 — 5/18/2023
DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:		100%	=	3.00	kVA
3,001VA - 120,000VA:		35%	=	1.35	kVA
> 120,000VA:		25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER		AT		=	0.00 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
			SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:			75%			
			GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
			GENERAL MOTOR LOAD - DEMAND	=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 3.91 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 23.54 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:		100%	=	10.00 kVA
> 10 KVA:		40%	=	5.39 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS; 65% NAMEPLATE		=	2.54 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 17.93 kVA

UNIT TYPE: 3BR - 3.1 AREA (SF): 906 — 5/18/2023
DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:		100%	=	3.00	kVA
3,001VA - 120,000VA:		35%	=	1.48	kVA
> 120,000VA:		25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER		AT		=	0.00 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
			SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:			75%			
			GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
			GENERAL MOTOR LOAD - DEMAND	=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 4.53 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 24.29 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:		100%	=	10.00 kVA
> 10 KVA:		40%	=	5.54 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS; 65% NAMEPLATE		=	2.94 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 18.49 kVA

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL MS - 12 unit STACK — 5/18/2023
DEMAND LOAD (kVA): 137.09 => 571.2 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
2BR - 2.1	6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	0	0.00	6	52.80
3BR - 3.1	6	43.31	13.20	0.66	27.18	6	33.00	0	0.00	0	0.00	6	52.80
0								0	0.00	0	0.00	0	0.00
TOTALS:	12	84.38	26.40	1.32	50.64	12	66.00	0	0.00	0	0.00	12	105.60
ADDITIONAL 25% OF LARGEST MOTOR:				0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD		=	334.37 kVA
DEMAND FACTOR FROM TABLE 220.84 =	41%		
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC		=	**137.09 kVA**

KIRKLAND HEIGHTS - 12 UNIT STACK FLAT (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 12):	137.09 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	137.09 kVA
	571.22 AMPS @ 120/240V, 1-PHASE
PROVIDE 600A RESIDENTIAL METER CENTER	

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	7.7 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	40.83 kVA
	170.14 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	51.04 kVA
	212.6708 AMPS @ 120/240V, 1-PHASE
PROVIDE 200A HOUSE SERVICE	
TOTAL BUILDING SERVICE:	188.13 kVA
	783.89 AMPS @ 120/240V, 1-PHASE

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13409 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

JOANNA M. BYERS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09883
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E14-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
400.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
400.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILITY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H14 — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — M.O.R MCB: M.O. — 200 AMPS

CKT #	DESCRIPTION	CONN TYPE	LOAD kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN TYPE	LOAD kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY	L	0.27	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	RECEPT - LVL 3 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-1	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN. (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-2	22
23	SPARE		0.00		20 / 1	B						24
25	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-3	26
27	SPARE		0.00		20 / 1	B						28
29	LTG - SITE POLES	L	0.23	20.1	20 / 1	A	50 / 2	50.2N	C	9.00	WH SWING TANK- SWH-1*	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP "CP-1" & MIX VALVE "MW-1"	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.74	kVA 125%	0.93	kVA
R	= RECEPTACLES	4.14	kVA NEC 220.44	4.14	kVA
M	= MOTORS	0.24	kVA 100%	0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA 25%	0.06	kVA
C	= CONTINUOUS	15.68	kVA 125%	19.61	kVA
N	= NON-CONTINUOUS	1.44	kVA 100%	1.44	kVA
K	= KITCHEN	0.00	kVA 75%	0.00	kVA

PANEL CONNECTED TOTAL: 22.24 kVA, 92.68 AMPS
PANEL DEMAND TOTAL: 26.41 kVA, 110.04 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.O.R MCB: M.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.O.R MCB: M.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE			A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-3	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13409 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET



REVISIONS / NOTES

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SCHEDULES

PERMIT #	BMF22-09883
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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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Kirkland, WA 98034

BUILDING 14

BID SET

GEORGINNA M. LAMPMAN
STATE OF WASHINGTON
43761
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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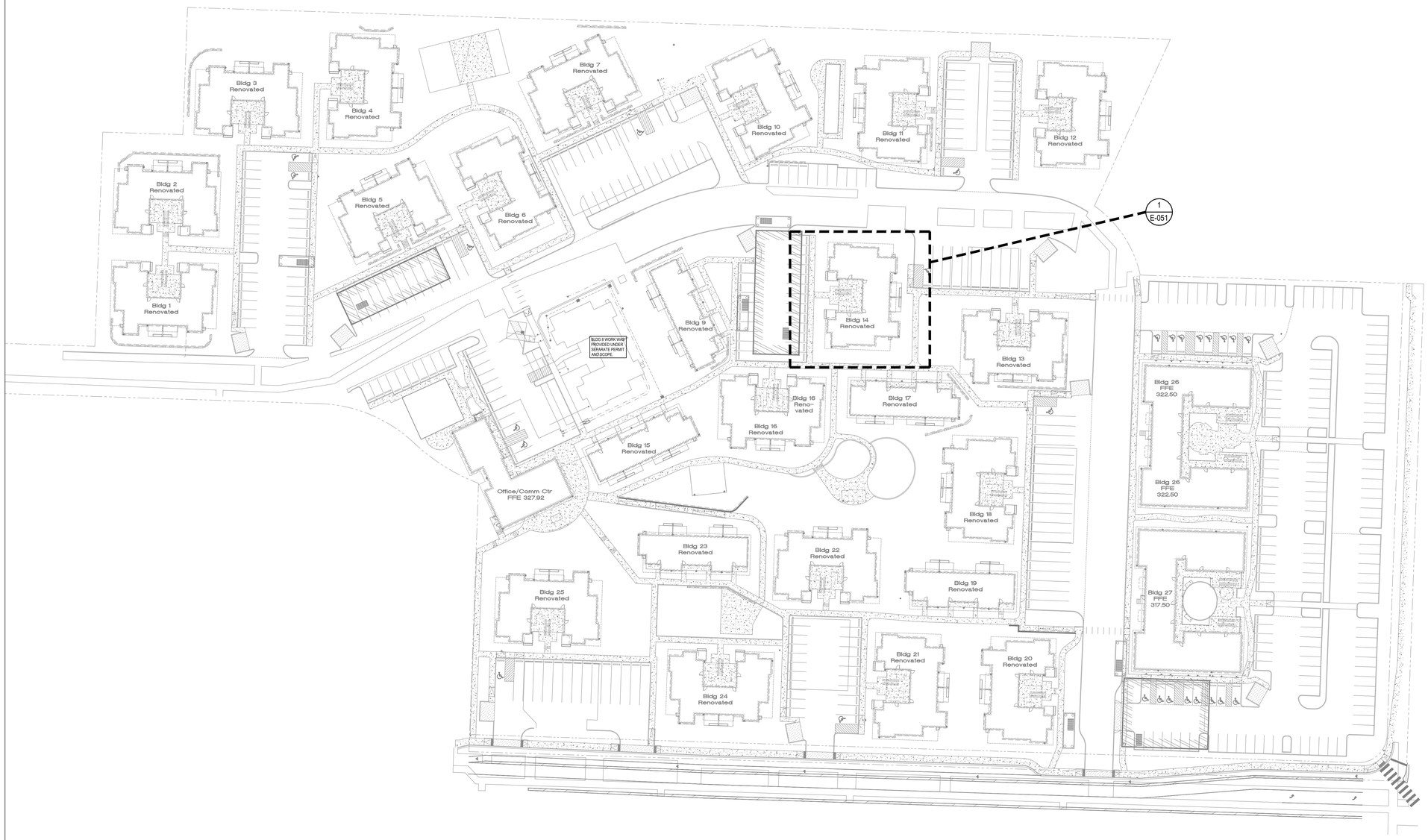
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LUMINAIRE SCHEDULE

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E14-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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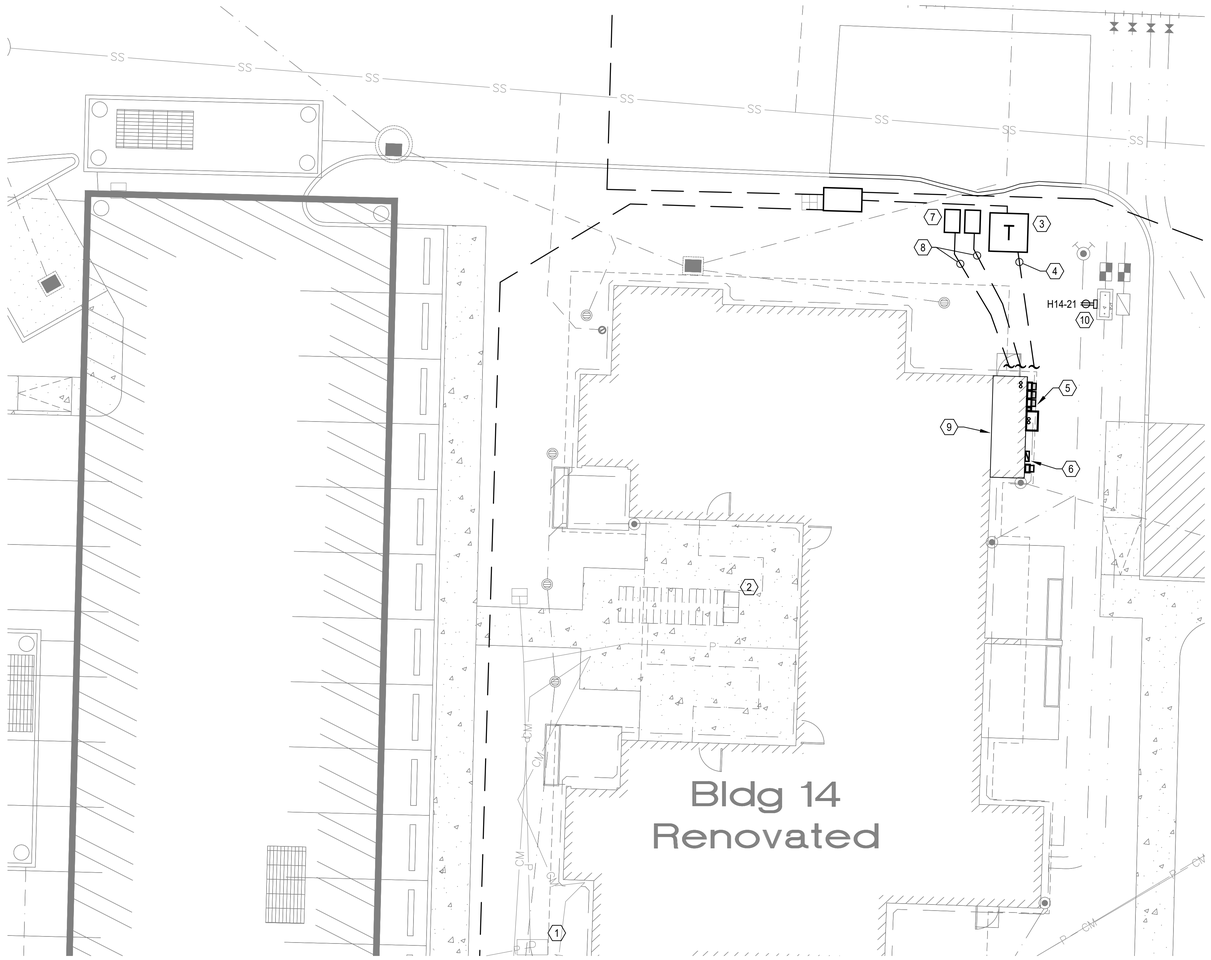
OVERALL PROJECT SITE PLAN

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ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 14
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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REGINNA M. [illegible] STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER

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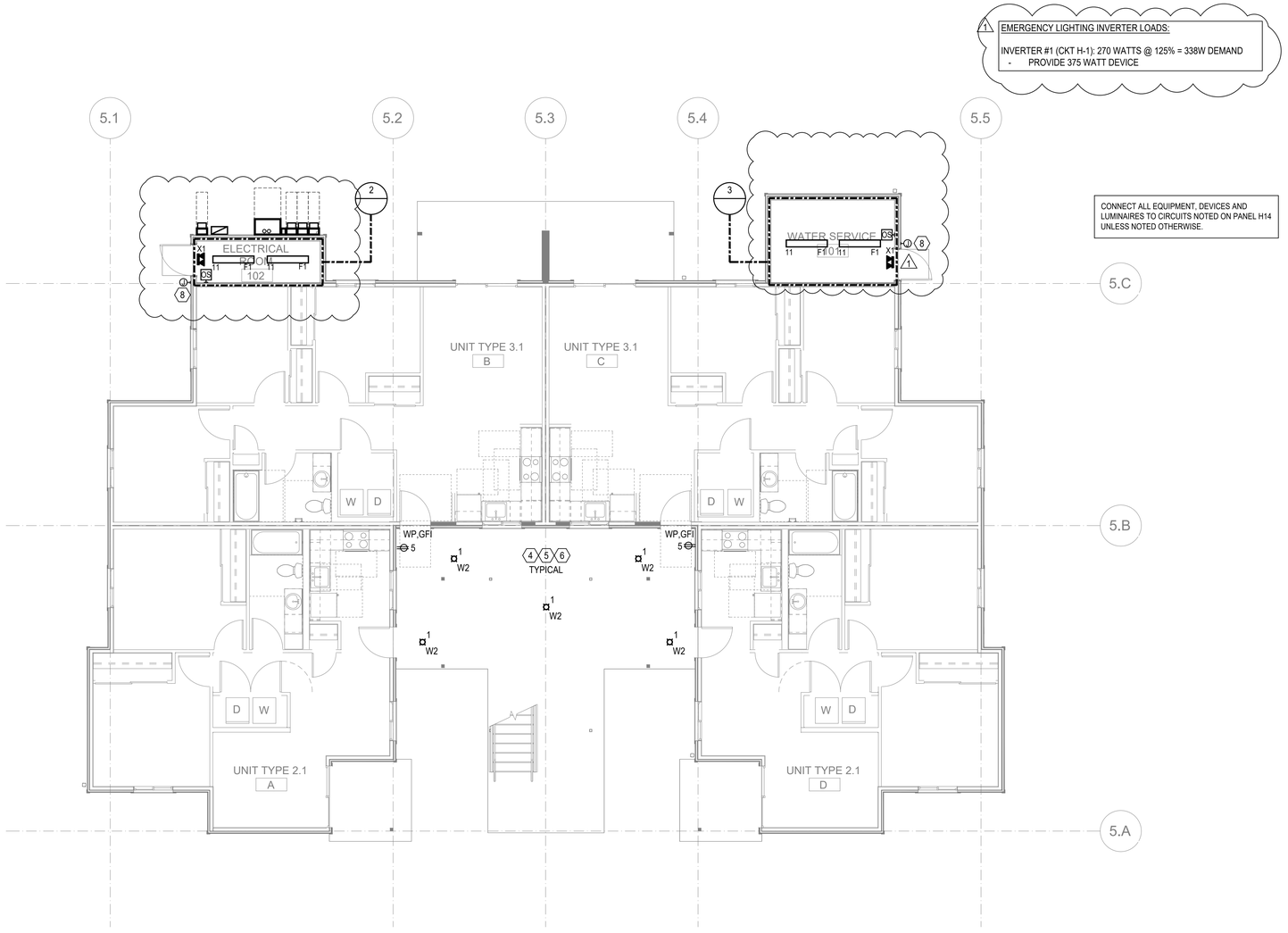
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ELECTRICAL SITE PLAN - BUILDING 14

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1 EMERGENCY LIGHTING INVERTER LOADS:

INVERTER #1 (CKT H-1): 270 WATTS @ 125% = 338W DEMAND
- PROVIDE 375 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H14 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

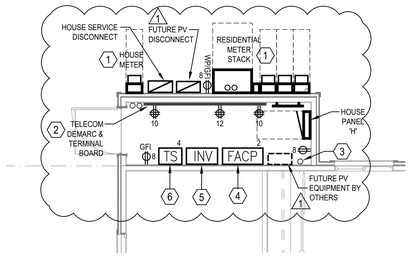
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

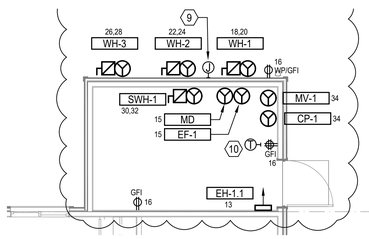
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 375 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR FIXTURE TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-375-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 ELECTRICAL ROOM
E-101 1/4"=1'-0"



3 WATER ROOM
E-101 1/4"=1'-0"

POWER AND LIGHTING PLAN - BUILDING 14 - LEVEL 1
SCALE: 3/16"=1'-0"

SIDER+BYERS
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Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
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FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13409 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

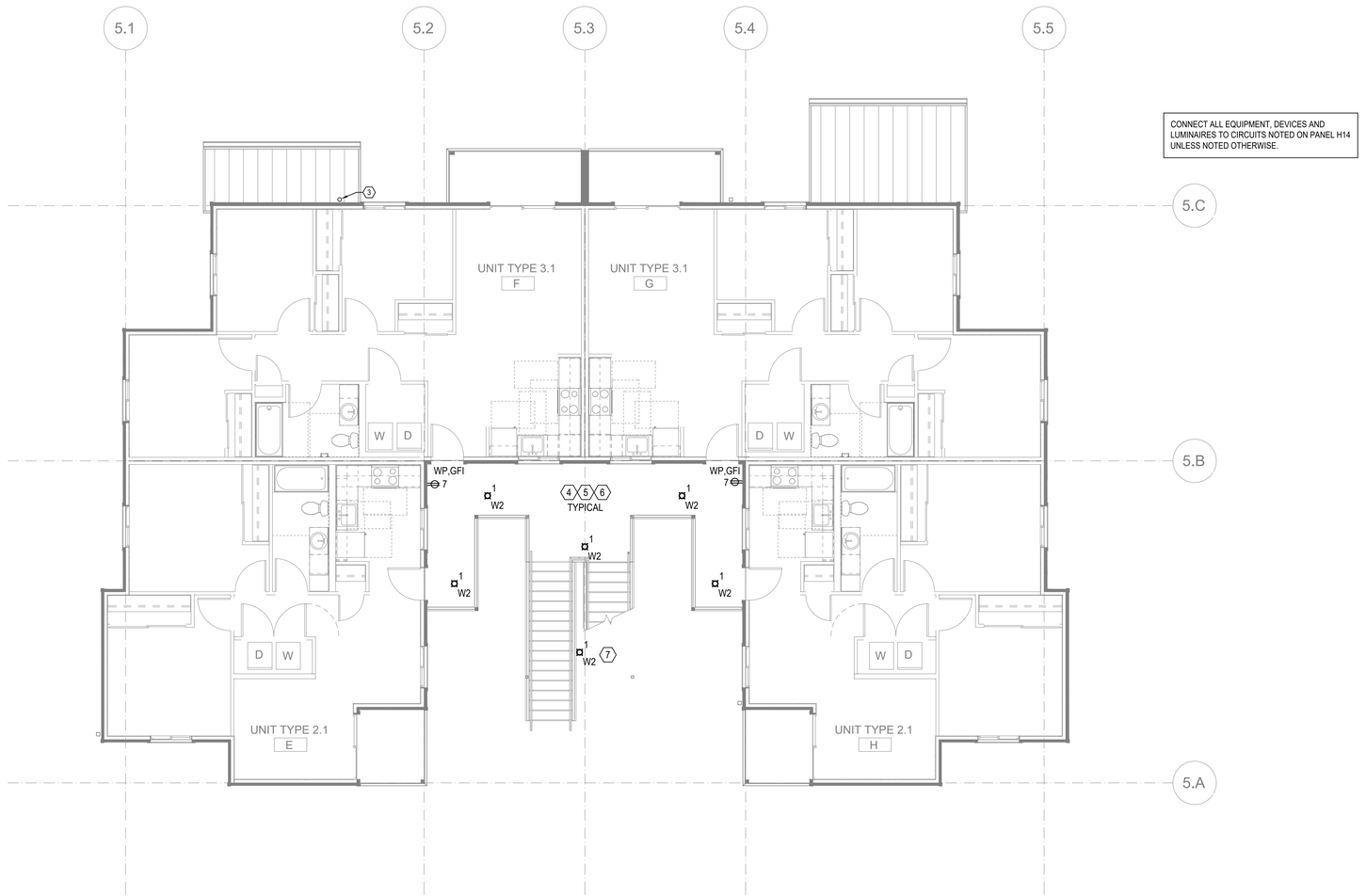
TITLE

POWER AND LIGHTING PLAN - BUILDING 14 - LEVEL 1

PERMIT #	BMF22-09883
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SHEET NO.:	

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10/7/2021 7:33:34 AM



ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H14 UNLESS NOTED OTHERWISE.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. (1) ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. (1) ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.
7. LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.

POWER AND LIGHTING PLAN - BUILDING 14 - LEVEL 2

SCALE: 3/16"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

13409 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

JEONGINNA M. KIM — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
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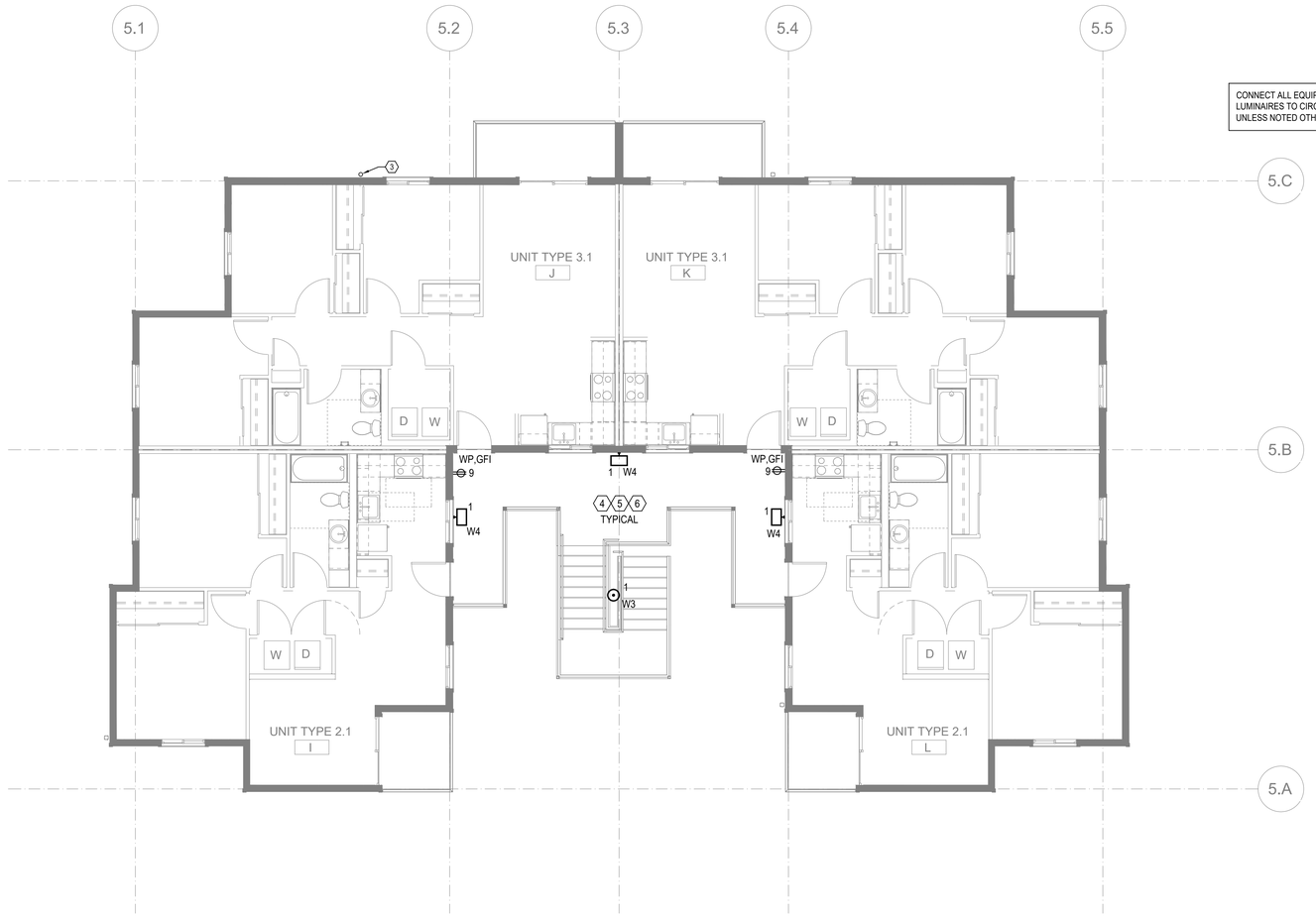
TITLE

POWER AND LIGHTING PLAN - BUILDING 14 - LEVEL 2

PERMIT #	BMF22-09883
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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H14 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 14 - LEVEL 3

SCALE: 3/16"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

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BUILDING 14

BID SET



REVISIONS / NOTES

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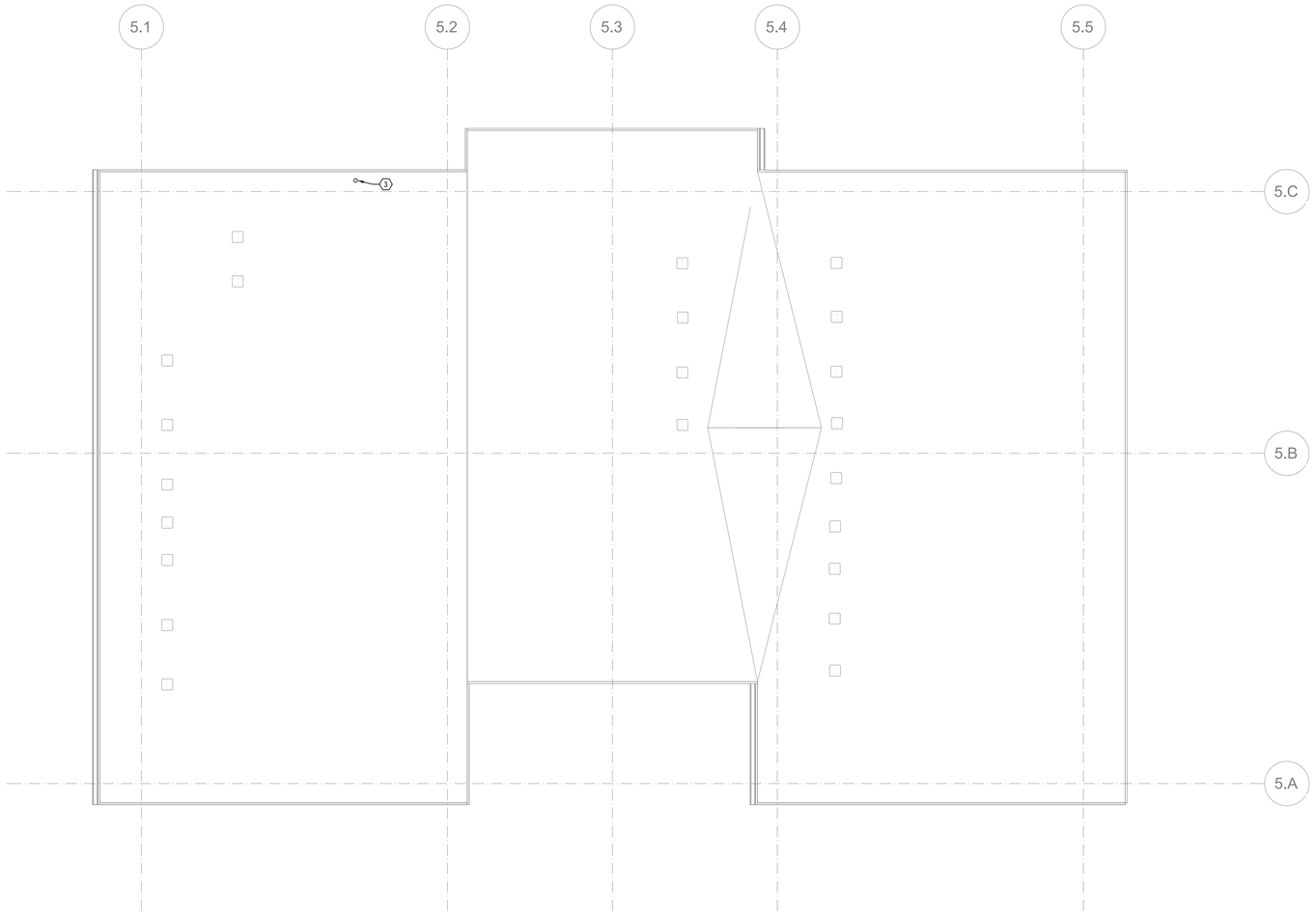
TITLE

POWER AND LIGHTING PLAN - BUILDING 14 - LEVEL 3

PERMIT #	BMF22-09883
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GENERAL NOTES:

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B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

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FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER PLAN - BUILDING 14 - ROOF

SCALE: 3/16"=1'-0"

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13409 NE 133rd St.,
Kirkland, WA 98034

BUILDING 14

BID SET

GEORGINNA M. LAMSON
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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TITLE

POWER PLAN - BUILDING 14 - ROOF

PERMIT #	BMF22-09883
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ISSUE DATE	4/14/2023
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SHEET NO.:

E14-104

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GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

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FLAG NOTES (X):

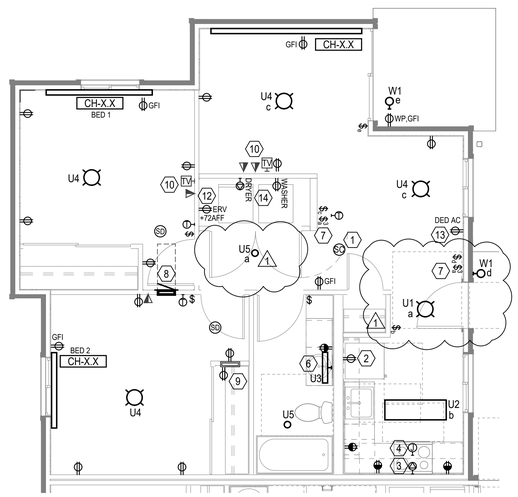
1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

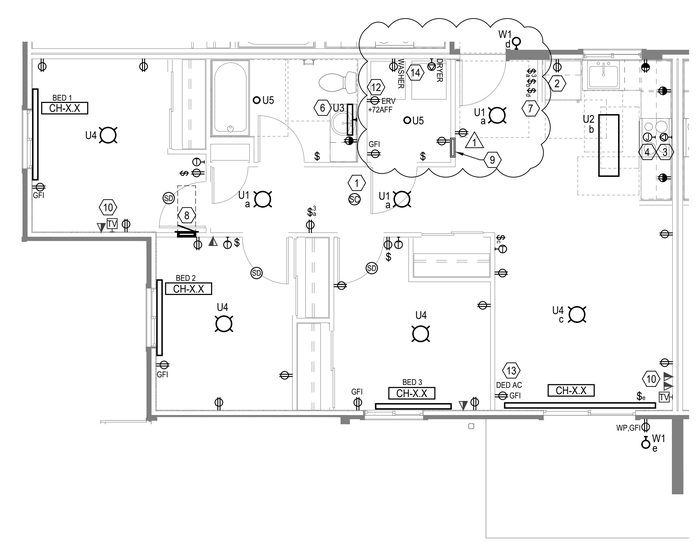
		HEATER TYPES			
UNIT NUMBER(S)	UNIT TYPE	BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**
1/4"=1'-0" UNITS: A, D, E, H, I, L



1 **ENLARGED PLAN - 3-BED**
1/4"=1'-0" UNITS: B, C, F, G, J, K

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KIRKLAND HEIGHTS APARTMENTS

13409 NE 133rd St.,
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BUILDING 14

BID SET

JEROLDINNA M. ALMARIO
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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ENLARGED UNIT PLANS

PERMIT #	BMF22-09883
DRAWN	RA, JF
CHECKED	GL
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JOB NO.	22016
SHEET NO.:	

E14-301

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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET
- FLAG NOTE
- REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM / EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP / F — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 2PDX wtc — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS / OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP / OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP / 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M / M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
IN	INCH/INCHES	WO	WITHOUT
		WP	WEATHERPROOF
KCMIL	THOUSAND CIRCULAR MILS	WT	WEIGHT
KO	KNOCK OUT		
KW	KILOWATT/KILOWATTS	XFR	TRANSFORMER
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13319 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09884
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E15-001

10/7/2021 7:33:34 AM

GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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c/o: King County Housing Authority,
General Partner
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13319 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09884
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E15-002

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FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

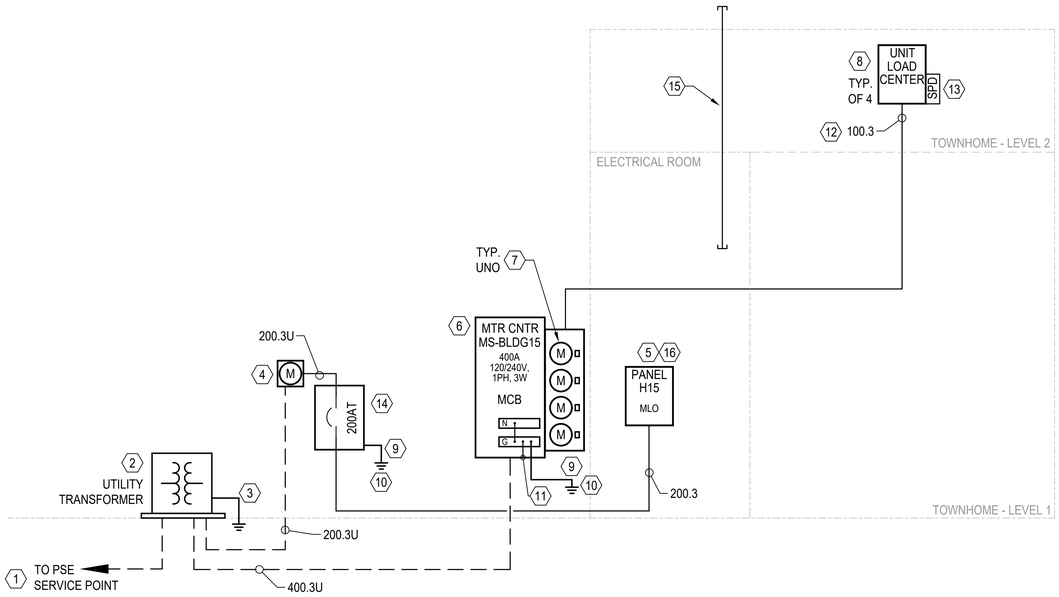
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 15

UNIT TYPE: TOWNHOUSE UNIT	AREA (SF):	1,211				6/18/2023
DEMAND LOAD (kVA):	18.81 =>	78.4 AMPS AT	240	V	1	PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF		=	3.63	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	8.13	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.80	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.80**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY		LOAD (kVA EACH)			
	REFRIGERATOR	1	AT	0.7	=	0.70	kVA
	RANGE HOOD	1	AT	0.3	=	0.30	kVA
	MICROWAVE		AT		=	0.00	kVA
	DISHWASHER	1	AT	1.2	=	1.20	kVA
	WASHER	1	AT	1.2	=	1.20	kVA
	GARBAGE DISPOSAL		AT		=	0.00	kVA
	WATER HEATER		AT		=	0.00	kVA
				SUBTOTAL (CONNECTED)	=	3.40	kVA
APPLIANCE DEMAND FACTOR [220.53]:				75%			
				GENERAL APPLIANCE LOAD - DEMAND	=	**2.55**	**kVA**

MOTORS [220.50]:		QTY		LOAD (kVA EACH)			
	TOILET EXHAUST FAN		AT		=	0.00	kVA
	ERV UNIT	1	AT	0.11	=	0.11	kVA
	KITCHEN EXHAUST FAN		AT		=	0.00	kVA
	+25% OF LARGEST MOTOR				=	0.03	kVA
				GENERAL MOTOR LOAD - DEMAND	=	**0.14**	**kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]					=	6.06	kVA
	QTY		LOAD (kVA EACH)			
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00	kVA
ELECTRIC OVEN [220.55]		AT		=	0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00	kVA
			TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	=	**27.04**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	25.97	kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10kVA:	100%	=	10.00	kVA
> 10 kVA:	40%	=	6.39	kVA
ELECTRIC HEAT AND AC [220.82(C)]:				
LARGEST LOAD OF OPTIONS:	> = 4 ELECT SPACE HEATERS, 40% NAMEPLATE	=	2.42	kVA
	TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**18.81**	**kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL MS- 4 unit TOWNHOUSE 5/18/2023

DEMAND LOAD (kVA): 57.61 => 240.0 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
0								0	0.00	0	0.00	0	0.00
TOWNHOUSE UNIT	4	32.53	13.60	0.44	24.22	4	22.00	0	0.00	0	0.00	4	35.20
0								0	0.00	0	0.00	0	0.00
TOTALS:	4	32.53	13.60	0.44	24.22	4	22.00	0	0.00	0	0.00	4	35.20

ADDITIONAL 25% OF LARGEST MOTOR: 0.03

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD = 128.02 kVA
DEMAND FACTOR FROM TABLE 220.84 = 45%

TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC = 57.61 kVA

KIRKLAND HEIGHTS - TOWNHOUSE BLDG (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 4): 57.61 kVA
(SEE ATTACHED CALCS)
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.

RESIDENTIAL TOTAL: 57.61 kVA
240.04 AMPS @ 120/240V, 1-PHASE
PROVIDE 400A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	0.5 kVA
LIGHTING - SITE:	1.0 kVA
GENERAL RECEPTACLES:	1.0 kVA
MECHANICAL:	kVA
ELECT HEAT (WATER RMS):	1.0 KVA
CENTRAL HOT WATER (HPWH)	5.3 kVA
ELECT SWING TANK	4.5 KVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.0 kVA
EV CHARGING (2):	16.64 kVA
HOUSE TOTAL:	32.41 kVA
	89.96 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	40.51 kVA
	112.4556 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	98.12 kVA
	272.36 AMPS @ 120/240V, 1-PHASE

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13319 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

JOHANNA M. BOWMAN — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09884
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E15-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
50.4	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.3	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3L	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

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C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.

B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H15
NORMAL POWER — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE
MC: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — M.O.D.R MCB: MLO, 200 AMPS — SURFACE-MOUNTED

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/#P	PH	CB AMPS/#P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	TG - ELECT / MECH CLOSETS	L	0.12	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	B	20 / 1			0.00	SPARE	4
5	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.12	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	SPARE		0.00		20 / 1	A	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	10
11	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	14
15	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-1'	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-2'	22
23	SPARE		0.00		20 / 1	B						24
25	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	26
27	SPARE		0.00		20 / 1	B	20 / 1			0.00	SPARE	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - 'SWH-1'	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP 'CP-1' & MX VALVE 'MV-1'	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.12	kVA 125%	0.15	kVA
R	= RECEPTACLES	2.52	kVA NEC 220.44	2.52	kVA
M	= MOTORS	0.12	kVA 100%	0.12	kVA
	PLUS 25% OF LARGEST MOTOR	0.12	kVA 25%	0.03	kVA
C	= CONTINUOUS	13.90	kVA 125%	17.45	kVA
N	= NON-CONTINUOUS	1.20	kVA 100%	1.20	kVA
K	= KITCHEN	0.00	kVA 75%	0.00	kVA

PANEL CONNECTED TOTAL:
17.92 kVA
74.65 AMPS

PANEL DEMAND TOTAL:
21.47 kVA
89.44 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 4 BEDROOM
NORMAL POWER — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
MC: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.O.D.R MCB: MLO, 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/#P	PH	CB AMPS/#P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19	BEDROOM 4 RECEPTS, LTS, SD (1)	20.1	20 / 1	B	20 / 1	20.1	DED.RECEPT - A/C UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A	20 / 1	20.1	HEAT - KITCHEN, BATH (1)	22
23	"			B			"	24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-2	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.135					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES; DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EWH-T	DWELLING UNITS	KING	PAW WALL HEATER	0.25	120 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	120 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 5

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.
5. UNIT WILL REQUIRE SURFACE MOUNTING.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 4 UNIT TOWNHOMES

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	BED 4	KITCHEN	BATH	LIVING
A	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4
B	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
C	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
D	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13319 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

VIRGINNA M. [illegible] — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR.3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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KIRKLAND HEIGHTS APARTMENTS

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BUILDING 15

BID SET

GEORGINNA M. LAMPMAN STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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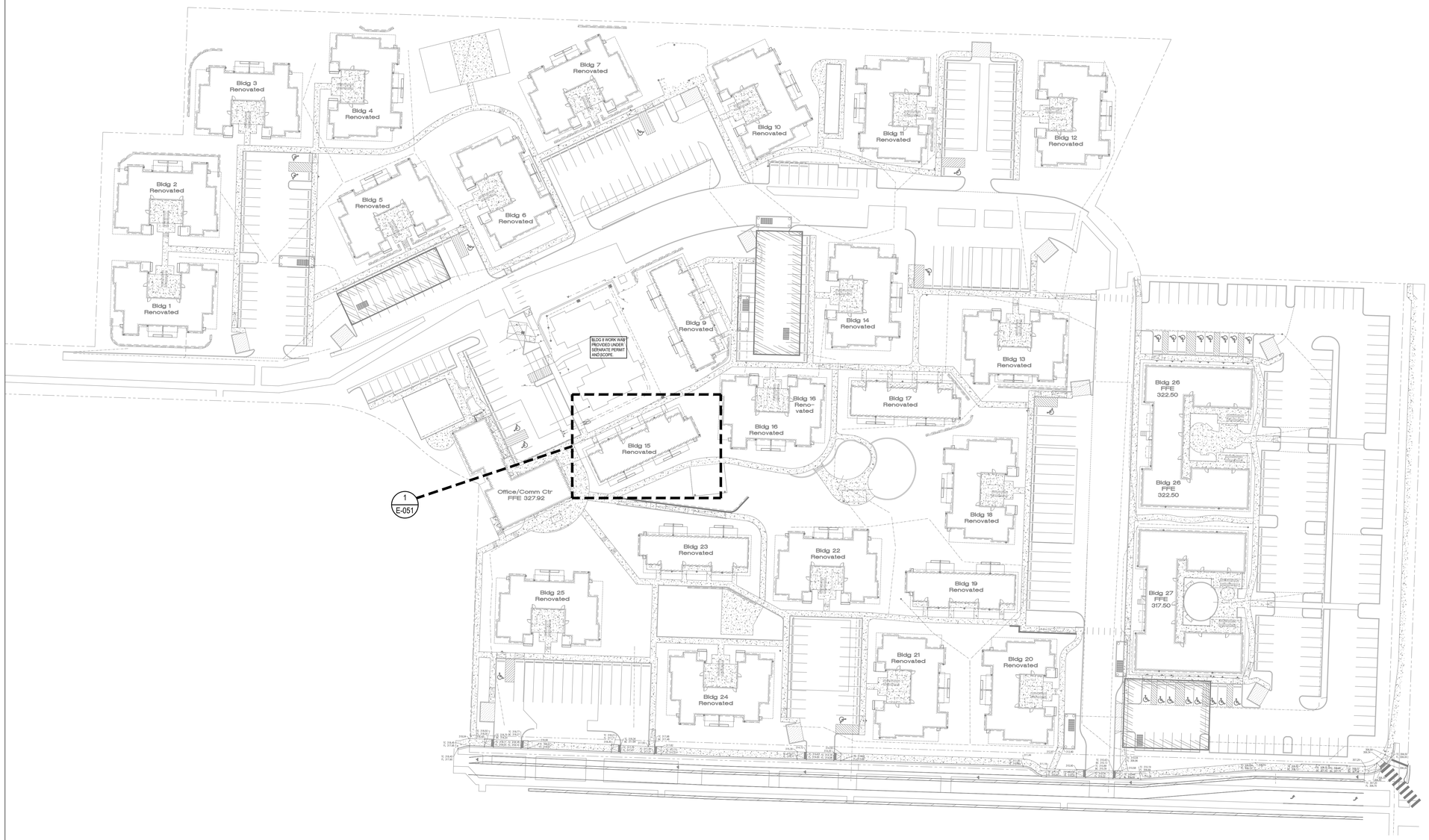
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LUMINAIRE SCHEDULE

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OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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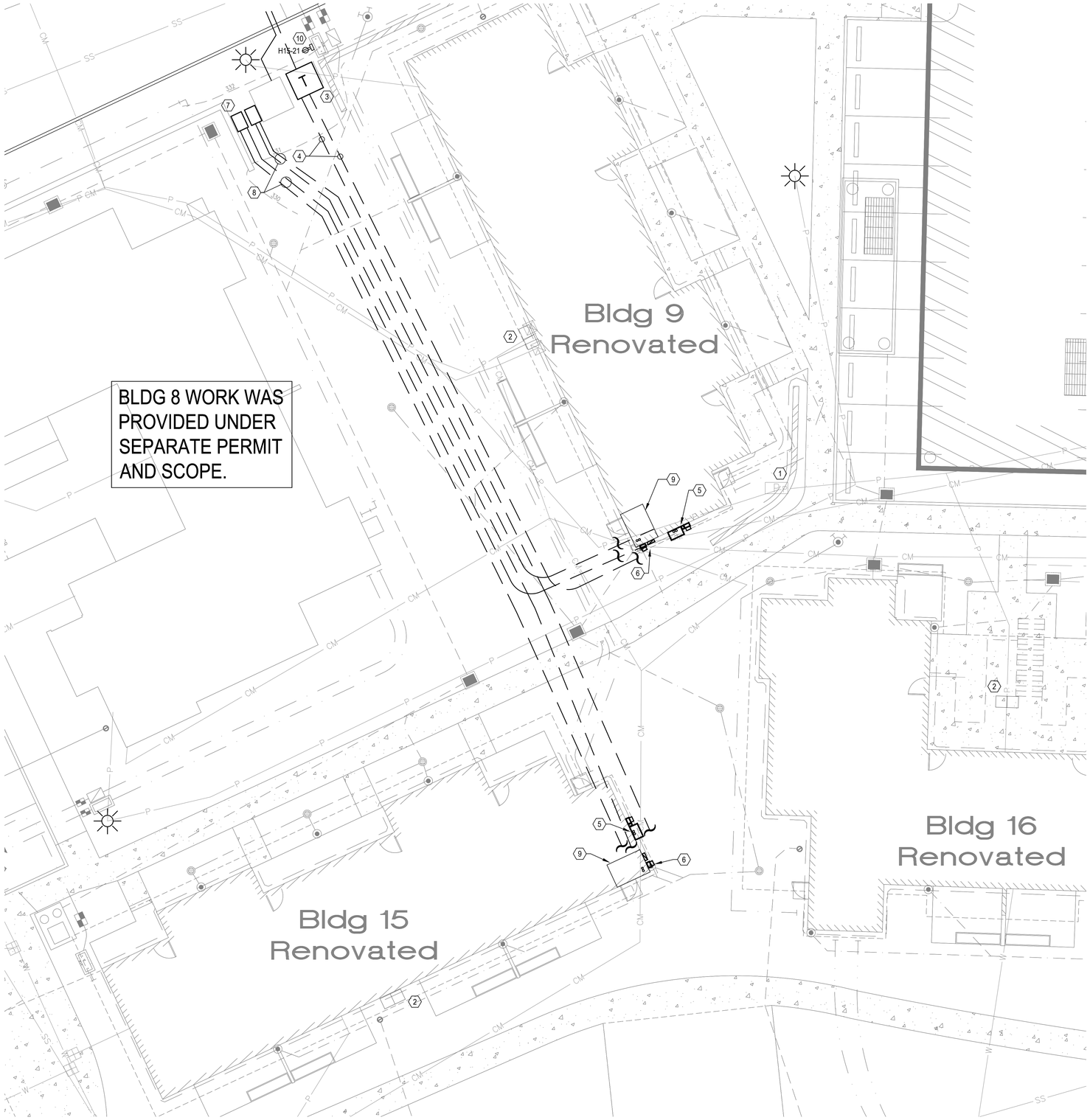
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OVERALL PROJECT SITE PLAN

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ELECTRICAL SITE PLAN - BUILDING 15

SCALE:1/8" = 1'-0"

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

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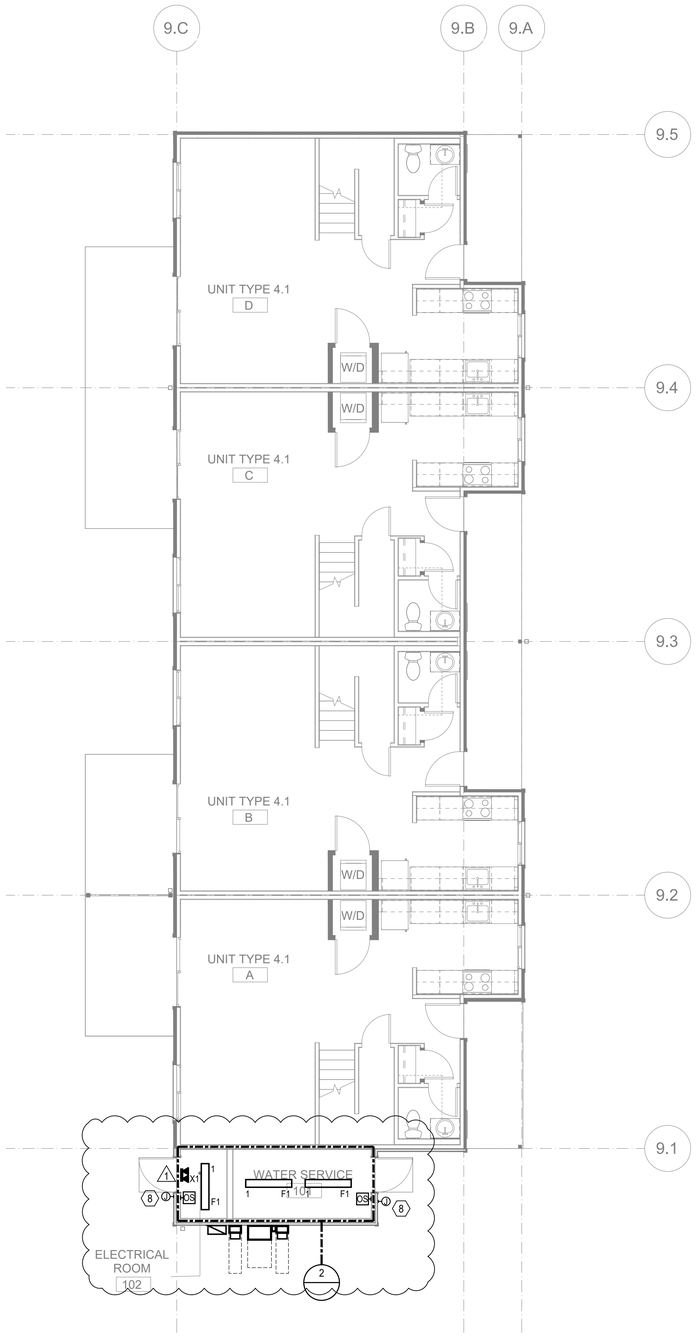
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ELECTRICAL SITE PLAN - BUILDING 15

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POWER AND LIGHTING PLAN - BUILDING 15 - LEVEL 1

SCALE: 3/16"=1'-0"

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H15 UNLESS NOTED OTHERWISE.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

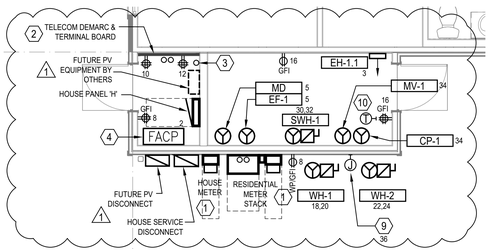
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. NOT USED
6. NOT USED.
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



ELECTRICAL AND WATER ROOM

2 / E-101 — **1/4"=1'-0"**

SIDER+BYERS
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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13319 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

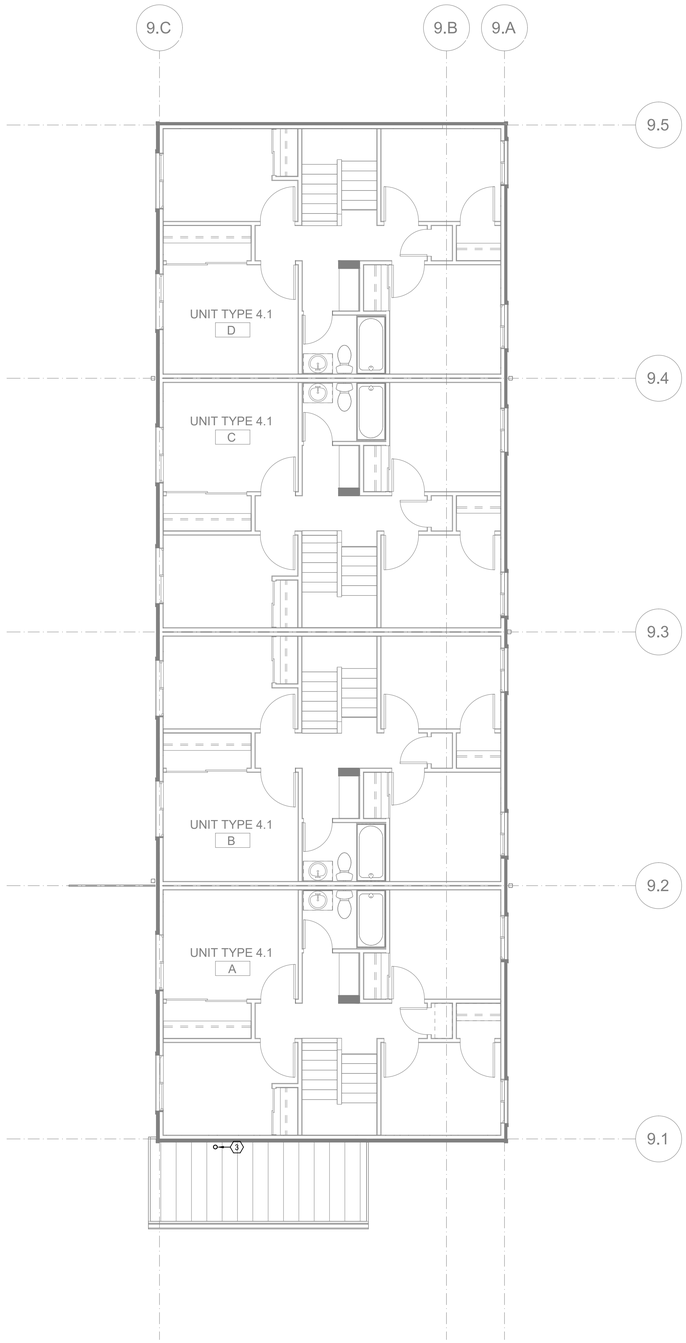
TITLE

POWER AND LIGHTING PLAN - BUILDING 15 - LEVEL 1

PERMIT #	BMF22-09884
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E15-101

10/7/2021 7:33:34 AM



CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H15 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER AND LIGHTING PLAN - BUILDING 15 - LEVEL 2

SCALE: 3/16"=1'-0"

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13319 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER AND LIGHTING PLAN - BUILDING 15 - LEVEL 2

PERMIT #	BMF22-09884
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E15-102

10/7/2021 7:33:34 AM

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

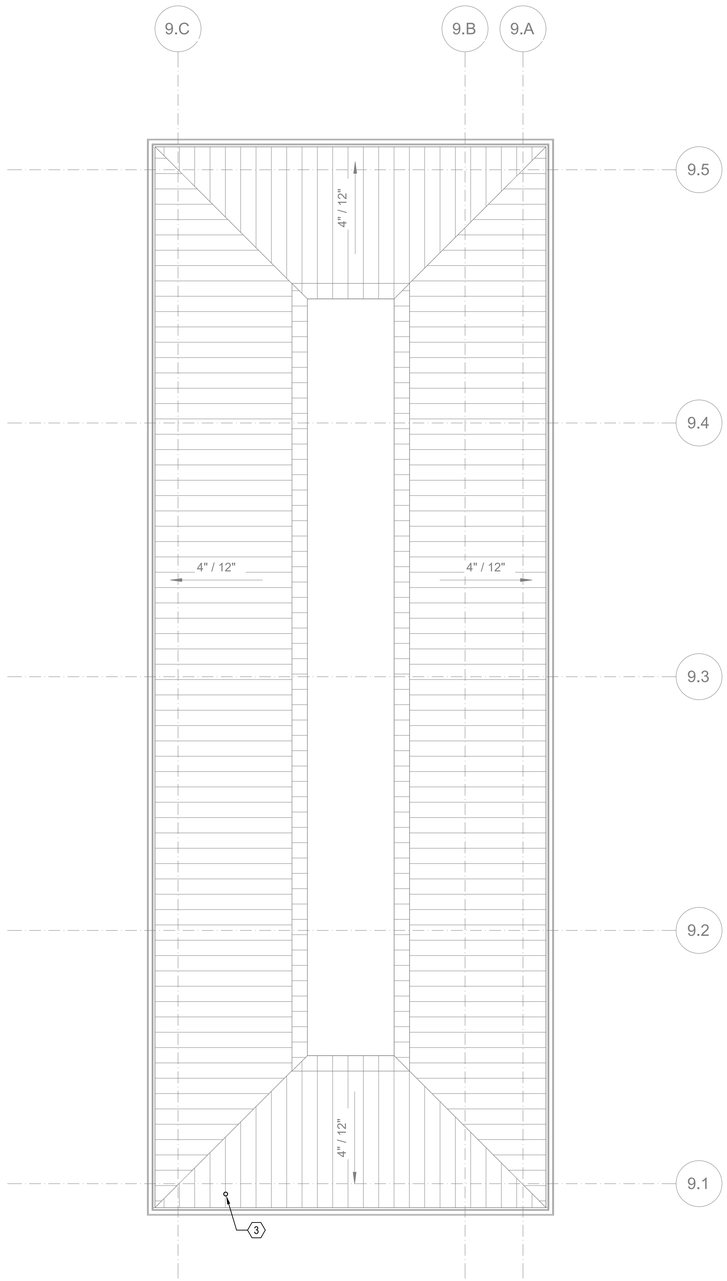
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).



POWER PLAN - BUILDING 15 - ROOF

SCALE: 3/16"=1'-0"

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Kirkland, WA 98034

BUILDING 15

BID SET

JOANNA M. GRAHAM — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER PLAN - BUILDING 15 - ROOF

PERMIT #	BMF22-09884
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JOB NO.	22016
SHEET NO.:	

E15-103

ELECTRIC HEATER DWELLING UNIT SUMMARY - 4 UNIT TOWNHOMES

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES						
		BED 1	BED 2	BED 3	BED 4	KITCHEN	BATH	LIVING
A	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4
B	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
C	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
D	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

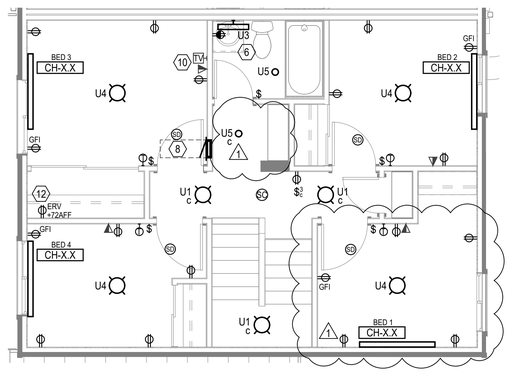
B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

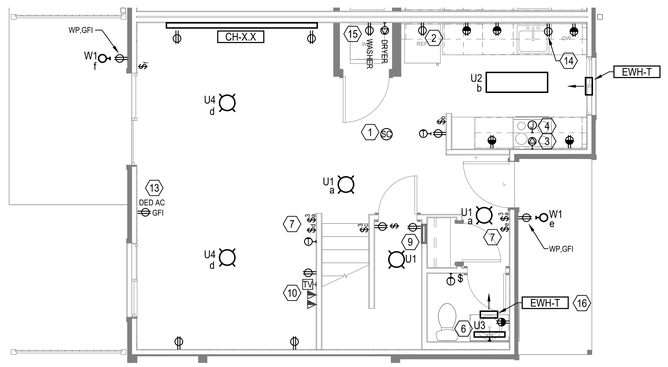
ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. CONNECTION FOR RANGE EXHAUST HOOD IN TYPE A UNITS. FIELD VERIFY EXACT LOCATION. PROVIDE ACCESSIBLE SWITCH FOR RANGE HOOD CONTROL. VERIFY EXACT LOCATION.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. PROVIDE HORN/STROBES IN TYPE A UNITS PER CODE AND AHJ REQUIREMENTS. COORDINATE HORN/STROBE LOCATIONS WITH COVE HEATERS; DO NOT LOCATE HORN/STROBES ABOVE OR IMMEDIATELY ADJACENT TO COVE HEATERS. CONFIRM FINAL LOCATIONS WITH FIRE MARSHAL.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR DISHWASHER. FIELD VERIFY CONNECTION TYPE, LOCATION AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS. LOCATION OF CONNECTION TO BE ACCESSIBLE.
15. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.
16. COORDINATE BATHROOM HEATER LOCATION WITH OWNER AND ARCHITECT.



3 **ENLARGED PLAN - TH - LEVEL 2**
1/4"=1'-0"



1 **ENLARGED PLAN - TH - LEVEL 1**
1/4"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

13319 NE 133rd St.,
Kirkland, WA 98034

BUILDING 15

BID SET

JEAN-CLAUDE M. GAGNON
STATE OF WASHINGTON
43761
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

ENLARGED UNIT PLANS

PERMIT #	BMF22-09884
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E15-301

10/7/2021 7:33:34 AM

ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET (E-1)
- FLAG NOTE
- REVISION TAG (1)
- MECHANICAL EQUIPMENT (AHU-1)
- FAULT CURRENT TAG (XX kA)

FIRE ALARM SYMBOLS

- COMBINATION SMOKE/FIRE DAMPER (OR)
- FIRE ALARM CONTROL PANEL (FACP)
- FIRE ALARM REMOTE ANUNCIATOR (FARA)
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR (SD)
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM (SD)

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- GROUNDING CONDUCTOR(S) PER CODE (G)
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES (EM)

TYPICAL LUMINAIRE ANNOTATIONS:

FL1 3a — FL1 = LUMINAIRE TYPE; 3 = CIRCUIT NUMBER; c = SWITCH LEG; Z1.2 = CONTROL ZONE (FL1 3-Z1.2)

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VARIABLE FREQUENCY DRIVE (VFD)
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC (702)
- WEATHERPROOF (WP)
- GFCI TYPE (GFI)
- FULLY CONTROLLED (NOT HALF-SWITCHED) (C)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD (TV)
- CARD / FOB READER WALL/ MULLION AND BOLLARD MTD (CR)
- SECURITY DOOR POSITION MONITOR (DS)
- ELECTRIC STRIKE (ES)
- KEYPAD WALL/ MULLION AND BOLLARD MTD (KP)
- CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS. (WP, F)
- SPEAKER, CEILING MOUNTED (SP)

CONTROL SYMBOLS

- MOTORIZED CONTROL DAMPER (M)
- THERMOSTAT
- WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- WEATHERPROOF, TYPICAL (WP)
- WALL SWITCH, LINE VOLTAGE, 1-POLE
- WALL SWITCH, LINE VOLTAGE, 3-WAY (3)
- WALL SWITCH, LINE VOLTAGE, TIMER SWITCH (TS)
- LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF (1P)
- LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER (DX)
- LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF (2P)
- LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER (2PDX)
- COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED (OS)
- OCCUPANCY SENSOR: WALL, CLG MTD (OS)
- PHOTO CELL, CLG MTD (PC)
- COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD (OP)

RISER DIAGRAM SYMBOLS

- CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER (100AT GFP / 50AT) AT = TRIP AMPACITY; GFP = GROUND FAULT PROTECTION PER CODE
- FUSED SWITCH. AF= FUSE RATING (100AF)
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- CONTACTOR COIL (C)
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DIGITAL METER (DM)
- UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED. (M)
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SURGE PROTECTION DEVICE (SPD)

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER AND LIGHTING PLAN - LEVEL 3
E-104	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
		W/	WITH
IMC	INTERMEDIATE METAL CONDUIT	WO	WITHOUT
IN	INCH/INCHES	WP	WEATHERPROOF
		WT	WEIGHT
KCMIL	THOUSAND CIRCULAR MILS		
KO	KNOCK OUT	XFR	TRANSFORMER
KW	KILOWATT/KILOWATTS		
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

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c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13407 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09887
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E16-001

10/7/2021 7:33:34 AM

GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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KIRKLAND HEIGHTS APARTMENTS

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Kirkland, WA 98034

BUILDING 16

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09887
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E16-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

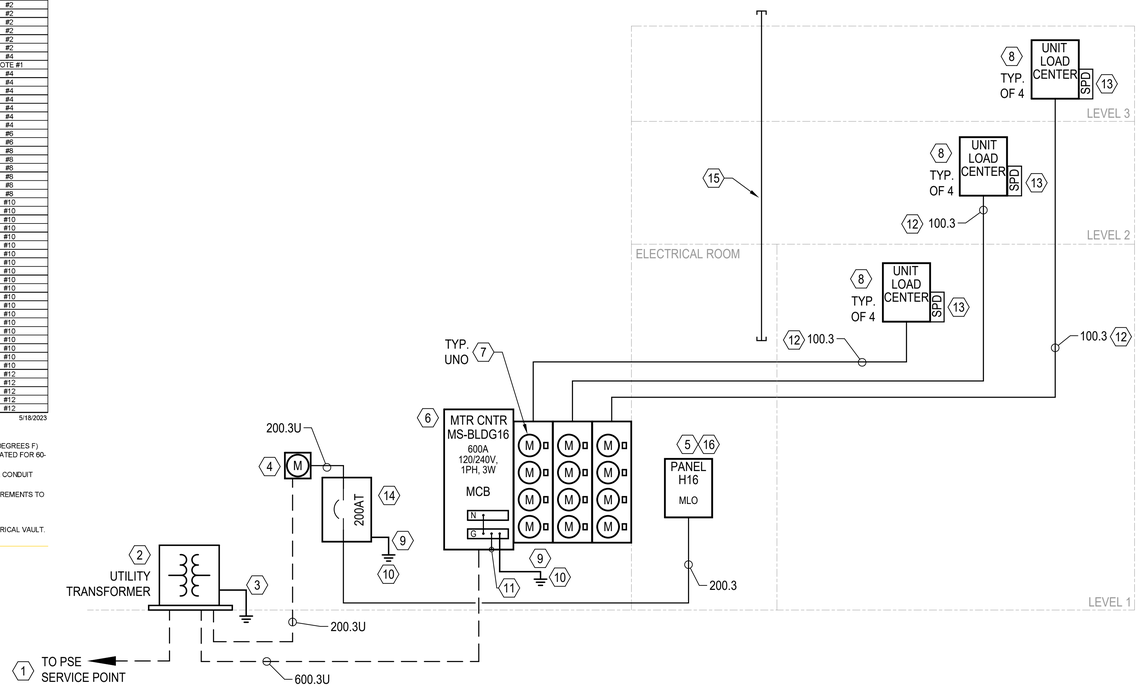
MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

△1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

△1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 16

UNIT TYPE: 2BR - 2.1 AREA (SF): 782 — 5/18/2023
DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] = 2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] = 1	CKTS x 1500VA	=	1.50	kVA
	SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:				
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.35	kVA
> 120,000VA:	25%	=	0.00	kVA
GENERAL LIGHTING LOAD - DEMAND		=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70 kVA
RANGE HOOD	1	AT	0.3	=	0.30 kVA
MICROWAVE		AT		=	0.00 kVA
DISHWASHER		AT		=	0.00 kVA
WASHER	1	AT	1.2	=	1.20 kVA
GARBAGE DISPOSAL		AT		=	0.00 kVA
WATER HEATER		AT		=	0.00 kVA
SUBTOTAL (CONNECTED)				=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:			75%		
GENERAL APPLIANCE LOAD - DEMAND				=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
GENERAL MOTOR LOAD - DEMAND				=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 3.91 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA
TOTAL DWELLING UNIT LOAD PER NEC 220, PART III				=	**23.54 kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):			
0 - 10KVA:	100%	=	10.00 kVA
> 10 KVA:	40%	=	5.39 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS, 65% NAMEPLATE		=	2.54 kVA
TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV		=	**17.93 kVA**

UNIT TYPE: 3BR - 3.1 AREA (SF): 906 — 5/18/2023
DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] = 2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] = 1	CKTS x 1500VA	=	1.50	kVA
	SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:				
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.48	kVA
> 120,000VA:	25%	=	0.00	kVA
GENERAL LIGHTING LOAD - DEMAND		=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70 kVA
RANGE HOOD	1	AT	0.3	=	0.30 kVA
MICROWAVE		AT		=	0.00 kVA
DISHWASHER		AT		=	0.00 kVA
WASHER	1	AT	1.2	=	1.20 kVA
GARBAGE DISPOSAL		AT		=	0.00 kVA
WATER HEATER		AT		=	0.00 kVA
SUBTOTAL (CONNECTED)				=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:			75%		
GENERAL APPLIANCE LOAD - DEMAND				=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
GENERAL MOTOR LOAD - DEMAND				=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 4.53 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA
TOTAL DWELLING UNIT LOAD PER NEC 220, PART III				=	**24.29 kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):			
0 - 10KVA:	100%	=	10.00 kVA
> 10 KVA:	40%	=	5.54 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS, 65% NAMEPLATE		=	2.94 kVA
TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV		=	**18.49 kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL MS - 12 unit STACK — 5/18/2023
DEMAND LOAD (kVA): 137.09 => 571.2 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
2BR - 2.1	6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	0	0.00	6	52.80
3BR - 3.1	6	43.31	13.20	0.66	27.18	6	33.00	0	0.00	0	0.00	6	52.80
0								0	0.00	0	0.00	0	0.00
TOTALS:	12	84.38	26.40	1.32	50.64	12	66.00	0	0.00	0	0.00	12	105.60
ADDITIONAL 25% OF LARGEST MOTOR:				0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD = 334.37 kVA
DEMAND FACTOR FROM TABLE 220.84 = 41%

TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC = 137.09 kVA

KIRKLAND HEIGHTS - 12 UNIT STACK FLAT (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 12):	137.09 kVA	
(SEE ATTACHED CALCS)		
ALL DWELLING UNITS WILL BE PROVIDED WITH UTIUTY METERS.		
RESIDENTIAL TOTAL:	137.09 kVA	
	571.22 AMPS @ 120/240V, 1-PHASE	
	PROVIDE 600A RESIDENTIAL METER CENTER	

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	7.7 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	40.83 kVA
	170.14 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	51.04 kVA
	212.6708 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	188.13 kVA
	783.89 AMPS @ 120/240V, 1-PHASE

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS
13407 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16
BID SET

JOHANNA M. BOWMAN — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE
SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09887
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E16-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H16 — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — M.L.O. OR M.C.B.: M.L.O. — 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY	R	0.77	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	RECEPT - LVL 3 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-1'	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-2'	22
23	SPARE		0.00		20 / 1	B						24
25	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-3'	26
27	SPARE		0.00		20 / 1	B						28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK- 'SWH-1'	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP 'CP-1' & MX VALVE 'MV-1'	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD		DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.51	kVA	125%	0.64	kVA
R	= RECEPTACLES	4.14	kVA	NEC 220.44	4.14	kVA
M	= MOTORS	0.24	kVA	100%	0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA	25%	0.06	kVA
C	= CONTINUOUS	15.68	kVA	125%	19.61	kVA
N	= NON-CONTINUOUS	1.44	kVA	100%	1.44	kVA
K	= KITCHEN	0.00	kVA	75%	0.00	kVA

PANEL CONNECTED TOTAL: 22.01 kVA, 91.73 AMPS
PANEL DEMAND TOTAL: 26.12 kVA, 108.84 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-3	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13407 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

VIRGINNA M. JOHNSON — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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SCHEDULES

PERMIT #	BMF22-09887
DRAWN	RA, JF
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E16-004

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE. LED SOURCE. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

10/7/2021 7:33:34 AM

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GEORGINNA M. LAMPMAN STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

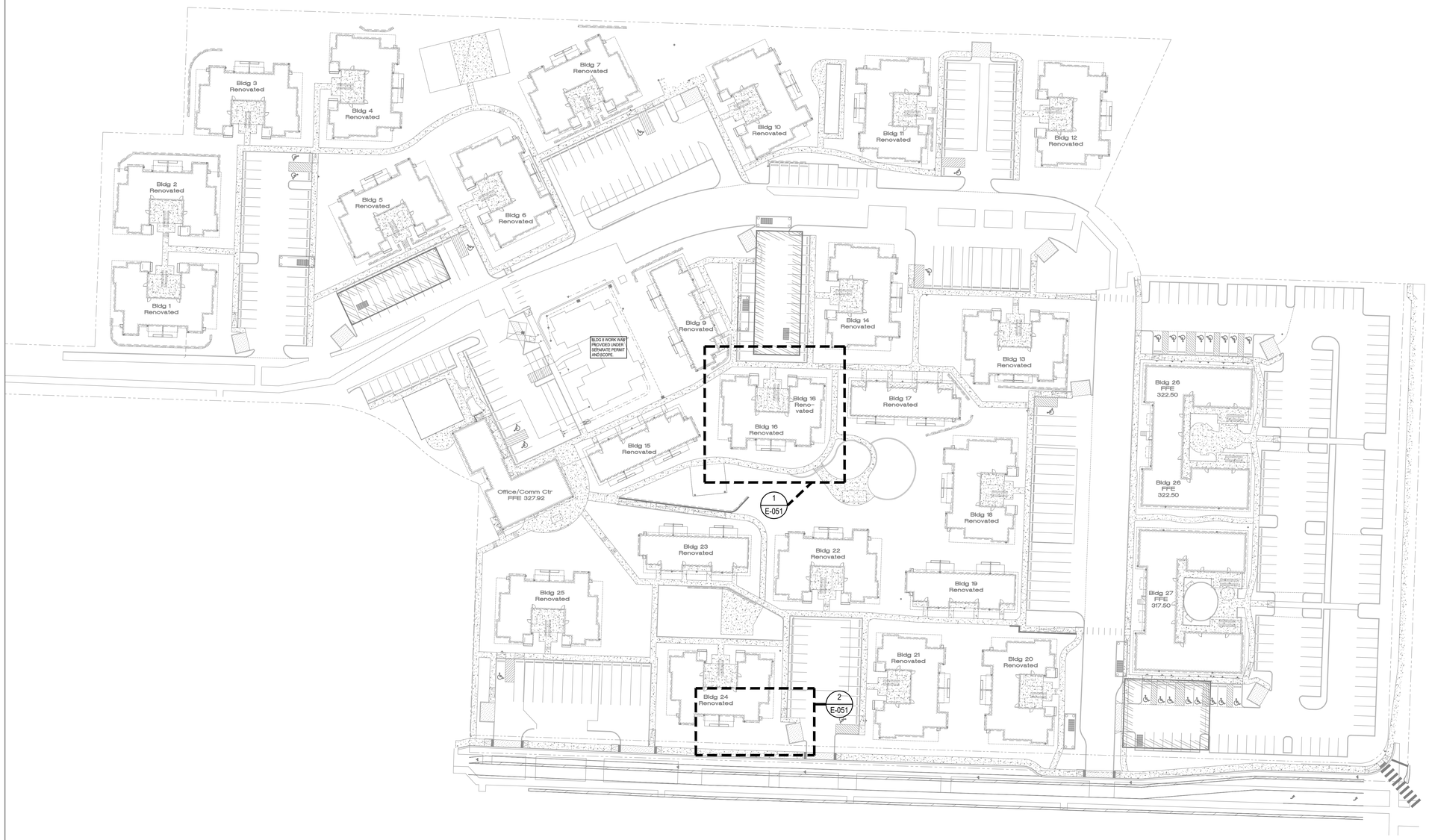
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LUMINAIRE SCHEDULE

PERMIT #	BMF22-09887
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E16-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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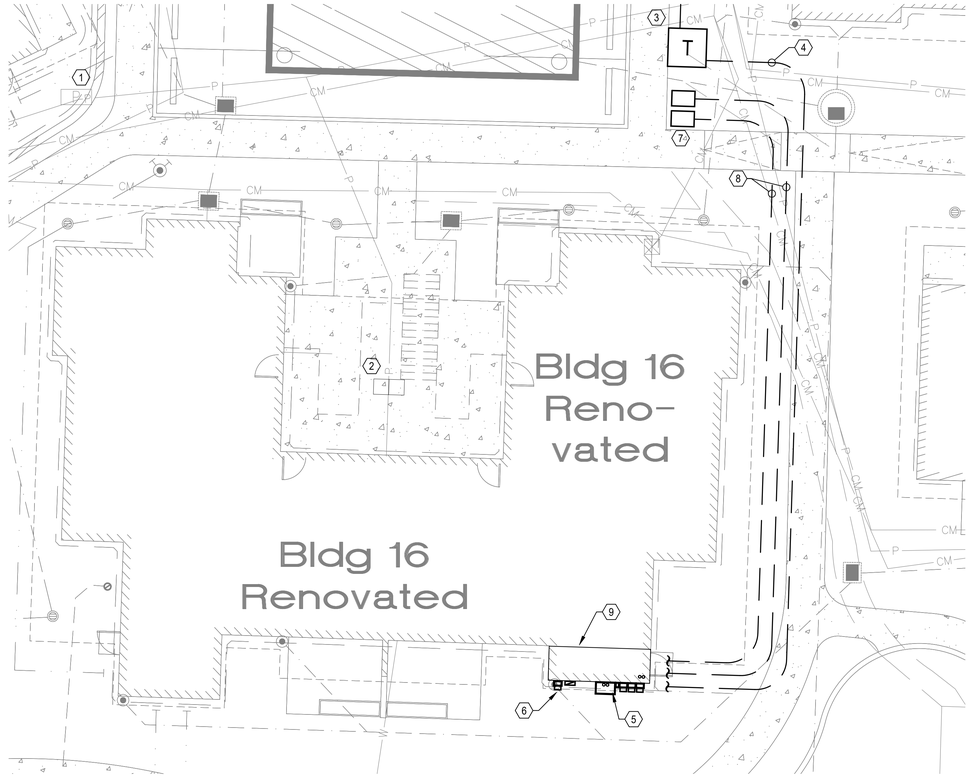
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OVERALL PROJECT SITE PLAN

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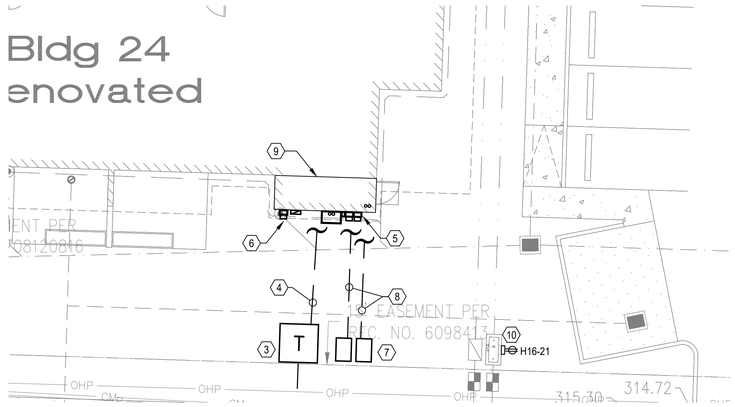
E16-050



ELECTRICAL SITE PLAN - BUILDING 16

SCALE: 1/8" = 1'-0"

1 E16-05



ELECTRICAL SITE PLAN - BUILDING 16

SCALE: 1/8" = 1'-0"

2 E16-05

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13407 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

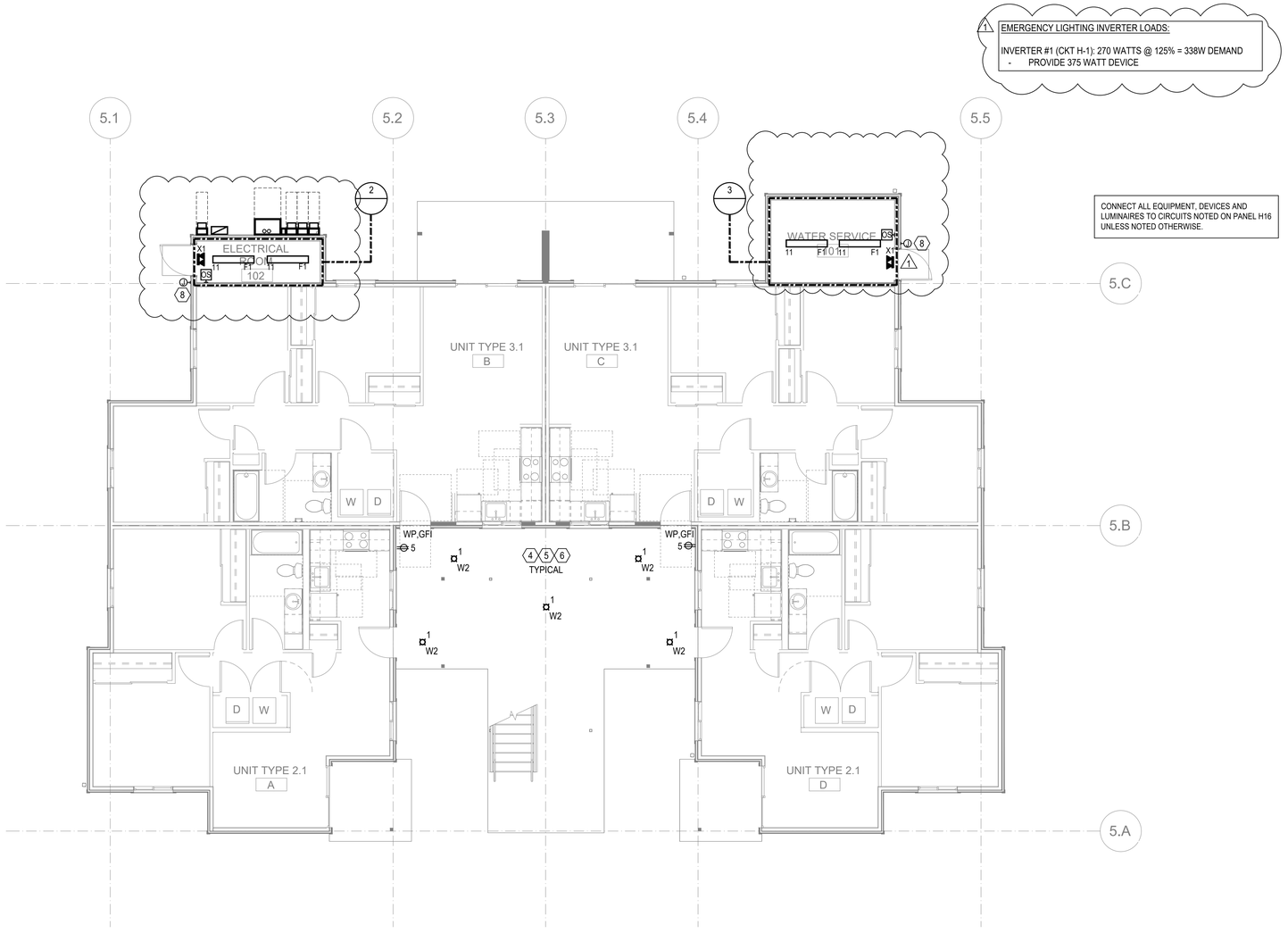
TITLE

ELECTRICAL SITE PLAN - BUILDING 16

PERMIT #	BMF22-09887
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E16-051

10/7/2021 7:33:34 AM



1 EMERGENCY LIGHTING INVERTER LOADS:

INVERTER #1 (CKT H-1): 270 WATTS @ 125% = 338W DEMAND
- PROVIDE 375 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H16 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

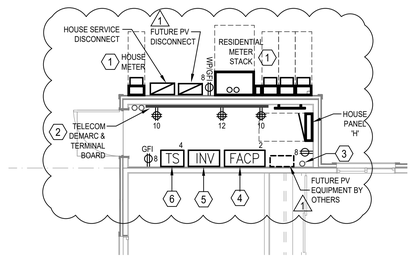
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

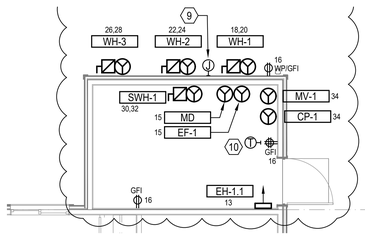
1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 375 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR FIXTURE TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-375-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.

POWER AND LIGHTING PLAN - BUILDING 16 - LEVEL 1

SCALE: 3/16"=1'-0"



2 E-101 ELECTRICAL ROOM
1/4"=1'-0"



3 E-101 WATER ROOM
1/4"=1'-0"

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

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FX: 206.623.5285

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13407 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

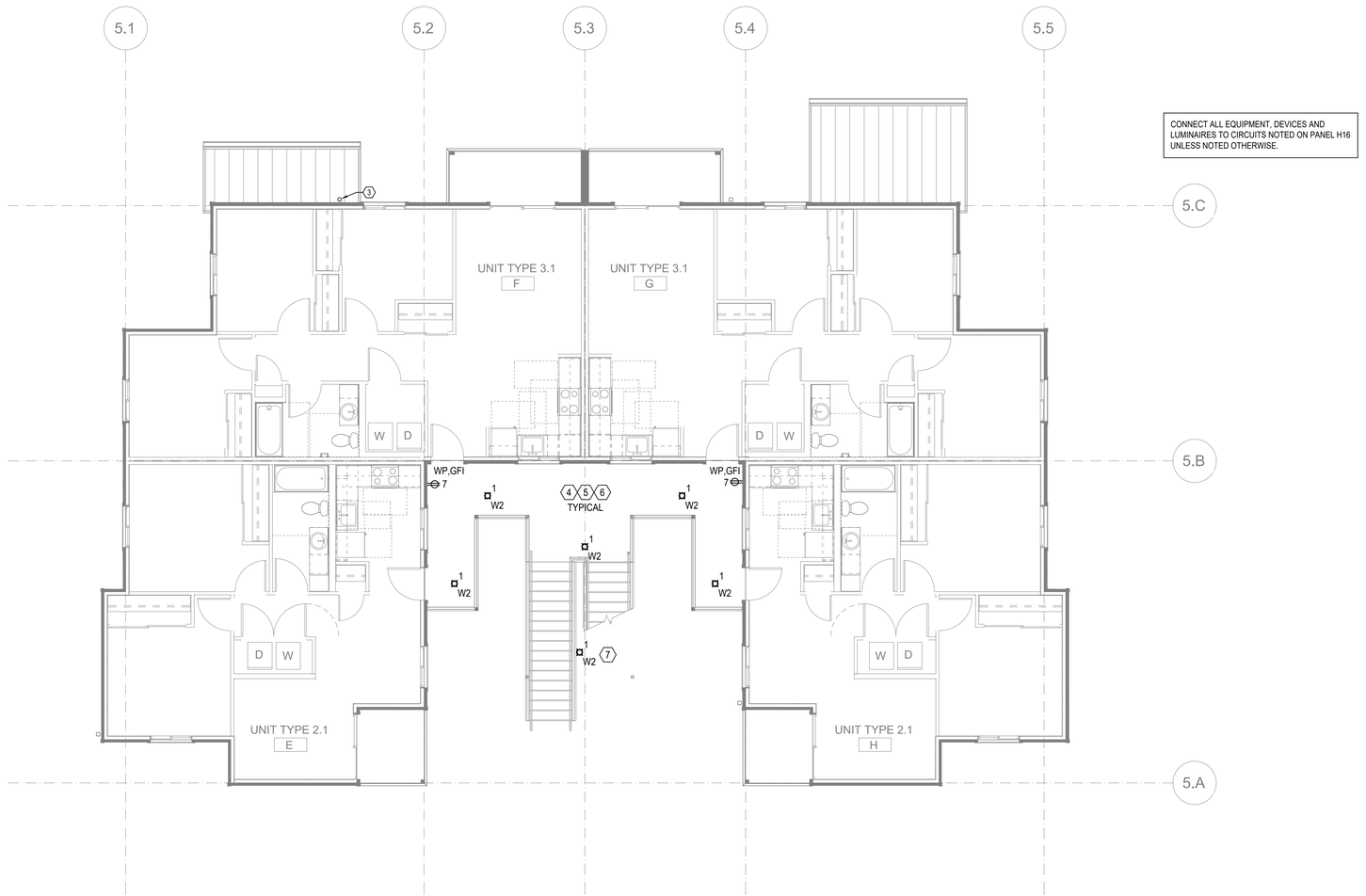
TITLE

POWER AND LIGHTING PLAN - BUILDING 16 - LEVEL 1

PERMIT #	BMF22-09887
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E16-101

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SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H16 UNLESS NOTED OTHERWISE.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.
7. LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.

POWER AND LIGHTING PLAN - BUILDING 16 - LEVEL 2

SCALE: 3/16"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

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BUILDING 16

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REVISIONS / NOTES

NO	DATE	DESCRIPTION
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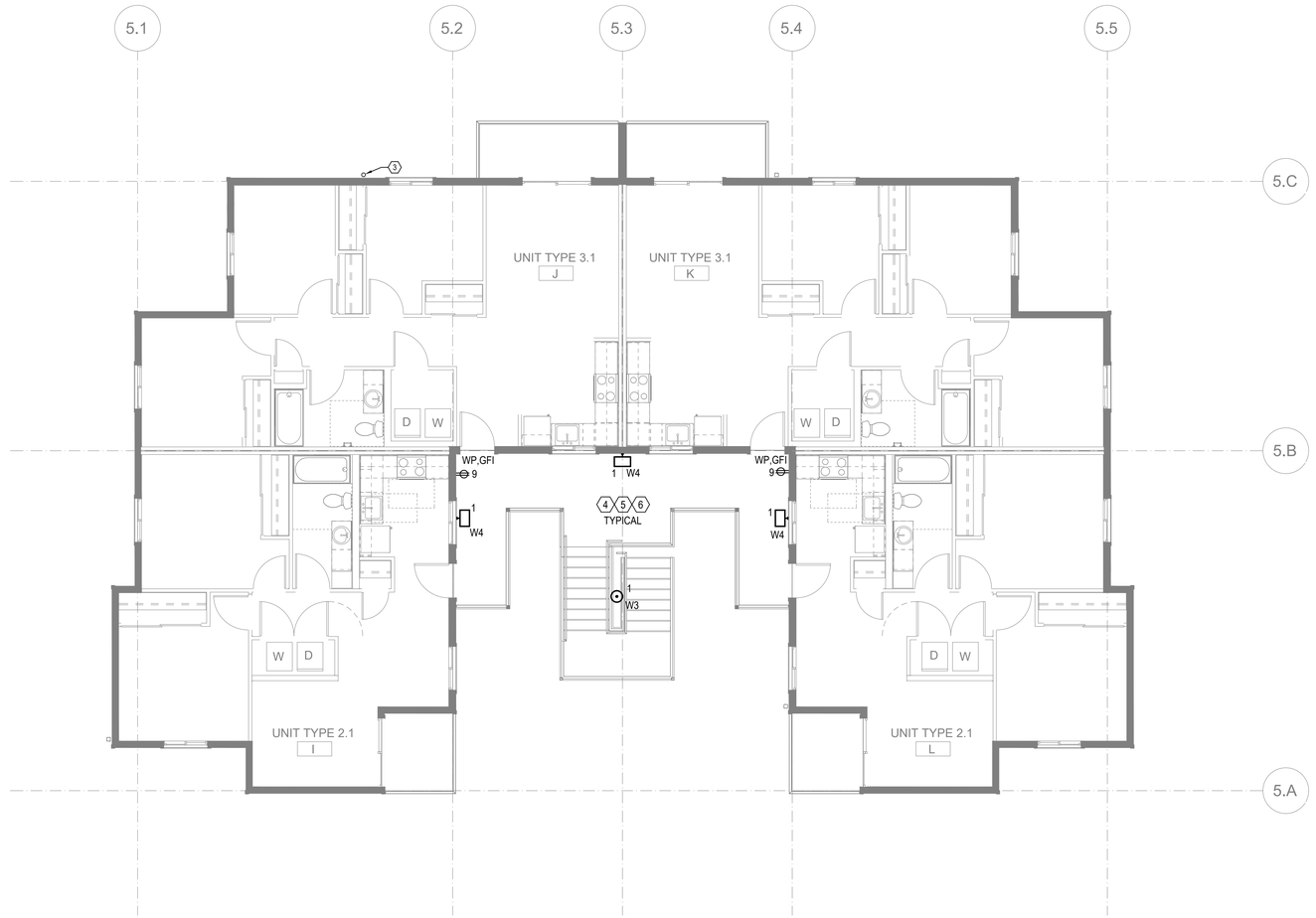
TITLE

POWER AND LIGHTING PLAN - BUILDING 16 - LEVEL 2

PERMIT #	BMF22-09887
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2. NOT USED.
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4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 16 - LEVEL 3

SCALE: 3/16"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

13407 NE 133rd St.,
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BUILDING 16

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
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DPD STAMP

TITLE

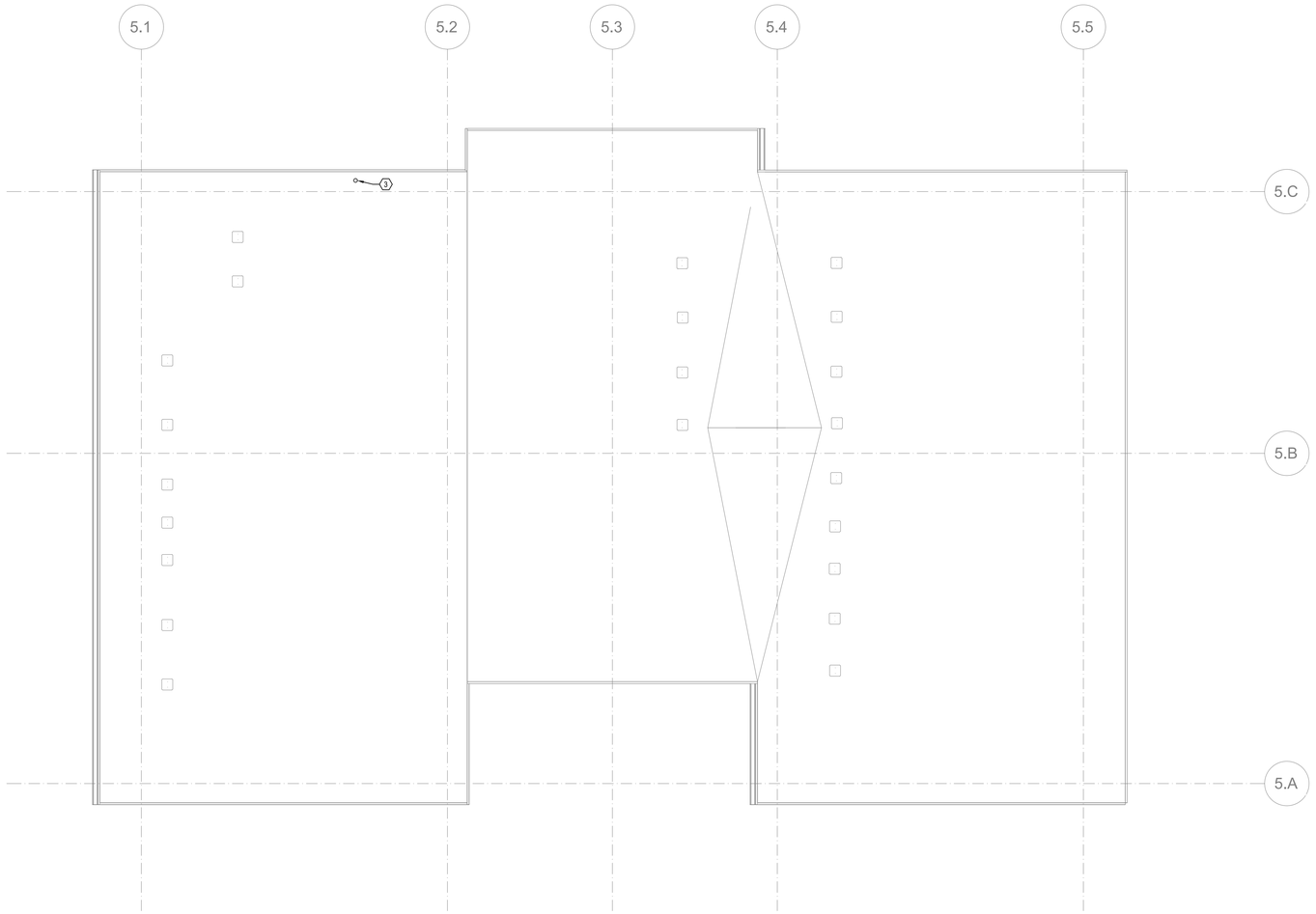
POWER AND LIGHTING PLAN - BUILDING 16 - LEVEL 3

PERMIT #	BMF22-09887
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

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GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER PLAN - BUILDING 16 - ROOF

SCALE: 3/16"=1'-0"

SIDER+BYERS
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Kirkland, WA 98034.
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KIRKLAND HEIGHTS APARTMENTS

13407 NE 133rd St.,
Kirkland, WA 98034

BUILDING 16

BID SET

GEORGINNA M. LAMSON
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER PLAN - BUILDING 16 - ROOF

PERMIT #	BMF22-09887
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ISSUE DATE	4/14/2023
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SHEET NO.:

E16-104

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GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

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FLAG NOTES (X):

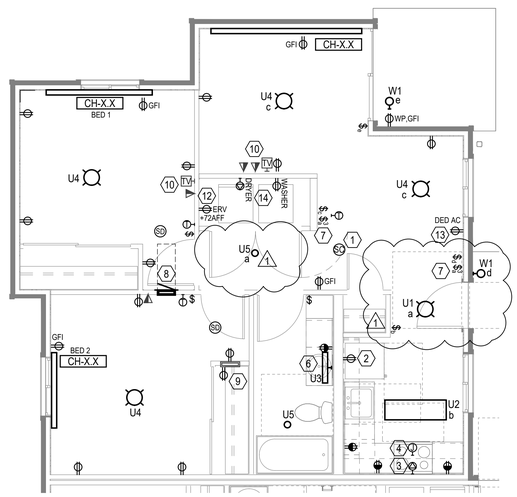
1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

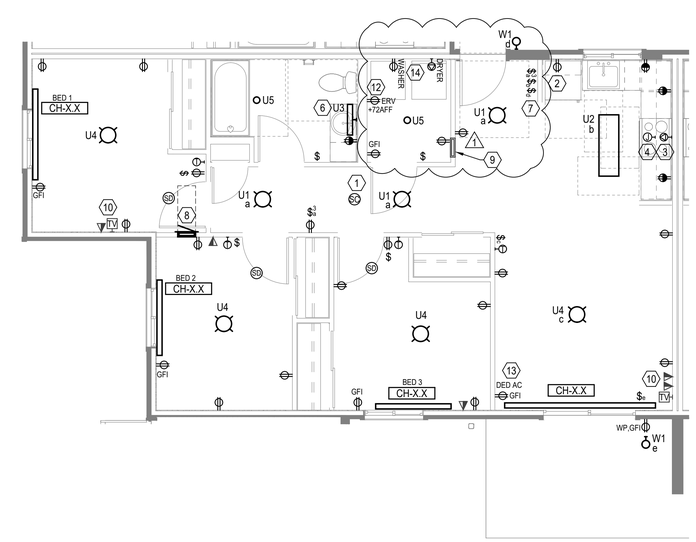
		HEATER TYPES			
UNIT NUMBER(S)	UNIT TYPE	BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**
1/4"=1'-0" UNITS: A, D, E, H, I, L



1 **ENLARGED PLAN - 3-BED**
1/4"=1'-0" UNITS: B, C, F, G, J, K

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BUILDING 16

BID SET

JEAN-CLAUDE M. GILLES — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

ENLARGED UNIT PLANS

PERMIT #	BMF22-09887
DRAWN	RA, JF
CHECKED	GL
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E16-301

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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET
- FLAG NOTE
- REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM / EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP / F — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $3PDX — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP / 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M / M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
IN	INCH/INCHES	WO	WITHOUT
		WP	WEATHERPROOF
KCMIL	THOUSAND CIRCULAR MILS	WT	WEIGHT
KO	KNOCK OUT		
KW	KILOWATT/KILOWATTS	XFR	TRANSFORMER
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13421 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09891
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E17-001

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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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c/o: King County Housing Authority,
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

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Kirkland, WA 98034

BUILDING 17

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09891
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E17-002

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FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#6
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#6
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

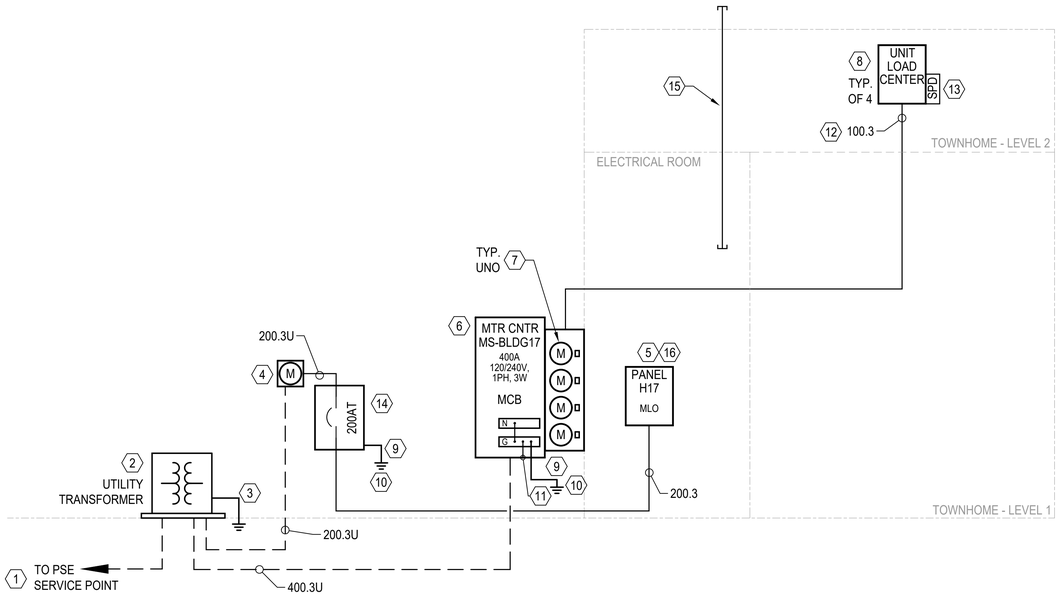
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 17

UNIT TYPE: TOWNHOUSE UNIT	AREA (SF): 1,211			6/18/2023
DEMAND LOAD (kVA): 18.81 =>	78.4 AMPS AT 240 V	1 PH		
DWELLING UNIT CALCULATIONS: NEC 220, PART III:				
GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	3.63	kVA
SMALL-APPLIANCE CKTS [220.52(A)] = 2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] = 1	CKTS x 1500VA	=	1.50	kVA
	SUBTOTAL (CONNECTED)	=	8.13	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:				
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.80	kVA
> 120,000VA:	25%	=	0.00	kVA
	GENERAL LIGHTING LOAD - DEMAND	=	**4.80**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY		LOAD (kVA EACH)			
	REFRIGERATOR	1	AT	0.7	=	0.70	kVA
	RANGE HOOD	1	AT	0.3	=	0.30	kVA
	MICROWAVE		AT		=	0.00	kVA
	DISHWASHER	1	AT	1.2	=	1.20	kVA
	WASHER	1	AT	1.2	=	1.20	kVA
	GARBAGE DISPOSAL		AT		=	0.00	kVA
	WATER HEATER		AT		=	0.00	kVA
				SUBTOTAL (CONNECTED)	=	3.40	kVA
APPLIANCE DEMAND FACTOR [220.53]:				75%			
				GENERAL APPLIANCE LOAD - DEMAND	=	**2.55**	**kVA**

MOTORS [220.50]:		QTY		LOAD (kVA EACH)			
	TOILET EXHAUST FAN		AT		=	0.00	kVA
	ERV UNIT	1	AT	0.11	=	0.11	kVA
	KITCHEN EXHAUST FAN		AT		=	0.00	kVA
	+25% OF LARGEST MOTOR				=	0.03	kVA
				GENERAL MOTOR LOAD - DEMAND	=	**0.14**	**kVA**
100% AC EQUIP [220.50] / SPACE HEATING [220.51]					=	6.06	kVA
		QTY		LOAD (kVA EACH)			
	CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50	kVA
	ELECTRIC COOKTOP [220.55]		AT		=	0.00	kVA
	ELECTRIC OVEN [220.55]		AT		=	0.00	kVA
	ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00	kVA
				TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	=	**27.04**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:				
TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	25.97	kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10kVA:	100%	=	10.00	kVA
> 10 kVA:	40%	=	6.39	kVA
ELECTRIC HEAT AND AC [220.82(C)]:				
LARGEST LOAD OF OPTIONS: > = 4 ELECT SPACE HEATERS, 40% NAMEPLATE		=	2.42	kVA
	TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**18.81**	**kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL MS- 4 unit TOWNHOUSE 5/18/2023

DEMAND LOAD (kVA): 57.61 => 240.0 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
0								0	0.00	0	0.00	0	0.00
TOWNHOUSE UNIT	4	32.53	13.60	0.44	24.22	4	22.00	0	0.00	0	0.00	4	35.20
0								0	0.00	0	0.00	0	0.00
TOTALS:	4	32.53	13.60	0.44	24.22	4	22.00	0	0.00	0	0.00	4	35.20

ADDITIONAL 25% OF LARGEST MOTOR: 0.03

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD = 128.02 kVA
DEMAND FACTOR FROM TABLE 220.84 = 45%

TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC = 57.61 kVA

KIRKLAND HEIGHTS - TOWNHOUSE BLDG (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 4): 57.61 kVA
(SEE ATTACHED CALCS)
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.

RESIDENTIAL TOTAL: 57.61 kVA
240.04 AMPS @ 120/240V, 1-PHASE
PROVIDE 400A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	0.5 kVA
LIGHTING - SITE:	1.0 kVA
GENERAL RECEPTACLES:	1.0 kVA
MECHANICAL:	kVA
ELECT HEAT (WATER RMS):	1.0 KVA
CENTRAL HOT WATER (HPWH)	5.3 KVA
ELECT SWING TANK	4.5 KVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.0 kVA
EV CHARGING (2):	16.64 kVA
HOUSE TOTAL:	32.41 kVA
	89.96 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	40.51 kVA
	112.4556 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	98.12 kVA
	272.36 AMPS @ 120/240V, 1-PHASE

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13421 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET

JOANNA M. RUSSELL — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09891
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E17-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
50.4	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.3	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.2N	(1) 1-INCH	CU	(3) #6	#10
50.2	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.1	(1) 1-INCH	CU	(2) #6	#10
40.4	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.3	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.2N	(1) 1-INCH	CU	(3) #8	#10
40.2	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

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C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.

B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H17

NORMAL POWER — VOLTAGE: 120 / 240 V — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
MC: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — 1-PHASE, 3-WIRE — MLO OR MCB — MLO — 200 AMPS — SURFACE-MOUNTED

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/#P	PH	CB AMPS/#P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	TG - ELECT / MECH CLOSETS	L	0.12	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	B	20 / 1			0.00	SPARE	4
5	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.12	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	SPARE		0.00		20 / 1	A	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	10
11	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	14
15	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-1'	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-2'	22
23	SPARE		0.00		20 / 1	B						24
25	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	26
27	SPARE		0.00		20 / 1	B	20 / 1			0.00	SPARE	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - 'SWH-1'	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP 'CP-1' & MX VALVE 'MV-1'	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

	CONNECTED LOAD		DEMAND FACTOR	DEMAND LOAD	
L = LIGHTING	0.12	kVA	125%	0.15	kVA
R = RECEPTACLES	2.52	kVA	NEC 220.44	2.52	kVA
M = MOTORS	0.12	kVA	100%	0.12	kVA
PLUS 25% OF LARGEST MOTOR	0.12	kVA	25%	0.03	kVA
C = CONTINUOUS	13.90	kVA	125%	17.45	kVA
N = NON-CONTINUOUS	1.20	kVA	100%	1.20	kVA
K = KITCHEN	0.00	kVA	75%	0.00	kVA

PANEL CONNECTED TOTAL:
17.92 kVA
74.65 AMPS

PANEL DEMAND TOTAL:
21.47 kVA
89.44 AMPS

NOTES:

A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):

1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 4 BEDROOM

NORMAL POWER — VOLTAGE: 120 / 240 V — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
MC: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — 1-PHASE, 3-WIRE — MLO OR MCB — MLO — 100 AMPS — FLUSH-MOUNTED

CKT #	DESCRIPTION	CKT TAG	CB AMPS/#P	PH	CB AMPS/#P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19	BEDROOM 4 RECEPTS, LTS, SD (1)	20.1	20 / 1	B	20 / 1	20.1	DED.RECEPT - A/C UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A	20 / 1	20.1	HEAT - KITCHEN, BATH (1)	22
23	"			B				24

NOTES:

A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.

B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):

1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-2	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.135					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES; DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	kW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EWH-T	DWELLING UNITS	KING	PAW WALL HEATER	0.25	120 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	120 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 5

NOTES:

1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.
5. UNIT WILL REQUIRE SURFACE MOUNTING.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 4 UNIT TOWNHOMES

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	BED 4	KITCHEN	BATH	LIVING
A	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4
B	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
C	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
D	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4

NOTES:

A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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KIRKLAND HEIGHTS APARTMENTS

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BUILDING 17

BID SET

VIRGINNA M. [illegible] — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE. LED SOURCE. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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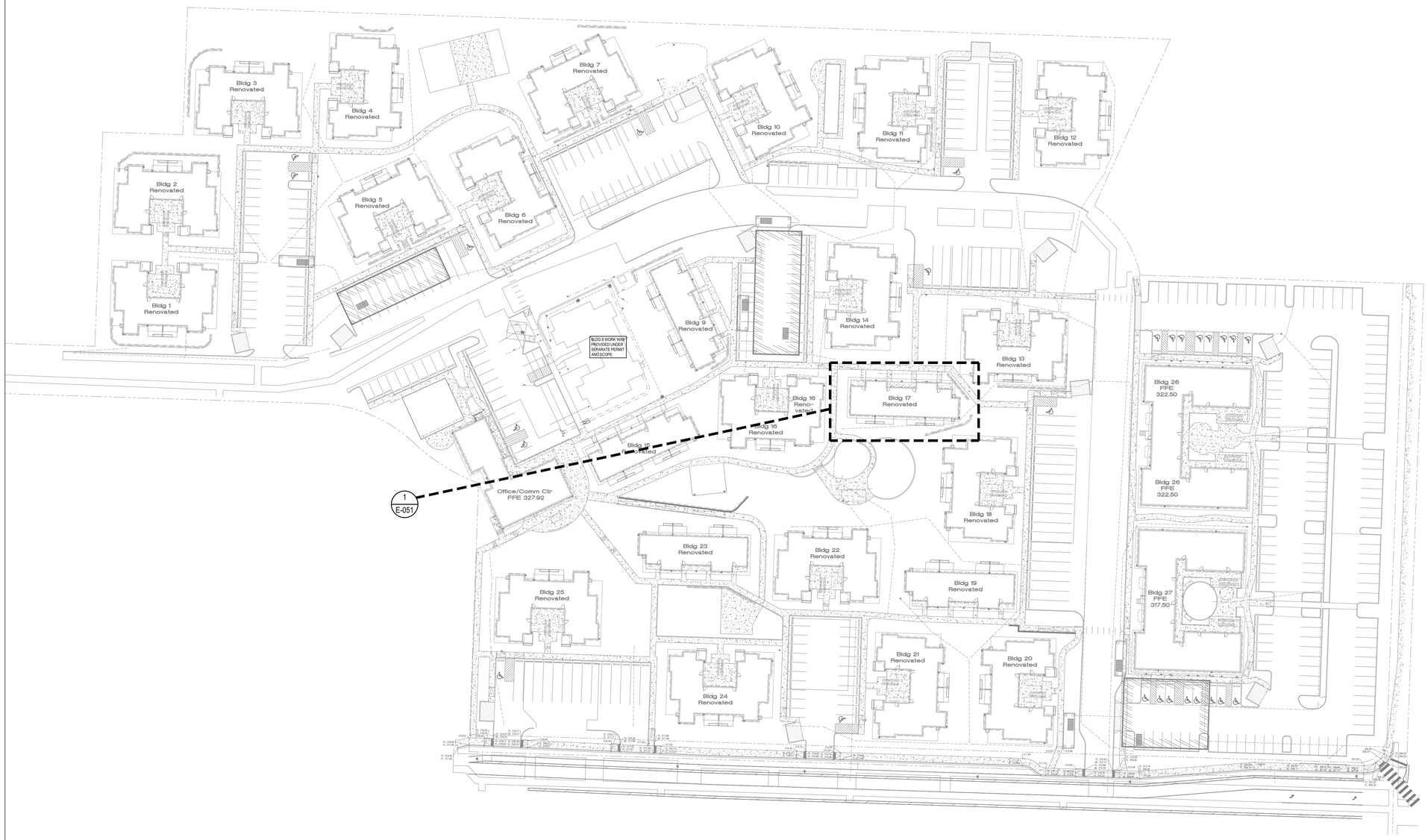
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LUMINAIRE SCHEDULE

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OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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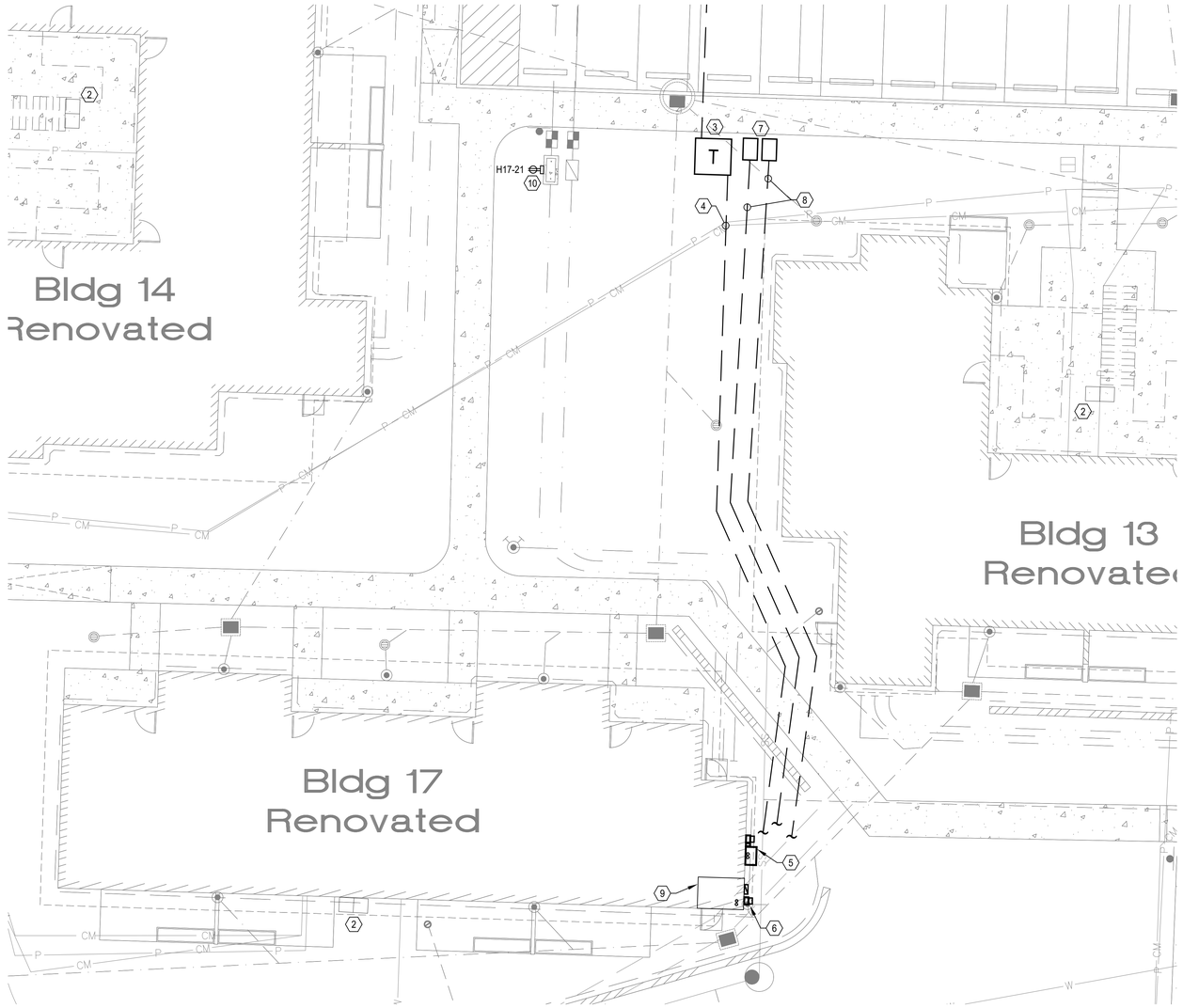
OVERALL PROJECT SITE PLAN

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ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 17
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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1	5.19.23	BID ADDENDUM 2

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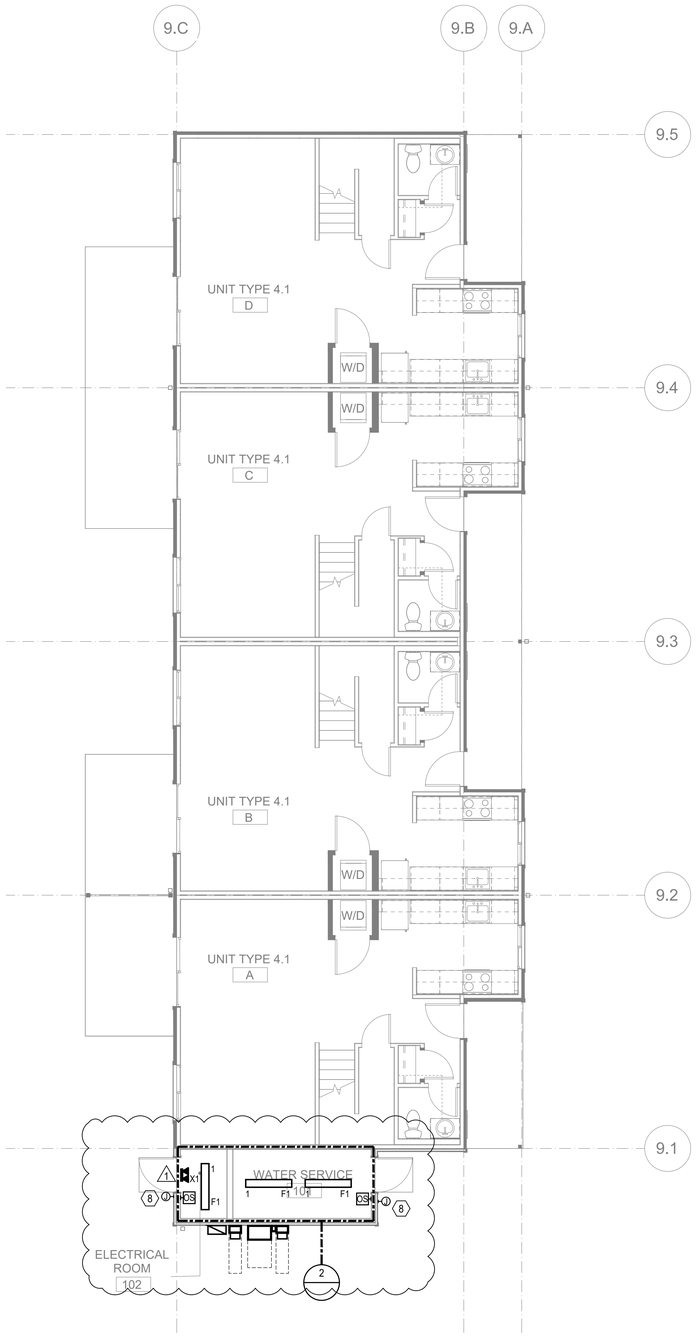
TITLE

ELECTRICAL SITE PLAN - BUILDING 17

PERMIT #	BMF22-09891
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E17-051

10/7/2021 7:33:34 AM



POWER AND LIGHTING PLAN - BUILDING 17 - LEVEL 1

SCALE: 3/16"=1'-0"

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H17 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

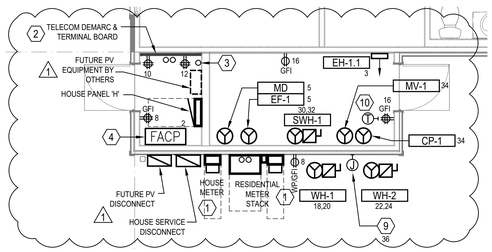
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. NOT USED
6. NOT USED.
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



ELECTRICAL AND WATER ROOM

2 / E-101 — 1/4"=1'-0"

SIDER+BYERS
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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13421 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET

JEONGINNA M. JEONG — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

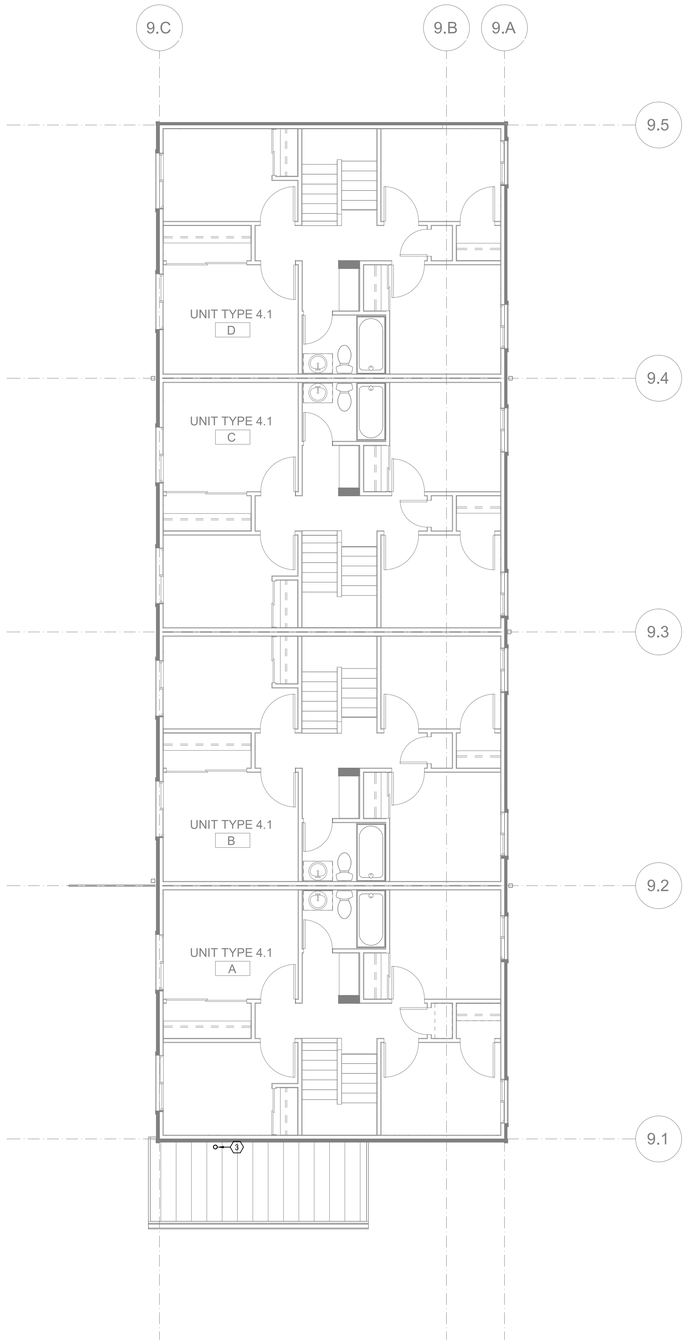
TITLE

POWER AND LIGHTING PLAN - BUILDING 17 - LEVEL 1

PERMIT #	BMF22-09891
DRAWN	RA, JF
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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H10 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER AND LIGHTING PLAN - BUILDING 17 - LEVEL 2

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

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King County Housing Authority

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13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13421 NE 133rd St.,
Kirkland, WA 98034

BUILDING 17

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

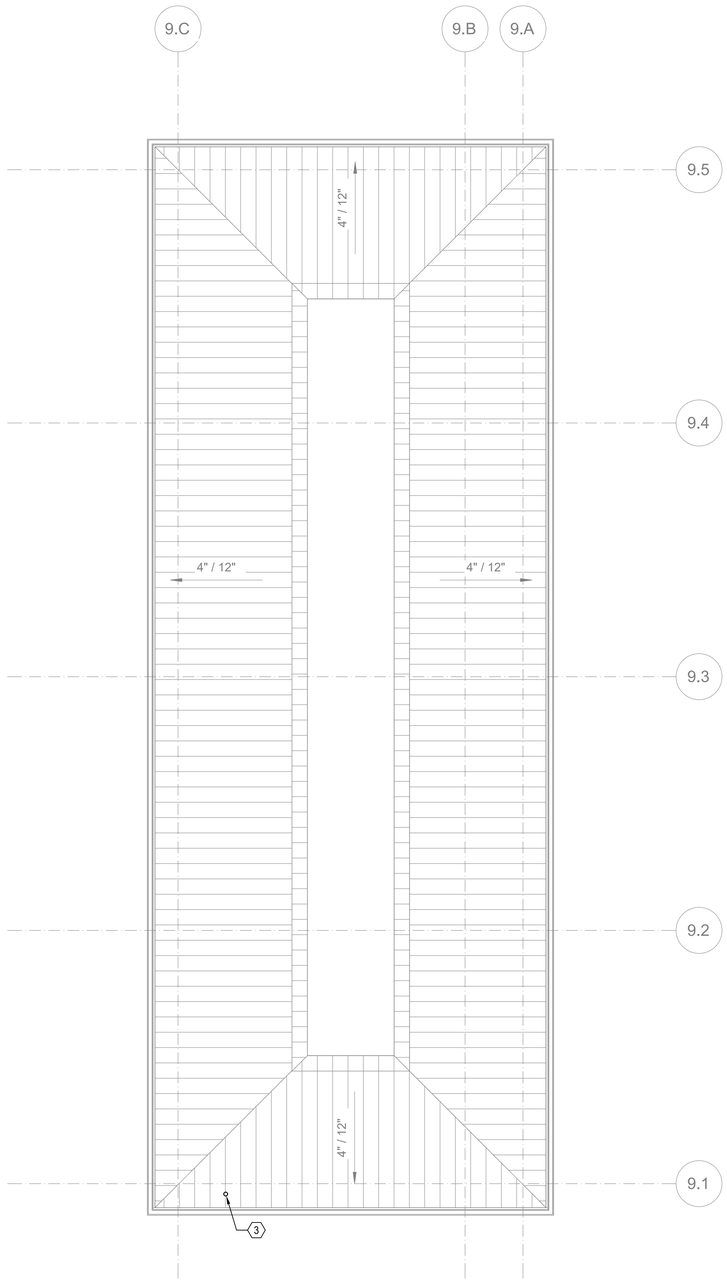
TITLE

POWER AND LIGHTING PLAN - BUILDING 17 - LEVEL 2

PERMIT #	BMF22-09891
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E17-102



POWER PLAN - BUILDING 17 - ROOF

SCALE: 3/16"=1'-0"

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

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Kirkland, WA 98034

BUILDING 17

BID SET

JEROLDINNA M. LAU — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER PLAN - BUILDING 17 - ROOF

PERMIT #	BMF22-09891
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
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E17-103

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ELECTRIC HEATER DWELLING UNIT SUMMARY - 4 UNIT TOWNHOMES

UNIT		HEATER TYPES						
NUMBER(S)	UNIT TYPE	BED 1	BED 2	BED 3	BED 4	KITCHEN	BATH	LIVING
A	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4
B	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
C	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
D	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

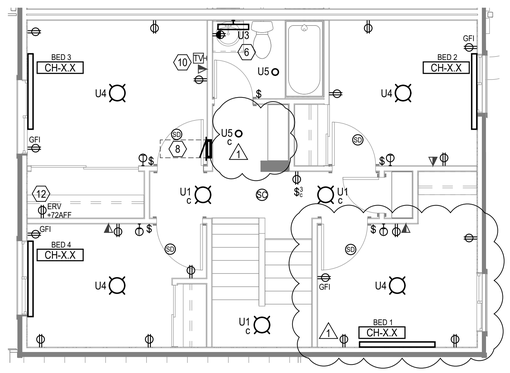
B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

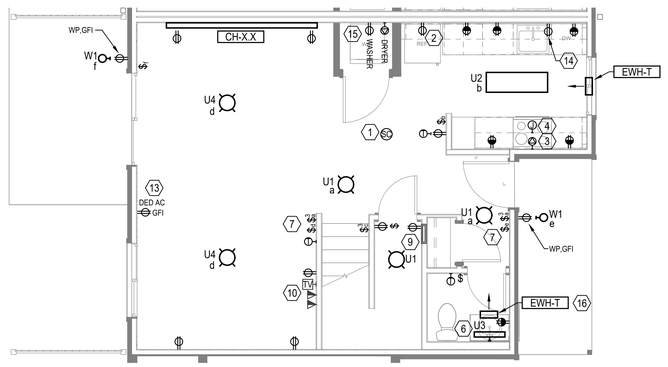
ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. CONNECTION FOR RANGE EXHAUST HOOD IN TYPE A UNITS. FIELD VERIFY EXACT LOCATION. PROVIDE ACCESSIBLE SWITCH FOR RANGE HOOD CONTROL. VERIFY EXACT LOCATION.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. PROVIDE HORN/STROBES IN TYPE A UNITS PER CODE AND AHJ REQUIREMENTS. COORDINATE HORN/STROBE LOCATIONS WITH COVE HEATERS; DO NOT LOCATE HORN/STROBES ABOVE OR IMMEDIATELY ADJACENT TO COVE HEATERS. CONFIRM FINAL LOCATIONS WITH FIRE MARSHAL.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR DISHWASHER. FIELD VERIFY CONNECTION TYPE, LOCATION AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS. LOCATION OF CONNECTION TO BE ACCESSIBLE.
15. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.
16. COORDINATE BATHROOM HEATER LOCATION WITH OWNER AND ARCHITECT.



3 **ENLARGED PLAN - TH - LEVEL 2**
1/4"=1'-0"



1 **ENLARGED PLAN - TH - LEVEL 1**
1/4"=1'-0"

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Kirkland, WA 98034

BUILDING 17

BID SET

JOANNA M. GRAY — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

ENLARGED UNIT PLANS

PERMIT #	BMF22-09891
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E17-301

ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET (E-1)
- FLAG NOTE
- REVISION TAG (1)
- MECHANICAL EQUIPMENT (AHU-1)
- FAULT CURRENT TAG (XX kA)

FIRE ALARM SYMBOLS

- COMBINATION SMOKE/FIRE DAMPER (OR)
- FIRE ALARM CONTROL PANEL (FACP)
- FIRE ALARM REMOTE ANUNCIATOR (FARA)
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR (SD)
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM (SD)

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- GROUNDING CONDUCTOR(S) PER CODE (G)
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES (EM)

FL1 3a — FL1 3-Z1.2

TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VARIABLE FREQUENCY DRIVE (VFD)
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC (702)
- WEATHERPROOF (WP)
- GFCI TYPE (GFI)
- FULLY CONTROLLED (NOT HALF-SWITCHED) (C)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD (TV)
- CARD / FOB READER WALL/ MULLION AND BOLLARD MTD (CR)
- SECURITY DOOR POSITION MONITOR (DS)
- ELECTRIC STRIKE (ES)
- KEYPAD WALL/ MULLION AND BOLLARD MTD (KP)
- CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS. (WP, F)
- SPEAKER, CEILING MOUNTED (SP)

CONTROL SYMBOLS

- MOTORIZED CONTROL DAMPER (M)
- THERMOSTAT
- WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- WEATHERPROOF, TYPICAL (WP)
- WALL SWITCH, LINE VOLTAGE, 1-POLE
- WALL SWITCH, LINE VOLTAGE, 3-WAY (3)
- WALL SWITCH, LINE VOLTAGE, TIMER SWITCH (TS)
- LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF (1P)
- LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER (DX)
- LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF (2P)
- LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER (2PDX)
- COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED (OS)
- OCCUPANCY SENSOR: WALL, CLG MTD (OS)
- PHOTO CELL, CLG MTD (PC)
- COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD (OP)

RISER DIAGRAM SYMBOLS

- CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER (100AT GFP / 50AT) AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- FUSED SWITCH. AF= FUSE RATING (100AF)
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- CONTACTOR COIL (C)
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DIGITAL METER (DM)
- UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED. (M)
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SURGE PROTECTION DEVICE (SPD)

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER AND LIGHTING PLAN - LEVEL 3
E-104	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
		W/	WITH
IMC	INTERMEDIATE METAL CONDUIT	WO	WITHOUT
IN	INCH/INCHES	WP	WEATHERPROOF
		WT	WEIGHT
KCMIL	THOUSAND CIRCULAR MILS		
KO	KNOCK OUT	XFR	TRANSFORMER
KW	KILOWATT/KILOWATTS		
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13223 135th Ave NE,
Kirkland, WA 98034

BUILDING 18

BID SET

GEORGINNA L. BYERS — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09888
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E18-001

10/7/2021 7:33:34 AM

GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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c/o: King County Housing Authority,
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13223 135th Ave NE,
Kirkland, WA 98034

BUILDING 18

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09888
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E18-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

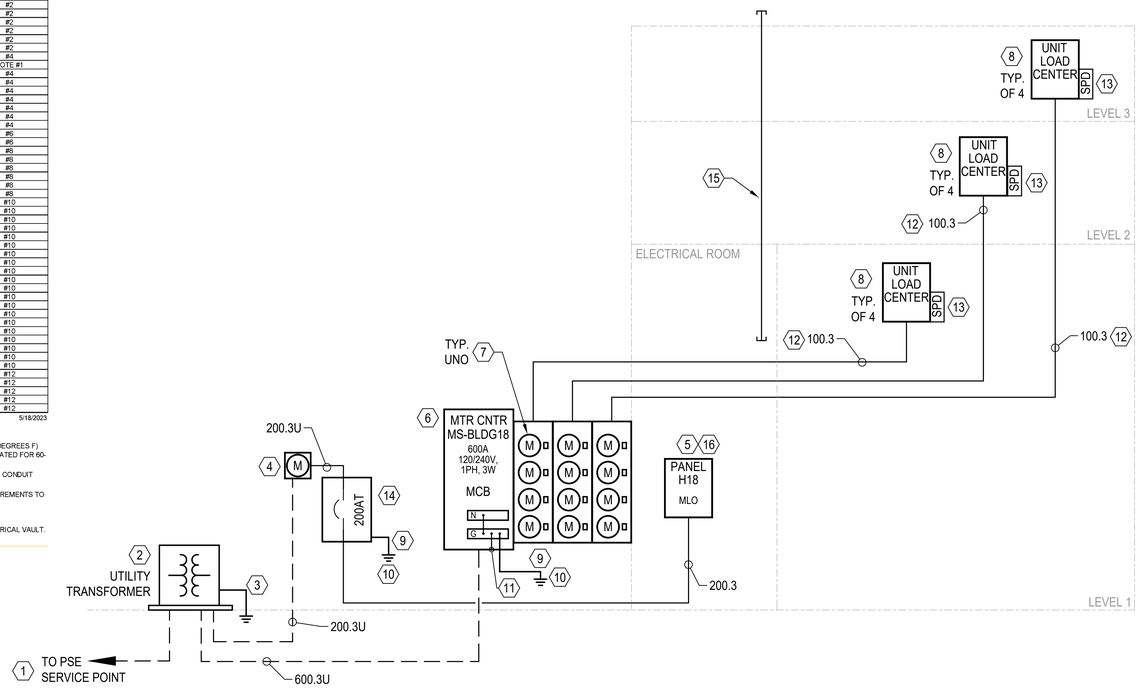
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

△1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

△1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 18

UNIT TYPE: 2BR - 2.1 AREA (SF): 782 — 5/18/2023
DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:		100%	=	3.00	kVA
3,001VA - 120,000VA:		35%	=	1.35	kVA
> 120,000VA:		25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	= 0.70	kVA
RANGE HOOD	1	AT	0.3	= 0.30	kVA
MICROWAVE		AT		= 0.00	kVA
DISHWASHER		AT		= 0.00	kVA
WASHER	1	AT	1.2	= 1.20	kVA
GARBAGE DISPOSAL		AT		= 0.00	kVA
WATER HEATER		AT		= 0.00	kVA
		SUBTOTAL (CONNECTED)		= 2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:		75%			
		GENERAL APPLIANCE LOAD - DEMAND		= **1.65**	**kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		= 0.00	kVA
ERV UNIT	1	AT	0.11	= 0.11	kVA
KITCHEN EXHAUST FAN		AT		= 0.00	kVA
+25% OF LARGEST MOTOR				= 0.03	kVA
		GENERAL MOTOR LOAD - DEMAND		= **0.14**	**kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]				= 3.91	kVA
	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	= 5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		= 0.00	kVA
ELECTRIC OVEN [220.55]		AT		= 0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	= 8.00	kVA
		TOTAL DWELLING UNIT LOAD PER NEC 220, PART III		= **23.54**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:		100%	=	10.00 kVA
> 10 KVA:		40%	=	5.39 kVA
ELECTRIC HEAT AND AC [220.82(C)]:				
LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS, 65% NAMEPLATE		=	2.54 kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**17.93 kVA**

UNIT TYPE: 3BR - 3.1 AREA (SF): 906 — 5/18/2023
DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:		100%	=	3.00	kVA
3,001VA - 120,000VA:		35%	=	1.48	kVA
> 120,000VA:		25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	= 0.70	kVA
RANGE HOOD	1	AT	0.3	= 0.30	kVA
MICROWAVE		AT		= 0.00	kVA
DISHWASHER		AT		= 0.00	kVA
WASHER	1	AT	1.2	= 1.20	kVA
GARBAGE DISPOSAL		AT		= 0.00	kVA
WATER HEATER		AT		= 0.00	kVA
		SUBTOTAL (CONNECTED)		= 2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:		75%			
		GENERAL APPLIANCE LOAD - DEMAND		= **1.65**	**kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		= 0.00	kVA
ERV UNIT	1	AT	0.11	= 0.11	kVA
KITCHEN EXHAUST FAN		AT		= 0.00	kVA
+25% OF LARGEST MOTOR				= 0.03	kVA
		GENERAL MOTOR LOAD - DEMAND		= **0.14**	**kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]				= 4.53	kVA
	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	= 5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		= 0.00	kVA
ELECTRIC OVEN [220.55]		AT		= 0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	= 8.00	kVA
		TOTAL DWELLING UNIT LOAD PER NEC 220, PART III		= **24.29**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:		100%	=	10.00 kVA
> 10 KVA:		40%	=	5.54 kVA
ELECTRIC HEAT AND AC [220.82(C)]:				
LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS, 65% NAMEPLATE		=	2.94 kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**18.49 kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL MS - 12 unit STACK — 5/18/2023
DEMAND LOAD (kVA): 137.09 => 571.2 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
2BR - 2.1	6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	0	0.00	6	52.80
3BR - 3.1	6	43.31	13.20	0.66	27.18	6	33.00	0	0.00	0	0.00	6	52.80
0								0	0.00	0	0.00	0	0.00
TOTALS:	12	84.38	26.40	1.32	50.64	12	66.00	0	0.00	0	0.00	12	105.60
ADDITIONAL 25% OF LARGEST MOTOR:				0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD	=	334.37 kVA
DEMAND FACTOR FROM TABLE 220.84 =		41%
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC	=	**137.09 kVA**

KIRKLAND HEIGHTS - 12 UNIT STACK FLAT (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 12):	137.09 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	137.09 kVA
	571.22 AMPS @ 120/240V, 1-PHASE
PROVIDE 600A RESIDENTIAL METER CENTER	

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	7.7 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	40.83 kVA
	170.14 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	51.04 kVA
	212.6708 AMPS @ 120/240V, 1-PHASE
PROVIDE 200A HOUSE SERVICE	
TOTAL BUILDING SERVICE:	188.13 kVA
	783.89 AMPS @ 120/240V, 1-PHASE

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13223 135th Ave NE,
Kirkland, WA 98034

BUILDING 18

BID SET

JOANNA M. BOWMAN — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09888
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E18-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILITY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H18 — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — M.L.O. OR M.C.B.: M.L.O. — 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY	R	0.27	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	RECEPT - LVL 3 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN (EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-1'	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-2'	22
23	LTG - SITE POLES	L	0.23	20.1	20 / 1	B						24
25	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-3'	26
27	SPARE		0.00		20 / 1	B						28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK- 'SWH-1'	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP "CP-1" & MX VALVE 'MV-1'	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD		DEMAND FACTOR		DEMAND LOAD	
L	= LIGHTING	0.74	kVA	125%		0.93	kVA
R	= RECEPTACLES	4.14	kVA	NEC 220.44		4.14	kVA
M	= MOTORS	0.24	kVA	100%		0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA	25%		0.06	kVA
C	= CONTINUOUS	15.68	kVA	125%		19.61	kVA
N	= NON-CONTINUOUS	1.44	kVA	100%		1.44	kVA
K	= KITCHEN	0.00	kVA	75%		0.00	kVA

PANEL CONNECTED TOTAL: 22.24 kVA, 92.68 AMPS
PANEL DEMAND TOTAL: 26.41 kVA, 110.04 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL, KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE			A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-3	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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King County Housing Authority

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13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13223 135th Ave NE,
Kirkland, WA 98034

BUILDING 18

BID SET

VIRGINNA M. BROOKS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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SCHEDULES

PERMIT #	BMF22-09888
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E18-004

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE. LED SOURCE. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

10/7/2021 7:33:34 AM

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KIRKLAND HEIGHTS APARTMENTS

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Kirkland, WA 98034

BUILDING 18

BID SET

GEORGINNA M. TAYLOR
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

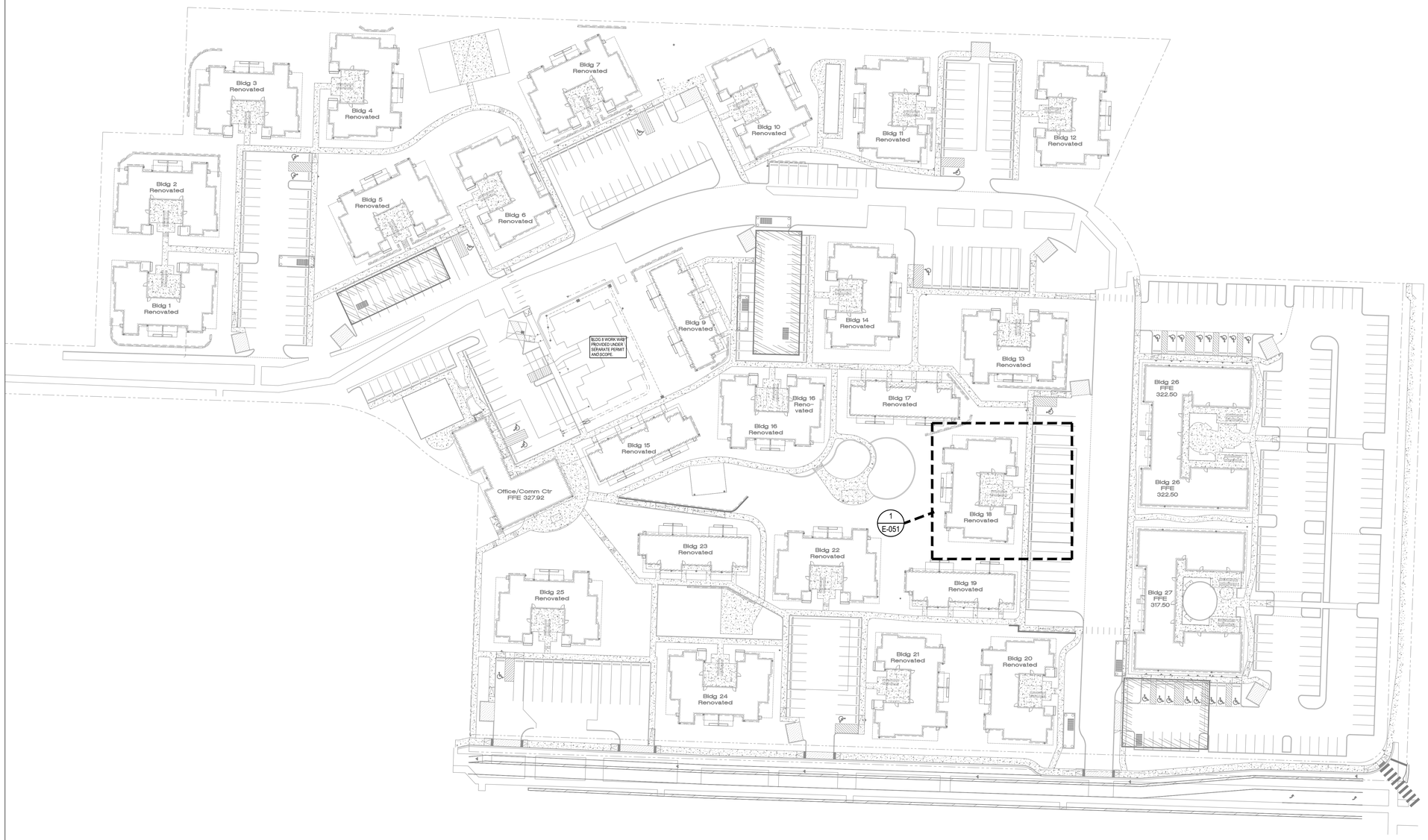
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LUMINAIRE SCHEDULE

PERMIT #	BMF22-09888
DRAWN	RA, JF
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ISSUE DATE	4/14/2023
JOB NO.	22016

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E18-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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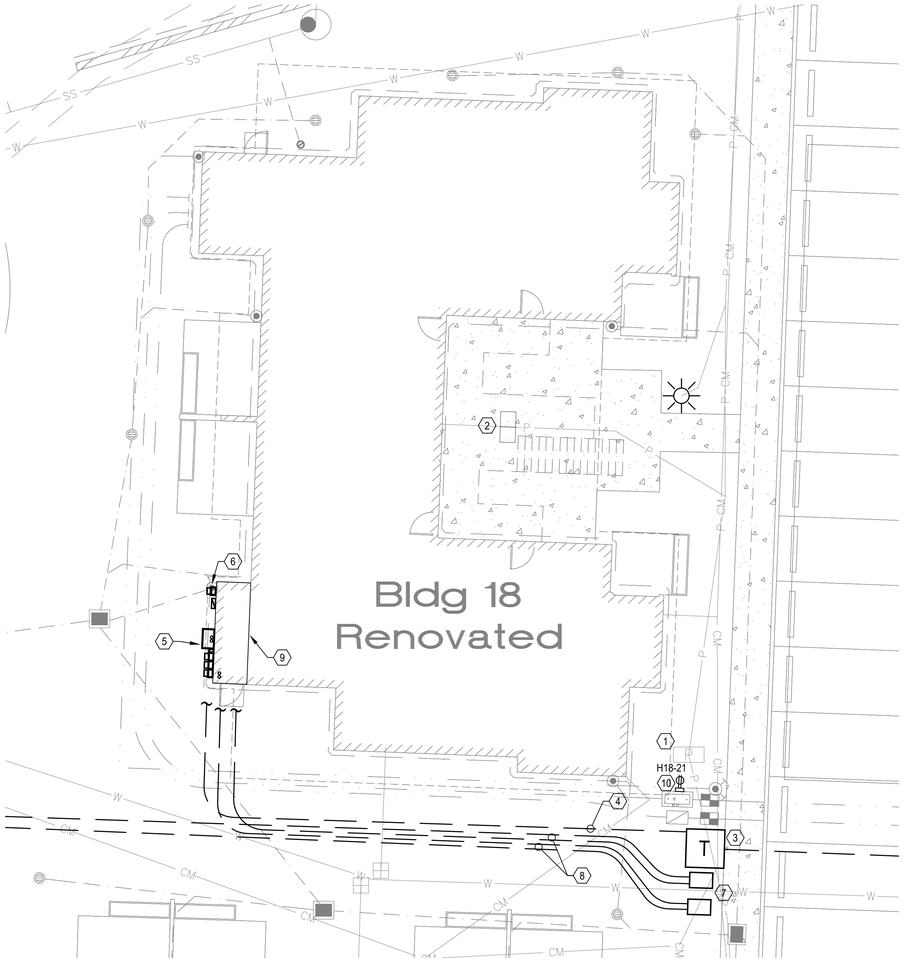
OVERALL PROJECT SITE PLAN

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ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 18
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

10/7/2021 7:33:34 AM

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13223 135th Ave NE,
Kirkland, WA 98034

BUILDING 18

BID SET

VIRGINNA M. [illegible] STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

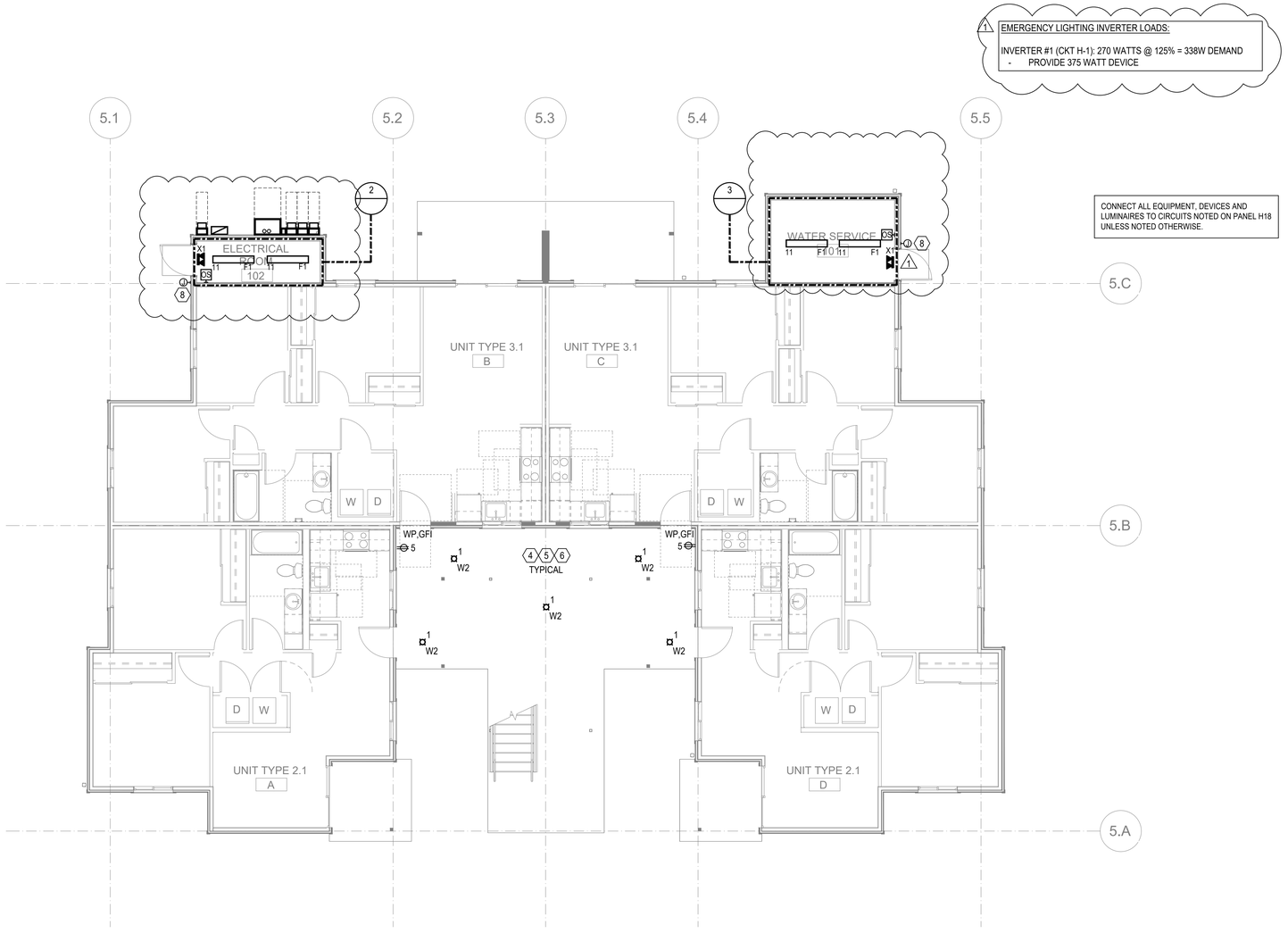
TITLE

ELECTRICAL SITE PLAN - BUILDING 18

PERMIT #	BMF22-09888
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E18-051



1 EMERGENCY LIGHTING INVERTER LOADS:

INVERTER #1 (CKT H-1): 270 WATTS @ 125% = 338W DEMAND
- PROVIDE 375 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H18 UNLESS NOTED OTHERWISE.

POWER AND LIGHTING PLAN - BUILDING 18 - LEVEL 1

SCALE: 3/16"=1'-0"

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

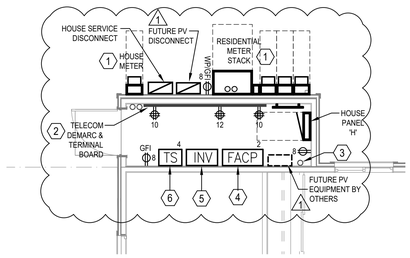
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

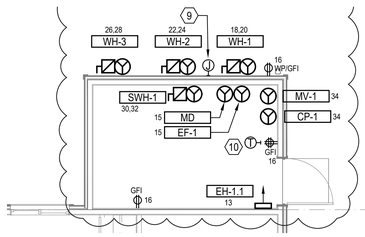
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 375 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR FIXTURE TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-375-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 E-101 **ELECTRICAL ROOM**
1/4"=1'-0"



3 E-101 **WATER ROOM**
1/4"=1'-0"

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King County Housing Authority

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c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13223 135th Ave NE,
Kirkland, WA 98034

BUILDING 18

BID SET

JEONGINNA M. PARK — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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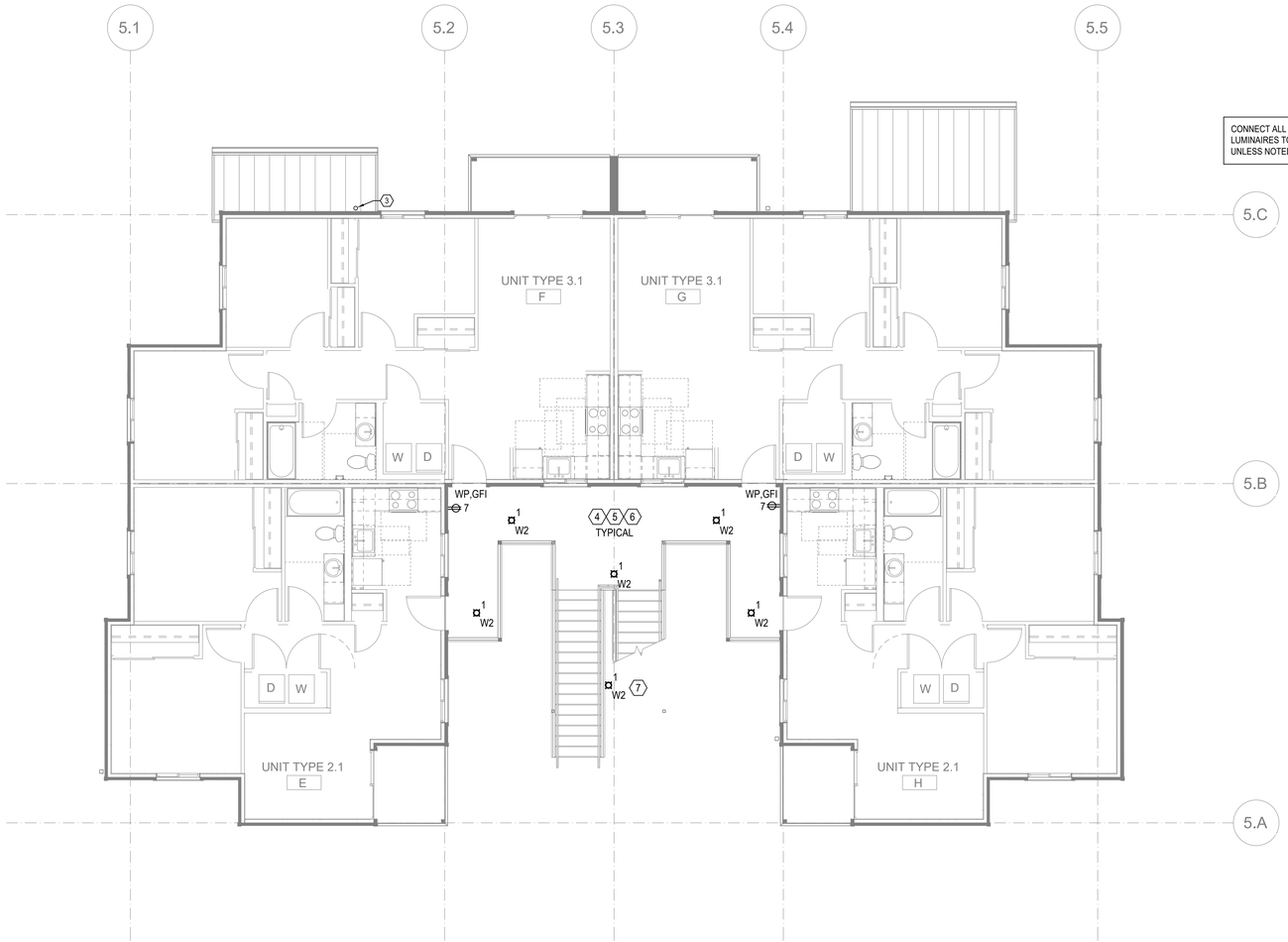
TITLE

POWER AND LIGHTING PLAN - BUILDING 18 - LEVEL 1

PERMIT #	BMF22-09888
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ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H18 UNLESS NOTED OTHERWISE.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. (1) ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. (1) ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.
7. LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.

POWER AND LIGHTING PLAN - BUILDING 18 - LEVEL 2

SCALE: 3/16"=1'-0"

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King County Housing Authority

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Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13223 135th Ave NE,
Kirkland, WA 98034

BUILDING 18

BID SET

JEREMIAH M. GRAY, STATE OF WASHINGTON, 43761, REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

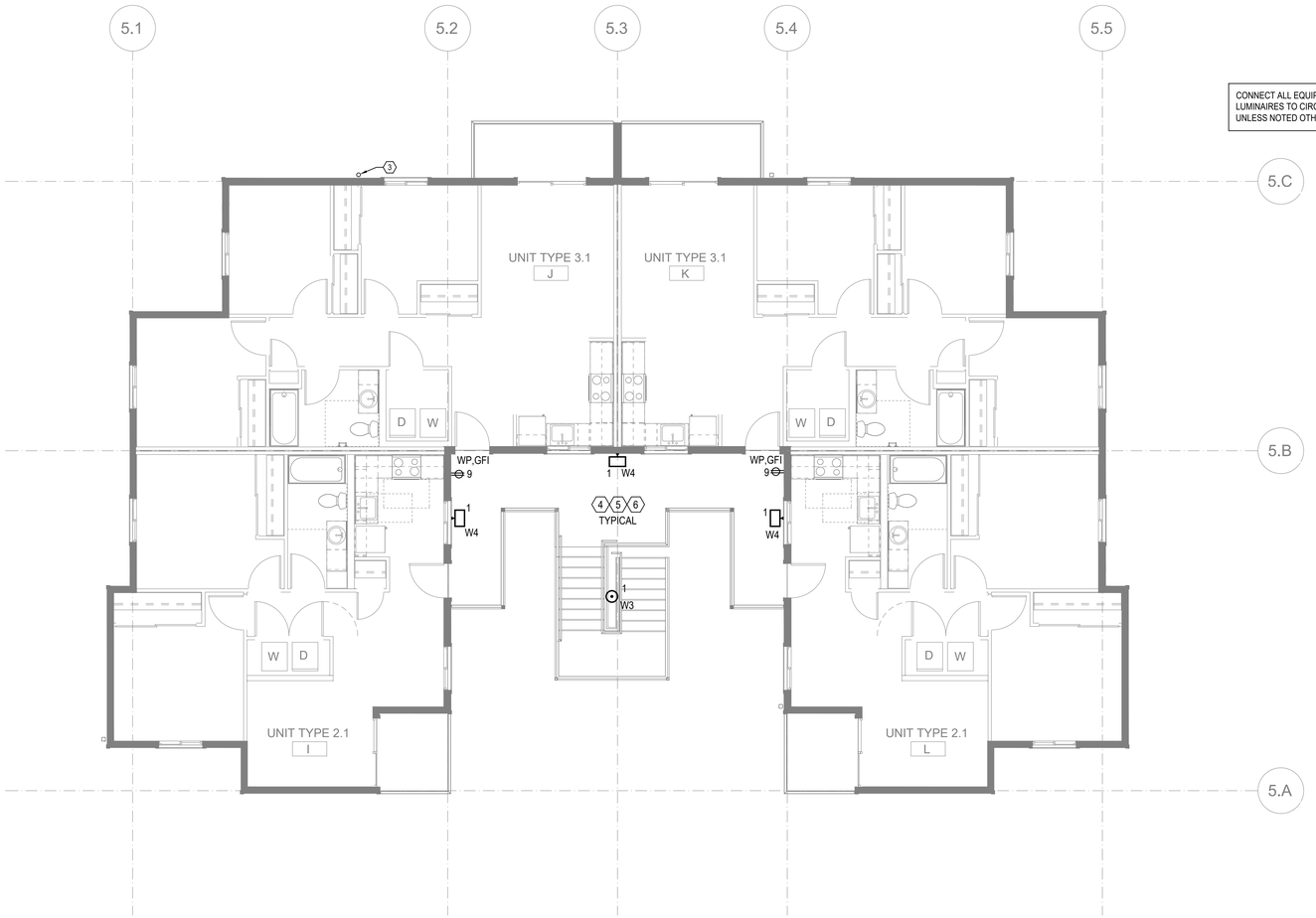
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TITLE

POWER AND LIGHTING PLAN - BUILDING 18 - LEVEL 2

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SHEET NO.:	

E18-102



CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H18 UNLESS NOTED OTHERWISE.

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SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. (1) ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. (1) ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 18 - LEVEL 3

SCALE: 3/16"=1'-0"

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13223 135th Ave NE,
Kirkland, WA 98034

BUILDING 18

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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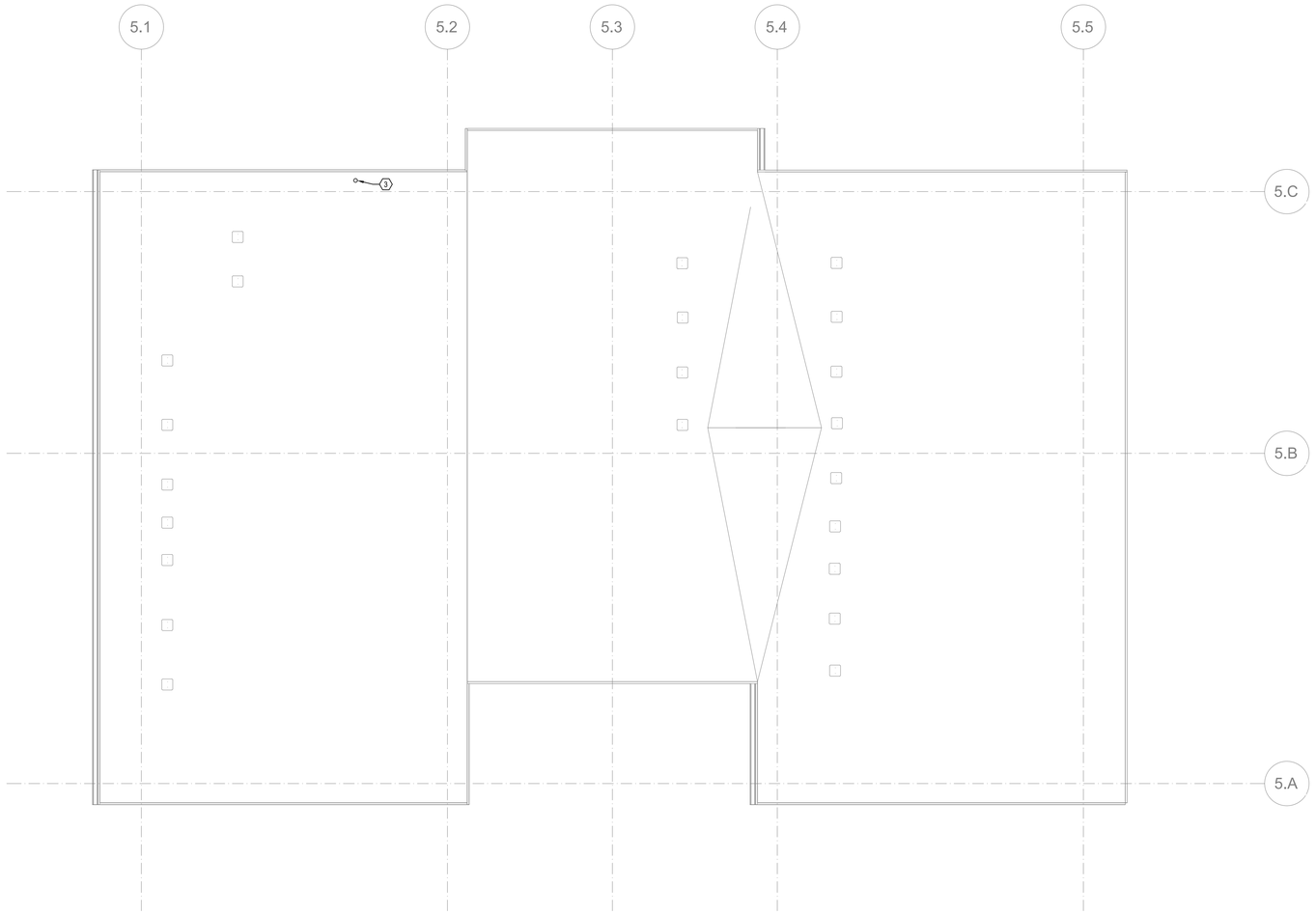
TITLE

POWER AND LIGHTING PLAN - BUILDING 18 - LEVEL 3

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GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER PLAN - BUILDING 18 - ROOF

SCALE: 3/16"=1'-0"

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King County Housing Authority

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c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13223 135th Ave NE,
Kirkland, WA 98034

BUILDING 18

BID SET

GEORGINNA M. LAMSON
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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TITLE

POWER PLAN - BUILDING 18 - ROOF

PERMIT #	BMF22-09888
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SHEET NO.:

E18-104

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GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

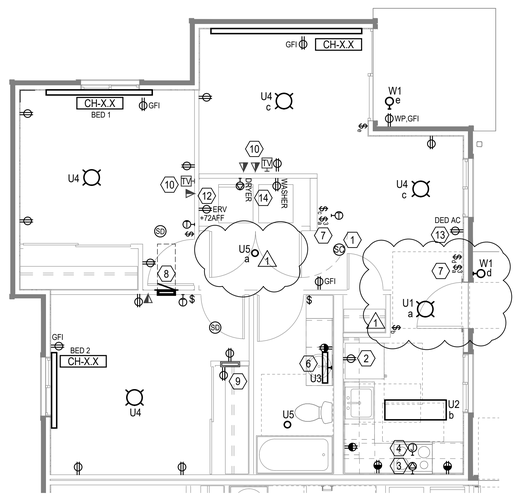
1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

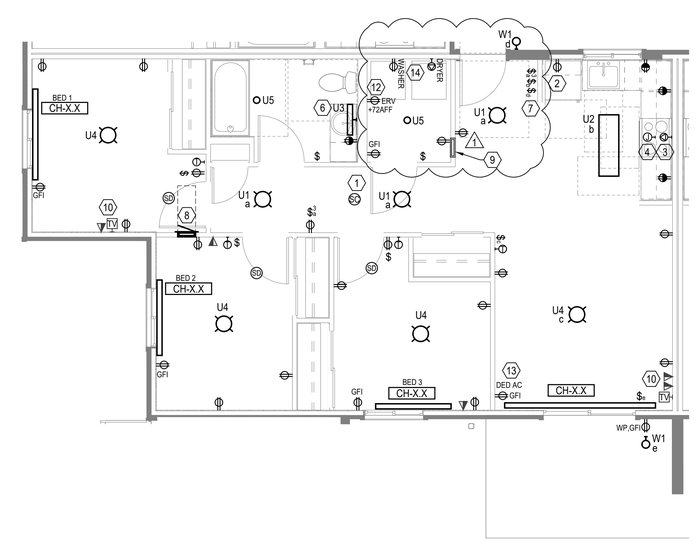
		HEATER TYPES			
UNIT NUMBER(S)	UNIT TYPE	BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**
1/4"=1'-0" UNITS: A, D, E, H, I, L



1 **ENLARGED PLAN - 3-BED**
1/4"=1'-0" UNITS: B, C, F, G, J, K

SIDER+BYERS
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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13223 135th Ave NE,
Kirkland, WA 98034

BUILDING 18

BID SET

DEBORAH M. JOHNSON — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

ENLARGED UNIT PLANS

PERMIT #	BMF22-09888
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET
- FLAG NOTE
- REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM / EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT. SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP / F — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 2PDX etc. — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS / OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP / OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP / 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M / M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
IN	INCH/INCHES	WO	WITHOUT
		WP	WEATHERPROOF
KCMIL	THOUSAND CIRCULAR MILS	WT	WEIGHT
KO	KNOCK OUT		
KW	KILOWATT/KILOWATTS	XFR	TRANSFORMER
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13215 135th Ave NE,
Kirkland, WA 98034

BUILDING 19

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09889
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
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SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13215 135th Ave NE,
Kirkland, WA 98034

BUILDING 19

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09889
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E19-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#6
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#6
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

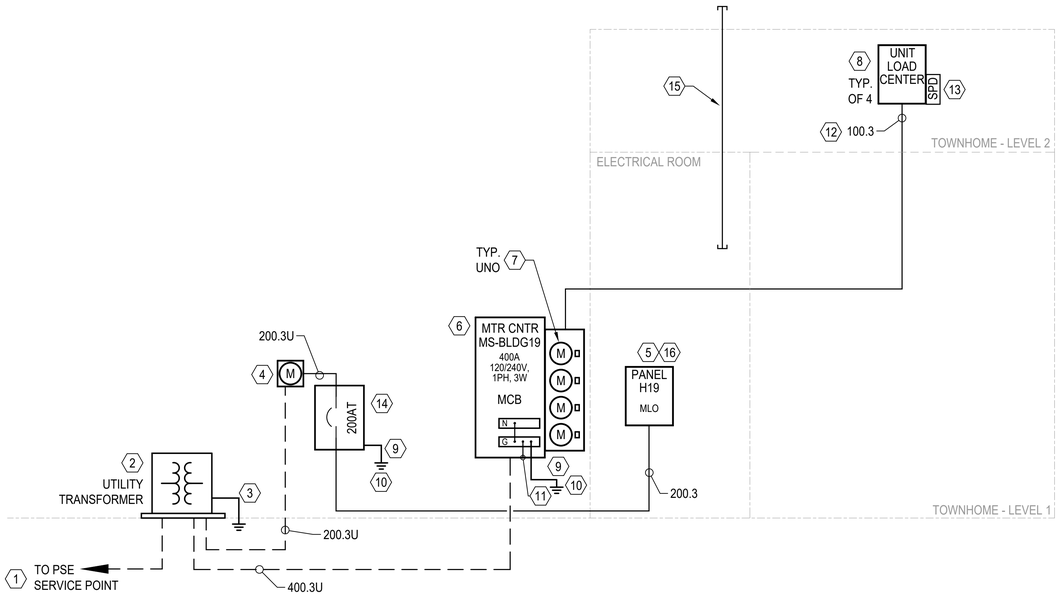
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES ⓧ :

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

⚠1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

⚠1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 19

UNIT TYPE: TOWNHOUSE UNIT	AREA (SF):	1,211				6/18/2023
DEMAND LOAD (kVA):	18.81 =>	78.4 AMPS AT	240	V	1	PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF		=	3.63	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	8.13	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.80	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.80**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER	1	AT	1.2	=	1.20 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
				SUBTOTAL (CONNECTED)	=	3.40 kVA
APPLIANCE DEMAND FACTOR [220.53]:				75%		
				GENERAL APPLIANCE LOAD - DEMAND	=	**2.55 kVA**

MOTORS [220.50]:		QTY		LOAD (kVA EACH)		
	TOILET EXHAUST FAN		AT		=	0.00 kVA
	ERV UNIT	1	AT	0.11	=	0.11 kVA
	KITCHEN EXHAUST FAN		AT		=	0.00 kVA
	+25% OF LARGEST MOTOR				=	0.03 kVA
				GENERAL MOTOR LOAD - DEMAND	=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]					=	6.06 kVA
	QTY		LOAD (kVA EACH)			
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA	
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA	
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA	
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA	
			TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	=	**27.04 kVA**	

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	25.97 kVA
DEMAND FACTORS PER NEC 220.82(B):			
0 - 10kVA:	100%	=	10.00 kVA
> 10 kVA:	40%	=	6.39 kVA
ELECTRIC HEAT AND AC [220.82(C)]:			
LARGEST LOAD OF OPTIONS: > = 4 ELECT SPACE HEATERS, 40% NAMEPLATE		=	2.42 kVA
	TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**18.81 kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL MS- 4 unit TOWNHOUSE 5/18/2023

DEMAND LOAD (kVA): 57.61 => 240.0 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
0								0	0.00	0	0.00	0	0.00
TOWNHOUSE UNIT	4	32.53	13.60	0.44	24.22	4	22.00	0	0.00	0	0.00	4	35.20
0								0	0.00	0	0.00	0	0.00
TOTALS:	4	32.53	13.60	0.44	24.22	4	22.00	0	0.00	0	0.00	4	35.20

ADDITIONAL 25% OF LARGEST MOTOR: 0.03

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD = 128.02 kVA
DEMAND FACTOR FROM TABLE 220.84 = 45%

TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC = 57.61 kVA

KIRKLAND HEIGHTS - TOWNHOUSE BLDG (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 4): 57.61 kVA
(SEE ATTACHED CALCS)
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.

RESIDENTIAL TOTAL: 57.61 kVA
240.04 AMPS @ 120/240V, 1-PHASE
PROVIDE 400A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	0.5 kVA
LIGHTING - SITE:	1.0 kVA
GENERAL RECEPTACLES:	1.0 kVA
MECHANICAL:	kVA
ELECT HEAT (WATER RMS):	1.0 KVA
CENTRAL HOT WATER (HPWH)	5.3 KVA
ELECT SWING TANK	4.5 KVA
HEAT TRACE	0.5 KVA
MISCELLANEOUS:	2.0 kVA
EV CHARGING (2):	16.64 kVA
HOUSE TOTAL:	32.41 kVA
	89.96 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	40.51 kVA
	112.4556 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	98.12 kVA
	272.36 AMPS @ 120/240V, 1-PHASE

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KIRKLAND HEIGHTS APARTMENTS

13215 135th Ave NE,
Kirkland, WA 98034

BUILDING 19

BID SET

JOHANNA M. BOUCHER — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09889
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E19-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
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70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
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D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.

B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H19

NORMAL POWER — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
BUS RATING: 200 AMPS — M.L.O. OR M.C.B.: M.L.O. — 200 AMPS

CKT #	DESCRIPTION	CONN TYPE	LOAD kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN TYPE	LOAD kVA	DESCRIPTION	CKT #
1	TG - ELECT MECH CLOSETS	L	0.12	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	1
3	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	B	20 / 1			0.00	SPARE	4
5	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.12	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	SPARE		0.00		20 / 1	A	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	10
11	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	14
15	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 3	20.2N	C	1.73	HEATPUMP-WATER HTR - 'WH-1'	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN. (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP-WATER HTR - 'WH-2'	22
23	SPARE		0.00		20 / 1	B						24
25	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	26
27	SPARE		0.00		20 / 1	B	20 / 1			0.00	SPARE	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - 'SWH-1'	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP 'CP-1' & MX VALVE 'MV-1'	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	SPACE ONLY					B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.12	kVA 125%	0.15	kVA
R	= RECEPTACLES	2.52	kVA NEC 220.44	2.52	kVA
M	= MOTORS	0.12	kVA 100%	0.12	kVA
	PLUS 25% OF LARGEST MOTOR	0.12	kVA 25%	0.03	kVA
C	= CONTINUOUS	13.99	kVA 125%	17.45	kVA
N	= NON-CONTINUOUS	1.20	kVA 100%	1.20	kVA
K	= KITCHEN	0.00	kVA 75%	0.00	kVA

PANEL CONNECTED TOTAL: 57.93 kVA, 74.65 AMPS

PANEL DEMAND TOTAL: 21.47 kVA, 89.44 AMPS

NOTES:

A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):

1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 4 BEDROOM

NORMAL POWER — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
BUS RATING: 100 AMPS — M.O.R M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'L TG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ENV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19	BEDROOM 4 RECEPTS, LTS, SD (1)	20.1	20 / 1	B	20 / 1	20.1	DED.RECEPT - A/C UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A	20 / 1	20.1	HEAT - KITCHEN, BATH (1)	22
23	"			B				24

NOTES:

A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.

B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):

1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-2	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.135					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES; DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EWH-T	DWELLING UNITS	KING	PAW WALL HEATER	0.25	120 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	120 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 5

NOTES:

1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.
5. UNIT WILL REQUIRE SURFACE MOUNTING.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 4 UNIT TOWNHOMES

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	BED 4	KITCHEN	BATH	LIVING
A	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4
B	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
C	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
D	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4

NOTES:

A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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King County Housing Authority

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c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13215 135th Ave NE,
Kirkland, WA 98034

BUILDING 19

BID SET

VIRGINNA M. [illegible] — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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SCHEDULES

PERMIT #	BMF22-09889
DRAWN	RA, JF
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ISSUE DATE	4/14/2023
JOB NO.	22016
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E19-004

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

10/7/2021 7:33:34 AM

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BUILDING 19

BID SET

GEORGINNA M. LAMPMAN
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43761
REGISTERED
PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

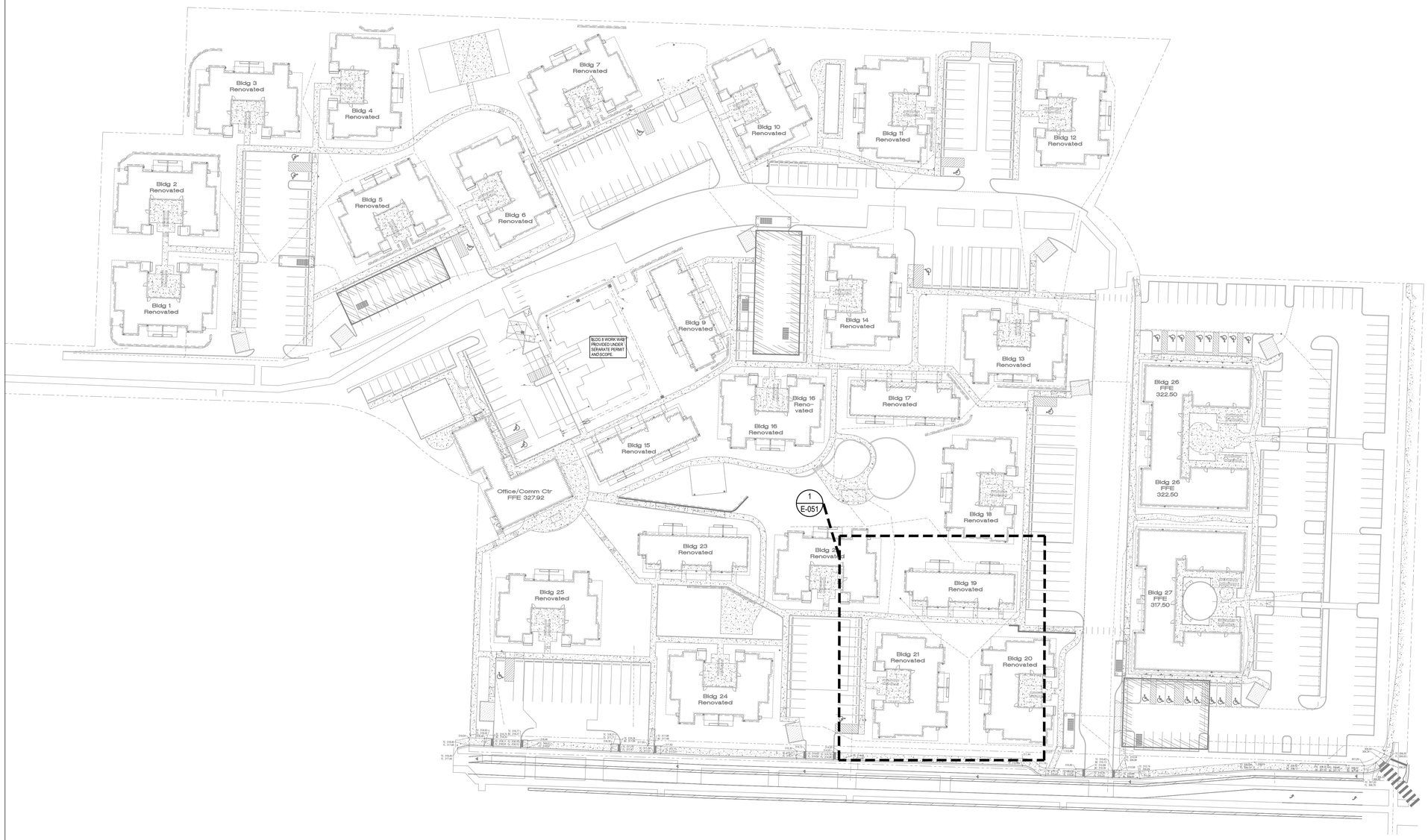
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LUMINAIRE SCHEDULE

PERMIT #	BMF22-09889
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CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E19-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

10/7/2021 7:33:34 AM

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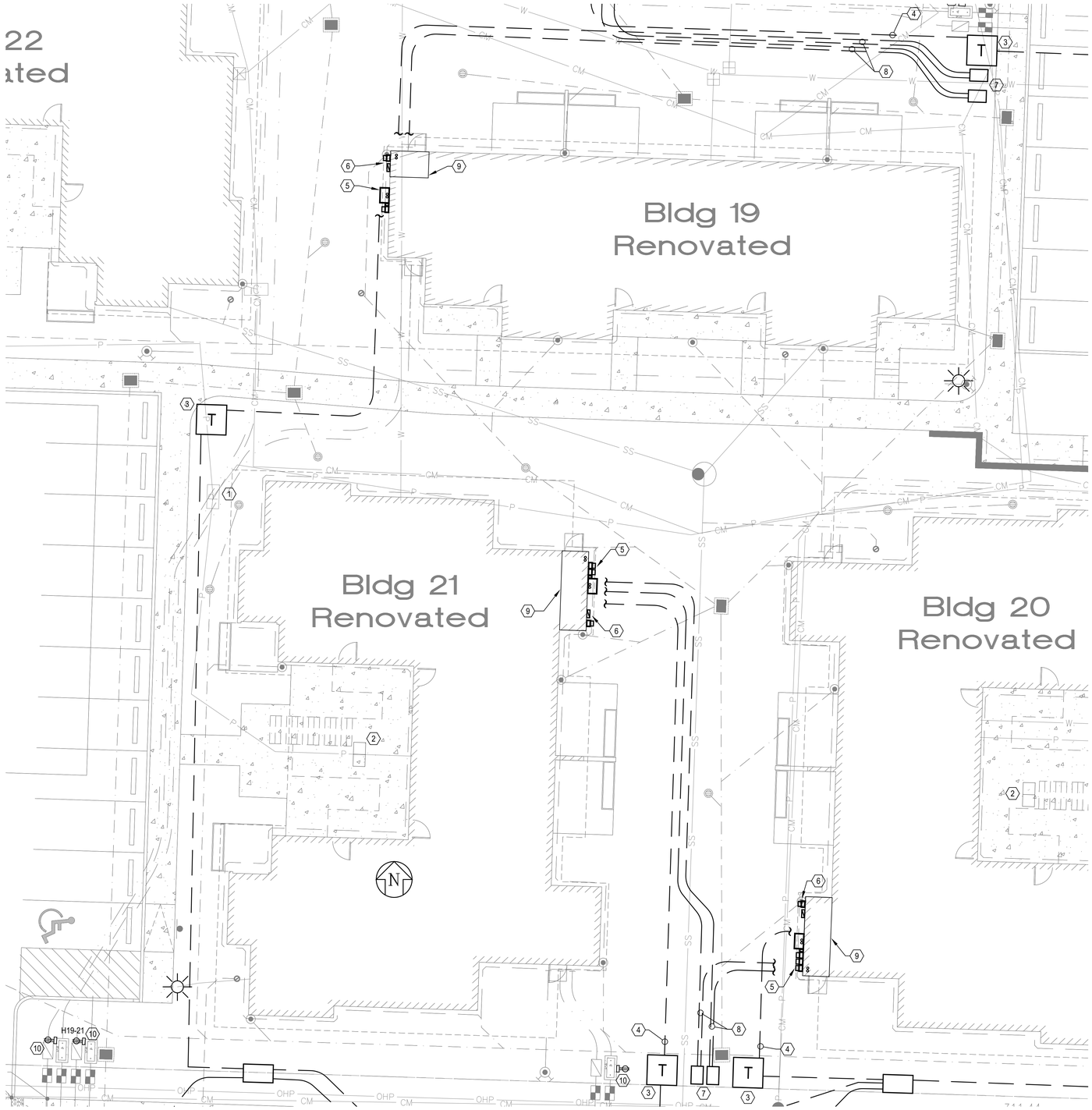
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OVERALL PROJECT SITE PLAN

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JOB NO.	22016

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ELECTRICAL SITE PLAN - BUILDING 19

SCALE: 1/8" = 1'-0"

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13215 135th Ave NE,
Kirkland, WA 98034

BUILDING 19

BID SET

JEROLGINNA M. ALMARIO — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

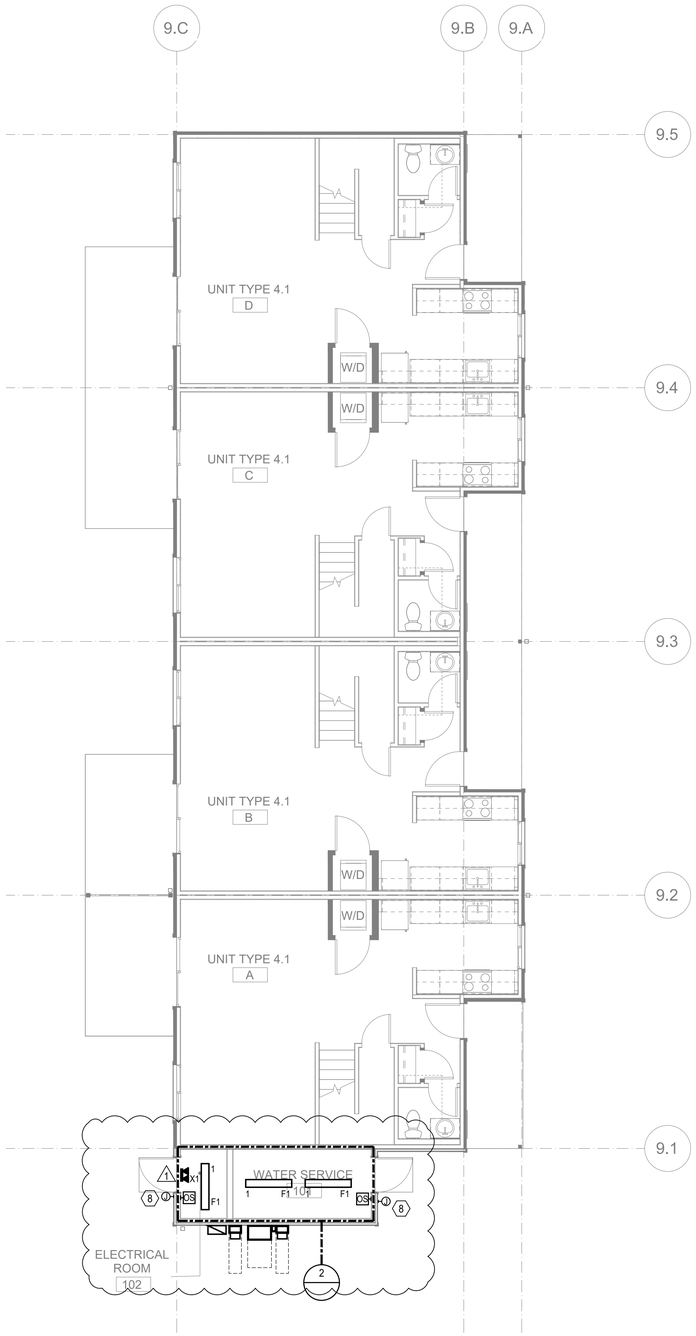
TITLE

ELECTRICAL SITE PLAN - BUILDING 19

PERMIT #	BMF22-09889
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CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E19-051

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POWER AND LIGHTING PLAN - BUILDING 19 - LEVEL 1

SCALE: 3/16"=1'-0"

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H19 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

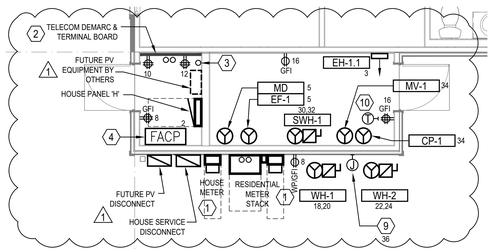
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. NOT USED
6. NOT USED.
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



ELECTRICAL AND WATER ROOM

2 / E-101 — 1/4"=1'-0"

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Kirkland, WA 98034

BUILDING 19

BID SET

JEONGINNA M. JEONG — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

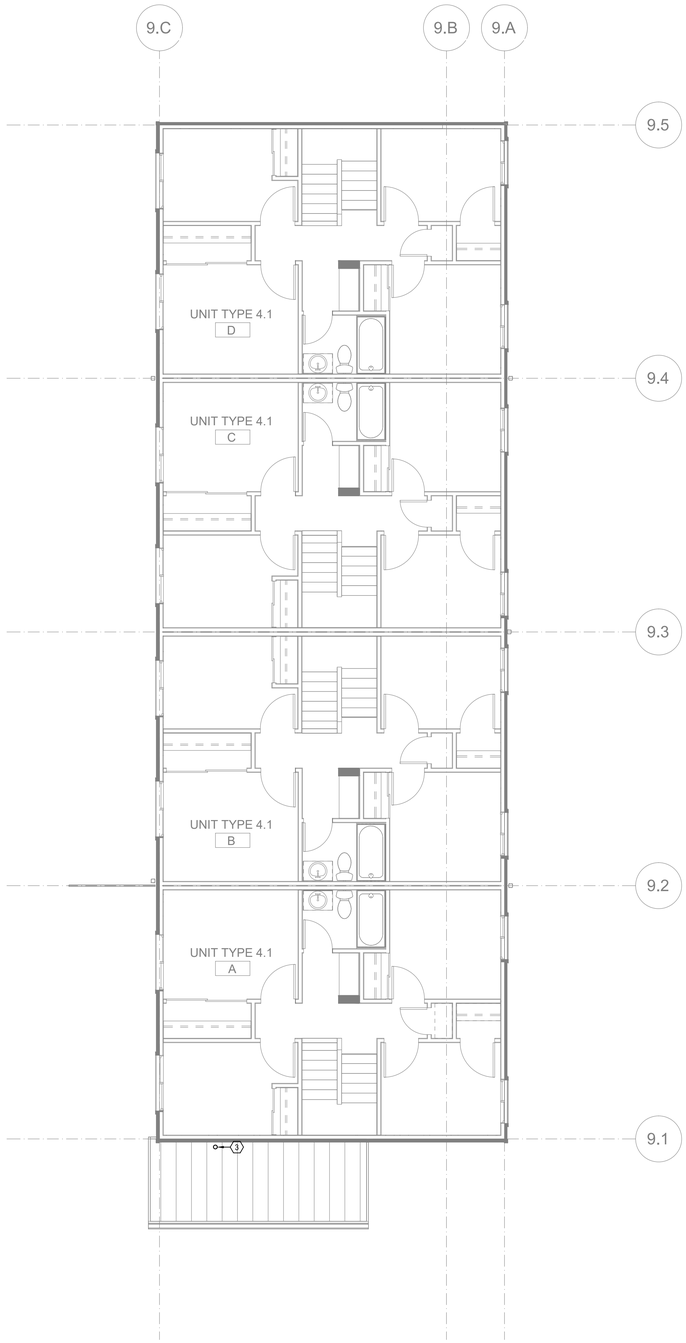
TITLE

POWER AND LIGHTING PLAN - BUILDING 19 - LEVEL 1

PERMIT #	BMF22-09889
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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H19 UNLESS NOTED OTHERWISE.

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SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER AND LIGHTING PLAN - BUILDING 19 - LEVEL 2

SCALE: 3/16"=1'-0"

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BUILDING 19

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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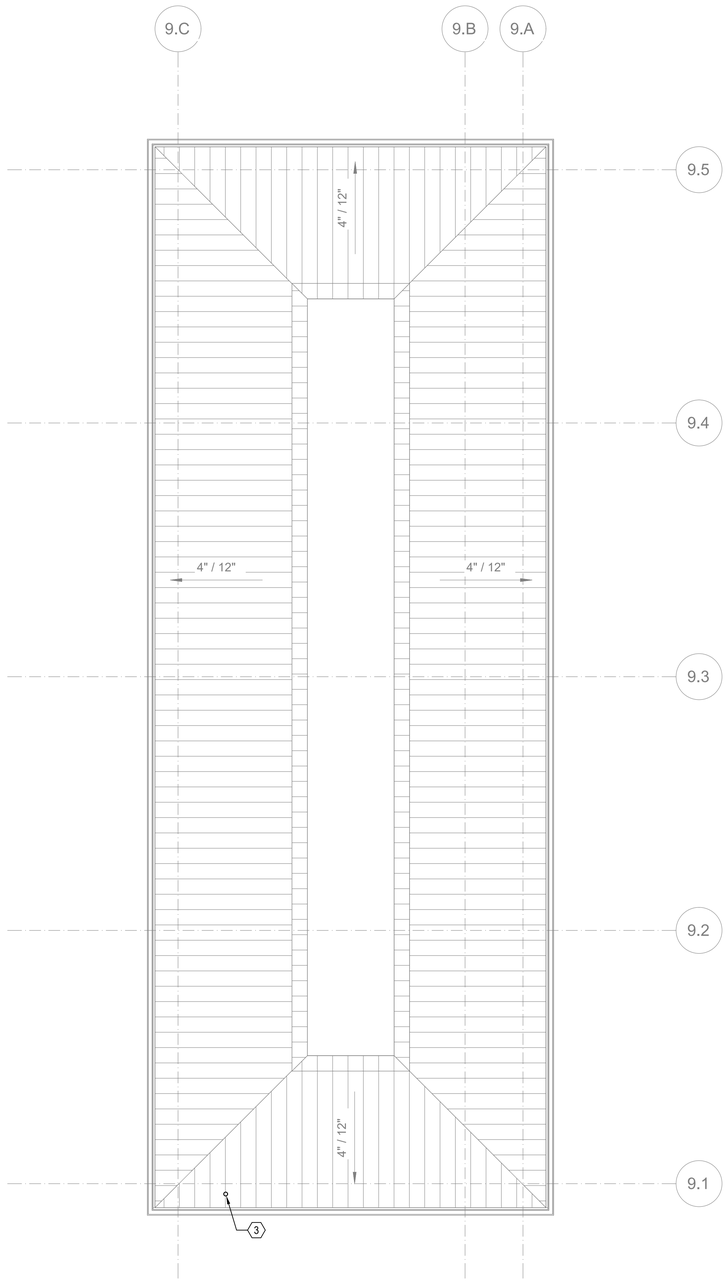
POWER AND LIGHTING PLAN - BUILDING 19 - LEVEL 2

PERMIT #	BMF22-09889
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ISSUE DATE	4/14/2023
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POWER PLAN - BUILDING 19 - ROOF

SCALE: 3/16"=1'-0"

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GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

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C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

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REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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POWER PLAN - BUILDING 19 - ROOF

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ELECTRIC HEATER DWELLING UNIT SUMMARY - 4 UNIT TOWNHOMES

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES						
		BED 1	BED 2	BED 3	BED 4	KITCHEN	BATH	LIVING
A	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4
B	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
C	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
D	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4

NOTES:

A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

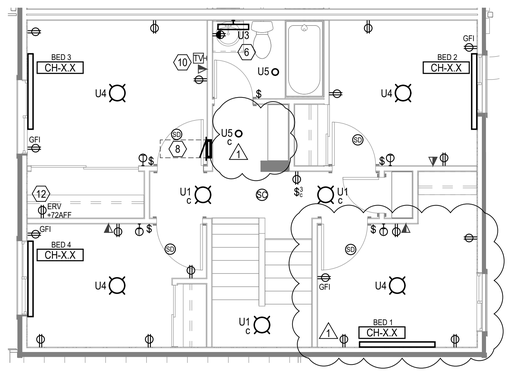
B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

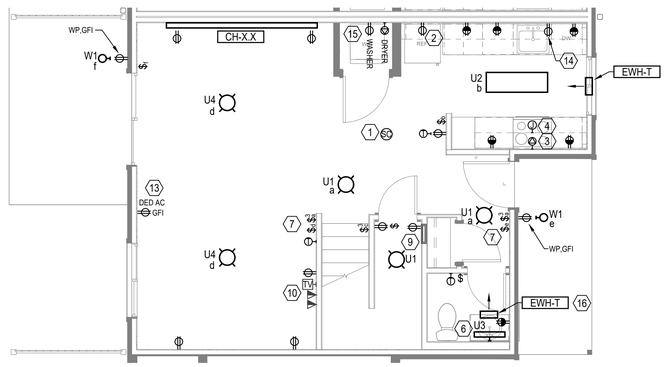
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FLAG NOTES (X):

1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. CONNECTION FOR RANGE EXHAUST HOOD IN TYPE A UNITS. FIELD VERIFY EXACT LOCATION. PROVIDE ACCESSIBLE SWITCH FOR RANGE HOOD CONTROL. VERIFY EXACT LOCATION.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. PROVIDE HORN/STROBES IN TYPE A UNITS PER CODE AND AHJ REQUIREMENTS. COORDINATE HORN/STROBE LOCATIONS WITH COVE HEATERS; DO NOT LOCATE HORN/STROBES ABOVE OR IMMEDIATELY ADJACENT TO COVE HEATERS. CONFIRM FINAL LOCATIONS WITH FIRE MARSHAL.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR DISHWASHER. FIELD VERIFY CONNECTION TYPE, LOCATION AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS. LOCATION OF CONNECTION TO BE ACCESSIBLE.
15. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.
16. COORDINATE BATHROOM HEATER LOCATION WITH OWNER AND ARCHITECT.



3 **ENLARGED PLAN - TH - LEVEL 2**
1/4"=1'-0"



1 **ENLARGED PLAN - TH - LEVEL 1**
1/4"=1'-0"

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BID SET

JOANNA M. GRAY — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

ENLARGED UNIT PLANS

PERMIT #	BMF22-09889
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
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E19-301

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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- E-1 — DETAIL NUMBER / SHEET
- FLAG NOTE
- 1 — REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- (SD) — FIRE ALARM SMOKE DETECTOR
- (CO) — FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM — EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 2PDX WS,C — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP — 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER AND LIGHTING PLAN - LEVEL 3
E-104	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
IN	INCH/INCHES	WO	WITHOUT
		WP	WEATHERPROOF
KCMIL	THOUSAND CIRCULAR MILS	WT	WEIGHT
KO	KNOCK OUT		
KW	KILOWATT/KILOWATTS	XFR	TRANSFORMER
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
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Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13205 135th Ave NE,
Kirkland, WA 98034

BUILDING 20

BID SET

GEORGINA L. BYERS — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09890
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E20-001

10/7/2021 7:33:34 AM

GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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King County Housing Authority

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c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13205 135th Ave NE,
Kirkland, WA 98034

BUILDING 20

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09890
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E20-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

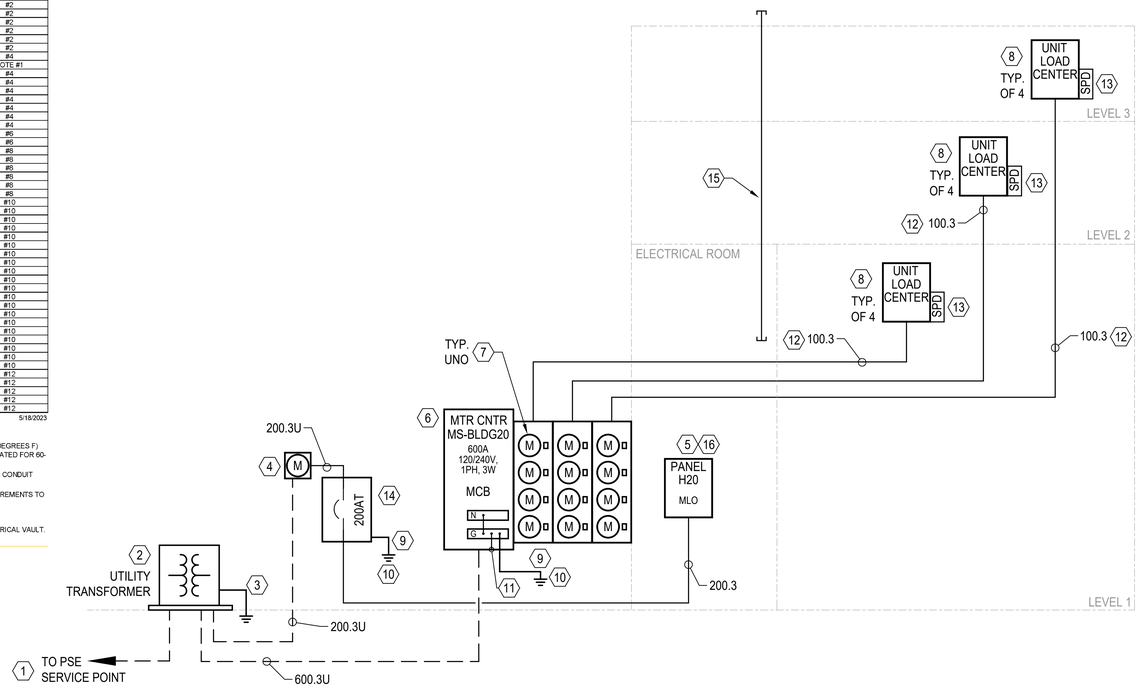
MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

△1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

△1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 20

UNIT TYPE: 2BR - 2.1 AREA (SF): 782 — 5/18/2023
DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF		=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.35	kVA
> 120,000VA	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	4.35	kVA

FIXED IN PLACE APPLIANCES [220.53]:

TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70 kVA
RANGE HOOD	1	AT	0.3	=	0.30 kVA
MICROWAVE		AT		=	0.00 kVA
DISHWASHER		AT		=	0.00 kVA
WASHER	1	AT	1.2	=	1.20 kVA
GARBAGE DISPOSAL		AT		=	0.00 kVA
WATER HEATER		AT		=	0.00 kVA
		SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:		75%			
		GENERAL APPLIANCE LOAD - DEMAND		=	1.65 kVA

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
		GENERAL MOTOR LOAD - DEMAND		=	0.14 kVA

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 3.91 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA
		TOTAL DWELLING UNIT LOAD PER NEC 220, PART III		=	23.54 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:	100%		=	10.00 kVA
> 10 KVA:	40%		=	5.39 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS, 65% NAMEPLATE		=	2.54 kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	17.93 kVA

UNIT TYPE: 3BR - 3.1 AREA (SF): 906 — 5/18/2023
DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF		=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.48	kVA
> 120,000VA	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	4.48	kVA

FIXED IN PLACE APPLIANCES [220.53]:

TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70 kVA
RANGE HOOD	1	AT	0.3	=	0.30 kVA
MICROWAVE		AT		=	0.00 kVA
DISHWASHER		AT		=	0.00 kVA
WASHER	1	AT	1.2	=	1.20 kVA
GARBAGE DISPOSAL		AT		=	0.00 kVA
WATER HEATER		AT		=	0.00 kVA
		SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:		75%			
		GENERAL APPLIANCE LOAD - DEMAND		=	1.65 kVA

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
		GENERAL MOTOR LOAD - DEMAND		=	0.14 kVA

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 4.53 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA
		TOTAL DWELLING UNIT LOAD PER NEC 220, PART III		=	24.29 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:	100%		=	10.00 kVA
> 10 KVA:	40%		=	5.54 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS, 65% NAMEPLATE		=	2.94 kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	18.49 kVA

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL MS - 12 unit STACK — 5/18/2023
DEMAND LOAD (kVA): 137.09 => 571.2 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
2BR - 2.1	6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	0	0.00	6	52.80
3BR - 3.1	6	43.31	13.20	0.66	27.18	6	33.00	0	0.00	0	0.00	6	52.80
0								0	0.00	0	0.00	0	0.00
TOTALS:	12	84.38	26.40	1.32	50.64	12	66.00	0	0.00	0	0.00	12	105.60
ADDITIONAL 25% OF LARGEST MOTOR:				0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD	=	334.37	kVA
DEMAND FACTOR FROM TABLE 220.84 =		41%	
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC	=	137.09	kVA

KIRKLAND HEIGHTS - 12 UNIT STACK FLAT (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 12):	137.09 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	137.09 kVA
	571.22 AMPS @ 120/240V, 1-PHASE
PROVIDE 600A RESIDENTIAL METER CENTER	

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	7.7 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	40.83 kVA
	170.14 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	51.04 kVA
	212.6708 AMPS @ 120/240V, 1-PHASE
PROVIDE 200A HOUSE SERVICE	
TOTAL BUILDING SERVICE:	188.13 kVA
	783.89 AMPS @ 120/240V, 1-PHASE

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13205 135th Ave NE,
Kirkland, WA 98034

BUILDING 20

BID SET

JOHANNA M. [illegible] — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09890
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E20-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

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B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H20 — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — M.O.OR MCB: M.O. 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY	L	0.27	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	RECEPT - LVL 3 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN (EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-1'	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN. (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-2'	22
23	SPARE		0.00		20 / 1	B						24
25	LTG - SITE	L	0.20	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'WH-3'	26
27	SPARE		0.00		20 / 1	B						28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK- 'SWH-1'	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP "CP-1" & MIX VALVE 'MV-1'	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD		DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.71	kVA	125%	0.89	kVA
R	= RECEPTACLES	4.14	kVA	NEC 220.44	4.14	kVA
M	= MOTORS	0.24	kVA	100%	0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA	25%	0.06	kVA
C	= CONTINUOUS	15.68	kVA	125%	19.61	kVA
N	= NON-CONTINUOUS	1.44	kVA	100%	1.44	kVA
K	= KITCHEN	0.00	kVA	75%	0.00	kVA

PANEL CONNECTED TOTAL: 26.37 kVA
PANEL DEMAND TOTAL: 22.21 kVA, 92.56 AMPS; 26.37 kVA, 109.89 AMPS

NOTES:

A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):

1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER

LOAD CENTER - 2 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.O.OR MCB: M.O. 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:

A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):

1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.O.OR MCB: M.O. 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE			A				22
23	"			B				24

NOTES:

A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):

1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-3	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP			1	
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1				1	
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163				2	
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15			3	
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:

1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:

A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13205 135th Ave NE,
Kirkland, WA 98034

BUILDING 20

BID SET

VIRGINNA M. [illegible] — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

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SCHEDULES

PERMIT #	BMF22-09890
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E20-004

10/7/2021 7:33:34 AM

LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

10/7/2021 7:33:34 AM

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BUILDING 20

BID SET

GEORGINNA M. LAMPSON
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

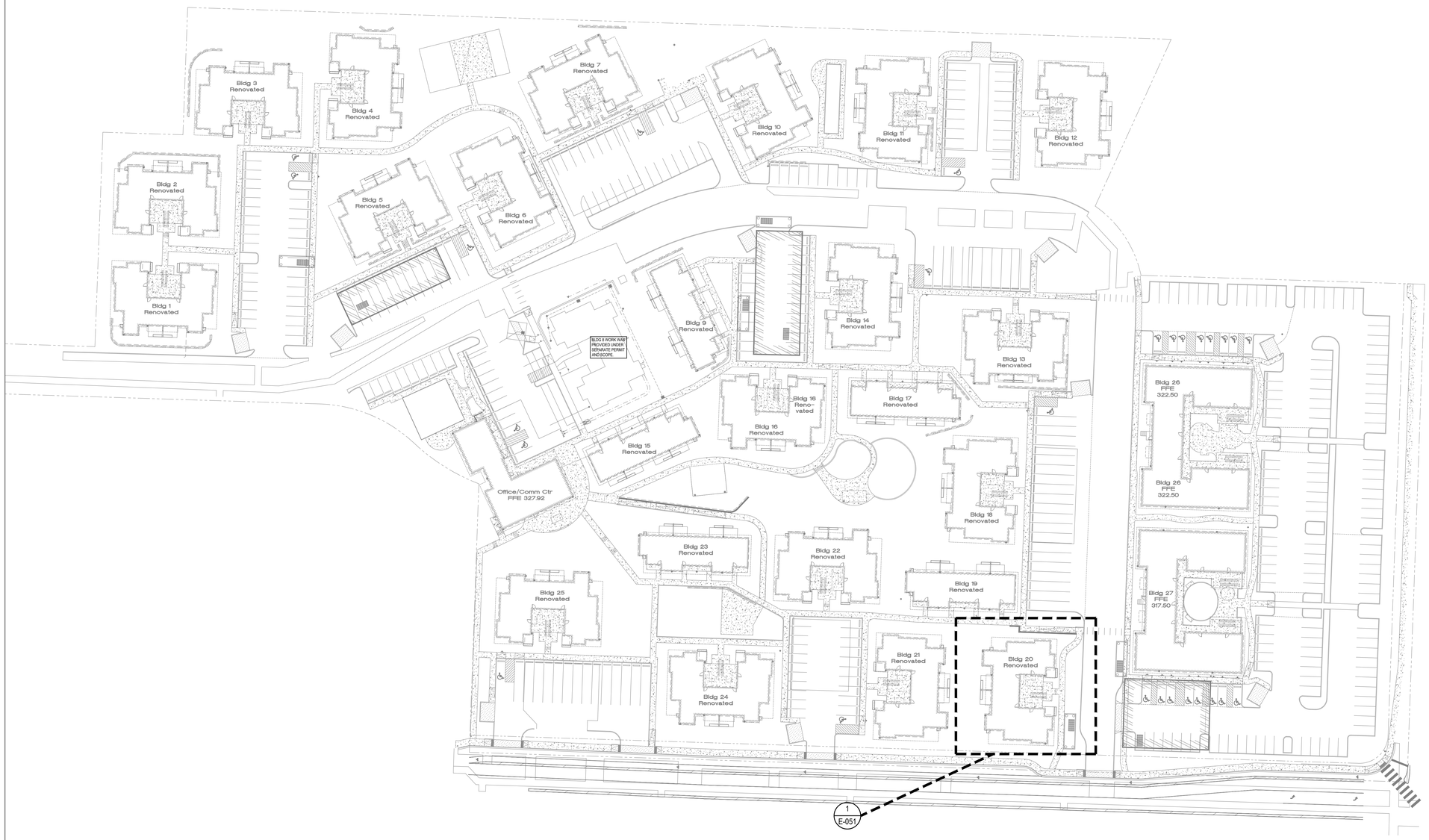
TITLE

LUMINAIRE SCHEDULE

PERMIT #	BMF22-09890
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E20-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

10/7/2021 7:33:34 AM

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DPD STAMP

TITLE

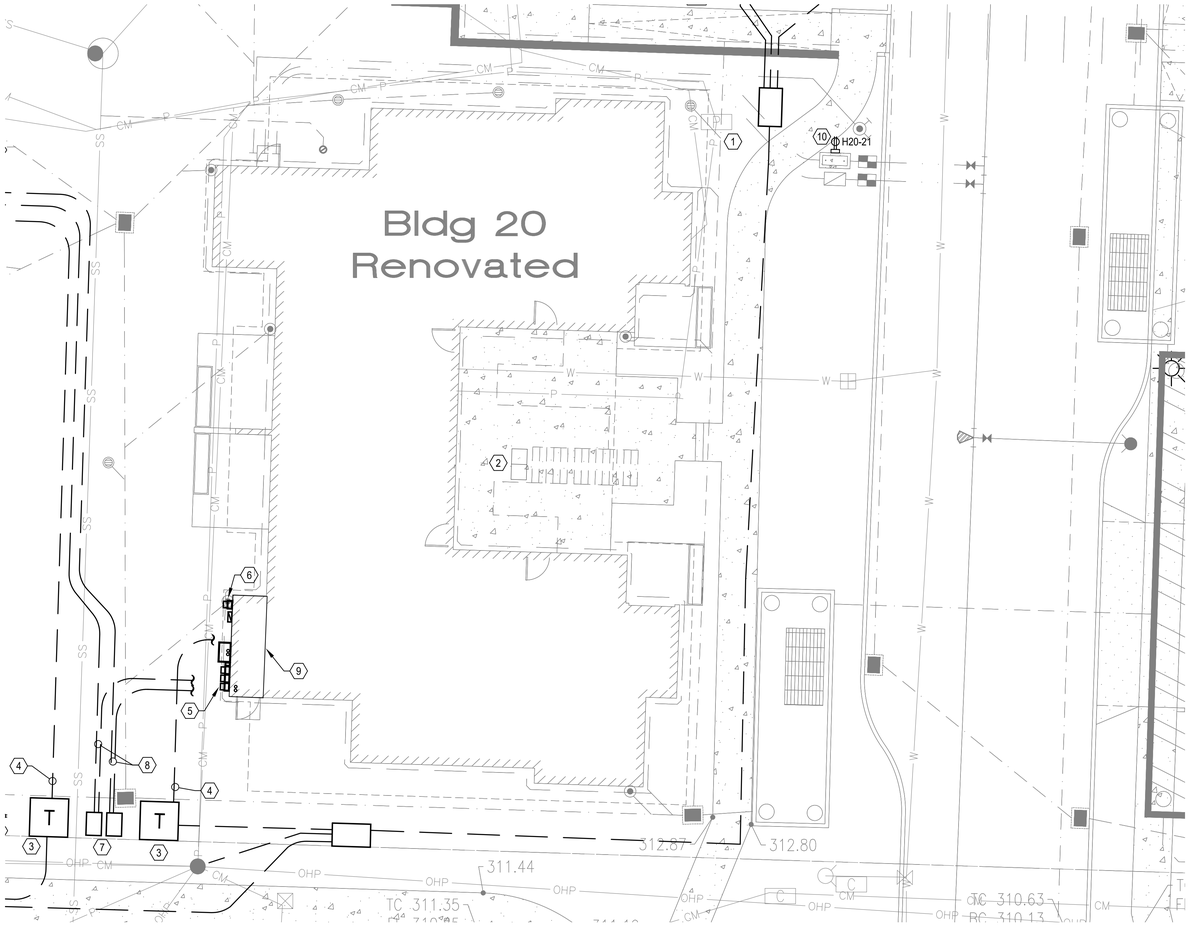
OVERALL PROJECT SITE PLAN

PERMIT #	BMF22-09890
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E20-050

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 20
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

10/7/2021 7:33:34 AM

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13205 135th Ave NE,
Kirkland, WA 98034

BUILDING 20

BID SET

JEREMIAH M. GLEASON — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

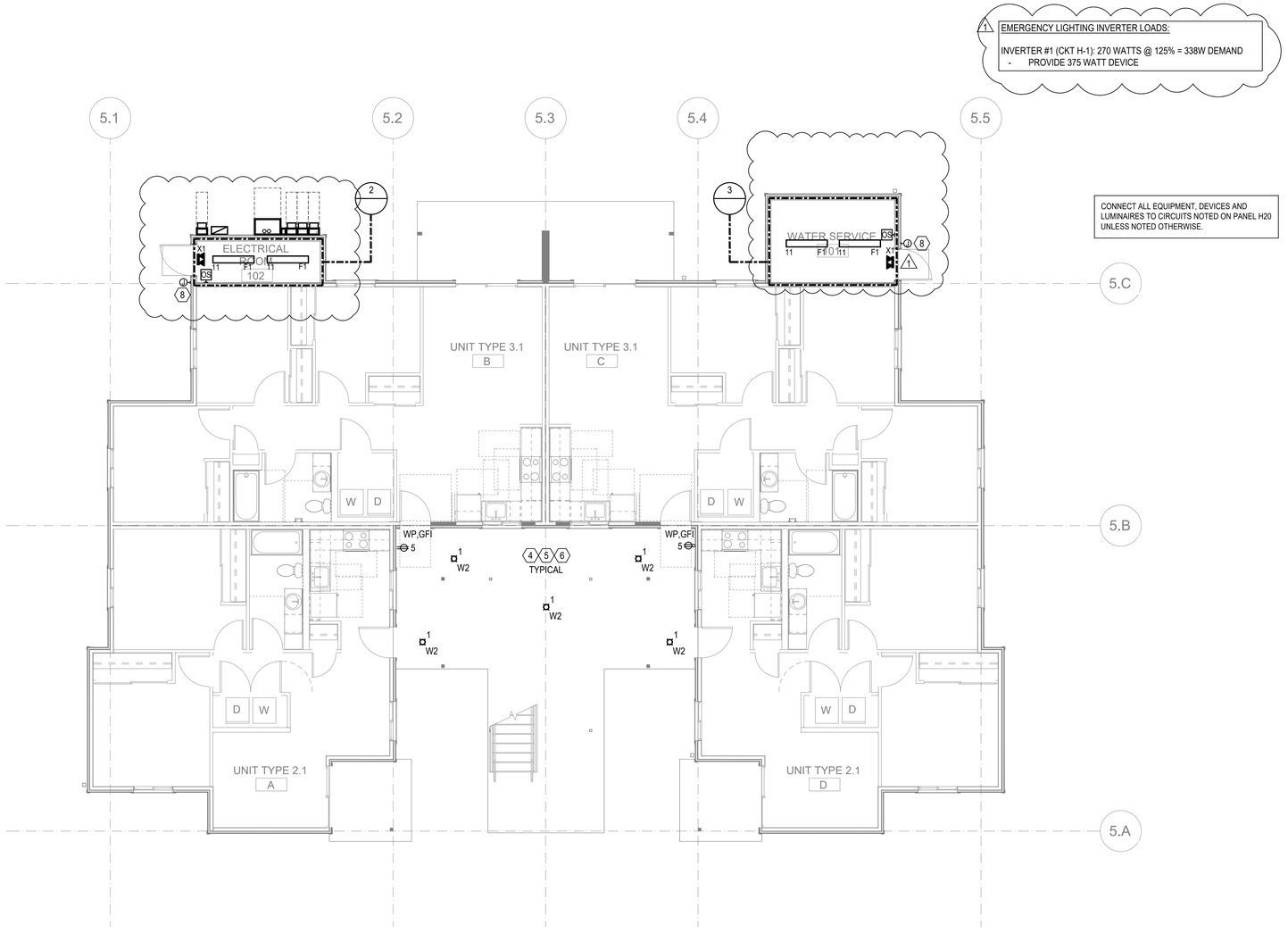
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TITLE

ELECTRICAL SITE PLAN - BUILDING 20

PERMIT #	BMF22-09890
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E20-051



1 EMERGENCY LIGHTING INVERTER LOADS:

INVERTER #1 (CKT H-1): 270 WATTS @ 125% = 338W DEMAND
- PROVIDE 375 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H20 UNLESS NOTED OTHERWISE.

POWER AND LIGHTING PLAN - BUILDING 20 - LEVEL 1

SCALE: 3/16"=1'-0"

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

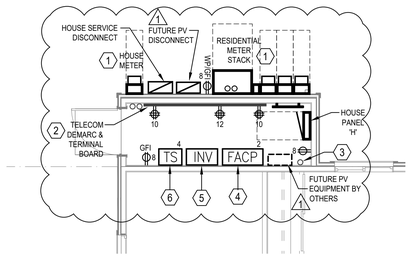
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

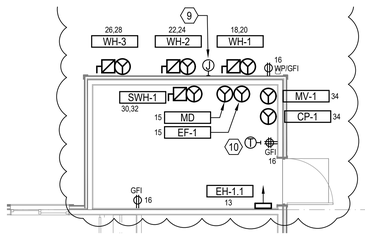
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 375 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR FIXTURE TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-375-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 E-101 **ELECTRICAL ROOM** 1/4"=1'-0"



3 E-101 **WATER ROOM** 1/4"=1'-0"

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King County Housing Authority

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c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13205 135th Ave NE,
Kirkland, WA 98034

BUILDING 20

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

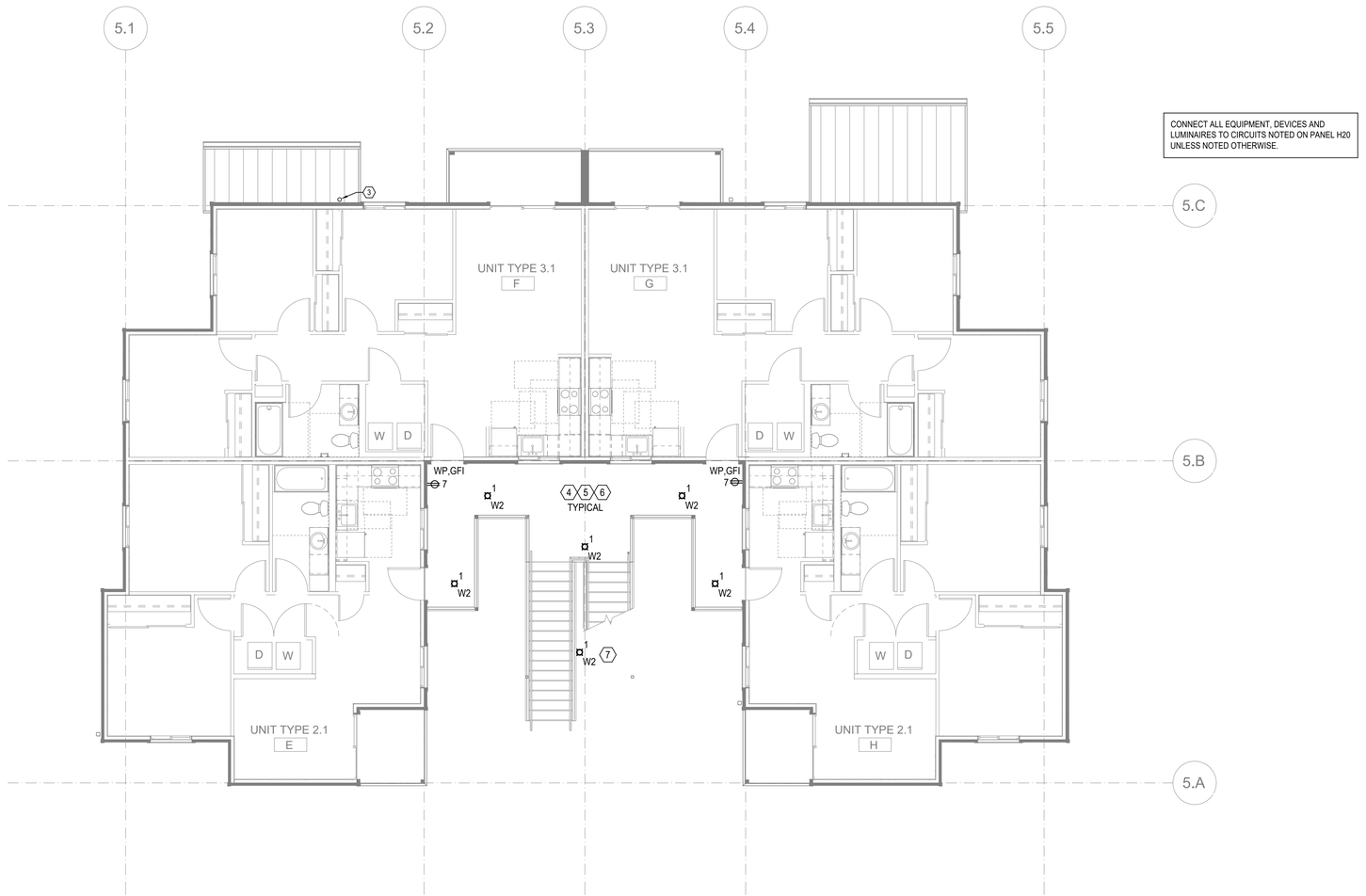
TITLE

POWER AND LIGHTING PLAN - BUILDING 20 - LEVEL 1

PERMIT #	BMF22-09890
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
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SHEET NO.:	

E20-101

10/7/2021 7:33:34 AM



ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H20 UNLESS NOTED OTHERWISE.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. (1) ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. (1) ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.
7. LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.

POWER AND LIGHTING PLAN - BUILDING 20 - LEVEL 2

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

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KIRKLAND HEIGHTS APARTMENTS

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BUILDING 20

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

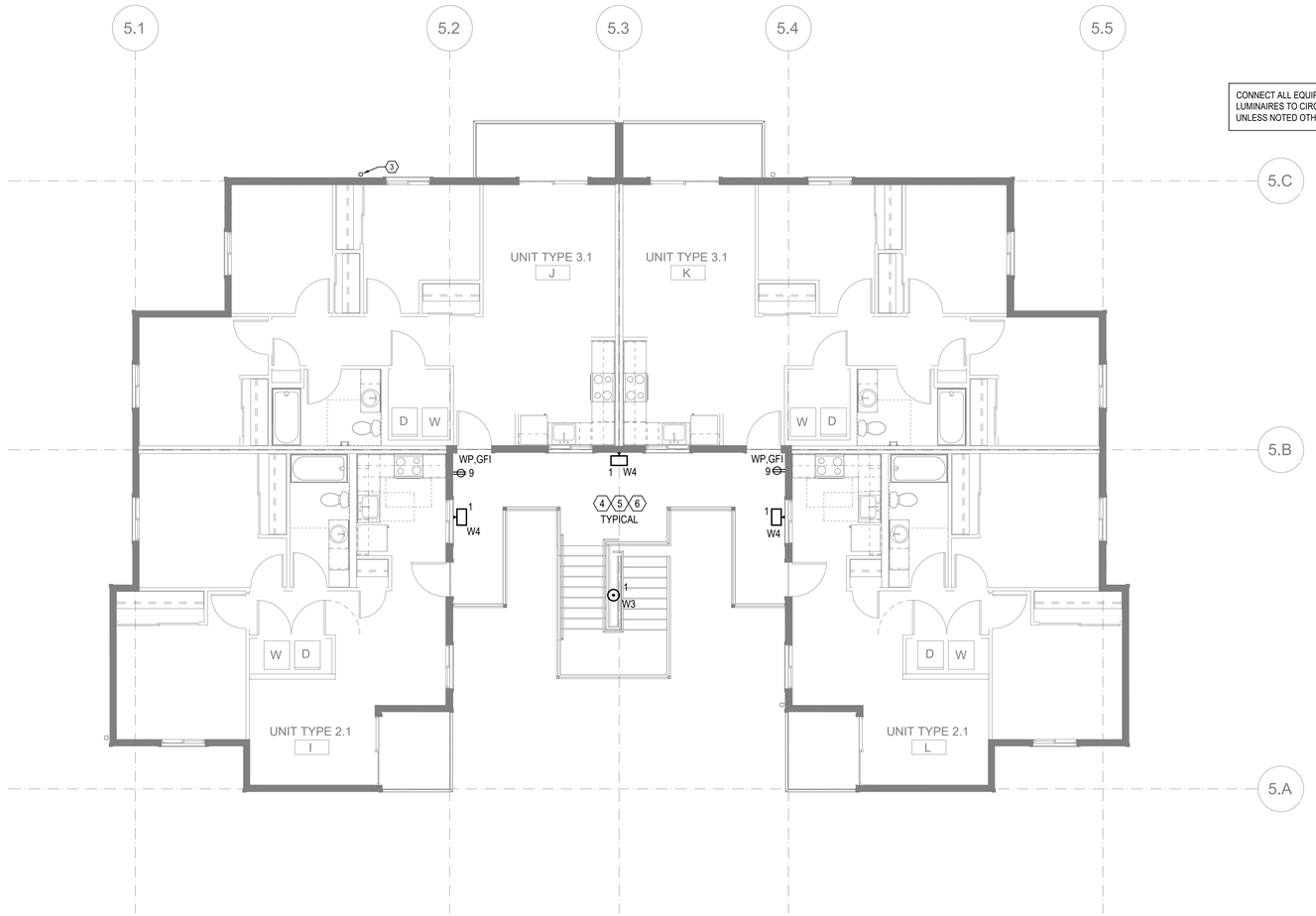
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TITLE

POWER AND LIGHTING PLAN - BUILDING 20 - LEVEL 2

PERMIT #	BMF22-09890
DRAWN	RA, JF
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SHEET NO.:	

E20-102



CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H20 UNLESS NOTED OTHERWISE.

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SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. (1) ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. (1) ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 20 - LEVEL 3

SCALE: 3/16"=1'-0"

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King County Housing Authority

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c/o: King County Housing Authority,
General Partner
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Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13205 135th Ave NE,
Kirkland, WA 98034

BUILDING 20

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

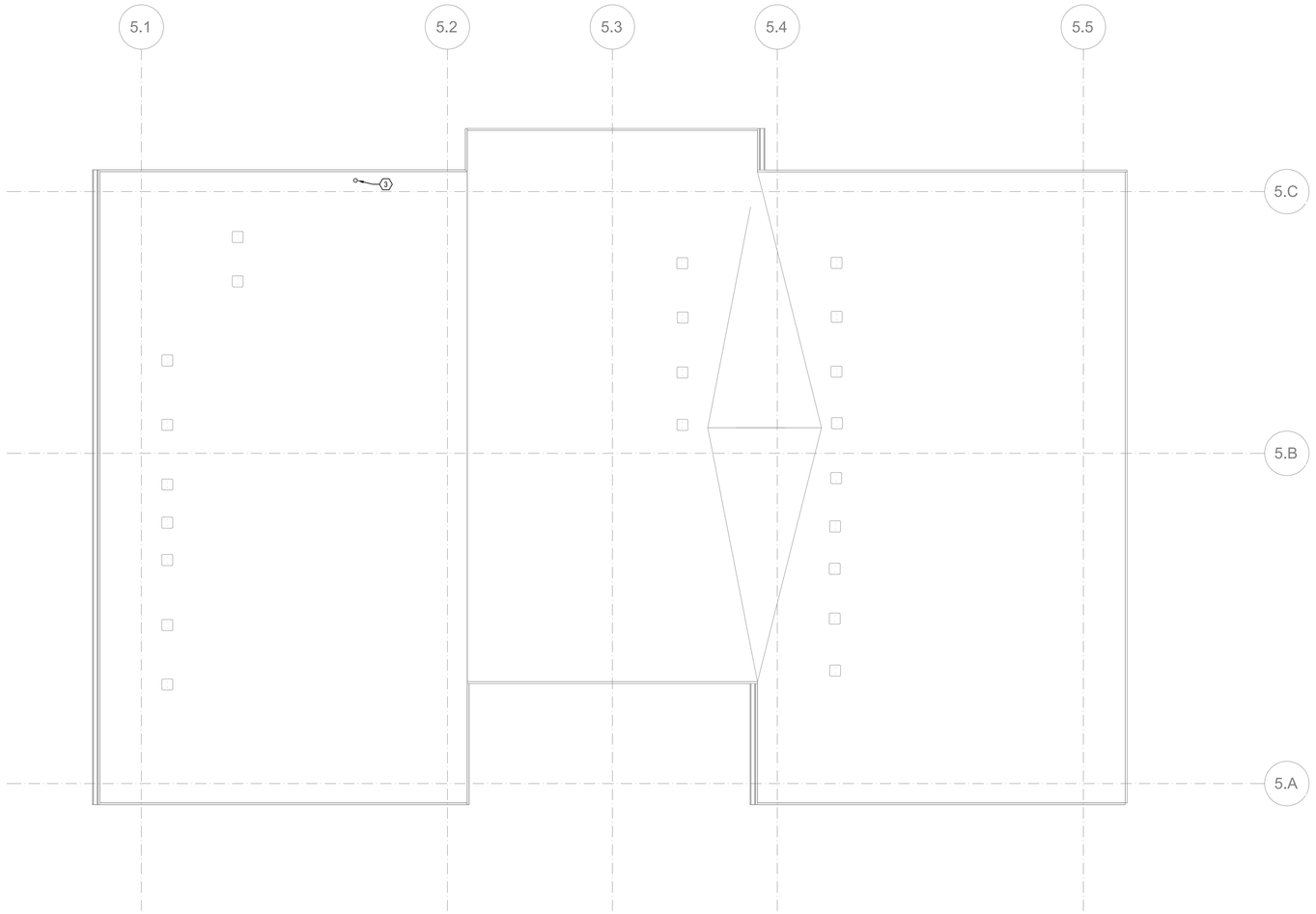
TITLE

POWER AND LIGHTING PLAN - BUILDING 20 - LEVEL 3

PERMIT #	BMF22-09890
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E20-103

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GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER PLAN - BUILDING 20 - ROOF

SCALE: 3/16"=1'-0"

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
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13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13205 135th Ave NE,
Kirkland, WA 98034

BUILDING 20

BID SET

GEORGINNA M. LAMPSON
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER PLAN - BUILDING 20 - ROOF

PERMIT #	BMF22-09890
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
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SHEET NO.:

E20-104

10/7/2021 7:33:34 AM

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

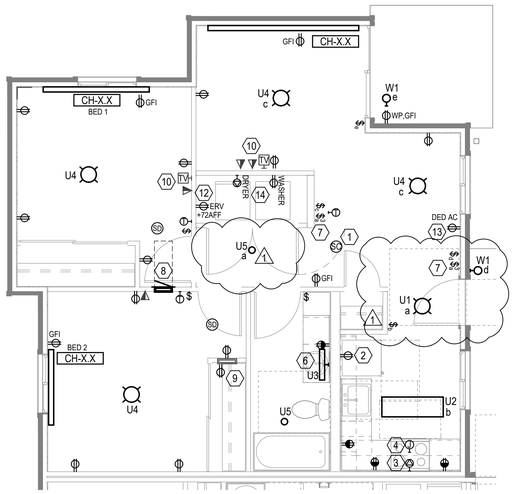
1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

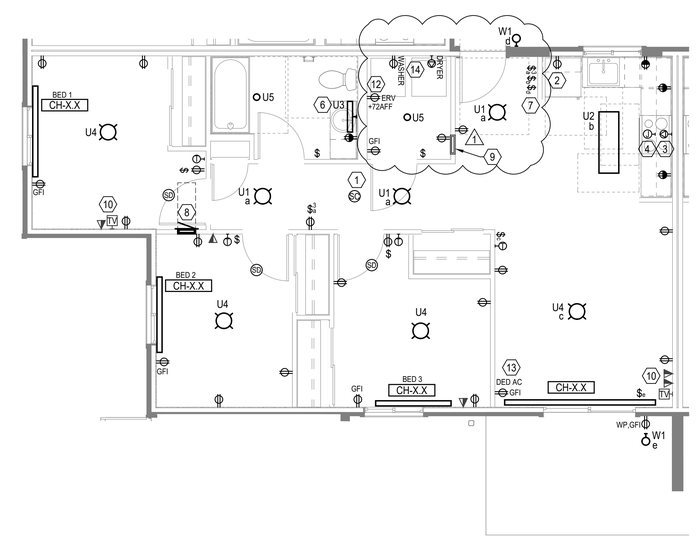
		HEATER TYPES			
UNIT NUMBER(S)	UNIT TYPE	BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**
1/4"=1'-0" UNITS: A, D, E, H, I, L



1 **ENLARGED PLAN - 3-BED**
1/4"=1'-0" UNITS: B, C, F, G, J, K

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13205 135th Ave NE,
Kirkland, WA 98034

BUILDING 20

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

ENLARGED UNIT PLANS

PERMIT #	BMF22-09890
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ISSUE DATE	4/14/2023
JOB NO.	22016
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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- E-1 — DETAIL NUMBER / SHEET
- FLAG NOTE
- 1 — REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- (SD) — FIRE ALARM SMOKE DETECTOR
- (SD) — FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM / EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES
- FL1 3a / FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:
  FL1 = LUMINAIRE TYPE
  3 = CIRCUIT NUMBER
  c = SWITCH LEG
  Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP / F — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 2PDX etc. — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP / 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M / M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER AND LIGHTING PLAN - LEVEL 3
E-104	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
		W/	WITH
IMC	INTERMEDIATE METAL CONDUIT	WO	WITHOUT
IN	INCH/INCHES	WP	WEATHERPROOF
		WT	WEIGHT
KCMIL	THOUSAND CIRCULAR MILS		
KO	KNOCK OUT	XFR	TRANSFORMER
KW	KILOWATT/KILOWATTS		
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13414 NE 132nd St,
Kirkland, WA 98034

BUILDING 21

BID SET

GEORGINA L. BYERS — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09895
DRAWN	RA, JF
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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13414 NE 132nd St,
Kirkland, WA 98034

BUILDING 21

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09895
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E21-002

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FEEDER/ CIRCUIT SCHEDULE

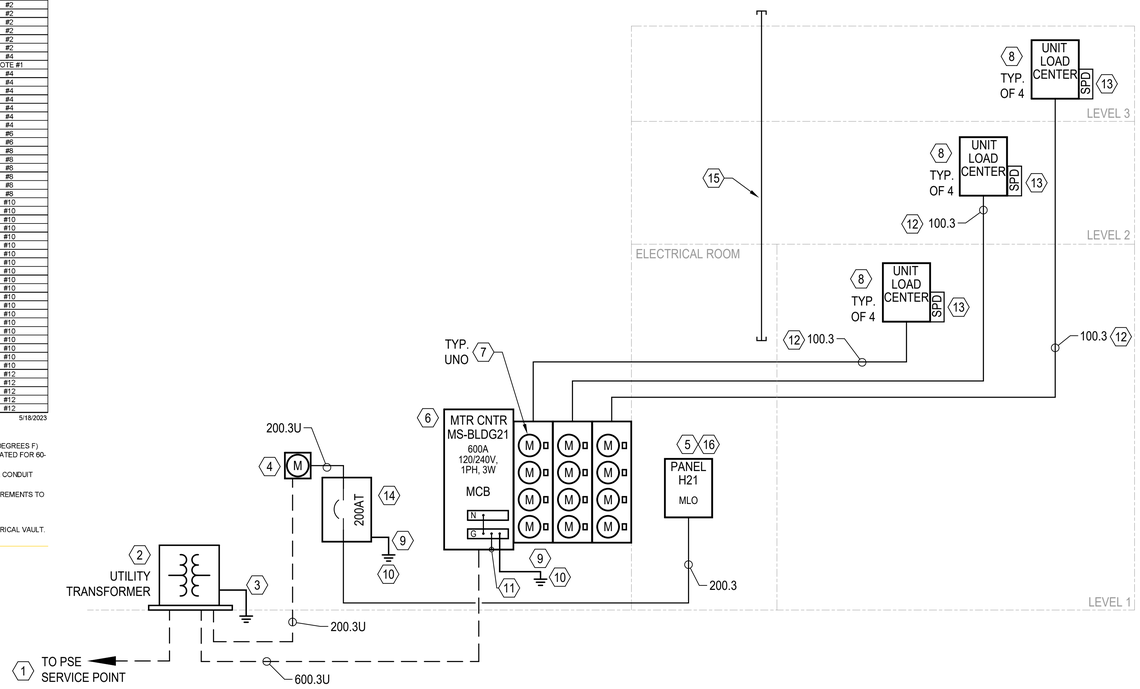
MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

△1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

△1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 21

UNIT TYPE: 2BR - 2.1 AREA (SF): 782 — 5/18/2023
DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.35	kVA
> 120,000VA:	25%	=	0.00	kVA
	GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70 kVA
RANGE HOOD	1	AT	0.3	=	0.30 kVA
MICROWAVE		AT		=	0.00 kVA
DISHWASHER		AT		=	0.00 kVA
WASHER	1	AT	1.2	=	1.20 kVA
GARBAGE DISPOSAL		AT		=	0.00 kVA
WATER HEATER		AT		=	0.00 kVA
		SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:		75%			
		GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
			GENERAL MOTOR LOAD - DEMAND	=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 3.91 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 23.54 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82] = 23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):

0 - 10KVA:	100%	=	10.00 kVA
> 10 KVA:	40%	=	5.39 kVA

ELECTRIC HEAT AND AC [220.82(C)]:
LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS, 65% NAMEPLATE = 2.54 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 17.93 kVA

UNIT TYPE: 3BR - 3.1 AREA (SF): 906 — 5/18/2023
DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%	=	3.00	kVA
3,001VA - 120,000VA:	35%	=	1.48	kVA
> 120,000VA:	25%	=	0.00	kVA
	GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

TYPE	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	=	0.70 kVA
RANGE HOOD	1	AT	0.3	=	0.30 kVA
MICROWAVE		AT		=	0.00 kVA
DISHWASHER		AT		=	0.00 kVA
WASHER	1	AT	1.2	=	1.20 kVA
GARBAGE DISPOSAL		AT		=	0.00 kVA
WATER HEATER		AT		=	0.00 kVA
		SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:		75%			
		GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		=	0.00 kVA
ERV UNIT	1	AT	0.11	=	0.11 kVA
KITCHEN EXHAUST FAN		AT		=	0.00 kVA
+25% OF LARGEST MOTOR				=	0.03 kVA
			GENERAL MOTOR LOAD - DEMAND	=	**0.14 kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 4.53 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 24.29 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82] = 23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):

0 - 10KVA:	100%	=	10.00 kVA
> 10 KVA:	40%	=	5.54 kVA

ELECTRIC HEAT AND AC [220.82(C)]:
LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS, 65% NAMEPLATE = 2.94 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 18.49 kVA

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL MS - 12 unit STACK — 5/18/2023
DEMAND LOAD (kVA): 137.09 => 571.2 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
2BR - 2.1	6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	0	0.00	6	52.80
3BR - 3.1	6	43.31	13.20	0.66	27.18	6	33.00	0	0.00	0	0.00	6	52.80
0								0	0.00	0	0.00	0	0.00
TOTALS:	12	84.38	26.40	1.32	50.64	12	66.00	0	0.00	0	0.00	12	105.60
ADDITIONAL 25% OF LARGEST MOTOR:				0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD = 334.37 kVA
DEMAND FACTOR FROM TABLE 220.84 = 41%

TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC = 137.09 kVA

KIRKLAND HEIGHTS - 12 UNIT STACK FLAT (REHAB)
PRELIMINARY LOAD CALCULATIONS — 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 12):	137.09 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	137.09 kVA
	571.22 AMPS @ 120/240V, 1-PHASE
PROVIDE 600A RESIDENTIAL METER CENTER	

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	7.7 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	40.83 kVA
	170.14 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	51.04 kVA
	212.6708 AMPS @ 120/240V, 1-PHASE
PROVIDE 200A HOUSE SERVICE	
TOTAL BUILDING SERVICE:	188.13 kVA
	783.89 AMPS @ 120/240V, 1-PHASE

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13414 NE 132nd St, Kirkland, WA 98034

BUILDING 21

BID SET

JOANNA M. SIDER — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09895
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E21-003

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
400.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
400.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H21 — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — M.L.O. OR M.C.B.: M.L.O. — 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY	R	0.27	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	RECEPT - LVL 3 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'MH-1'	18
19	SPARE		0.00		20 / 1	B	"			"	"	20
21	HEAT TRACE - WATER CONN. (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'MH-2'	22
23	SPARE		0.00		20 / 1	B	"			"	"	24
25	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - 'MH-3'	26
27	LTG - SITE POLES	L	0.23	20.1	20 / 1	B	"			"	"	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - 'SWH-1'	30
31	SPACE ONLY					B	"			"	"	32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP "CP-1" & MIX VALVE 'MV-1'	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

	CONNECTED LOAD		DEMAND FACTOR	DEMAND LOAD	
L = LIGHTING	0.74	kVA	125%	0.93	kVA
R = RECEPTACLES	4.14	kVA	NEC 220.44	4.14	kVA
M = MOTORS	0.24	kVA	100%	0.24	kVA
PLUS 25% OF LARGEST MOTOR	0.24	kVA	25%	0.06	kVA
C = CONTINUOUS	15.68	kVA	125%	19.61	kVA
N = NON-CONTINUOUS	1.44	kVA	100%	1.44	kVA
K = KITCHEN	0.00	kVA	75%	0.00	kVA

PANEL CONNECTED TOTAL: 22.24 kVA, 92.68 AMPS
PANEL DEMAND TOTAL: 26.41 kVA, 110.04 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B	"		"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B	"		"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B	"		"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B	"		"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B	"		"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B	"		"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B	"		"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B	"		"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE			A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-3	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
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Seattle, Washington 98109
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117 S. Main St., Suite 400
Seattle, WA 98104

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FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13414 NE 132nd St,
Kirkland, WA 98034

BUILDING 21

BID SET

GIOVANNA M. BRONCUCIA — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SCHEDULES

PERMIT #	BMF22-09895
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	E21-004

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE. LED SOURCE. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13414 NE 132nd St,
Kirkland, WA 98034

BUILDING 21

BID SET

GEORGINNA M. LAMPMAN STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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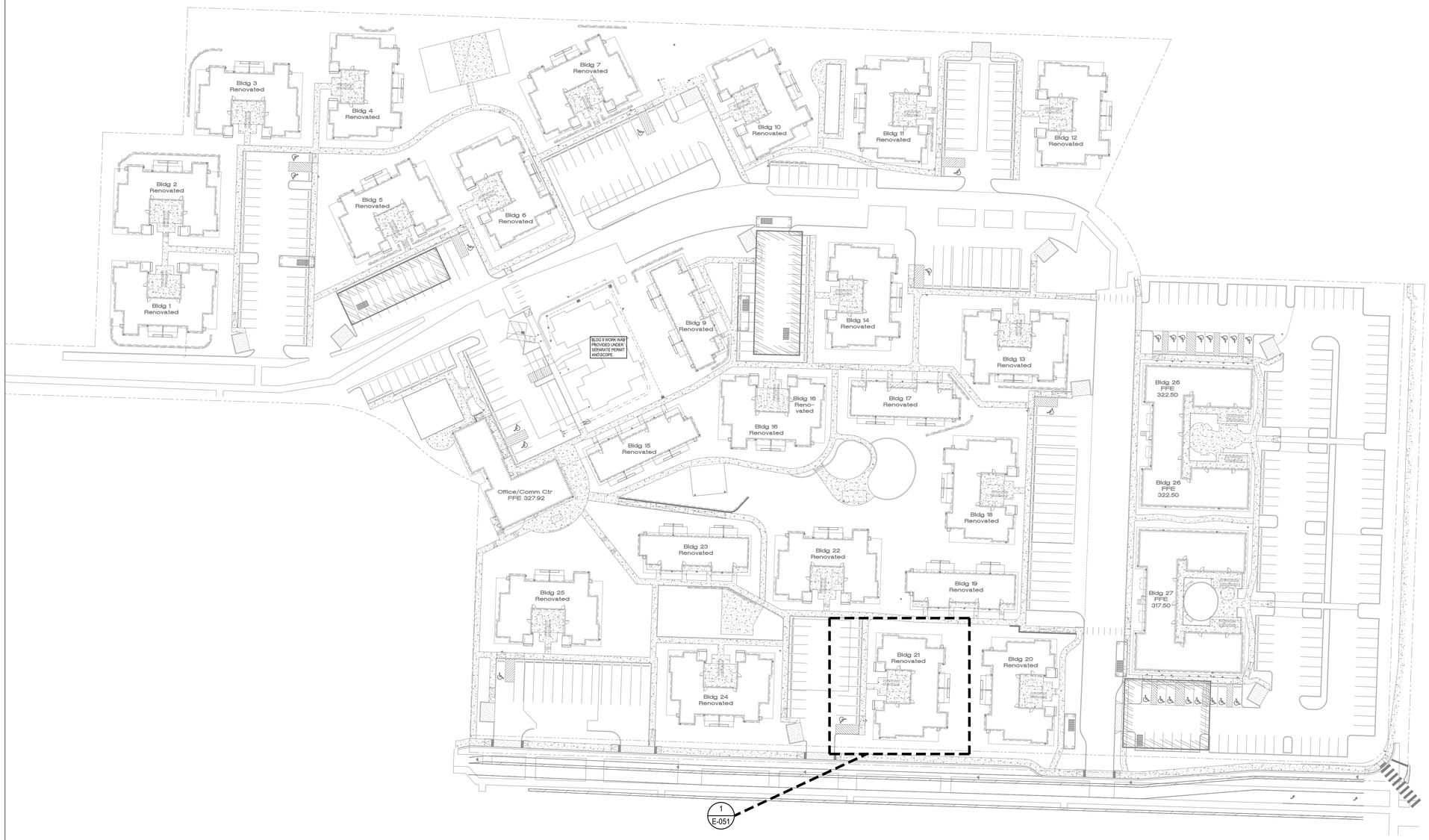
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LUMINAIRE SCHEDULE

PERMIT #	BMF22-09895
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JOB NO.	22016

SHEET NO.:

E21-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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43761
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REVISIONS / NOTES

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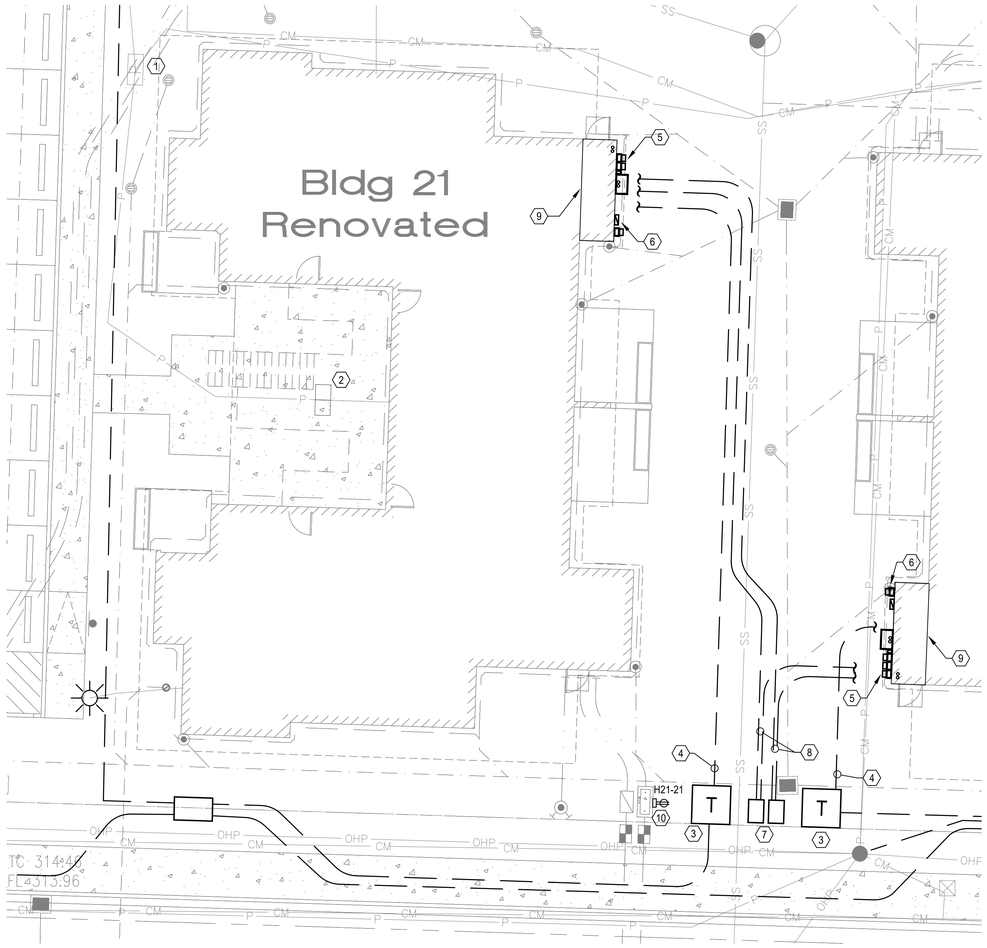
OVERALL PROJECT SITE PLAN

PERMIT #	BMF22-09895
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E21-050

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 21
SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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KIRKLAND HEIGHTS APARTMENTS

13414 NE 132nd St,
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BUILDING 21

BID SET

GEORGINNA M. [illegible]
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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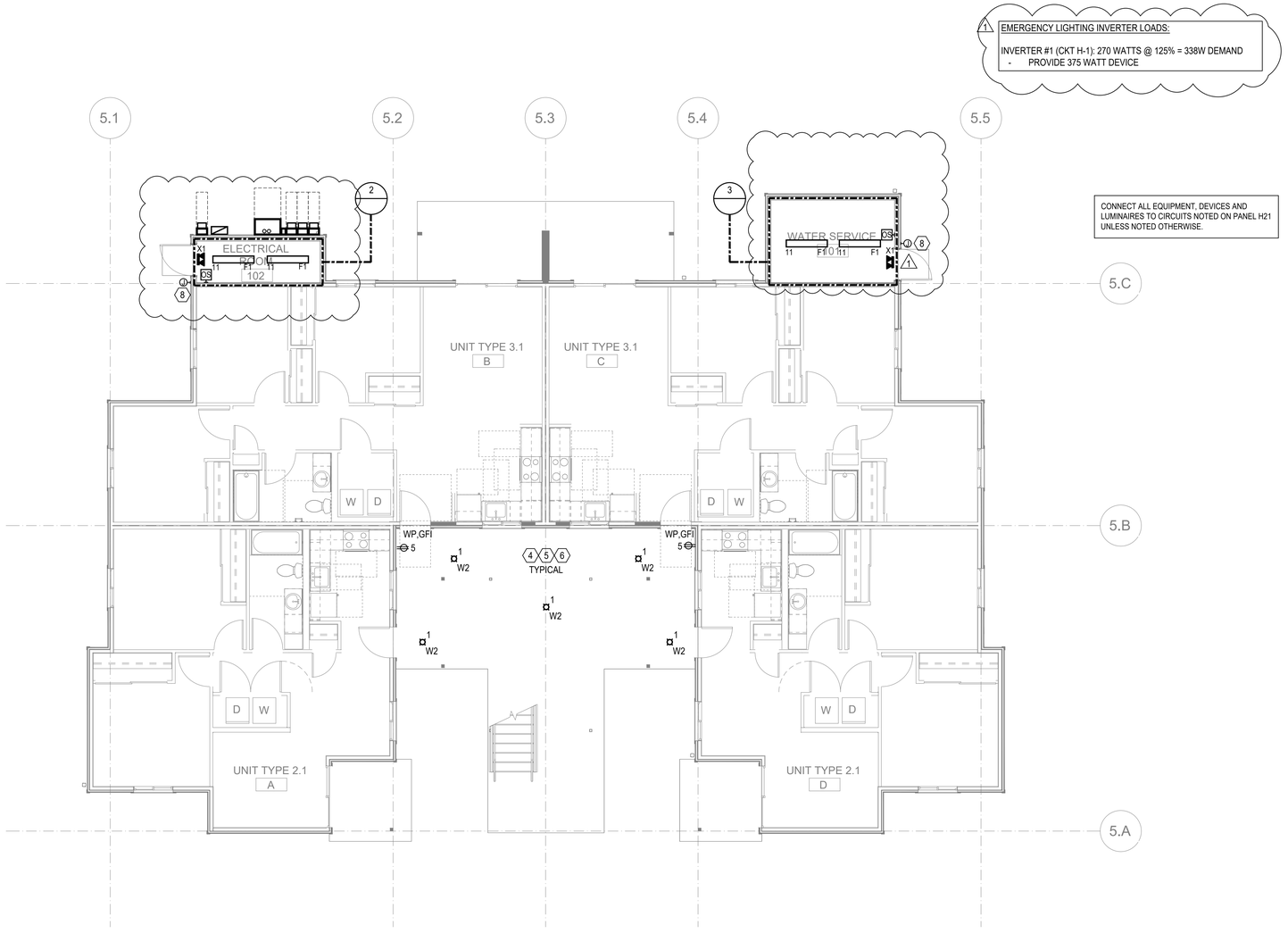
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ELECTRICAL SITE PLAN - BUILDING 21

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E21-051



1 EMERGENCY LIGHTING INVERTER LOADS:

INVERTER #1 (CKT H-1): 270 WATTS @ 125% = 338W DEMAND
- PROVIDE 375 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H21 UNLESS NOTED OTHERWISE.

POWER AND LIGHTING PLAN - BUILDING 21 - LEVEL 1

SCALE: 3/16"=1'-0"

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

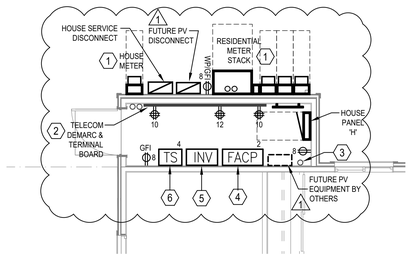
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

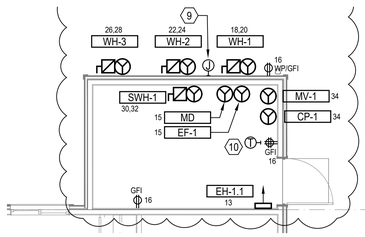
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 375 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR FIXTURE TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-375-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 E-101 **ELECTRICAL ROOM**
1/4"=1'-0"



3 E-101 **WATER ROOM**
1/4"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

13414 NE 132nd St,
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BUILDING 21

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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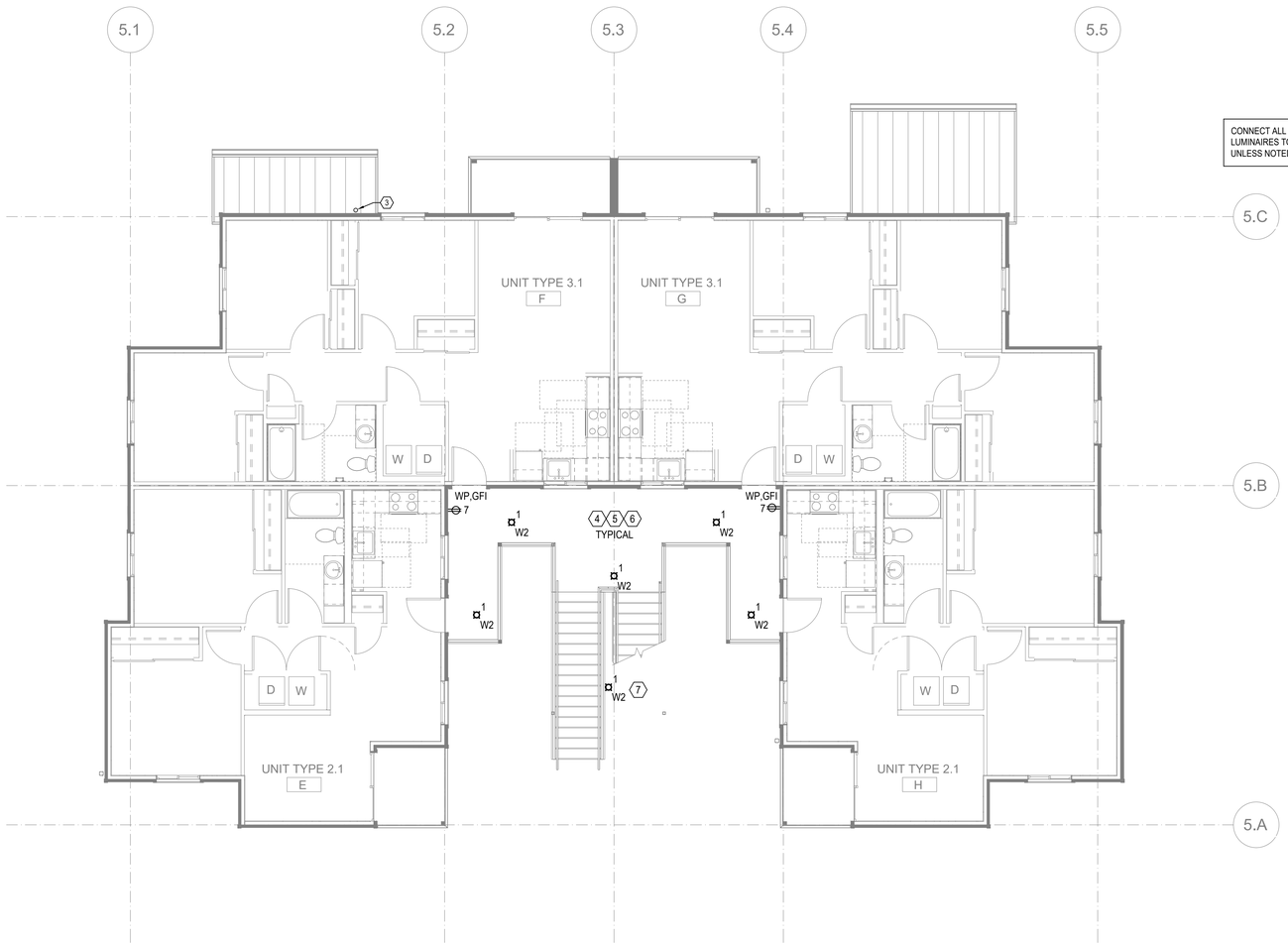
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POWER AND LIGHTING PLAN - BUILDING 21 - LEVEL 1

PERMIT #	BMF22-09895
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E21-101

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ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H21 UNLESS NOTED OTHERWISE.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.
7. LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.

POWER AND LIGHTING PLAN - BUILDING 21 - LEVEL 2

SCALE: 3/16"=1'-0"

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BUILDING 21

BID SET

JEONGINA M. PARK — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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POWER AND LIGHTING PLAN - BUILDING 21 - LEVEL 2

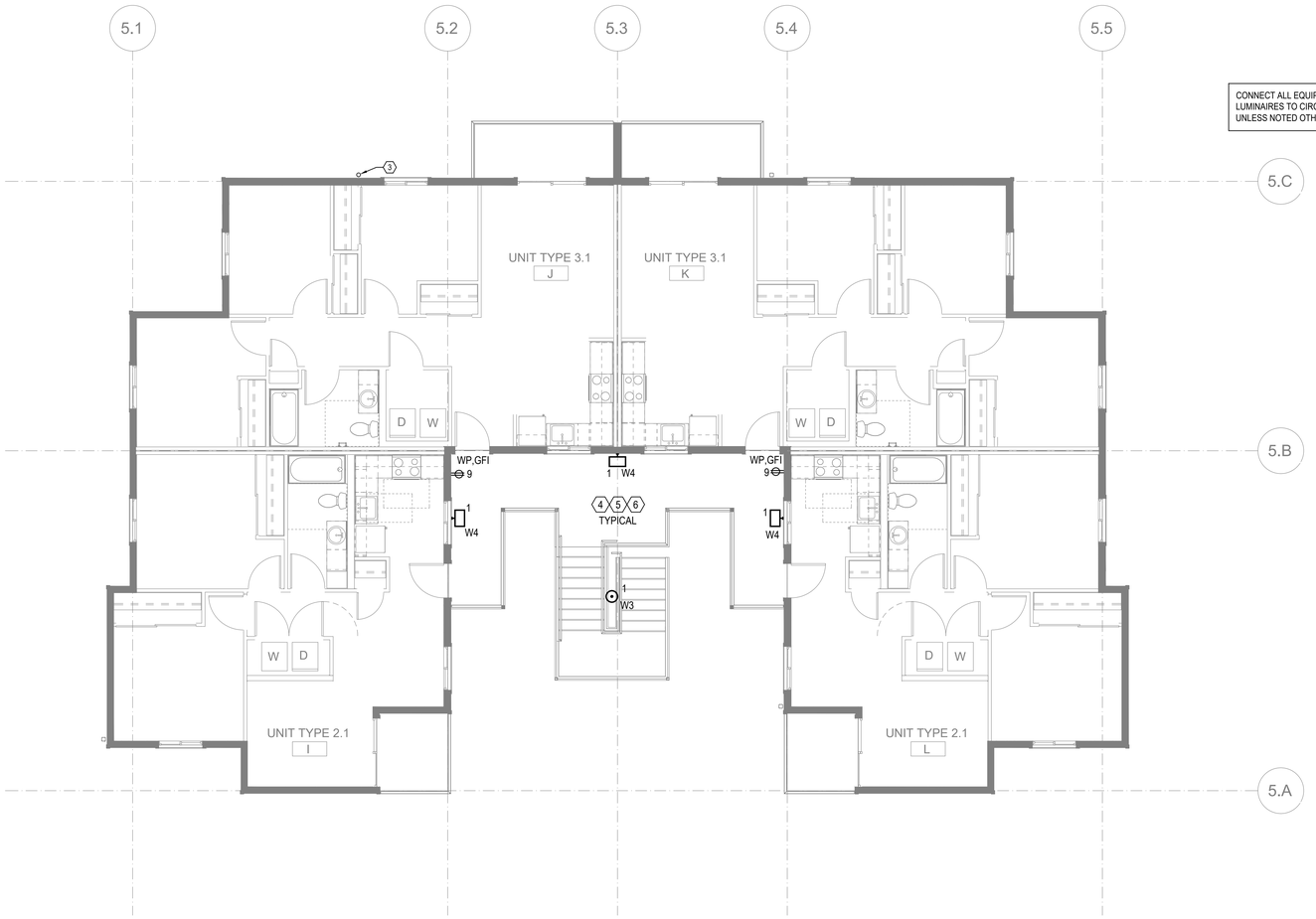
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SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.



CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H21 UNLESS NOTED OTHERWISE.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 21 - LEVEL 3

SCALE: 3/16"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

13414 NE 132nd St,
Kirkland, WA 98034

BUILDING 21

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

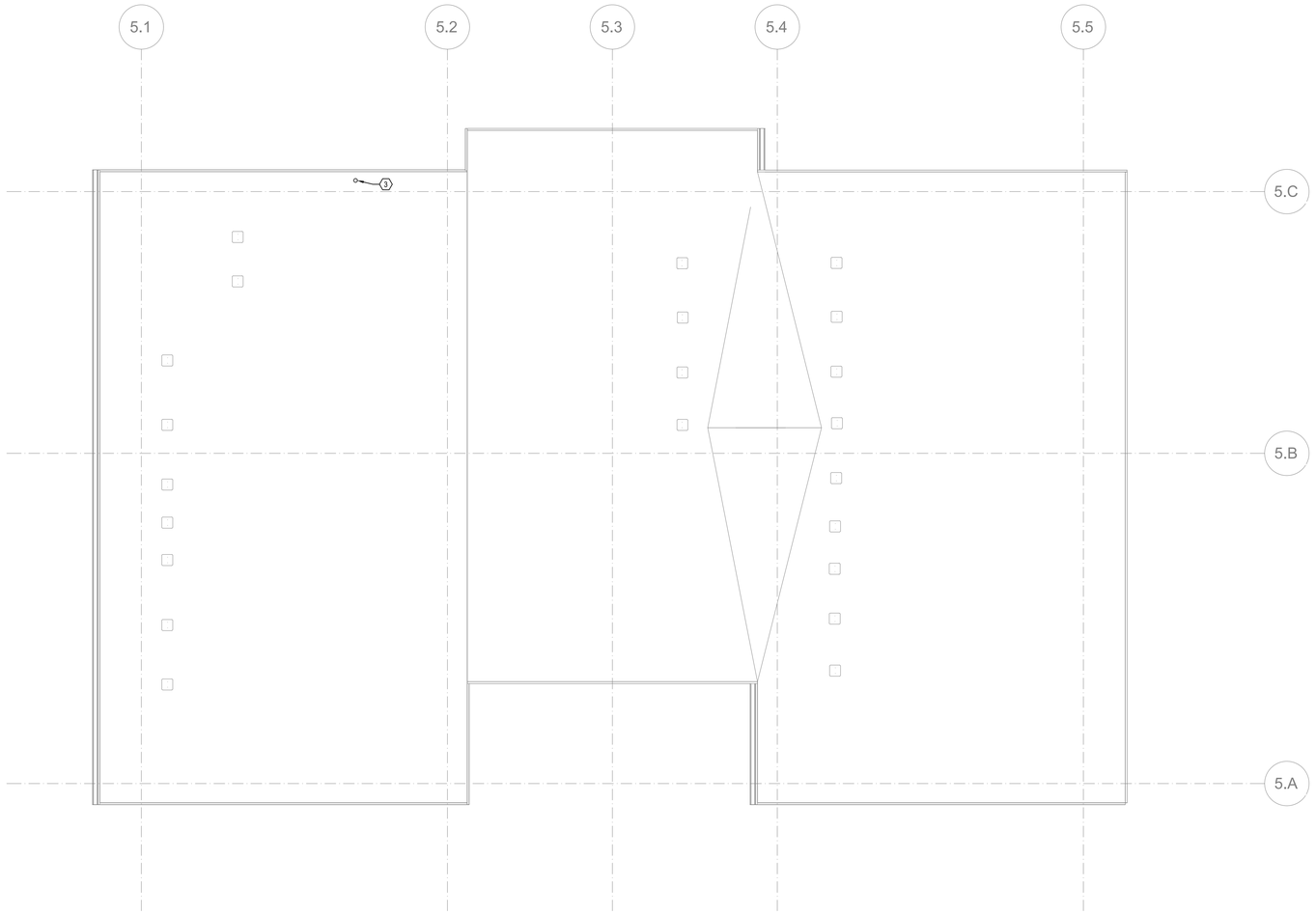
TITLE

POWER AND LIGHTING PLAN - BUILDING 21 - LEVEL 3

PERMIT #	BMF22-09895
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E21-103

10/7/2021 7:33:34 AM



ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER PLAN - BUILDING 21 - ROOF

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

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Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13414 NE 132nd St,
Kirkland, WA 98034

BUILDING 21

BID SET

GEORGINNA M. LAMPMAN
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER PLAN - BUILDING 21 - ROOF

PERMIT #	BMF22-09895
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SHEET NO.:

E21-104

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

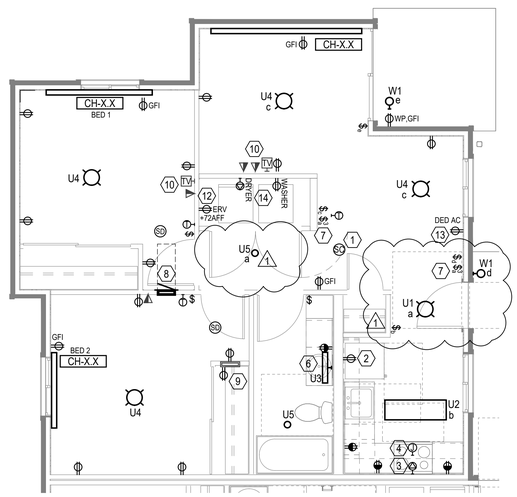
1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

		HEATER TYPES			
UNIT NUMBER(S)	UNIT TYPE	BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

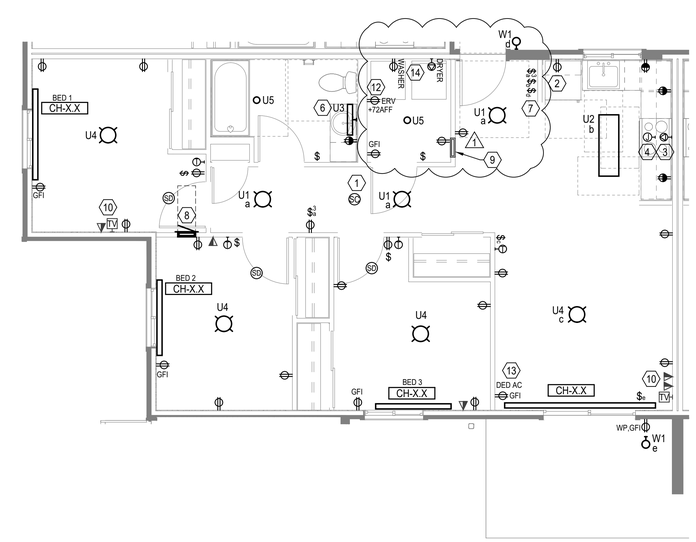
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 ENLARGED PLAN - 2-BED

1/4"=1'-0"

UNITS: A, D, E, H, I, L



1 ENLARGED PLAN - 3-BED

1/4"=1'-0"

UNITS: B, C, F, G, J, K

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ENLARGED UNIT PLANS

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E21-301

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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET (E-1)
- FLAG NOTE
- REVISION TAG (1)
- MECHANICAL EQUIPMENT (AHU-1)
- FAULT CURRENT TAG (XX kA)

FIRE ALARM SYMBOLS

- COMBINATION SMOKE/FIRE DAMPER (OR)
- FIRE ALARM CONTROL PANEL (FACP)
- FIRE ALARM REMOTE ANUNCIATOR (FARA)
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- GROUNDING CONDUCTOR(S) PER CODE (G)
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES (EM)

FL1 3a — FL1 3-Z1.2

TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VARIABLE FREQUENCY DRIVE (VFD)
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC (702)
- WEATHERPROOF (WP)
- GFCI TYPE (GFI)
- FULLY CONTROLLED (NOT HALF-SWITCHED) (C)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD (TV)
- CARD / FOB READER WALL/ MULLION AND BOLLARD MTD (CR)
- SECURITY DOOR POSITION MONITOR (DS)
- ELECTRIC STRIKE (ES)
- KEYPAD WALL/ MULLION AND BOLLARD MTD (KP)
- CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS. (WP, F)
- SPEAKER, CEILING MOUNTED (SP)

CONTROL SYMBOLS

- MOTORIZED CONTROL DAMPER (M)
- THERMOSTAT
- WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- WEATHERPROOF, TYPICAL (WP)
- WALL SWITCH, LINE VOLTAGE, 1-POLE
- WALL SWITCH, LINE VOLTAGE, 3-WAY (3)
- WALL SWITCH, LINE VOLTAGE, TIMER SWITCH (TS)
- LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF (1P)
- LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER (DX)
- LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF (2P)
- LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER (2PDX)
- COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED (OS)
- OCCUPANCY SENSOR: WALL, CLG MTD (OS)
- PHOTO CELL, CLG MTD (PC)
- COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD (OP)

RISER DIAGRAM SYMBOLS

- CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER (100AT GFP / 50AT) AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- FUSED SWITCH. AF= FUSE RATING (100AF)
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- CONTACTOR COIL (C)
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DIGITAL METER (DM)
- UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED. (M)
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SURGE PROTECTION DEVICE (SPD)

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER AND LIGHTING PLAN - LEVEL 3
E-104	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
		W/	WITH
IMC	INTERMEDIATE METAL CONDUIT	WO	WITHOUT
IN	INCH/INCHES	WP	WEATHERPROOF
		WT	WEIGHT
KCMIL	THOUSAND CIRCULAR MILS		
KO	KNOCK OUT	XFR	TRANSFORMER
KW	KILOWATT/KILOWATTS		
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

SIDER+BYERS
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King County Housing Authority

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c/o: King County Housing Authority,
General Partner
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Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13410 NE 132nd St,
Kirkland, WA 98034

BUILDING 22

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09894
DRAWN	RA, JF
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ISSUE DATE	4/14/2023
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E22-001

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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13410 NE 132nd St,
Kirkland, WA 98034

BUILDING 22

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09894
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E22-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

5/18/2023

GENERAL SCHEDULE NOTES:

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

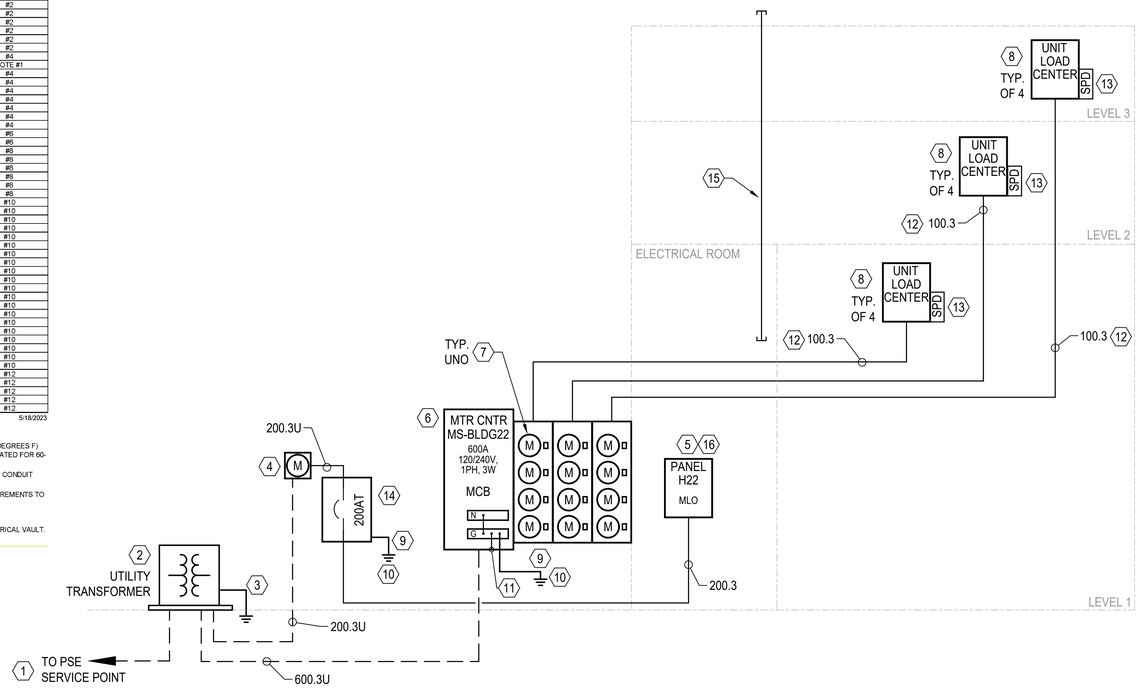
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

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12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

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16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 22

UNIT TYPE: 2BR - 2.1 | **AREA (SF): 782** | 5/18/2023

DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:		100%	=	3.00	kVA
3,001VA - 120,000VA:		35%	=	1.35	kVA
> 120,000VA:		25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER		AT		=	0.00 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
			SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:				75%		
			GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:		QTY		LOAD (kVA EACH)		
	TOILET EXHAUST FAN		AT		=	0.00 kVA
	ERV UNIT	1	AT	0.11	=	0.11 kVA
	KITCHEN EXHAUST FAN		AT		=	0.00 kVA
	+25% OF LARGEST MOTOR				=	0.03 kVA
			GENERAL MOTOR LOAD - DEMAND		=	**0.14 kVA**
100% AC EQUIP [220.50] / SPACE HEATING [220.51]					=	3.91 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 23.54 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):			
0 - 10KVA:	100%	=	10.00 kVA
> 10 KVA:	40%	=	5.39 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS, 65% NAMEPLATE	=	2.54 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 17.93 kVA

UNIT TYPE: 3BR - 3.1 | **AREA (SF): 906** | 5/18/2023

DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:		100%	=	3.00	kVA
3,001VA - 120,000VA:		35%	=	1.48	kVA
> 120,000VA:		25%	=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	=	0.70 kVA
	RANGE HOOD	1	AT	0.3	=	0.30 kVA
	MICROWAVE		AT		=	0.00 kVA
	DISHWASHER		AT		=	0.00 kVA
	WASHER	1	AT	1.2	=	1.20 kVA
	GARBAGE DISPOSAL		AT		=	0.00 kVA
	WATER HEATER		AT		=	0.00 kVA
			SUBTOTAL (CONNECTED)		=	2.20 kVA
APPLIANCE DEMAND FACTOR [220.53]:				75%		
			GENERAL APPLIANCE LOAD - DEMAND		=	**1.65 kVA**

MOTORS [220.60]:		QTY		LOAD (kVA EACH)		
	TOILET EXHAUST FAN		AT		=	0.00 kVA
	ERV UNIT	1	AT	0.11	=	0.11 kVA
	KITCHEN EXHAUST FAN		AT		=	0.00 kVA
	+25% OF LARGEST MOTOR				=	0.03 kVA
			GENERAL MOTOR LOAD - DEMAND		=	**0.14 kVA**
100% AC EQUIP [220.50] / SPACE HEATING [220.51]					=	4.53 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50 kVA
ELECTRIC COOKTOP [220.55]		AT		=	0.00 kVA
ELECTRIC OVEN [220.55]		AT		=	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00 kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 24.29 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]		=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):			
0 - 10KVA:	100%	=	10.00 kVA
> 10 KVA:	40%	=	5.54 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS, 65% NAMEPLATE	=	2.94 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 18.49 kVA

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL | **MS - 12 unit STACK** | 5/18/2023

DEMAND LOAD (kVA): 137.09 => 571.2 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
2BR - 2.1	6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	0	0.00	6	52.80
3BR - 3.1	6	43.31	13.20	0.66	27.18	6	33.00	0	0.00	0	0.00	6	52.80
0								0	0.00	0	0.00	0	0.00
TOTALS:	12	84.38	26.40	1.32	50.64	12	66.00	0	0.00	0	0.00	12	105.60
ADDITIONAL 25% OF LARGEST MOTOR:				0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD		=	334.37 kVA
DEMAND FACTOR FROM TABLE 220.84 =	41%		
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC		=	**137.09 kVA**

KIRKLAND HEIGHTS - 12 UNIT STACK FLAT (REHAB)

PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 12):	137.09 kVA	
(SEE ATTACHED CALCS)		
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.		
RESIDENTIAL TOTAL:	137.09 kVA	
	571.22 AMPS @ 120/240V, 1-PHASE	
	PROVIDE 600A RESIDENTIAL METER CENTER	

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):		
LIGHTING - Breezeway +Interior:	1.5 kVA	
LIGHTING - SITE:	1.5 kVA	
GENERAL RECEPTACLES:	4.0 kVA	
MECHANICAL:	1.0 kVA	
ELECT HEAT (WATER RMS):	1.0 kVA	
CENTRAL HOT WATER (HPWH)	7.7 kVA	
ELECT SWING TANK	4.5 kVA	
HEAT TRACE	0.5 kVA	
MISCELLANEOUS:	2.5 kVA	
EV CHARGING (2):	16.6 kVA	
HOUSE TOTAL:	40.83 kVA	
	170.14 AMPS @ 120/240V, 1-PHASE	
WITH 25% SPARE CAPACITY	51.04 kVA	
	212.6708 AMPS @ 120/240V, 1-PHASE	
	PROVIDE 200A HOUSE SERVICE	
TOTAL BUILDING SERVICE:	188.13 kVA	
	783.89 AMPS @ 120/240V, 1-PHASE	

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13410 NE 132nd St, Kirkland, WA 98034

BUILDING 22

BID SET

JOANNA M. BOWMAN — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09894
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E22-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H22 — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 200 AMPS — M.L.O. OR M.C.B.: M.L.O. — 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY	L	0.27	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	RECEPT - LVL 3 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - "WH-1"	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN. (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - "WH-2"	22
23	SPARE		0.00		20 / 1	B						24
25	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - "WH-3"	26
27	SPARE		0.00		20 / 1	B						28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - "SWH-1"	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP "CP-1" & MIX VALVE "MV-1"	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.51	kVA 125%	0.64	kVA
R	= RECEPTACLES	4.14	kVA NEC 220.44	4.14	kVA
M	= MOTORS	0.24	kVA 100%	0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA 25%	0.06	kVA
C	= CONTINUOUS	15.68	kVA 125%	19.61	kVA
N	= NON-CONTINUOUS	1.44	kVA 100%	1.44	kVA
K	= KITCHEN	0.00	kVA 75%	0.00	kVA

PANEL CONNECTED TOTAL: 22.01 kVA, 91.73 AMPS
PANEL DEMAND TOTAL: 26.12 kVA, 108.84 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
NORMAL POWER — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.L.O. OR M.C.B.: M.L.O. — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			-	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			-	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			-	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (#):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-3	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13410 NE 132nd St,
Kirkland, WA 98034

BUILDING 22

BID SET

VIRGINNA M. JOHNSON — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

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SCHEDULES

PERMIT #	BMF22-09894
DRAWN	RA, JF
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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR.3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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BUILDING 22

BID SET

GEORGINNA M. LAMPSON
STATE OF WASHINGTON
43761
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
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DPD STAMP

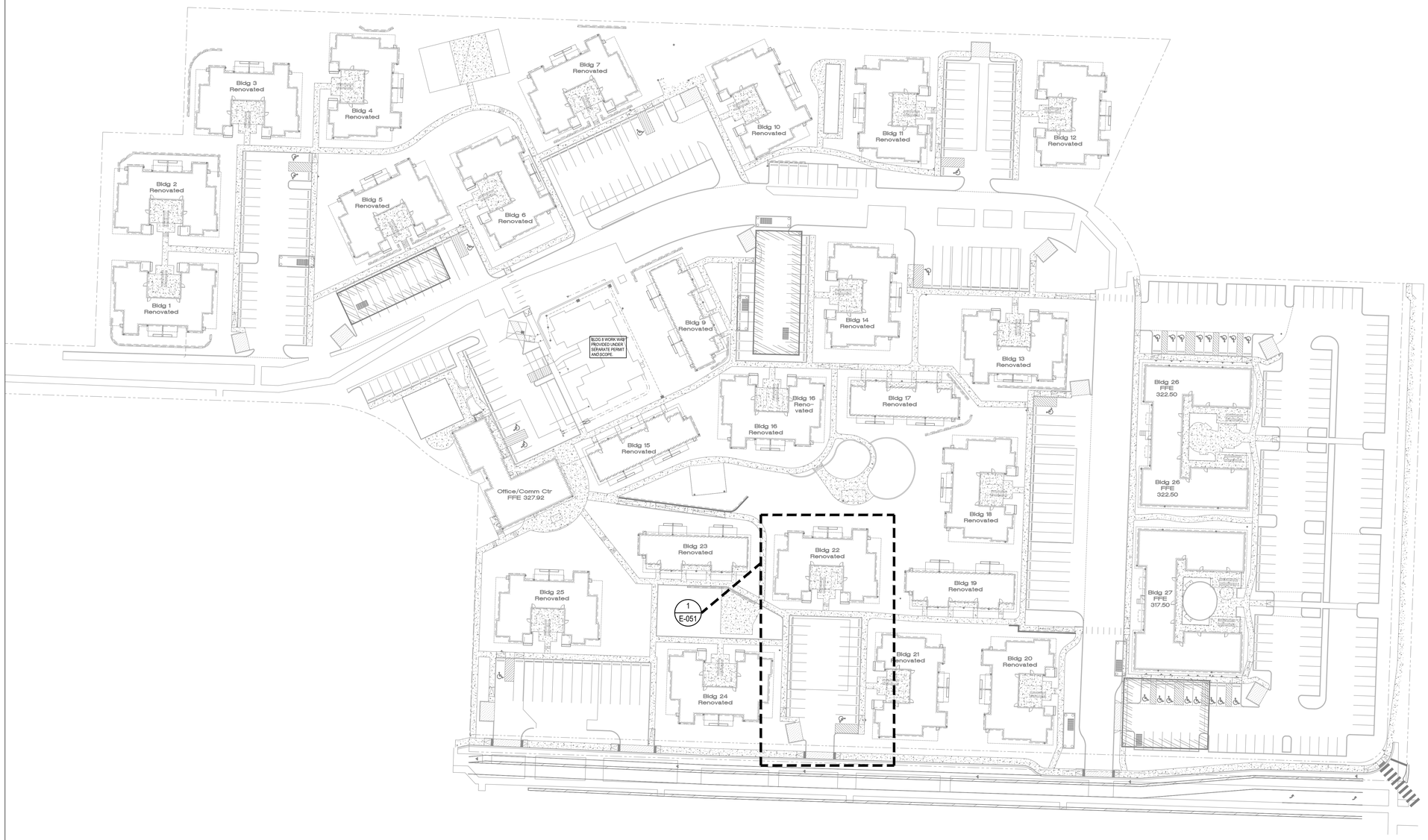
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LUMINAIRE SCHEDULE

PERMIT #	BMF22-09894
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SHEET NO.:

E22-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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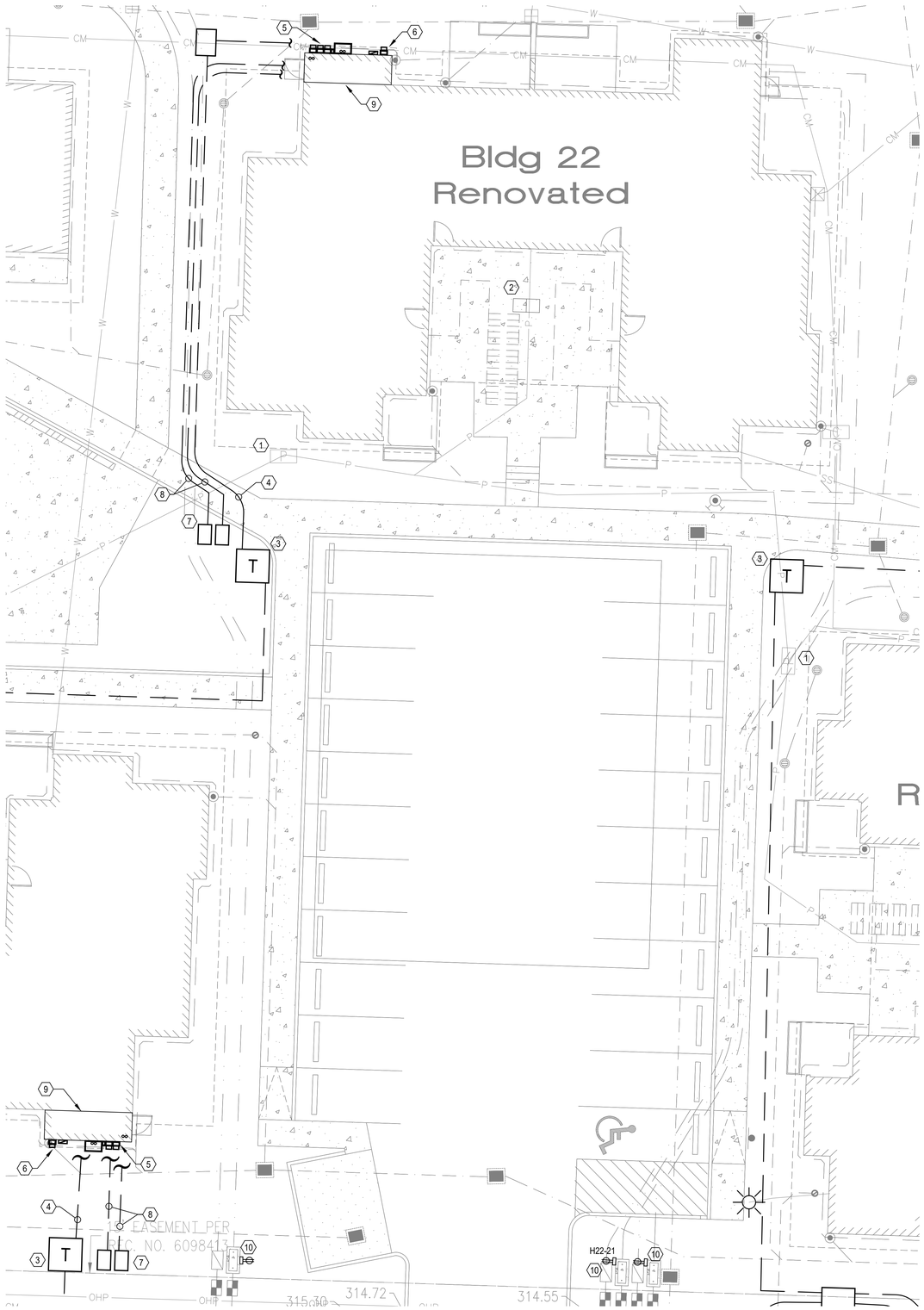
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OVERALL PROJECT SITE PLAN

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JOB NO.	22016

SHEET NO.:

E22-050



ELECTRICAL SITE PLAN - BUILDING 22
SCALE: 1/8" = 1'-0"

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE. BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

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BUILDING 22

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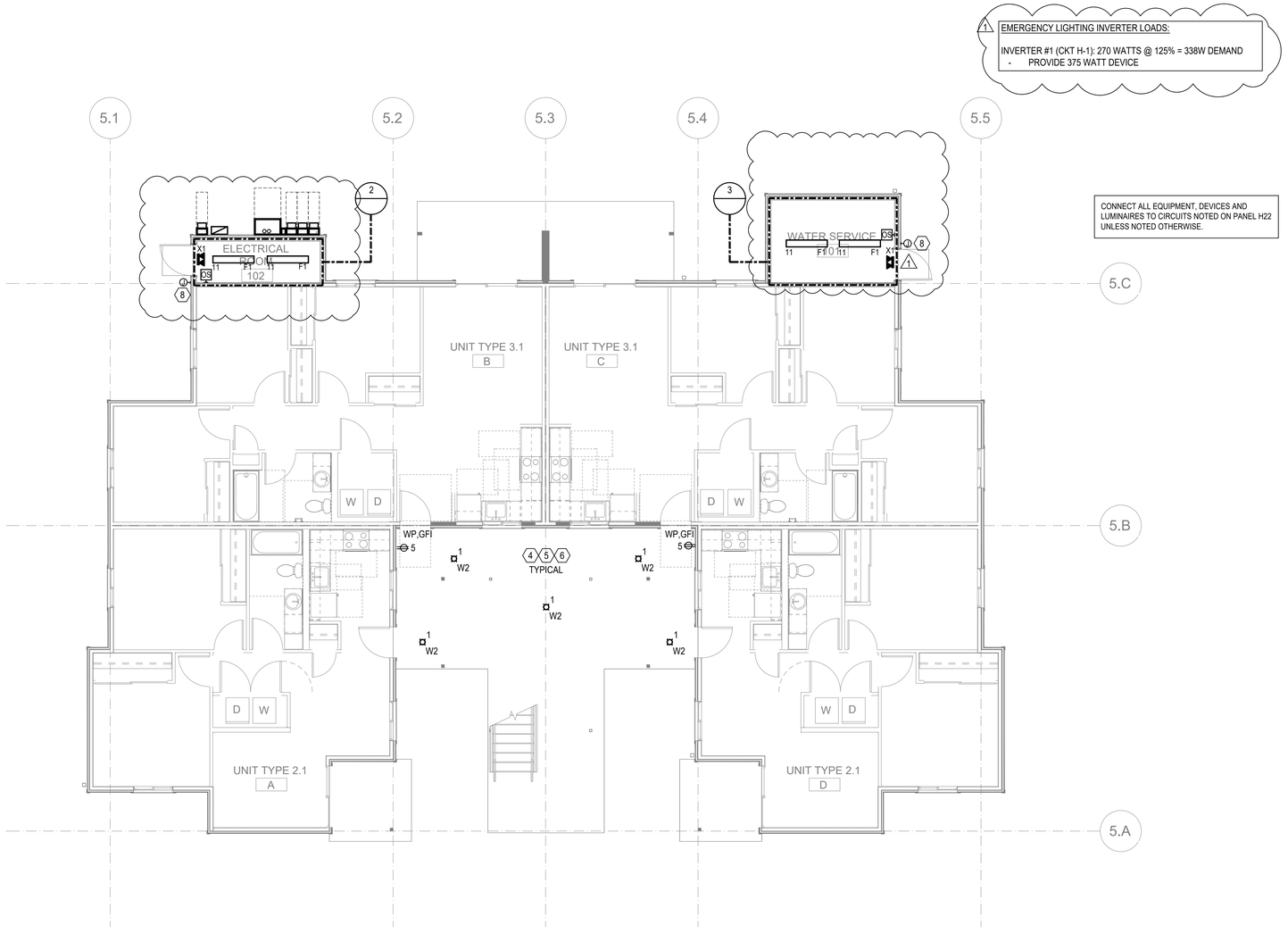
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ELECTRICAL SITE PLAN - BUILDING 22

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1 EMERGENCY LIGHTING INVERTER LOADS:

INVERTER #1 (CKT H-1): 270 WATTS @ 125% = 338W DEMAND
- PROVIDE 375 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H22 UNLESS NOTED OTHERWISE.

POWER AND LIGHTING PLAN - BUILDING 22 - LEVEL 1

SCALE: 3/16"=1'-0"

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

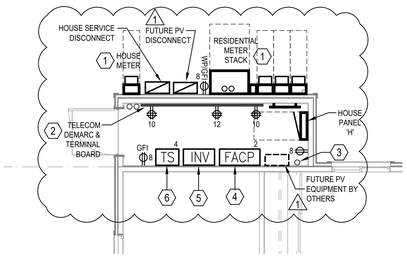
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

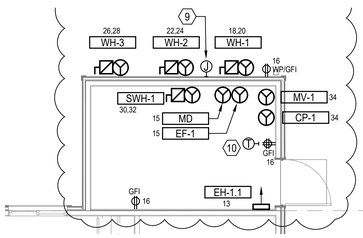
FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 375 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR FIXTURE TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-375-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 E-101 ELECTRICAL ROOM

1/4"=1'-0"



3 E-101 WATER ROOM

1/4"=1'-0"

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DOUGINNA M. LOVE
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REVISIONS / NOTES

NO	DATE	DESCRIPTION
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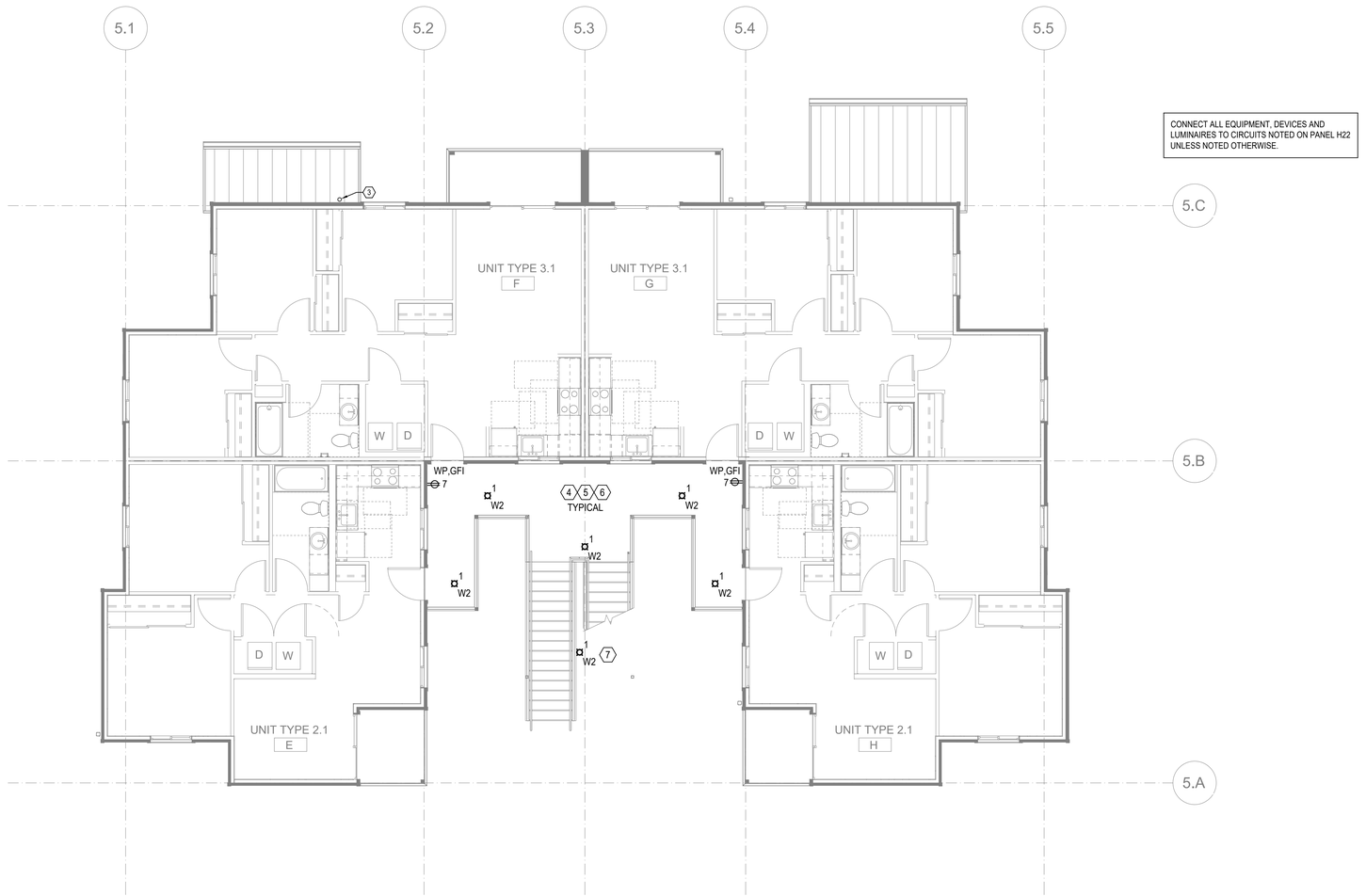
TITLE

POWER AND LIGHTING PLAN - BUILDING 22 - LEVEL 1

PERMIT #	BMF22-09894
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E22-101

10/7/2021 7:33:34 AM



ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H22 UNLESS NOTED OTHERWISE.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.
7. LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.

POWER AND LIGHTING PLAN - BUILDING 22 - LEVEL 2

SCALE: 3/16"=1'-0"

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
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SMR Architects
117 S. Main St., Suite 400
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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13410 NE 132nd St,
Kirkland, WA 98034

BUILDING 22

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

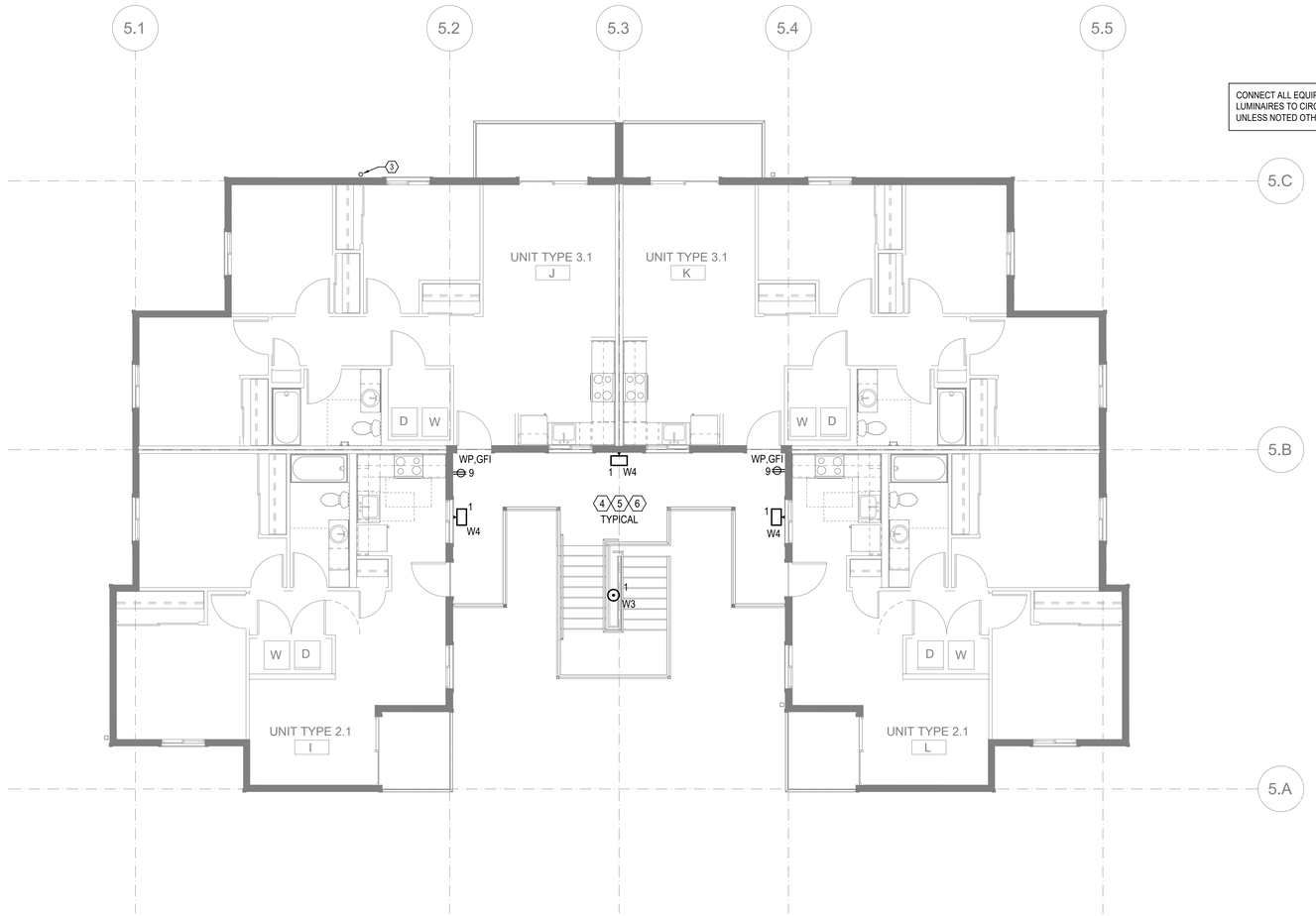
TITLE

POWER AND LIGHTING PLAN - BUILDING 22 - LEVEL 2

PERMIT #	BMF22-09894
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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H22 UNLESS NOTED OTHERWISE.

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SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. (1) ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. (1) ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 22 - LEVEL 3

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

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REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

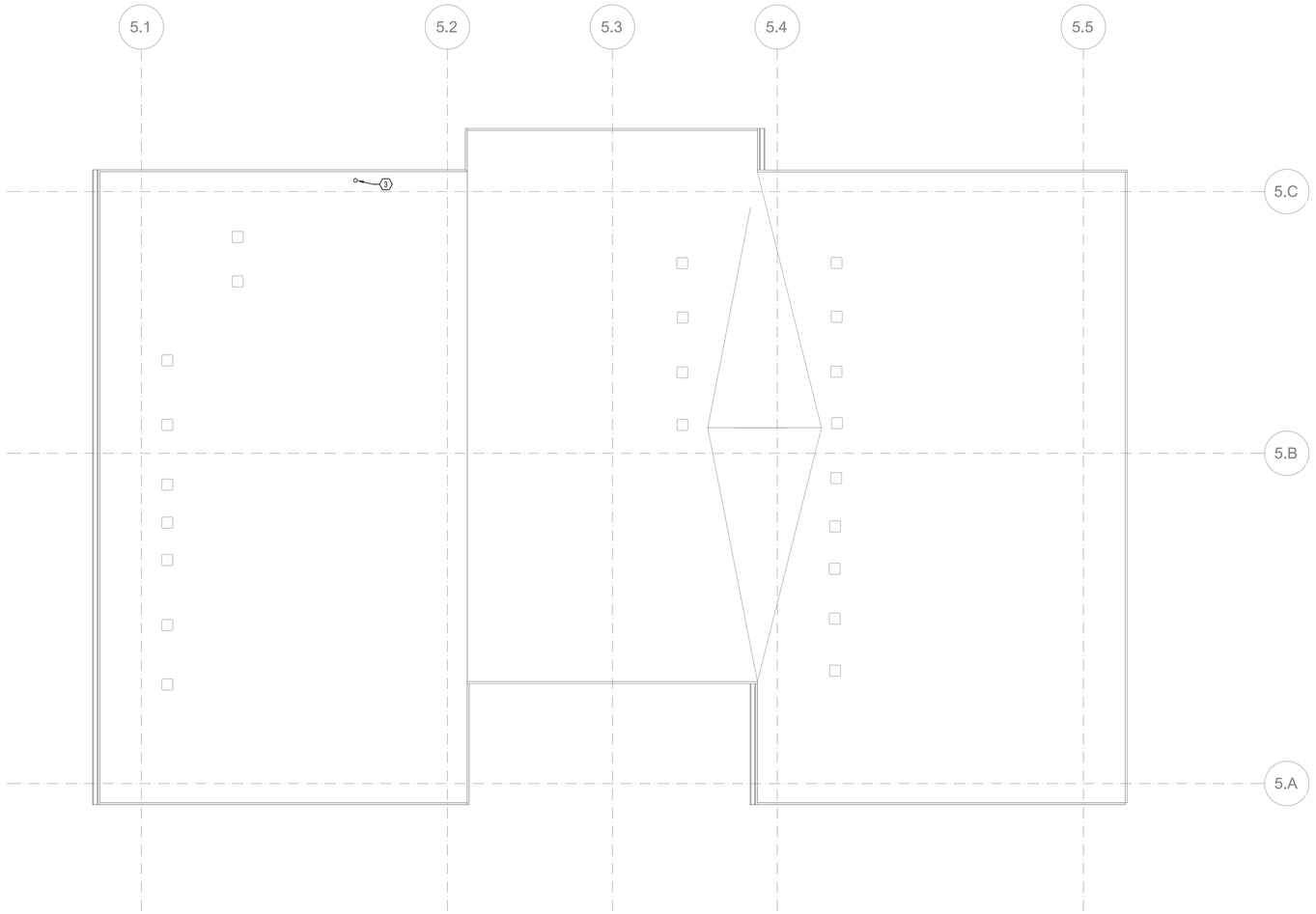
TITLE

POWER AND LIGHTING PLAN - BUILDING 22 - LEVEL 3

PERMIT #	BMF22-09894
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SHEET NO.:	

E22-103

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.



GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER PLAN - BUILDING 22 - ROOF

SCALE: 3/16"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

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Kirkland, WA 98034

BUILDING 22

BID SET

GEORGINNA M. LAMPMAN
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER PLAN - BUILDING 22 - ROOF

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SHEET NO.:

E22-104

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

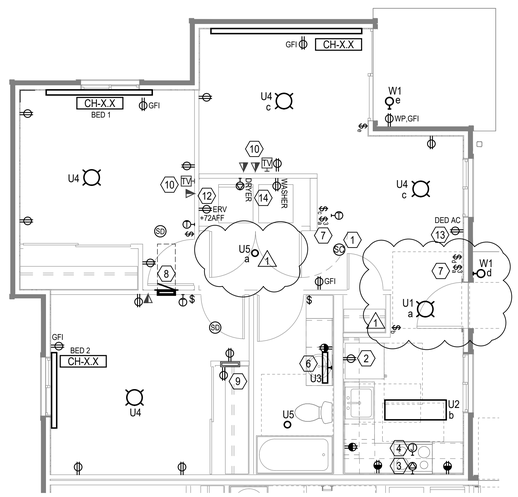
1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 12 UNIT STACKED FLATS

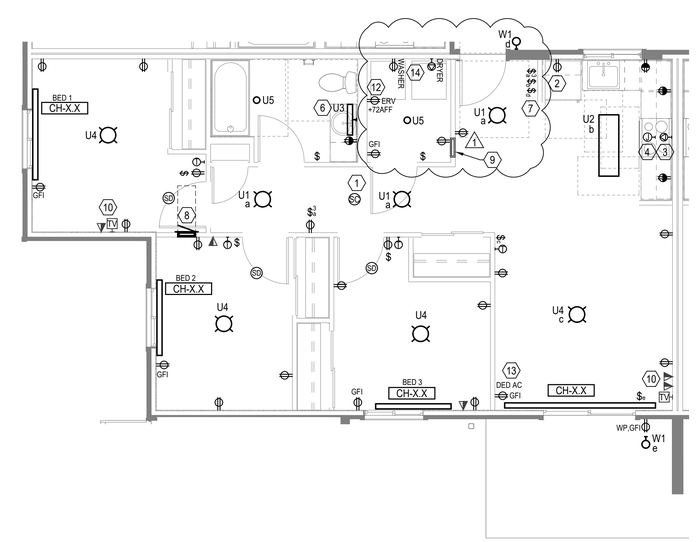
		HEATER TYPES			
UNIT NUMBER(S)	UNIT TYPE	BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.56	CH-0.56		CH-0.93
F	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
G	3-BDRM	CH-0.42	CH-0.42	CH-0.42	CH-0.7
H	2-BDRM	CH-0.56	CH-0.56		CH-0.93
I	2-BDRM	CH-0.7	CH-0.56		CH-1.12
J	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
K	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
L	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**
1/4"=1'-0" UNITS: A, D, E, H, I, L



1 **ENLARGED PLAN - 3-BED**
1/4"=1'-0" UNITS: B, C, F, G, J, K

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
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BUILDING 22

BID SET



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DPD STAMP

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ENLARGED UNIT PLANS

PERMIT #	BMF22-09894
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E22-301

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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET
- FLAG NOTE
- REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM / EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2 — TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP / F — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 3PDX sec — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS / OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP / OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP / 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M / M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
IN	INCH/INCHES	WO	WITHOUT
		WP	WEATHERPROOF
KCMIL	THOUSAND CIRCULAR MILS	WT	WEIGHT
KO	KNOCK OUT		
KW	KILOWATT/KILOWATTS	XFR	TRANSFORMER
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13328 NE 132nd St,
Kirkland, WA 98034

BUILDING 23

BID SET

GEORGINA L. BYERS — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09892
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E23-001

10/7/2021 7:33:34 AM

GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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c/o: King County Housing Authority,
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13328 NE 132nd St,
Kirkland, WA 98034

BUILDING 23

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09892
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E23-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#6
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#6
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

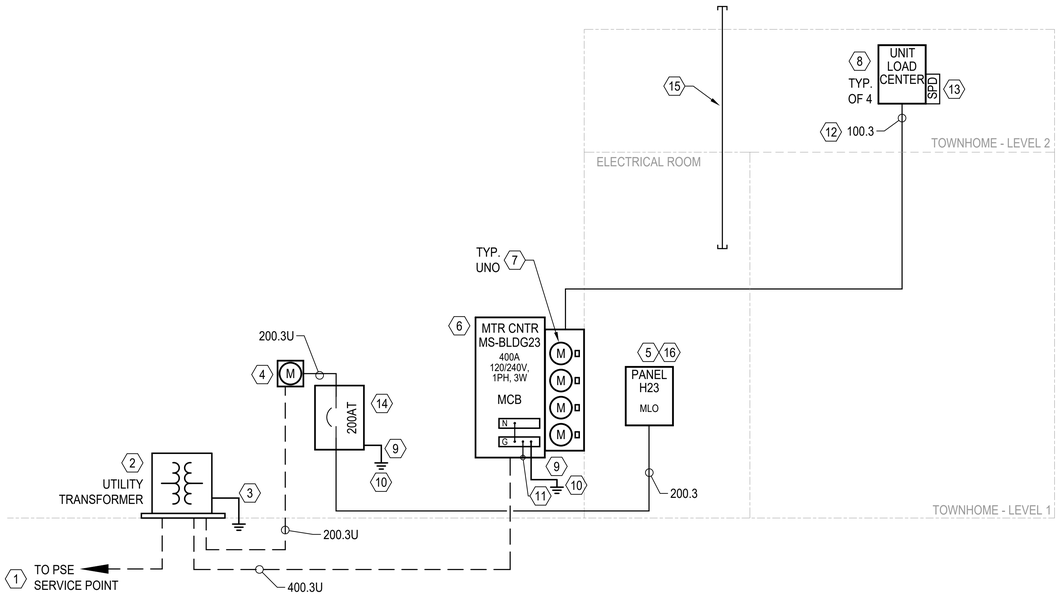
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES ⓧ :

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

⚠1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

⚠1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 23

UNIT TYPE: TOWNHOUSE UNIT	AREA (SF):	1,211				6/18/2023
DEMAND LOAD (kVA):	18.81 =>	78.4 AMPS AT	240	V	1	PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =	AREA x 3VA/SF		=	3.63	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	8.13	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.80	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.80**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY		LOAD (kVA EACH)			
	REFRIGERATOR	1	AT	0.7	=	0.70	kVA
	RANGE HOOD	1	AT	0.3	=	0.30	kVA
	MICROWAVE		AT		=	0.00	kVA
	DISHWASHER	1	AT	1.2	=	1.20	kVA
	WASHER	1	AT	1.2	=	1.20	kVA
	GARBAGE DISPOSAL		AT		=	0.00	kVA
	WATER HEATER		AT		=	0.00	kVA
				SUBTOTAL (CONNECTED)	=	3.40	kVA
APPLIANCE DEMAND FACTOR [220.53]:				75%			
				GENERAL APPLIANCE LOAD - DEMAND	=	**2.55**	**kVA**

MOTORS [220.50]:		QTY		LOAD (kVA EACH)			
	TOILET EXHAUST FAN		AT		=	0.00	kVA
	ERV UNIT	1	AT	0.11	=	0.11	kVA
	KITCHEN EXHAUST FAN		AT		=	0.00	kVA
	+25% OF LARGEST MOTOR				=	0.03	kVA
				GENERAL MOTOR LOAD - DEMAND	=	**0.14**	**kVA**
100% AC EQUIP [220.50] / SPACE HEATING [220.51]					=	6.08	kVA
		QTY		LOAD (kVA EACH)			
	CLOTHES DRYER [220.54]	1	AT	5.5	=	5.50	kVA
	ELECTRIC COOKTOP [220.55]		AT		=	0.00	kVA
	ELECTRIC OVEN [220.55]		AT		=	0.00	kVA
	ELECTRIC RANGE [220.55]	1	AT	8.8	=	8.00	kVA
				TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	=	**27.04**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	25.97	kVA
DEMAND FACTORS PER NEC 220.82(B):					
0 - 10kVA:	100%		=	10.00	kVA
> 10 kVA:	40%		=	6.39	kVA
ELECTRIC HEAT AND AC [220.82(C)]:					
LARGEST LOAD OF OPTIONS:	> = 4 ELECT SPACE HEATERS, 40% NAMEPLATE		=	2.42	kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**18.81**	**kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL MS- 4 unit TOWNHOUSE 5/18/2023

DEMAND LOAD (kVA): 57.61 => 240.0 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.5< X < 3.5kW QTY	1.5< X < 3.5kW LOAD (kVA)	3.5kW < X < 8.75kW QTY	3.5kW < X < 8.75kW LOAD (kVA)	8.75kW < X < 12kW QTY	8.75kW < X < 12kW LOAD (kVA)
0								0	0.00	0	0.00	0	0.00
TOWNHOUSE UNIT	4	32.53	13.60	0.44	24.22	4	22.00	0	0.00	0	0.00	4	35.20
0								0	0.00	0	0.00	0	0.00
TOTALS:	4	32.53	13.60	0.44	24.22	4	22.00	0	0.00	0	0.00	4	35.20

ADDITIONAL 25% OF LARGEST MOTOR: 0.03

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD = 128.02 kVA
DEMAND FACTOR FROM TABLE 220.84 = 45%

TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC = 57.61 kVA

KIRKLAND HEIGHTS - TOWNHOUSE BLDG (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 4): 57.61 kVA
(SEE ATTACHED CALCS)
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.

RESIDENTIAL TOTAL: 57.61 kVA
240.04 AMPS @ 120/240V, 1-PHASE
PROVIDE 400A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	0.5 kVA
LIGHTING - SITE:	1.0 kVA
GENERAL RECEPTACLES:	1.0 kVA
MECHANICAL:	kVA
ELECT HEAT (WATER RMS):	1.0 KVA
CENTRAL HOT WATER (HPWH)	5.3 KVA
ELECT SWING TANK	4.5 KVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.0 kVA
EV CHARGING (2):	16.64 kVA
HOUSE TOTAL:	32.41 kVA
	89.96 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	40.51 kVA
	112.4556 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	98.12 kVA
	272.36 AMPS @ 120/240V, 1-PHASE

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13328 NE 132nd St,
Kirkland, WA 98034

BUILDING 23

BID SET

JOANNA M. BYERS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09892
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E23-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
50.4	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.3	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H23
NORMAL POWER — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
BUS RATING: 200 AMPS — M.L.O OR M.C.B: MLO — 200 AMPS

CKT #	DESCRIPTION	CONN TYPE	LOAD kVA	CKT TAG	CB AMPS/#P	PH	CB AMPS/#P	CKT TAG	CONN TYPE	LOAD kVA	DESCRIPTION	CKT #
1	LTG - ELECT/MECH CLOSETS	L	0.12	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	1
3	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	B	20 / 1			0.00	SPARE	4
5	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.12	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	SPARE		0.00		20 / 1	A	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	10
11	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	14
15	SPARE		0.00		20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-1*	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN. (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - "WH-2"	22
23	SPARE		0.00		20 / 1	B						24
25	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	26
27	SPARE		0.00		20 / 1	B	20 / 1			0.00	SPARE	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - "SWH-1"	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP "CP-1" & MX VALVE "MV-1"	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.12	kVA 125%	0.15	kVA
R	= RECEPTACLES	2.52	kVA NEC 220.44	2.52	kVA
M	= MOTORS	0.12	kVA 100%	0.12	kVA
	PLUS 25% OF LARGEST MOTOR	0.12	kVA 25%	0.03	kVA
C	= CONTINUOUS	13.96	kVA 125%	17.45	kVA
N	= NON-CONTINUOUS	1.20	kVA 100%	1.20	kVA
K	= KITCHEN	0.00	kVA 75%	0.00	kVA

PANEL CONNECTED TOTAL: 17.93 kVA, 74.65 AMPS
PANEL DEMAND TOTAL: 21.47 kVA, 89.44 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 4 BEDROOM
NORMAL POWER — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
A/C: SEE SINGLE-LINE DIAGRAM — BUS RATING: 100 AMPS — M.O OR M.C.B: MLO — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/#P	PH	CB AMPS/#P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			-	4
5	RECEPTS, FRV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B				8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B				12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19	BEDROOM 4 RECEPTS, LTS, SD (1)	20.1	20 / 1	B	20 / 1	20.1	DED.RECEPT - A/C UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A	20 / 1	20.1	HEAT - KITCHEN, BATH (1)	22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-2	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.135					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES; DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.933	DWELLING UNITS	KING	KCV COVE HEATER	0.933	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H X 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H X 118"L	1, 4
EWH-T	DWELLING UNITS	KING	PAW WALL HEATER	0.25	120 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	120 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 5

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.
5. UNIT WILL REQUIRE SURFACE MOUNTING.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 4 UNIT TOWNHOMES

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	BED 4	KITCHEN	BATH	LIVING
A	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4
B	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
C	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
D	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13328 NE 132nd St,
Kirkland, WA 98034

BUILDING 23

BID SET

VIRGINNA M. JOHNSON — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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SCHEDULES

PERMIT #	BMF22-09892
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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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KIRKLAND HEIGHTS APARTMENTS

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Kirkland, WA 98034

BUILDING 23

BID SET

GEORGINNA M. LAMPMAN STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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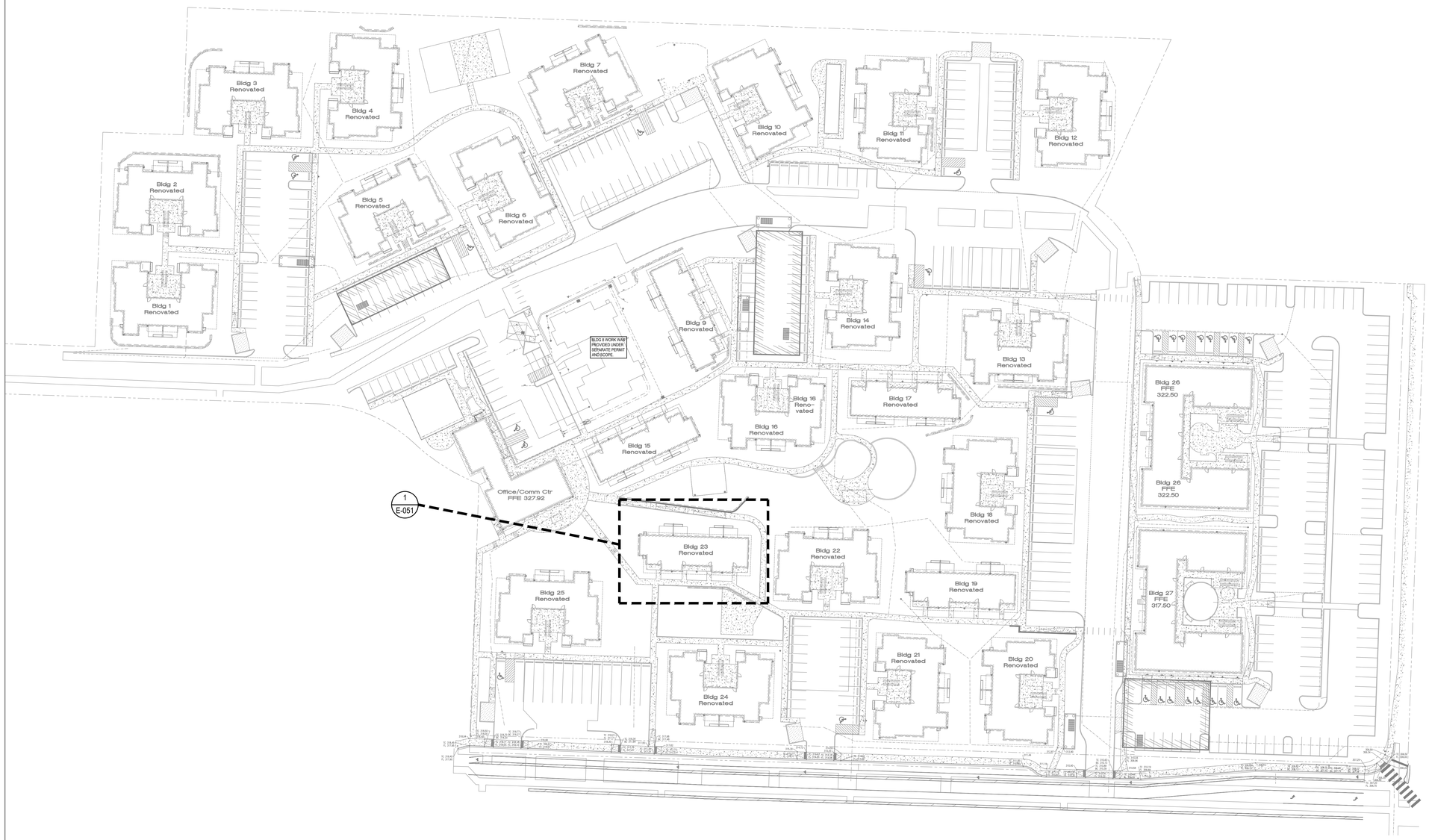
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LUMINAIRE SCHEDULE

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OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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BUILDING 23

BID SET

GEORGINNA M. LEDGERWOOD
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43761
REGISTERED PROFESSIONAL ENGINEER
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REVISIONS / NOTES

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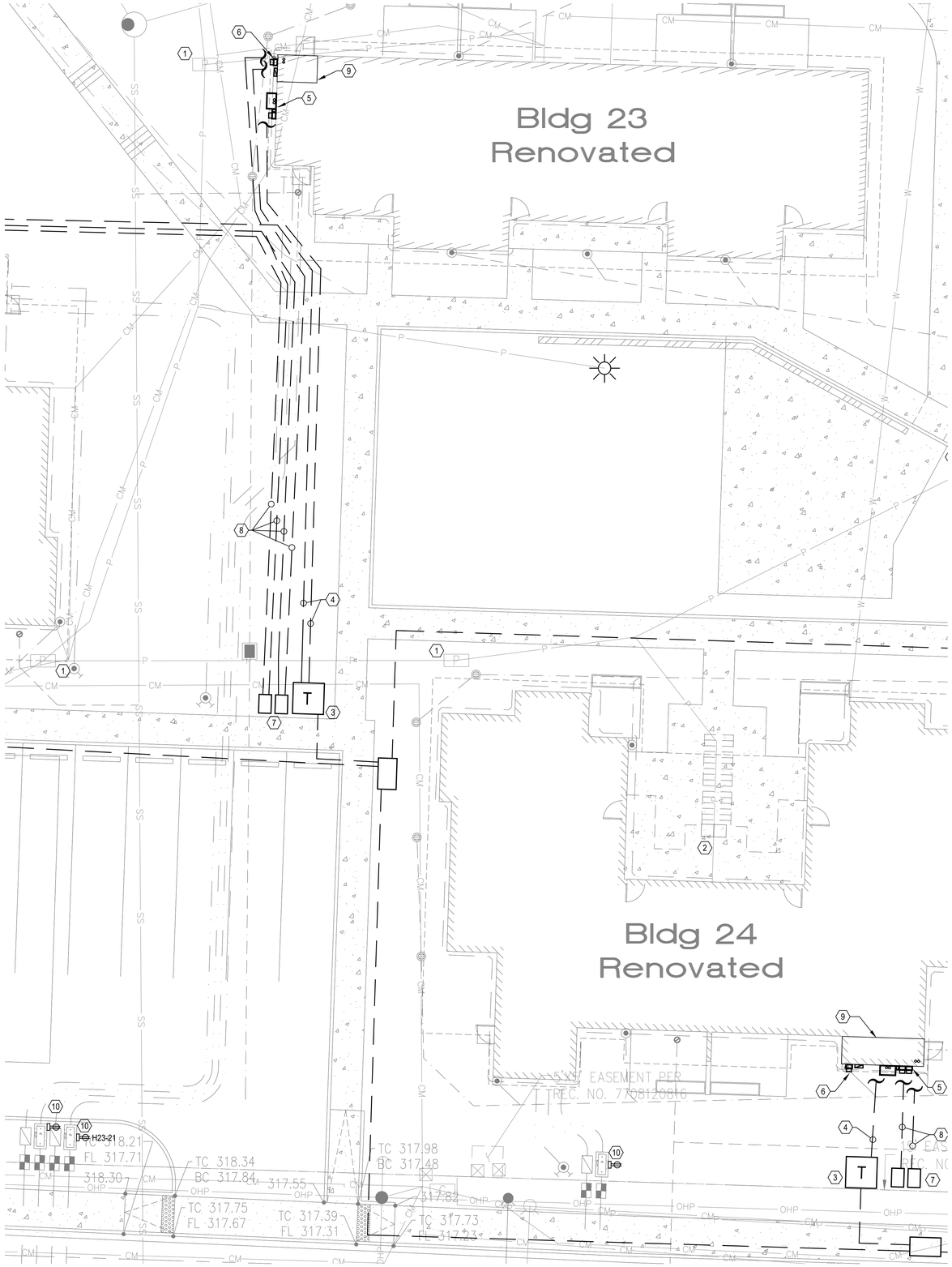
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OVERALL PROJECT SITE PLAN

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ELECTRICAL SITE PLAN - BUILDING 23

SCALE:1/8" = 1'-0"

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE. BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13328 NE 132nd St,
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BUILDING 23

BID SET

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STATE OF WASHINGTON
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REGISTERED
PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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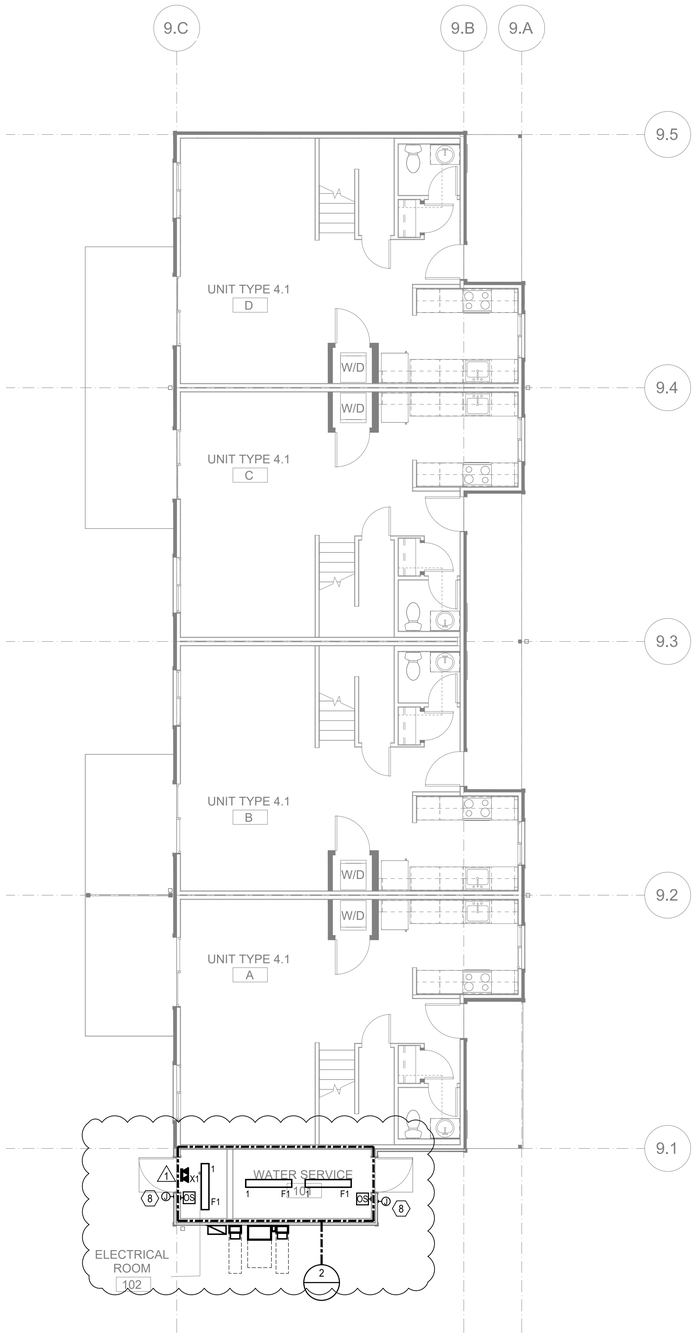
ELECTRICAL SITE PLAN - BUILDING 23

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POWER AND LIGHTING PLAN - BUILDING 23 - LEVEL 1

SCALE: 3/16"=1'-0"

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H23 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

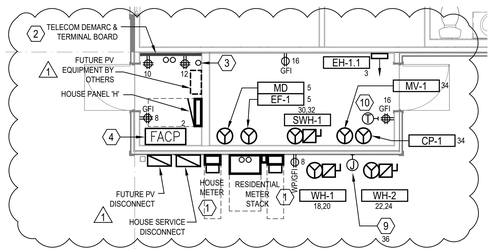
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. NOT USED
6. NOT USED.
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



ELECTRICAL AND WATER ROOM

2 / E-101 — 1/4"=1'-0"

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BUILDING 23

BID SET

JOAQUINNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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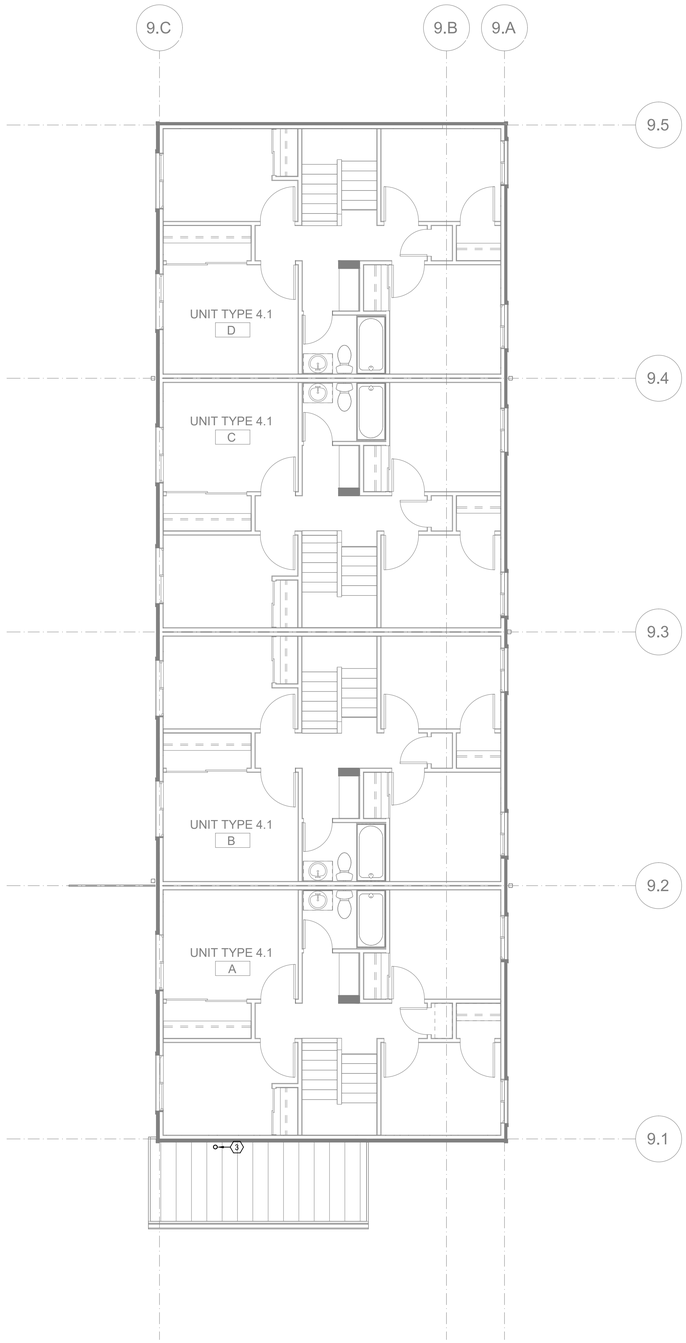
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POWER AND LIGHTING PLAN - BUILDING 23 - LEVEL 1

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CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H23 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).

POWER AND LIGHTING PLAN - BUILDING 23 - LEVEL 2

SCALE: 3/16"=1'-0"

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13328 NE 132nd St,
Kirkland, WA 98034

BUILDING 23

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER AND LIGHTING PLAN - BUILDING 23 - LEVEL 2

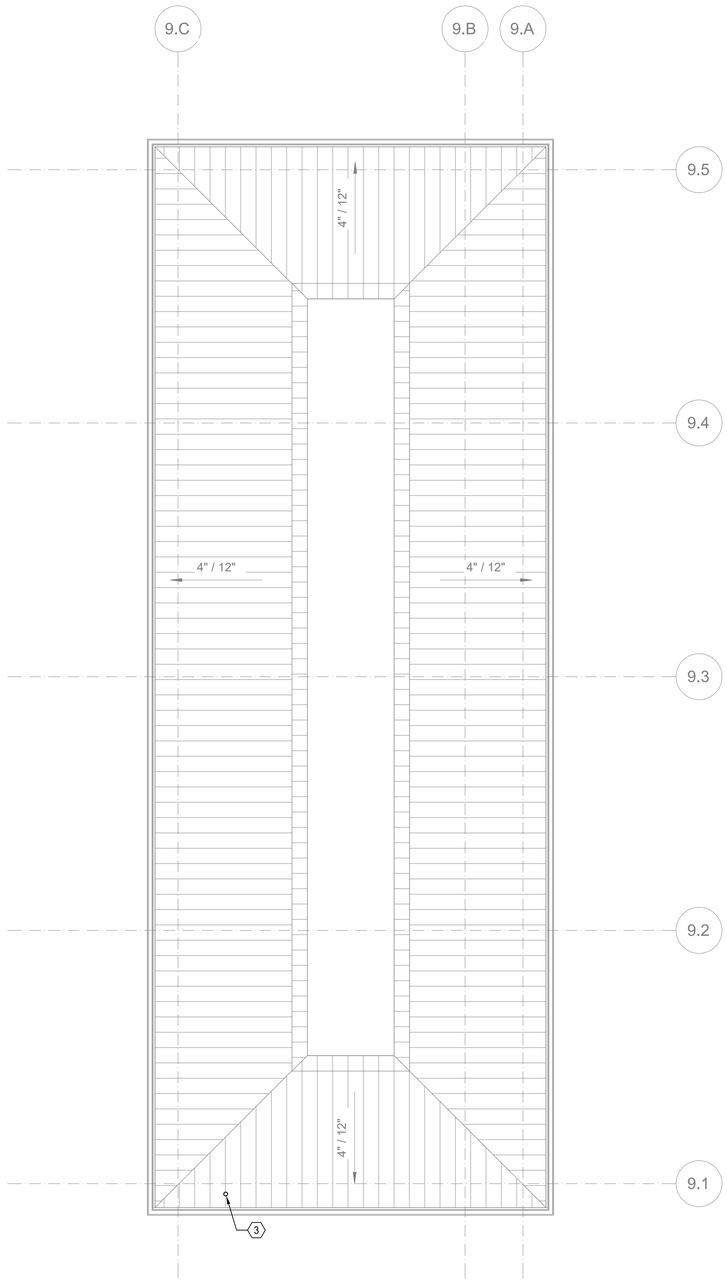
PERMIT #	BMF22-09892
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E23-102

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ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.



GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

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2. NOT USED.
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POWER PLAN - BUILDING 23 - ROOF

SCALE: 3/16"=1'-0"

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BUILDING 23

BID SET

JOAQUINNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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POWER PLAN - BUILDING 23 - ROOF

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ELECTRIC HEATER DWELLING UNIT SUMMARY - 4 UNIT TOWNHOMES

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES						
		BED 1	BED 2	BED 3	BED 4	KITCHEN	BATH	LIVING
A	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4
B	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
C	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWH-T	EWH-T	CH-1.12
D	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWH-T	EWH-T	CH-1.4

NOTES:

A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.

B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

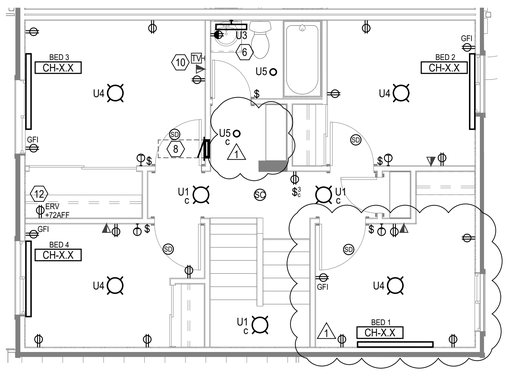
B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

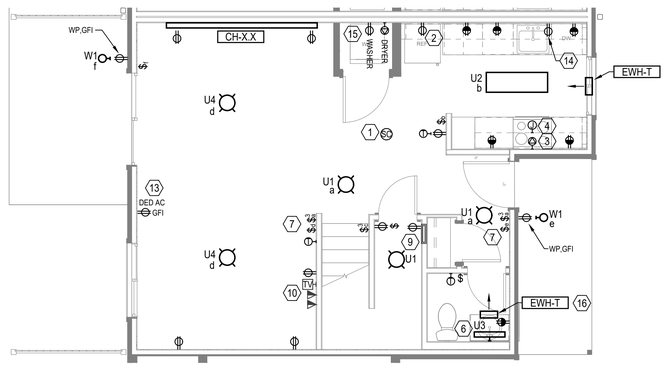
ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

FLAG NOTES (X):

1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. CONNECTION FOR RANGE EXHAUST HOOD IN TYPE A UNITS. FIELD VERIFY EXACT LOCATION. PROVIDE ACCESSIBLE SWITCH FOR RANGE HOOD CONTROL. VERIFY EXACT LOCATION.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. PROVIDE HORN/STROBES IN TYPE A UNITS PER CODE AND AHJ REQUIREMENTS. COORDINATE HORN/STROBE LOCATIONS WITH COVE HEATERS; DO NOT LOCATE HORN/STROBES ABOVE OR IMMEDIATELY ADJACENT TO COVE HEATERS. CONFIRM FINAL LOCATIONS WITH FIRE MARSHAL.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR DISHWASHER. FIELD VERIFY CONNECTION TYPE, LOCATION AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS. LOCATION OF CONNECTION TO BE ACCESSIBLE.
15. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.
16. COORDINATE BATHROOM HEATER LOCATION WITH OWNER AND ARCHITECT.



3 **ENLARGED PLAN - TH - LEVEL 2**
1/4"=1'-0"



1 **ENLARGED PLAN - TH - LEVEL 1**
1/4"=1'-0"

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BUILDING 23

BID SET

JOANNA M. GLOVER — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
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DPD STAMP

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ENLARGED UNIT PLANS

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E23-301

ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET
- FLAG NOTE
- REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- OR — COMBINATION SMOKE/FIRE DAMPER
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM / EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES

FL1 3a — FL1 3-Z1.2

TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT. SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- WP / F — CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $3PDX (etc.) — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP / 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M / M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
IN	INCH/INCHES	WO	WITHOUT
		WP	WEATHERPROOF
KCMIL	THOUSAND CIRCULAR MILS	WT	WEIGHT
KO	KNOCK OUT		
KW	KILOWATT/KILOWATTS	XFR	TRANSFORMER
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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BUILDING 24

BID SET

GEORGINA L. JAMES — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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COVER SHEET

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10/7/2021 7:33:34 AM

GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13406 NE 132nd St,
Kirkland, WA 98034

BUILDING 24

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09893
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E24-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

5/18/2023

GENERAL SCHEDULE NOTES:

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

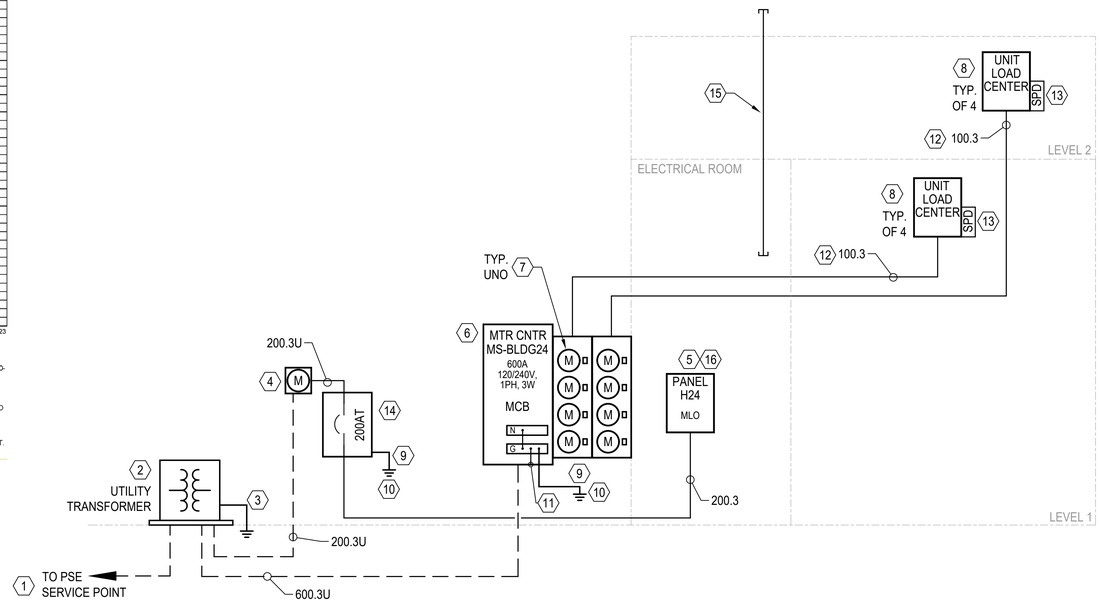
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS, WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH 'U' ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

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12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 24

UNIT TYPE: 2BR - 2.1 | **AREA (SF): 782** | 5/18/2023
DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.35	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	= 0.70	kVA
	RANGE HOOD	1	AT	0.3	= 0.30	kVA
	MICROWAVE		AT		= 0.00	kVA
	DISHWASHER		AT		= 0.00	kVA
	WASHER	1	AT	1.2	= 1.20	kVA
	GARBAGE DISPOSAL		AT		= 0.00	kVA
	WATER HEATER		AT		= 0.00	kVA
				SUBTOTAL (CONNECTED)	= 2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:				75%		
				GENERAL APPLIANCE LOAD - DEMAND	= **1.65**	**kVA**

MOTORS [220.60]:		QTY		LOAD (kVA EACH)		
	TOILET EXHAUST FAN		AT		= 0.00	kVA
	ERV UNIT	1	AT	0.11	= 0.11	kVA
	KITCHEN EXHAUST FAN		AT		= 0.00	kVA
	+25% OF LARGEST MOTOR				= 0.03	kVA
				GENERAL MOTOR LOAD - DEMAND	= **0.14**	**kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]				= 3.91	kVA
	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	= 5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		= 0.00	kVA
ELECTRIC OVEN [220.55]		AT		= 0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	= 8.00	kVA
			TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	= **23.54**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:	100%		=	10.00 kVA
> 10 kVA:	40%		=	5.39 kVA
ELECTRIC HEAT AND AC [220.82(C)]:				
LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS: 65% NAMEPLATE		=	2.54 kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**17.93 kVA**

UNIT TYPE: 3BR - 3.1 | **AREA (SF): 906** | 5/18/2023
DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.48	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:	TYPE	QTY		LOAD (kVA EACH)		
	REFRIGERATOR	1	AT	0.7	= 0.70	kVA
	RANGE HOOD	1	AT	0.3	= 0.30	kVA
	MICROWAVE		AT		= 0.00	kVA
	DISHWASHER		AT		= 0.00	kVA
	WASHER	1	AT	1.2	= 1.20	kVA
	GARBAGE DISPOSAL		AT		= 0.00	kVA
	WATER HEATER		AT		= 0.00	kVA
				SUBTOTAL (CONNECTED)	= 2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:				75%		
				GENERAL APPLIANCE LOAD - DEMAND	= **1.65**	**kVA**

MOTORS [220.60]:		QTY		LOAD (kVA EACH)		
	TOILET EXHAUST FAN		AT		= 0.00	kVA
	ERV UNIT	1	AT	0.11	= 0.11	kVA
	KITCHEN EXHAUST FAN		AT		= 0.00	kVA
	+25% OF LARGEST MOTOR				= 0.03	kVA
				GENERAL MOTOR LOAD - DEMAND	= **0.14**	**kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51]				= 4.53	kVA
	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	= 5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		= 0.00	kVA
ELECTRIC OVEN [220.55]		AT		= 0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	= 8.00	kVA
			TOTAL DWELLING UNIT LOAD PER NEC 220, PART III	= **24.29**	**kVA**

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10KVA:	100%		=	10.00 kVA
> 10 kVA:	40%		=	5.54 kVA
ELECTRIC HEAT AND AC [220.82(C)]:				
LARGEST LOAD OF OPTIONS:	< 4 ELECT SPACE HEATERS: 65% NAMEPLATE		=	2.94 kVA
		TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV	=	**18.49 kVA**

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL | **MS - 8 unit STACK** | 5/18/2023
DEMAND LOAD (kVA): 95.86 => 399.4 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.6< X < 3.6kW QTY	1.6< X < 3.6kW LOAD (kVA)	3.6kW < X < 8.76kW QTY	3.6kW < X < 8.76kW LOAD (kVA)	8.76kW < X < 12kW QTY	8.76kW < X < 12kW LOAD (kVA)
2BR - 2.1	4	27.38	8.80	0.44	15.64	4	22.00	0	0.00	0	0.00	4	35.20
3BR - 3.1	4	28.87	8.80	0.44	18.12	4	22.00	0	0.00	0	0.00	4	35.20
0								0	0.00	0	0.00	0	0.00
TOTALS:	8	56.26	17.60	0.88	33.76	8	44.00	0	0.00	0	0.00	8	70.40
			ADDITIONAL 25% OF LARGEST MOTOR:	0.03									

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD	=	222.92	kVA
DEMAND FACTOR FROM TABLE 220.84 =		43%	
TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC	=	**95.86**	**kVA**

KIRKLAND HEIGHTS - 8 UNIT STACK FLAT (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 8):	95.86 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	95.86 kVA
	399.40 AMPS @ 120/240V, 1-PHASE
	PROVIDE 600A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	5.6 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	38.71 kVA
	161.30 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	48.39 kVA
	201.6208 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	144.25 kVA
	601.03 AMPS @ 120/240V, 1-PHASE

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13406 NE 132nd St,
Kirkland, WA 98034

BUILDING 24

BID SET

JOHANNA M. [illegible] STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09893
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E24-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

B. FEEDERS OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILITY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.

B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H24
NORMAL POWER — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V, 1-PHASE, 3-WIRE — SURFACE-MOUNTED
BUS RATING: 200 AMPS — M.L.O OR MCB: MLO — 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	CONN LOAD kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	CONN LOAD kVA	DESCRIPTION	CKT #
1	TG - BREEZEWAY	L	0.15	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	SPARE		0.00		20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-1	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-2	22
23	LTG - SITE	L	0.21	20.1	20 / 1	B						24
25	SPARE		0.00		20 / 1	A	20 / 1			0.00	SPARE	26
27	SPARE		0.00		20 / 1	B	20 / 1			0.00	SPARE	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - SWH-1	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP CP-1 & MIX VALVE MV-1	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD		DEMAND FACTOR		DEMAND LOAD	
L	= LIGHTING	0.60	kVA	125%		0.75	kVA
R	= RECEPTACLES	3.78	kVA	NEC 220.44		3.78	kVA
M	= MOTORS	0.24	kVA	100%		0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA	25%		0.06	kVA
C	= CONTINUOUS	13.66	kVA	125%		17.45	kVA
N	= NON-CONTINUOUS	1.44	kVA	100%		1.44	kVA
K	= KITCHEN	0.00	kVA	75%		0.00	kVA

PANEL CONNECTED TOTAL:
30.02 kVA
83.40 AMPS

PANEL DEMAND TOTAL:
23.72 kVA
98.81 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM
NORMAL POWER — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V, 1-PHASE, 3-WIRE — FLUSH-MOUNTED
BUS RATING: 100 AMPS — M.L.O OR MCB: MLO — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM
NORMAL POWER — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V, 1-PHASE, 3-WIRE — FLUSH-MOUNTED
BUS RATING: 100 AMPS — M.L.O OR MCB: MLO — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	KW	HP	MCA	MOCP	ALTERNATE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/					/	
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/					/	
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/					/	
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/					/	
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/					/	

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES. DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13406 NE 132nd St,
Kirkland, WA 98034

BUILDING 24

BID SET

VIRGINNA M. BROWN — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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GEORGINNA M. LAMPMAN STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
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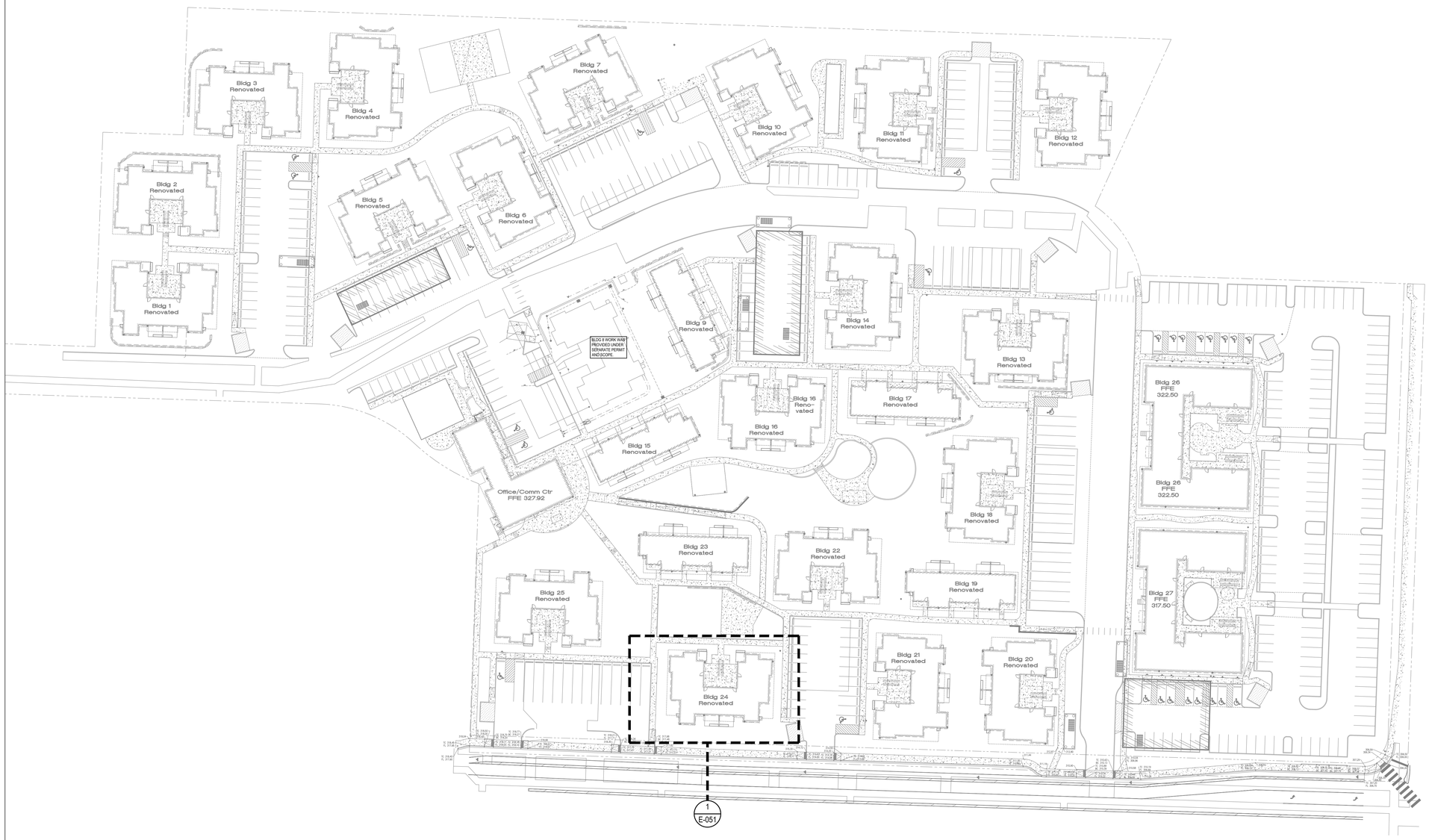
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LUMINAIRE SCHEDULE

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OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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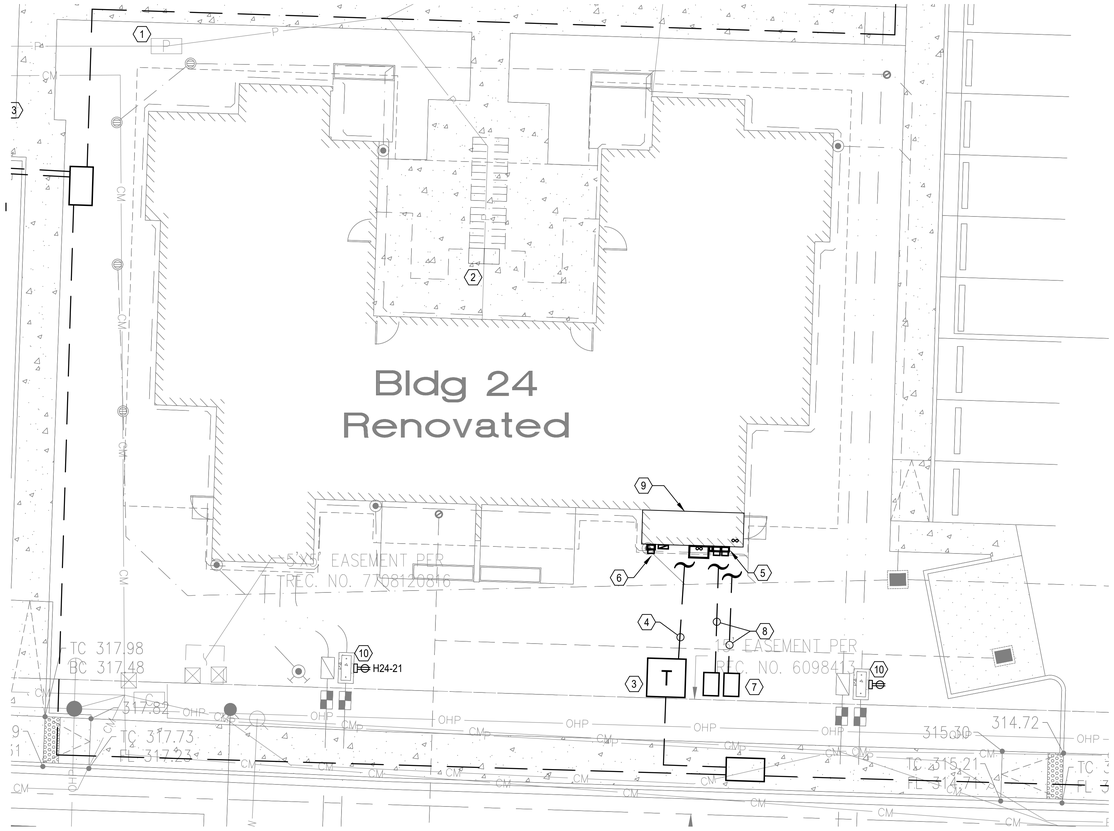
OVERALL PROJECT SITE PLAN

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ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 24

SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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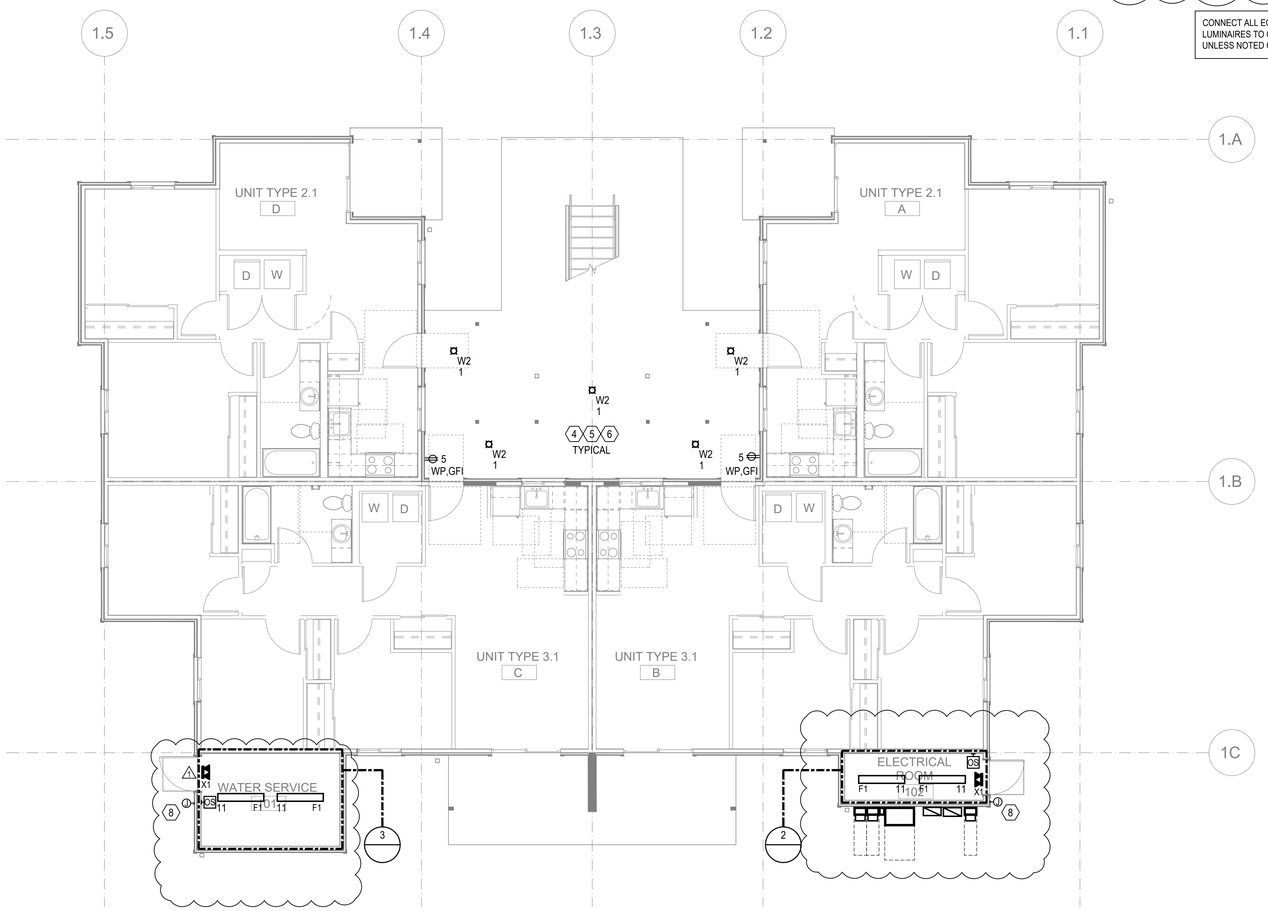
ELECTRICAL SITE PLAN - BUILDING 24

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POWER AND LIGHTING PLAN - BUILDING 24 - LEVEL 1

SCALE: 3/16"=1'-0"

1. EMERGENCY LIGHTING INVERTER LOADS:

   INVERTER #1 (CKT H-1): 150 WATTS @ 125% = 188W DEMAND
   - PROVIDE 220 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H24 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

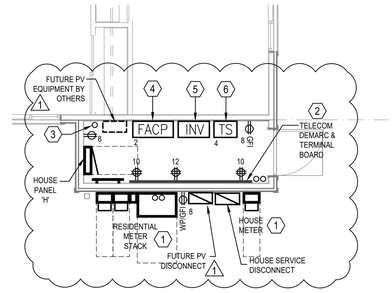
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

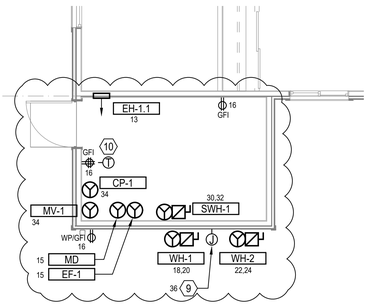
FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR APARTMENT UNITS AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 220 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR LIGHTING FIXTURES TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-220-PB-S-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 / E101 ELECTRICAL ROOM

1/4"=1'-0"



3 / E101 WATER ROOM

1/4"=1'-0"

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FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13406 NE 132nd St,
Kirkland, WA 98034

BUILDING 24

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

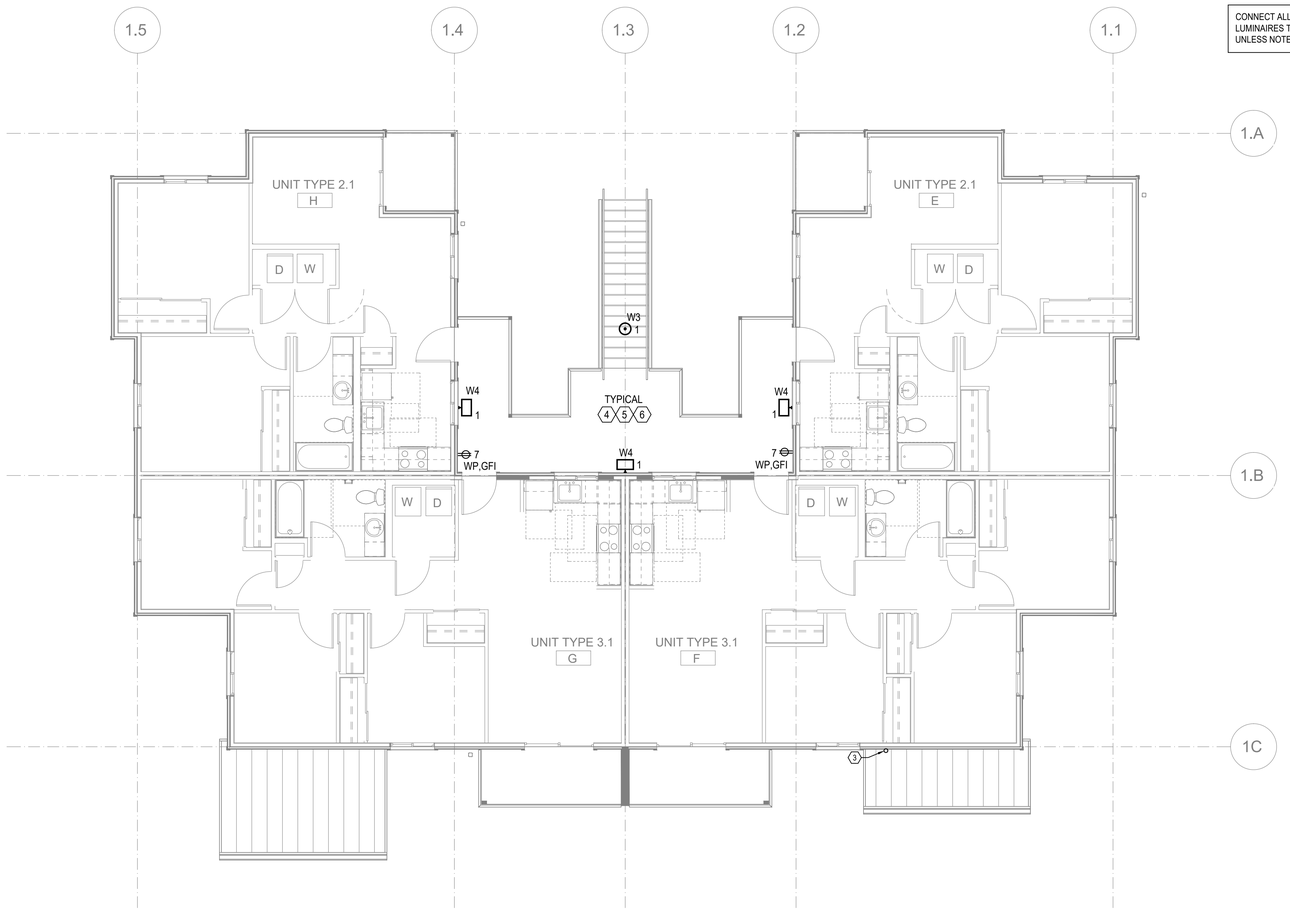
POWER AND LIGHTING PLAN - BUILDING 24 - LEVEL 1

PERMIT #	BMF22-09893
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016

SHEET NO.:

E24-101

10/7/2021 7:33:34 AM



CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H24 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 24 - LEVEL 2

SCALE: 3/16"=1'-0"

SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
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117 S. Main St., Suite 400
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BUILDING 24

BID SET



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NO	DATE	DESCRIPTION
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DPD STAMP

TITLE

POWER AND LIGHTING PLAN - BUILDING 24 - LEVEL 2

PERMIT #	BMF22-09893
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
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10/7/2021 7:33:34 AM

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

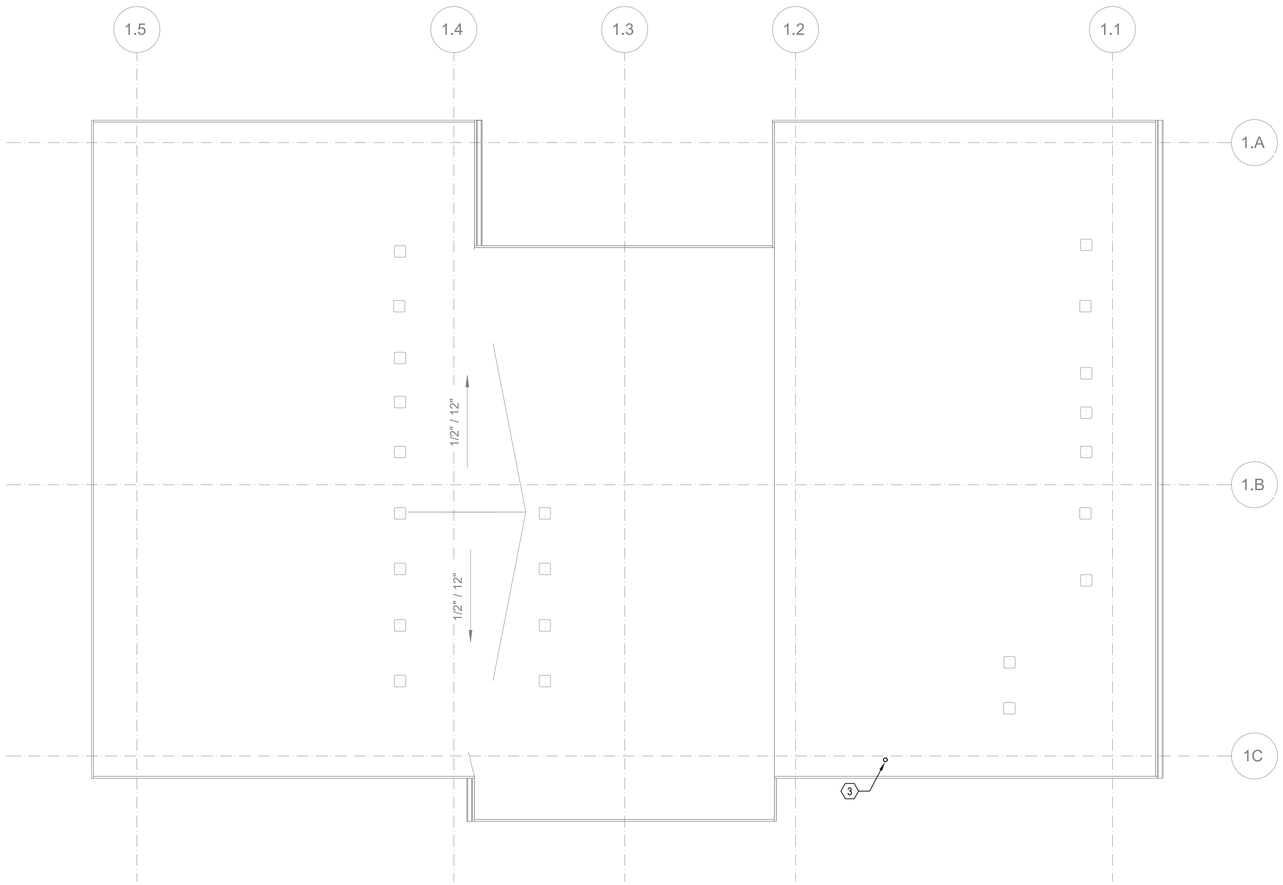
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).



POWER PLAN - BUILDING 24 - ROOF

SCALE: 3/16"=1'-0"

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BUILDING 24

BID SET



NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER PLAN - BUILDING 24 - ROOF

PERMIT #	BMF22-09893
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SHEET NO.:	

E24-103

10/7/2021 7:33:34 AM

GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

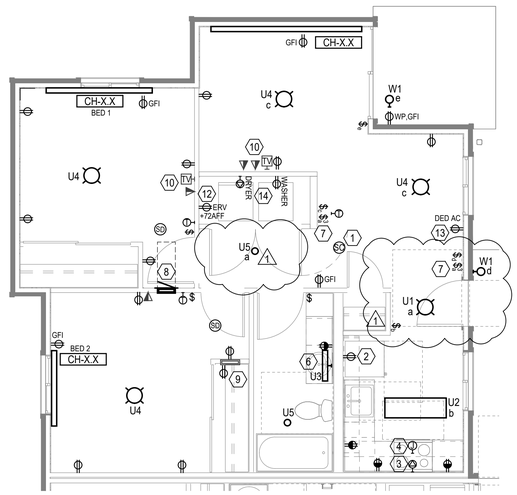
FLAG NOTES (X):

1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

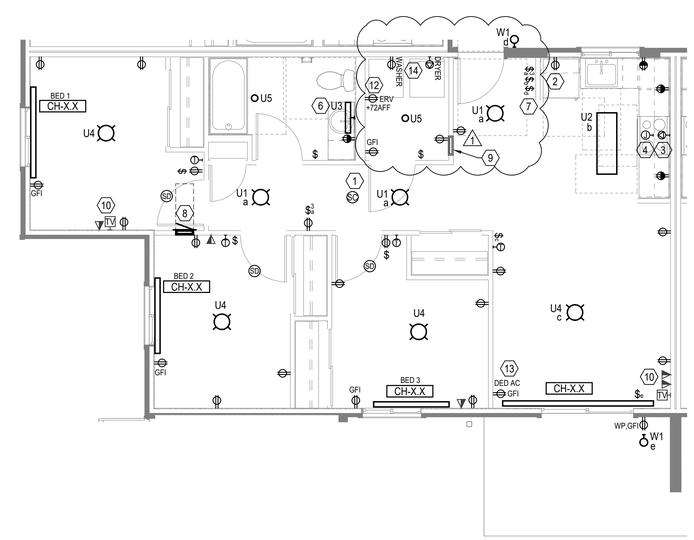
ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

		HEATER TYPES			
UNIT NUMBER(S)	UNIT TYPE	BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**
1/4"=1'-0" UNITS: A, D, E, H



1 **ENLARGED PLAN - 3-BED**
1/4"=1'-0" UNITS: B, C, F, G

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ENLARGED UNIT PLANS

PERMIT #	BMF22-09893
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ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E24-301

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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET (E-1)
- FLAG NOTE
- REVISION TAG (1)
- MECHANICAL EQUIPMENT (AHU-1)
- FAULT CURRENT TAG (XX kA)

FIRE ALARM SYMBOLS

- COMBINATION SMOKE/FIRE DAMPER (OR)
- FIRE ALARM CONTROL PANEL (FACP)
- FIRE ALARM REMOTE ANUNCIATOR (FARA)
- FIRE ALARM STROBE LIGHT
- FIRE ALARM SMOKE DETECTOR (SD)
- FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM (SD)

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- GROUNDING CONDUCTOR(S) PER CODE (G)
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES (EM)

TYPICAL LUMINAIRE ANNOTATIONS:

FL1 3a — FL1 = LUMINAIRE TYPE; 3 = CIRCUIT NUMBER

FL1 3-Z1.2 — c = SWITCH LEG; Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT. SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VARIABLE FREQUENCY DRIVE (VFD)
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC (702)
- WEATHERPROOF (WP)
- GFCI TYPE (GFI)
- FULLY CONTROLLED (NOT HALF-SWITCHED) (C)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD (TV)
- CARD / FOB READER WALL/ MULLION AND BOLLARD MTD (CR)
- SECURITY DOOR POSITION MONITOR (DS)
- ELECTRIC STRIKE (ES)
- KEYPAD WALL/ MULLION AND BOLLARD MTD (KP)
- CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS. (WP, F)
- SPEAKER, CEILING MOUNTED (SP)

CONTROL SYMBOLS

- MOTORIZED CONTROL DAMPER (M)
- THERMOSTAT
- WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- WEATHERPROOF, TYPICAL (WP)
- WALL SWITCH, LINE VOLTAGE, 1-POLE
- WALL SWITCH, LINE VOLTAGE, 3-WAY (3)
- WALL SWITCH, LINE VOLTAGE, TIMER SWITCH (TS)
- LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF (1P)
- LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER (DX)
- LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF (2P)
- LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER (2PDX)
- COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED (OS)
- OCCUPANCY SENSOR: WALL, CLG MTD (OS)
- PHOTO CELL, CLG MTD (PC)
- COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD (OP)

RISER DIAGRAM SYMBOLS

- CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER (100AT GFP / 50AT) AT = TRIP AMPACITY; GFP = GROUND FAULT PROTECTION PER CODE
- FUSED SWITCH. AF= FUSE RATING (100AF)
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- CONTACTOR COIL (C)
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DIGITAL METER (DM)
- UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED. (M)
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SURGE PROTECTION DEVICE (SPD)

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

ELECTRICAL SHEET LIST

E-001	COVER SHEET
E-002	PROJECT NOTES
E-003	SINGLE LINE DIAGRAM AND LOAD CALCS
E-004	SCHEDULES
E-005	LUMINAIRE SCHEDULE
E-050	OVERALL PROJECT SITE PLAN
E-051	ELECTRICAL SITE PLAN
E-101	POWER AND LIGHTING PLAN - LEVEL 1
E-102	POWER AND LIGHTING PLAN - LEVEL 2
E-103	POWER PLAN - ROOF
E-301	ENLARGED UNIT PLANS

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY, AMPERE INTERRUPTING RATING	MED MEP	MEDIUM MECHANICAL, ELECTRICAL & PLUMBING
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
C	CONDUIT		
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER	TC	TIMECLOCK
		TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING	UTR	UP THROUGH ROOF
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	W	WATT
		W/	WITH
IMC	INTERMEDIATE METAL CONDUIT	WO	WITHOUT
IN	INCH/INCHES	WP	WEATHERPROOF
		WT	WEIGHT
KCMIL	THOUSAND CIRCULAR MILS		
KO	KNOCK OUT	XFR	TRANSFORMER
KW	KILOWATT/KILOWATTS		
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13324 NE 132nd St,
Kirkland, WA 98034

BUILDING 25

BID SET

GEORGINA L. BYERS — STATE OF WASHINGTON — 45781 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

COVER SHEET

PERMIT #	BMF22-09896
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E25-001

10/7/2021 7:33:34 AM

GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT AND ONE OF EACH TYPICAL UNIT TYPE. FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

LOW VOLTAGE PROJECT NOTES

1. SEE GENERAL PROJECT NOTES, THIS DRAWING, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGNED BY OTHERS. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLAN, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
3. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT. THE DESIGN-BUILD FIRE ALARM CONTRACTOR SHALL DESIGN AND PROVIDE COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM MEETING THE REQUIREMENTS OF CODE, THE LOCAL AHJ AND THE FIRE MARSHAL. ANY DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ARE SCHEMATIC FOR COORDINATION PURPOSES ONLY. SEE THE PERFORMANCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

   THE FIRE ALARM CONTRACTORS SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL FIRE ALARM SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING SYSTEMS THAT MEET ALL REQUIREMENTS OF CODE AND THE LOCAL AHJ; ALL ADDITIONS, REVISIONS, RESUBMITTALS, ETC REQUIRED TO OBTAIN AHJ APPROVAL SHALL BE CARRIED OUT BY THE FIRE ALARM CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
4. ALL LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE DESIGNED/ PROVIDED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
5. ALL VOICE/ DATA SYSTEM DESIGN SHALL BE PERFORMED BY A BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) OR BY A DESIGN ENGINEER AT LEAST FIVE YEARS OF EXPERIENCE ON PROJECTS WITH SIMILAR SYSTEMS AND SCOPES. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
6. ALL LOW VOLTAGE CABLING AND EQUIPMENT INSTALLATION AND TESTING SHALL BE PERFORMED BY A CERTIFIED INSTALLER. THE CONTRACTOR SHALL PROVIDE PROOF OF CERTIFICATION FOR THE SYSTEMS TO BE INSTALLED IN THE PROJECT AND THE CABLING, TERMINATIONS, AND EQUIPMENT PROPOSED FOR THE PROJECT.
7. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR ALL LOW VOLTAGE SYSTEMS. PRELIMINARY SYSTEMS PLAN PROVIDED IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE DESIGN-BUILD LOW VOLTAGE CONTRACTOR AND ALERTING SYSTEM VENDOR AT THE START OF CONSTRUCTION.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

ENERGY CODE NOTES

1. SEE THE LUMINAIRE SCHEDULE, AND THE LIGHTING PLANS FOR LIGHTING AND LIGHTING CONTROL REQUIREMENTS. SYSTEMS SHALL MEET THE REQUIREMENTS OF R404.
2. OCCUPANCY SENSORS SHALL FAIL ON AND AUTOMATICALLY TURN OFF LUMINAIRES IN THEIR COVERAGE AREA WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE UNLESS NOTED OTHERWISE ON THE PLANS. SEE LIGHTING CONTROL SCHEDULES FOR ADDITIONAL FUNCTIONALITY REQUIREMENTS.
3. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
4. THE LUMINAIRES SERVING DWELLING UNITS SHALL BE LED SOURCE WITH AN EFFICACY OF AT LEAST 65 LUMENS PER WATT AS REQUIRED BY CODE.
5. LUMINAIRES SERVING THE EXIT ACCESS AND PROVIDING MEANS OF EGRESS ILLUMINATION REQUIRED BY THE IBC SHALL BE CONTROLLED BY A COMBINATION OF LISTED EMERGENCY RELAY AND OCCUPANCY SENSORS OR SIGNAL FROM ANOTHER BUILDING CONTROL SYSTEM THAT AUTOMATICALLY SHUTS OFF THE LIGHTING WHEN THE AREAS SERVED BY THAT ILLUMINATION ARE UNOCCUPIED. SEE LIGHTING PLANS.
6. THE BUILDING SHALL MEET CERTIFICATION REQUIREMENTS OF EVERGREEN SUSTAINABLE DESIGN STANDARDS (ESDS). SEE THE TEAM APPROVED CHECKLIST FOR APPLICABLE ITEMS EFFECTING THE ELECTRICAL SCOPE.
7. THE BUILDING SHALL BE COMMISSIONED PER THE REQUIREMENTS OF ESDS - SEE DIVISION 01 AND DIVISION 26 SPECIFICATIONS, COMMISSIONING NOTES THIS DRAWING AND PROJECT DRAWINGS FOR REQUIREMENTS.

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c/o: King County Housing Authority,
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13310 NE 133rd St.
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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13324 NE 132nd St,
Kirkland, WA 98034

BUILDING 25

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

PROJECT NOTES

PERMIT #	BMF22-09896
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E25-002

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	CONDUCTORS PER SET: AL OR CU	PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10
40.2	(1) 1-INCH	CU	(2) #5	#10
40.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION);
CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).

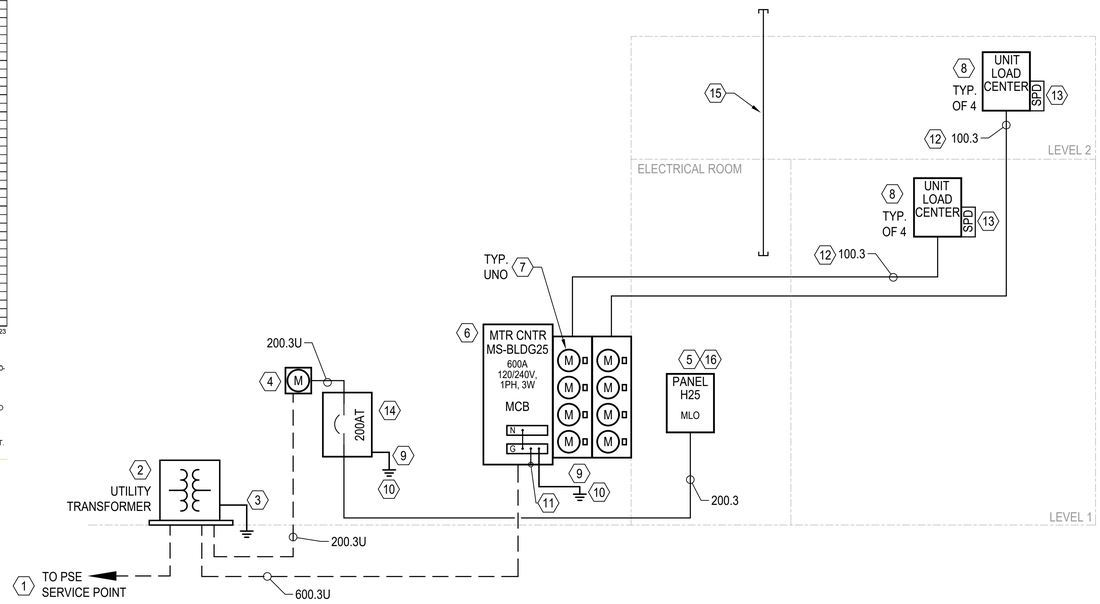
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS, WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.

D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH 'U' ARE UTILIY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.



SINGLE LINE DIAGRAM

SCALE: NTS

FLAG NOTES (X):

1. TO CONNECTION POINT WITH PUGET SOUND ENERGY (PSE). COORDINATE EXACT LOCATION, ROUTING AND REQUIREMENTS WITH PSE. ALL WORK TO BE PER PSE REQUIREMENTS. SEE SITE PLAN FOR ALTERATIONS TO EXISTING UTILITY ROUTING AROUND PROJECT BUILDING.
2. NEW EXTERIOR PAD-MOUNTED UTILITY TRANSFORMER. FINAL CONNECTIONS TO TRANSFORMER BY PSE. CONTRACTOR TO VISIBLY MARK EACH CONDUCTOR WITH PHASE AND SPECIFIC SERVICE IT FEEDS AND EXTEND EXCESS CABLE PER PSE STANDARDS.
3. UTILITY SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH NEC 250.24(A) AND PSE REQUIREMENTS.
4. 200A, 120/240V, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS FOR BUILDING HOUSE LOADS.
5. NEW PANELBOARD FOR BUILDING HOUSE LOADS.
6. PROVIDE EXTERIOR RATED RESIDENTIAL METER CENTER FOR INDIVIDUAL APARTMENT SERVICES. METER CENTER TO BE SERVICE ENTRANCE RATED WITH MAIN BREAKER. METER SECTION TO HAVE (8) 100AMP METERS WITH INDIVIDUAL DISCONNECTS.
7. 100A, 1-PHASE UTILITY METER SOCKET INSTALLED PER PSE REQUIREMENTS. PROVIDE WITH 100AT BREAKER ADJACENT TO EACH METER SOCKET FOR UNIT FEEDERS.
8. 100A, 120/240V, 1-PHASE LOAD CENTER, FOR EACH APARTMENT UNIT.
9. PROVIDE GROUNDING ELECTRODE COPPER CONDUCTORS PER NEC TABLE 250.66 AND NEC 050.62, 250.64, 250.66, 250.68, 250.70.
10. PROVIDE GROUNDING CONNECTIONS TO ALL AVAILABLE GROUNDING ELECTRODE(S) PER NEC 250.50 & 250.52 (A).
11. EQUIPMENT TO BE PROVIDED WITH FACTORY INSTALLED BONDING PLATE PER NEC 250.28, 250.102 AND TABLE 250.102(C)(1).

△1

12. INSTALL ONE 100A, 240V, 3-WIRE "STABILOY" SER CABLE PER CODE REQUIREMENTS WITH GROUNDING CONDUCTOR, IN CONDUIT, FROM THE RESIDENTIAL METER STACK TO EACH DWELLING UNIT LOAD CENTER.
13. PROVIDE SURGE PROTECTION DEVICE IN EACH DWELLING UNIT LOAD CENTER TO MEET REQUIREMENT OF NEC 230.67.
14. PROVIDE, 200 AMP, SERVICE ENTRANCE RATED MAIN DISCONNECT WITH CIRCUIT BREAKER FOR HOUSE SERVICE. DISCONNECT TO BE EXTERIOR RATED AND WALL MOUNTED TO BUILDING FACADE.
15. PROVIDE (1) 2-INCH CONDUIT PATHWAY FROM ELECTRICAL ROOM TO ROOF FOR FUTURE PV ARRAY. CAP, SEAL, AND MARK ALL CONDUIT ENDS.

△1

16. LOCATE BREAKER FOR FUTURE PV SYSTEM AT THE OPPOSITE END OF THE BUSBAR FROM THE MAIN MAIN SERVICE BREAKER. PROVIDE PERMANENT WARNING SIGNAGE PER NEC 705.12(B)(2)(3)(b).

LOAD CALCULATIONS - BLDG 25

UNIT TYPE: 2BR - 2.1 AREA (SF): 782 — 5/18/2023
DEMAND LOAD (kVA): 17.93 => 74.7 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.35	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	6.85	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.35	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.35**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	= 0.70	kVA
RANGE HOOD	1	AT	0.3	= 0.30	kVA
MICROWAVE		AT		= 0.00	kVA
DISHWASHER		AT		= 0.00	kVA
WASHER	1	AT	1.2	= 1.20	kVA
GARBAGE DISPOSAL		AT		= 0.00	kVA
WATER HEATER		AT		= 0.00	kVA
		SUBTOTAL (CONNECTED)		= 2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:	75%				
		GENERAL APPLIANCE LOAD - DEMAND		= **1.65**	**kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		= 0.00	kVA
ERV UNIT	1	AT	0.11	= 0.11	kVA
KITCHEN EXHAUST FAN		AT		= 0.00	kVA
+25% OF LARGEST MOTOR				= 0.03	kVA
		GENERAL MOTOR LOAD - DEMAND		= **0.14**	**kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 3.91 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	= 5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		= 0.00	kVA
ELECTRIC OVEN [220.55]		AT		= 0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	= 8.00	kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 23.54 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.48 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10kVA:	100%	100%	=	10.00 kVA
> 10 kVA:	40%	40%	=	5.39 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS: 65% NAMEPLATE = 2.54 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 17.93 kVA

UNIT TYPE: 3BR - 3.1 AREA (SF): 906 — 5/18/2023
DEMAND LOAD (kVA): 18.49 => 77.0 AMPS AT 240 V 1 PH

DWELLING UNIT CALCULATIONS: NEC 220, PART III:

GENERAL LIGHTING LOADS [220.12] =		AREA x 3VA/SF	=	2.72	kVA
SMALL-APPLIANCE CKTS [220.52(A)] =	2	CKTS x 1500VA	=	3.00	kVA
LAUNDRY CKTS [220.52(B)] =	1	CKTS x 1500VA	=	1.50	kVA
		SUBTOTAL (CONNECTED)	=	7.22	kVA
LTG LOAD DEMAND FACTORS PER NEC TABLE 220.42 FOR DWELLING UNITS:					
0 - 3,000VA:	100%		=	3.00	kVA
3,001VA - 120,000VA:	35%		=	1.48	kVA
> 120,000VA:	25%		=	0.00	kVA
		GENERAL LIGHTING LOAD - DEMAND	=	**4.48**	**kVA**

FIXED IN PLACE APPLIANCES [220.53]:

	QTY		LOAD (kVA EACH)		
REFRIGERATOR	1	AT	0.7	= 0.70	kVA
RANGE HOOD	1	AT	0.3	= 0.30	kVA
MICROWAVE		AT		= 0.00	kVA
DISHWASHER		AT		= 0.00	kVA
WASHER	1	AT	1.2	= 1.20	kVA
GARBAGE DISPOSAL		AT		= 0.00	kVA
WATER HEATER		AT		= 0.00	kVA
		SUBTOTAL (CONNECTED)		= 2.20	kVA
APPLIANCE DEMAND FACTOR [220.53]:	75%				
		GENERAL APPLIANCE LOAD - DEMAND		= **1.65**	**kVA**

MOTORS [220.60]:

	QTY		LOAD (kVA EACH)		
TOILET EXHAUST FAN		AT		= 0.00	kVA
ERV UNIT	1	AT	0.11	= 0.11	kVA
KITCHEN EXHAUST FAN		AT		= 0.00	kVA
+25% OF LARGEST MOTOR				= 0.03	kVA
		GENERAL MOTOR LOAD - DEMAND		= **0.14**	**kVA**

100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 4.53 kVA

	QTY		LOAD (kVA EACH)		
CLOTHES DRYER [220.54]	1	AT	5.5	= 5.50	kVA
ELECTRIC COOKTOP [220.55]		AT		= 0.00	kVA
ELECTRIC OVEN [220.55]		AT		= 0.00	kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	= 8.00	kVA

TOTAL DWELLING UNIT LOAD PER NEC 220, PART III = 24.29 kVA

DWELLING UNIT OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED LOAD W/O HEATING AND AC [220.82]			=	23.86 kVA
DEMAND FACTORS PER NEC 220.82(B):				
0 - 10kVA:	100%	100%	=	10.00 kVA
> 10 kVA:	40%	40%	=	5.54 kVA

ELECTRIC HEAT AND AC [220.82(C)]:

LARGEST LOAD OF OPTIONS: < 4 ELECT SPACE HEATERS: 65% NAMEPLATE = 2.94 kVA

TOTAL DWELLING UNIT LOAD PER OPTIONAL CALC: NEC 220, PART IV = 18.49 kVA

RESIDENTIAL LOAD CALCULATIONS - SERVICE TOTAL MS - 8 unit STACK — 5/18/2023
DEMAND LOAD (kVA): 95.86 => 399.4 AMPS AT 240 V 1 PH

UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	CLOTHES DRYERS QTY	CLOTHES DRYERS LOAD (kVA)	COOKING APPLIANCES 1.6< X < 3.6kW QTY	1.6< X < 3.6kW LOAD (kVA)	3.6kW < X < 8.76kW QTY	3.6kW < X < 8.76kW LOAD (kVA)	8.76kW < X < 12kW QTY	8.76kW < X < 12kW LOAD (kVA)
2BR - 2.1	4	27.38	8.80	0.44	15.64	4	22.00	0	0.00	0	0.00	4	35.20
3BR - 3.1	4	28.87	8.80	0.44	18.12	4	22.00	0	0.00	0	0.00	4	35.20
0								0	0.00	0	0.00	0	0.00
TOTALS:	8	56.26	17.60	0.88	33.76	8	44.00	0	0.00	0	0.00	8	70.40

ADDITIONAL 25% OF LARGEST MOTOR: 0.03

METER STACK OPTIONAL CALCULATIONS: NEC 220, PART IV:

TOTAL CONNECTED METER STACK LOAD = 222.92 kVA
DEMAND FACTOR FROM TABLE 220.84 = 43%

TOTAL METER STACK LOAD PER NEC 220, PART IV OPTIONAL CALC = 95.86 kVA

KIRKLAND HEIGHTS - 8 UNIT STACK FLAT (REHAB)
PRELIMINARY LOAD CALCULATIONS 5/18/2023

PRELIMINARY LOAD CALCULATIONS

RESIDENTIAL SERVICE:

RESIDENTIAL UNITS (QTY = 8):	95.86 kVA
(SEE ATTACHED CALCS)	
ALL DWELLING UNITS WILL BE PROVIDED WITH UTILITY METERS.	
RESIDENTIAL TOTAL:	95.86 kVA
	399.40 AMPS @ 120/240V, 1-PHASE
	PROVIDE 600A RESIDENTIAL METER CENTER

MAIN HOUSE SERVICE:

HOUSE (COMMON AREAS):	
LIGHTING - Breezeway +Interior:	1.5 kVA
LIGHTING - SITE:	1.5 kVA
GENERAL RECEPTACLES:	4.0 kVA
MECHANICAL:	1.0 kVA
ELECT HEAT (WATER RMS):	1.0 kVA
CENTRAL HOT WATER (HPWH)	5.6 kVA
ELECT SWING TANK	4.5 kVA
HEAT TRACE	0.5 kVA
MISCELLANEOUS:	2.5 kVA
EV CHARGING (2):	16.6 kVA
HOUSE TOTAL:	38.71 kVA
	161.30 AMPS @ 120/240V, 1-PHASE
WITH 25% SPARE CAPACITY	48.39 kVA
	201.6208 AMPS @ 120/240V, 1-PHASE
	PROVIDE 200A HOUSE SERVICE
TOTAL BUILDING SERVICE:	144.25 kVA
	601.03 AMPS @ 120/240V, 1-PHASE

SIDER+BYERS
MECHANICAL + ELECTRICAL ENGINEERS
192 Nickerson, Suite #300
Seattle, Washington 98109
Phone: 206.285.2966

SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104

PH: 206.623.1104
FX: 206.623.5285

King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority, General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13324 NE 132nd St,
Kirkland, WA 98034

BUILDING 25

BID SET

JOANNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #	BMF22-09896
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E25-003

10/7/2021 7:33:34 AM

FEEDER/ CIRCUIT SCHEDULE

MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#2/0
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1/0
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1/0
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1/0
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1/0
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#6
100.3	(1) 2-INCH	AL	(3) #1/0	#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#8
90.3	(1) 1.5-INCH	CU	(3) #2	#8
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#8
80.3	(1) 1.5-INCH	CU	(3) #3	#8
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#8
70.3	(1) 1-INCH	CU	(3) #4	#8
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10
50.3	(1) 1-INCH	CU	(3) #6	#10
50.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
50.2	(1) 1-INCH	CU	(2) #6	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10
40.4	(1) 1-INCH	CU	(3) #8 / (1) #8 N	#10
40.3	(1) 1-INCH	CU	(3) #8	#10
40.2N	(1) 1-INCH	CU	(2) #8 / (1) #8 N	#10
40.2	(1) 1-INCH	CU	(2) #8	#10
40.1	(1) 1-INCH	CU	(1) #8 / (1) #8 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 5/18/2023

A. AL= ALUMINUM (STABILOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
B. FEEDERS OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).
C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
D. SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

SPECIFIC SCHEDULE NOTES:

1. MARKS ENDING WITH "U" ARE UTILITY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

BRANCH CIRCUIT LENGTH LIMITS

VOLTAGE	AMPS ON CKT NOT TO EXCEED	KVA ON CKT NOT TO EXCEED	MAXIMUM CIRCUIT LENGTH (FT) BASED ON CONDUCTOR SIZES INDICATED #12 AWG	#10 AWG	#8 AWG	#6 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055
	3	0.36	335	560	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	320	510
	10	1.20	100	165	255	410
	12	1.44	80	140	215	340
	14	1.68	70	120	185	290
	16	1.92	60	105	160	255
	18	2.16	55	90	140	225
	20	2.40	50	80	125	205
	25	3.00		65	100	160
	30	3.60		55	85	135
208V/ 1-PHASE	2	0.42	880	1465	2250	3560
	4	0.83	440	730	1125	1780
	6	1.25	290	485	750	1185
	8	1.66	220	365	560	890
	10	2.08	175	290	450	710
	12	2.50	145	240	375	590
	14	2.91	125	205	320	505
	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20		115	180	285
	30	6.24		95	150	235
	35	7.28			125	200
	40	8.32			110	175
	45	9.36				155
	50	10.40				140
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2060
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
	10	3.60	200	335	520	820
	12	4.32	165	280	430	685
	14	5.04	145	240	370	585
	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	260	410
	25	9.01		135	205	325
	30	10.81		110	170	270
	35	12.61			145	235
	40	14.41			130	205
	45	16.21				180
	50	18.01				160

NOTES: 5/18/2023

A. CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
B. WHERE CONDUCTORS ARE INCREASED IN SIZE TO LIMIT VOLTAGE DROP, EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED IN SIZE PROPORTIONATELY PER NEC 250.122(B).

PANEL SCHEDULES

PANEL H25
NORMAL POWER — FED FROM: XFR — LOCATION: ELECTRICAL ROOM
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — SURFACE-MOUNTED
BUS RATING: 200 AMPS — M.L.O OR MCB: MLO — 200 AMPS

CKT #	DESCRIPTION	CONN LOAD TYPE	kVA	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	CONN LOAD TYPE	kVA	DESCRIPTION	CKT #
1	LTG - BREEZEWAY	L	0.15	20.1	20 / 1	A	20 / 1	20.1	N	0.60	FIRE ALARM CONTROL PANEL	2
3	SPARE		0.00		20 / 1	B	20 / 1	20.1	N	0.24	LTG-TIME CLOCK	4
5	RECEPT - LVL 1 BREEZEWAY	R	0.36	20.1	20 / 1	A	20 / 1			0.00	SPARE	6
7	RECEPT - LVL 2 BREEZEWAY	R	0.36	20.1	20 / 1	B	20 / 1	20.1	R	0.54	RECEPTS - ELECT RM	8
9	SPARE		0.00		20 / 1	A	20 / 1	20.1	R	0.72	RECEPTS - TELECOM	10
11	LTG - ELECT / MECH CLOSETS	L	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.36	RECEPTS - TELECOM	12
13	ELECT HEATER - FIRE SPRINKLER	C	1.50	20.1	20 / 1	A	20 / 1			0.00	SPARE	14
15	EXHAUST FAN EF-1 & MOTO DAMPER	M	0.24	20.1	20 / 1	B	20 / 1	20.1	R	0.72	RECEPTS - MECH RM	16
17	SPARE		0.00		20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-1	18
19	SPARE		0.00		20 / 1	B						20
21	HEAT TRACE - WATER CONN (1)	N	0.24	20.1	20 / 1	A	15 / 2	20.2N	C	1.73	HEATPUMP WATER HTR - WH-2	22
23	SPARE		0.00		20 / 1	B						24
25	LTG - SITE POLES	L	0.30	20.1	20 / 1	A	20 / 1			0.00	SPARE	26
27	SPARE		0.00		20 / 1	B	20 / 1			0.00	SPARE	28
29	SPACE ONLY					A	50 / 2	50.2N	C	9.00	WH SWING TANK - SWH-1	30
31	SPACE ONLY					B						32
33	SPACE ONLY					A	20 / 1	20.1	N	0.36	CIRC PUMP CP-1 & MIX VALVE MV-1	34
35	SPACE ONLY					B	20 / 1	20.1	R	0.72	HEAT TRACE - HP WATER LINE (1)	36
37	SPACE ONLY					A					SPACE ONLY	38
39	FUTURE PV ARRAY		0.00		60 / 2	B					SPACE ONLY	40
41	"					A					SPACE ONLY	42

		CONNECTED LOAD		DEMAND FACTOR	DEMAND LOAD	
L	= LIGHTING	0.69	kVA	125%	0.86	kVA
R	= RECEPTACLES	3.78	kVA	NEC 220.44	3.78	kVA
M	= MOTORS	0.24	kVA	100%	0.24	kVA
	PLUS 25% OF LARGEST MOTOR	0.24	kVA	25%	0.06	kVA
C	= CONTINUOUS	13.96	kVA	125%	17.45	kVA
N	= NON-CONTINUOUS	1.44	kVA	100%	1.44	kVA
K	= KITCHEN	0.00	kVA	75%	0.00	kVA

PANEL CONNECTED TOTAL: 20.11 kVA, 83.78 AMPS
PANEL DEMAND TOTAL: 23.83 kVA, 99.28 AMPS

NOTES:
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.
CIRCUIT NOTES (#):
1. PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM
NORMAL POWER — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
BUS RATING: 100 AMPS — M.L.O OR MCB: MLO — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	SED RECEPT - UNIT (BY TENANT)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B				20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.
CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM
NORMAL POWER — FED FROM: METER STACKS — LOCATION: DWELLING UNITS
A/C: SEE SINGLE-LINE DIAGRAM — VOLTAGE: 120 / 240 V — 1-PHASE, 3-WIRE — FLUSH-MOUNTED
BUS RATING: 100 AMPS — M.L.O OR MCB: MLO — 100 AMPS

CKT #	DESCRIPTION	CKT TAG	CB AMPS/ #P	PH	CB AMPS/ #P	CKT TAG	DESCRIPTION	CKT #
1	BATHROOMS (1)	20.1	20 / 1	A	40 / 2	40.2N	RANGE	2
3	GEN'LTG, RECEPTS, SD (1)	20.1	20 / 1	B			"	4
5	RECEPTS, ERV, MEDIA PNL (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - BEDROOMS	6
7	REFRIGERATOR, EXHAUST HOOD (2)	20.1	20 / 1	B			"	8
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	A	20 / 2	20.2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20 / 1	B			"	12
13	BEDROOM 1 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	30 / 2	30.2	DRYER (2)	14
15	BEDROOM 2 RECEPTS, LTS, SD (1)	20.1	20 / 1	B			"	16
17	BEDROOM 3 RECEPTS, LTS, SD (1)	20.1	20 / 1	A	20 / 1	20.1	WASHER (2)	18
19				B	20 / 1	20.1	DED RECEPT - AC UNIT (BY TENANT)	20
21	SURGE PROTECTION DEVICE		20 / 2	A				22
23	"			B				24

NOTES:
A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS.
B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.
CIRCUIT NOTES (X):
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
2. PROVIDE COMBO 5mA GFCI/ COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 6FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

MECHANICAL EQUIPMENT SCHEDULES

MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS VOLTAGE/ PH	kW	HP	MCA	MOCP	ALTERNATIVE POWER	NOTES:
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	240 / 1			7.2	15		
			/						
SWH-1	ELECT SWING TANK	WATER SVC ROOM	240 / 1	9					
			/						
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1		FHP				1
MV-1	MIXING VALVE	WATER SVC ROOM	120 / 1	0.1					1
			/						
ERV-1	ENERGY RECOVERY VENT	DWELLING UNITS	120 / 1	0.163					2
			/						
EF-2	EXHAUST FAN	WATER SVC ROOM	120 / 1		1/15				3
			/						

GENERAL SCHEDULE NOTES: 5/18/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURERS' REQUIREMENTS; CONFIRM EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDERS. COORDINATE FINAL LOCATION OF DISCONNECTS WITH ALL OTHER TRADES; DISCONNECT SHALL BE ACCESSIBLE AFTER ALL WORK IS COMPLETE. PROVIDE PERMANENT LABELS ON ALL DISCONNECTS IDENTIFYING EQUIPMENT AND PANEL-CIRCUIT SERVED. DISCONNECTS ACCESSIBLE TO THE GENERAL PUBLIC WILL BE LOCKABLE WITH TAMPER RESISTANT HARDWARE.

B. SEE ELECTRIC HEATER AND FAN SCHEDULE FOR EQUIPMENT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPECIFIC SCHEDULE NOTES:

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
2. SPECIFIED UNIT PROVIDED WITH CORD & PLUG. CONTRACTOR TO PROVIDE RECEPTACLE FOR CONNECTION TO EQUIPMENT. VERIFY FINAL CONNECTION REQUIREMENT WITH MECHANICAL CONTACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

HEATER EQUIPMENT SCHEDULES

ELECTRIC HEATER SCHEDULE

MARK	SERVES	MAKE	MODEL	kW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4"H x 34"L	1, 4
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4"H x 47"L	1, 4
CH-0.7	DWELLING UNITS	KING	KCV COVE HEATER	0.7	240 / 1	4"H x 59"L	1, 4
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4"H x 71"L	1, 4
CH-0.93	DWELLING UNITS	KING	KCV COVE HEATER	0.935	240 / 1	4"H x 83"L	1, 4
CH-1.12	DWELLING UNITS	KING	KCV COVE HEATER	1.125	240 / 1	4"H x 94"L	1, 4
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4"H x 118"L	1, 4
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4"H x 118"L	1, 4
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7-9/16"H x 13-7/8"W x 5-3/16"D	1, 2, 3

NOTES:
1. CONFIRM EXACT LOCATION WITH ARCHITECT.
2. PROVIDE WITH INTEGRAL TAMPER PROOF THERMOSTAT.
3. UNIT SHALL BE FULLY-RECESSED. MAINTAIN FIRE RATING OF WALL INSTALLATION WHERE APPLICABLE.
4. SEE DWELLING UNIT ENLARGED PLANS FOR QUANTITIES.

ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

UNIT NUMBER(S)	UNIT TYPE	HEATER TYPES BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.

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13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13324 NE 132nd St, Kirkland, WA 98034

BUILDING 25

BID SET

GIOVANNA M. BORGHESE — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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SCHEDULES

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
F1	LED 4-FT LENSED STRIP WITH DROP LENS. CHAIN-HANG OR SURFACE/ WALL MOUNTED.	3000 LUMENS 4000K 80+	0-10V DIMMING (STANDARD)	30.0	120	VARIOUS		LITHONIA SIGNIFY LTG METALUX LTG	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	LED 10-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	1440 LUMENS 3000K 80+	ELECTRONIC	18.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1735 DRRC-1215-CC-BK	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH.SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4200 LUMENS 3000K 80+	ELECTRONIC	52.0	120	CEILING		SATCO / NUVO TGS LIGHTING	62-1741 OSMR-3242-CC-BK	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1739 LLFL2103D-30K-SN DLB-W24-ND-30K-L24-FMB	1, 2
U4	LED 17-INCH DECORATIVE SURFACE MOUNT DOME. SELECTABLE COLOR TEMPERATURE, WHITE ACRYLIC DIFFUSER, BLACK FINISH. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER	2000 LUMENS 3000K 80+	ELECTRONIC	25.0	120	SUSPENDED		SATCO / NUVO ASL LIGHTING	62-1737 HDT-W24-ND-30K-D18-FMB	1, 2
U5	LED 5-INCH SURFACE DOWNLIGHT. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	700 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SURFACE		ACUITY AFX LTG COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH EGRF0609L30D1BK SMD6R-6-9S - SMD6RTMMB	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. WHITE ACRYLIC DIFFUSER, BLACK FINISH. UL LISTED WET LOCATION.	1000 LUMENS 3000K 80+	ELECTRONIC	18.5	120	WALL		SATCO / NUVO LUMENCIA ASL LIGHTING	62-1414 LL4406-15LED-BLK BCJB-WET-W9-ND-30K-H10-FMB	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONARTE LENS, EXTERIOR RATED, VERIFY COLOR WITH ARCHITECT	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OPL-UNV-EDC1 WLSQO-L22/830-BZ-SF-DIM-UNV FFW1212 MIN10 20W 30K 120 OP BLK WL	1, 2, 3
W3	PENDANT MOUNTED CYLINDER DOWNLIGHT, 4-FOOT LONG RIGID STEM WITH STABILIZATION KIT, 30-DEGREE BEAM SPREAD. VERIFY COLOR WITH ARCHITECT, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT HALO	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB HCC4S-10-D010-**-HCC8P36**-72"-HM4-0525-830-41-ND-H	1, 2, 3
W4	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2, 3
										1, 2, 3
X1	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE-FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
3. WHERE SWITCHING OF EMERGENCY LUMINAIRES IS INDICATED ON THE PLANS, PROVIDE UL 924 BYPASS DEVICES PER CODE REQUIREMENTS.
4. SEE LIGHTING PLANS FOR MOUNTING AND FACES / ARROWS AT EACH LOCATION.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.

SEE SITE LIGHTING PLAN SHEET E110 FOR SCHEDULE
& SPECS FOR ALL 'S' LIGHTING FIXTURES.

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CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13324 NE 132nd St,
Kirkland, WA 98034

BUILDING 25

BID SET

GEORGINNA M. LAMPMAN STATE OF WASHINGTON 43761 REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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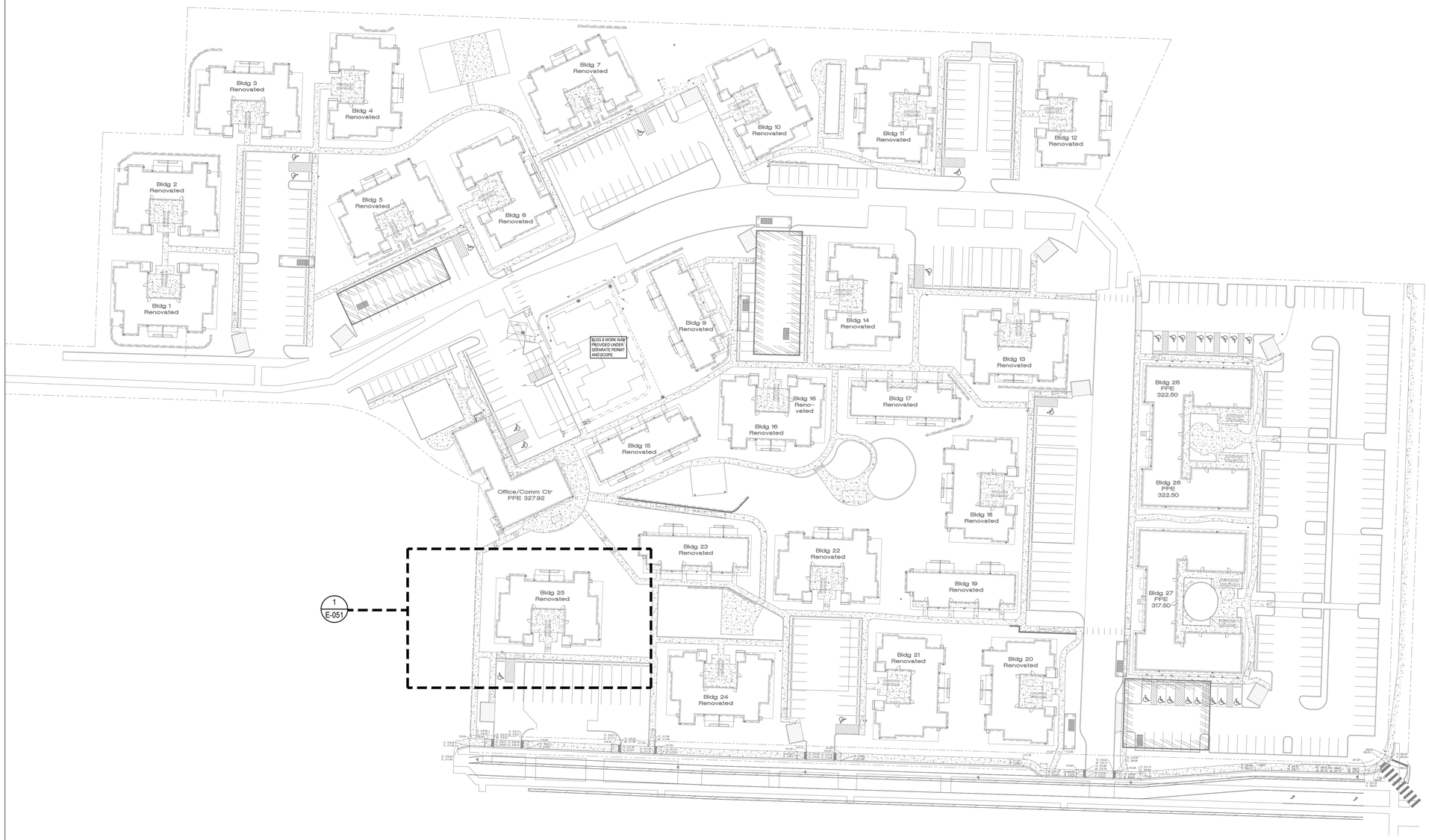
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LUMINAIRE SCHEDULE

PERMIT #	BMF22-09896
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E25-005



OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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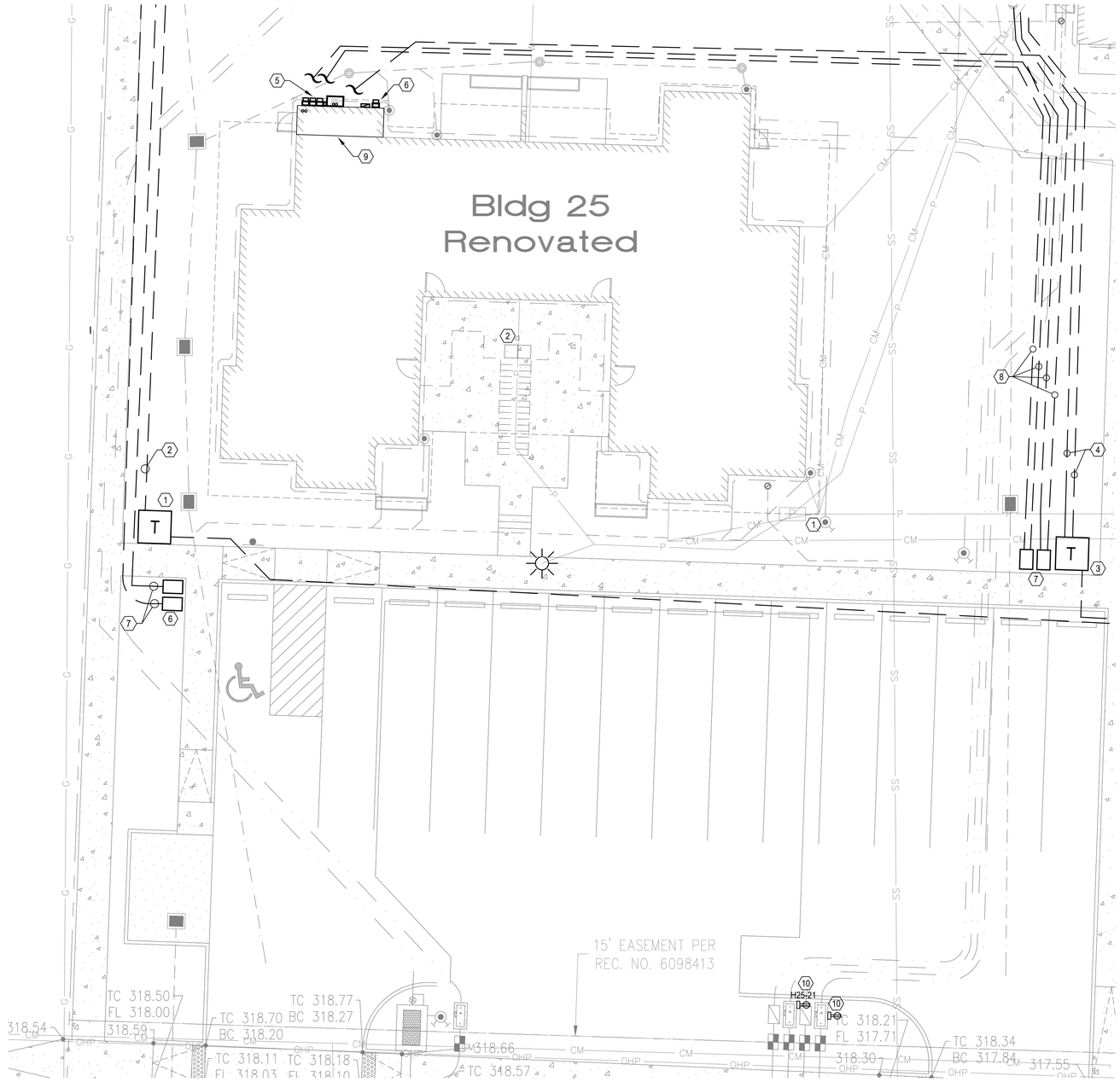
OVERALL PROJECT SITE PLAN

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SHEET NO.:

E25-050

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - BUILDING 25

SCALE: 1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. DEMOLISH EXISTING RESIDENTIAL METER CENTER.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. NEW SECONDARY SERVICE FEEDERS PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM TRANSFORMER TO NEW SERVICE ENTRANCE EQUIPMENT. SEE SINGLE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR QUANTITIES AND SIZES. INSTALL PER PSE AND CODE REQUIREMENTS.
5. NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
6. NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
9. NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
10. PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

C. SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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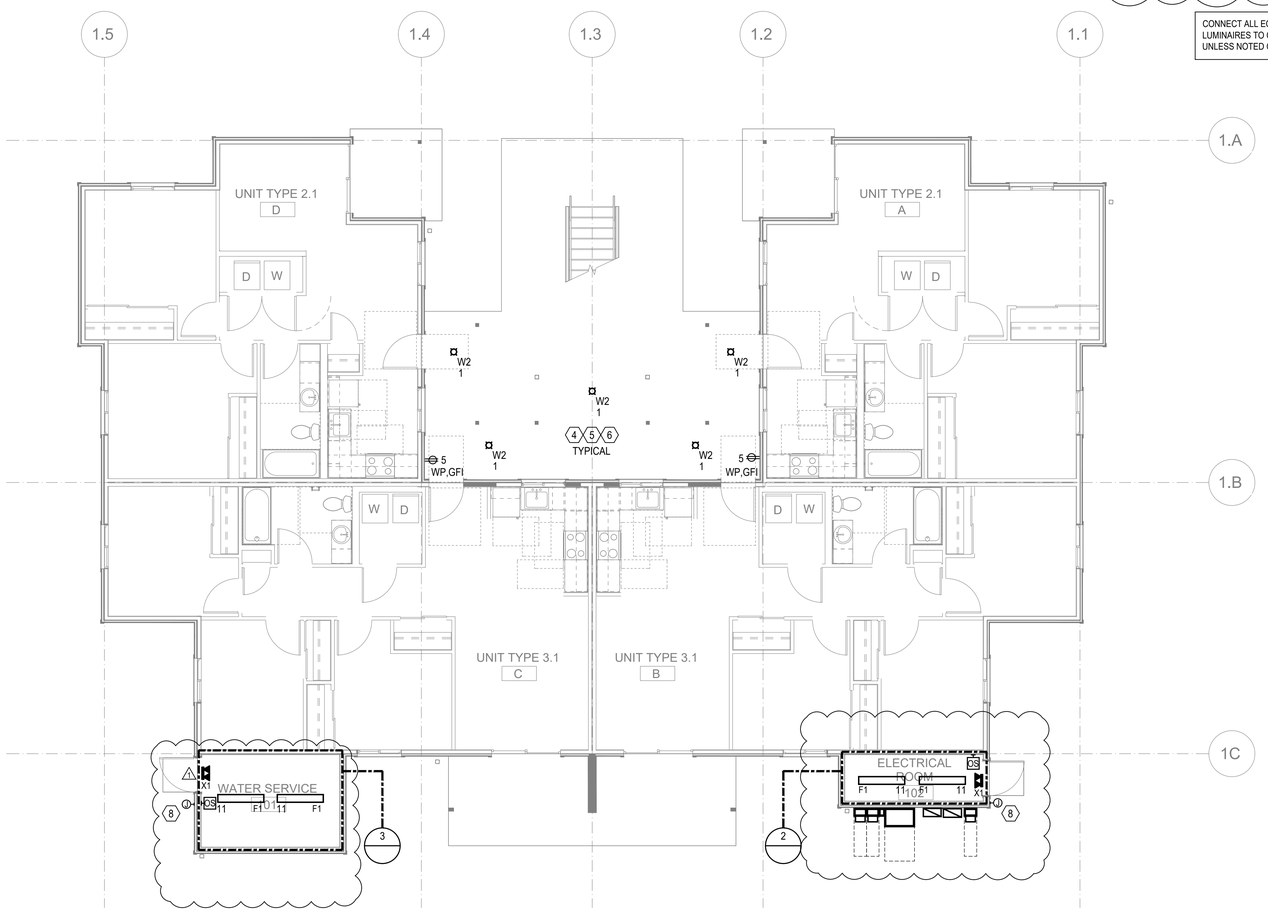
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ELECTRICAL SITE PLAN - BUILDING 1

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POWER AND LIGHTING PLAN - BUILDING 25 - LEVEL 1

SCALE: 3/16"=1'-0"

1 EMERGENCY LIGHTING INVERTER LOADS:

INVERTER #1 (CKT H-1): 150 WATTS @ 125% = 188W DEMAND
- PROVIDE 220 WATT DEVICE

CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H25 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

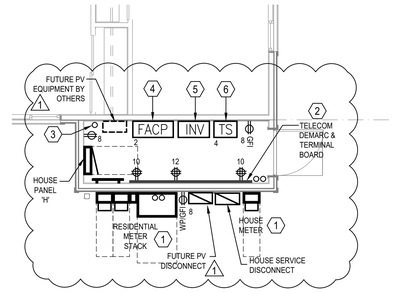
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

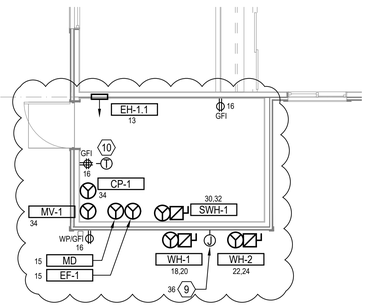
D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR APARTMENT UNITS AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELECOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFIRM WITH ARCHITECT). A/C GRADE SHEETS 4-FT X 8-FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
   PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER, SEE ENLARGED UNIT PLANS FOR LOCATIONS.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 220 WATT EMERGENCY LIGHTING INVERTER, LOCATED IN ELECTRICAL ROOM, TO PROVIDE EMERGENCY POWER TO ALL BREEZEWAY AND STAIR LIGHTING FIXTURES TO MEET EGRESS LIGHTING REQUIREMENTS. BASIS OF DESIGN: SURE-LITES # INV-220-PB-S-SD
6. PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER. BASIS OF DESIGN: ARP INTENC08 NLT 4FCR MVOLT 1VB SC SM DTC
7. NOT USED.
8. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FA WIRING TO LOCATIONS SHOWN. FIRE ALARM SUBCONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
9. HEAT TRACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO CONNECT COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



2 E101 ELECTRICAL ROOM
1/4"=1'-0"



3 E101 WATER ROOM
1/4"=1'-0"

SIDER+BYERS
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King County Housing Authority

New Kirkland Heights LLLP
c/o: King County Housing Authority,
General Partner
13310 NE 133rd St.
Kirkland, WA 98034.
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13324 NE 132nd St,
Kirkland, WA 98034

BUILDING 25

BID SET

REGISTERED PROFESSIONAL ENGINEER
JOHN M. JOHNSTON
STATE OF WASHINGTON
43761
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

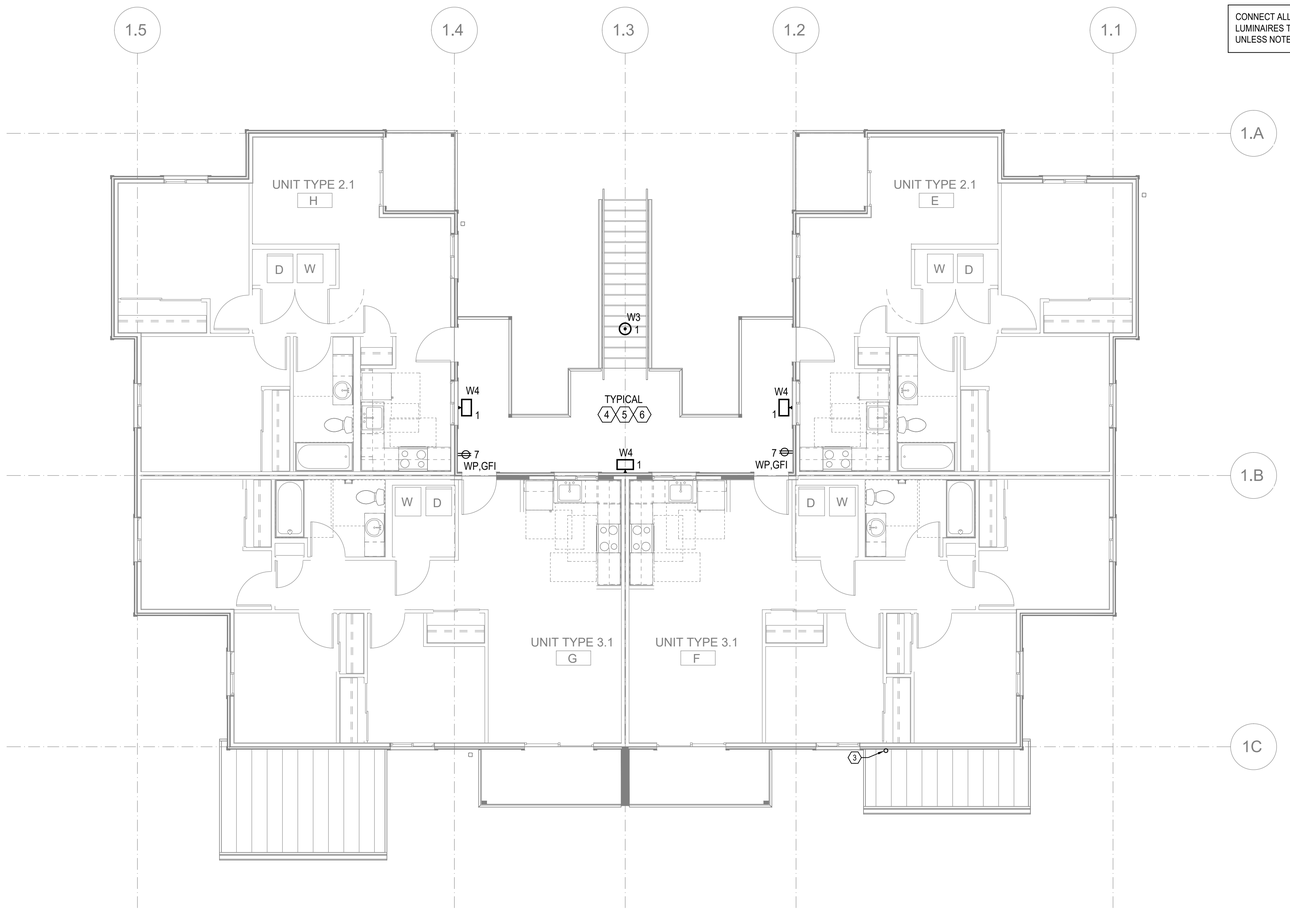
TITLE

POWER AND LIGHTING PLAN - BUILDING 25 - LEVEL 1

PERMIT #	BMF22-09896
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E25-101

10/7/2021 7:33:34 AM



CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H25 UNLESS NOTED OTHERWISE.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).
4. PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARHSAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
6. ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

POWER AND LIGHTING PLAN - BUILDING 25 - LEVEL 2

SCALE: 3/16"=1'-0"

10/7/2021 7:33:34 AM

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BUILDING 25

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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TITLE

POWER AND LIGHTING PLAN - BUILDING 25 - LEVEL 2

PERMIT #	BMF22-09896
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ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E25-102

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

GENERAL NOTES:

A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.

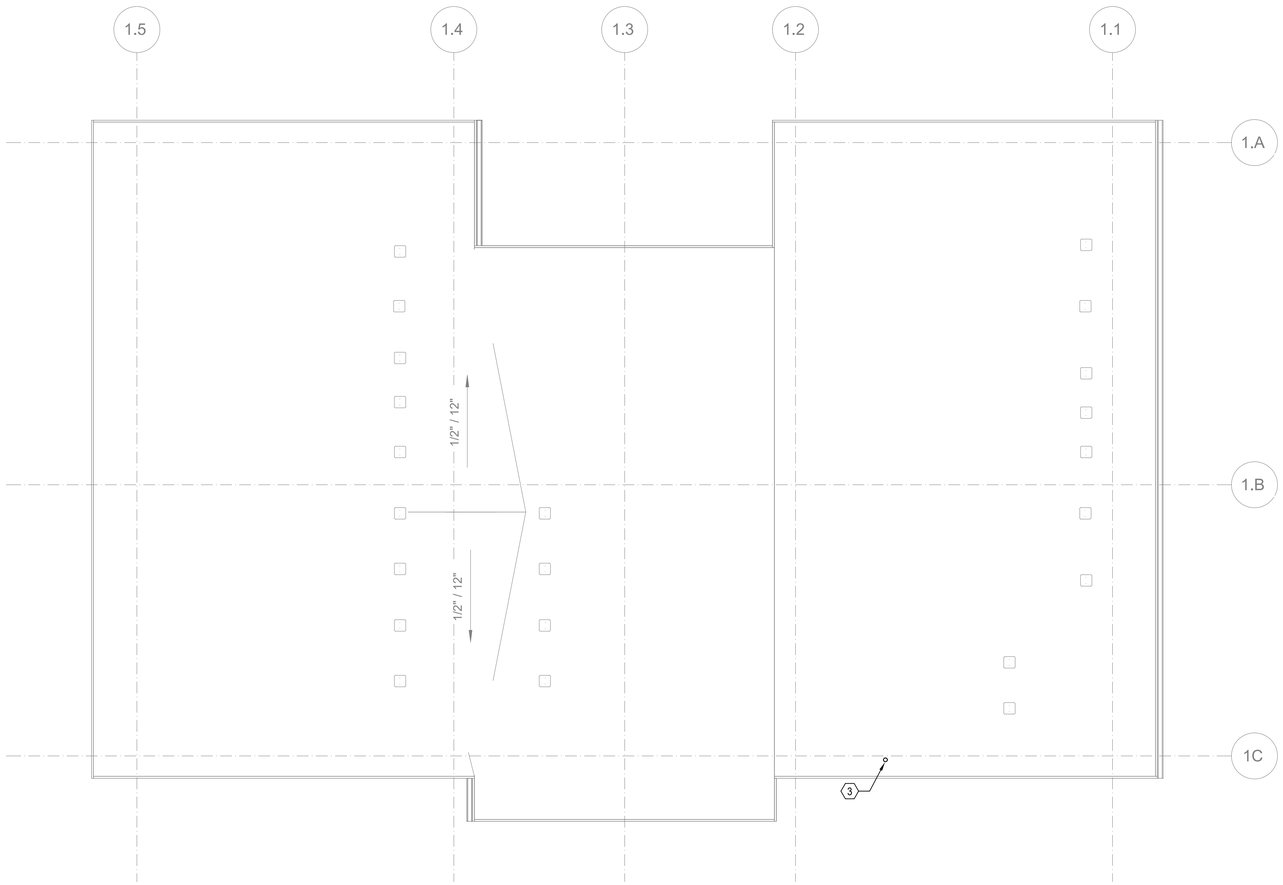
B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.

C. VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.

D. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

FLAG NOTES (X):

1. NOT USED.
2. NOT USED.
3. PROVIDE (1) 2-INCH CONDUIT FROM ELECTRICAL ROOM UP TO ROOF FOR CONNECTION TO FUTURE PV ARRAY. VERIFY CONDUIT ROUTING WITH ARCHITECT. (PV ARRAY TO BE PROVIDED BY OTHERS).



POWER PLAN - BUILDING 25 - ROOF

SCALE: 3/16"=1'-0"

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KIRKLAND HEIGHTS APARTMENTS

13324 NE 132nd St,
Kirkland, WA 98034

BUILDING 25

BID SET



REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

DPD STAMP

TITLE

POWER PLAN - BUILDING 25 - ROOF

PERMIT #	BMF22-09896
DRAWN	RA, JF
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SHEET NO.:	

E25-103

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GENERAL NOTES:

A. SEE LOAD CENTER SCHEDULES ON SHEET E004 FOR CIRCUITING.

B. PROVIDE TAMPER-PROOF RECEPTACLES FOR ALL DEVICES IN RESIDENTIAL UNITS.

C. CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR ELECTRICAL AND LOW-VOLTAGE SYSTEMS IS COMPLETE AND PROVIDE THE DESIGN TEAM WITH OPPORTUNITY TO REVIEW THE INSTALLATION PRIOR TO COVER. IF NOTICE IS NOT PROVIDED, IT WILL BE AT THE EXPENSE OF THE CONTRACTOR TO RE-OPEN CEILINGS AND WALLS FOR INSPECTION BY DESIGN TEAM.

ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTOR'S DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

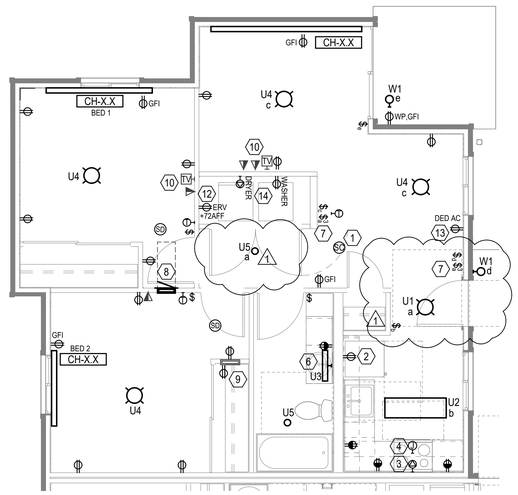
FLAG NOTES (X):

1. COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
2. RECEPTACLE FOR REFRIGERATOR. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
3. CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
4. CONNECTION FOR RANGE EXHAUST HOOD. FIELD VERIFY EXACT LOCATION. WHERE RECEPTACLE FOR HOOD IS LOCATED WITHIN 6 FEET OF THE SINK, PROVIDE COMBINATION AFCI/ GFCI TYPE BREAKER ON CIRCUIT.
5. NOT USED.
6. CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
7. GANG SWITCHES UNDER ONE FACEPLATE.
8. NEW LOAD CENTER, IN EACH UNIT. ALL 20A, 1-POLE CIRCUIT BREAKERS SERVING KITCHENS, BEDROOMS, LIVING ROOMS, HALLWAYS, CLOSETS, ETC ARE TO BE EQUIPPED WITH AFCI-TYPE BREAKERS PER NEC 210.12.
9. PROVIDE MEDIA PANEL/ SMART BOX WITH INTEGRAL RECEPTACLE FOR PHONE, DATA AND CATV SERVICE FOR THE DWELLING UNIT. LOW VOLTAGE SUBCONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING CONNECTIONS BETWEEN SMART PANEL AND MDF IN ELECT ROOM. PROVIDE BOX LARGE ENOUGH TO ACCOMMODATE FUTURE ROUTER/ GATEWAY DEVICE. FIELD VERIFY EXACT LOCATION.
10. NEW TELE/COMM DEVICES IN UNIT TO SUPPORT TELEPHONE AND CABLE TV SERVICES. IN LIVING ROOM PROVIDE: (3) OUTLET PORTS CONSISTING OF (2) CAT5E & (1) COAX CABLE. IN MASTER BEDROOM PROVIDE: (2) OUTLET PORTS CONSISTING OF (1) CAT5E & (1) COAX CABLE. PROVIDE ALL NEW CABLING HOMERUN TO SMART PANEL LOCATED IN THE UNIT.
11. NOT USED.
12. RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
13. PROVIDE DEDICATED CIRCUIT TO (1) RECEPTACLE NEXT TO AN OPERABLE WINDOW IN EACH UNIT FOR CONNECTION TO TENANT PROVIDED AC UNIT. VERIFY WITH OWNER WHICH RECEPTACLE IS DEDICATED PRIOR TO ROUGH-IN.
14. CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

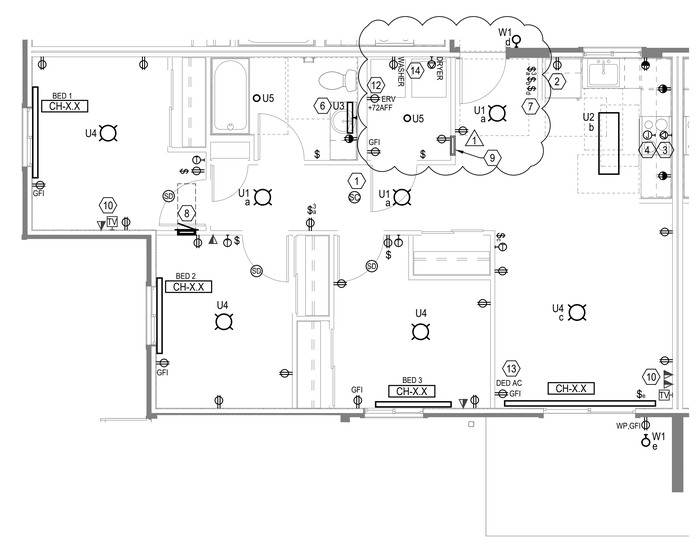
ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

		HEATER TYPES			
UNIT NUMBER(S)	UNIT TYPE	BED 1	BED 2	BED 3	LIVING
A	2-BDRM	CH-0.84	CH-0.7		CH-1.8
B	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
C	3-BDRM	CH-0.84	CH-0.7	CH-0.42	CH-1.4
D	2-BDRM	CH-0.84	CH-0.7		CH-1.8
E	2-BDRM	CH-0.7	CH-0.56		CH-1.12
F	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.93
H	2-BDRM	CH-0.7	CH-0.56		CH-1.12

NOTES:
A. SEE ELECTRIC HEATER SCHEDULE FOR HEATER INFORMATION.
B. HEATERS SIZED PER HEAT LOSS CALCULATIONS PROVIDED BY OTHERS.



3 **ENLARGED PLAN - 2-BED**
1/4"=1'-0" UNITS: A, D, E, H



1 **ENLARGED PLAN - 3-BED**
1/4"=1'-0" UNITS: B, C, F, G

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KIRKLAND HEIGHTS APARTMENTS

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BUILDING 25

BID SET

DOROTHINA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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TITLE

ENLARGED UNIT PLANS

PERMIT #	BMF22-09896
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
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ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS

- DETAIL NUMBER / SHEET (E-1)
- FLAG NOTE
- REVISION TAG (1)
- AHU-1 — MECHANICAL EQUIPMENT
- XX kA — FAULT CURRENT TAG

FIRE ALARM SYMBOLS

- COMBINATION SMOKE/FIRE DAMPER (OR)
- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANUNCIATOR
- FIRE ALARM STROBE LIGHT
- (S) — FIRE ALARM SMOKE DETECTOR
- (S) — FIRE ALARM COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM

WIRING SYMBOLS

- BREAK (CONTINUATION)
- CAP
- STUB DOWN
- STUB UP
- CONDUIT / CABLING CONCEALED IN CEILING OR WALL
- CONDUIT / CABLING CONCEALED UNDERGROUND OR IN CEILING SPACE OF LEVEL BELOW
- G — GROUNDING CONDUCTOR(S) PER CODE
- FLEXIBLE CONDUIT

LUMINAIRE SYMBOLS

- EM — EM — SHADING AND/ OR "EM" INDICATES EMERGENCY EGRESS LUMINAIRES
- FL1 3a / FL1 3-Z1.2

TYPICAL LUMINAIRE ANNOTATIONS:

FL1 = LUMINAIRE TYPE
3 = CIRCUIT NUMBER
c = SWITCH LEG
Z1.2 = CONTROL ZONE

POWER SYSTEMS SYMBOLS

- PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)
- ELECTRICAL DISTRIBUTION EQUIPMENT, SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)
- CONNECTION TO EQUIPMENT BY OTHERS
- CONNECTION TO MOTOR
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER OFF BUTTON
- GROUND BAR
- GROUND ROD
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED
- RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD
- RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE
- SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.

TYPICAL DEVICE ANNOTATIONS:

- 702 — ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC
- WP — WEATHERPROOF
- GFI — GFCI TYPE
- C — FULLY CONTROLLED (NOT HALF-SWITCHED)

LOW VOLTAGE SYSTEMS SYMBOLS

- PUSHBUTTON. WALL-MOUNTED.
- JUNCTION BOX: WALL, FLOOR AND CEILING MTD
- COMBINATION RF COAX / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- COMBINATION DATA / PHONE OUTLET WALL, FLOOR AND CEILING MTD
- DATA OUTLET WALL, FLOOR AND CEILING MTD
- PHONE OUTLET WALL, FLOOR AND CEILING MTD
- TV — RF COAX CABLE OUTLET WALL, FLOOR AND CEILING MTD
- CR — CARD / FOB READER WALL/ MULLION AND BOLLARD MTD
- DS — SECURITY DOOR POSITION MONITOR
- ES — ELECTRIC STRIKE
- KP — KEYPAD WALL/ MULLION AND BOLLARD MTD
- CCTV CAMERA LOCATION. WP = WEATHERPROOF F = FUTURE LOCATION; PREWIRE ONLY INTERIOR LOCATIONS; PREWIRE, BOX AND CONDUIT AT EXTERIOR LOCATIONS.
- SP — SPEAKER, CEILING MOUNTED

CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- THERMOSTAT
- $ 2PDX sEC — WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERSCRIPT INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCHLEGS / RELAYS CONTROLLED: FOR MULTI-POLE WALL STATIONS, CONTROL FOR EACH POLE SEPARATED BY COMMA (I.E. SWITCHLEGS a AND b CONTROLLED BY ONE POLE, c ANOTHER).
- $ WP — WEATHERPROOF, TYPICAL
- $ — WALL SWITCH, LINE VOLTAGE, 1-POLE
- $ 3 — WALL SWITCH, LINE VOLTAGE, 3-WAY
- $ TS — WALL SWITCH, LINE VOLTAGE, TIMER SWITCH
- $ 1P — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF
- $ DX — LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER
- $ 2P — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF
- $ 2PDX — LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER
- OS — COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED
- OS OS — OCCUPANCY SENSOR: WALL, CLG MTD
- PC — PHOTO CELL, CLG MTD
- OP OP — COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD

RISER DIAGRAM SYMBOLS

- 100AT GFP / 50AT — CIRCUIT BREAKER, ENCLOSED CIRCUIT BREAKER AT = TRIP AMPACITY GFP = GROUND FAULT PROTECTION PER CODE
- 100AF — FUSED SWITCH. AF= FUSE RATING
- SWITCH
- CONTACTOR/ RELAY - NORMALLY CLOSED
- CONTACTOR/ RELAY - NORMALLY OPEN
- C — CONTACTOR COIL
- POTENTIAL TRANSFORMER. GROUND PER CODE.
- CURRENT TRANSFORMER
- DM — DIGITAL METER
- M M — UTILITY METER SOCKET WITH METER; PER UTILITY REQUIREMENTS; REMOTE MOUNTED.
- CONNECTION TO GROUND
- GROUND BAR
- PIPE GROUND PER CODE
- UFER GROUND PER CODE
- SPD — SURGE PROTECTION DEVICE

CODES

2020 NATIONAL ELECTRICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 WASHINGTON STATE ENERGY CODE - RESIDENTIAL
2018 INTERNATIONAL BUILDING CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL FIRE CODE WITH STATE AND LOCAL AMENDMENTS
2018 INTERNATIONAL MECHANICAL CODE WITH STATE AND LOCAL AMENDMENTS
2018 UNIFORM PLUMBING CODE WITH STATE AND LOCAL AMENDMENTS
AMERICANS WITH DISABILITIES ACT (ADA)
EVERGREEN SUSTAINABLE DEVELOPMENT STANDARDS (ESDS)
WASHINGTON CITIES ELECTRICAL CODE

DRAWING LIST

E29-001	COVER SHEET
E29-002	PROJECT NOTES
E29-050	OVERALL PROJECT SITE PLAN
E29-051	ELECTRICAL SITE PLAN - MAINTENANCE SHED
E28-101	MAINTENANCE SHED - POWER & LIGHTING PLAN, LUMINAIRE SCHEDULE

ABBREVIATIONS

A, AMP	AMPERES	LBS	POUNDS
AB	ABOVE BACKSPLASH	LCP	LIGHTING CONTROL PANEL
AC	ALTERNATING CURRENT	LCZ	LIGHTING CONTROL ZONE
ACT	ACOUSTICAL CEILING TILE	LF	LINEAL FOOT
ADA	AMERICANS WITH DISABILITIES ACT	LRA	LOCKED ROTOR AMPS
ADJ	ADJUSTABLE	LTG	LIGHTING
AF	AMPERE RATING OF FUSE OR CB FRAME		
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERE INTERRUPTING CAPACITY,	MED	MEDIUM
	AMPERE INTERRUPTING RATING	MEP	MECHANICAL, ELECTRICAL
AL	ALUMINUM (ALLOY)		& PLUMBING
ALT	ALTERNATE		& PLUMBING
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL/ARCHITECT	MIN	MINIMUM OR MINUTE
AS	AMPERE RATING OF SWITCH	MISC	MISCELLANEOUS
AT	CB TRIP SETTING (AMPS)	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MNT	MOUNTED
AUTO	AUTOMATIC	MOCP	MAXIMUM OVERCURRENT PROTECTION
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
		N	NEUTRAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	-, NEG	NEGATIVE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS'
C	CONDUIT		ASSOCIATION
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NL	NIGHT LIGHT (UNSWITCHED)
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	NOM	NOMINAL
CO	CARBON MONOXIDE	NPT	NATIONAL PIPE THREAD
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CONN	CONNECTED		
CT	CURRENT TRANSFORMER	OC	ON CENTER
CU	COPPER	OCC	OCCUPANCY
		OD	OUTSIDE DIAMETER
dB	DECIBEL	OS	OCCUPANCY SENSOR
DC	DIRECT CURRENT		
° OR DEG.	DEGREE	P	POLE
DIA	DIAMETER	PC	PHOTOCELL
DISC	DISCONNECT	PERF	PERFORATED
DIST	DISTRIBUTION	Φ OR PH	PHASE
DIV	DIVISION	PNL	PANELBOARD
DN	DOWN	POC	POINT OF CONNECTION
DP	DISTRIBUTION PANEL	PSF	POUNDS PER SQUARE FOOT
DWG(S)	DRAWING(S)	PSI	POUNDS PER SQUARE INCH
DZ	DAYLIGHT CONTROL ZONE (LIGHTING)		
		QTY	QUANTITY
EA	EACH		
EM	EMERGENCY (700 SYSTEM)	REQ	REQUIRED
EMT	ELECTRICAL METALLIC TUBING	RLX	RELOCATE EXISTING
EF	EXHAUST FAN	RM	ROOM
EWC	ELECTRIC WATER COOLER	RMC	RIGID METALLIC CONDUIT
EWH	ELECTRIC WATER HEATER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
EX	EXISTING/EXISTING TO REMAIN	RPM	REVOLUTIONS PER MINUTE
		RTU	ROOF TOP UNIT
FA	FIRE ALARM	RV	RELIEF VALVE
FACP	FIRE ALARM CONTROL PANEL	RX	REMOVE EXISTING
FARA	FIRE ALARM REMOTE ANUNCIATOR		
FC	FOOTCANDLES	SA	SUPPLY AIR
FF	FINISHED FLOOR	SD	SMOKE DETECTOR
FLA	FULL LOAD AMPS	SF	SQUARE FOOT
FLEX	FLEXIBLE	SPD	SURGE PROTECTION DEVICE
FP	FIRE PROTECTION	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	S/S, OR SS	STAINLESS STEEL
FPS	FEET PER SECOND	STD	STANDARD
FSD	FIRE SMOKE DAMPER	SWBD	SWITCHBOARD
FT	FEET/FOOT	T&P	TEMPERATURE AND PRESSURE
FOIC	FURNISHED BY OWNER		RELIEF VALVE
	INSTALLED BY CONTRACTOR	TBD	TO BE DETERMINED
FOIO	FURNISHED BY OWNER	TC	TIMECLOCK
	INSTALLED BY OWNER	TEL	TELEPHONE
		TELECOM	TELECOMMUNICATIONS
G, GND	GROUND	TEMP	TEMPERATURE
GALV	GALVANIZED	TOD	TOP OF DECK
GC	GENERAL CONTRACTOR	TOJ	TOP OF JOIST
GFI	GROUND FAULT CIRCUIT INTERRUPTER	T&P	TEMPERATURE & PRESSURE
GFP	GROUND FAULT PROTECTION	TSP	TOTAL STATIC PRESSURE
GRC	GALVANIZED RIGID STEEL CONDUIT	TYP	TYPICAL
H	HEIGHT	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING VENTILATING AND	UTR	UP THROUGH ROOF
	AIR CONDITIONING		
HW	HOT WATER	V	VOLT
HZ	HERTZ	VA	VOLT AMPS
		VFD	VARIABLE FREQUENCY DRIVE
ID	INSIDE DIAMETER/DIMENSION	VOL	VOLUME
IESNA	ILLUMINATING ENGINEERING SOCIETY		
	OF NORTH AMERICA	W	WATT
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
IN	INCH/INCHES	W/O	WITHOUT
		WP	WEATHERPROOF
KCMIL	THOUSAND CIRCULAR MILS	WT	WEIGHT
KO	KNOCK OUT		
KW	KILOWATT/KILOWATTS	XFR	TRANSFORMER
KWH	KILOWATT HOUR(S)		
KVA	KILOVOLT AMPS		

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King County Housing Authority

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General Partner
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CONTRACT #: TC2300131

Kirkland Heights Redevelopment Rehabilitation

MAINTENANCE SHED

BID SET

REGISTERED PROFESSIONAL ENGINEER — GEORGINNA M. LOCKE — STATE OF WASHINGTON — 43761 — NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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GENERAL PROJECT NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING, DEVICE LOCATIONS, ETC. THE ELECTRICAL, LOW VOLTAGE AND FIRE ALARM CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES AND PROVIDE COMPLETE AND FULLY OPERATIONAL AND COORDINATED ELECTRICAL AND FIRE ALARM SYSTEMS THAT MEET ALL REQUIREMENTS OF THE OWNER, CODE AND THE LOCAL AHJ AND THE CONTRACT DOCUMENTS.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION (WITH STATE AND LOCAL AMENDMENTS) OF THE NATIONAL ELECTRICAL CODE, WASHINGTON STATE ENERGY CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM PLUMBING CODE, THE AMERICANS WITH DISABILITY ACT AND LOCAL CODES AND ORDINANCES.
3. CONFIRM ALL DEVICE AND EQUIPMENT LOCATIONS AND QUANTITIES WITH THE OWNER AND ARCHITECT PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTORS TO MAINTAIN THE FIRE RATING OF ANY FIRE-RATED WALLS AND FLOORS. ALL FLOOR PENETRATIONS TO BE FINISHED TO A SMOOTH SURFACE.
5. INSTALL ALL EQUIPMENT PER CODE AND MANUFACTURER'S INSTRUCTIONS; THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE MECHANICAL/PLUMBING EQUIPMENT COORDINATION SCHEDULE FOR CONNECTION REQUIREMENTS FOR SPECIFIC MECHANICAL AND PLUMBING EQUIPMENT. SEE THE PANEL SCHEDULES AND FEEDER AND BRANCH CIRCUIT SCHEDULES FOR CIRCUIT SIZES.
6. ALL ELECTRICAL AND LOW VOLTAGE SYSTEM DEVICES AND EQUIPMENT (LUMINAIRES, CONDUIT AND CABLING, ETC) SHALL BE INDEPENDENTLY SUPPORTED (I.E. DO NOT SUPPORT LUMINAIRES FROM MECHANICAL EQUIPMENT, ETC). PROVIDE SUPPORTS PER CODE AND AHJ REQUIREMENTS.
7. ALL UTILITY INFRASTRUCTURE (POWER AND TELECOM) SHALL MEET THE UTILITY SERVICE PROVIDERS' REQUIREMENTS.
8. ALL NEW RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. AT OPEN CEILING AREAS, CONTRACTOR MUST PROVIDE CONDUCTORS / CABLING IN CONDUIT. COORDINATE THE ROUTING OF THE CONDUIT AT OPEN CEILING AREAS WITH THE ARCHITECT. ALL CONDUIT AND CABLING SHALL BE INSTALLED PARALLEL WITH BUILDING LINES. THE CONTRACTORS SHALL COORDINATE WITH THE CEILING TYPES IN ALL ROOMS AND ENSURE THAT ALL JUNCTION BOXES ARE ACCESSIBLE AFTER THE WORK OF ALL TRADES IS COMPLETE. JUNCTION BOXES SHALL NOT BE LOCATED ON HARD CEILINGS OR IN WALLS IN "FRONT OF HOUSE" SPACES WITHOUT PRIOR APPROVAL FROM ARCHITECT.
9. COORDINATE CONDUIT AND CABLING ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. ROUTE CONDUIT AS TO MINIMIZE PENETRATIONS THROUGH PARTITIONS.
10. COORDINATE THE EXACT LOCATIONS OF CEILING MOUNTED DEVICES WITH ALL OTHER TRADES. OCCUPANCY / VACANCY SENSORS SHALL BE INSTALLED AT LEAST 8-FT OR THE MANUFACTURER'S RECOMMENDED DISTANCE FROM ALL HVAC EXHAUST DIFFUSERS. LOCATE PHOTO CELLS PER MANUFACTURER'S INSTRUCTIONS.
11. COORDINATE THE LOCATIONS OF ALL WALL-MOUNTED DEVICES (OCCUPANCY SENSOR SWITCHES, LOW VOLTAGE WALL STATIONS, LINE VOLTAGE SWITCHES, THERMOSTATS, ETC) WITH LOCATIONS AND SWINGS OF DOORS. DO NOT LOCATE DEVICES SUCH THAT THEY WILL BE BEHIND ANY DOOR WHEN THAT DOOR IS OPEN WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
12. BACK-TO-BACK DEVICES ARE NOT ALLOWED; INSTALL IN SEPARATE STUD CAVITIES.
13. THE ELECTRICAL CONTRACTOR SHALL PERFORM SHORT-CIRCUIT / FAULT CURRENT AND ARC FLASH STUDIES FOR THE PROJECT PER THE ACTUAL INTENDED INSTALLATION (FINAL GEAR SELECTION, ACTUAL FEEDER LENGTHS, ETC). STUDIES SHALL BE SUBMITTED TO THE ENGINEER WITH THE GEAR SUBMITTAL FOR REVIEW. FINAL STUDIES SHALL BE STAMPED BY AN ELECTRICAL ENGINEER CURRENTLY REGISTERED IN THE THE STATE OF WASHINGTON AND SHALL BE SUBMITTED TO THE LOCAL AHJ. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT PER CODE AND AHJ REQUIREMENTS. SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
14. LIGHTING CONTROL COORDINATION MEETING: THE ELECTRICAL CONTRACTOR SHALL COORDINATE A LIGHTING CONTROL COORDINATION MEETING WITH THE OWNER, ARCHITECT, GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND AN AUTHORIZED SERVICE REPRESENTATIVE OF THE INTENDED LIGHTING CONTROL SYSTEM FOR THE PROJECT TO DISCUSS THE LIGHTING CONTROL INTENT FOR THE PROJECT AND INTEGRATION OF THE LIGHTING CONTROL SYSTEM. THIS MEETING SHALL OCCUR AT LEAST TEN (10) WORKING DAYS PRIOR TO SUBMITTING THE LIGHTING CONTROL SUBMITTAL; THE LIGHTING CONTROL SUBMITTAL SHALL REFLECT THE DECISIONS MADE DURING THIS MEETING.
15. THE ELECTRICAL CONTRACTOR SHALL MARK LOCATIONS OF ALL DEVICES FOR POWER AND LOW VOLTAGE SYSTEMS (RECEPTACLES, TELECOM OUTLETS, CATV OUTLETS, FLOORBOXES, ETC) THROUGHOUT THE PROJECT FOR THE OWNER AND ARCHITECT TO REVIEW AND APPROVE PRIOR TO WIRING AND INSTALLATION OF DEVICES/ INFRASTUCTURE OF DEVICES. WHEN REQUESTED BY THE ARCHITECT AND OWNER, THE ELECTRICAL CONTRACTOR SHALL RELOCATE DEVICES AND EQUIPMENT UP TO SIX (6) FEET IN ANY DIRECTION AT NO COST TO THE PROJECT.
16. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED SUBMISSIONS TO THE AUTHORITIES HAVING JURISDICTION FOR PERMITS AND APPROVAL OF ALL ELECTRICAL SYSTEMS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE SUBMISSIONS AND OBTAINING THE REQUIRED PERMIT(S). PROVIDE A COPY OF THE FINAL APPROVED DRAWINGS WITH THE LOCAL AHJ'S APPROVAL STAMP TO THE OWNER FOR THEIR RECORDS.
17. ALL LOW VOLTAGE SYSTEMS, INCLUDING FIRE ALARM, ARE DESIGN BUILD. ANY DEVICES AND EQUIPMENT INDICATED ON THESE PLANS ARE PRELIMINARY FOR SPACE PLANNING PURPOSES ONLY. SEE LOW VOLTAGE NOTES THIS DRAWING, PRELIMINARY SYSTEMS PLANS, AND PERFORMANCE SPECIFICATIONS FOR INFORMATION AND REQUIREMENTS.
    A. FIRE ALARM SYSTEMS ARE TO BE DESIGNED, PERMITTED AND INSTALLED BY A FIRE ALARM CONTRACTOR HIRED UNDER THE SCOPE OF THIS PROJECT.
    B. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, ETC) ARE TO BE DESIGNED AND INSTALLED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
    C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL INFRASTRUCTURE (LINE VOLTAGE POWER, CONDUITS WITH PULLSTRINGS, BACKBOXES, EQUIPMENT RACKS, ETC) FOR THESE SYSTEMS. LOW VOLTAGE DEVICES SHOWN IN THIS BID SET ARE FOR BIDDING PURPOSES ONLY. THE ELECTRICAL CONTRACTOR SHALL CONFIRM ACTUAL DEVICE LOCATIONS, QUANTITIES, AND REQUIREMENTS WITH THE OWNER'S SYSTEM INSTALLERS AT THE START OF CONSTRUCTION.
    D. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TELECOM UTILITY SERVICE PROVIDERS TO BRING TELECOM SERVICE TO THE BUILDING.

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King County Housing Authority

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CONTRACT #: TC2300131

Kirkland Heights
Redevelopment
Rehabilitation

MAINTENANCE SHED

BID SET

JEROLDINNA M. GUIA
STATE OF WASHINGTON
43761
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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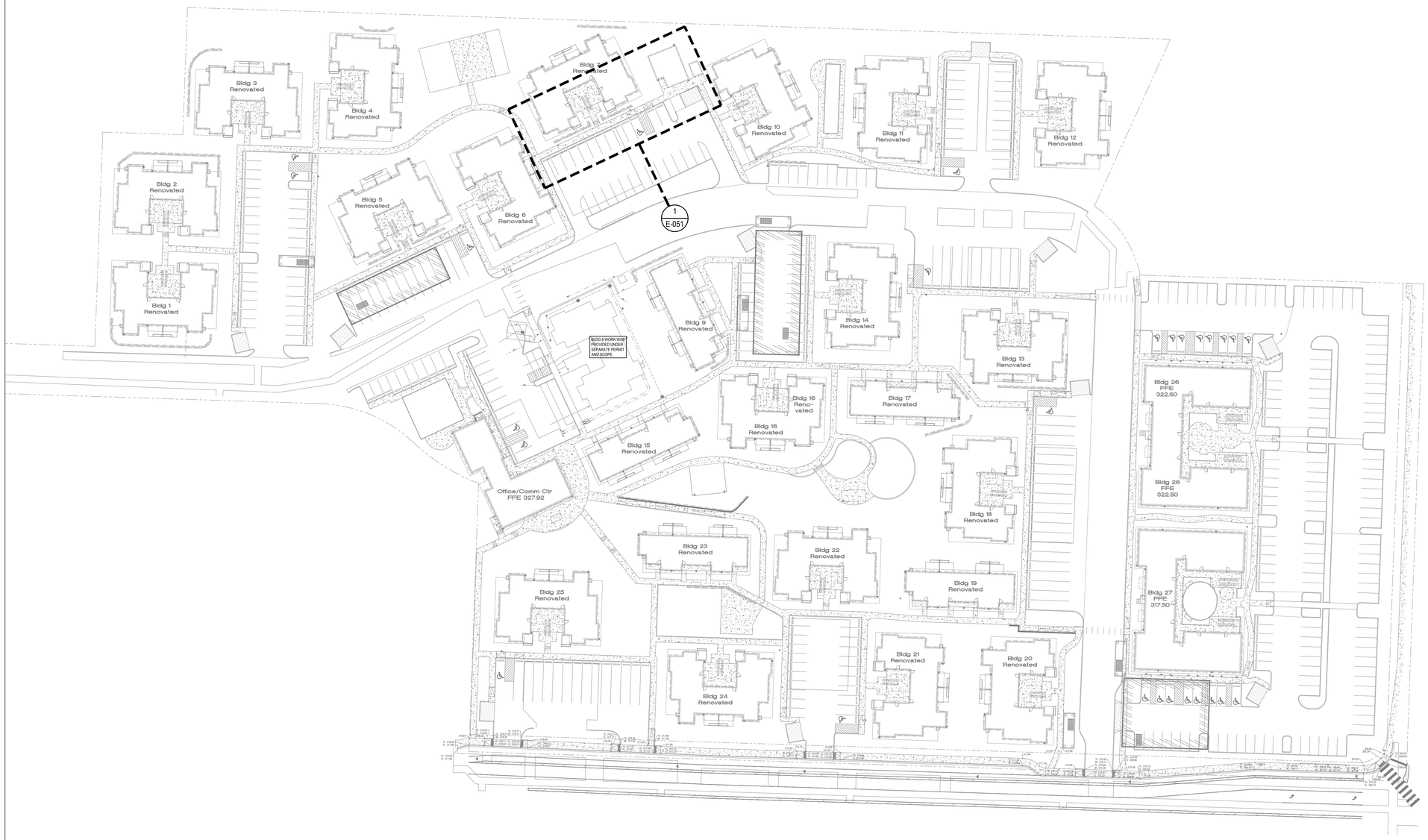
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PROJECT
NOTES

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OVERALL PROJECT SITE PLAN

SCALE: 1"=40'-0"

DRAWING PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON EXISTING CONDITIONS. SEE INDIVIDUAL BUILDING SITE PLAN FOR SPECIFIC SCOPE.

ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.

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Kirkland Heights
Redevolpment
Rehabilitation

MAINTENANCE SHED

BID SET

GEORGINNA M. LEE
STATE OF WASHINGTON
43761
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

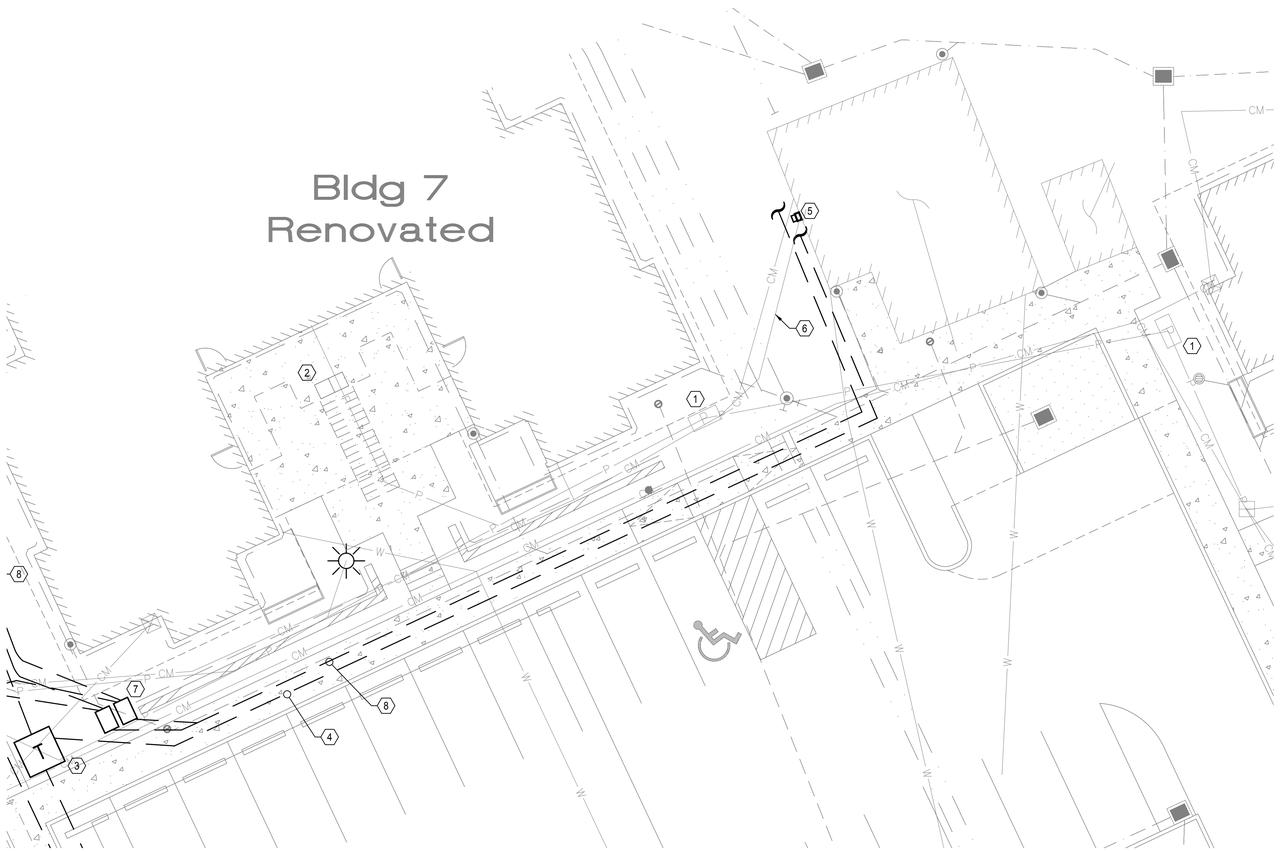
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OVERALL PROJECT SITE PLAN

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ALL INFORMATION SHOWN IN REGARDS TO THE EXISTING SYSTEMS AND INSTALLATION WAS TAKEN FROM AVAILABLE RESOURCES. THE CONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND FIELD VERIFY ACTUAL CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT AND SHALL INCLUDE ALL WORK REQUIRED TO FULFILL THE PROJECT SCOPE BASED ON THE ACTUAL EXISTING CONDITIONS IN THEIR BID. INFORM ARCHITECT AND ENGINEER OF CONFLICTS.



ELECTRICAL SITE PLAN - MAINTENANCE SHED
SCALE:1/8" = 1'-0"

FLAG NOTES (X):

1. EXISTING BELOW-GRADE PUGET SOUND ENERGY (PSE) TRANSFORMER TO BE DEMOLISHED DUE TO CHANGE IN SITE. COORDINATE WITH PSE FOR DISCONNECT AND DEMO. GENERAL CONTRACTOR TO BACKFILL EXCAVATION ONCE VAULT IS REMOVED.
2. NOT USED.
3. NEW PSE PAD-MOUNTED TRANSFORMER. PSE TO PROVIDE AND INSTALL ALL PRIMARY CONDUIT/ CABLE, BELOW GRADE VAULT AND TRANSFORMER. ELECTRICAL CONTRACTOR TO COORDINATE SCOPE WITH PSE IN ORDER TO DETERMINE AND PROVIDE ALL ADDITIONAL SERVICE CONNECTION REQUIREMENTS. GENERAL CONTRACTOR TO PROVIDE TRENCHING, FILL, AND CONCRETE ENCASEMENT AS REQUIRED PER PSE REQUIREMENTS.
4. PROVIDE NEW SECONDARY SERVICE FEEDERS FROM NEW PSE TRANSFORMER TO EXISTING HOUSE UTILITY METER. ELECTRICAL CONTRACTOR TO CONFIRM AMPACITY OF EXISTING SECONDARY SERVICE AND MATCH NEW CONDUCTORS TO EXISTING. WE ESTIMATE CONDUCTORS TO HAVE AN AMPACITY OF 200AMPS AT 240V, 1-PHASE. THREE (3) 250 KCMIL AL CONDUCTORS PROVIDE THIS AMPACITY AND FIT IN (1) 3-INCH CONDUIT . CONTRACTOR TO PROVIDE AND INSTALL PER PSE AND CODE REQUIREMENTS.
5. EXISTING HOUSE UTILITY METER TO REMAIN.
6. DEMOLISH EXISTING SERVICE FEEDERS FROM EXISTING PSE TRANSFORMER TO EXISTING HOUSE UTILITY METER.
7. NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
8. PROVIDE AND INSTALL ONE (1) 2-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.

GENERAL NOTES:

A. CONTRACTOR(S) TO PROVIDE AND EXECUTE LOCATES AND VERIFY ALL EXISTING UTILITY CONDITIONS PRIOR TO SITE ALTERATIONS. COORDINATE ALL ROUTING OF NEW UTILITIES WITH CIVIL AS WELL AS THE IMPACTED UTILITIES.

B. ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.

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Kirkland Heights Redevolpment Rehabilitation

MAINTENANCE SHED

BID SET

NOT FOR CONSTRUCTION

REVISIONS / NOTES

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1	5.19.23	BID ADDENDUM 2

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ELECTRICAL SITE PLAN - MAINTENANCE SHED

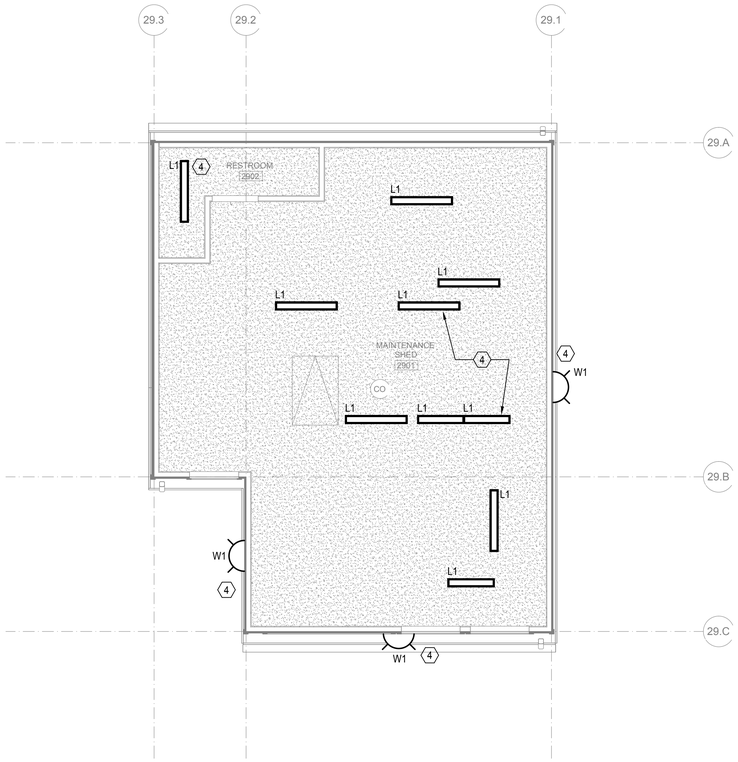
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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	LAMP / LUMENS COLOR TEMP CRI	BALLAST / DRIVER INFORMATION	TOTAL WATTS	VOLT	MOUNTING	RECESS DEPTH (IN)	MANUFACTURER	CATALOG NUMBER (SEE NOTES: 1, 2, 3)	NOTES:
L1	OWNER PROVIDED LUMINAIRE. COORDINATE WITH OWNER AND ARCHITECT.				120	VARIOUS			OWNER PROVIDED LUMINAIRE	
L2	NOT USED									
W1	WALL MOUNTED ARCHITECURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED. MOUNT @ 8-FOOT AFF. VERIFY COLOR WITH ARCHITECT	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS PERFORMANCE IN LIGHTING	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV SH1-10-BK-3K-UNV-0-10V	1, 2
XI	LED EMERGENCY LIGHTING UNIT WITH SEALED, MAINTENANCE FREE LEAD ACID BATTERY AND LED HEADS.		ELECTRONIC	3.2	120	UNIVERSAL		ACUITY WILLIAMS SURE-LITES	EU2C SD EMER/LED-WHT-SDT-D AP2SQLED	

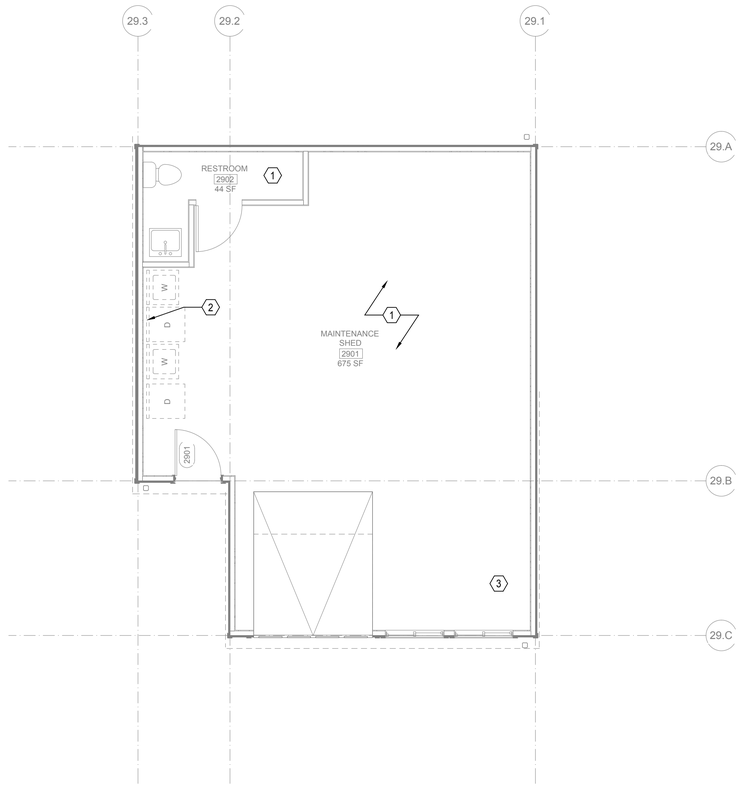
NOTES:

1. PROVIDE ALL PARTS, COMPONENTS, AND HARDWARE TO CONSTITUTE A COMPLETE INSTALLATION WITH OPTIONS INDICATED IN LUMINAIRE SCHEDULE. CATALOG NUMBERS FOR SUCH ITEMS ARE NOT INCLUDED IN SCHEDULE ABOVE.
2. COORDINATE ALL COLORS / FINISHES WITH ARCHITECT.
5. SEE LIGHTING PLANS FOR MOUNTING.
6. CONFIRM ALL CEILING TYPES WITH ARCHITECT.



2 MAINTENANCE SHED - REFLECTED CEILING PLAN

SCALE: 1/4" = 1'-0"



1 MAINTENANCE SHED - POWER PLAN

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

A. COORDINATE THE APPROVED SCOPE OF WORK AND FINAL DEVICE LOCATIONS WITH OWNER AND ARCHITECT PRIOR TO DEMO OF EXISTING OR INSTALLATION OF NEW.

B. WHERE NEW BRANCH CIRCUIT WIRING IS REQUIRED, REPLACE EXISTING BREAKERS IN ELECTRICAL PANEL WITH NEW AS REQUIRED BY CODE.

FLAG NOTES (X):

1. REPLACE ALL EXISTING BRANCH DEVICES (RECEPTACLES, TELE/DATA OUTLETS, LIGHT SWITCHES, ETC.) AND FACE PLATES WITH NEW, 'LIKE FOR LIKE'. PROVIDE GFCI-TYPE RECEPTACLES WHERE REQUIRED BY CODE. VERIFY EXISTING BRANCH WIRING IS IN GOOD CONDITION AND REPLACE CABLING IF NECESSARY.
2. EXISTING ELECTRICAL PANEL TO REMAIN.
3. PROVIDE NEW 120V CONNECTION FOR IRRIGATION CONTROLLER. VERIFY EXACT LOCATION AND REQUIREMENTS WITH LANDSCAPE AND ARCHITECT.
4. ALL EXISTING LIGHTING FIXTURES ARE TO BE REPLACED 'LIKE-FOR-LIKE' WITH NEW LED SOURCE EQUIVALENT FIXTURES. CONNECT NEW FIXTURES TO EXISTING BRANCH CIRCUITRY AND CONTROL SWITCHLEGS.



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MAINTENANCE SHED

BID SET

JOHANNA M. FRANCIS — STATE OF WASHINGTON — 43761 — REGISTERED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	5.19.23	BID ADDENDUM 2

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MAINTENANCE SHED - POWER & LIGHTING PLAN, LUMINAIRE SCHEDULE

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