

HVAC RESIDENTIAL ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER WSREC

2. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY IN LIVING SPACES.

3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE. AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35 DEG. F. OR LESS.

4. CONTINUOUSLY BURNING PILOT LIGHTS ARE NOT ALLOWED FOR GAS FIRED EQUIPMENT (EXCEPTION ANY FIREPLACE WITH ON-DEMAND, INTERMITTENT OR INTERRUPTED IGNITION AS DEFINED IN ANSI Z21.20 IS NOT CONSIDERED CONTINUOUS.

5. HOT WATER BOILER CONTROL SHALL HAVE A SETBACK CONTROL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMPERATURE.

6. DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS R403.3.1 THROUGH R403.3.7.

7. DUCTS INSULATION SHALL MEET R403.3.1 AT MINIMUM AND SPECIFICATION SECTION 230700.

8. DUCT SEALING SHALL MEET R403.3.2.

9. DUCT TESTING SHALL MEET R403.3.3. DUCTS SHALL BE LEAK TESTED IN ACCORDANCE WITH WSU RX-33, USING MAXIMUM DUCT LEAKAGE RATES SPECIFIED. A WRITTEN REPORT OF THE RESULTS SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. SEE EXCEPTIONS WITHIN CODE.

10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.

11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.

12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19. EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.

13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7. ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B E INSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. FLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.

14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.

15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.

16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.

17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENTINATION SYSTEM IS NOT OPERATING.

18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1

19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).

20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.

21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.

22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.

22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.

2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.

3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.

4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.

5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.

6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.

7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.

8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.

9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.

10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.

11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits					
System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits				
Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	
5.1	Efficient Water Heating	Not Selected	0.0	
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy		kWh	Not Selected
7	Appliance Package	Option 7.1	1.5	Appliance Package
Energy Credits			5.5	

\*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE								
MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

- NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.

2. PROVIDE ALUMINUM BIRDSCREEN.

3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL DIFFUSER AND GRILLE SCHEDULE					
ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
SUPPLY REGISTER	LIFE BREATH	TECH-GRILLE	FULLY ADJUSTIBLE CENTER CONE, WHITE NON-CORROSIVE MATERIAL.	4"	SG-1
				5"	SG-2
RETURN GRILLE	TITUS	355FS	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	6" X 6"	EG-1
RETURN GRILLE	TITUS	55FL	1/2" BLADE SPACING, 0 DEG DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION, ALUMINUM, WHITE	8" X 8"	G-1

- NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.

2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.

3. SIZE INDICATES DUCT COLLAR.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE														
MARK	MAKE	MODEL	TYPE	SUPPLY		EXHAUST		HEAT EXCHANGER		ELECTRICAL		WGT. LBS	DBA	NOTES
				CFM	ESP	CFM	ESP	MATERIAL	WINTER EFF.	WATTS	VOLT/PH			
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

- NOTES:
1. ECM MOTORS, DIRECT DRIVE

2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS

3. WALL MOUNT BRACKETS

4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS

5. RECIRCULATION DEFROST MODEL

6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)

B. RUNS CONTINUOUSLY

C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

- NOTES:
1. ECM MOTOR WITH SPEED CONTROL

2. MOTORIZED CONTROL DAMPER, CLASS 1A

3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL 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 & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2)			
		FLOOR AREA (ft <sup>2</sup> )	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9

a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE

b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS

a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3

b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3

c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2

d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5

e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1



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

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 24

BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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TITLE

NOTES AND SCHEDULES

PERMIT #

DRAWN AJ, JL, PH, BF, KS

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ISSUE DATE 4/14/2023

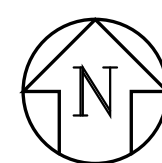
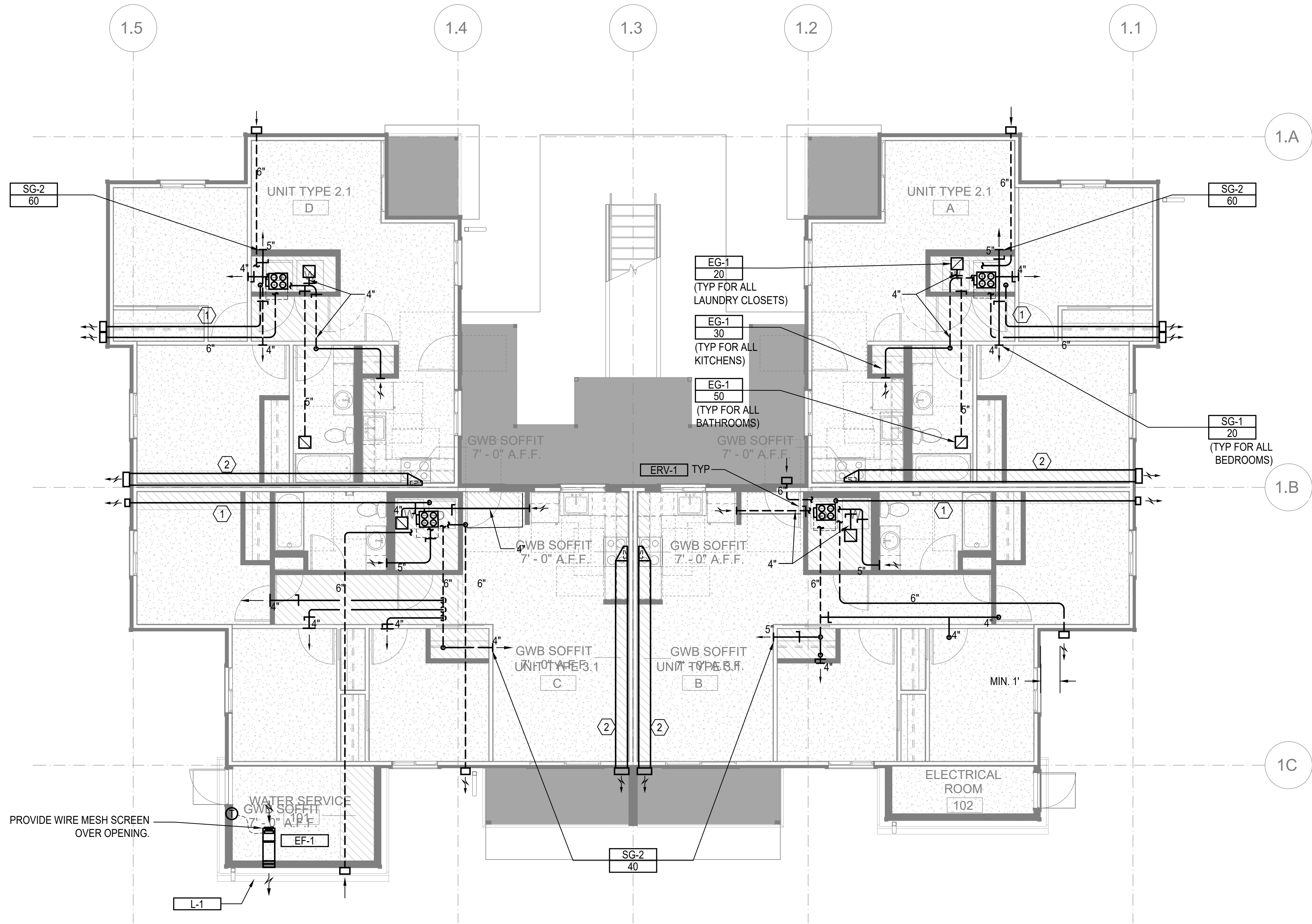
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M24-002



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**FLOOR PLAN - BUILDING 24 - LEVEL 1**

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

**FLAG NOTES (X) :**

- 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
- 12" X 4" RECTANGULAR DUCT.

**LINE TYPES:**

- DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST

**GENERAL NOTES:**

- ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
- EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
- OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
- DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
- RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
- ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
- DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
- ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
- ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
- ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.



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13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 24**  
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**PLAN - LEVEL 1**

PERMIT #  
DRAWN AJ, JL, PH, BF, KS  
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ISSUE DATE 4/14/2023  
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**M24-101**





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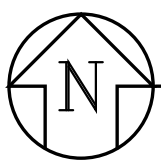
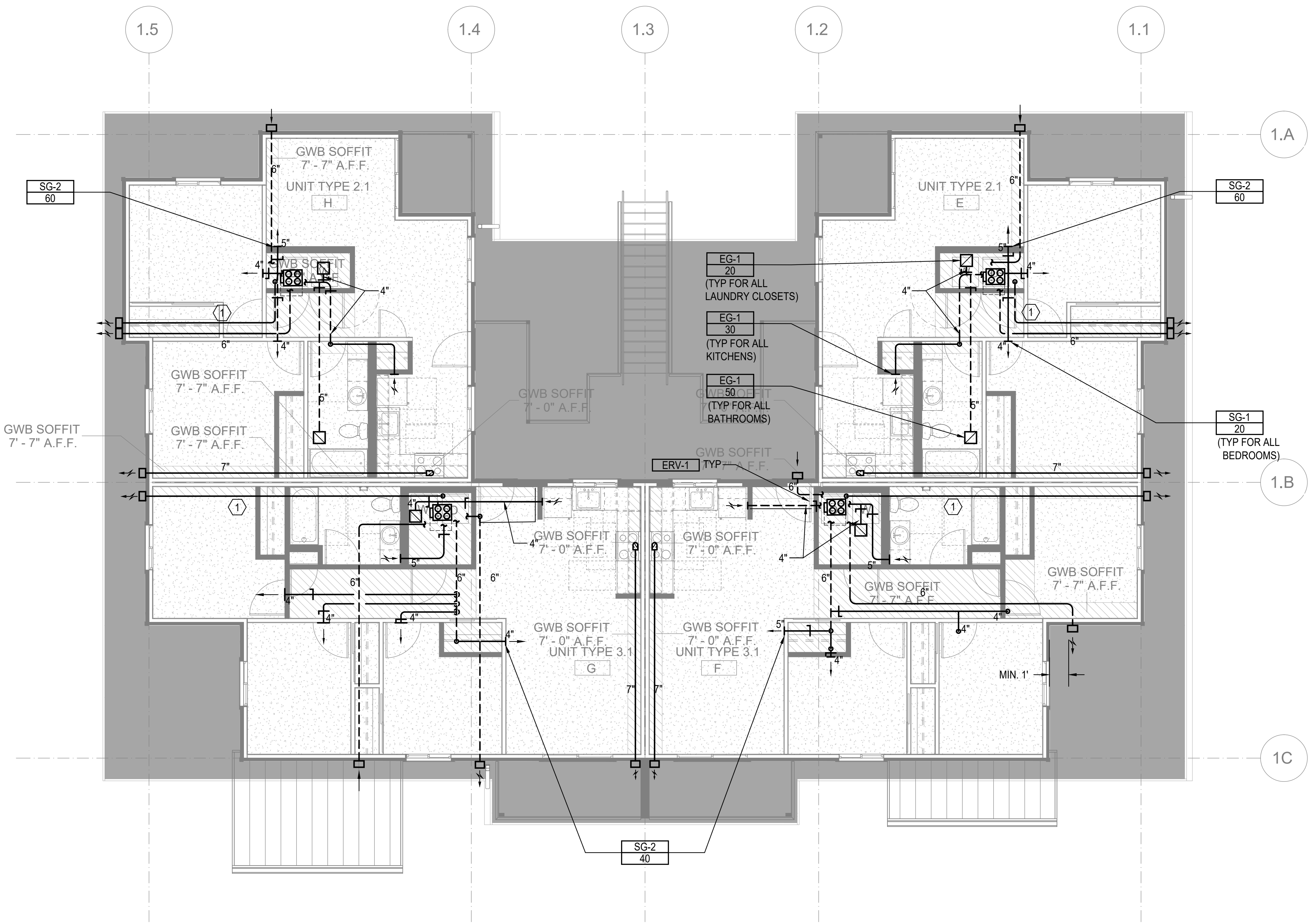
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FLOOR PLAN - BUILDING 24 - LEVEL 2

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

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PLAN - LEVEL 2

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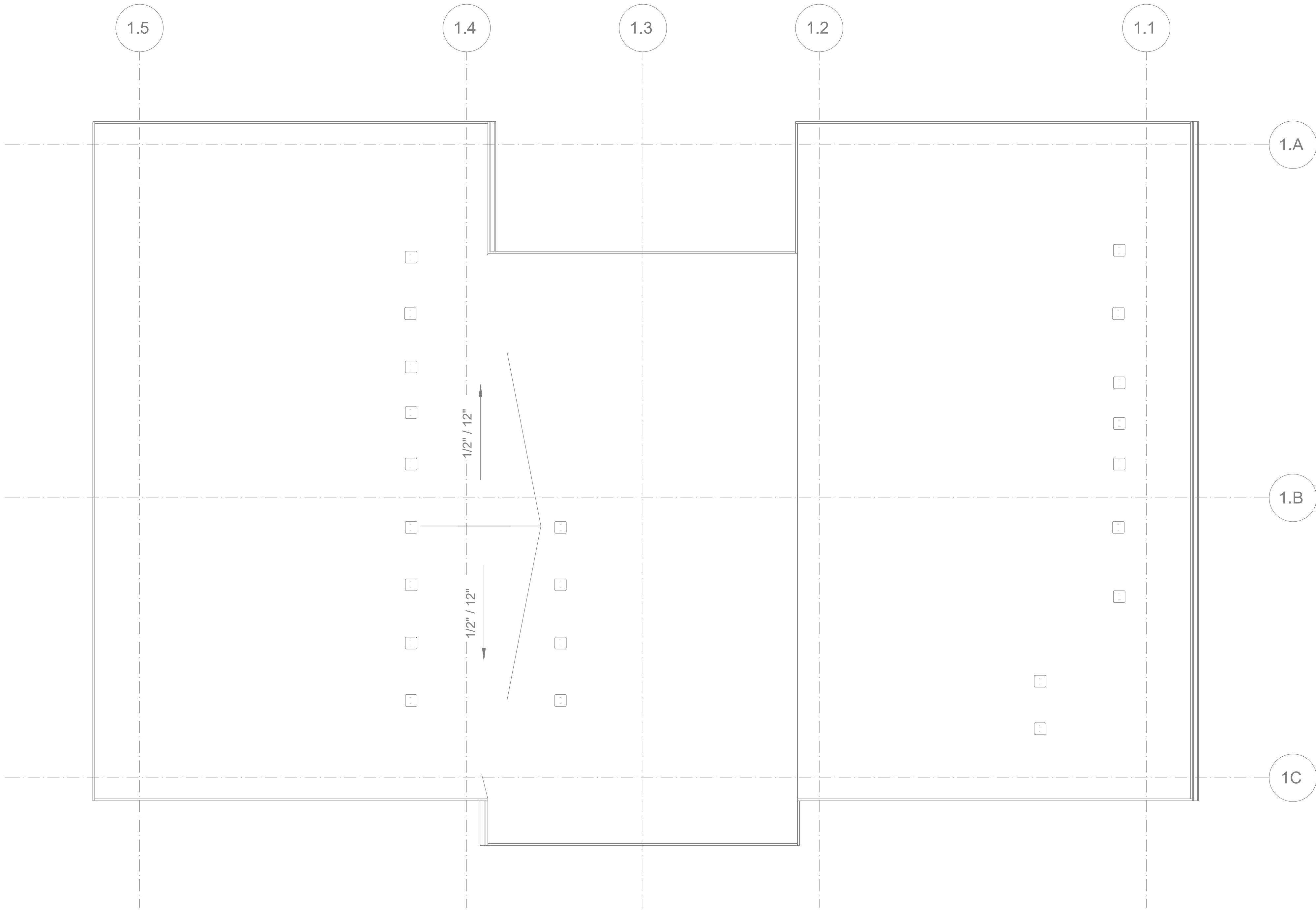
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 **FLOOR PLAN - BUILDING 24 - ROOF - FOR REFERENCE ONLY**  
SCALE: 3/16"=1'-0"



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10. DUCT LEAKAGE SHALL MEET R403.3.4. ROUGH-IN TEST: 4 CFM/100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G. POST CONSTRUCTION TEST: 4 CFM PER 100 SQ. FT. OF CONDITIONED FLOOR AREA AT 0.1" W.G.

11. BUILDING CAVITIES SHALL MEET R403.3.5: BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR PLENUMS. INSTALLATION OF DUCTS IN EXTERIOR WALLS, FLOORS OR CEILINGS SHALL NOT DISPLACE REQUIRED ENVELOPE INSULATION.

12. DUCT WITHIN CEILING INSULATION SHALL MEET R403.3.6. DUCTS FULLY OR PARTIALLY WITHIN CEILING INSULATION SHALL HAVE INSULATION R-VALUE NOT LESS THAN R-8 AND THE SUM OF THE CEILING INSULATION R-VALUE ABOVE AND BELOW THE DUCT SHALL NOT BE LESS THAN R-19. EXCLUDING THE R-VALUE OF THE DUCT INSULATION. SEE CODE EXCEPTIONS.

13. DUCT LOCATED IN CONDITIONED SPACE SHALL COMPLY WITH R403.3.7. ALL DUCTS CONSIDERED ARE LOCATED COMPLETELY WITHIN THE CONTINUOUS AIR BARRIER AND WITHIN THE BUILDING THERMAL ENVELOPE. ALL hvac SYSTEM COMPONENTS SHALL B E INSTALLED INSIDE THE CONDITIONED SPACE. FORCED AIR DUCTS (MAX 10 FT OF RETURN DUCTS AND 5 FT OF SUPPLY DUCTS) IS PERMITTED TO BE LOCATED OUTSIDE THE CONDITIONED SPACE, PROVIDED THEY ARE INSULATED TO A MINIMUM OF R-8. ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) MUST BE SEALED WITH MASTIC. FLEX DUCTS CANNOT CONTAIN SPLICES AND CONNECTIONS MUST BE MADE WITH NYLON STRAPS USING A PLASTIC STRAPPING TENSIONING TOOL.

14. MECHANICAL SYSTEM PIPING INSULATION SHALL MEET R403.4 AND SPECIFICATION SECTION 230700.

15. PROTECTION OF PIPING INSULATION SHALL MEET R403.4.1.

16. SERVICE HOT WATER SYSTEMS SHALL MEET SECTIONS R403.5.1 THRU R403.5.5.

17. MECHANICAL VENTILATION SHALL MEET R403.6. VENTILATION MUST MEET IRC OR IMC, AS APPLICABLE. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENTINATION SYSTEM IS NOT OPERATING.

18. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY SHALL MEET R403.6.1/TABLE R403.6.1

19. EQUIPMENT SIZING AND EFFICIENCY RATING SHALL MEET R403.7. HVAC EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR ACCA MANUAL J OR OTHER APPROVED MEANS. THE OUTPUT CAPACITY OF HVAC EQUIPMENT SHALL NOT BE GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED (INCLUDING SAFETY FACTOR).

20. ELECTRIC RESISTANCE ZONE HEATED UNIT SHALL BE LIMITED IN ALL DETACHED ONE-ANDTWO FAMILY DWELLING UNITS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) UP TO THREE STORIES IN HEIGHT ABOVE GRADE PLAN. A INVERTER DRIVEN DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE OF EACH DWELLING UNIT SHALL BE USED. TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.

21. SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL COMPLY WITH SECTIONS C403 AND C404 OF THE WSEC COMMERCIAL PROVISIONS.

22. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.

22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.

2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND LOCAL CODES AND ORDINANCES.

3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST IMC AND WITH CURRENT SMACNA STANDARDS.

4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.

5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT INTERNATIONAL ENERGY CODE AND SPECIFICATION.

6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.

7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT IBC.

8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.

9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT INTERNATIONAL MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.

10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.

11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

R406 FUEL AND ENERGY CREDITS

Table R406.2 Fuel Normalization Credits					
System No.	Full Description	Select System Type	Fuel Normalization Credits (406.2)	Energy Credits (406.3)	Total Credits (406.2 & 406.3)
3	For heating system based on electric resistance only (either forced air or Zonal)	Electric Resistance Only	-1.0	5.5	4.5

Table R406.3 Energy Credits				
Option No.	Category	Select Options	Energy Credits	Brief Description of Selected Options*
1	Efficient Building Envelope	Option 1.3	NA	U 0.28 Windows / R-38 floors or R-10 Fully insulated slab. Or 5% reduction in UA
2	Air Leakage Control and Efficient Ventilation	Option 2.2	1.5	2.0 ACH50 / Heat Recovery Ventilation min eff 65% / For R2, 0.25 cfm per ft2 at 50 Pa / HRV with min SHR eff of 0.65
3	High Efficiency HVAC		0.0	
4	High Efficiency HVAC Distribution System	Not Selected	0.0	
5.1	Efficient Water Heating	Not Selected	0.0	
5.2-5.6	Efficient Water Heating	Option 5.5	2.5	NEEA Tier 3 heat pump water heater
6	Renewable Electric Energy		kWh	Not Selected
7	Appliance Package	Option 7.1	1.5	Appliance Package
Energy Credits			5.5	

\*Refer to WSEC 2018 Table R406.3 for complete option descriptions and requirements

EQUIPMENT SCHEDULES

LOUVER SCHEDULE								
MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	12"	12"	0.3	ALUMINUM	KYNAR	ALL

- NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.

2. PROVIDE ALUMINUM BIRDSCREEN.

3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

RESIDENTIAL UNIT - ENERGY RECOVERY VENTILATOR SCHEDULE														
MARK	MAKE	MODEL	TYPE	SUPPLY		EXHAUST		HEAT EXCHANGER		ELECTRICAL		WGT. LBS	DBA	NOTES
				CFM	ESP	CFM	ESP	MATERIAL	WINTER EFF.	WATTS	VOLT/PH			
ERV-1	BROAN	B160E65RT	INDOOR	100	0.4	100	0.4	POLYMER	65%	163	120/1	50	66	ALL

- NOTES:
1. ECM MOTORS, DIRECT DRIVE

2. MERV 13 SUPPLY AND 8 EXHAUST FILTERS

3. WALL MOUNT BRACKETS

4. INTERNAL MOTORIZED SUPPLY AND EXHAUST DAMPERS

5. RECIRCULATION DEFROST MODEL

6. TOP PORT DUCT CONNECTIONS

A. 6 FT PLUG IN POWER CORD (120 V/1PH)

B. RUNS CONTINUOUSLY

C. CONTROL ON UNIT, NO REMOTE CONTROLS REQUIRED

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SONES (DBA)	NOTES:
EF-1	WATER SERVICE ROOM EXHAUST	GREENHECK	SQ-60-VG	INLINE	100	0.2	1725	--	1/15	115 / 1	40	3.0	ALL

- NOTES:
1. ECM MOTOR WITH SPEED CONTROL

2. MOTORIZED CONTROL DAMPER, CLASS 1A

3. HANGING NEOPRENE ISOLATION

A. RUNS ON COOLING ONLY, LINE-VOLTAGE THERMOSTAT (T-STAT FURNISHED M.C., INSTALLED E.C.)

GENERAL CONTRACTOR NOTE

CONTRACTOR MUST ALERT ENGINEER AND ARCHITECT WHEN ROUGH-IN FOR MECHANICAL 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 & WALLS FOR INSPECTION BY DESIGN TEAM.

RESIDENTIAL VENTING CALCULATION - FLATS

UNIT TYPE	UNIT NUMBER	2018 IMC CODE REQUIREMENTS (TABLE 403.4.2)			
		FLOOR AREA (ft <sup>2</sup> )	VENTILATION (CFM)	SYSTEM TYPE	
2 Bed	A, D, E, H, I, L	724	35	DISTRIBUTED	BALANCED
3 Bed	B, C, F, G, J, K,	859	40	DISTRIBUTED	BALANCED

GENERAL NOTES ENERGY CODE

1. AIR BARRIER TESTING IS REQUIRED IN COMPLIANCE WITH C406.9

a. SHALL NOT EXCEED 0.25 CFM/SQUARE FEET AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE

b. ASTM E779 OR E1827 COMPLIANCE REQUIRED
2. R406 REQUIREMENTS

a. THIS PROJECT WILL PROVIDE A HEATING SYSTEM BASED ON ELECTRIC RESISTANCE ONLY PER TABLE R406.2, PER SYSTEM NUMBER 3

b. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT ENVELOPE PER R406.3, OPTION 1.3

c. THIS PROJECT WILL PROVIDE AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION PER R406.3, OPTION 2.2

d. THIS PROJECT WILL PROVIDE AN ENERGY EFFICIENT WATER HEATING PER R406.3, OPTION 5.5

e. THIS PROJECT WILL PROVIDE AN ENERGYSTAR APPLIANCE PACKAGE PER R406.3, OPTION 7.1



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

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 25  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE

NOTES AND SCHEDULES

PERMIT #

DRAWN AJ, JL, PH, BF, KS

CHECKED DF

ISSUE DATE 4/14/2023

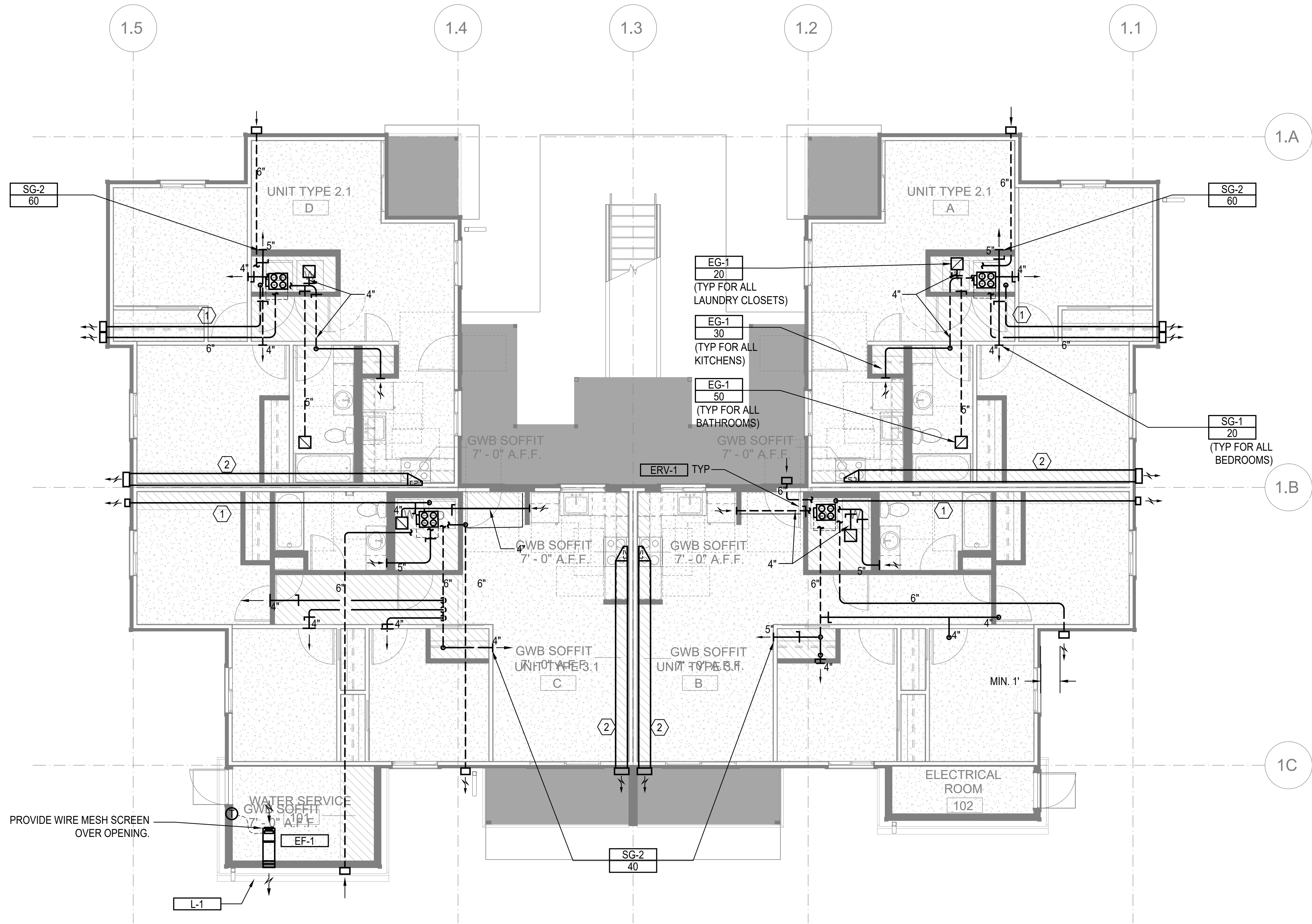
JOB NO. 22016

SHEET NO.:

M25-002



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**FLOOR PLAN - BUILDING 25 - LEVEL 1**

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

**FLAG NOTES (X) :**

- 4" DRYER EXHAUST DUCT. CONFIRM IN FIELD LENGTH OF DUCT DOES NOT EXCEED DRYER MANUFACTURE INSTALLATION LENGTH.
- 12" X 4" RECTANGULAR DUCT.

**LINE TYPES:**

- DASHED LINE TYPE REFERS TO DUCT RUNS IN THE JOIST

**GENERAL NOTES:**

- ALL DRYER EXHAUST DUCT LENGTHS SHALL BE CONFIRMED TO COMPLY WITH DRYER MANUFACTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PAY SPECIAL ATTENTION TO EQUIVALENT AND TOTAL DUCT LENGTH. BRING TO THE ATTENTION OF THE ENGINEER IF FIELD CONDITIONS DO NOT MEET MANUFACTURE REQUIREMENTS.
- EXHAUST DUCT(S) FROM ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
- OUTSIDE AIR DUCT(S) FROM THE ENERGY RECOVERY VENTILATOR(S) TO THE EXTERIOR TERMINATION MUST HAVE A MINIMUM CONTINUOUS INSULATION OF 1-1/2" R-8 FOR THE ENTIRE DUCT RUN.
- DRYER EXHAUST TERMINATION SHALL BE BY UNIT MANUFACTURE WALL CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
- RANGE HOOD TERMINATION SHALL BE MANUFACTURE WALL CAP OR EQUIVALENT BROAN 643 ROUND CAP/WC638 RECTANGULAR CAP. WALL CAP TO BE PAINTED BY GENERAL CONTRACTOR, ARCHITECT TO SELECT COLOR.
- ALL EXHAUST TERMINATIONS SHALL MEET THE CODE CLEARANCE REQUIREMENTS. NAMELY, EXHAUST MUST BE 10 FEET FROM A MECHANICAL AIR INTAKE, 3 FEET FROM AN OPERABLE OPENING INTO THE BUILDING.
- DUCTS ROUTED WITHIN JOISTS SHALL BE DONE PER ARCHITECTURAL DETAILS. THIS IS A CODE REQUIREMENT.
- ALL SUPPLY AND EXHAUST OUTLETS/INLETS SHALL HAVE A MEANS OF BALANCING THE AIRFLOW RATE; ACCESS SHALL BE MAINTAINED FOR BALANCING OUTLETS.
- ERV-1 SHALL USE BROAN WALL CAP MODEL 641 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 641FA FOR OUTSIDE INTAKE. PAINTED BY G.C.
- ERV-2 SHALL USE BROAN WALL CAP MODEL 643 FOR OUTSIDE EXHAUST AND BROAN WALL CAP MODEL 643FA FOR OUTSIDE INTAKE. PAINTED BY G.C.



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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 25**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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TITLE  
**PLAN - LEVEL 1**

PERMIT #  
DRAWN AJ, JL, PH, BF, KS  
CHECKED DF  
ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

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FLAG NOTES (X):

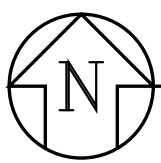
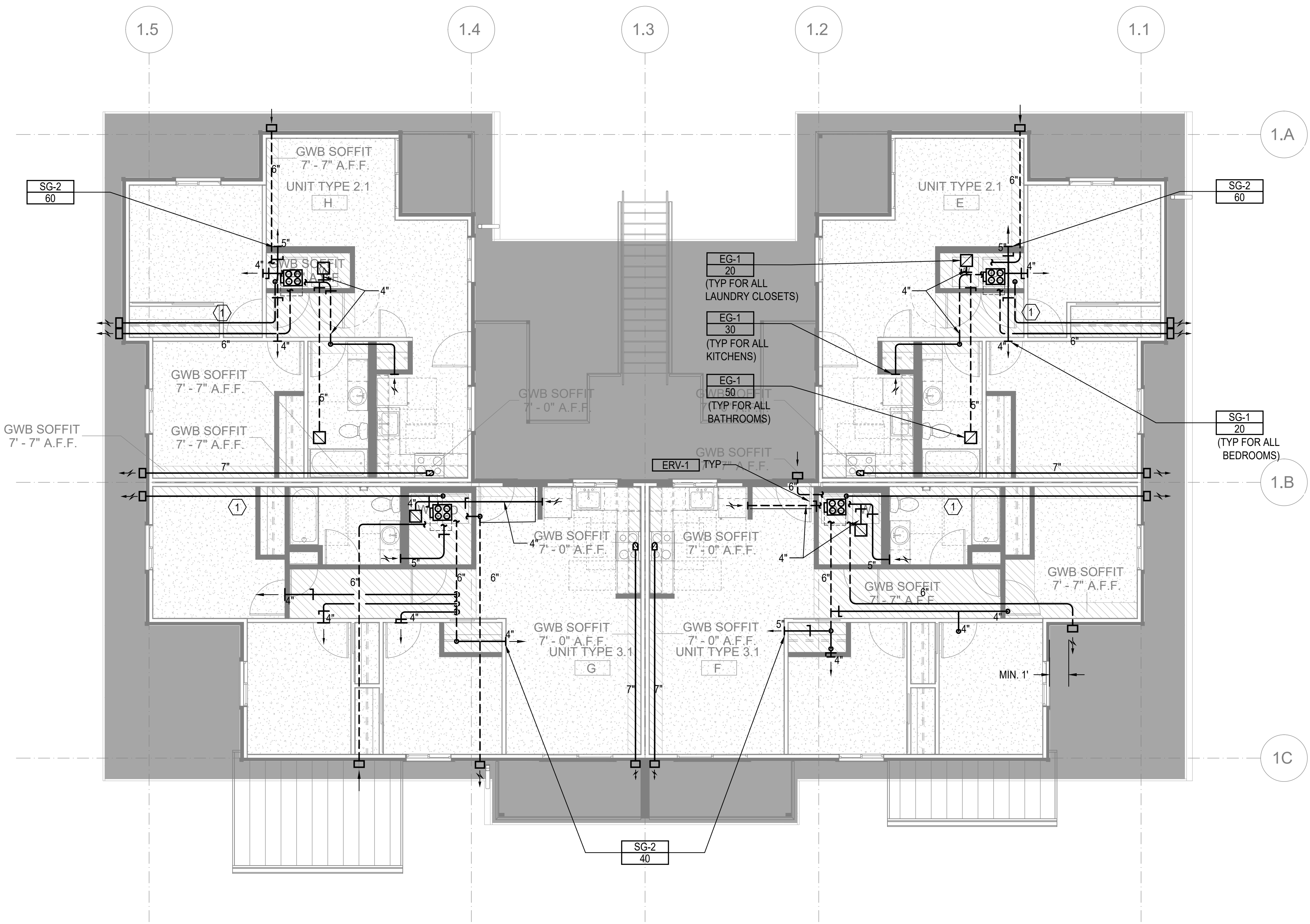
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FLOOR PLAN - BUILDING 25 - LEVEL 2

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

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PLAN - LEVEL 2

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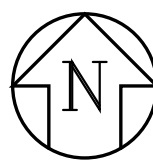
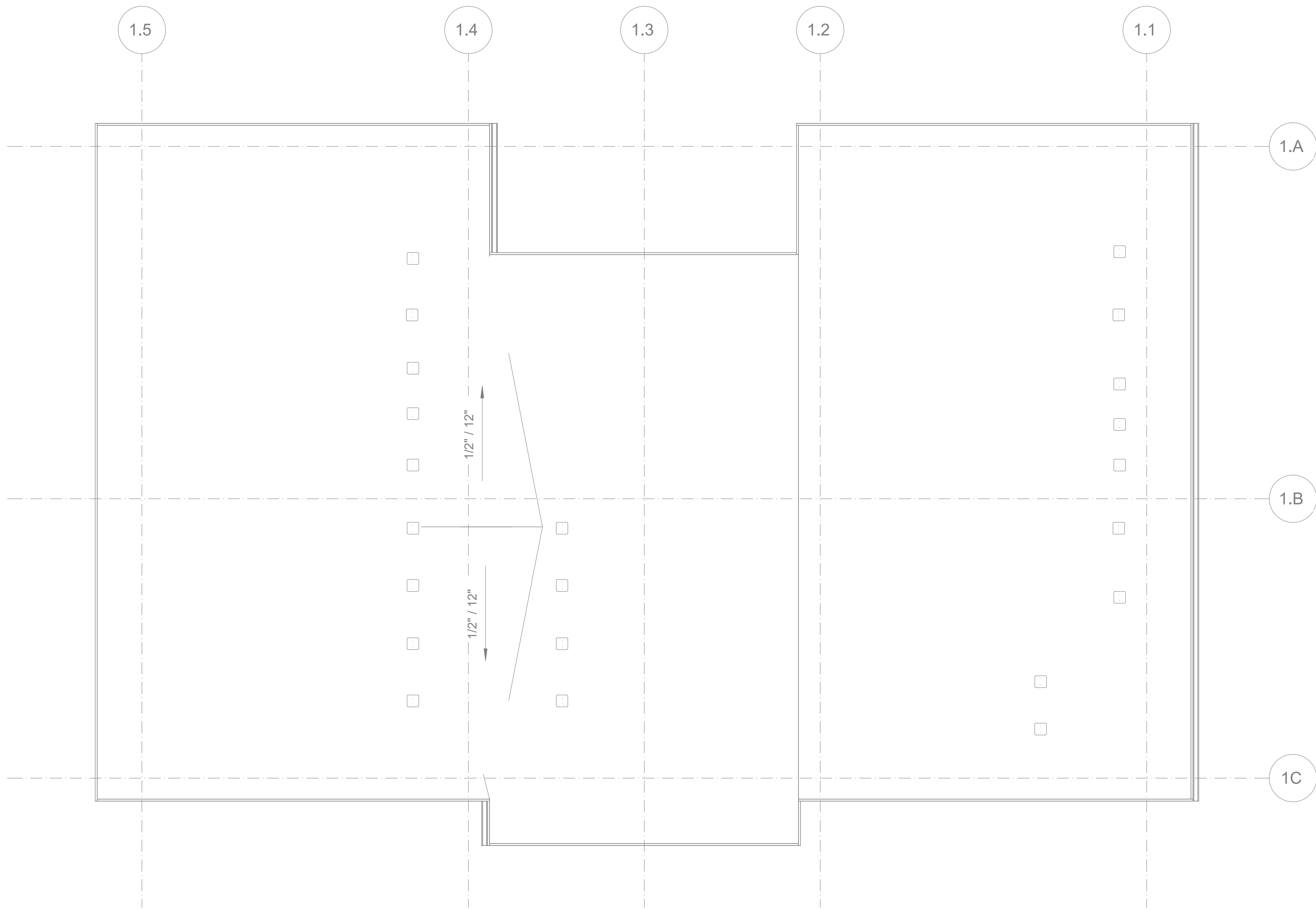
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SHEET NO.:

M25-102





**FLOOR PLAN - BUILDING 25 - ROOF - FOR REFERENCE ONLY**

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

**FLAG NOTES (X):**

**LINE TYPES:**

**GENERAL NOTES:**



**SIDER+BYERS**  
MECHANICAL + ELECTRICAL ENGINEERS

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**KIRKLAND  
HEIGHTS  
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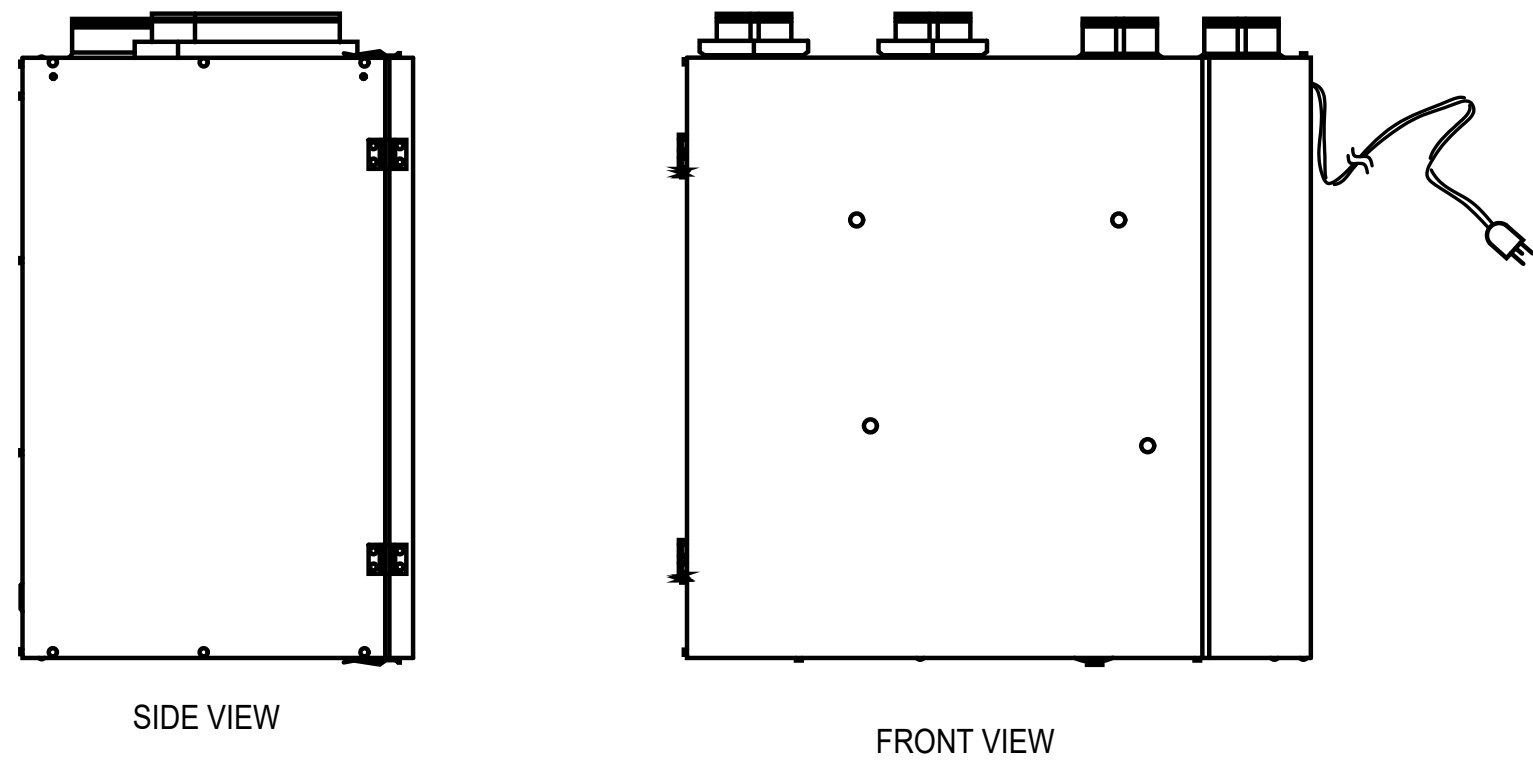
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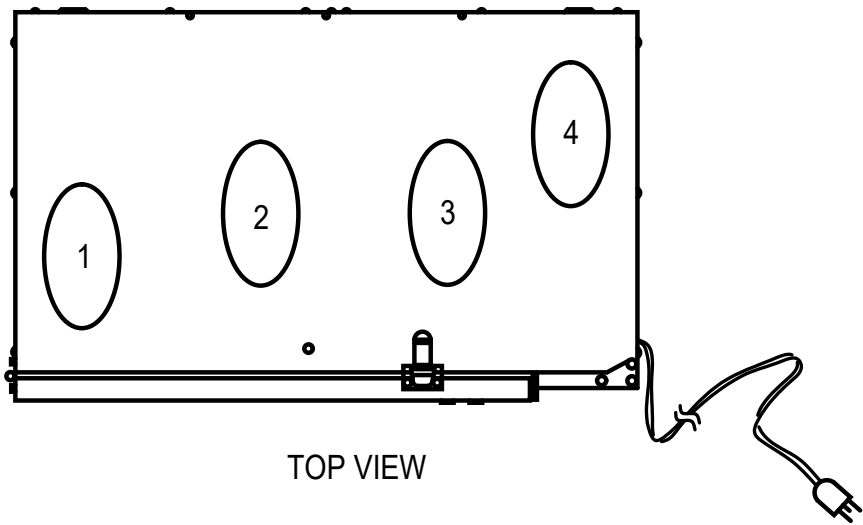
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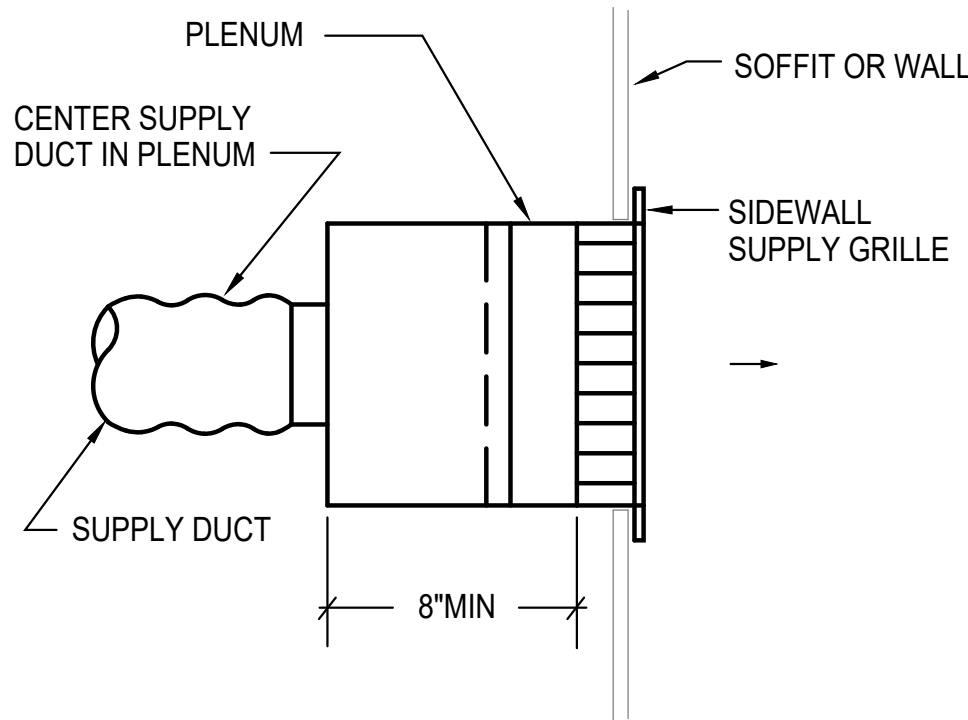




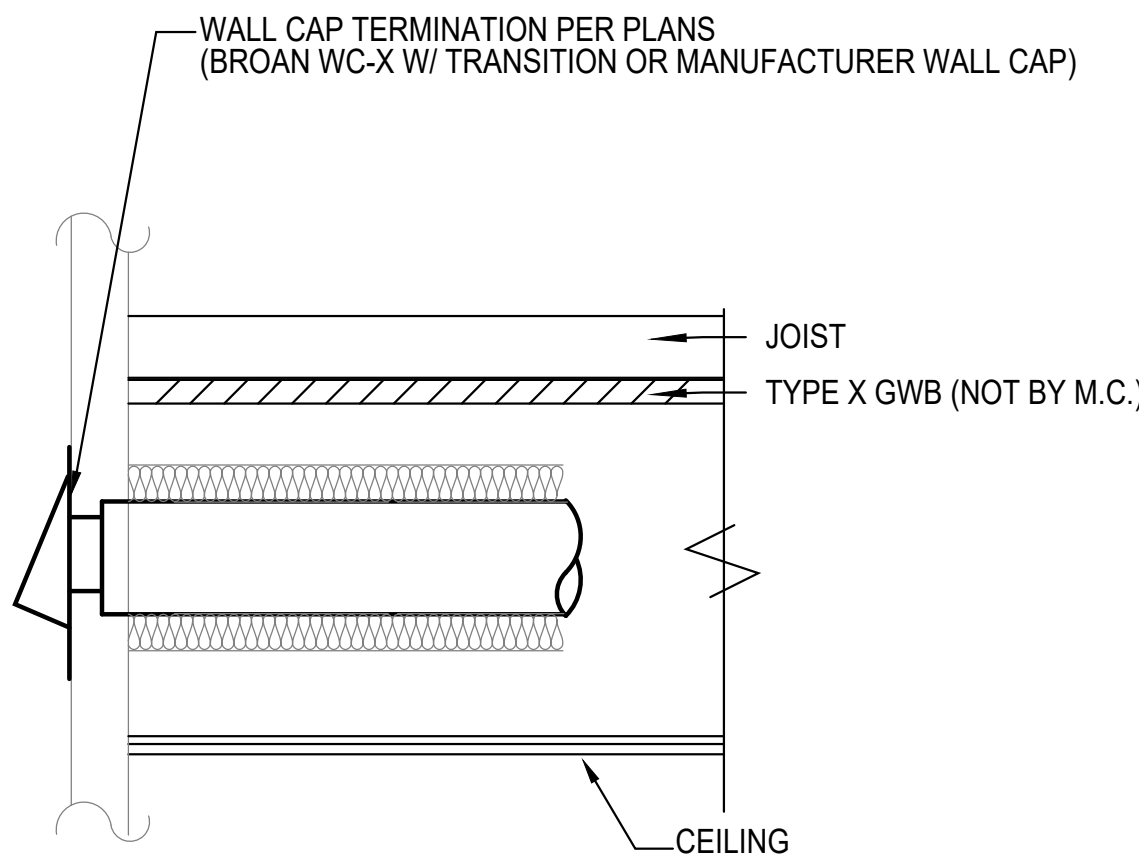
- 1 - EXHAUST AIR TO OUTSIDE (INSULATED)  
2 - FRESH AIR FROM OUTSIDE (INSULATED)  
3 - EXHAUST AIR FROM BUILDING (NOT INSULATED)  
4 - FRESH AIR TO BUILDING (NOT INSULATED)



**1 RESIDENTIAL ERV-2 DETAIL**  
M301 N.T.S.

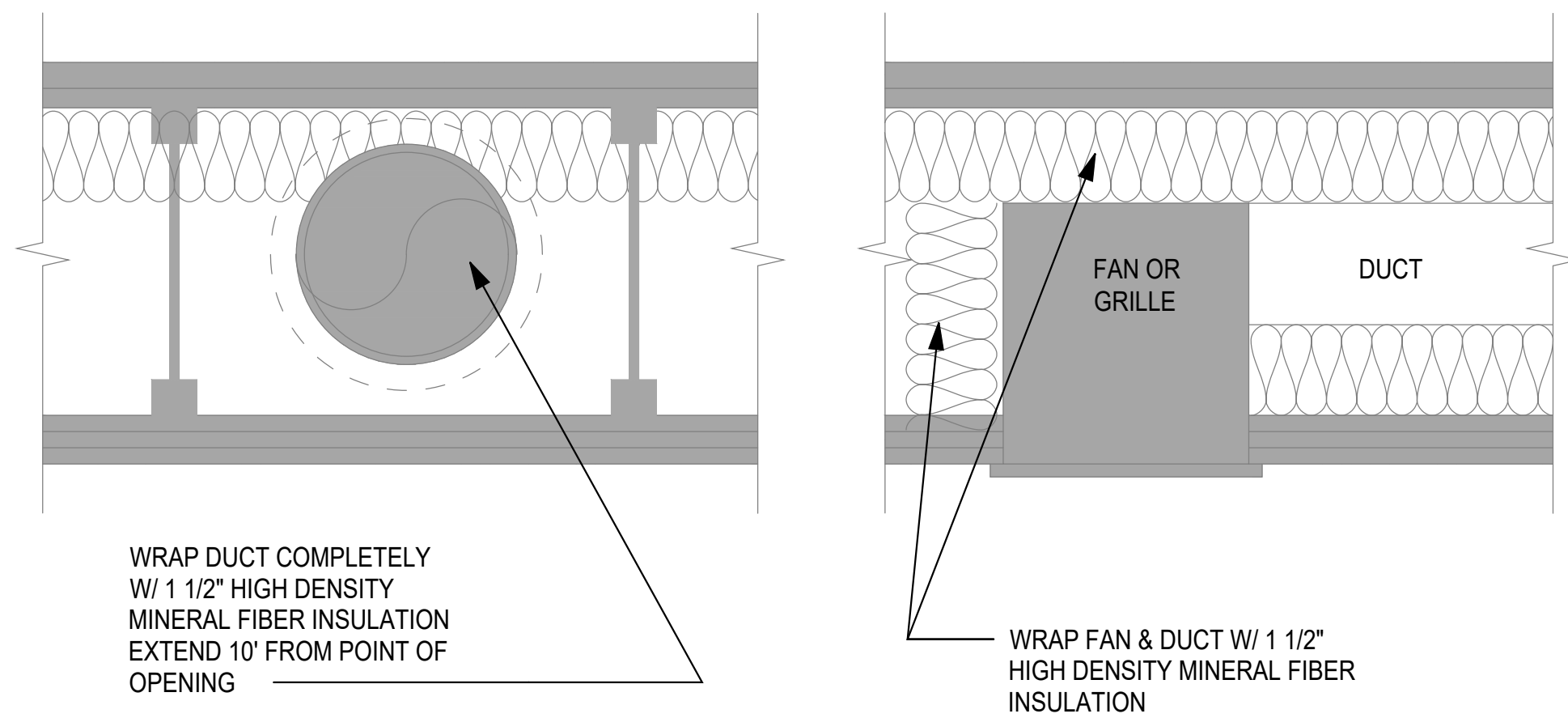


**4 SIDEWALL SUPPLY GRILLE**  
M301 N.T.S.



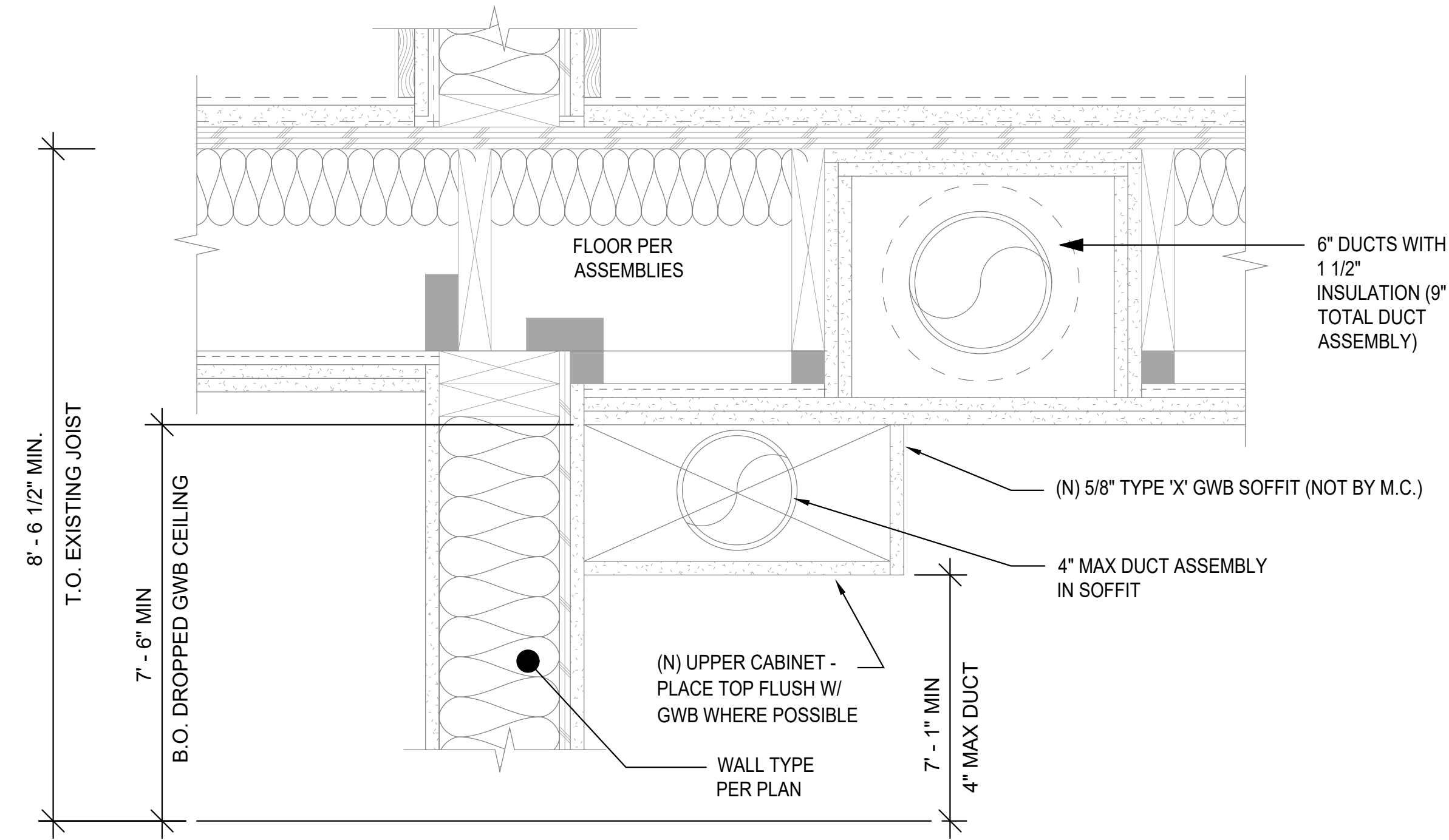
(REFERENCE SHEET A-SHEETS FOR ADDITIONAL DETAILS)  
(SEE MECH. PLAN SHEETS FOR ADDITIONAL DETAILS)

**2 WALL CAP DETAIL**  
M301 N.T.S.

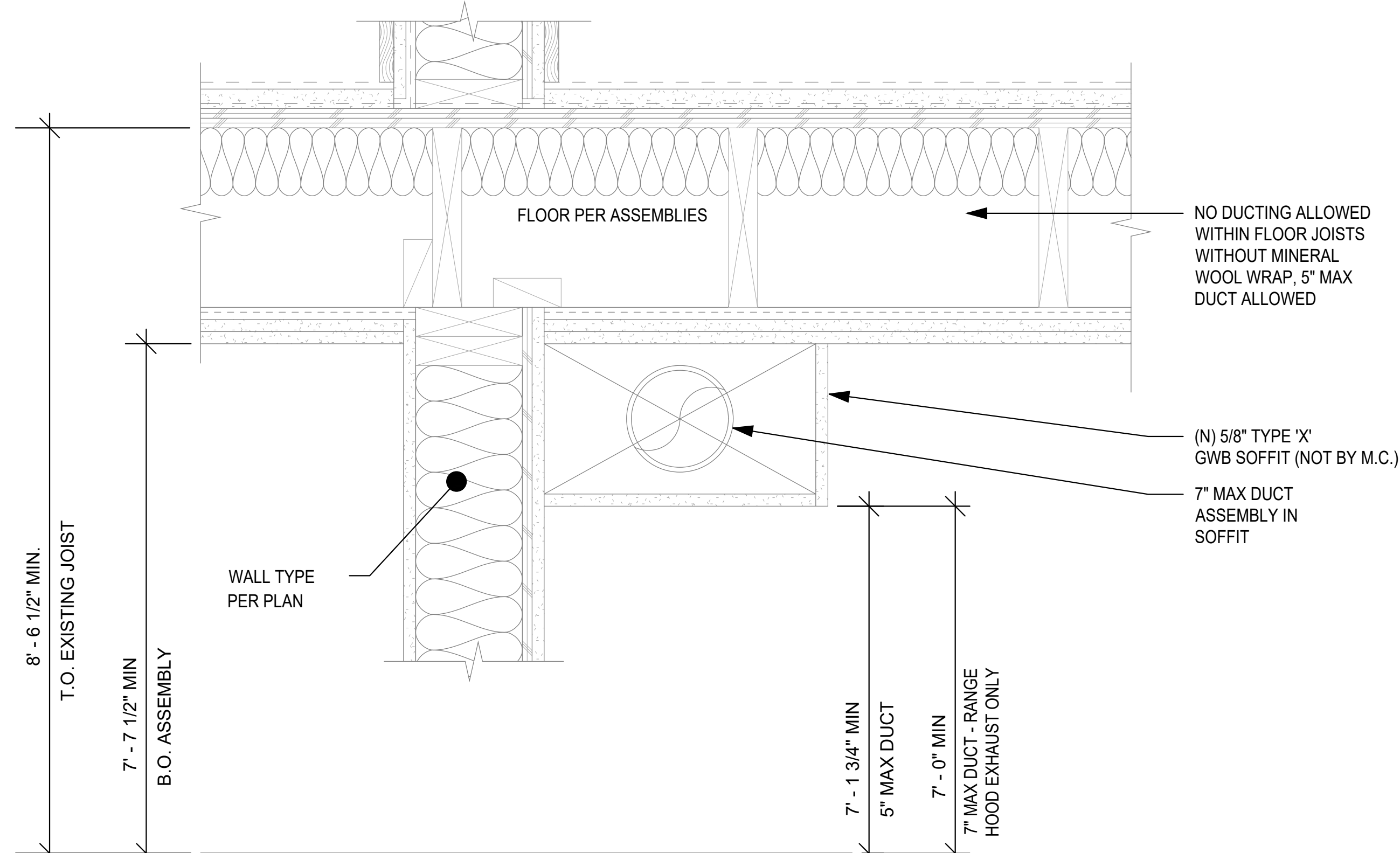


- NOTES:  
1. OPENINGS LIMITED TO 8" MAX IN DIAMETER  
2. DUCTS SHALL BE SECURED IN PLACE W/ METAL HANGERS  
3. DUCTS SHALL BE STEEL AND IC RATED

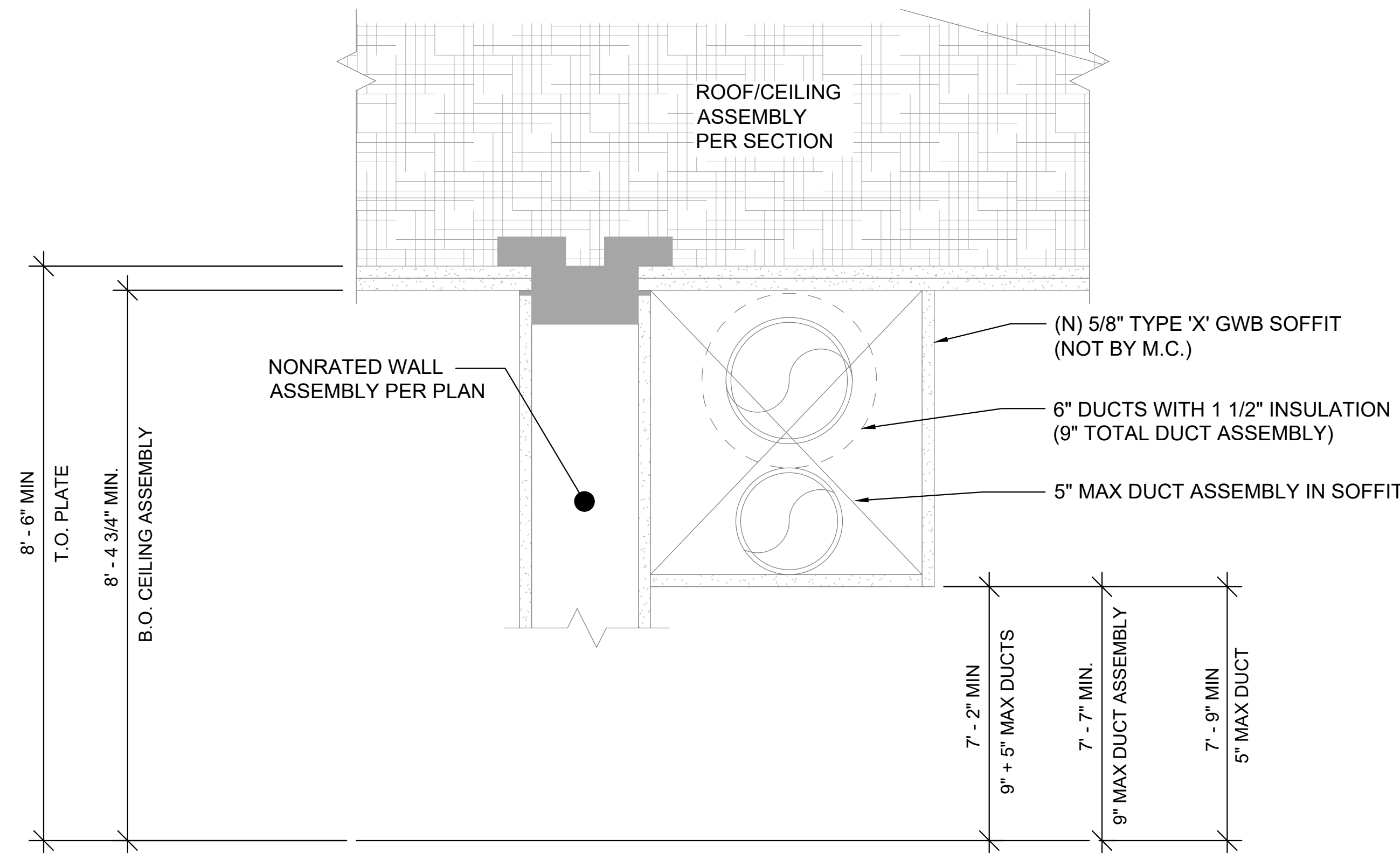
**5 SECTION - HORIZONTAL DUCT W/ MINERAL FIBER IN FLOOR SPACE**  
M301 N.T.S.



**3 SECTION - FLATS HORIZONTAL DUCTS IN FLOOR SPACE @ L1**  
M301 N.T.S.

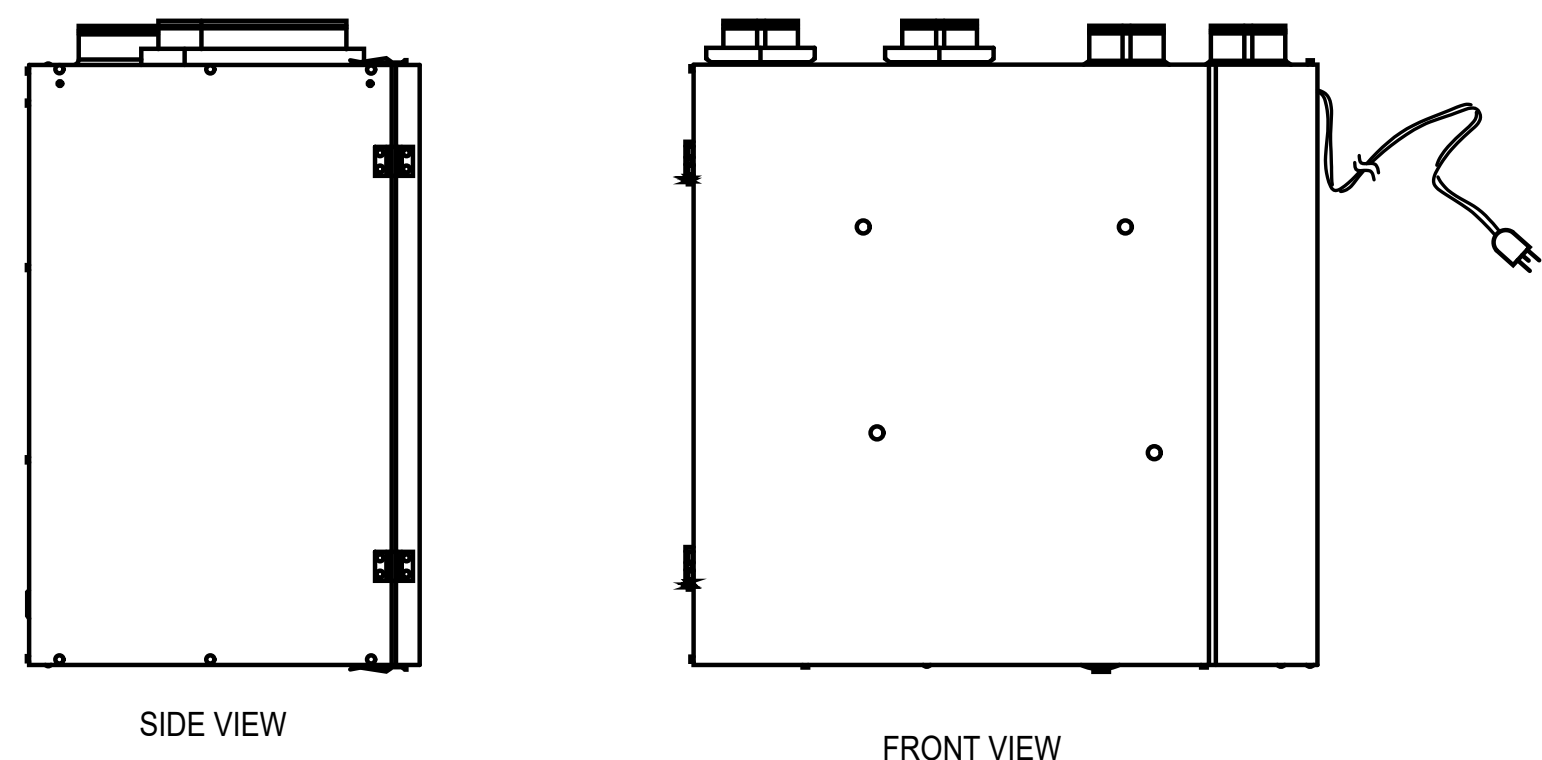


**6 SECTION - FLATS HORIZONTAL DUCTS IN SOFFITS @ L1**  
M301 N.T.S.

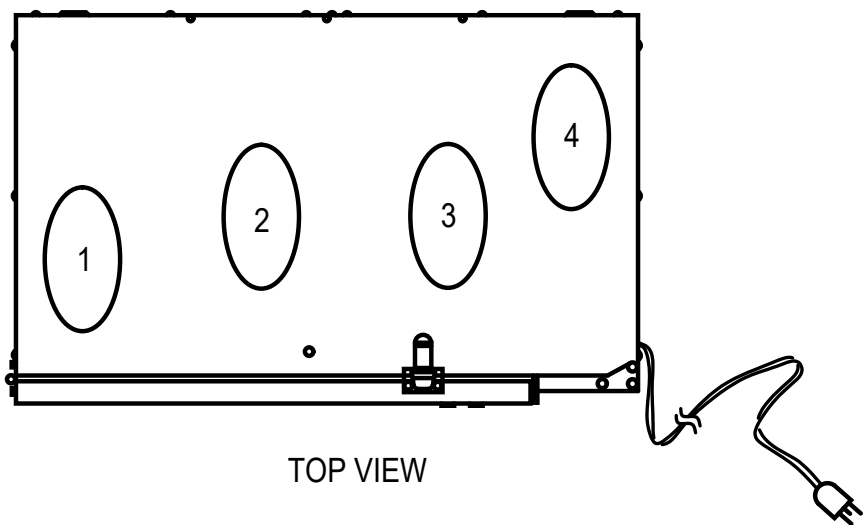


**7 SECTION - FLATS HORIZONTAL DUCTS IN SOFFIT @ TOP LEVEL**  
M301 N.T.S.

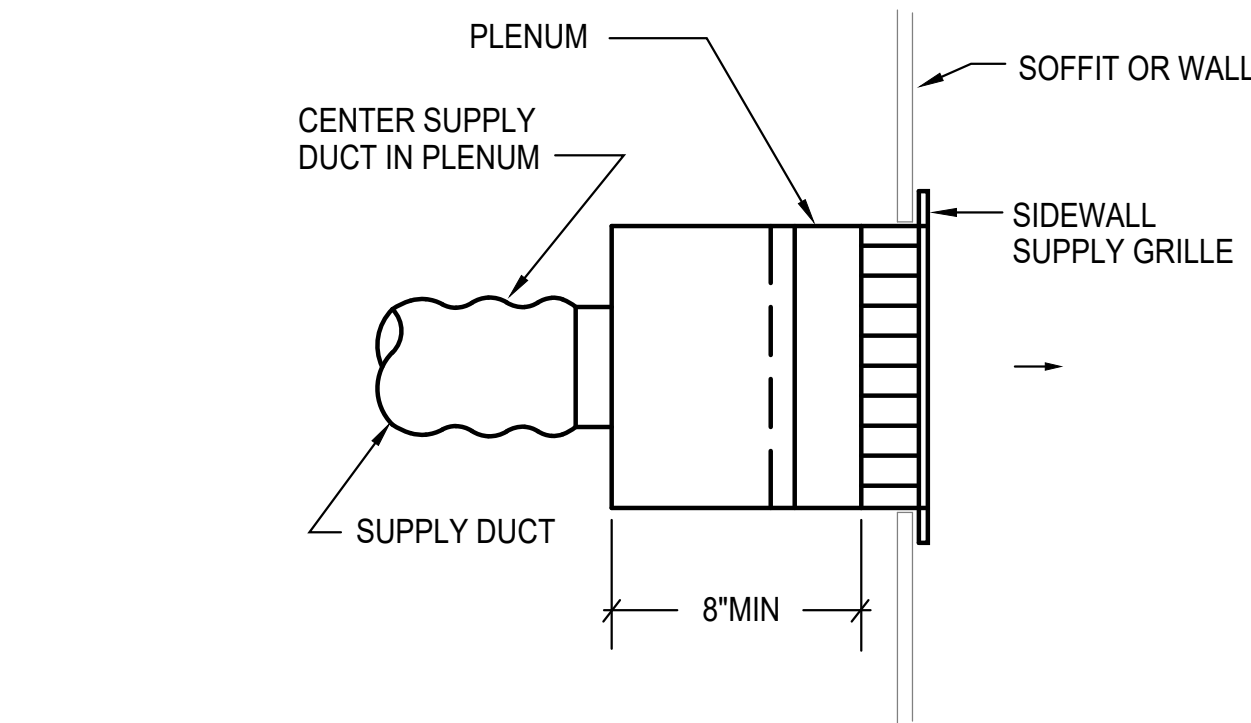




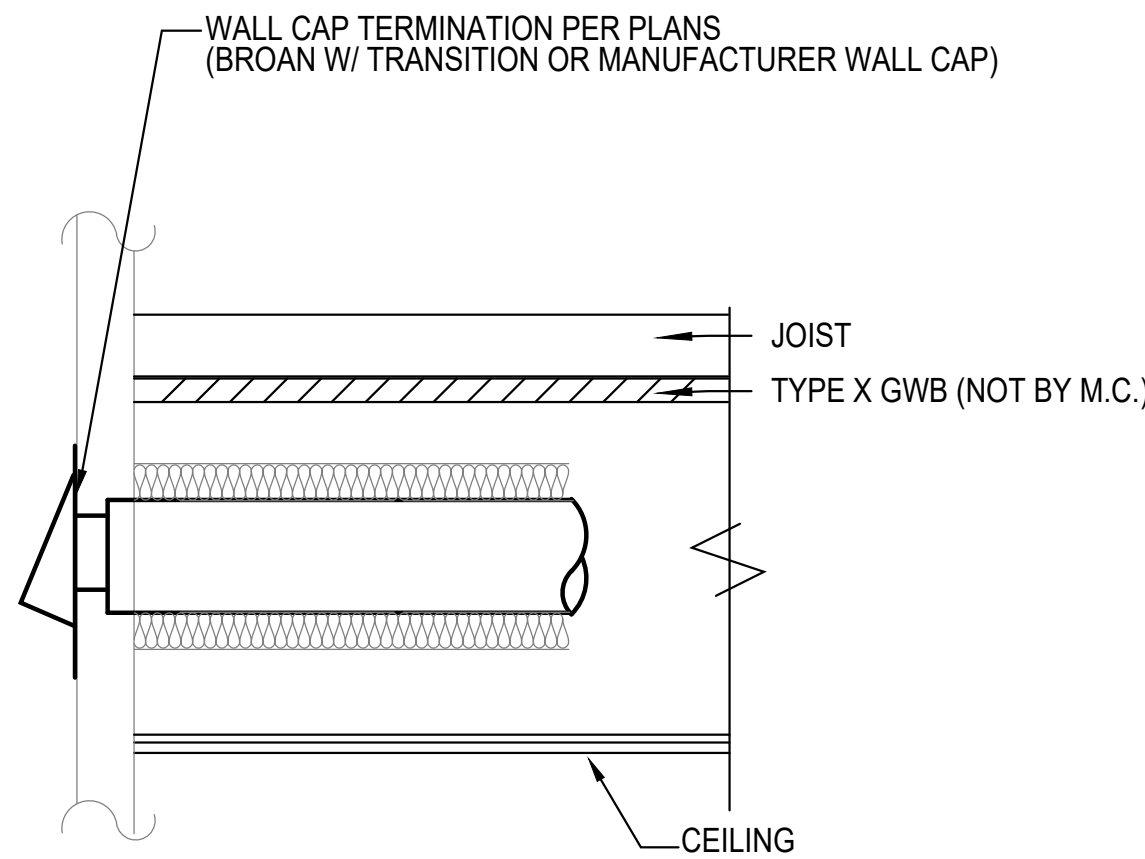
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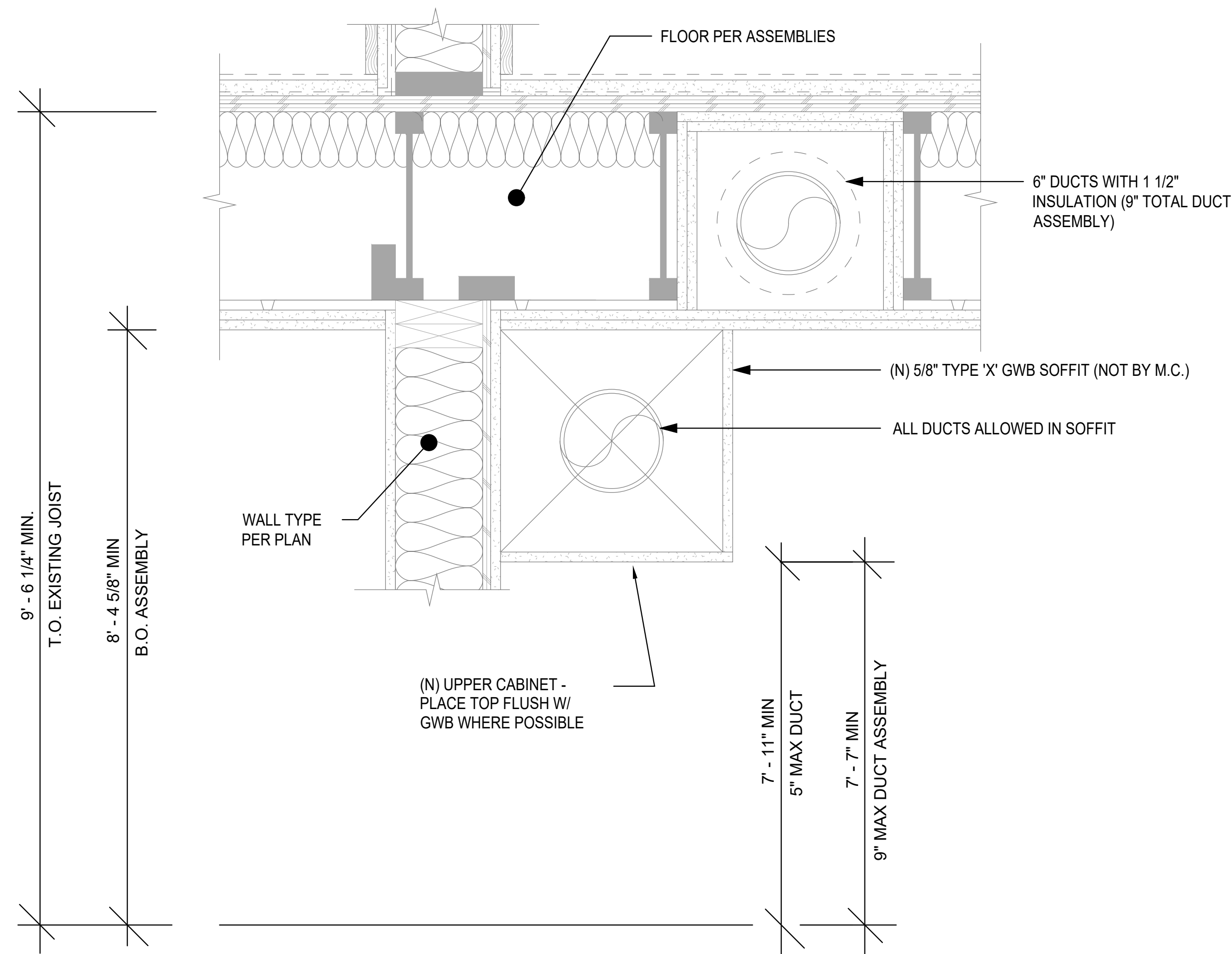
**1 RESIDENTIAL ERV-2 DETAIL**  
M301 N.T.S.



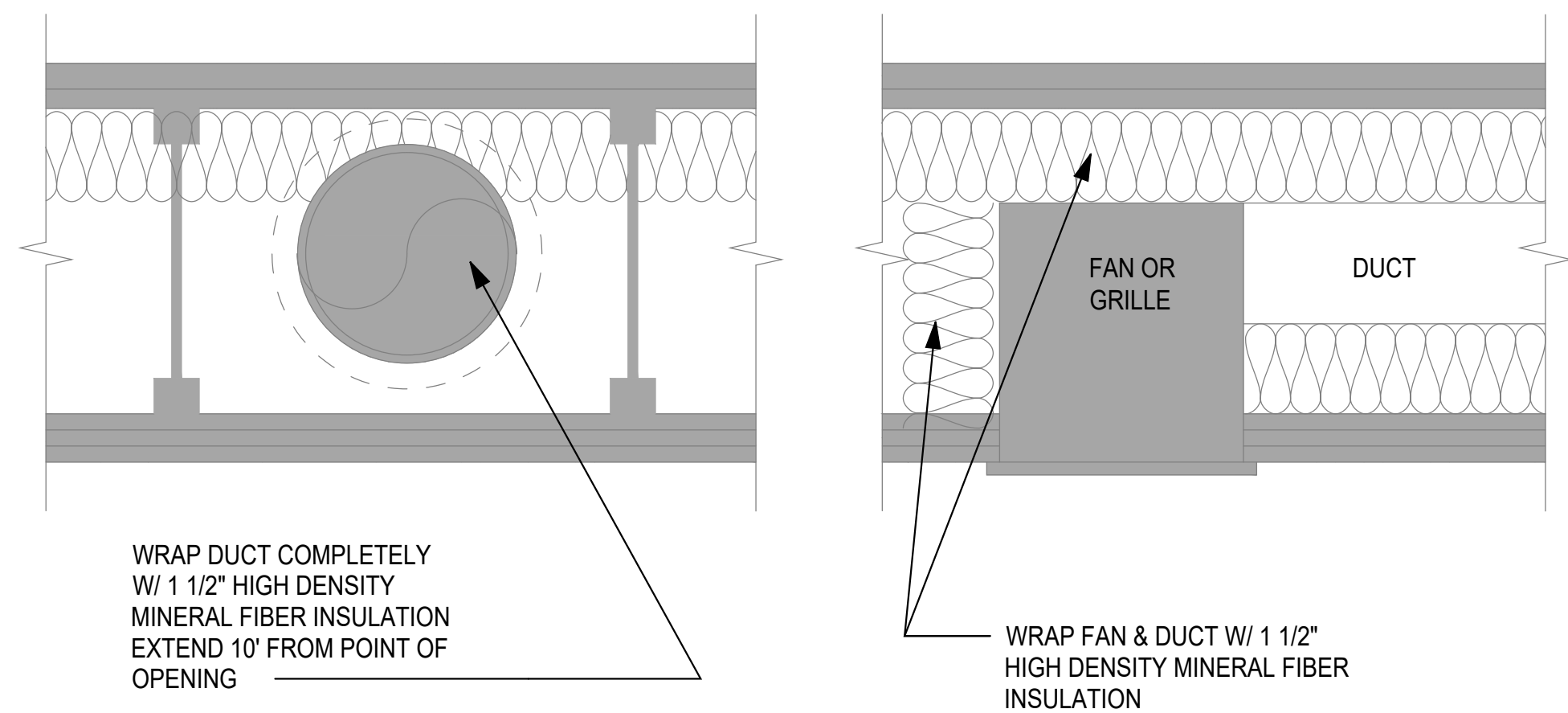
**2 SIDEWALL SUPPLY GRILLE**  
M301 N.T.S.



(REFERENCE SHEET A-SHEETS FOR ADDITIONAL DETAILS)  
(SEE MECH. PLAN SHEETS FOR ADDITIONAL DETAILS)  
**3 WALL CAP DETAIL**  
M301 N.T.S.



**4 SECTION - 3-STORY FLATS - HORIZONTAL DUCTS IN FLOOR SPACE @ L2**  
M301 N.T.S.



- NOTES:  
1. OPENINGS LIMITED TO 8" MAX IN DIAMETER  
2. DUCTS SHALL BE SECURED IN PLACE W/ METAL HANGERS  
3. DUCTS SHALL BE STEEL AND IC RATED

**5 SECTION - HORIZONTAL DUCT W/ MINERAL FIBER IN FLOOR SPACE**  
M301 N.T.S.



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

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 5  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

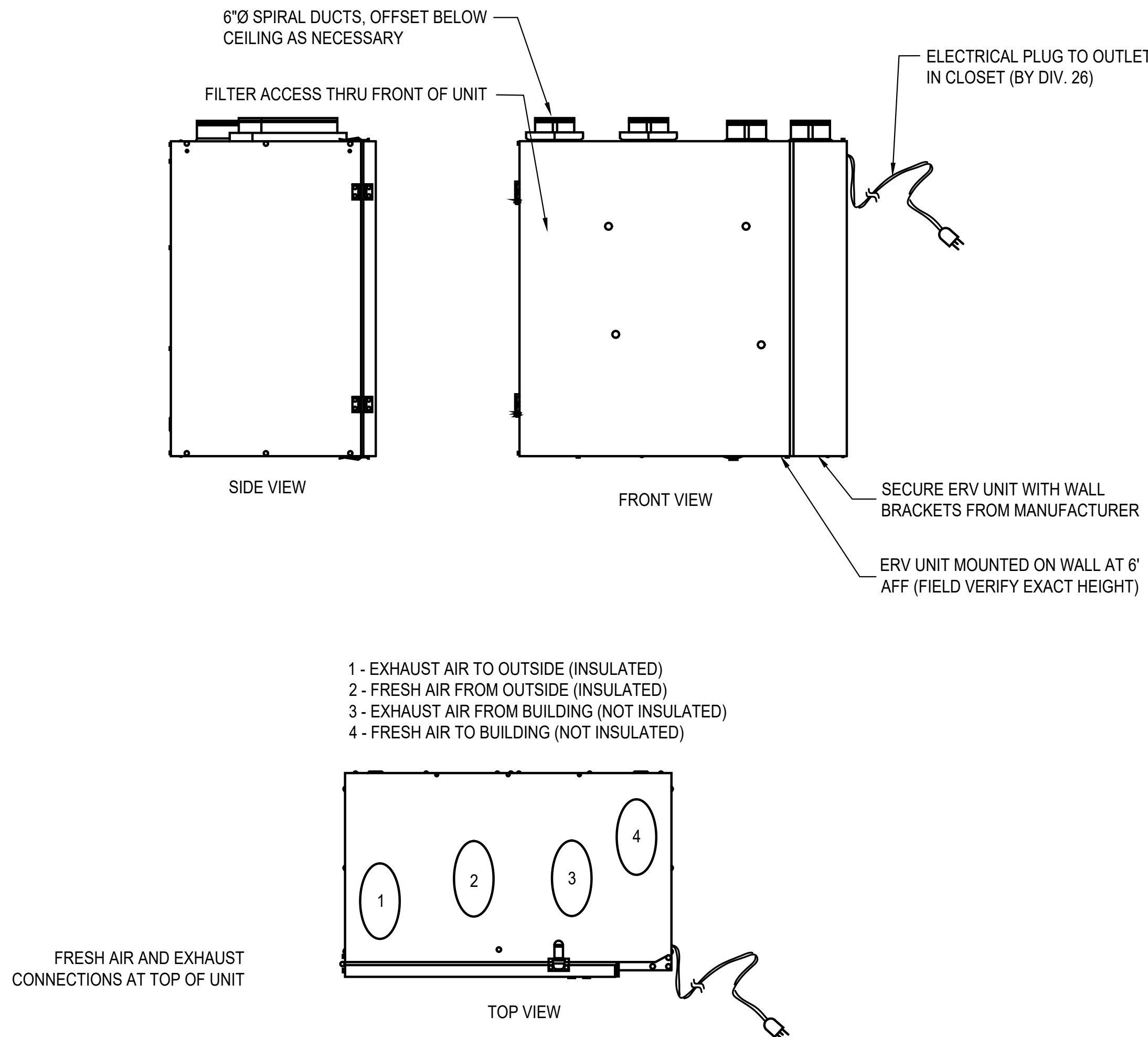
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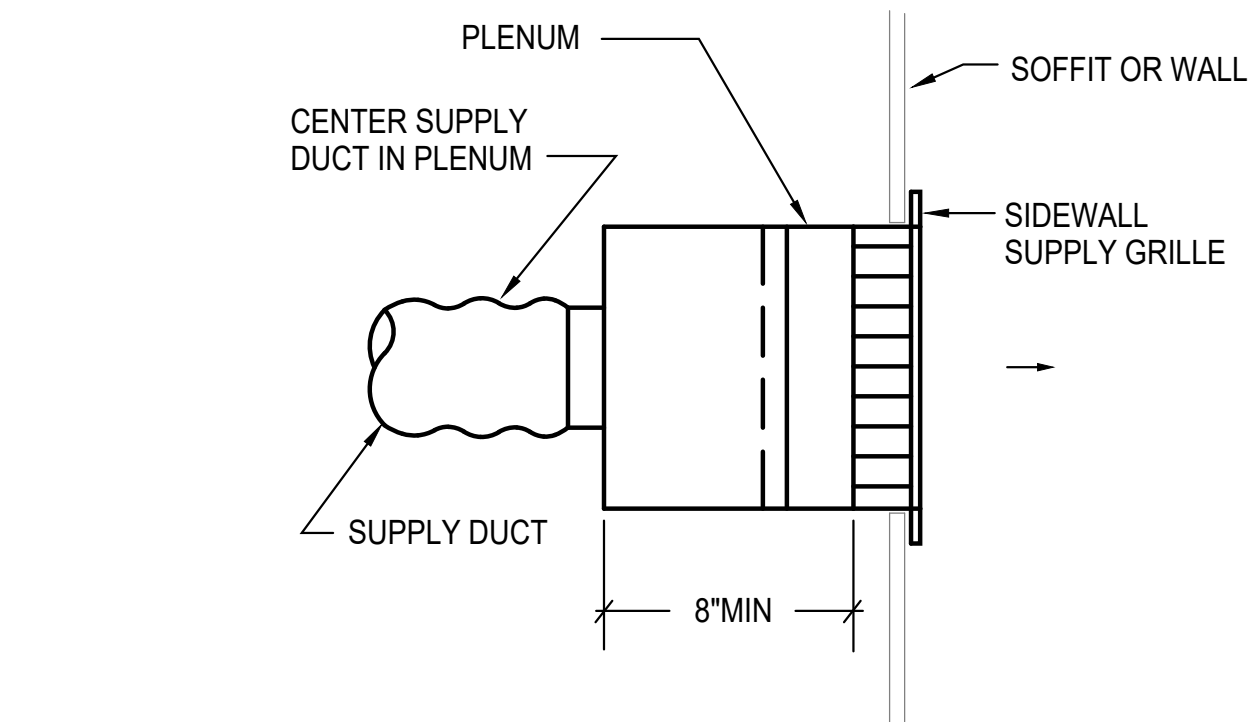
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DRAWN AJ, JL, PH, BF, KS  
CHECKED DF  
ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

M5-301

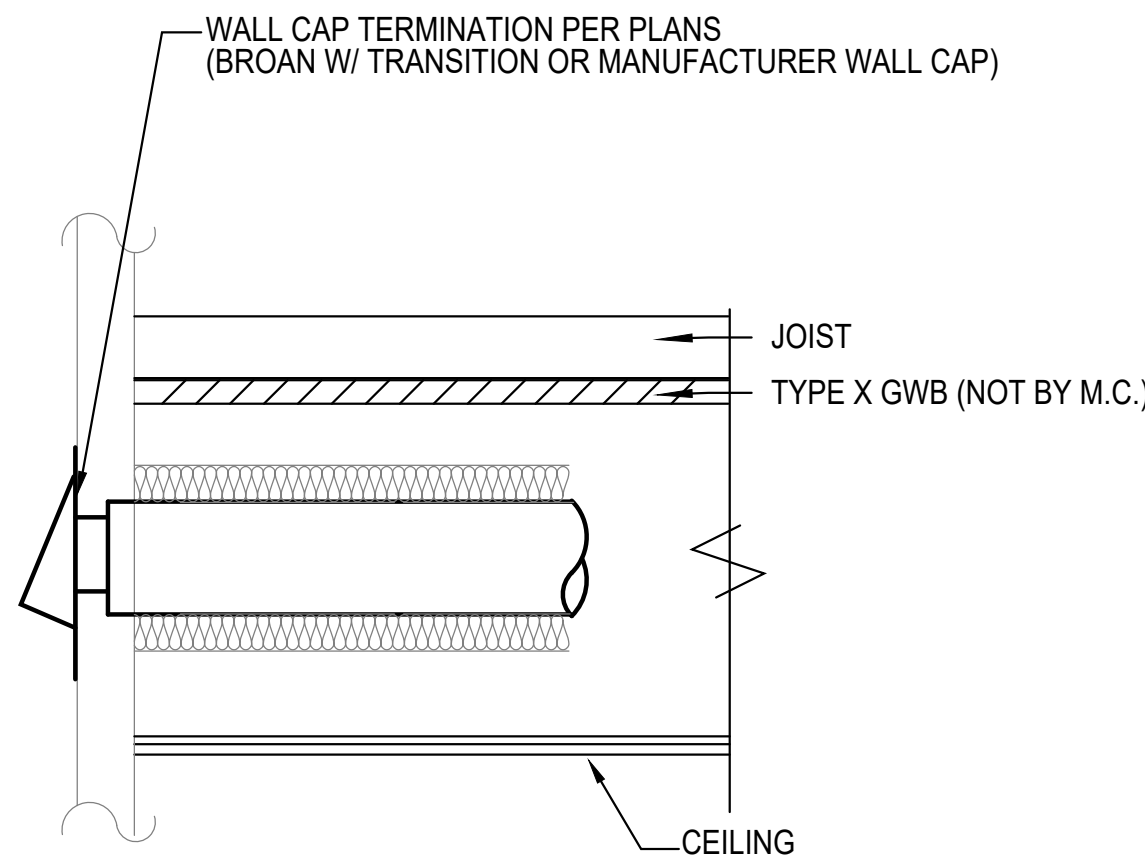




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**M301** **N.T.S.** **RESIDENTIAL ERV-2 DETAIL**

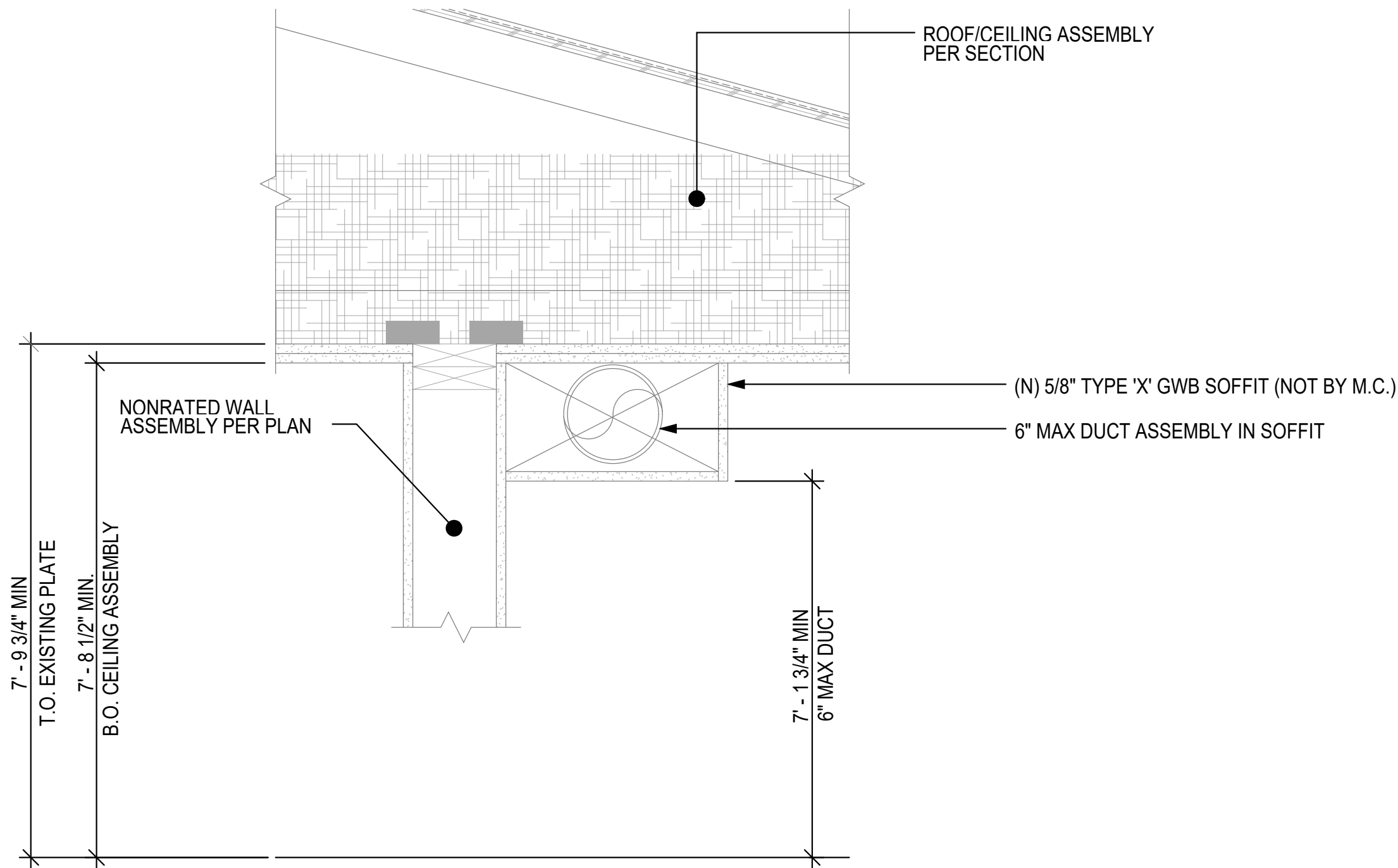


**2**  
**M301** **N.T.S.** **SIDEWALL SUPPLY GRILLE**

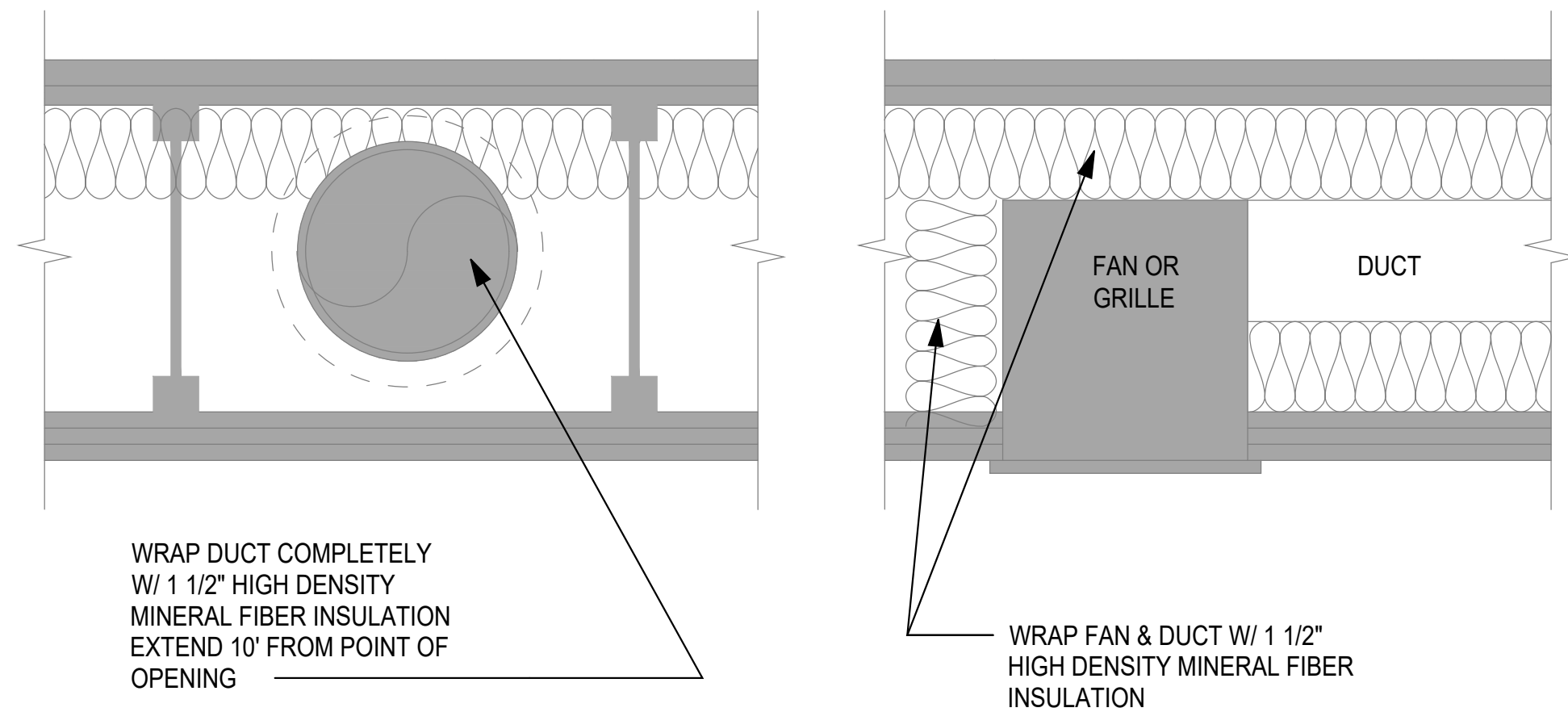


(REFERENCE SHEET A-SHEETS FOR ADDITIONAL DETAILS)  
(SEE MECH. PLAN SHEETS FOR ADDITIONAL DETAILS)

**3**  
**M301** **N.T.S.** **WALL CAP DETAIL**



**4**  
**M301** **N.T.S.** **SECTION - TOWNHOMES - HORIZONTAL DUCT IN SOFFIT @ TOP LEVEL**



NOTES:  
1. OPENINGS LIMITED TO 8" MAX IN DIAMETER  
2. DUCTS SHALL BE SECURED IN PLACE W/ METAL HANGERS  
3. DUCTS SHALL BE STEEL AND IC RATED

**5**  
**M301** **N.T.S.** **SECTION - HORIZONTAL DUCT W/ MINERAL FIBER IN FLOOR SPACE**



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13310 NE 133<sup>rd</sup> St.  
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CONTRACT #: TC2300131

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 9**  
BID SET



REVISIONS / NOTES  
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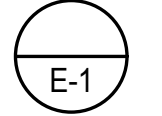
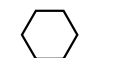


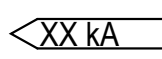
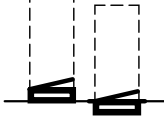





















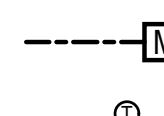



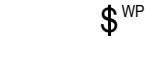
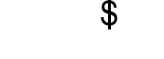
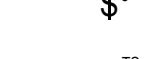







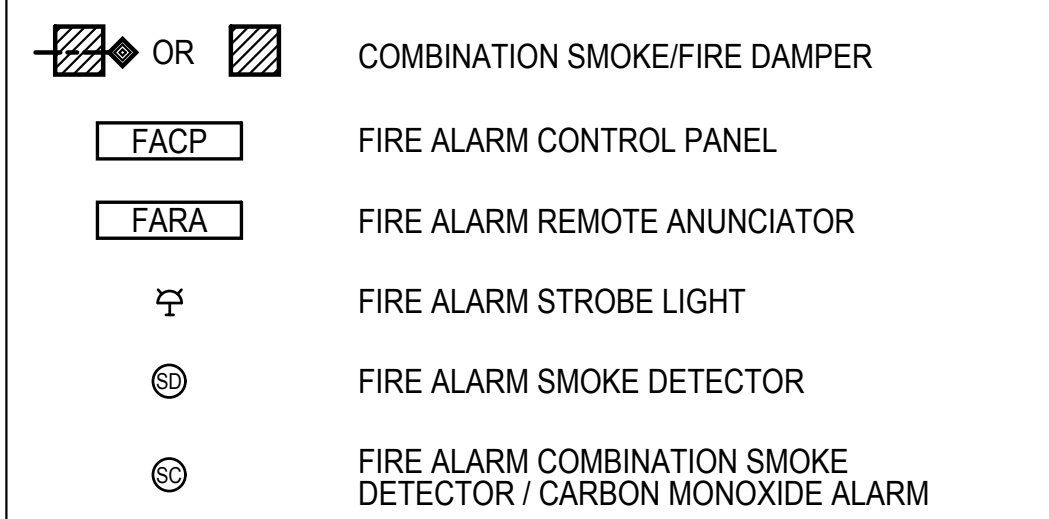
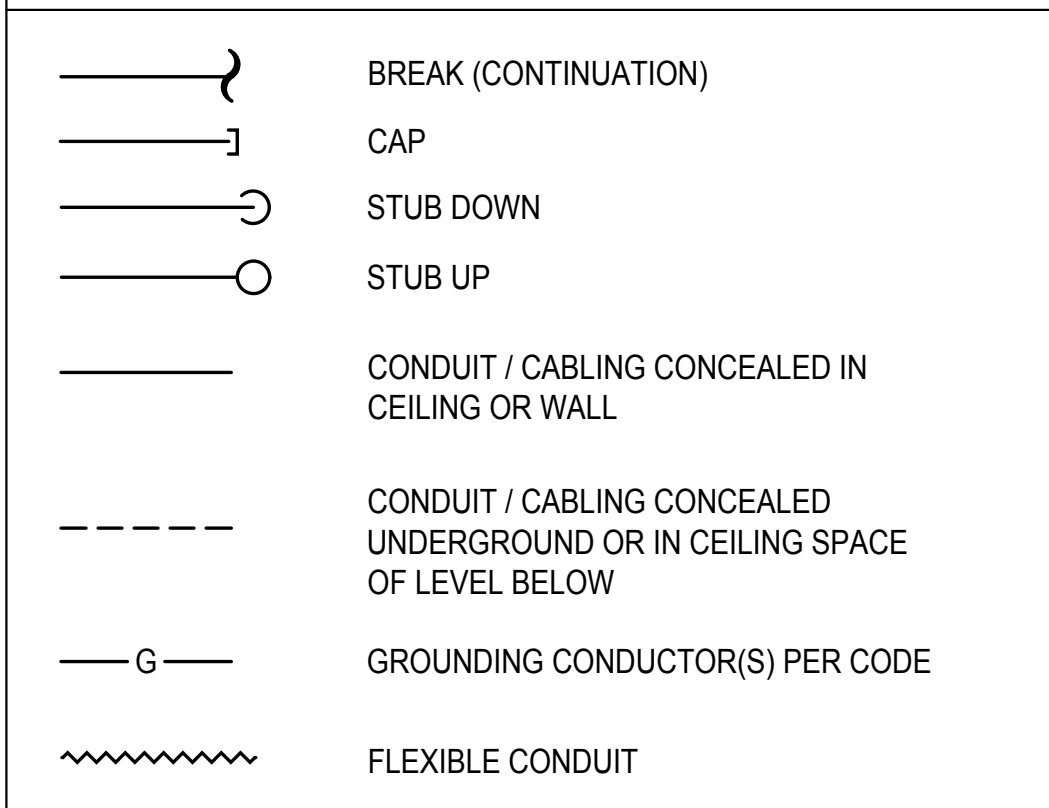
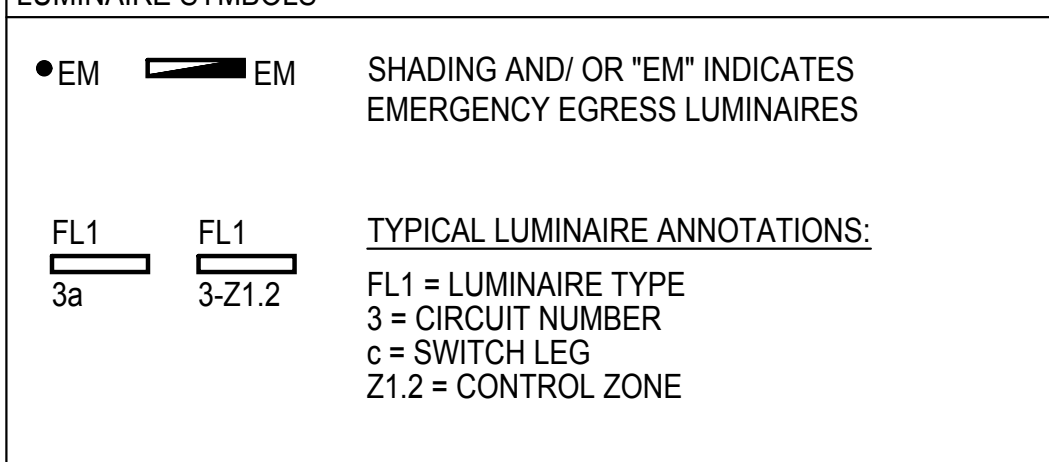
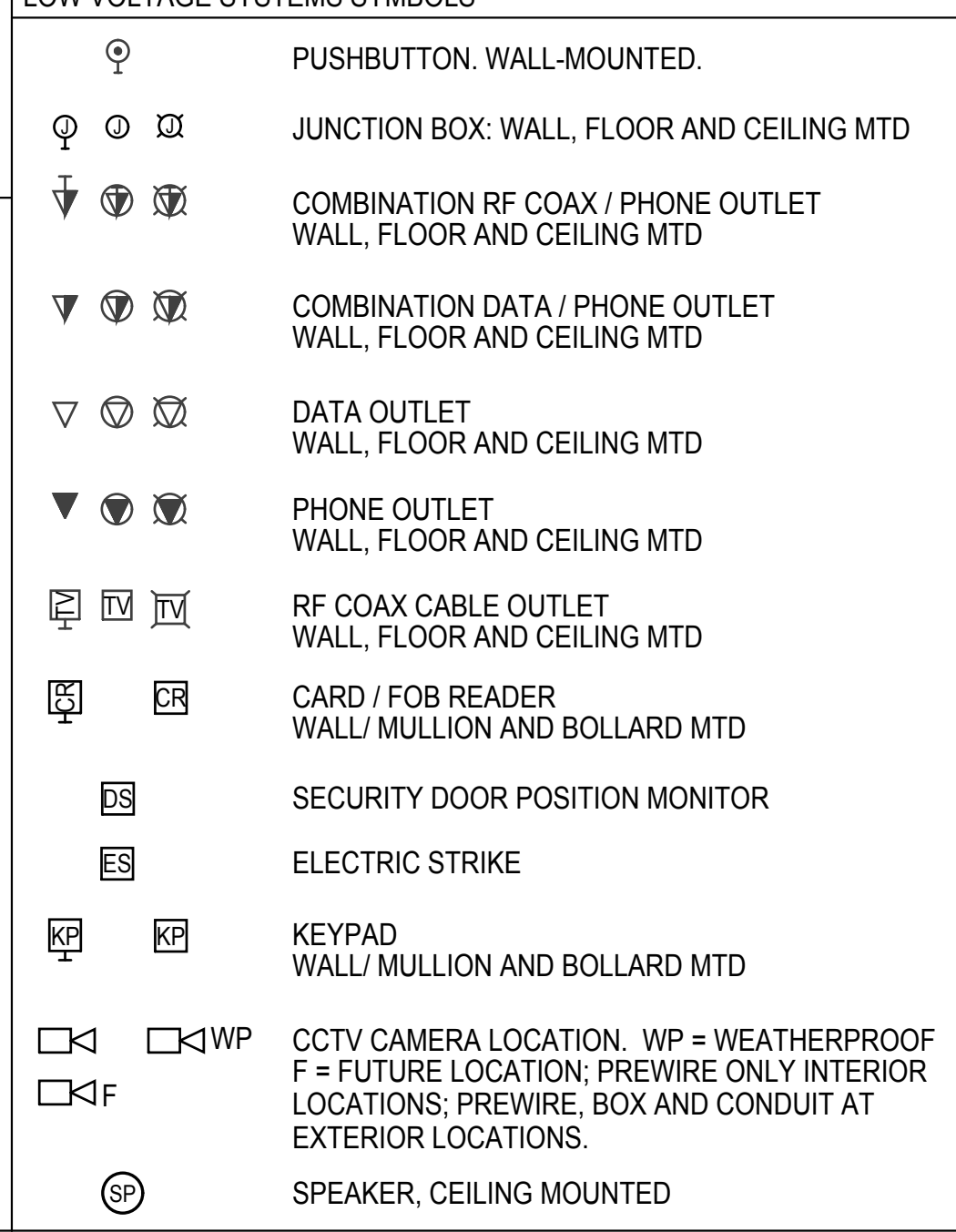
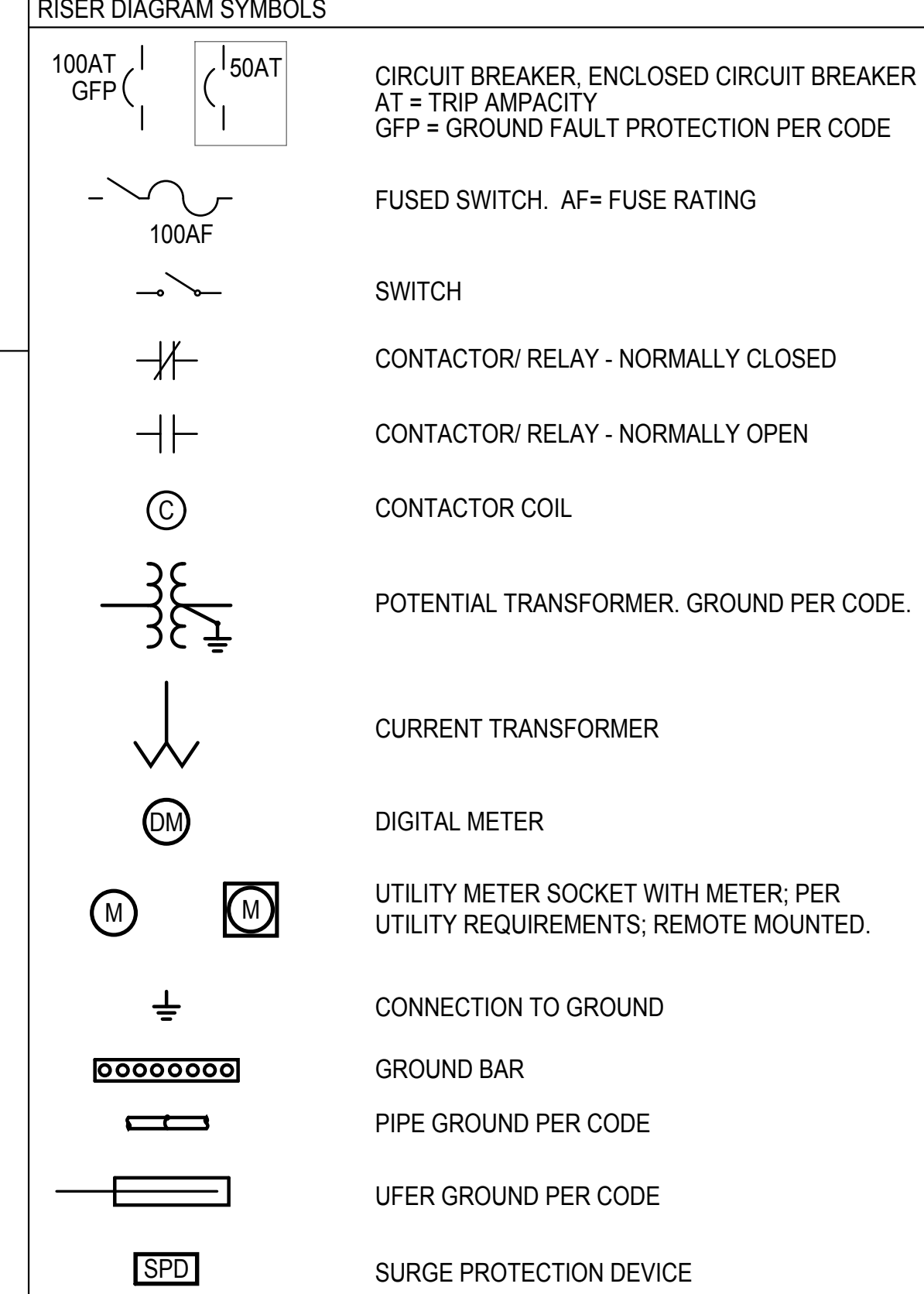
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**M9-301**



ELECTRICAL SYMBOLS LEGEND

REFERENCE SYMBOLS	POWER SYSTEMS SYMBOLS	CONTROL SYMBOLS
<div><div></div><div>DETAIL NUMBER SHEET</div></div> <div><div></div><div>FLAG NOTE</div></div> <div><div></div><div>REVISION TAG</div></div> <div><div></div><div>MECHANICAL EQUIPMENT</div></div> <div><div></div><div>FAULT CURRENT TAG</div></div>	<div><div></div><div>PANELBOARD: SURFACE, FLUSH MOUNTED. DASHED LINE = CLEARANCE (TYPICAL)</div></div> <div><div></div><div>ELECTRICAL DISTRIBUTION EQUIPMENT. SEE PLANS FOR TYPE, DIMENSIONS, NAME, ETC. DASHED LINE = CLEARANCE (TYPICAL)</div></div> <div><div></div><div>CONNECTION TO EQUIPMENT BY OTHERS</div></div> <div><div></div><div>CONNECTION TO MOTOR</div></div> <div><div></div><div>DISCONNECT SWITCH, FUSED</div></div> <div><div></div><div>DISCONNECT SWITCH</div></div> <div><div></div><div>VARIABLE FREQUENCY DRIVE</div></div> <div><div></div><div>EMERGENCY POWER OFF BUTTON</div></div> <div><div></div><div>GROUND BAR</div></div> <div><div></div><div>GROUND ROD</div></div> <div><div></div><div>JUNCTION BOX: WALL, FLOOR AND CEILING MTD</div></div> <div><div></div><div>RECEPTACLE, DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED</div></div> <div><div></div><div>RECEPTACLE, DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE</div></div> <div><div></div><div>RECEPTACLE, DOUBLE DUPLEX: WALL, FLOOR AND CLG MTD; PARALLEL SHADED = HALF-SWITCHED</div></div> <div><div></div><div>RECEPTACLE, DOUBLE DUPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE</div></div> <div><div></div><div>RECEPTACLE, SIMPLEX: WALL, FLOOR AND CLG MTD</div></div> <div><div></div><div>RECEPTACLE, SIMPLEX: WALL MTD ABOVE BACKSPLASH, GFCI-TYPE</div></div> <div><div></div><div>SPECIALTY RECEPTACLE: WALL, FLOOR AND CLG MTD. NEMA TYPE AS INDICATED ON PLANS.</div></div> <div><div></div><div>TYPICAL DEVICE ANNOTATIONS: ON ALTERNATE POWER: 700, 701 AND 702 SYSTEMS PER NEC</div></div> <div><div></div><div>WEATHERPROOF</div></div> <div><div></div><div>GFCI TYPE</div></div> <div><div></div><div>FULLY CONTROLLED (NOT HALF-SWITCHED)</div></div>	<div><div></div><div>MOTORIZED CONTROL DAMPER</div></div> <div><div></div><div>THERMOSTAT</div></div> <div><div></div><div>WALL SWITCH / LOW VOLTAGE WALL STATION. SUPERScript INDICATES SWITCH TYPE (BELOW). SUBSCRIPT INDICATES SWITCH LEGS / 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).</div></div> <div><div></div><div>WEATHERPROOF, TYPICAL</div></div> <div><div></div><div>WALL SWITCH, LINE VOLTAGE, 1-POLE</div></div> <div><div></div><div>WALL SWITCH, LINE VOLTAGE, 3-WAY</div></div> <div><div></div><div>WALL SWITCH, LINE VOLTAGE, TIMER SWITCH</div></div> <div><div></div><div>LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF</div></div> <div><div></div><div>LOW VOLTAGE WALL STATION, 1-POLE, ON/OFF AND RAISE/LOWER</div></div> <div><div></div><div>LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF</div></div> <div><div></div><div>LOW VOLTAGE WALL STATION, 2-POLE, ON/OFF AND RAISE/LOWER</div></div> <div><div></div><div>COMBINATION OCCUPANCY SENSOR SWITCH, WALL-MOUNTED</div></div> <div><div></div><div>OCCUPANCY SENSOR: WALL, CLG MTD</div></div> <div><div></div><div>PHOTO CELL, CLG MTD</div></div> <div><div></div><div>COMBINATION PHOTO CELL / OCCUPANCY SENSOR: WALL, CLG MTD</div></div>
<div><div></div><div>FIRE ALARM SYMBOLS</div></div> <div><div></div><div>WIRING SYMBOLS</div></div> <div><div></div><div>LUMINAIRE SYMBOLS</div></div>	<div><div></div><div>LOW VOLTAGE SYSTEMS SYMBOLS</div></div>	<div><div></div><div>RISER DIAGRAM SYMBOLS</div></div>

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



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KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
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BUILDING 1  
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E1-001



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 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/ INFRASTRUCTURE 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. THE ALERTING SYSTEM AND RADIO SYSTEM ARE TO BE MODIFIED BY VENDORS HIRED BY THE OWNER.
5. ALL OTHER LOW VOLTAGE SYSTEMS (CATV, TELECOM, CCTV, ACCESS CONTROL, ETC) ARE TO BE MODIFIED BY A LOW VOLTAGE DESIGN-BUILD CONTRACTOR HIRED BY THE ELECTRICAL CONTRACTOR.
6. 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.
7. 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.
8. 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.
9. 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 R405.
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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New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 1  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

DPD STAMP

TITLE  
PROJECT NOTES

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

E1-002



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WET) 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	#20
550.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 300 KCMIL N	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#10
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
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#6
80.3	(1) 1.5-INCH	CU	(3) #2	#6
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#6
80.3	(1) 1.5-INCH	CU	(3) #3	#6
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#6
70.3	(1) 1-INCH	CU	(3) #4	#6
60.4	(1) 1-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
60.1	(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
50.1	(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
40.1	(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
30.1	(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
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES:

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

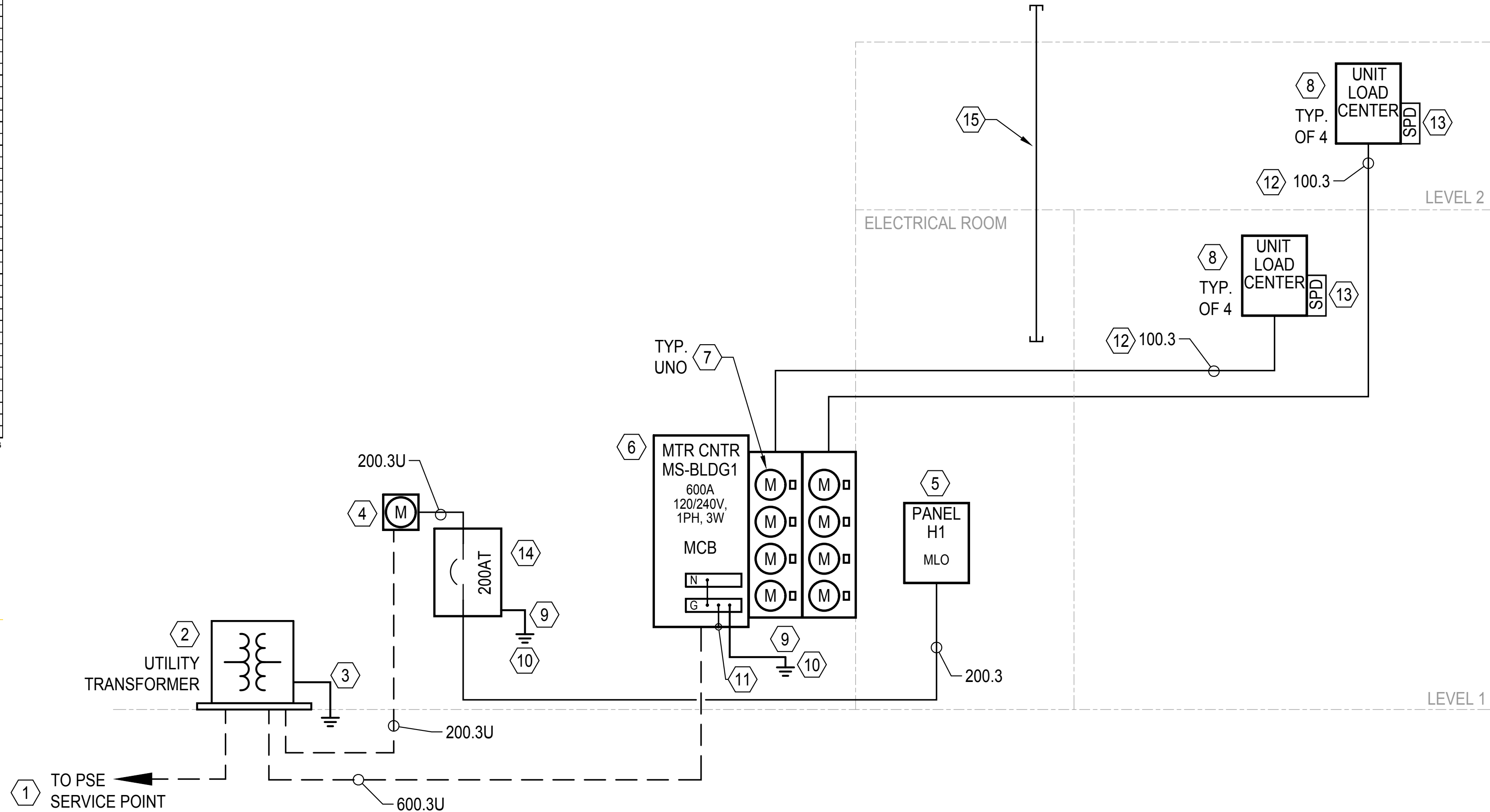
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F). AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 90-DEGREES C (194-DEGREES F).

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.



## SINGLE LINE DIAGRAM

SCALE:NTS

## LOAD CALCULATIONS - BLDG 1

UNIT TYPE: 2BR - 2.1		AREA (SF): 782	4/6/2023
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 [220.63]:			
REFRIGERATOR	1 AT	0.70 kVA	
RANGE HOOD	1 AT	0.30 kVA	
MICROWAVE	AT	0.00 kVA	
DISHWASHER	AT	0.00 kVA	
WASHER	1 AT	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]:			
TOILET EXHAUST FAN	AT	0.00 kVA	
ERV UNIT	1 AT	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]:			
CLOTHES DRYER [220.54]	1 AT	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	8.80 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): 908	4/6/2023
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 [220.63]:			
REFRIGERATOR	1 AT	0.70 kVA	
RANGE HOOD	1 AT	0.30 kVA	
MICROWAVE	AT	0.00 kVA	
DISHWASHER	AT	0.00 kVA	
WASHER	1 AT	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]:			
TOILET EXHAUST FAN	AT	0.00 kVA	
ERV UNIT	1 AT	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]:			
CLOTHES DRYER [220.54]	1 AT	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	8.80 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	4/6/2023
DEMAND LOAD (KVA): 95.86 =>		399.4 AMPS AT 240 V 1 PH	
UNIT TYPE		QTY ON METER STACK	GEN LTG LOAD (KVA)
2BR - 2.1	4	27.38	8.80
3BR - 3.1	4	28.97	8.80
0	0	0.00	0.00
TOTALS:	8	56.26	17.60
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)		4/6/2023
PRELIMINARY LOAD CALCULATIONS		
RESIDENTIAL SERVICE:		
RESIDENTIAL UNITS (QTY = 8):		95.86 kVA
(SEE ATTACHED CALC)		
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 RMIS):		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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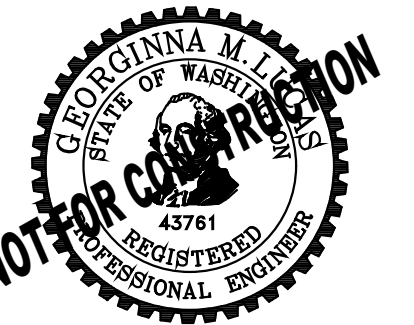
New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

## BUILDING 1

BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

## SINGLE LINE DIAGRAM AND LOAD CALCS

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

# E1-003



FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT (#SETS) SIZE	AL OR CU	PHASE / NEUTRAL (N) QTY SIZE	CONDUCTORS PER SET (1 PER SET UNO)	GROUND NOTE #1
500.3U	(2) 4-INCH	AL	(3) 500 KCMIL	#1	#10
500.3	(2) 4-INCH	AL	(3) 500 KCMIL	#1	#10
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#1	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1	#10
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	#1	#10
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1	#10
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1	#10
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1	#10
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2	#10
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2	#10
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2	#10
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2	#10
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2	#10
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2	#10
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#2	#10
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	#2	#10
175.4	(1) 3-INCH	AL	(3) #40 / (1) #40 N	#4	#10
175.3	(1) 3-INCH	AL	(3) #40	#4	#10
150.4	(1) 2-INCH	AL	(3) #30 / (1) #30 N	#4	#10
150.3	(1) 2-INCH	AL	(3) #30	#4	#10
125.4	(1) 2-INCH	AL	(3) #20 / (1) #20 N	#4	#10
100.4	(1) 2-INCH	AL	(3) #10 / (1) #10 N	#5	#10
100.3	(1) 2-INCH	AL	(3) #10	#5	#10
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5	#10
90.3	(1) 1.5-INCH	CU	(3) #2	#5	#10
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5	#10
80.3	(1) 1.5-INCH	CU	(3) #3	#5	#10
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5	#10
70.3	(1) 1.5-INCH	CU	(3) #4	#5	#10
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N	#10	#10
60.3	(1) 1-INCH	CU	(3) #4	#10	#10
60.2U	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10	#10
60.2	(1) 1-INCH	CU	(2) #4	#10	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10	#10
50.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10	#10
50.3	(1) 1-INCH	CU	(3) #5	#10	#10
50.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10	#10
50.2	(1) 1-INCH	CU	(2) #5	#10	#10
50.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	#10	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10	#10
40.3	(1) 1-INCH	CU	(3) #5	#10	#10
40.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10	#10
40.2	(1) 1-INCH	CU	(2) #5	#10	#10
40.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	#10	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10	#10
30.3	(1) 1-INCH	CU	(3) #10	#10	#10
30.2U	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10	#10
30.2	(1) 1-INCH	CU	(2) #10	#10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12	#12
20.3	(1) 1-INCH	CU	(3) #12	#12	#12
20.2U	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12	#12
20.2	(1) 1-INCH	CU	(2) #12	#12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12	#12

- GENERAL SCHEDULE NOTES:**
- AL= ALUMINUM (STABILTY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THW INSULATION)
  - 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).
  - PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
  - SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

- SPECIFIC SCHEDULE NOTES:**
- 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	#4 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055	
	3	0.36	335	565	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	
	4	0.42	380	645	995	1595	
	6	0.63	440	730	1125	1780	
	8	1.25	290	495	750	1185	
208V / 1-PHASE	3	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	
	2	0.72	1000	1695	2600	4120	
	4	1.44	500	845	1300	2080	
	6	2.16	335	565	865	1370	
208V / 3-PHASE	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	250	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:**
- CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
  - 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											
NORMAL POWER			VOLTAGE			120 / 240 V			1-PHASE, 3-WIRE		
AC, SEE SINGLE LINE DIAGRAM			M.O. OVERCURRENT RATING			100 AMPS			SURFACE MOUNTED		
CKT #	DESCRIPTION	CONN. LOAD TYPE	KVA	CKT TAG	CB	AMPS/PH	PH	AMPS/PH	CKT TAG	CB	AMPS/PH
1	TO: BREAKDOWN	L	0.15	20.1	A	20	/ 1	20.1	N	0.04	TO TIME CLOCK
3	SPARE		0.00	20	/ 1	B	30	/ 1	20.1	N	0.04
5	RECEPT-LV-1 BASED SWAY	R	0.26	20.1	A	20	/ 1	A	20	/ 1	0.04
7	RECEPT-LV-2 BASED SWAY	R	0.26	20.1	A	20	/ 1	B	20	/ 1	0.04
9	SPARE		0.00	20	/ 1	A	20	/ 1	20.1	R	0.72
11	TO: ELECT. MECH. CLOSERS	L	0.32	20.1	A	20	/ 1	B	20	/ 1	0.04
13	ELECT. HEATER, FIRE SPRINKLER	L	1.60	20.1	A	20	/ 1	A	20	/ 1	0.04
15	EXHAUST FAN, E-1 & M200 DAMPER	M	0.24	20.1	A	20	/ 1	B	20	/ 1	0.72
17	SPARE		0.00	20	/ 1	A	15	/ 2	20.2N	C	1.72
19	SPARE		0.00	20	/ 1	B					
21	HEAT TRACE - WATER CONNECTION	L	0.24	20.1	A	15	/ 2	20.2N	C	1.72	HEATPUMP WATER-HTR, WA-2
23	TO: SITE POLES	L	0.24	20.1	A	20	/ 1	B			
25	SPARE		0.00	20	/ 1	A	20	/ 1	A	20	/ 1
27	SPARE		0.00	20	/ 1	B					
29	SPACE ONLY										
31	SPACE ONLY										
33	SPACE ONLY										
35	SPACE ONLY										
37	SPACE ONLY										
39	SPACE ONLY										
41	SPACE ONLY										

LOAD CENTER - 2 BEDROOM											
NORMAL POWER			VOLTAGE			120 / 240 V			1-PHASE, 3-WIRE, FLUSH MOUNTED		
AC, SEE SINGLE LINE DIAGRAM (BUS RATING)			M.O. OVERCURRENT RATING			100 AMPS			M.O. OVERCURRENT RATING		
CKT #	DESCRIPTION	CONN. LOAD TYPE	KVA	CKT TAG	CB	AMPS/PH	PH	AMPS/PH	CKT TAG	CB	AMPS/PH
1	BATHROOMS (1)		20.1	20	/ 1	A	20	/ 2	60.2N	RANGE	2
3	GEN/LTS RECEPTS (1)		20.1	20	/ 1	B					
5	RECEPTS (1)		20.1	20	/ 1	A	20	/ 2	60.2	HEAT - BEDROOMS	4
7	REFRIGERATOR EXHAUST HOOD (1)		20.1	20	/ 1	B					
9	GENERAL KITCHEN APPLIANCE (1)		20.1	20	/ 1	A	20	/ 2	60.2	HEAT - LIVING ROOM	8
11	GENERAL KITCHEN APPLIANCE (1)		20.1	20	/ 1	A	20	/ 2	60.2	HEAT - LIVING ROOM	10
13	BEDROOM 1 RECEPTS L.TS. (1)		20.1	20	/ 1	A	20	/ 2	60.2	DRYER (1)	14
15	BEDROOM 2 RECEPTS L.TS. (1)		20.1	20	/ 1	B					
17	WED RECEPT - AD UNIT BY TENANT		20.1	20	/ 1	A	20	/ 1	20.1	WASHER (2)	16
19						B					
21	SURGE PROTECTION DEVICE		20	/ 2	A						
23						B					

LOAD CENTER - 3 BEDROOM												
NORMAL POWER			VOLTAGE			120 / 240 V			FED FROM: METER STACKS LOCATION: DWELLING UNITS			
AC, SEE SINGLE LINE DIAGRAM (BUS RATING)			M.O. OVERCURRENT RATING			100 AMPS			1-PHASE, 3-WIRE, FLUSH MOUNTED M.O. OVERCURRENT RATING: 100 AMPS			
CKT #	DESCRIPTION	CONN. LOAD TYPE	KVA	CKT TAG	CB	AMPS/PH	PH	AMPS/PH	CKT TAG	CB	DESCRIPTION	CKT #
1	BATHROOMS (1)		20.1	20	/ 1	A	20	/ 2	60.2N	RANGE	2	1
3	GEN/LTS RECEPTS (1)		20.1	20	/ 1	B					4	3
5	RECEPTS (1)		20.1	20	/ 1	A	20	/ 2	60.2	HEAT - BEDROOMS	8	5
7	REFRIGERATOR EXHAUST HOOD (1)		20.1	20	/ 1	B					9	7
9	GENERAL KITCHEN APPLIANCE (1)		20.1	20	/ 1	A	20	/ 2	60.2	HEAT - LIVING ROOM	12	9
11	GENERAL KITCHEN APPLIANCE (1)		20.1	20	/ 1	B					13	11
13	BEDROOM 1 RECEPTS L.TS. (1)		20.1	20	/ 1	A	20	/ 2	60.2	DRYER (1)	16	13
15	BEDROOM 2 RECEPTS L.TS. (1)		20.1	20	/ 1	A	20	/ 2	60.2	DRYER (1)	18	15
17	BEDROOM 3 RECEPTS L.TS. (1)		20.1	20	/ 1	A	20	/ 2	60.2	WASHER (2)	20	17
19			20.1	20	/ 1	B					21	19
21	SURGE PROTECTION DEVICE		20	2	/ 2	A	20	/ 1	60.2	DED RECEPT AC UNIT (BY TENANT)	23	21
23			20	2	/ 2	B					25	23

NOTES:

- SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUIT INFORMATION PER CIRCUIT TAG.

CIRCUIT NOTES (U):

- PROVIDE COMBO AIR-FAIL CIRCUIT INTERRUPTER BREAKER
- PROVIDE COMBO AIR-FAIL CIRCUIT INTERRUPTER BREAKER WITH AIR-FAIL CIRCUIT INTERRUPTER BREAKER
- PROVIDE COMBO AIR-FAIL CIRCUIT INTERRUPTER BREAKER



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

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

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 1  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

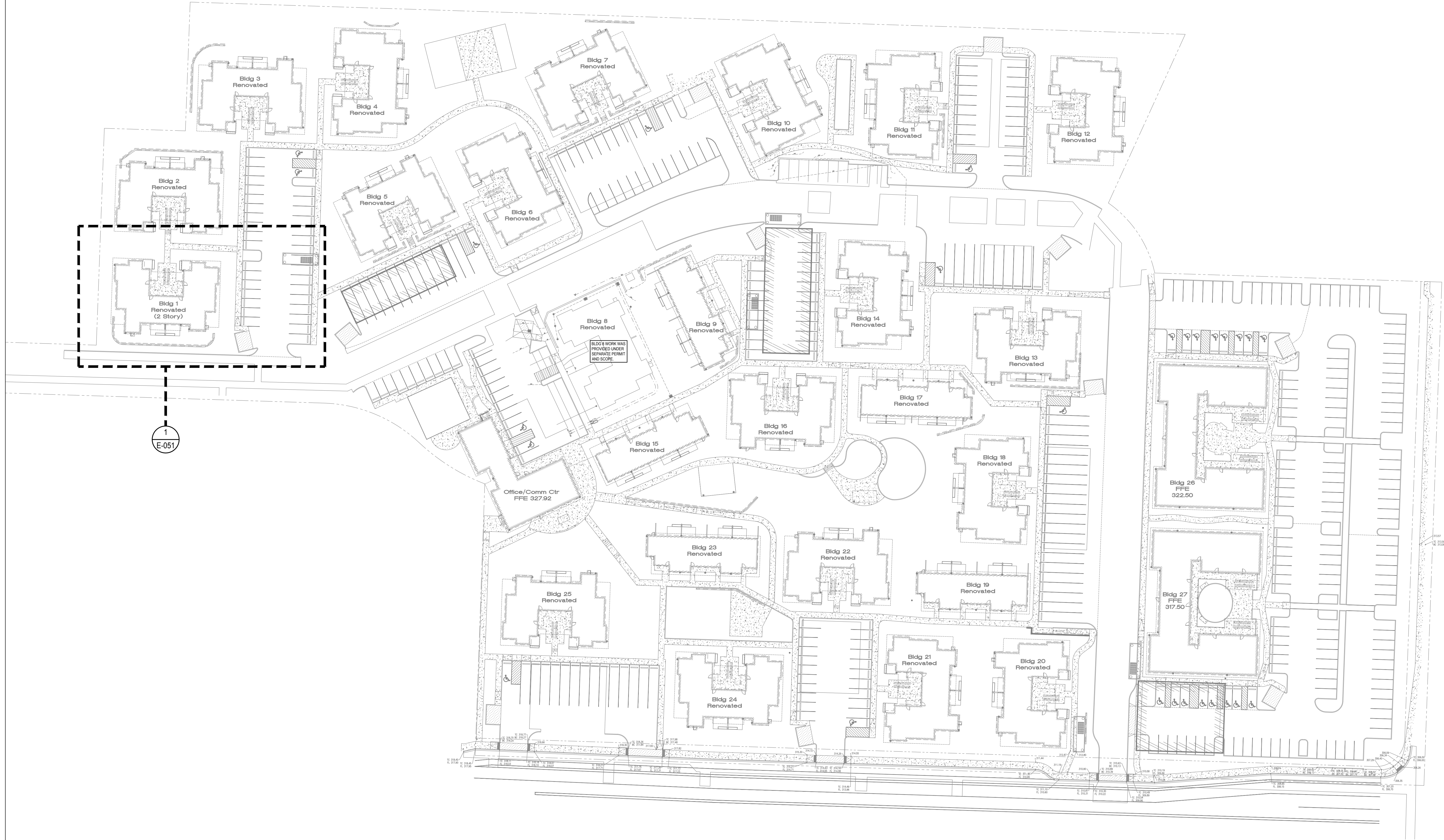
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LUMINAIRE  
SCHEDULE

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

E1-005



10/7/2021 1:33:34 AM



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

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 1 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

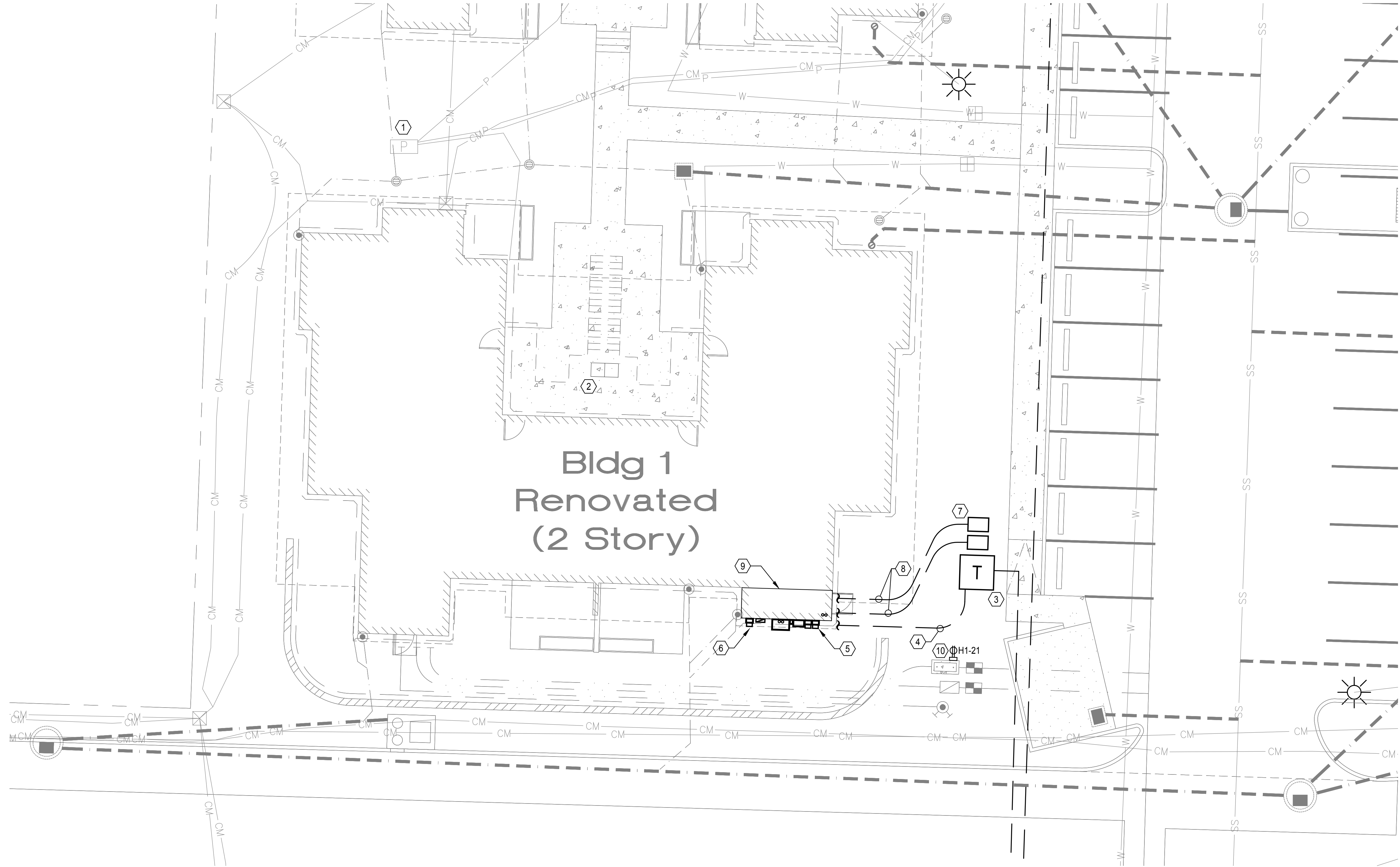
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TITLE  
OVERALL  
PROJECT SITE  
PLAN

PERMIT #  
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SHEET NO.:

E1-050





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

**FLAG NOTES (X):**

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

**GENERAL NOTES:**

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 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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**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 1  
BID SET**



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

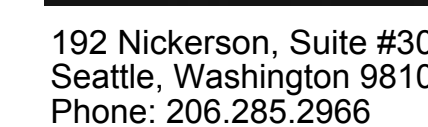
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**ELECTRICAL  
SITE PLAN -  
BUILDING 1**

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DRAWN	RA, JF
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ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

**E1-051**





PH: 206.623.1104  
FX: 206.623.5285



BUILDING 1  
BID SET



REVISIONS / NOTES		
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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.

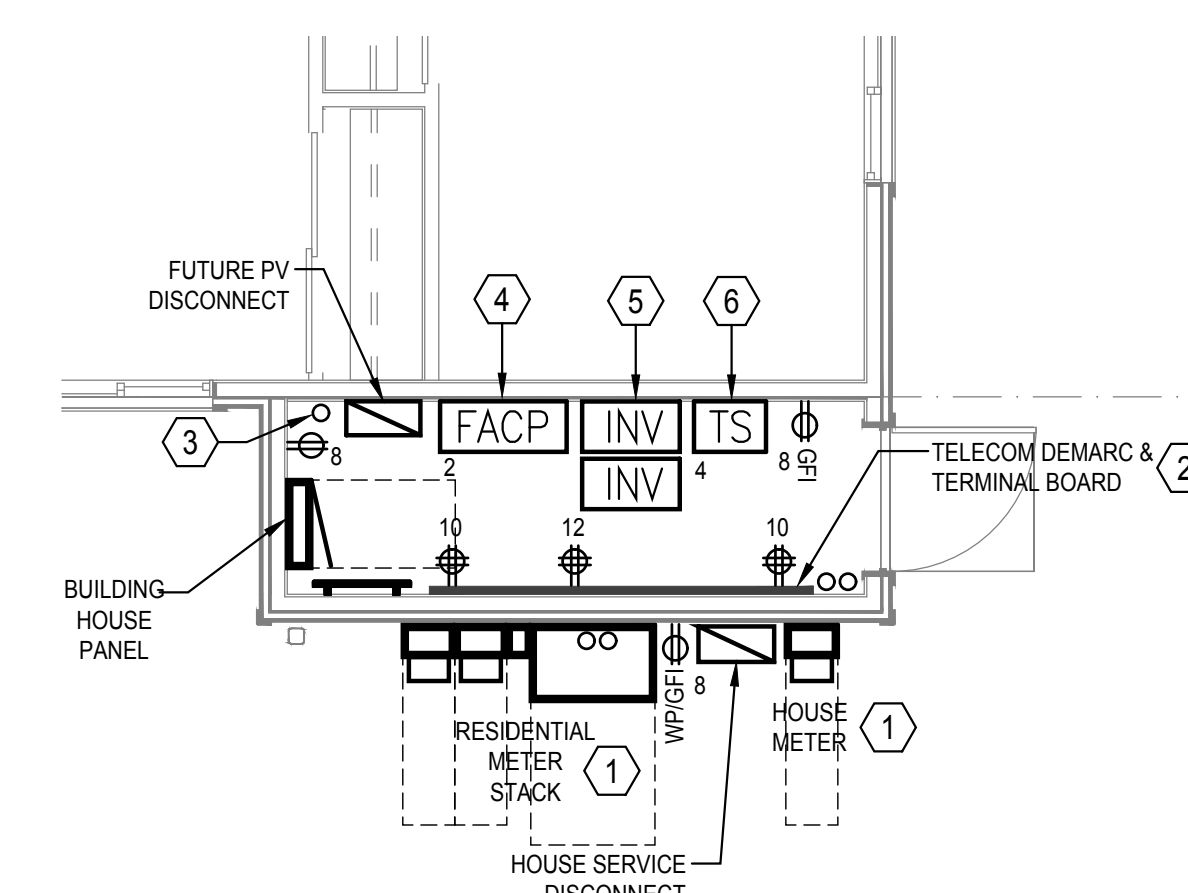
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

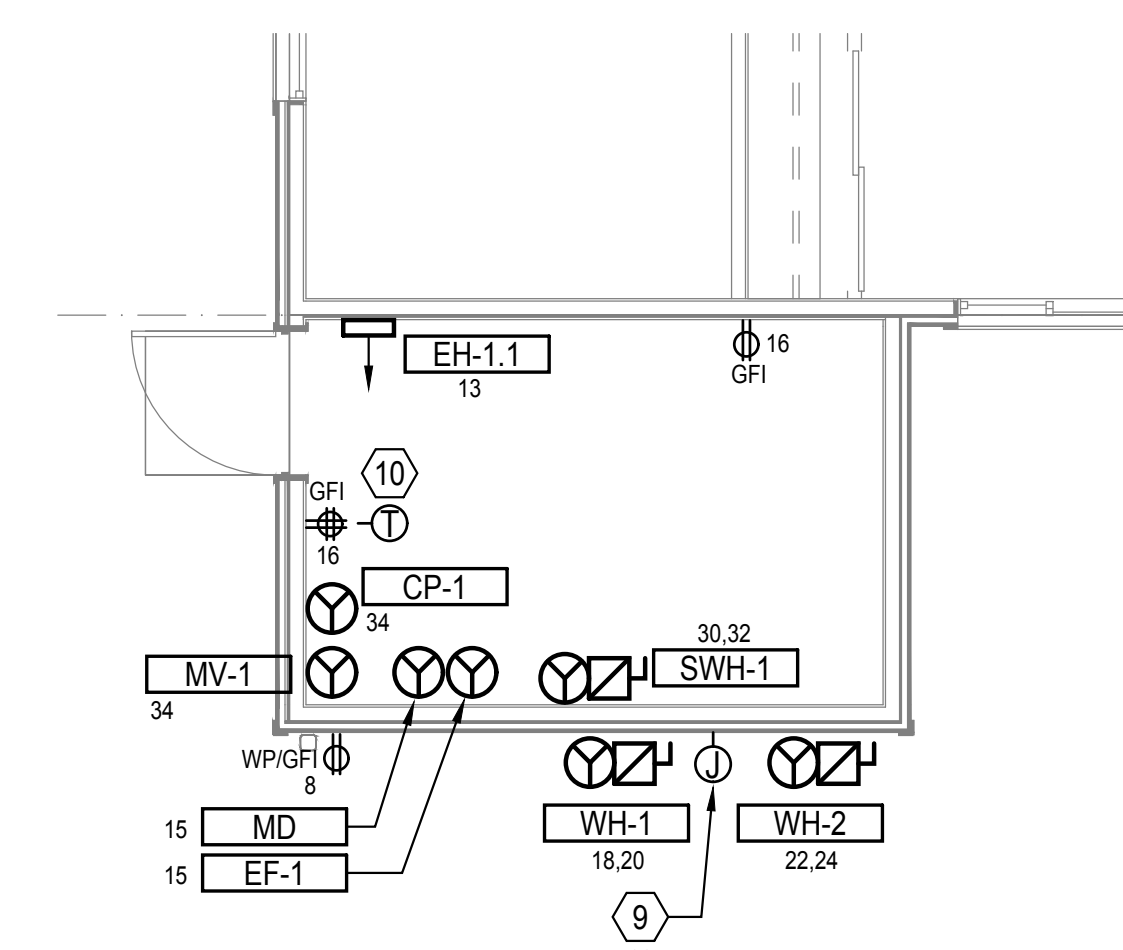
- GENERAL:**
- A. PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.**
  - B. INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE PURPOSES. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.**
  - 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 CEILING AND WALLS FOR REVISION BY THE DESIGN TEAM.**

**FLAG NOTES** :

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 (CONFORM WITH ARCHITECT). AC GROUND SHEETS 4"X4" 8FT X 34-INCH. TOP OF SHEETS TO BE 8'-6" AFF. ALL EDGES TO BE SMOOTH SPUNTER-GRIND. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
3. PROVIDE HOMERUNS FROM THE DEMARC LOCATION TO THE UNITS MEDIA CENTER. SEE ENLARGED UNIT PLANS FOR LOCATIONS.
4. PROVIDE (1) 220V 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 # NW-220/PB-S-SD
5. 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 BURGULTRY UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMING WITH OWNER.
6. LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
7. FIRE ALARM WIRING CONNECTION TO KNOX BOX. PROVIDE JUNCTION BOX AND FIRE ALARM TO LOCATIONS SHOWN. FIRE ALARM SUB CONTRACTOR TO PROVIDE CONNECTIONS AS REQUIRED. VERIFY EXACT LOCATION, DEVICE SPECS AND ADDITIONAL REQUIREMENTS WITH KIRKLAND FIRE DEPARTMENT PRIOR TO ROUGH-IN.
8. HEAT RACE TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR ON ALL EXPOSED WATER PIPE ENTERING AND EXITING EACH HEAT PUMP WATER HEATER. ELECTRICAL CONTRACTOR TO COMPLETE COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE FINAL CONNECTIONS WITH PLUMBING LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
9. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



**ELECTRICAL ROOM**



3 WATER ROOM  
E1-101 1/4"=1'-0"

DPD STAMP

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TITLE

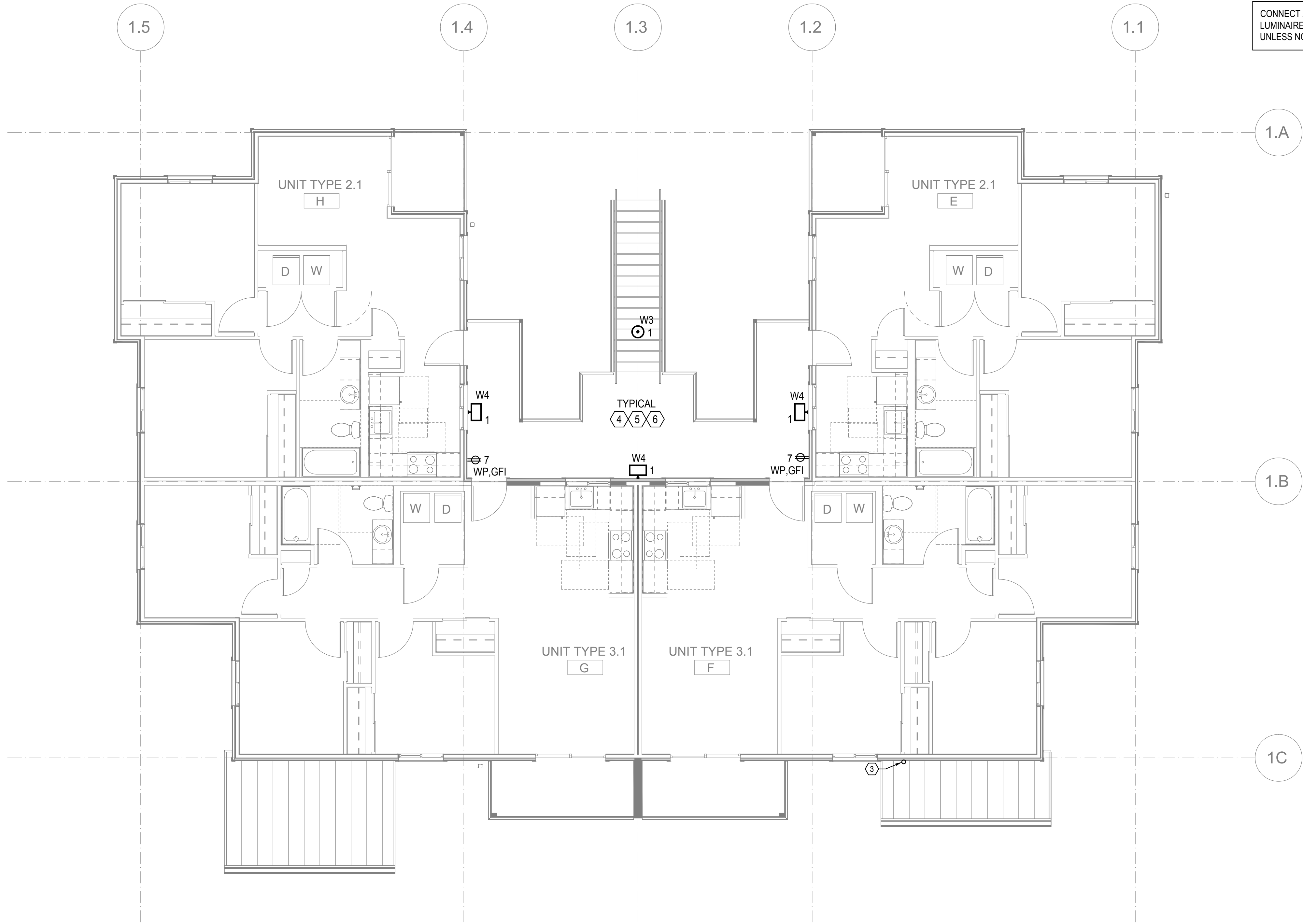
POWER AND  
LIGHTING  
PLAN -  
BUILDING 1 -  
LEVEL 1

PERMIT #	
DRAWN	RA, J
CHECKED	G
ISSUE DATE	4/14/202
JOB NO.	2201
SHEET NO.:	

E1-101



10/7/2021 1:33:34 AM



**POWER AND LIGHTING PLAN - BUILDING 1 - LEVEL 2**  
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:**

- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- NOT USED.
- NOT USED.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
- ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.



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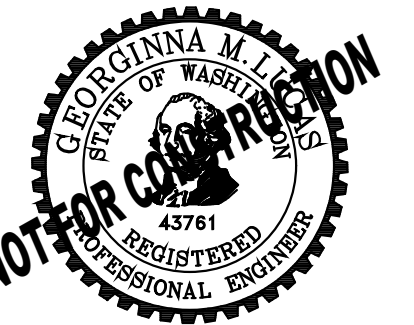


**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 1**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

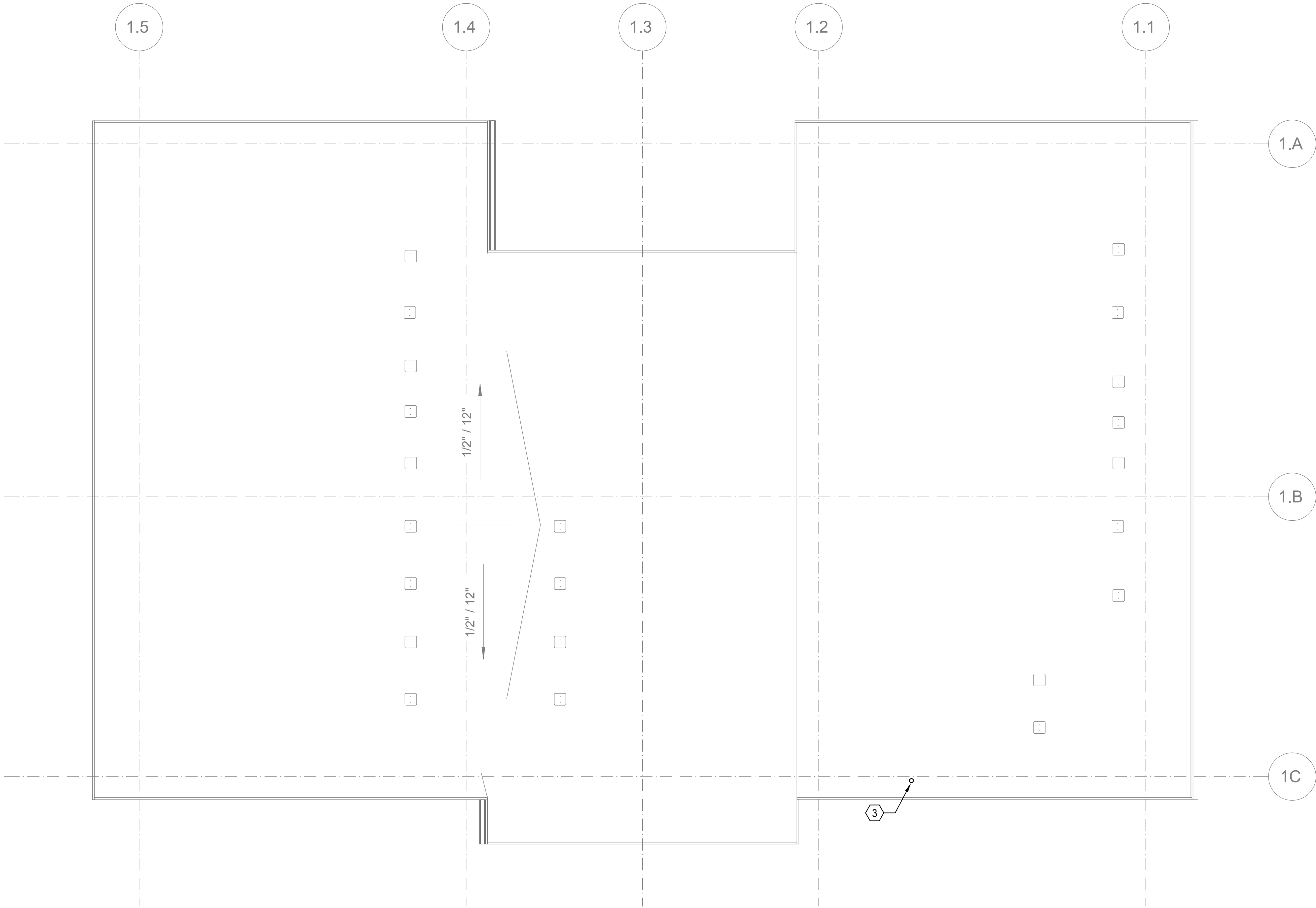
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TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 1 -  
LEVEL 2**

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

**E1-102**





**POWER PLAN - BUILDING 1 - 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 DRAWINGS 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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**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 1**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

DPD STAMP

TITLE  
**POWER PLAN -  
BUILDING 1 -  
ROOF**

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

SHEET NO.:

**E1-103**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WET) 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	#20
550.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 300 KCMIL N	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#10
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	#2
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
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#6
80.3	(1) 1.5-INCH	CU	(3) #2	#6
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#6
80.3	(1) 1.5-INCH	CU	(3) #3	#6
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#6
70.3	(1) 1-INCH	CU	(3) #4	#6
60.4	(1) 1-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
60.1	(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
50.1	(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
40.1	(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
30.1	(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
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES:

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

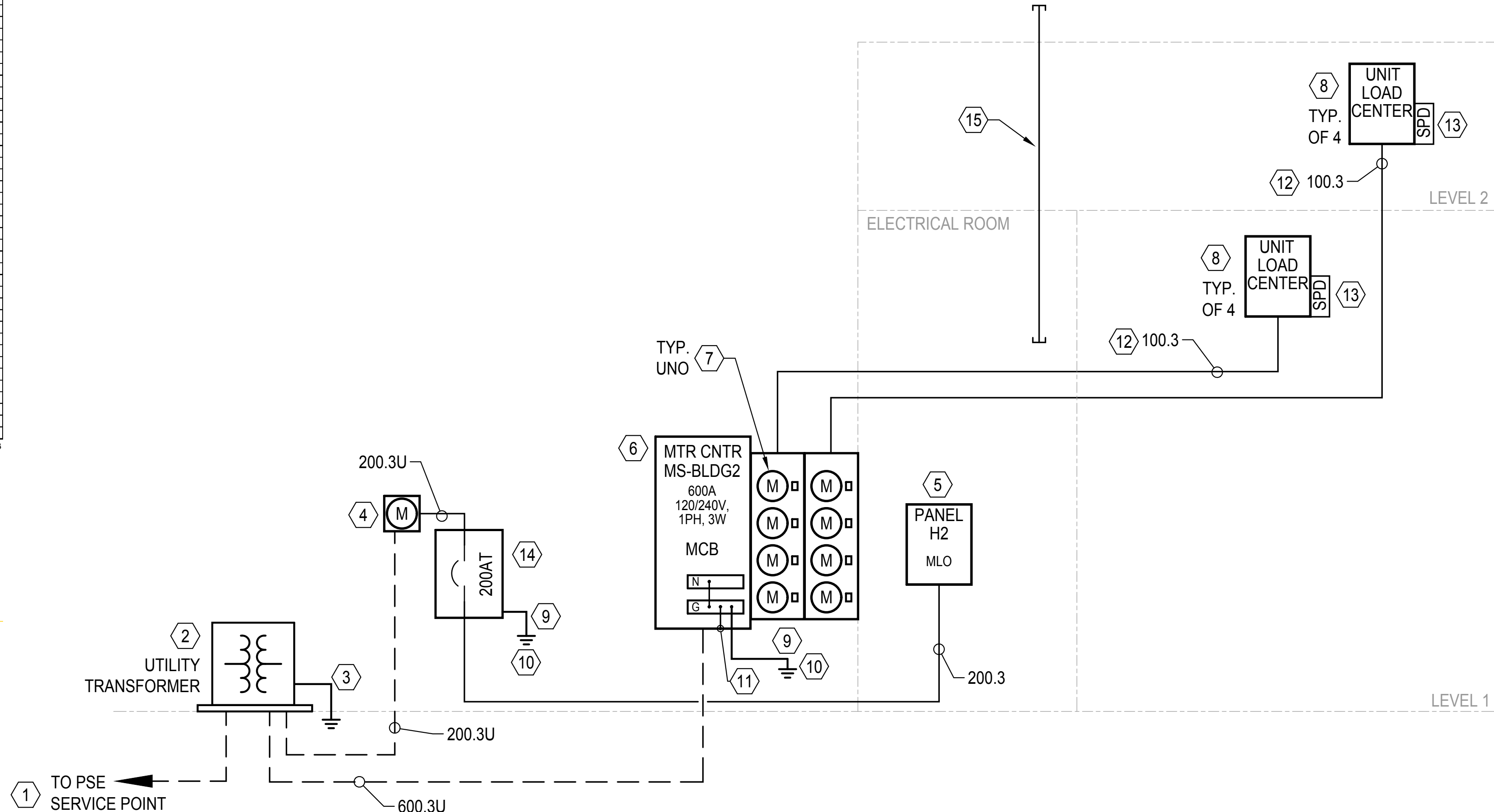
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F). AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 90-DEGREES C (194-DEGREES F).

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.



## SINGLE LINE DIAGRAM

SCALE:NTS

## LOAD CALCULATIONS - BLDG 2

UNIT TYPE: 2BR - 2.1	AREA (SF): 782	4/6/2023
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 [220.63]:		
REFRIGERATOR	1 AT	0.70 kVA
RANGE HOOD	1 AT	0.30 kVA
MICROWAVE	AT	0.00 kVA
DISHWASHER	AT	0.00 kVA
WASHER	1 AT	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]:		
TOILET EXHAUST FAN	AT	0.00 kVA
ERV UNIT	1 AT	0.11 kVA
KITCHEN EXHAUST FAN	AT	0.00 kVA
+25% OF LARGEST MOTOR	AT	0.03 kVA
GENERAL MOTOR LOAD - DEMAND = 0.14 kVA		
100% AC EQUIP [220.50] / SPACE HEATING [220.51]:		
CLOTHES DRYER [220.54]	1 AT	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	8.80 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): 908	4/6/2023
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 [220.63]:		
REFRIGERATOR	1 AT	0.70 kVA
RANGE HOOD	1 AT	0.30 kVA
MICROWAVE	AT	0.00 kVA
DISHWASHER	AT	0.00 kVA
WASHER	1 AT	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]:		
TOILET EXHAUST FAN	AT	0.00 kVA
ERV UNIT	1 AT	0.11 kVA
KITCHEN EXHAUST FAN	AT	0.00 kVA
+25% OF LARGEST MOTOR	AT	0.03 kVA
GENERAL MOTOR LOAD - DEMAND = 0.14 kVA		
100% AC EQUIP [220.50] / SPACE HEATING [220.51]:		
CLOTHES DRYER [220.54]	1 AT	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	8.80 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 4/6/2023											
DEMAND LOAD (KVA): 95.86 => 399.4 AMPS AT 240 V 1 PH											
COOKING APPLIANCES											
1.8< X < 3.6kW 3.6kW < X < 8.75kW 8.75kW < X < 12kW											
UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (KVA)	APPLIANCES LOAD (KVA)	MOTOR LOAD (KVA)	SPACE HEATING/ AC LOAD (KVA)	QTY	LOAD (KVA)	QTY	LOAD (KVA)	QTY	LOAD (KVA)
2BR - 2.1	4	27.38	8.80	0.44	15.64	4	22.00	0	0.00	4	35.20
3BR - 3.1	4	28.97	8.80	0.44	18.12	4	22.00	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	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)		4/6/2023
PRELIMINARY LOAD CALCULATIONS		
RESIDENTIAL SERVICE:		
RESIDENTIAL UNITS (QTY = 8):	95.86 kVA	
(SEE ATTACHED CALC)		
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 RMIS):	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		







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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

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

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 2  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

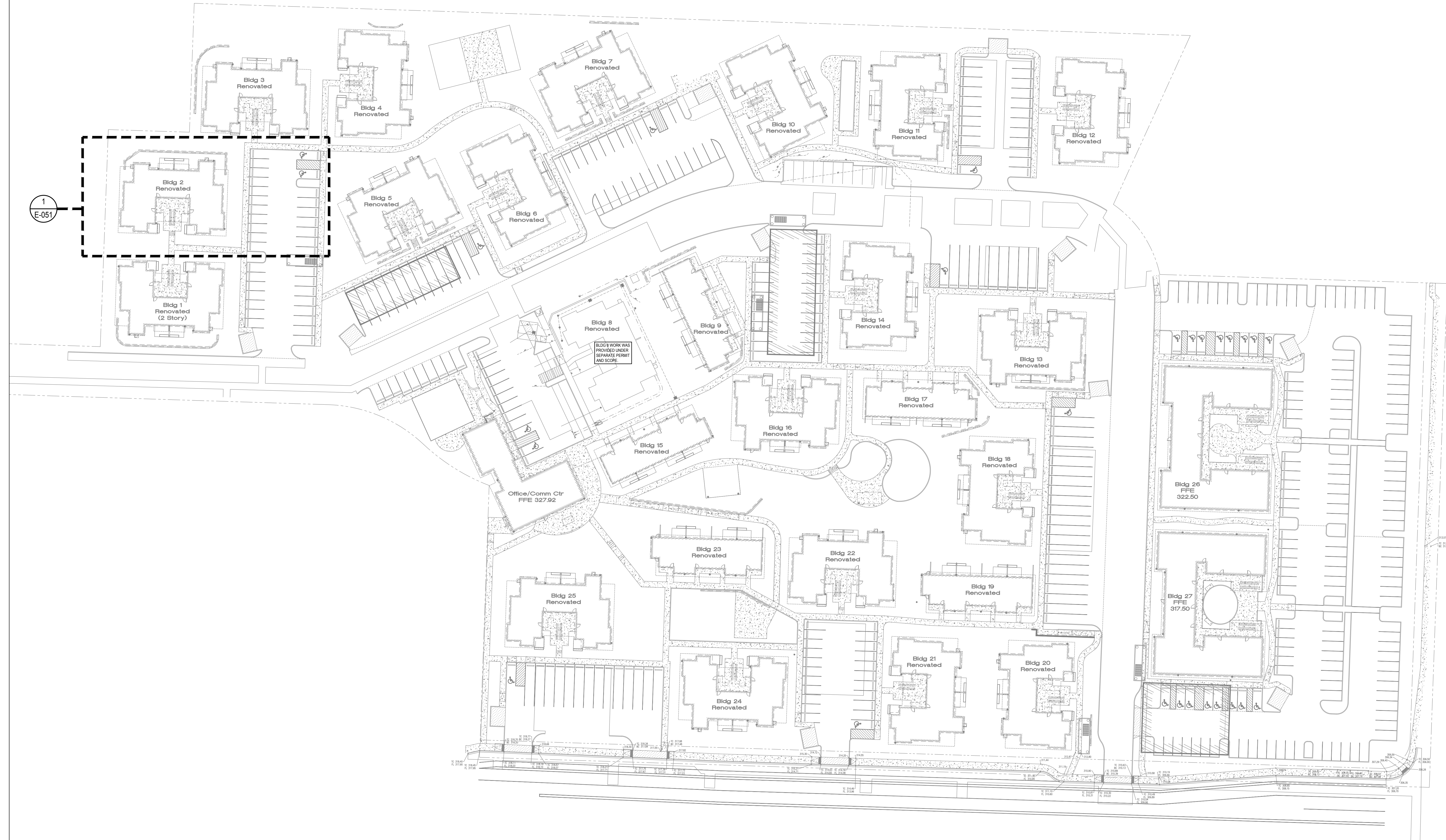
TITLE  
  
LUMINAIRE  
SCHEDULE

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

E2-005



10/7/2021 1:33:34 AM



# 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, WA 98034.  
CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 2 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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TITLE  
  
OVERALL  
PROJECT SITE  
PLAN

PERMIT #  
DRAWN RA, JF  
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.



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CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 2 BID SET



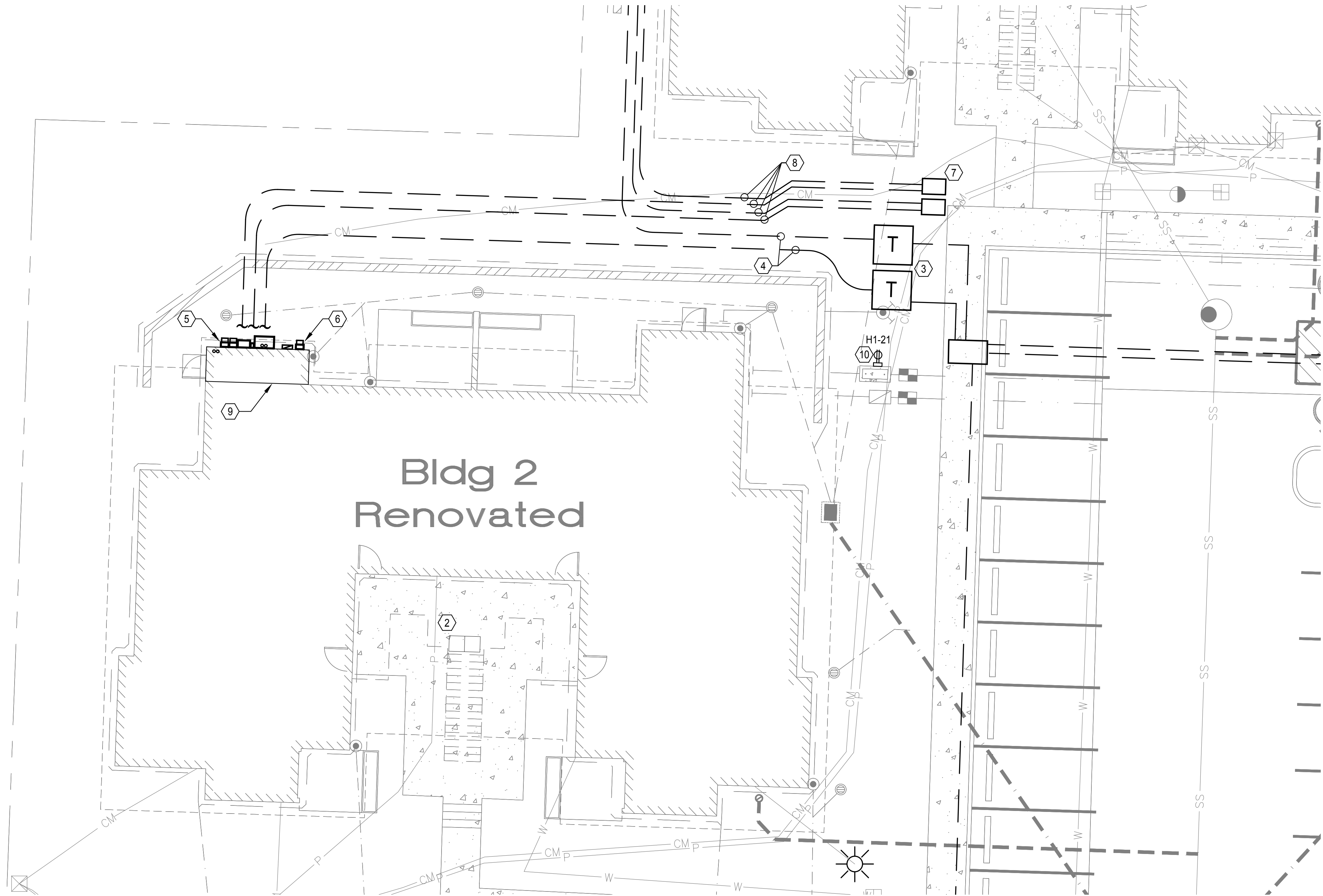
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NO DATE DESCRIPTION

DPD STAMP

## ELECTRICAL SITE PLAN - BUILDING 2

PERMIT #  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

# E2-051



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

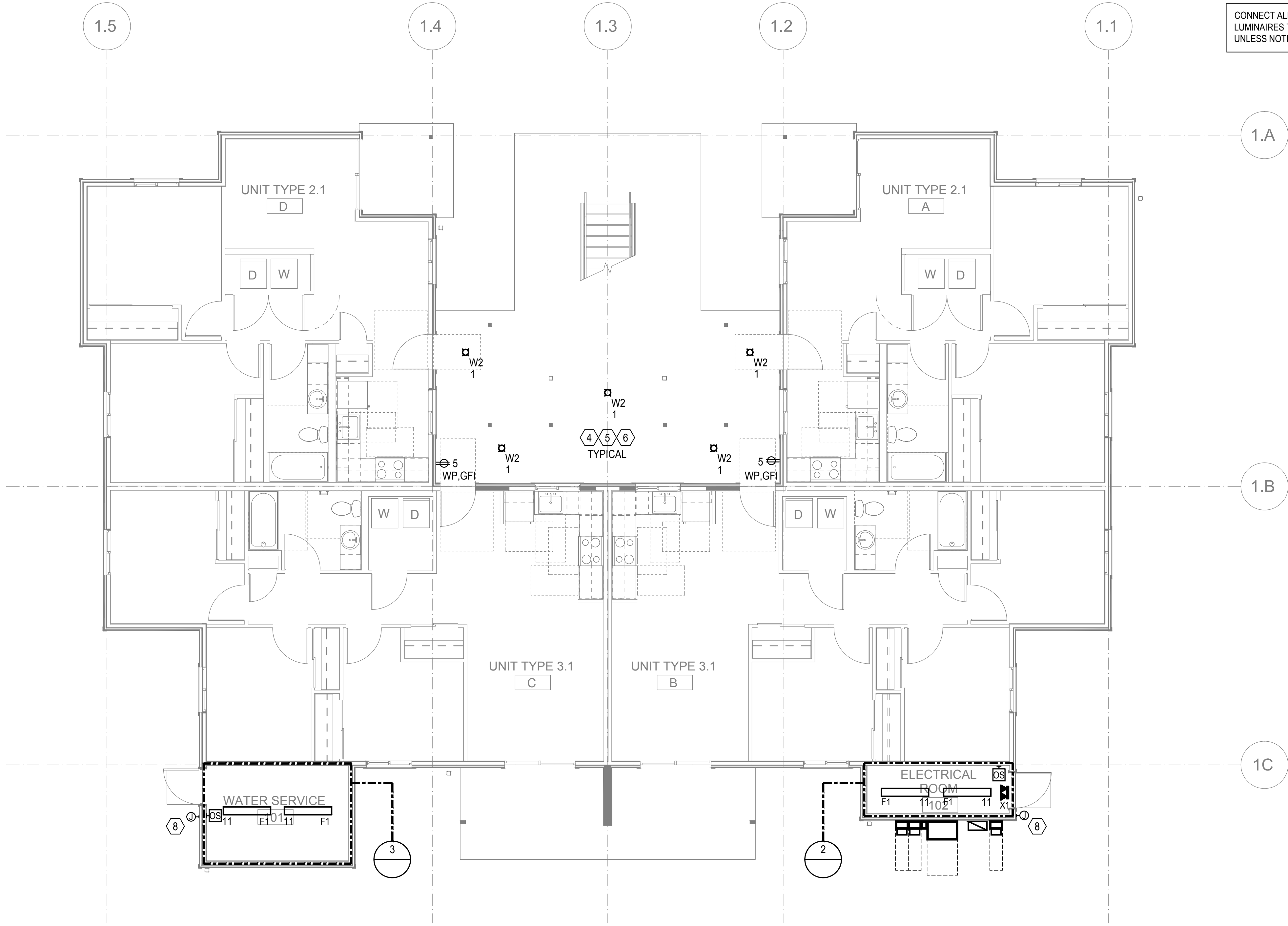
#### FLAG NOTES (X):

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

#### GENERAL NOTES:

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.





**POWER AND LIGHTING PLAN - BUILDING 2 - 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.

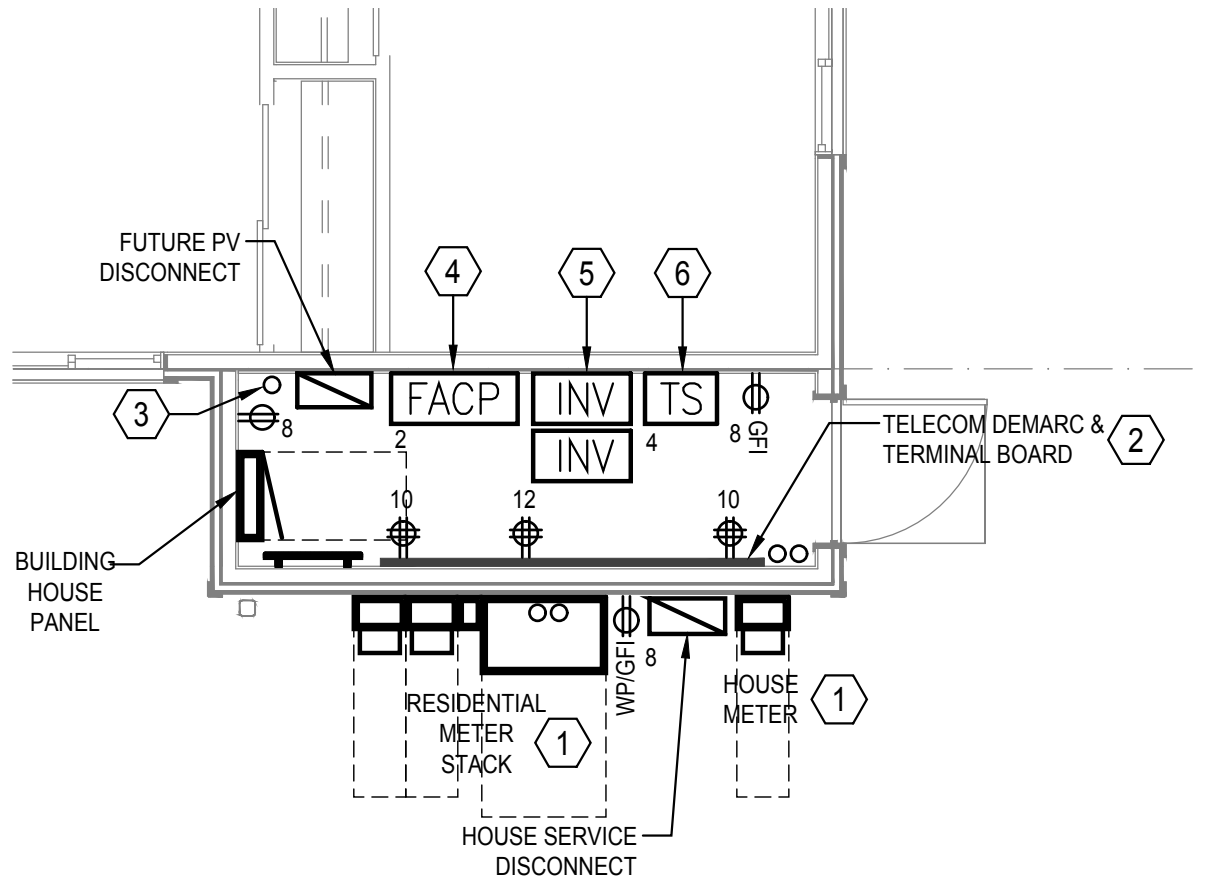
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

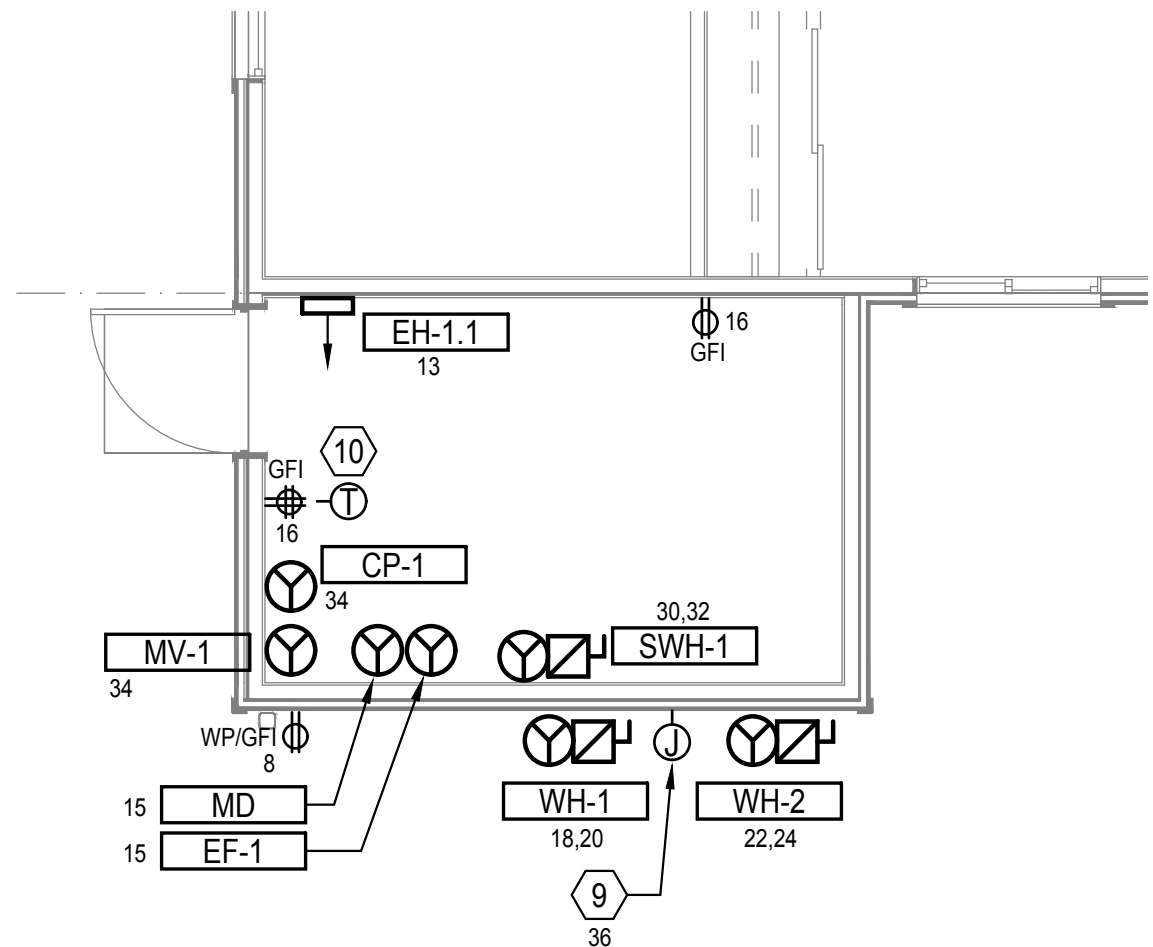
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



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



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



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

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 2**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

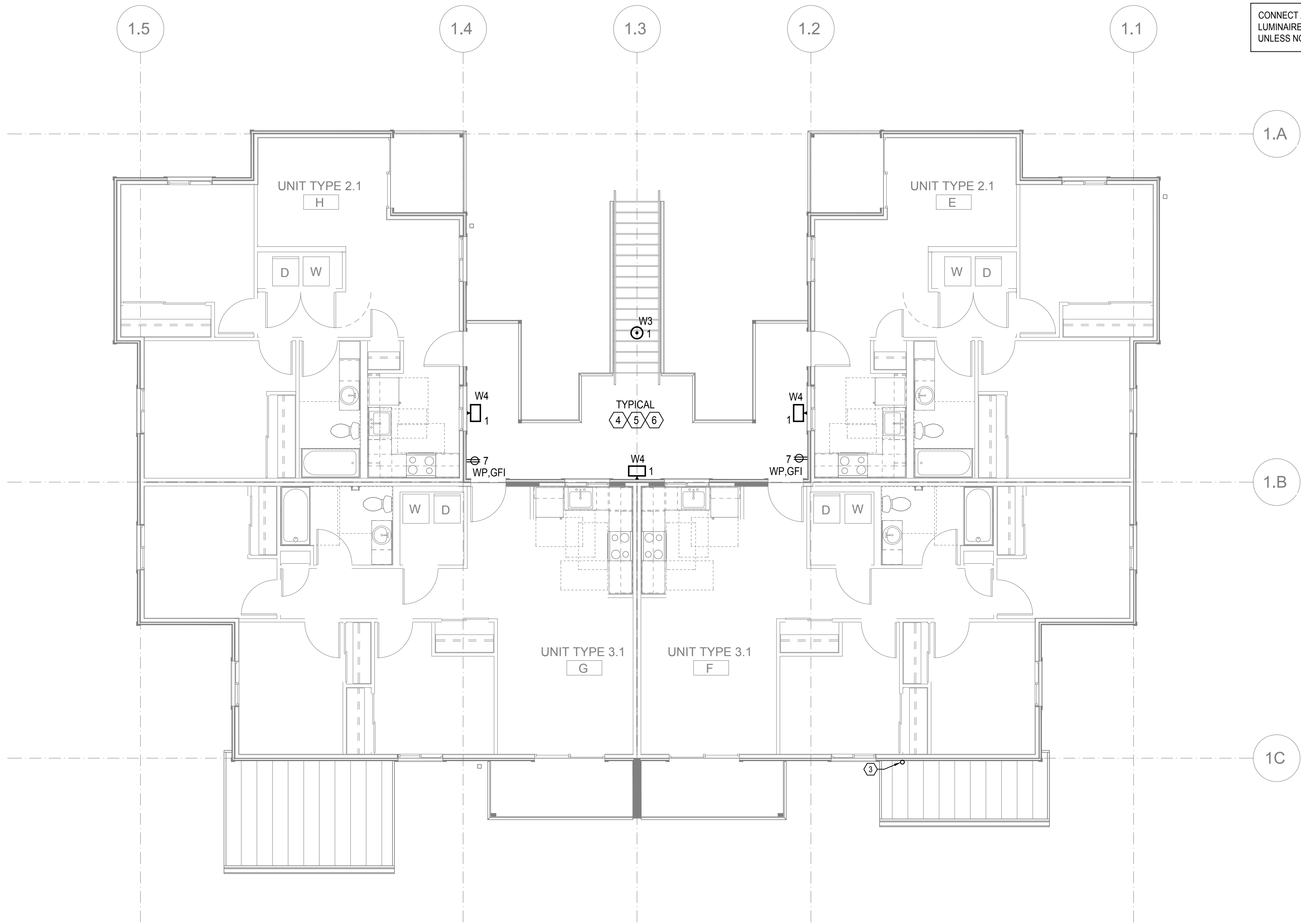
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**POWER AND LIGHTING PLAN - BUILDING 2 - LEVEL 1**

PERMIT #  
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JOB NO. 22016  
SHEET NO.:

**E2-101**



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**POWER AND LIGHTING PLAN - BUILDING 2 - LEVEL 2**  
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:
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):
- NOT USED.
  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
  - ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.



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**New Kirkland Heights LLLP**  
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Kirkland, WA 98034  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 2**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

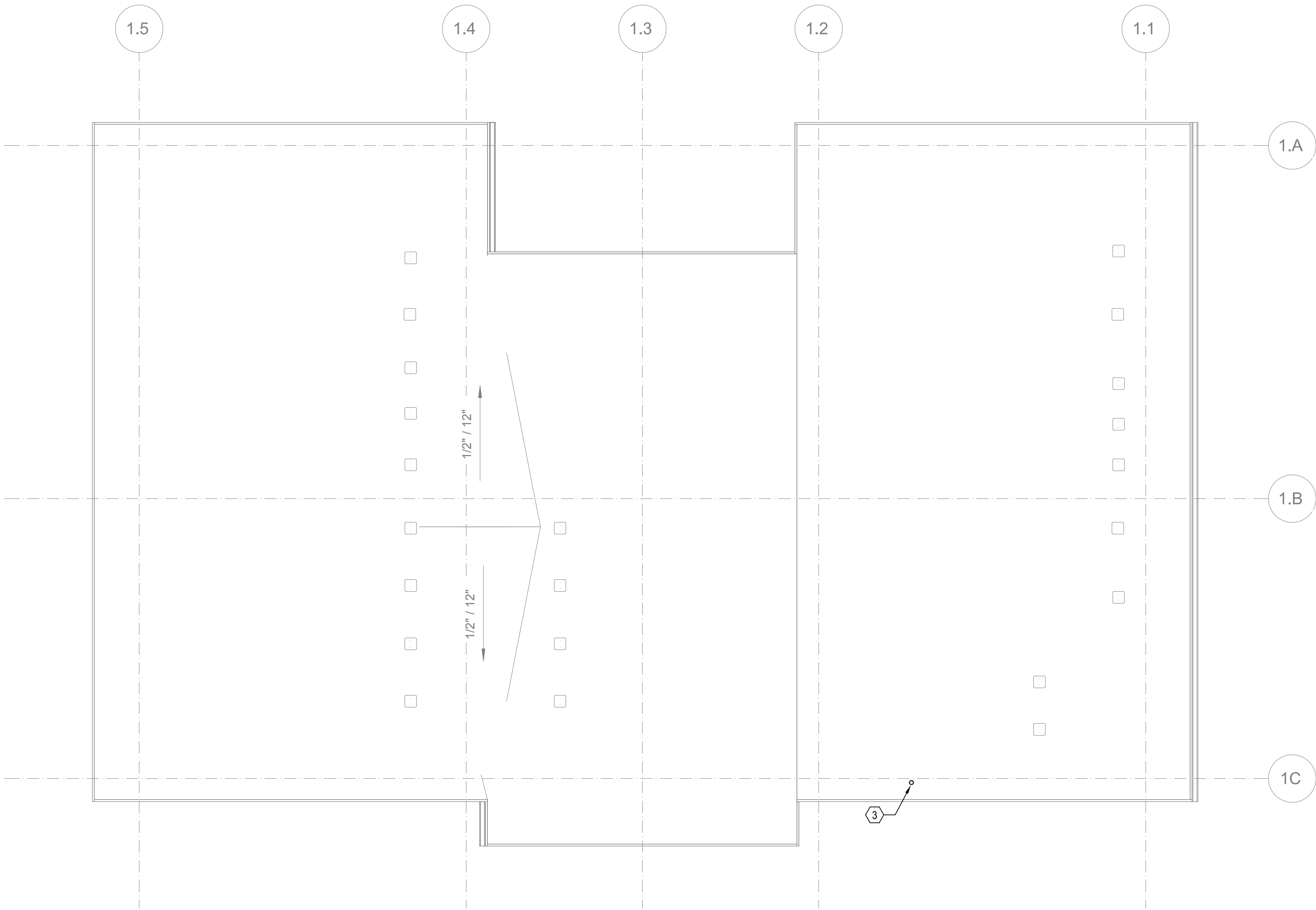
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TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 2 -  
LEVEL 2**

PERMIT #	
DRAWN	RA, JF
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JOB NO.	22016
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**E2-102**





**POEWR PLAN - BUILDING 2 - 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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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 2**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE  
**POWER PLAN -  
BUILDING 2 -  
ROOF**

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

**E2-103**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WET) 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	#20
550.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 300 KCMIL N	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#10
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	#2
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
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#6
80.3	(1) 1.5-INCH	CU	(3) #2	#6
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#6
80.3	(1) 1.5-INCH	CU	(3) #3	#6
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#6
70.3	(1) 1-INCH	CU	(3) #4	#6
60.4	(1) 1-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
60.1	(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
50.1	(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) #6	#10
40.2N	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10
40.1	(1) 1-INCH	CU	(1) #6 / (1) #6 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
30.1	(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
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES:

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

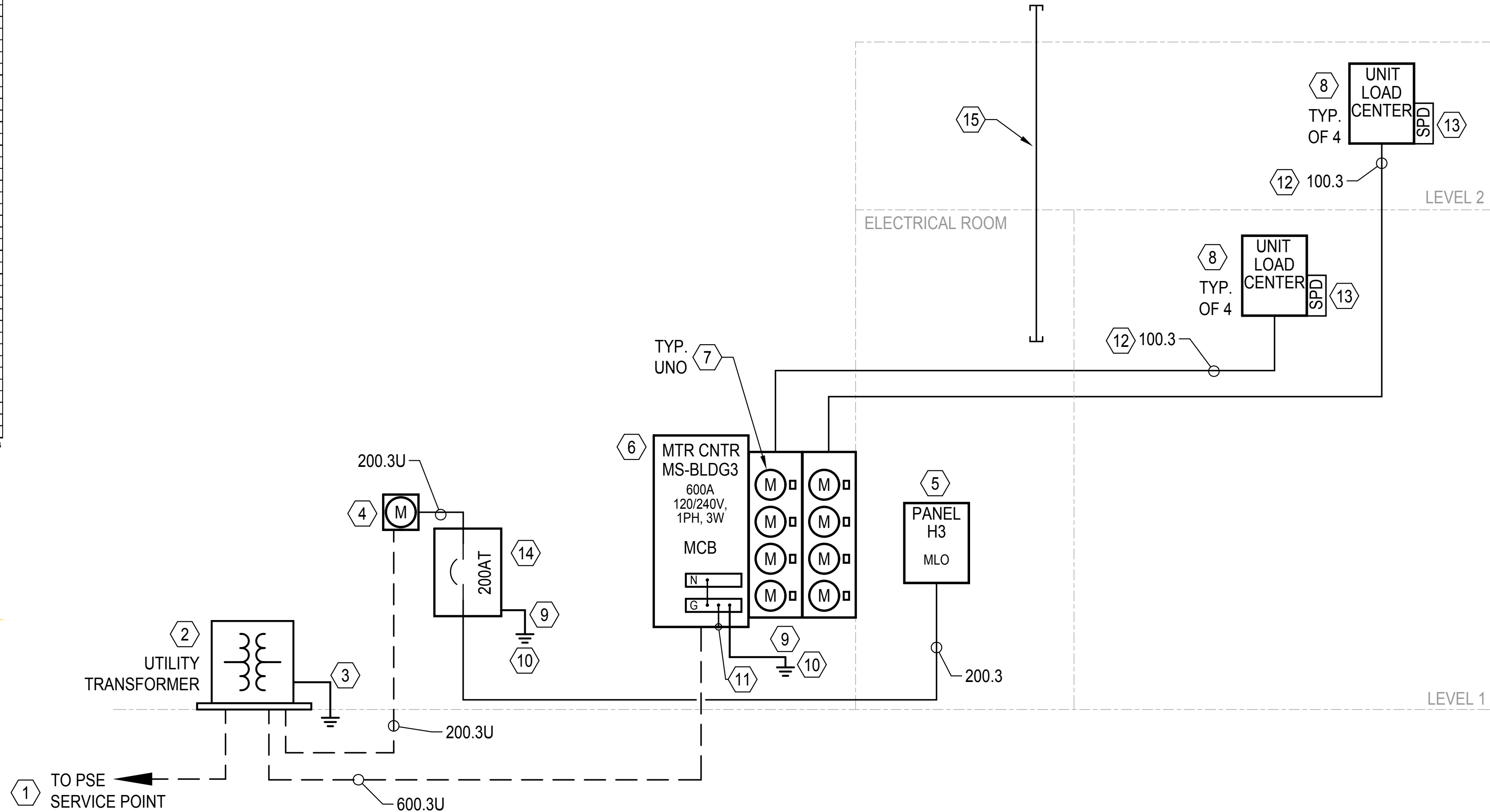
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F). AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 90-DEGREES C (194-DEGREES F).

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.



## SINGLE LINE DIAGRAM

SCALE:NTS

## LOAD CALCULATIONS - BLDG 3

UNIT TYPE: 2BR - 2.1		AREA (SF): 782	4/6/2023
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 [220.63]:			
REFRIGERATOR	1 AT	0.70 kVA	
RANGE HOOD	1 AT	0.30 kVA	
MICROWAVE	AT	0.00 kVA	
DISHWASHER	AT	0.00 kVA	
WASHER	1 AT	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]:			
TOILET EXHAUST FAN	AT	0.00 kVA	
ERV UNIT	1 AT	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]:			
CLOTHES DRYER [220.54]	1 AT	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	8.80 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): 908	4/6/2023
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 [220.63]:			
REFRIGERATOR	1 AT	0.70 kVA	
RANGE HOOD	1 AT	0.30 kVA	
MICROWAVE	AT	0.00 kVA	
DISHWASHER	AT	0.00 kVA	
WASHER	1 AT	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]:			
TOILET EXHAUST FAN	AT	0.00 kVA	
ERV UNIT	1 AT	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]:			
CLOTHES DRYER [220.54]	1 AT	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	8.80 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	4/6/2023
DEMAND LOAD (KVA): 95.86 =>		399.4 AMPS AT 240 V 1 PH	
UNIT TYPE		QTY ON METER STACK	GEN LTG LOAD (KVA)
2BR - 2.1	4	27.38	8.80
3BR - 3.1	4	28.97	8.80
0	0	0.00	0.00
TOTALS:	8	56.26	17.60
ADDITIONAL 25% OF LARGEST MOTOR:		0.03	
SPACE HEATING/ AC LOAD (KVA)		33.76	8
CLOTHES DRYERS		44.00	0
COOKING APPLIANCES		0	0
1.8< X < 3.6kW		0	0
3.6kW < X < 8.75kW		0	0
8.75kW < X < 12kW		4	35.20
TOTALS:		0	0
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)		4/6/2023
PRELIMINARY LOAD CALCULATIONS		
RESIDENTIAL SERVICE:		
RESIDENTIAL UNITS (QTY = 8):		95.86 kVA
(SEE ATTACHED CALC)		
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 - Brezeway +Interior:		1.5 kVA
LIGHTING - SITE:		1.5 kVA
GENERAL RECEPTACLES:		4.0 kVA
MECHANICAL:		1.0 kVA
ELECT HEAT (WATER RMIS):		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		



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



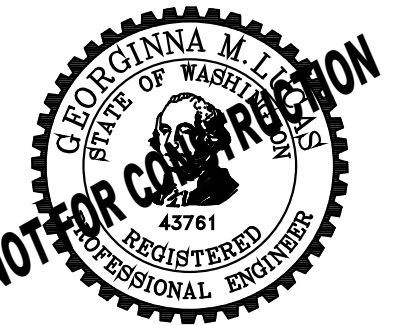
New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

## BUILDING 3

BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

## SINGLE LINE DIAGRAM AND LOAD CALCS

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

- GENERAL SCHEDULE NOTES:**
- AL= ALUMINUM (STABILIZED CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/THW INSULATION).
  - 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).
  - PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS WHERE MULTIPLE SETS OF PARALLEL CONDUIT ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
  - SEE BRANCH CIRCUIT LENGTHS LIMITS SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

- SPECIFIC SCHEDULE NOTES:**
- 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	565	865	1370
	4	0.48	250	420	645	1025
	6	0.72	165	275	430	685
	8	0.96	125	210	330	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	40	65	100	160
	30	3.60	30	55	85	135
	40	4.80	20	40	60	100
	50	6.00	15	30	45	75
208V / 1-PHASE	2	0.42	580	1465	2250	3650
	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	65	115	180	285
	30	6.24	55	100	150	235
	35	7.28	45	85	125	200
	40	8.32	35	70	110	175
	45	9.36	30	60	95	155
208V / 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2080
	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	7.20	100	165	250	410
	25	9.00	75	135	205	325
	30	10.80	60	110	170	270
	35	12.60	50	95	145	235
	40	14.40	40	80	130	205
	45	16.20	35	70	115	180
	50	18.00	30	60	100	160

- NOTES:**
- CIRCUIT LENGTHS INDICATED IN THIS SCHEDULE ARE INTENDED TO LIMIT TOTAL VOLTAGE DROP ON BRANCH CIRCUITS TO 3% AND ARE BASED ON COPPER CONDUCTORS.
  - 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		300 AMP/201		FED FROM		XPR		LOCATION: ELECTRICAL ROOM	
BUS/STATION DIAGRAM		300 AMP/201		NIGHTMARE		300 AMP/201		SURFACE MOUNTED	
CKT #	DESCRIPTION	CONN LOAD	KVA	CKT	AMPS/PH	PH	CKT	LOAD	DESCRIPTION
TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE
1	120V BRIDGEWATER	B	0.15	201	20	1	A	20	1
2	SPARE		0.00	20	1	B	20	1	1
3	SPARE		0.00	20	1	B	20	1	1
4	RECEPT-LVL 1 BRIDGEWATER	R	0.30	201	20	1	A	20	1
5	RECEPT-LVL 1 BRIDGEWATER	R	0.30	201	20	1	A	20	1
6	RECEPT-LVL 1 BRIDGEWATER	R	0.30	201	20	1	A	20	1
7	RECEPT-LVL 1 BRIDGEWATER	R	0.30	201	20	1	A	20	1
8	SPARE		0.00	20	1	A	20	1	1
9	SPARE		0.00	20	1	A	20	1	1
10	SPARE		0.00	20	1	A	20	1	1
11	120V BRIDGEWATER	B	0.15	201	20	1	A	20	1
12	SPARE		0.00	20	1	B	20	1	1
13	RECEPT-LVL 1 BRIDGEWATER	R	0.30	201	20	1	A	20	1
14	RECEPT-LVL 1 BRIDGEWATER	R	0.30	201	20	1	A	20	1
15	RECEPT-LVL 1 BRIDGEWATER	R	0.30	201	20	1	A	20	1
16	SPARE		0.00	20	1	B	20	1	1
17	SPARE		0.00	20	1	B	20	1	1
18	SPARE		0.00	20	1	B	20	1	1
19	HEAT TRACE - WATER CONNECTION	N	0.24	201	20	1	A	15	2
20	SPARE		0.00	20	1	B	20	1	1
21	SPARE		0.00	20	1	B	20	1	1
22	SPARE		0.00	20	1	B	20	1	1
23	SPARE		0.00	20	1	B	20	1	1
24	SPARE		0.00	20	1	B	20	1	1
25	SPARE ONLY		0.00	20	1	B	20	1	1
26	SPARE ONLY		0.00	20	1	B	20	1	1
27	SPARE ONLY		0.00	20	1	B	20	1	1
28	SPARE ONLY		0.00	20	1	B	20	1	1
29	SPARE ONLY		0.00	20	1	B	20	1	1
30	SPARE ONLY		0.00	20	1	B	20	1	1
31	SPARE ONLY		0.00	20	1	B	20	1	1
32	SPARE ONLY		0.00	20	1	B	20	1	1
33	SPARE ONLY		0.00	20	1	B	20	1	1
34	SPARE ONLY		0.00	20	1	B	20	1	1
35	SPARE ONLY		0.00	20	1	B	20	1	1
36	SPARE ONLY		0.00	20	1	B	20	1	1
37	SPARE ONLY		0.00	20	1	B	20	1	1
38	SPARE ONLY		0.00	20	1	B	20	1	1
39	SPARE ONLY		0.00	20	1	B	20	1	1
40	SPARE ONLY		0.00	20	1	B	20	1	1
41	SPARE ONLY		0.00	20	1	B	20	1	1

L = LIGHTING

R = RECEPTACLES

N = MOTOR

P = PUMP OR LARGEST MOTOR

C = CONTINUOUS

N = NON-CONTINUOUS

K = KITCHEN

CONGESTED LOAD

DEMAND LOAD

DEMAND LOAD

0.39 KVA

125% 0.48 KVA

0.78 KVA

100% 0.78 KVA

0.24 KVA

125% 0.30 KVA

1.46 KVA

100% 1.63 KVA

0.00 KVA

75% 0.00 KVA

15.31 KVA

0.78 KVA

0.06 KVA

0.06 KVA

11.62 KVA

1.63 KVA

0.00 KVA

74.08 AMPS

PANEL CONNECTED TOTAL:

PANEL DEMAND TOTAL:

NOTES

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

CRUIT NOTES

PROTECT 300A GROUND FAULT EQUIPMENT PROTECTION BREAKER

LOAD CENTER - 2 BEDROOM											
NORMAL POWER		VOLTAGE		120 / 240 V		FED FROM		METER STAGES		LOCATION: DWELLING UNITS	
AC		NEC SPECIFIC LINE CALCULATION RATING		100 AMPS		M.C.B. CIRCUIT		M.C.B. CIRCUIT		100 AMP	
CKT #	DESCRIPTION	CKT TAG	CB	PH	AMPS/PH	CB	CKT TAG	CB	DESCRIPTION	CKT #	
1	BATHROOMS (1)	20.1	1	1	A	40	1	45.2L	RANGE	2	
2	HEAT TO RECEIPTS (3L-3R)	20.1	1	1	A	30	1	30.2	HEAT BEDROOMS	3	
3	RECEIPTS EGY. MEDIAN (PH)	20.1	1	1	A	30	1	30.2	HEAT	4	
4	SELF-DEFENSE (EASTWARD HOOK)	20.1	1	1	B					5	
5	GENERAL KITCHEN APPLIANCE (1)	20.1	1	1	A	20	1	20.2	HEAT LIVING ROOM	6	
11	GENERAL KITCHEN APPLIANCE (1)	20.1	1	1	A					12	
13	BEDROOM 2 RECEIPTS (1L-2R)	20.1	1	1	A	30	1	30.2	DRINKER (2)	14	
15	BEDROOM 2 RECEIPTS (1L-2R)	20.1	1	1	B					16	
17	OLD RECEIPT - AC UNIT (BY TENANT)	20.1	1	1	A	20	1	20.1	WASHER (2)	18	
19		20.1	1	1	B					20	
21	SURGE PROTECTION DEVICE	20.1	1	2	A					22	
23		20.1	1	2	B					24	

NOTES:

- A: FIELD IDENTICAL DWELLING UNIT CALCULATIONS (NOV) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR COORDINATE AND CONDUCTOR INFORMATION PER CIRCUIT TAG

**CIRCUIT NOTES:**

- 1. PROVIDE COMBO ARG-FULC CIRCUIT INTERRUPTER BREAKER
- 2. PROVIDE COMBO 50A OF COMBO ARG-FULC CIRCUIT INTERRUPTER BREAKER W/40 AMP FEEDBACK & WITHIN 8FT OF SAKEDGE. OTHERWISE PROVIDE COMBO ARG-FULC CIRCUIT INTERRUPTER BREAKER



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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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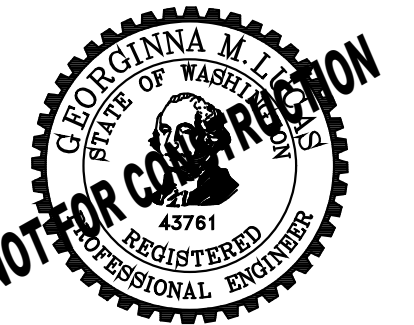


New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 3  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

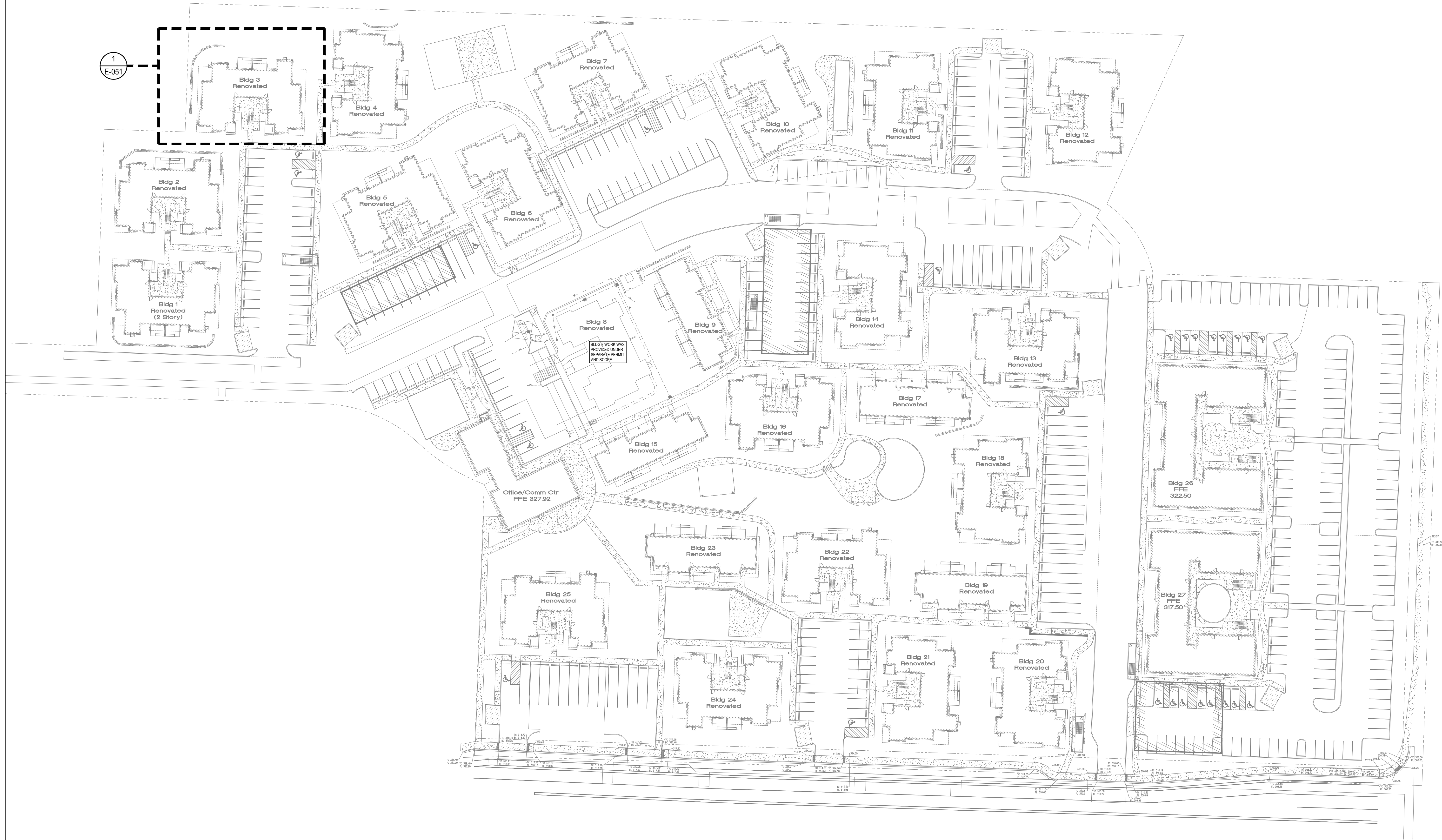
TITLE  
  
LUMINAIRE  
SCHEDULE

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

E3-005



10/7/2021 1:33:34 AM



**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  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 3  
BID SET**



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE  
**OVERALL  
PROJECT SITE  
PLAN**

PERMIT #  
DRAWN RA, JF  
CHECKED GL  
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.



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## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 3 BID SET



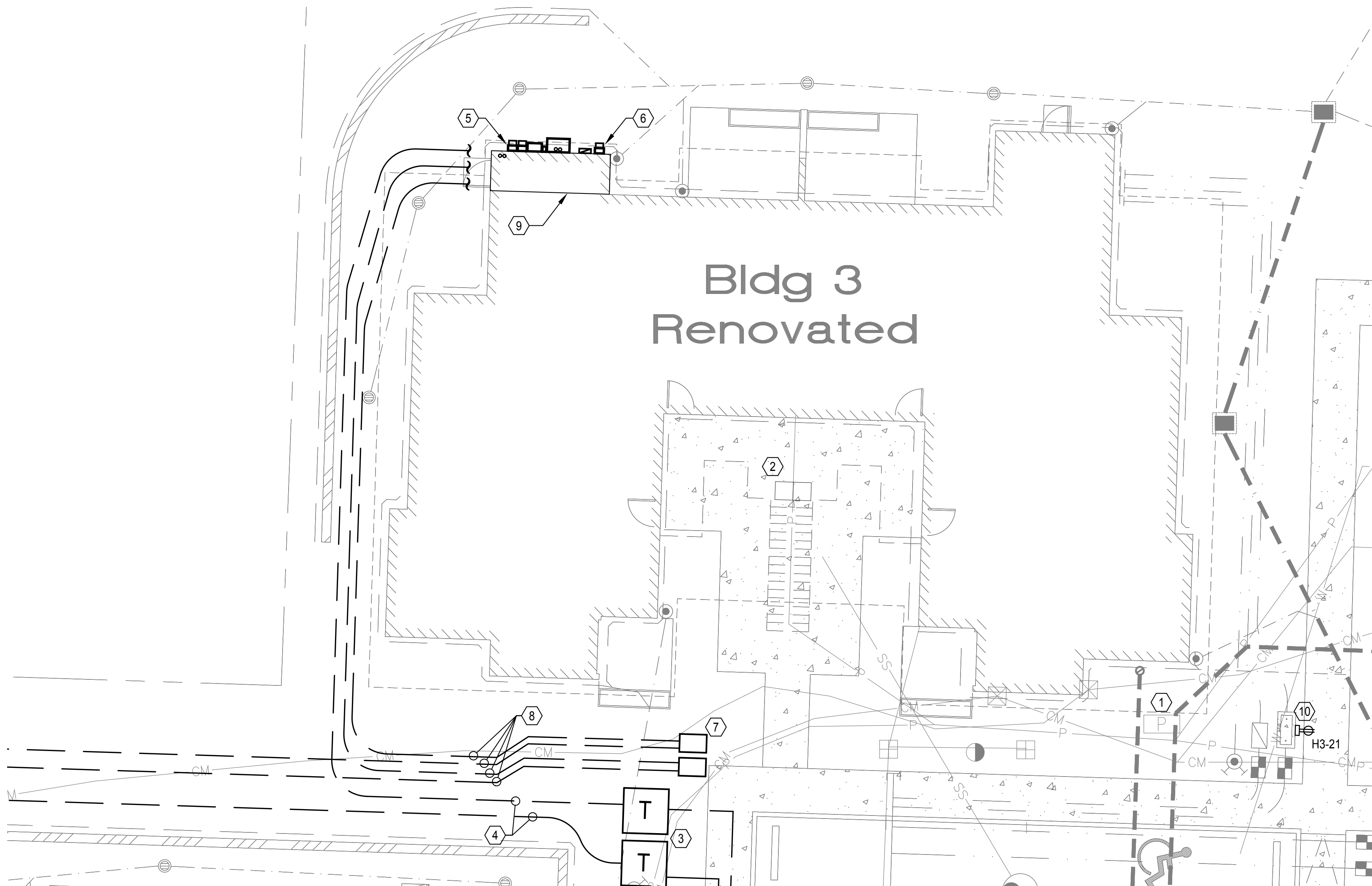
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### ELECTRICAL SITE PLAN - BUILDING 3

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

# E3-051



### ELECTRICAL SITE PLAN - BUILDING 3

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

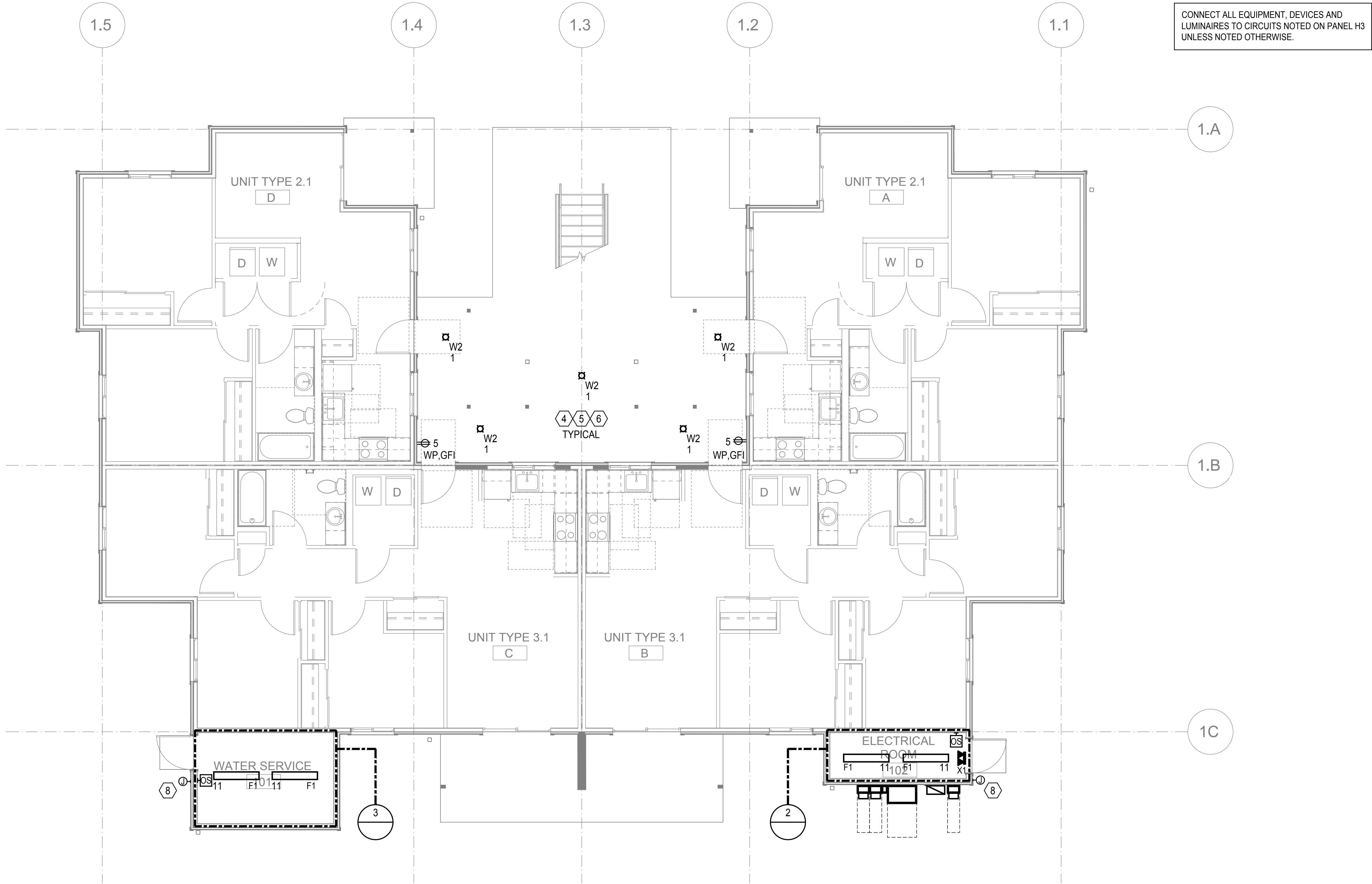
#### FLAG NOTES (X):

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

#### GENERAL NOTES:

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.





**POWER AND LIGHTING PLAN - BUILDING 3 - 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.

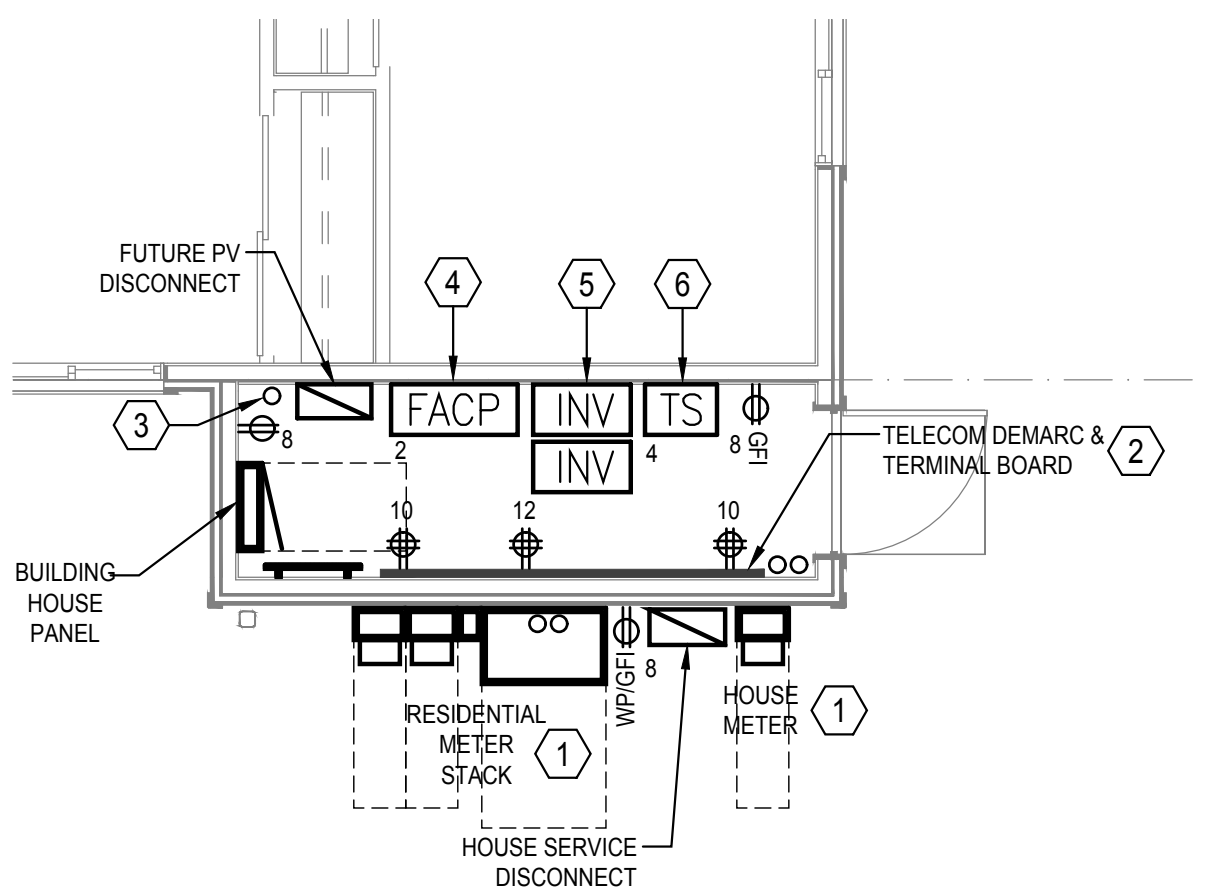
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

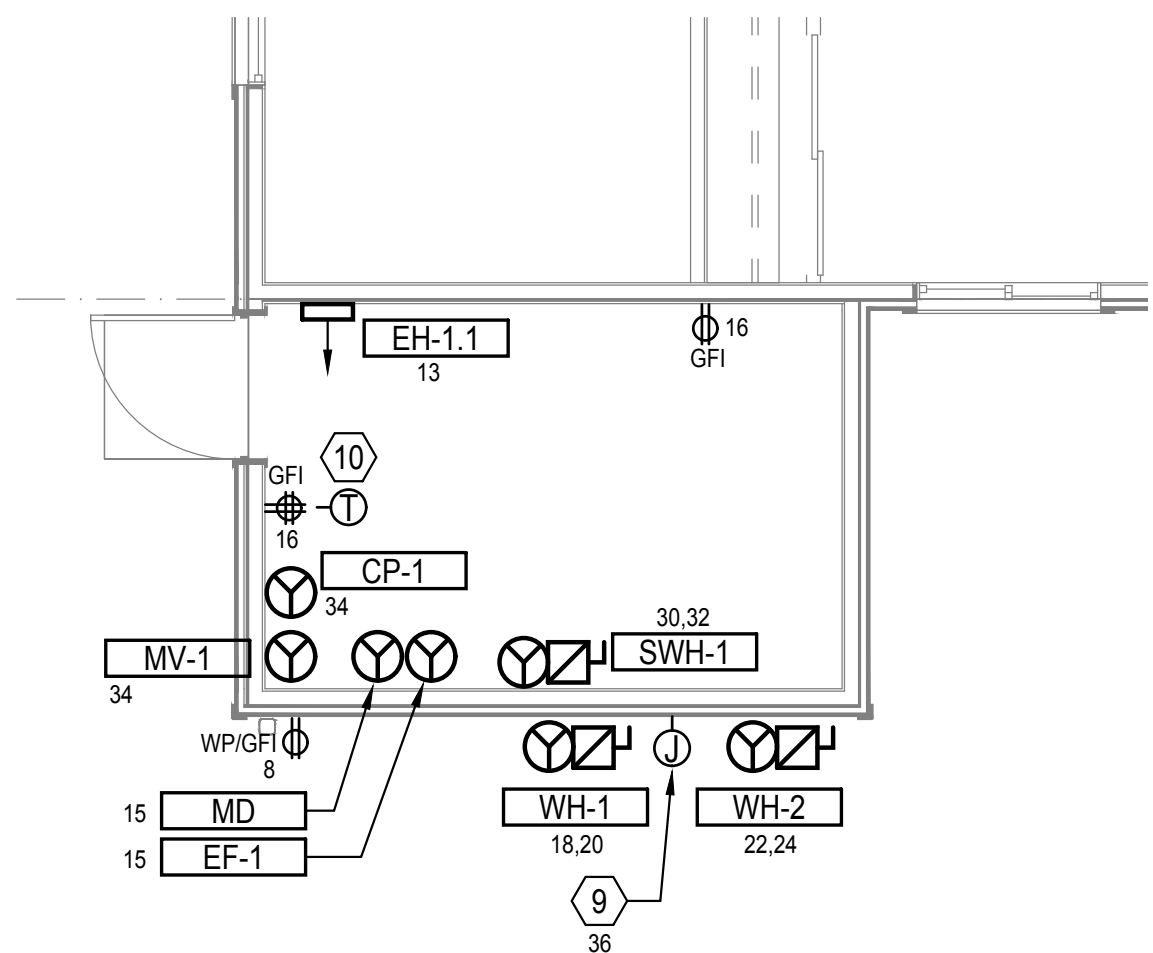
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- PROVIDE DIGITAL ASTRODIAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF ALL BREEZEWAY LIGHTING. PROVIDE UL 924 DEVICES AS NEEDED TO OVERRIDE ALL AUTOMATIC CONTROLS ON DURING UTILITY POWER LOSS. VERIFY TIME CLOCK PROGRAMMING WITH OWNER.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



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



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



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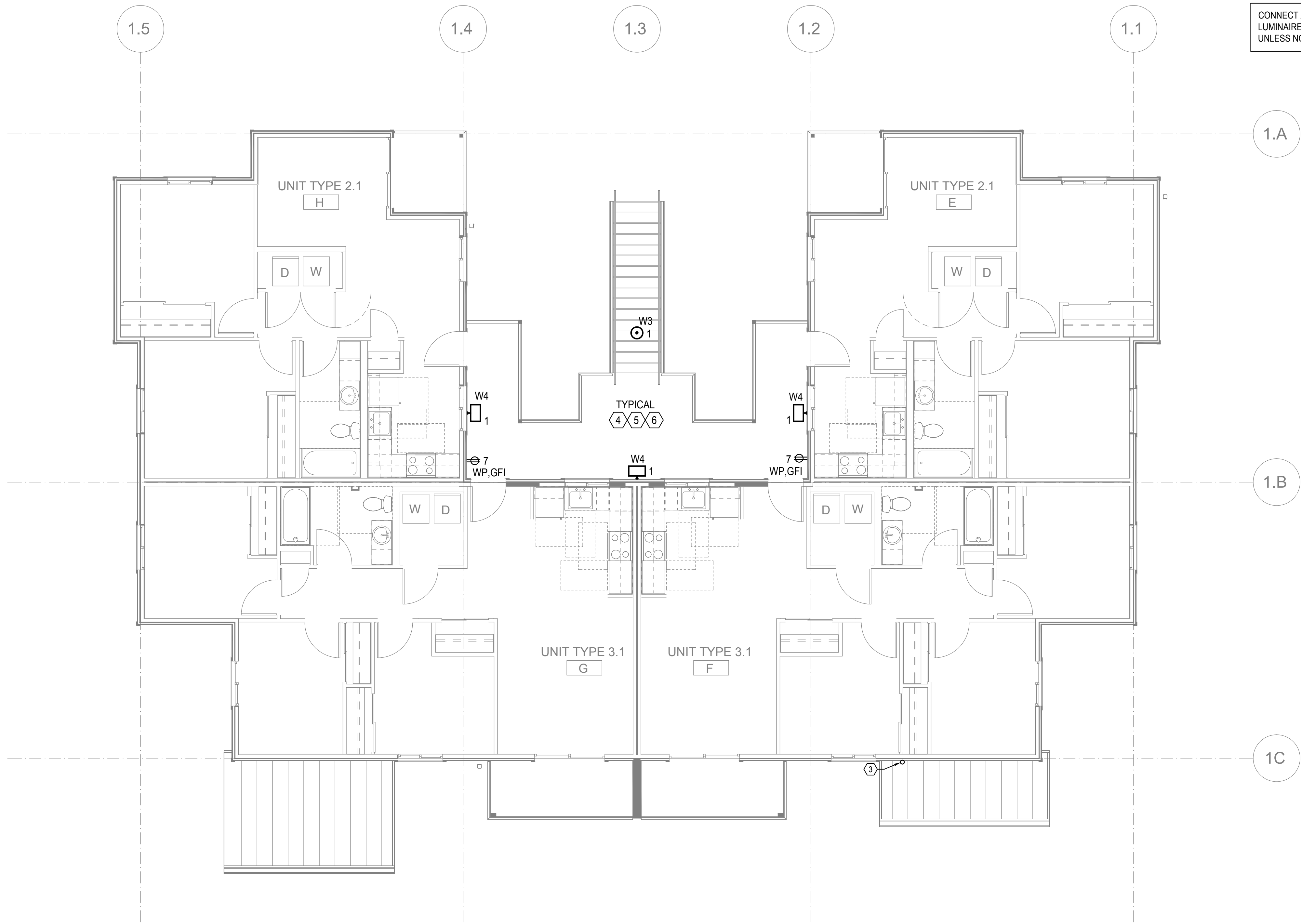
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**POWER AND LIGHTING PLAN - BUILDING 3 - LEVEL 1**

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

**E3-101**





**POWER AND LIGHTING PLAN - BUILDING 3 - LEVEL 2**  
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. 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 MARSHAL 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.



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

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 3 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

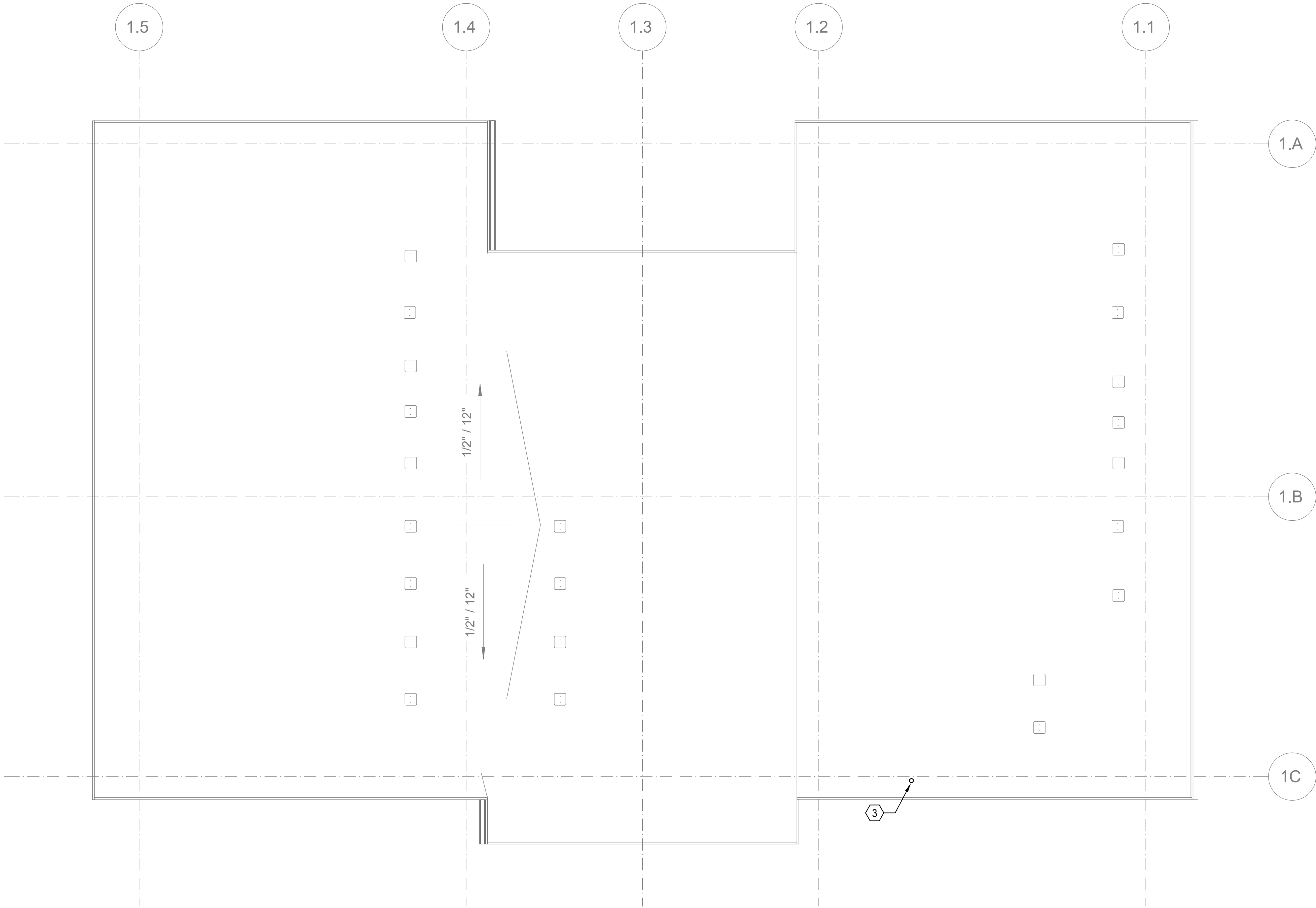
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TITLE  
**POWER AND LIGHTING PLAN - BUILDING 3 - LEVEL 2**

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

# E3-102





**POWER PLAN - BUILDING 3 - 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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**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 3**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

DPD STAMP

TITLE  
**POWER PLAN -  
BUILDING 3 -  
ROOF**

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

**E3-103**







FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT #(SETS) SIZE	AL OR CU	CONDUCTORS PER SET		GROUND (1 PER SET UNO)
			PHASE / NEUTRAL (N) (QTY) SIZE	NOTE #1	
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	#1	#20
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#1	#20
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#10	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#10	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#1	#10
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1	#1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2	#2
300.3	(1) 4-INCH	CU	(3) 500 KCMIL	#2	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	NOTE #1	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	#4	#4
175.4	(1) 3-INCH	AL	(3) #40 / (1) #40 N	#4	#4
175.3	(1) 3-INCH	AL	(3) #40	#4	#4
150.4	(1) 2-INCH	AL	(3) #30 / (1) #30 N	#4	#4
150.3	(1) 2-INCH	AL	(3) #30	#4	#4
125.4	(1) 2-INCH	AL	(3) #20 / (1) #20 N	#4	#4
100.4	(1) 2-INCH	AL	(3) #10 / (1) #10 N	#5	#5
100.3	(1) 2-INCH	CU	(3) #2 / (1) #2 N	#5	#5
90.4	(1) 1.5-INCH	CU	(3) #2	#5	#5
90.3	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5	#5
80.4	(1) 1.5-INCH	CU	(3) #5	#5	#5
80.3	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5	#5
70.4	(1) 1.5-INCH	CU	(3) #4	#5	#5
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N	#10	#10
60.3	(1) 1-INCH	CU	(3) #4	#10	#10
60.2U	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10	#10
60.2	(1) 1-INCH	CU	(2) #4	#10	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10	#10
50.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10	#10
50.3	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10	#10
50.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10	#10
50.2	(1) 1-INCH	CU	(2) #5	#10	#10
50.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	#10	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10	#10
40.3	(1) 1-INCH	CU	(3) #5	#10	#10
40.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10	#10
40.2	(1) 1-INCH	CU	(2) #5	#10	#10
40.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	#10	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10	#10
30.3	(1) 1-INCH	CU	(3) #10	#10	#10
30.2U	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10	#10
30.2	(1) 1-INCH	CU	(2) #10	#10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12	#12
20.3	(1) 1-INCH	CU	(3) #12	#12	#12
20.2U	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12	#12
20.2	(1) 1-INCH	CU	(2) #12	#12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12	#12

- GENERAL SCHEDULE NOTES:**
- A. AL= ALUMINUM (STABILTY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/THAN 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	565	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	40	65	100	160
	30	3.60	30	55	85	135
	4	0.42	380	645	995	1595
	6	0.63	440	730	1125	1780
	8	1.25	290	495	750	1185
208V/ 1-PHASE	3	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	70	115	180	285
	30	6.24	60	95	150	235
	35	7.28	50	80	125	200
	40	8.32	45	70	110	175
	45	9.36	40	60	95	155
	50	10.40	35	50	80	140
	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2080
	6	2.16	335	565	865	1370
208V/ 3-PHASE	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	250	410
	25	9.01	80	135	205	325
	30	10.81	70	110	170	270
	35	12.61	60	95	145	235
	40	14.41	50	80	120	200
	45	16.21	45	70	105	180
	50	18.01	40	60	90	160

- NOTES:**
- 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				FEED FROM				XPRH				LOCATION: ELECTRICAL ROOM			
NORMAL POWER				VOLTAGE: 120 / 240 V				PHASE: 3-WIRE				SURFACE MOUNTED			
AC, SEE SINGLE LINE DIAGRAM				BUS (RATED): 200 AMPS				METERING: 200 AMPS				RAMP			
CKT #	DESCRIPTION	CONN LOAD		AMPS		PH	CONN LOAD		AMPS		TYPE	KVA	DESCRIPTION	CKT #	
		TYPE	KVA	TYPE	KVA		TYPE	KVA							
1	120-BRIDGE DIAPY	L	0.15	20.1	20	/ 1	A	20	/ 1	0.00			120-BRIDGE DIAPY	1	
3	SPARE		0.00	20	/ 1	B	20	/ 1	20.1	N	0.00		TO TIME CLOCK	3	
5	RECEPT-LV-1, 2-BREAKZWAY	R	0.36	20.1	20	/ 1	A	20	/ 1	0.00			RECEPTS-TELECOM	5	
7	RECEPT-LV-2, 2-BREAKZWAY	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N	0.00	RECEPTS-ELECT RM	7	
9	SPARE		0.00	20	/ 1	A	20	/ 1	20.1	R	0.72		RECEPTS-TELECOM	9	
11	120-ELECT MESH CLOSET	L	0.24	20.1	20	/ 1	B	20	/ 1	20.1	R	0.36	RECEPTS-TELECOM	11	
13	ELECT HEATER - FRS SPROKLER	S	0.36	20.1	20	/ 1	A	20	/ 1	0.00			SPARE	13	
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	15	
17	SPARE		0.00	20	/ 1	A	20	/ 2	20.2N	S	1.72		HEATPUMP WATER HTR - VM-1	17	
19	SPARE		0.00	20	/ 1	B								19	
21	HEAT TRACE - WATER CONNECTION	N	0.24	20.1	20	/ 1	A	15	/ 2	20.2N	S	1.72	HEATPUMP WATER HTR - VM-2	21	
23	120-RITE	L	0.06	20	/ 1	B								23	
25	SPARE		0.00	20	/ 1	A	20	/ 1				0.00	SPARE	25	
27	SPARE		0.00	20	/ 1	B	20	/ 1				0.00	SPARE	27	
29	SPARE ONLY										4.50	WH-SWING TANK "SWH1"		29	
31	SPARE ONLY													31	
33	SPARE ONLY										0.36	CIRC PUMP CP-1 & MIX VALVE VM-1		33	
35	SPARE ONLY										0.72	HEAT TRACE - HEATPUMP WATER LINE		35	
37	SPARE ONLY												SPARE ONLY	37	
39	SPARE ONLY												SPARE ONLY	39	
41	SPARE ONLY												SPARE ONLY	41	
		CONNECTED LOAD		DEMAND FACTOR				DEMAND LOAD				PANEL CONNECTED TOTAL:			
L =	LIGHTING	0.45	KVA	100%				0.56	KVA			15.37	KVA		
R =	RECEPTACLES	3.78	KVA	NED 200-44				3.78	KVA			15.37	KVA		
M =	MOTORS	0.24	KVA	100%				0.24	KVA			6.63	KVA		
P =	PLUS 2% OF LARGEST MOTOR	0.24	KVA	25%				0.78	KVA						
C =	CONTINUOUS	0.46	KVA	100%				11.82	KVA						
N =	NON-CONTINUOUS	0.46	KVA	100%				1.04	KVA						
K =	KITCHEN	0.00	KVA	75%				0.00	KVA			74.95	AMPS		
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CIRCUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG															
CIRCUIT NOTES: 1. PROVIDE 300A CIRCUIT BREAKER EQUIPMENT PROTECTOR BREAKER															

CONNECTED LOAD FACTOR DEMAND LOAD

L = LIGHTING 0.45 KVA 100% 0.56 KVA  
R = RECEPTACLES 3.78 KVA 100% 3.78 KVA  
M = MOTORS 0.24 KVA 100% 0.24 KVA  
PLUS 20% OF LARGEST MOTOR 0.24 KVA 25% 0.06 KVA  
C = CONTINUOUS 9.46 KVA 125% 11.83 KVA  
K = NON-CONTINUOUS 1.64 KVA 100% 1.44 KVA  
TOTAL 17.50 KVA  
17.50 KVA 75% 13.13 KVA

**PANEL CONNECTED TOTAL:**  
44.03 AMPS

**PANEL DEMAND TOTAL:**  
17.50 KVA  
17.50 KVA 75% 13.13 KVA

**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											
AC, SEE SINGLE LINE DIAGRAM/PLUS RATING											
CKT #	DESCRIPTION	CKT TAG	CB	AMPS/PH	PH	AMPS/PH	TAG	CB	AMPS/PH	PH	DESCRIPTION
1	BATHROOMS (1)	20.1	20	/ 1	A	20	/ 2	20.2	20	/ 2	RANGE
3	GEN/LTS RECEPTS SD (1)	20.1	20	/ 1	B						
5	RECEPTS EXP MEDIA RM (1)	20.1	20	/ 1	A	20	/ 2	20.2	20	/ 2	HEAT - BEDROOMS
7	REFRIGERATOR EXHAUST HOOD (2)	20.1	20	/ 1	B						
9	GENERAL KITCHEN APPLANCE (1)	20.1	20	/ 1	A	20	/ 2	20.2	20	/ 2	HEAT - LIVING ROOM
11	GENERAL KITCHEN APPLANCE (1)	20.1	20	/ 1	B						
13	BEDROOM 1 RECEPTS L.TS. SD (1)	20.1	20	/ 1	A	20	/ 2	20.2	20	/ 2	DRYER (2)
15	BEDROOM 2 RECEPTS L.TS. SD (1)	20.1	20	/ 1	B						
17	2ND RECEPT - AD UNIT (BY TENANT)	20.1	20	/ 1	A	20	/ 1	20.1	20	/ 1	WASHER (2)
19											
21	SURGE PROTECTION DEVICE	20	/ 2	A							
23											

- 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 50A GFCI COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 5 FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

**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.



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10-JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

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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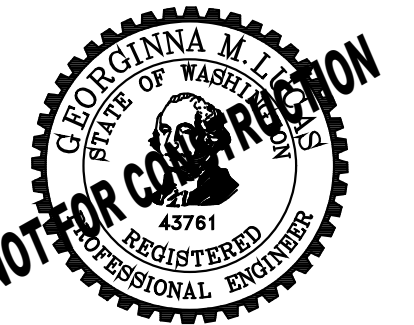


New Kirkland Heights LLLP  
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13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 4  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

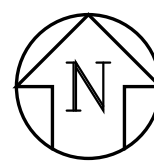
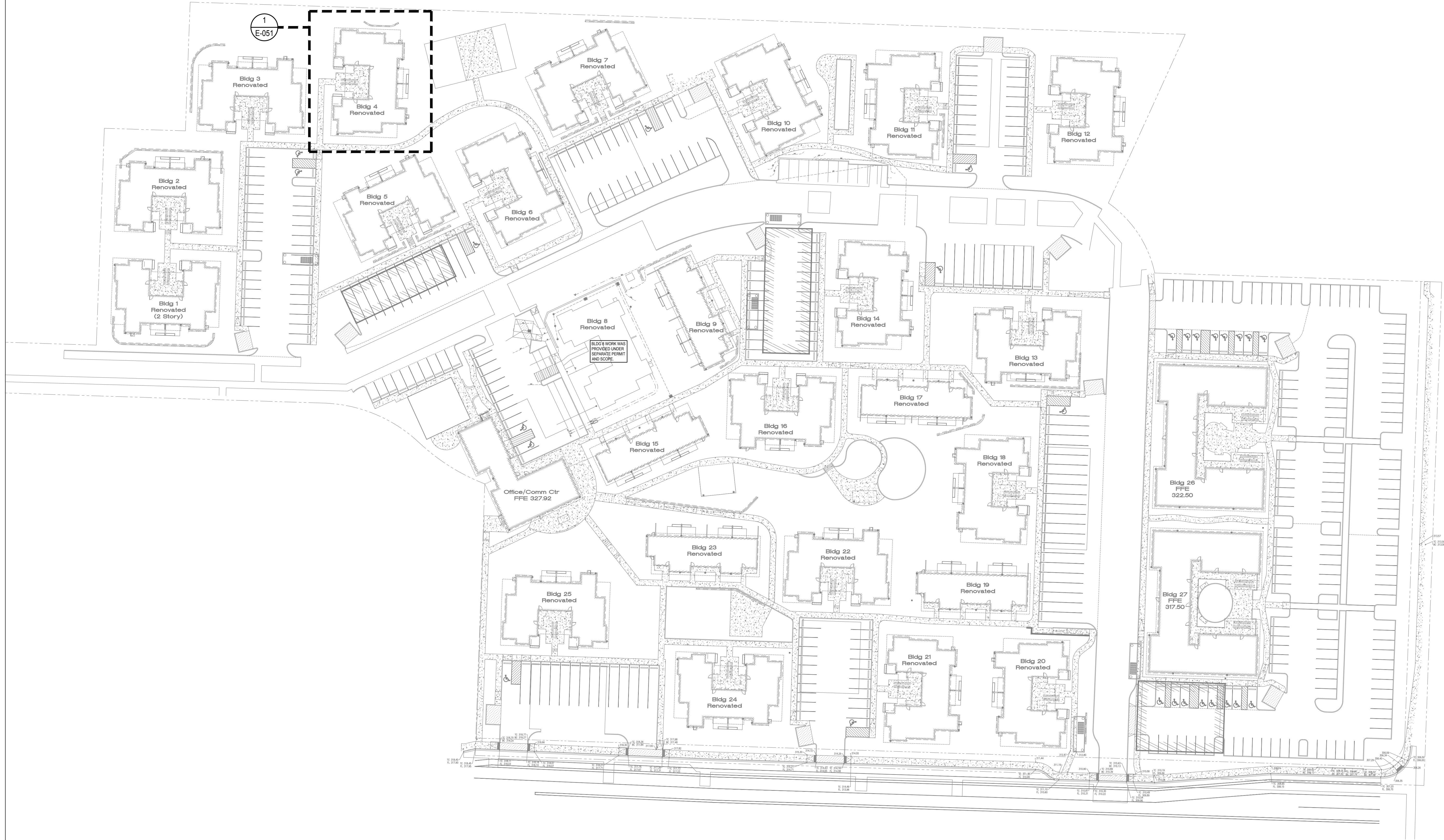
TITLE  
LUMINAIRE  
SCHEDULE

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

E4-005



10/7/2021 1:33:34 AM



**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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General Partner  
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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 4  
BID SET**



REVISIONS / NOTES  
NO DATE DESCRIPTION

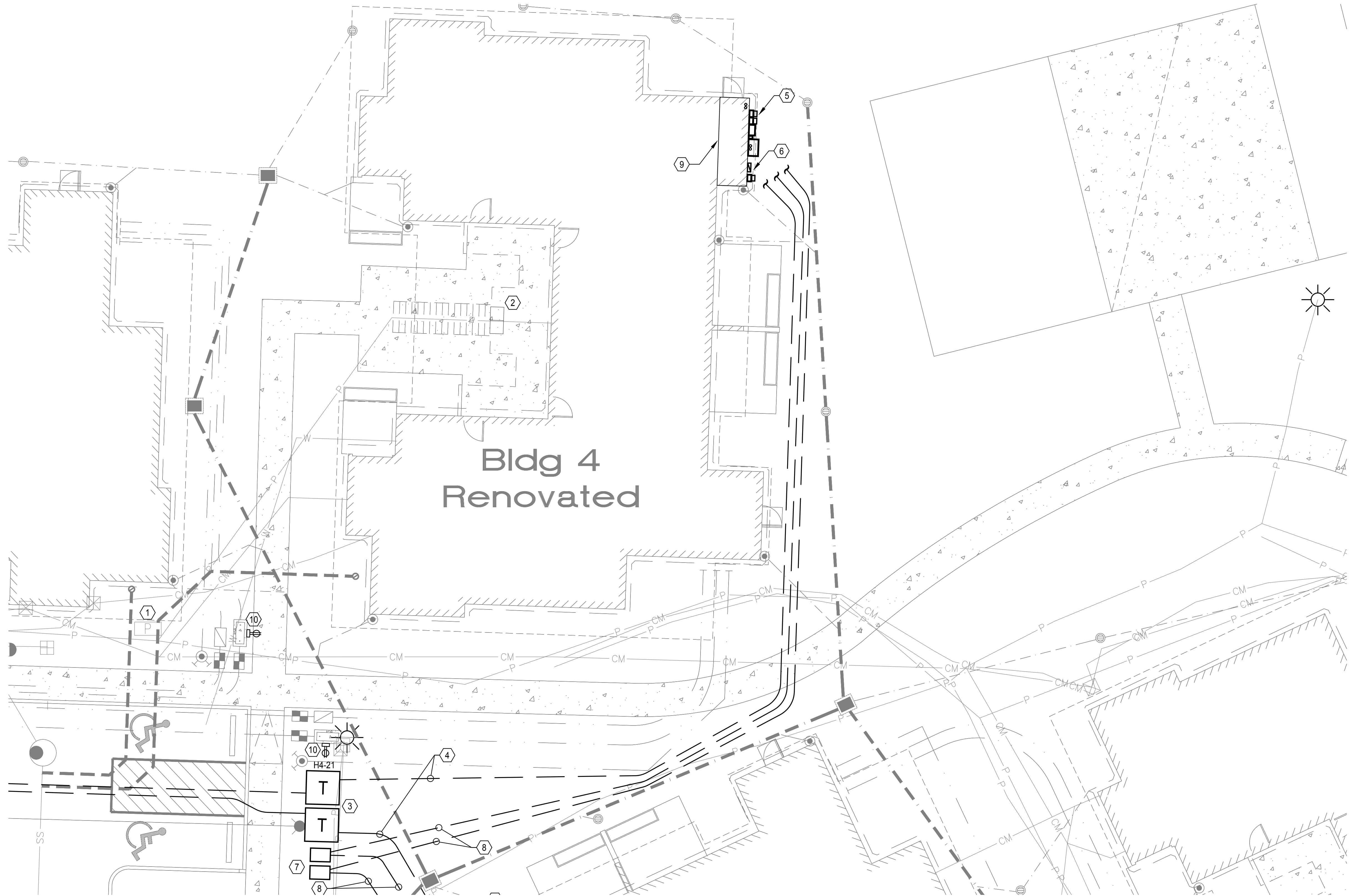
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TITLE  
**OVERALL  
PROJECT SITE  
PLAN**

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

**E4-050**





**ELECTRICAL SITE PLAN - BUILDING 4**  
SCALE: 1/8" = 1'-0"

**FLAG NOTES (X):**

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

**GENERAL NOTES:**

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 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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**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.  
Kirkland, WA 98034

**BUILDING 4  
BID SET**



REVISIONS / NOTES  
NO DATE DESCRIPTION

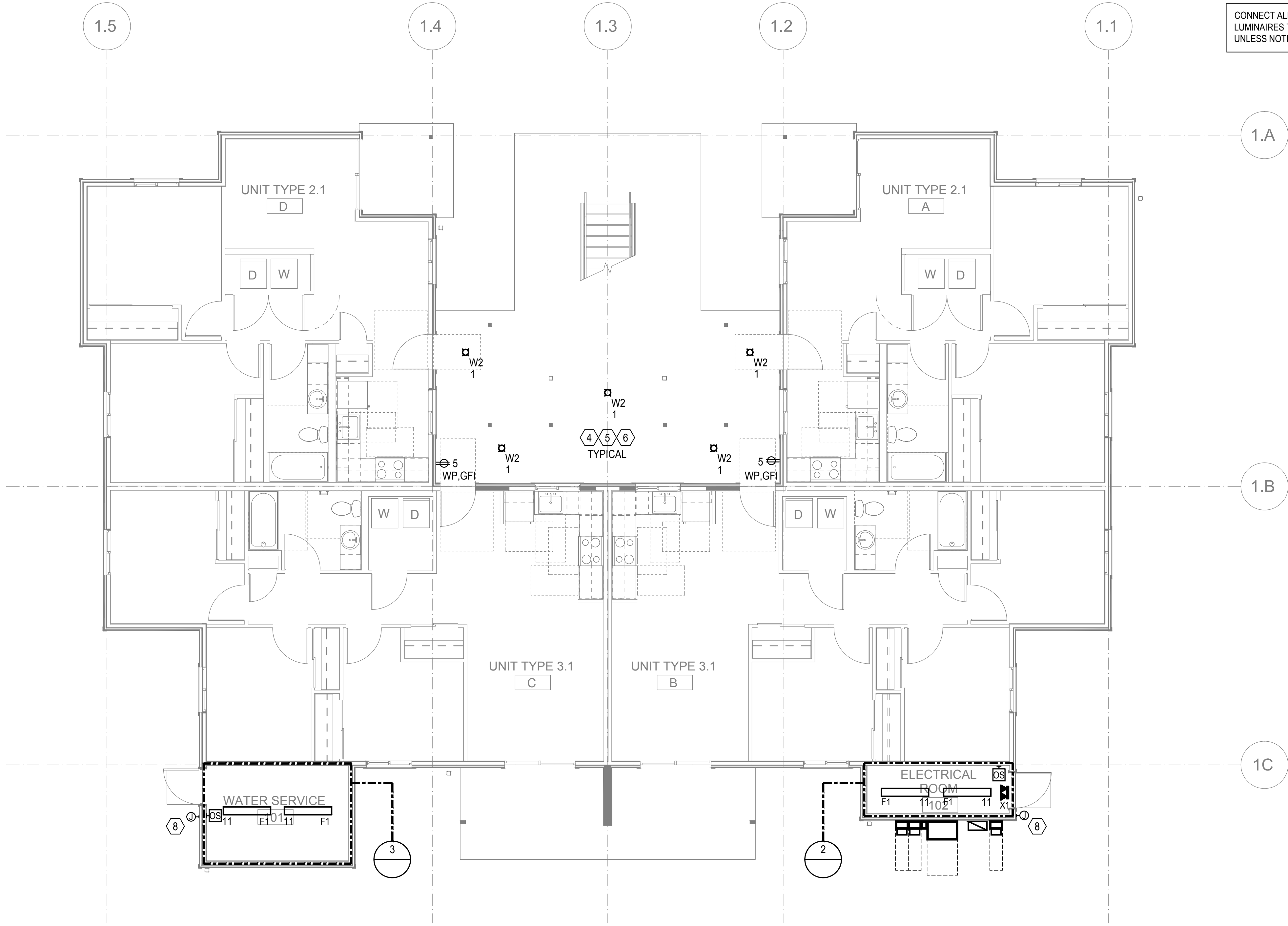
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**ELECTRICAL  
SITE PLAN -  
BUILDING 4**

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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E4-051**





**POWER AND LIGHTING PLAN - BUILDING 4 - LEVEL 1**  
SCALE: 3/16"=1'-0"

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.

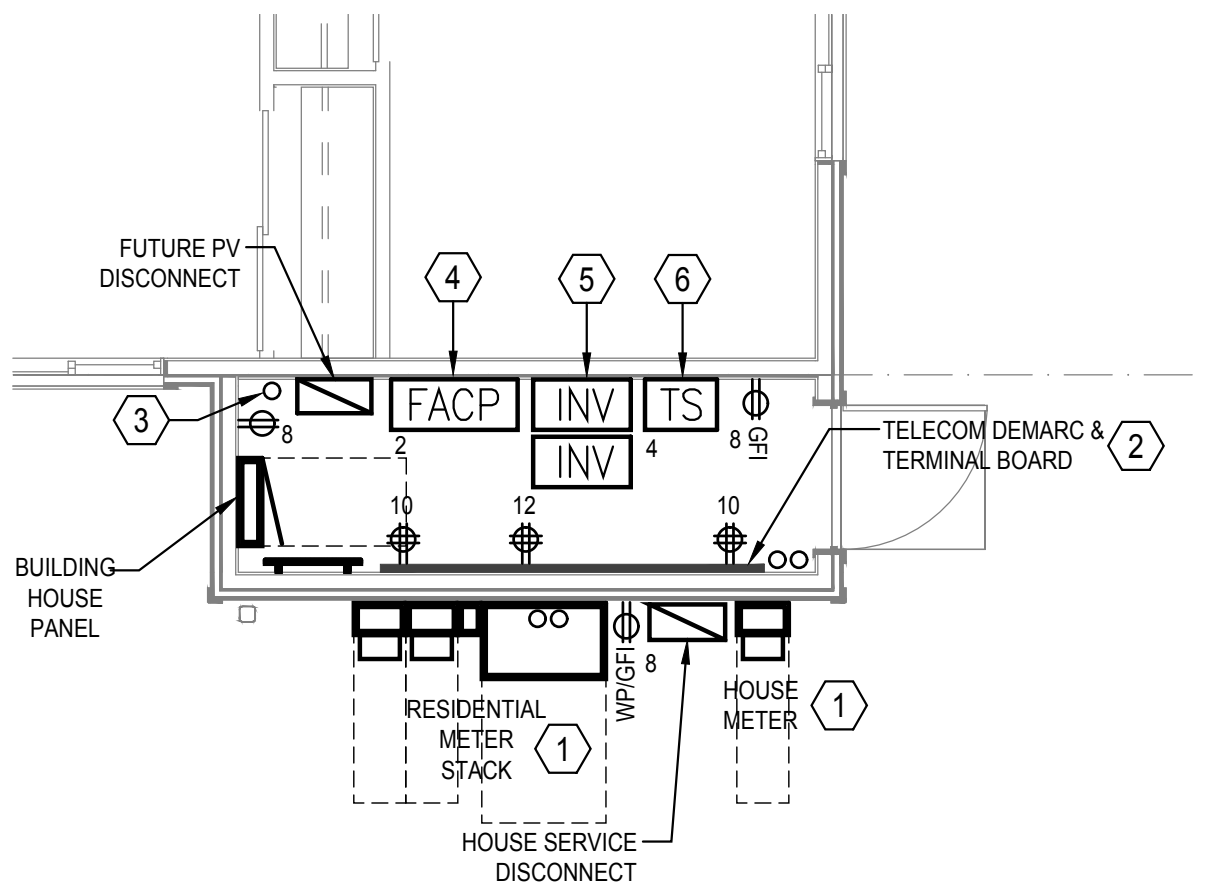
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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.

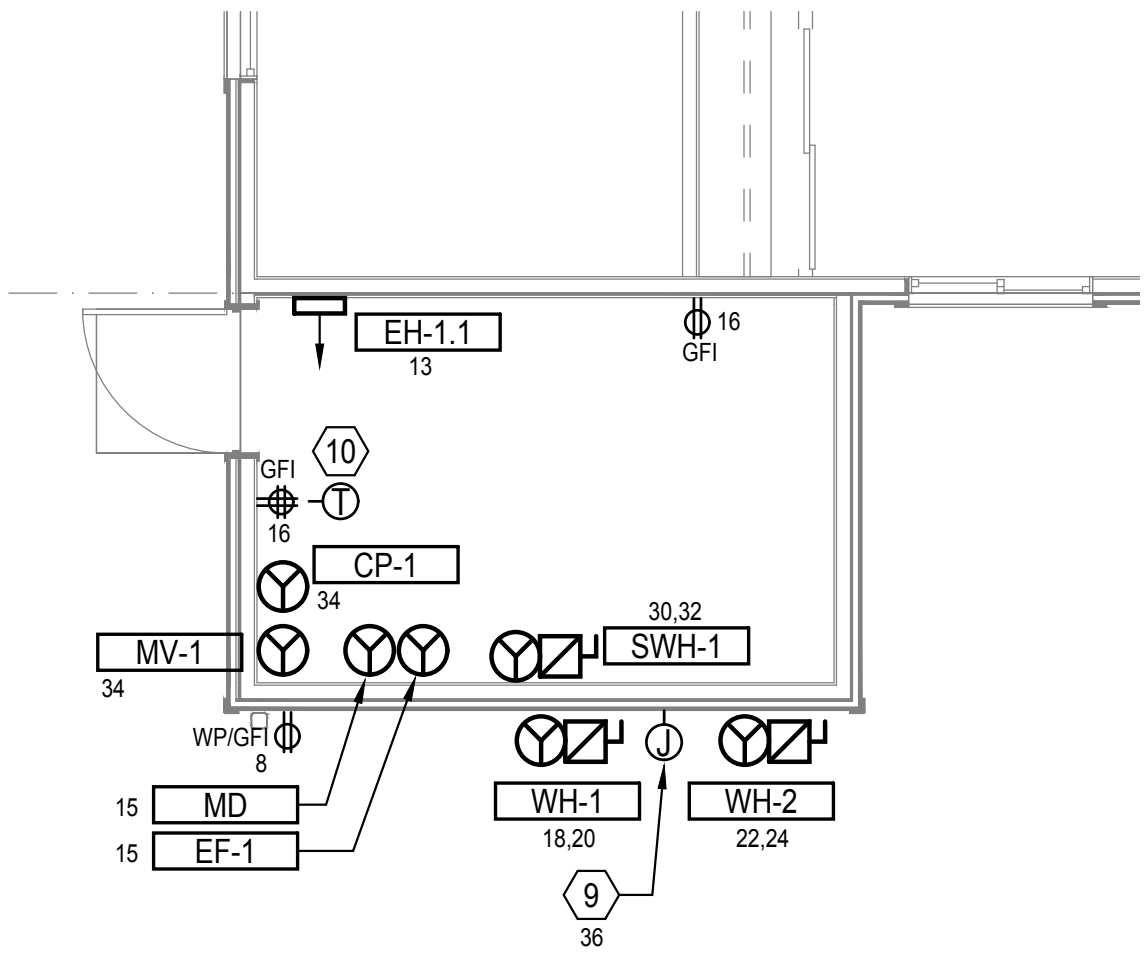
**FLAG NOTES (X):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



**2 ELECTRICAL ROOM**

E101 1/4"=1'-0"



**3 WATER ROOM**

E101 1/4"=1'-0"



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

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 4**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

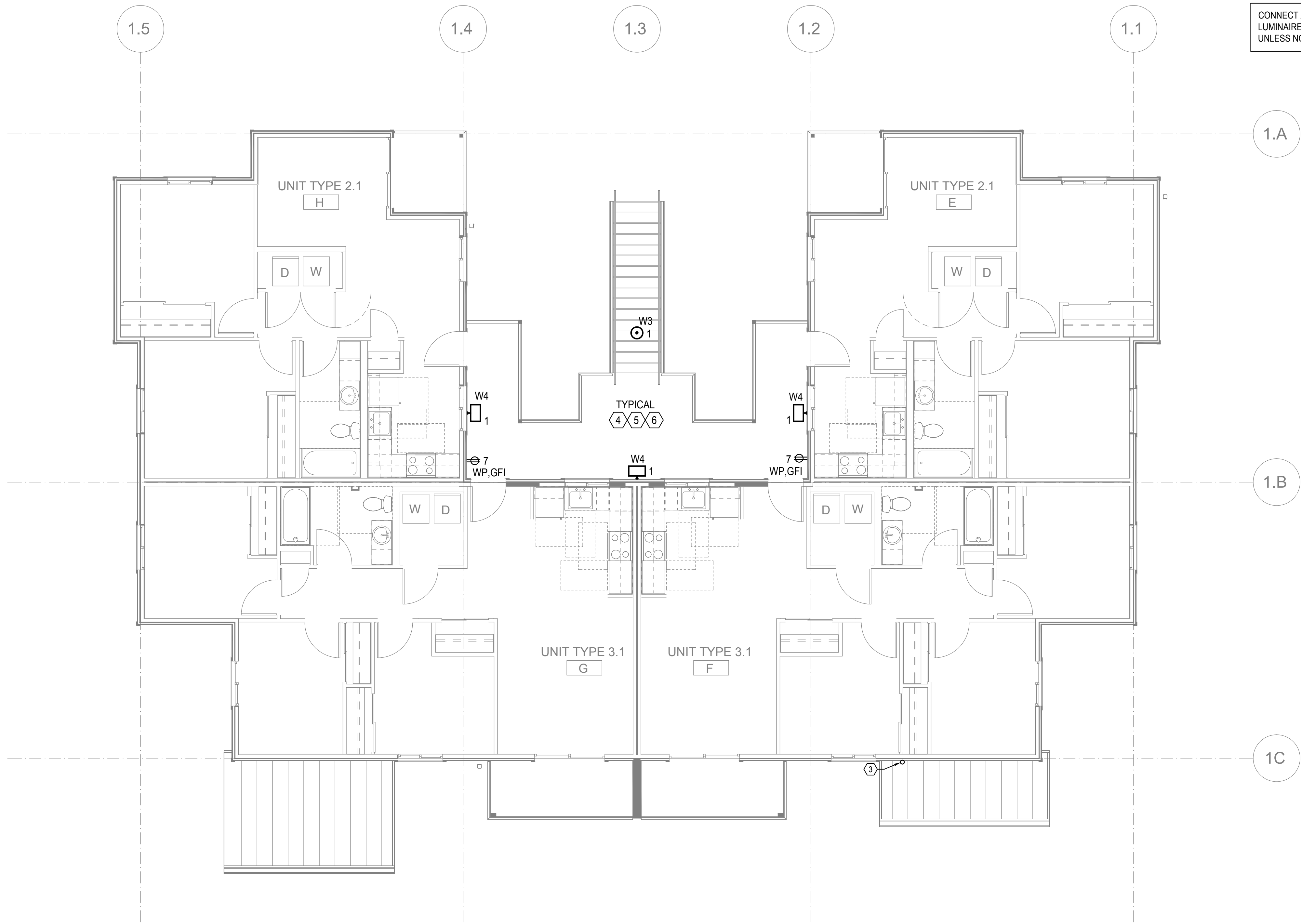
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**POWER AND LIGHTING PLAN - BUILDING 4 - LEVEL 1**

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JOB NO. 22016  
SHEET NO.:

**E4-101**





**POWER AND LIGHTING PLAN - BUILDING 4 - LEVEL 2**  
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. 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 MARSHAL 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.



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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 4**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 4 -  
LEVEL 2**

PERMIT #  
DRAWN RA, JF  
CHECKED GL  
ISSUE DATE 4/14/2023  
JOB NO. 22016  
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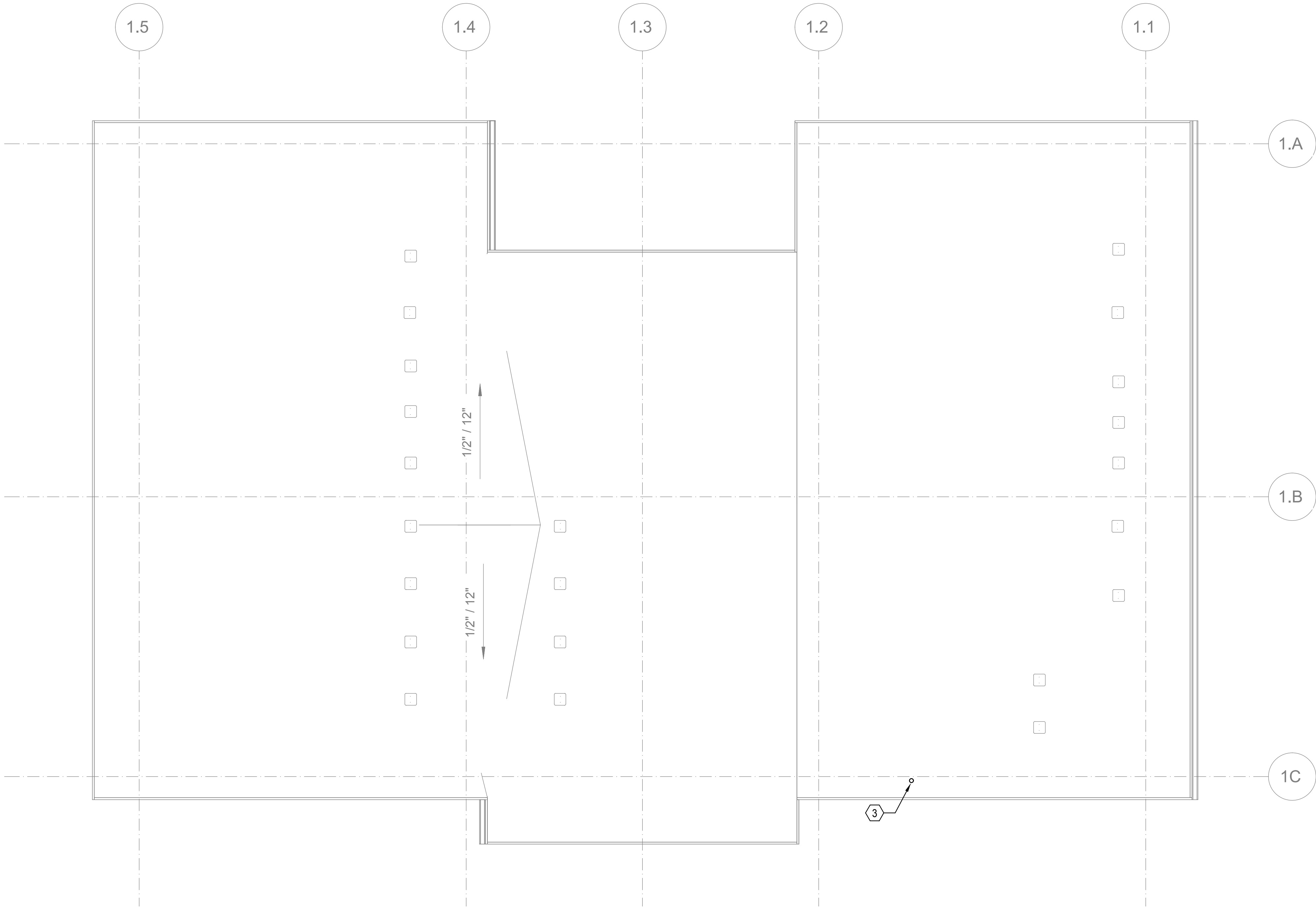
**E4-102**



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



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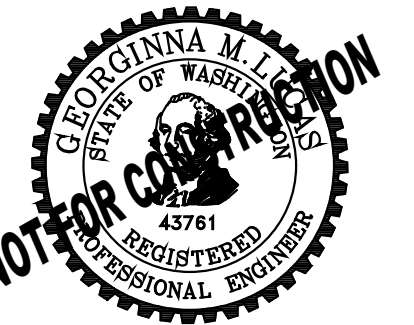


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KIRKLAND  
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APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 4  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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TITLE  
POWER PLAN -  
BUILDING 4 -  
ROOF

PERMIT #  
DRAWN RA, JF  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

E4-103







FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT #(SETS) SIZE	AL OR CU	CONDUCTORS PER SET		GROUND (1 PER SET UNO)
			PHASE / NEUTRAL (N) QTY SIZE	CONDUCTOR QTY SIZE	
500.3U	(2) 4-INCH	AL	(3) 500 KCMIL	(3) 500 KCMIL	NOTE #1
500.3	(2) 4-INCH	AL	(3) 500 KCMIL	(3) 500 KCMIL	NOTE #1
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	(3) 350 KCMIL	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	(3) 350 KCMIL	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	(3) 300 KCMIL	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	(3) 300 KCMIL	NOTE #1
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	(3) 700 KCMIL	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	(3) 500 KCMIL	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	(3) 350 KCMIL	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	(3) 300 KCMIL	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	(3) 300 KCMIL	#2
200.4U	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	(3) 250 KCMIL	NOTE #1
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #40 / (1) #40 N	(3) #40	#4
175.3	(1) 3-INCH	AL	(3) #40	(3) #40	#4
150.4	(1) 2-INCH	AL	(3) #30 / (1) #30 N	(3) #30	#4
150.3	(1) 2-INCH	AL	(3) #30	(3) #30	#4
125.4	(1) 2-INCH	AL	(3) #20 / (1) #20 N	(3) #20	#4
100.4	(1) 2-INCH	AL	(3) #10 / (1) #10 N	(3) #10	#5
100.3	(1) 2-INCH	AL	(3) #10	(3) #10	#5
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	(3) #2	#5
90.3	(1) 1.5-INCH	CU	(3) #2	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	(3) #3	#5
80.3	(1) 1.5-INCH	CU	(3) #3	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	(3) #4	#5
70.3	(1) 1.5-INCH	CU	(3) #4	(3) #4	#5
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N	(3) #4	#10
60.3	(1) 1-INCH	CU	(3) #4	(3) #4	#10
60.2U	(1) 1-INCH	CU	(2) #4 / (1) #4 N	(2) #4	#10
60.2	(1) 1-INCH	CU	(2) #4	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	(1) #4	#10
50.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	(3) #5	#10
50.3	(1) 1-INCH	CU	(3) #5	(3) #5	#10
50.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	(2) #5	#10
50.2	(1) 1-INCH	CU	(2) #5	(2) #5	#10
50.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	(1) #5	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	(3) #5	#10
40.3	(1) 1-INCH	CU	(3) #5	(3) #5	#10
40.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	(2) #5	#10
40.2	(1) 1-INCH	CU	(2) #5	(2) #5	#10
40.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	(1) #5	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	(3) #10	#10
30.3	(1) 1-INCH	CU	(3) #10	(3) #10	#10
30.2U	(1) 1-INCH	CU	(2) #10 / (1) #10 N	(2) #10	#10
30.2	(1) 1-INCH	CU	(2) #10	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	(1) #10	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	(3) #12	#12
20.3	(1) 1-INCH	CU	(3) #12	(3) #12	#12
20.2U	(1) 1-INCH	CU	(2) #12 / (1) #12 N	(2) #12	#12
20.2	(1) 1-INCH	CU	(2) #12	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	(1) #12	#12

GENERAL SCHEDULE NOTES:  
A. AL= ALUMINUM (STABILLOY 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	565	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	40	65	100	160
	30	3.60	35	55	85	135
	4	0.42	380	645	995	1595
	6	0.63	440	730	1125	1780
	8	1.25	290	485	750	1185
	9	1.66	220	365	560	890
	10	2.08	175	290	450	710
208V/ 1-PHASE	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	70	115	180	285
	30	6.24	60	95	150	235
	35	7.28	50	80	125	200
	40	8.32	45	70	110	175
	45	9.36	40	60	95	155
	50	10.40	35	50	80	140
	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2080
	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
208V/ 3-PHASE	16	5.76	125	210	325	515
	18	6.48	110	185	285	455
	20	7.21	100	165	250	410
	25	9.01	80	135	205	325
	30	10.81	70	110	170	270
	35	12.61	60	95	145	235
	40	14.41	50	80	120	200
	45	16.21	45	70	105	180
	50	18.01	40	60	90	160
	55	20.25	35	50	75	140

NOTES:  
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													
NORMAL POWER			VOLTAGE: 120 / 240 V			FED FROM: XFR			LOCATION: ELECTRICAL ROOM				
AC: SEE SINGLE LINE DIAGRAM			1-PHASE, 3-WIRE			SURFACE MOUNTED							
CKT #	DESCRIPTION	CONDUIT	TYPE	KVA	TAG	AMPS/PH	PH	CB	CKT TAG	CONDUIT	DESCRIPTION	CKT #	
1	TO: BEEHIVE	1	0.01	20	1	A	20	1	201	N	1.00 SPARE ALARM CONTROL PANEL	3	
2	SPARE	1	0.01	20	1	B	20	1	201	N	0.24 TO TIME CLOCK	4	
3	RECEPT-LV-1 REFEZWAY	1	0.36	201	20	1	A	20	1	201	N	0.36 SPARE	5
4	RECEPT-LV-2 REFEZWAY	1	0.36	201	20	1	B	20	1	201	N	0.36 RECEPTS-ELECTRM	6
5	RECEPT-LV-3 REFEZWAY	1	0.36	201	20	1	A	20	1	201	N	0.72 RECEPTS-TELECOM	7
6	RECEPT-LV-4 REFEZWAY	1	0.36	201	20	1	B	20	1	201	N	0.36 RECEPTS-TELECOM	8
7	ELECT HEATER, FIRE SPRINKLER	1	0.36	201	20	1	A	20	1	201	N	0.36 SPARE	9
8	ELECT HEATER, FIRE SPRINKLER	1	0.36	201	20	1	B	20	1	201	N	0.36 SPARE	10
9	ELECT HEATER, FIRE SPRINKLER	1	0.36	201	20	1	A	20	1	201	N	0.36 SPARE	11
10	ELECT HEATER, FIRE SPRINKLER	1	0.36	201	20	1	B	20	1	201	N	0.36 SPARE	12
11	SPARE	1	0.01	20	1	A	15	2	201	C	1.75 HEATPUMP-VALVE/HEATM. W/AT-1	13	
12	SPARE	1	0.01	20	1	B	15	2	201	C	1.75 HEATPUMP-VALVE/HEATM. W/AT-2	14	
13	HEAT TRACE - WATER CONNECTION	1	0.01	20	1	A	15	2	201	C	1.75 HEAT TRACE - WATER/HEATM. W/AT-1	15	
14	SPARE	1	0.01	20	1	B	15	2	201	C	1.75 HEAT TRACE - WATER/HEATM. W/AT-2	16	
15	HEAT TRACE - WATER COILS	1	0.01	20	1	A	15	2	201	C	1.75 HEAT TRACE - WATER/HEATM. W/AT-1	17	
16	SPARE	1	0.01	20	1	B	15	2	201	C	1.75 HEAT TRACE - WATER/HEATM. W/AT-2	18	
17	SPARE	1	0.01	20	1	B	15	2	201	C	1.75 HEAT TRACE - WATER/HEATM. W/AT-2	19	
18	SPACE ONLY											20	
19	SPACE ONLY					A	20	1	201	C	4.50 VM-SAVING TANK - SWAT-1	21	
20	SPACE ONLY					B	20	1	201	C	4.50 VM-SAVING TANK - SWAT-2	22	
21	SPACE ONLY											23	
22	SPACE ONLY					A	20	1	201	N	0.36 RECEPT-CKT 18 RM VALVE SWAT-1	24	
23	SPACE ONLY					B	20	1	201	N	0.72 HEAT TRACE - HEATPUMP/WATER/HEATM. W/AT-1	25	
24	SPACE ONLY											26	
25	SPACE ONLY											27	
26	SPACE ONLY											28	
27	SPACE ONLY											29	
28	SPACE ONLY											30	
29	SPACE ONLY											31	
30	SPACE ONLY											32	
NOTES													
A - SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CIRCUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG													
CIRCUIT NOTES (U)													
U - PROVIDE 30MM SLOPE FAL EQUIPMENT PROTECTION BREAKER													
L	= LIGHTING	0.87	kVA	125%		0.88	kVA				PANEL CONNECTED TOTAL		
R	= RECEPTACLES	4.14	kVA	NEG 220-44		4.14	kVA				17.67	kVA	
M	= MOTORS	4.28	kVA	100%		4.28	kVA				72.64	kVA	
P	= PLUS 25% LARGEST MOTOR	0.24	kVA	25%		0.05	kVA						
C	= CONTINUOUS	11.18	kVA	100%		11.18	kVA				PANEL DEMAND TOTAL		
N	= NON-CONTINUOUS	1.44	kVA	100%		1.44	kVA				30.70	kVA	
K	= KITCHEN	0.03	kVA	75%		0.00	kVA				86.24	kVA	



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L-EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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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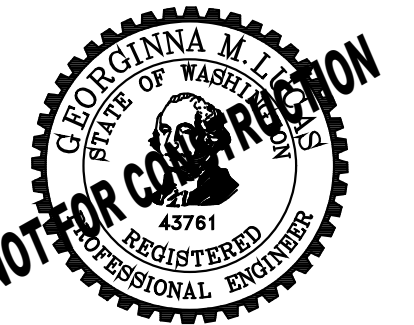


New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 5  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

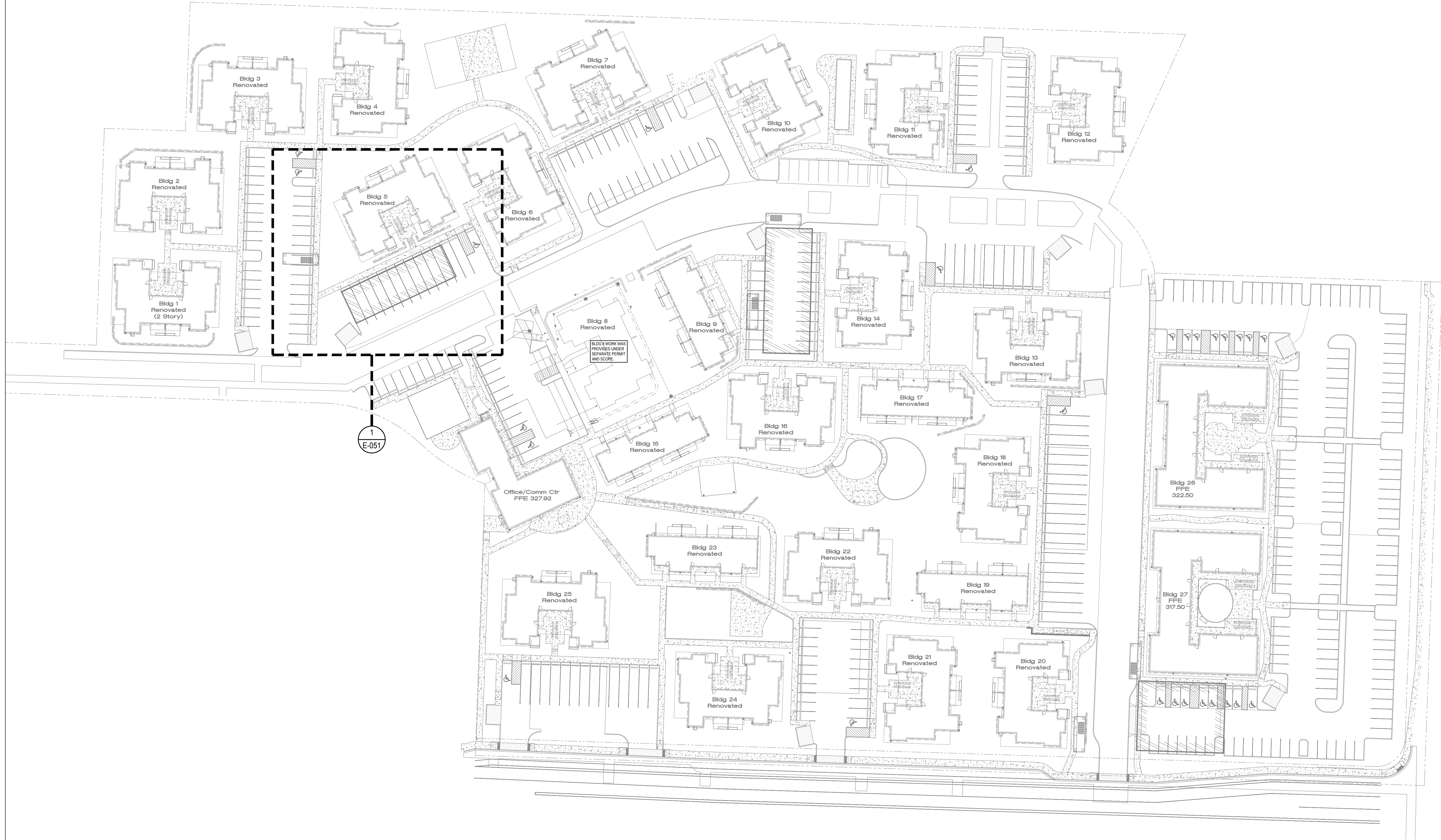
TITLE  
LUMINAIRE  
SCHEDULE

PERMIT #  
DRAWN RA, JF  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

E5-005



10/7/2021 1:33:34 AM



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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General Partner  
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Kirkland, WA 98034  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 5  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

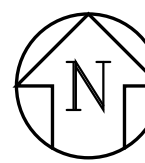
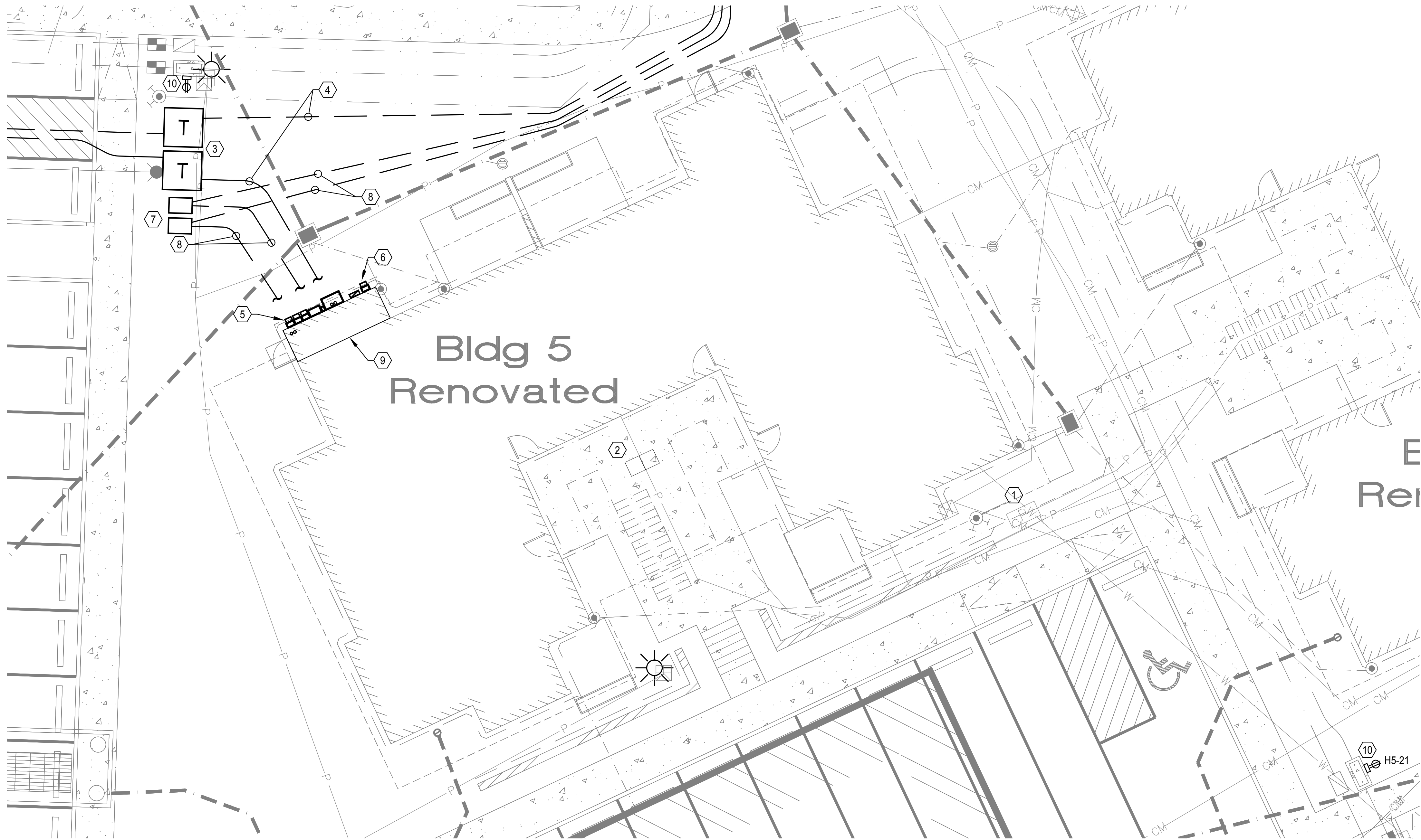
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TITLE  
OVERALL  
PROJECT SITE  
PLAN

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E5-050





## ELECTRICAL SITE PLAN - BUILDING 5

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

### FLAG NOTES (X):

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

### GENERAL NOTES:

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 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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13310 NE 133<sup>rd</sup> St.  
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CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

## BUILDING 5 BID SET



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TITLE

## ELECTRICAL SITE PLAN - BUILDING 5

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# E5-051





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Kirkland, WA 98034.  
CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 5  
BID SET



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NO DATE DESCRIPTION

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TITLE  
POWER AND LIGHTING PLAN - BUILDING 5 - LEVEL 1

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

E5-101

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.

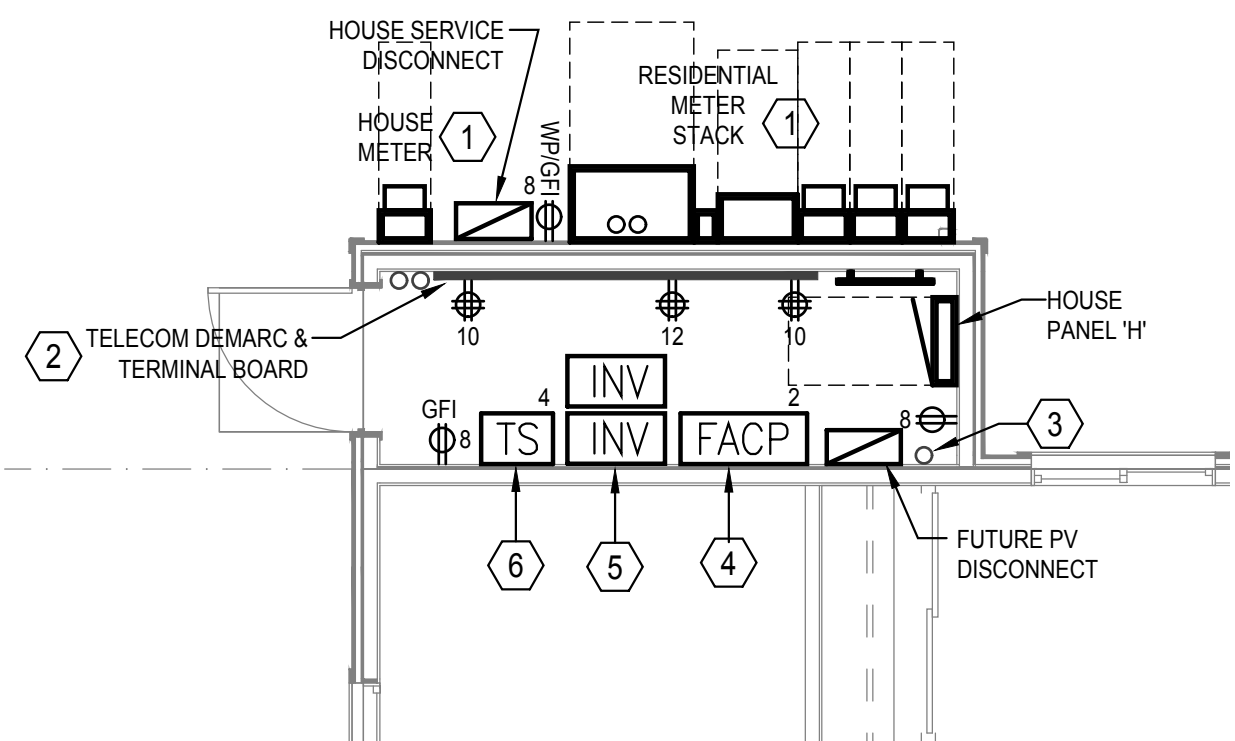
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

### GENERAL NOTES:

- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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.

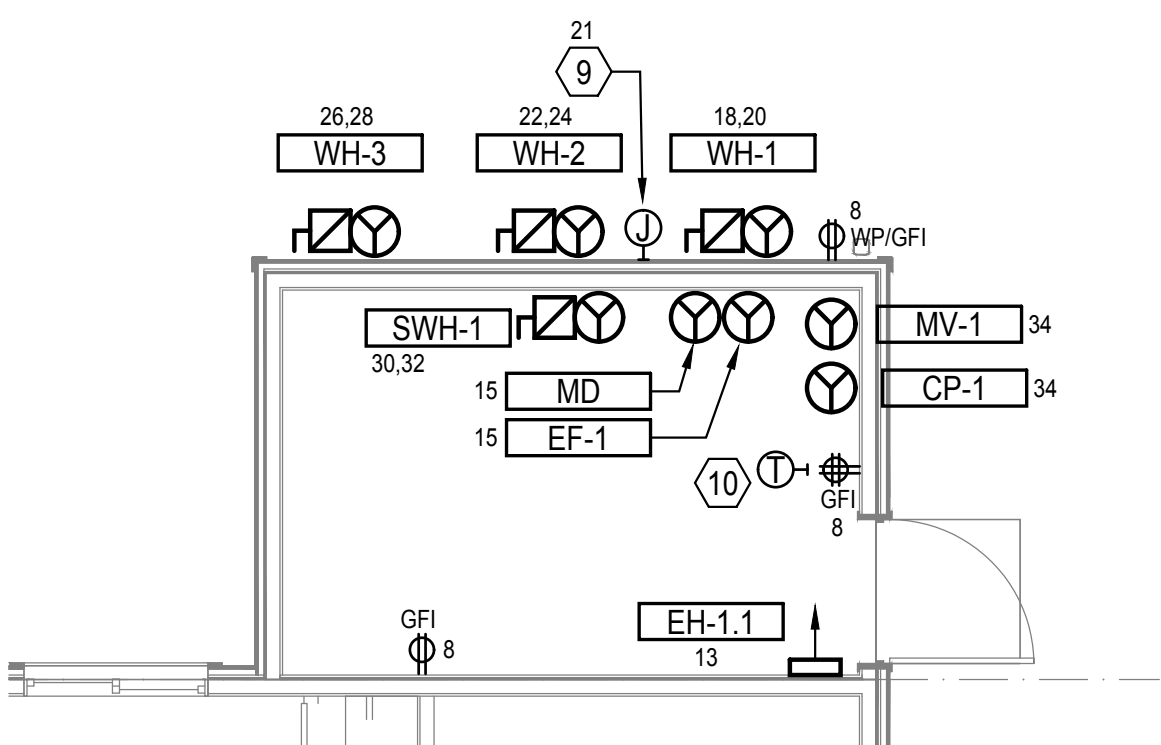
### FLAG NOTES (X):

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- 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 5 - LEVEL 1

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

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

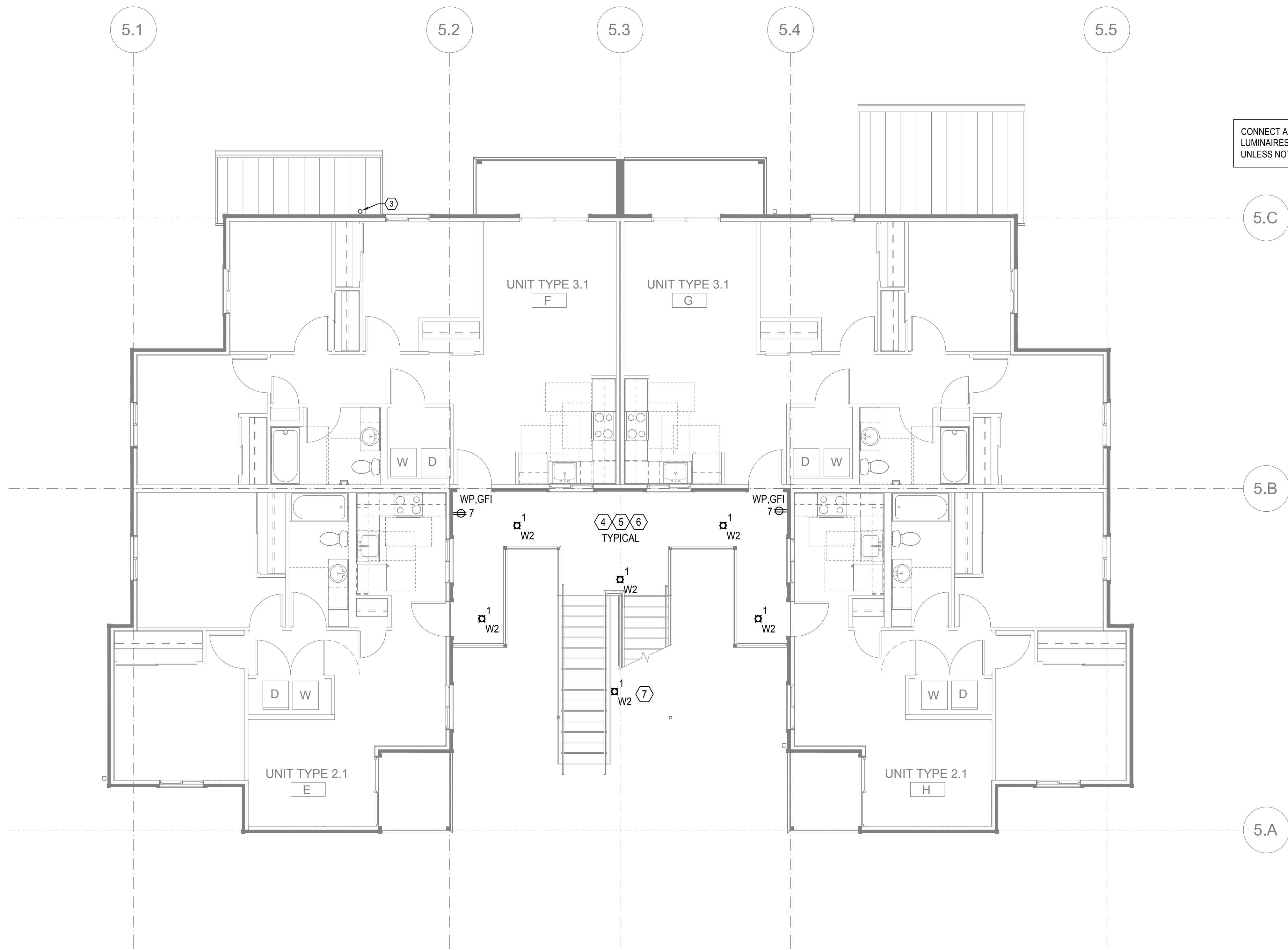
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5.B

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**POWER AND LIGHTING PLAN - BUILDING 5 - LEVEL 2**  
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 CONTRACTORS 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:**

- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):**
- NOT USED.
  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - 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
  - 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.
  - LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.



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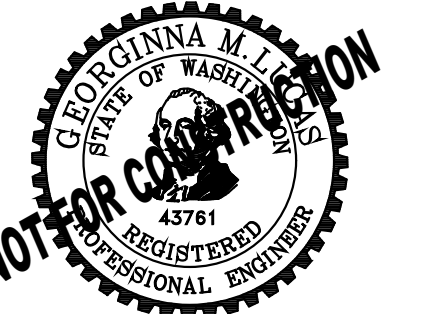


**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.  
Kirkland, WA 98034

**BUILDING 5**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

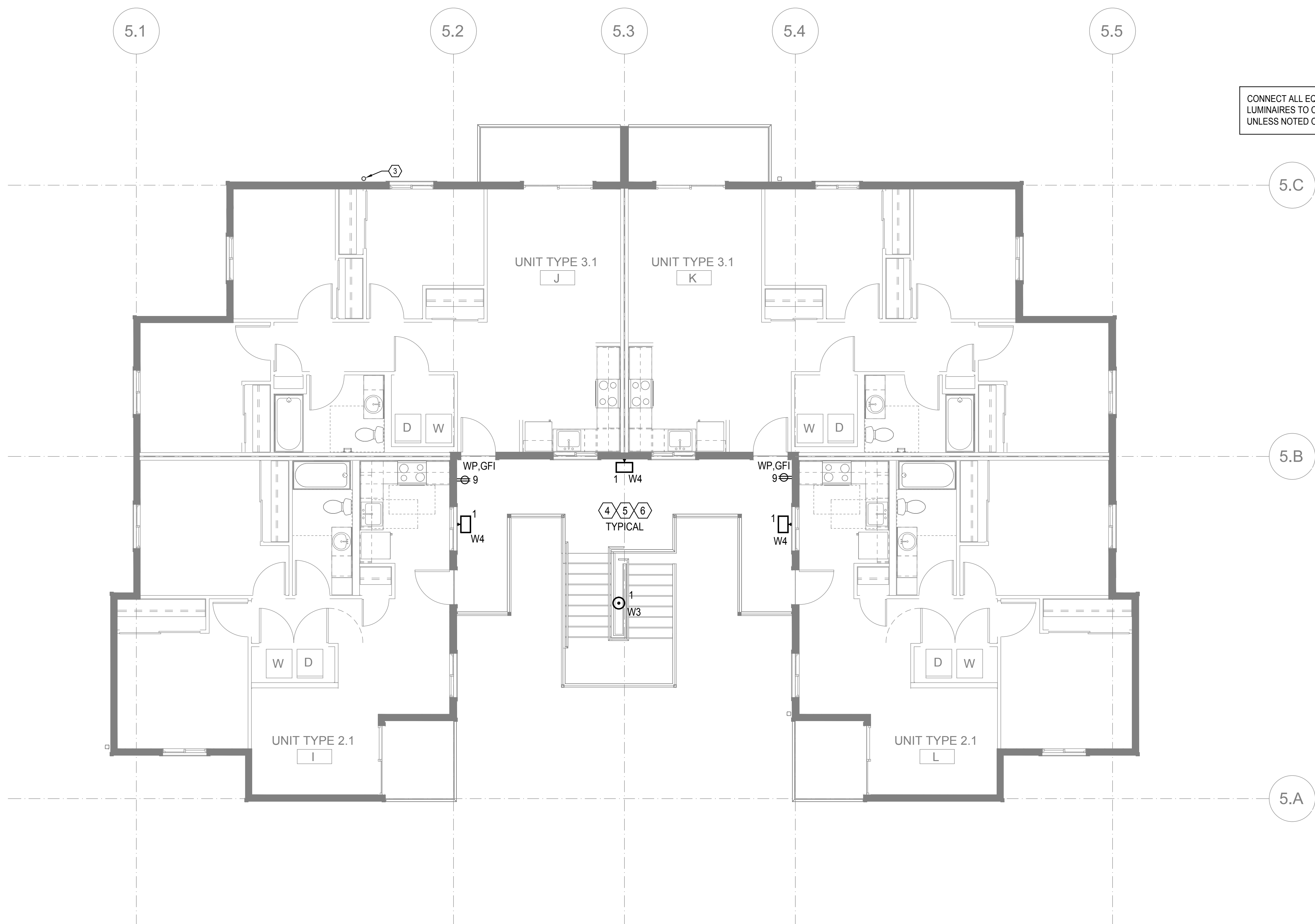
TITLE  
**POWER AND LIGHTING PLAN - BUILDING 5 - LEVEL 2**

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

**E5-102**



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

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

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**FLAG NOTES (X):**

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- NOT USED.
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13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 5**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

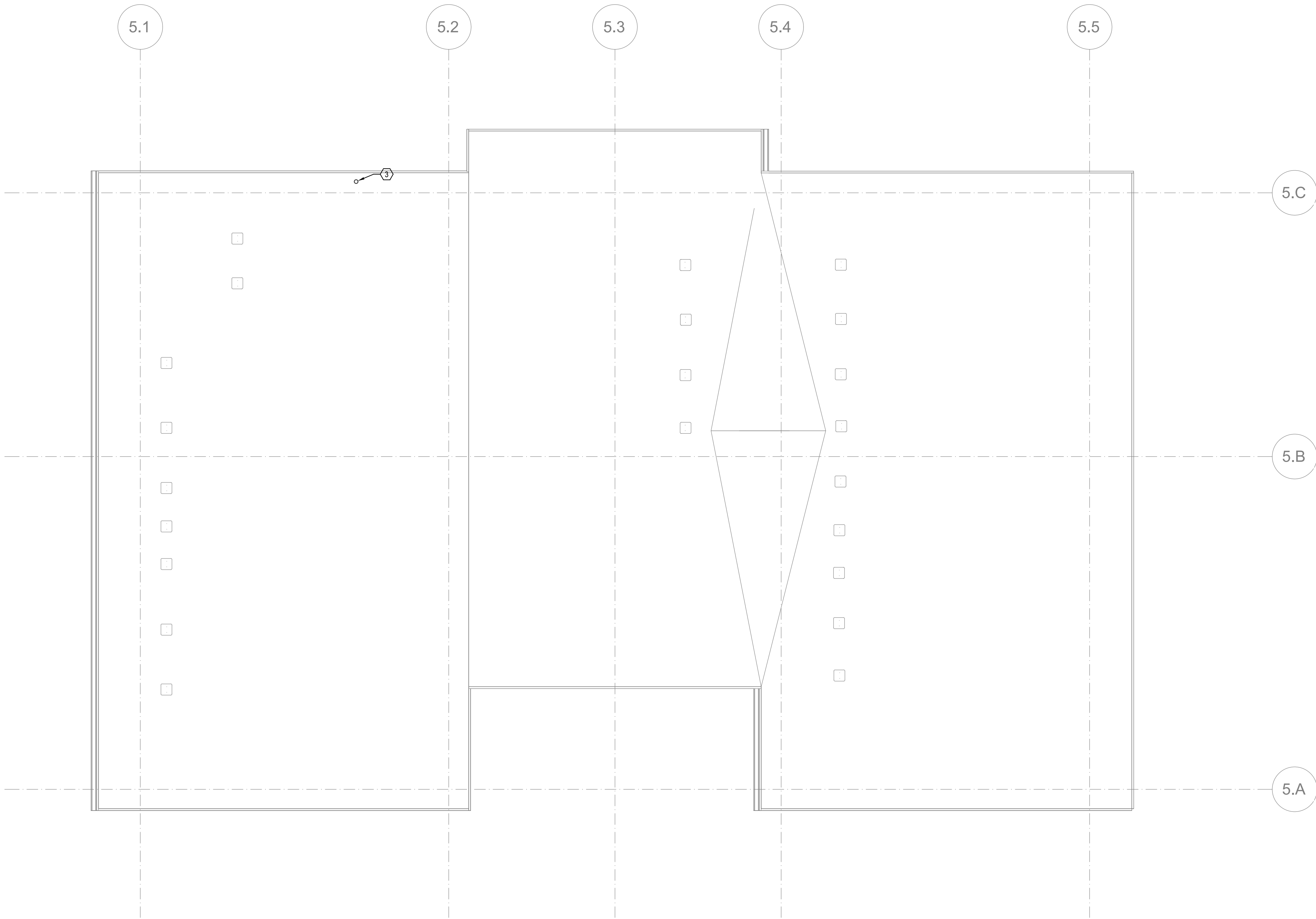
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TITLE  
**POWER AND LIGHTING PLAN - BUILDING 5 - LEVEL 3**

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

**E5-103**





**POWER PLAN - BUILDING 5 - ROOF**  
SCALE: 3/16"=1'-0"

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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.
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- FLAG NOTES (X):**
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  - 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  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 5**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

DPD STAMP

TITLE  
**POWER PLAN -  
BUILDING 5 -  
ROOF**

PERMIT #	
DRAWN	RA, JF
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**E5-104**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WET) 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	#20
550.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 300 KCMIL N	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#10
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	#2
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
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#6
80.3	(1) 1.5-INCH	CU	(3) #2	#6
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#6
80.3	(1) 1.5-INCH	CU	(3) #3	#6
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#6
70.3	(1) 1-INCH	CU	(3) #4	#6
60.4	(1) 1-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
60.1	(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
50.1	(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
40.1	(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
30.1	(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
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES:

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

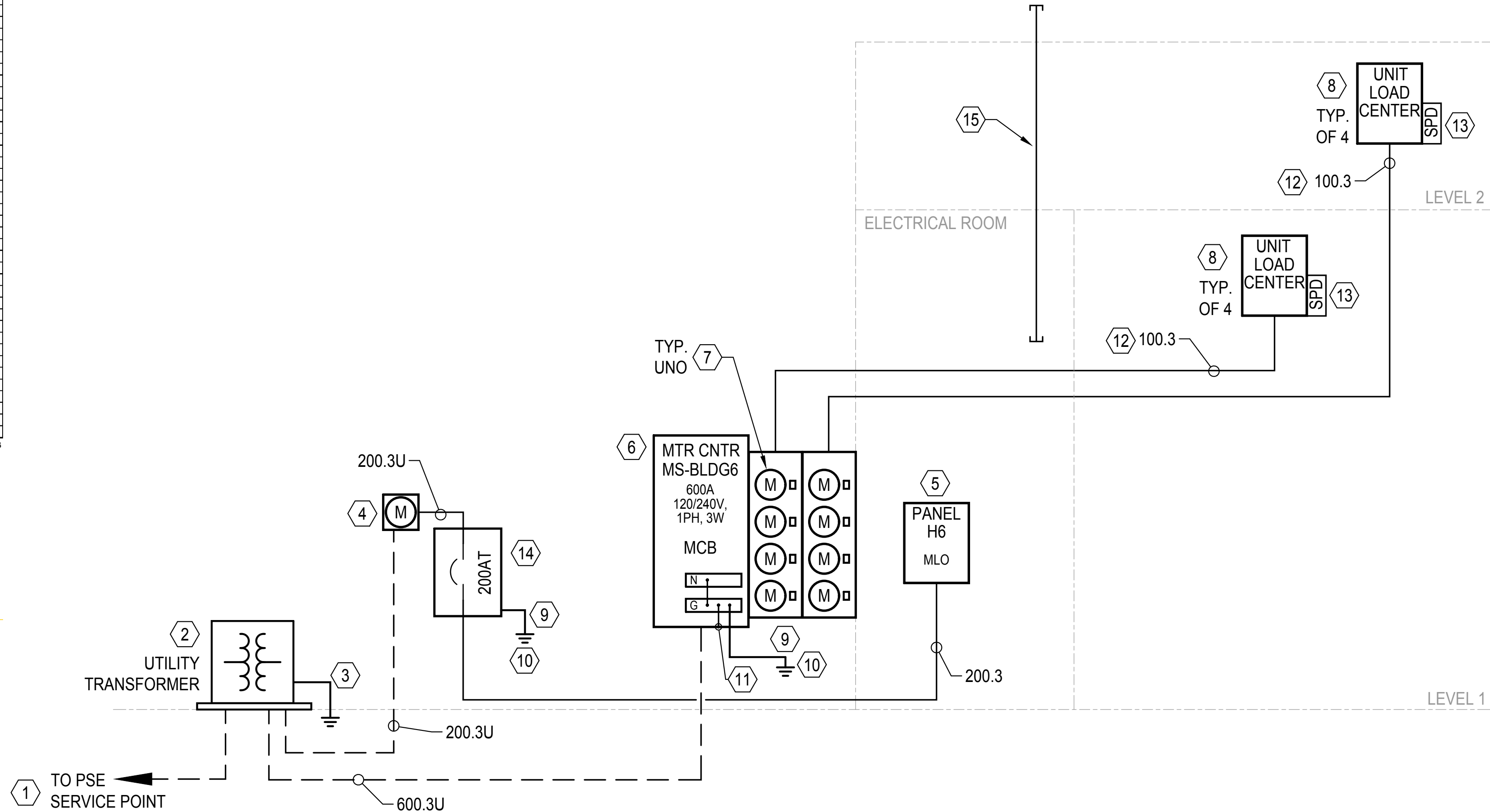
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F). AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 90-DEGREES C (194-DEGREES F).

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.



## SINGLE LINE DIAGRAM

SCALE:NTS

## LOAD CALCULATIONS - BLDG 6

UNIT TYPE: 2BR - 2.1	AREA (SF): 782	4/6/2023
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 [220.63]:		
REFRIGERATOR	1 AT	0.70 kVA
RANGE HOOD	1 AT	0.30 kVA
MICROWAVE	AT	0.00 kVA
DISHWASHER	AT	0.00 kVA
WASHER	1 AT	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]:		
TOILET EXHAUST FAN	AT	0.00 kVA
ERV UNIT	1 AT	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]:		
CLOTHES DRYER [220.54]	1 AT	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	8.80 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): 908	4/6/2023
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 [220.63]:		
REFRIGERATOR	1 AT	0.70 kVA
RANGE HOOD	1 AT	0.30 kVA
MICROWAVE	AT	0.00 kVA
DISHWASHER	AT	0.00 kVA
WASHER	1 AT	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]:		
TOILET EXHAUST FAN	AT	0.00 kVA
ERV UNIT	1 AT	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]:		
CLOTHES DRYER [220.54]	1 AT	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	8.80 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		4/6/2023													
DEMAND LOAD (KVA):												95.86 =>		399.4 AMPS AT		240 V		1 PH									
SPACE												CLOTHES DRYERS		COOKING APPLIANCES													
UNIT TYPE												QTY		LOAD (KVA)		1.5K X < 3.6KW		3.6KW < X < 8.75KW		8.75KW < X < 12KW							
2BR - 2.1												4		22.00		0		0.00		0		0.00		4		35.20	
3BR - 3.1												4		22.00		0		0.00		0		0.00		4		35.20	
TOTALS:												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											



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

- GENERAL SCHEDULE NOTES:**
- A. AL= ALUMINUM (STABILTY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/THW 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	#4 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055	
	3	0.36	335	565	865	1370	
	4	0.48	250	420	645	1025	
	6	0.72	165	275	430	685	
	8	0.96	125	210	330	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	
	40	4.80		40	60	100	
	50	6.00		30	45	75	
208V / 3-PHASE	2	0.42	580	1465	2250	3650	
	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		80	125	200	
	40	8.32		70	110	175	
	45	9.36				155	
208V / 3-PHASE	50	10.40				140	
	2	0.72	1000	1695	2600	4120	
	4	1.44	500	845	1300	2080	
	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	250	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:**
- 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				FEED FROM				LOCATION: ELECTRICAL ROOM SURFACE MOUNTED			
AC - SEE SINGLE LINE DIAGRAM				VOLTAGE: 120 / 240 V		PHASE: 3-WIRE		MOTOR HP		AMPS	
CKT #	DESCRIPTION	CON LOAD		DMD		PH	AMP	CKT	TYPE	DESCRIPTION	CKT #
		TYPE	KVA	TYPE	KVA						
1	120-3-RECEV-1	L	0.15	20.1	20	/	1	A	20	120-3-RECEV-1	1
3	SPARE		0.00	20	/	1	B	20	1	0.24	TIME TO LOCK
5	RECEPT-LV-1, 3-BREKWAY	R	0.36	20.1	20	/	1	A	20	0.00	SPARE
7	RECEPT-LV-1, 3-BREKWAY	R	0.36	20.1	20	/	1	B	20	0.04	RECEPTS-ELECT RM
9	SPARE		0.00	20	/	1	A	20	1	0.12	RECEPTS-TELECOM
11	120-3-ELECT MESH CLOSETS	L	0.24	20.1	20	/	1	B	20	0.00	RECEPTS-TELECOM
13	ELECT LEVATOR, FIRE SPROKLER	S	0.150	20.1	20	/	1	A	20	0.00	SPARE
15	EXHAUST FAN EF-1, & AUTO DAMPER	M	0.24	20.1	20	/	1	B	20	0.00	EXHAUST FAN, MCH RM
17	SPARE		0.00	20	/	1	A	20	0.13	LEAD-TRACE WATER-INT. VM-2	
19	SPARE		0.00	20	/	1	B	20			
21	HEAT TRACE - WATER CONNECTION	H	0.24	20	/	1	A	15	17.5	LEAD-TRACE WATER-INT. VM-2	
23	SPARE		0.00	20.1	20	/	1	B	20		
25	SPARE		0.00	20	/	1	A	20	0.00	SPARE	
27	120-3-SITE	L	0.22	20.1	20	/	1	B	20	0.00	SPARE
29	SPARE ONLY							A	20	1.2	30.20
31	SPARE ONLY							B	4.00	VM-2ING SPARE, SUM-1	
33	SPARE ONLY							A	0.00	CRP, CPU, X & MX VALVE, VM-1	
35	SPARE ONLY							B	0.12	HEAT TRACE - LEAD-TRACE WATER-INT.	
37	SPARE ONLY									SPARE ONLY	
39	SPARE ONLY									SPARE ONLY	
41	SPARE ONLY									SPARE ONLY	
CONNECTED DEMAND LOAD											
L = LIGHTING											
R = RECEPTACLES											
M = MOTORS											
PLUS 25% OF LARGEST MOTOR											
C = CONTINUOUS											
K = NON-CONTINUOUS											
K = MOTOR											
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 PROTECTOR BREAKER											
PANEL CONNECTED TOTAL:											
PANEL DEMAND TOTAL:											

LOAD CENTER - 2 BEDROOM										FED FROM		METER STATIONS		LOADING / DWELLING LISTS			
NORMAL POWER		VOLTAGE		120 / 240 V		1 PHASE, 3 WIRE		FLUORESCENT									
AC - SEE SINGLE LINE DIAGRAM/ANALYSIS RATING										120 AMPS		MCH/MDN		MLO		120 AMPS	
CKT #	DESCRIPTION	TYPE	KVA	TAG	AMPS/PH	PH	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
1	BATHROOM (1)	20	1.0	1	1	A	50	1	1	45	20						
2	GENT'L RECEPT'S BD (1)	20	1.0	1	1	A	50	1	1	45	20						
3	RECEPTS (ENV. MEDIUM) (1)	20	1.0	1	1	A	50	1	1	45	20						
4	REINFORCEMENT (CONCREST) MACH. (2)	20	1.0	1	1	A	50	1	1	45	20						
5	GENERAL KITCHEN APPLURANCE (1)	20	1.0	1	1	A	50	1	1	45	20						
11	GENERAL RECEPTS (LTD. STD.) (1)	20	1.0	1	1	A	50	1	1	45	20						
12	REFRIGERATOR (RECEPT LTD. STD.) (1)	20	1.0	1	1	A	50	1	1	45	20						
13	DRY ROOM (1)	20	1.0	1	1	A	50	1	1	45	20						
16	BEDROOM 2 RECEPTS LTD. STD. (2)	20	1.0	1	1	A	50	1	1	45	20						
18	CLINT RECEPT - AG UNIT (BY TENANT)	20	1.0	1	1	A	50	1	1	45	20						
21	SURGE PROTECTION DEVICE	20	1.0	1	1	A	50	1	1	45	20						
24	"	20	1.0	1	1	A	50	1	1	45	20						

NOTES:

- A SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- B SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- C SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- D SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- E SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- F SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
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- H SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- I SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- J SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
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- S SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- T SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- U SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- V SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- W SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- X SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- Y SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS
- Z SEE RESIDENTIAL DWELLING UNIT CALCULATIONS AND (2) FOR RESIDENTIAL LOAD CENTER CALCULATIONS

CIRCUIT NOTES:

- PROVIDE COMBIO-ARC-FULL CIRCUIT INTERRUPTER BREAKER
- PROVIDE COMBIO-ARC-FULL CIRCUIT INTERRUPTER BREAKER W/INTER-LOCKED RECLOSABLES IS WITHIN 8 FT OF SAK-EDGE; OTHERWISE PROVIDE COMBIO-ARC-FULL CIRCUIT INTERRUPTER BREAKER



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	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL2103D-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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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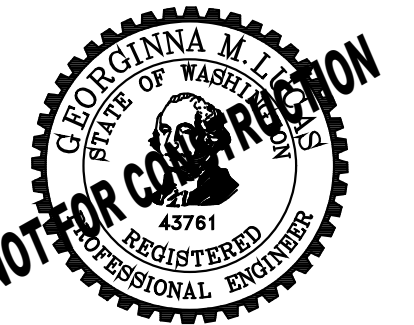


New Kirkland Heights LLLP  
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Kirkland, WA 98034.  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 6  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

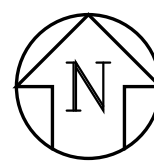
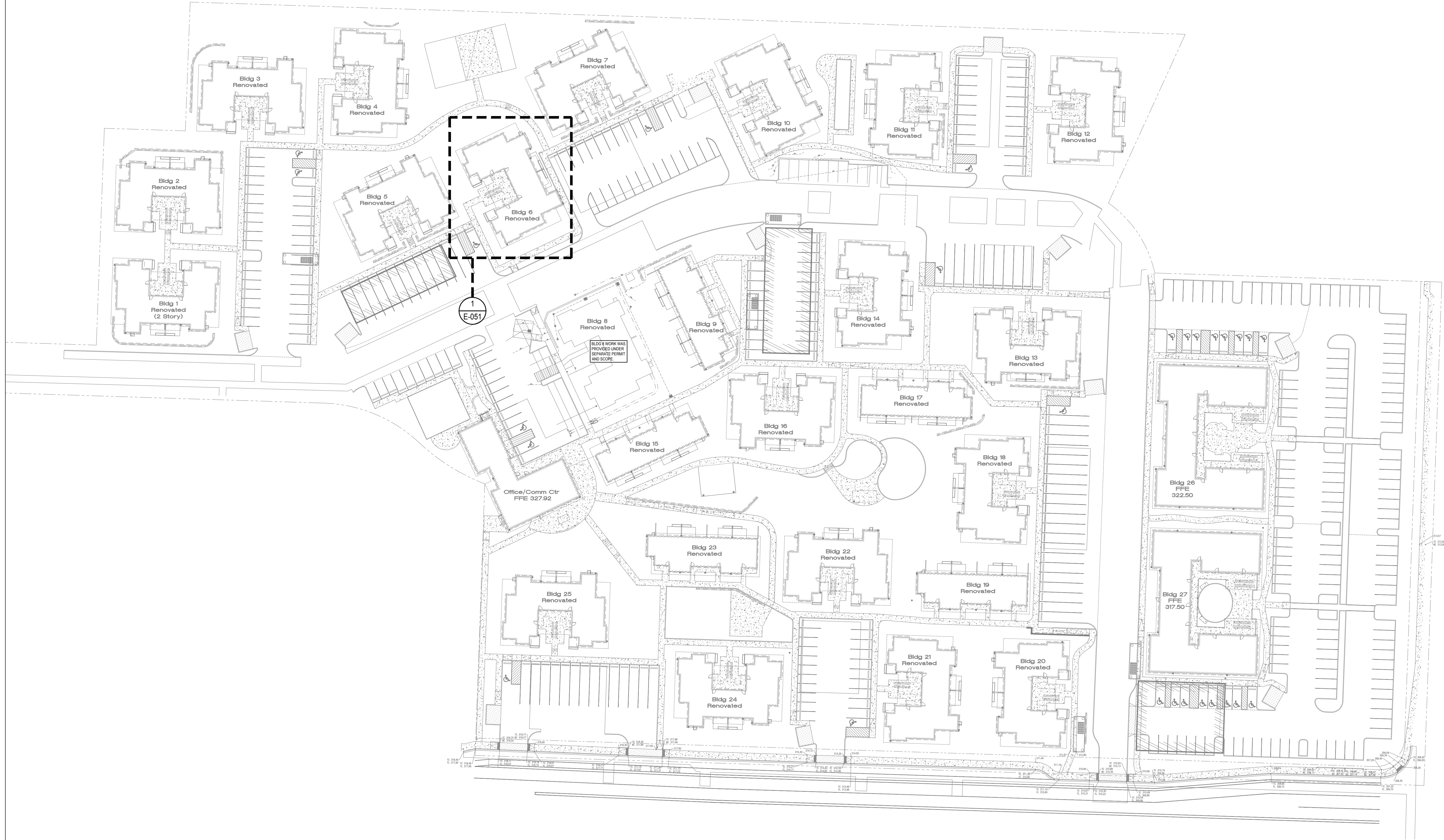
TITLE  
  
LUMINAIRE  
SCHEDULE

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

E6-005



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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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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 6  
BID SET**



REVISIONS / NOTES  
NO DATE DESCRIPTION

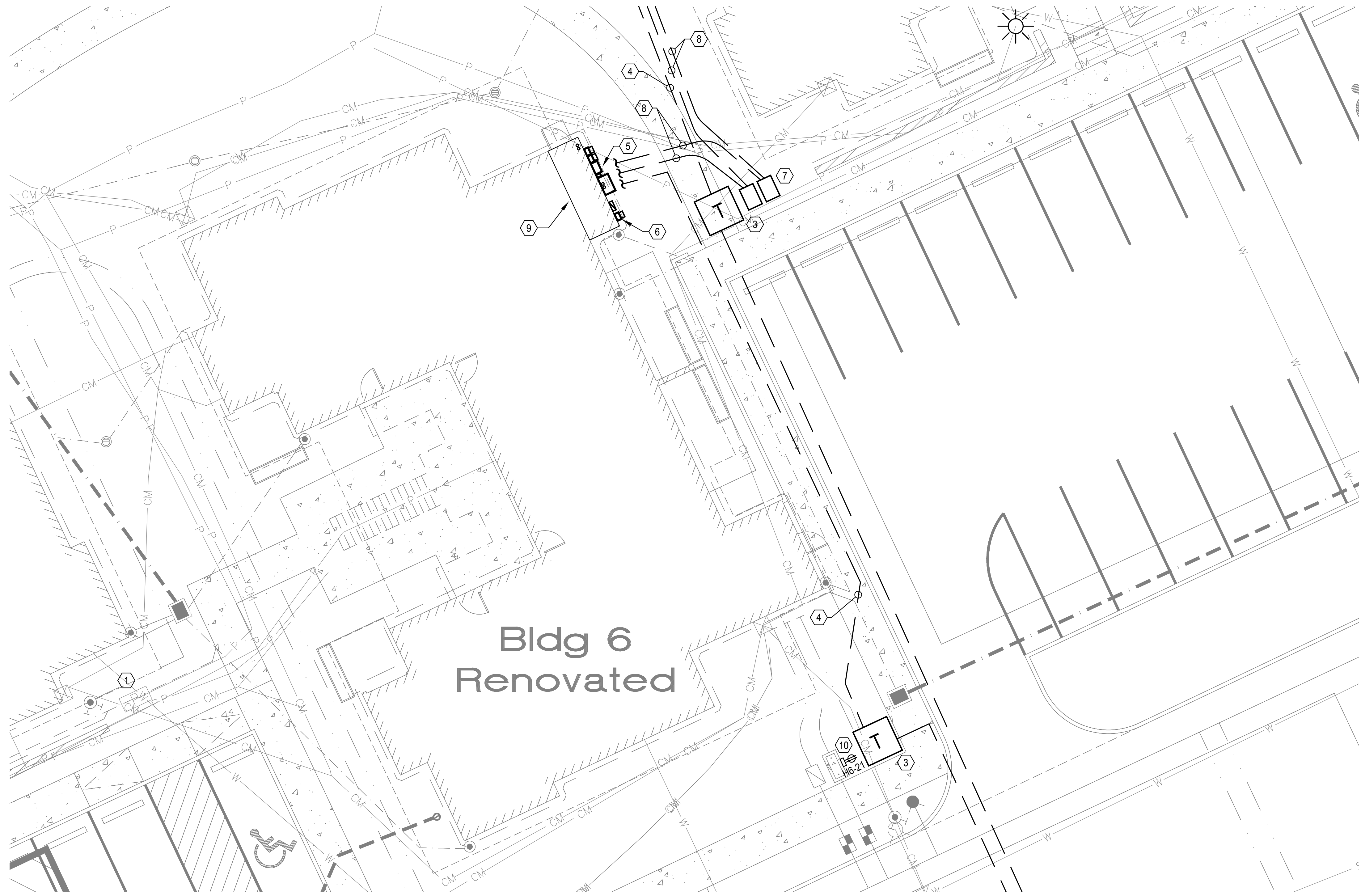
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TITLE  
**OVERALL  
PROJECT SITE  
PLAN**

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

**E6-050**





 **ELECTRICAL SITE PLAN - BUILDING 6**  
SCALE: 1/8" = 1'-0"

**FLAG NOTES (X):**

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

**GENERAL NOTES:**

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 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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**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 6**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

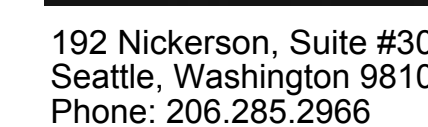
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**ELECTRICAL  
SITE PLAN -  
BUILDING 6**

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ISSUE DATE 4/14/2023  
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SHEET NO.:

**E6-051**

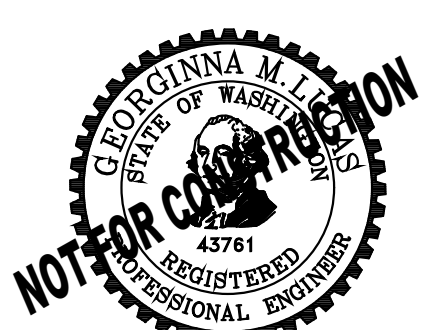




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BUILDING 6  
BID SET

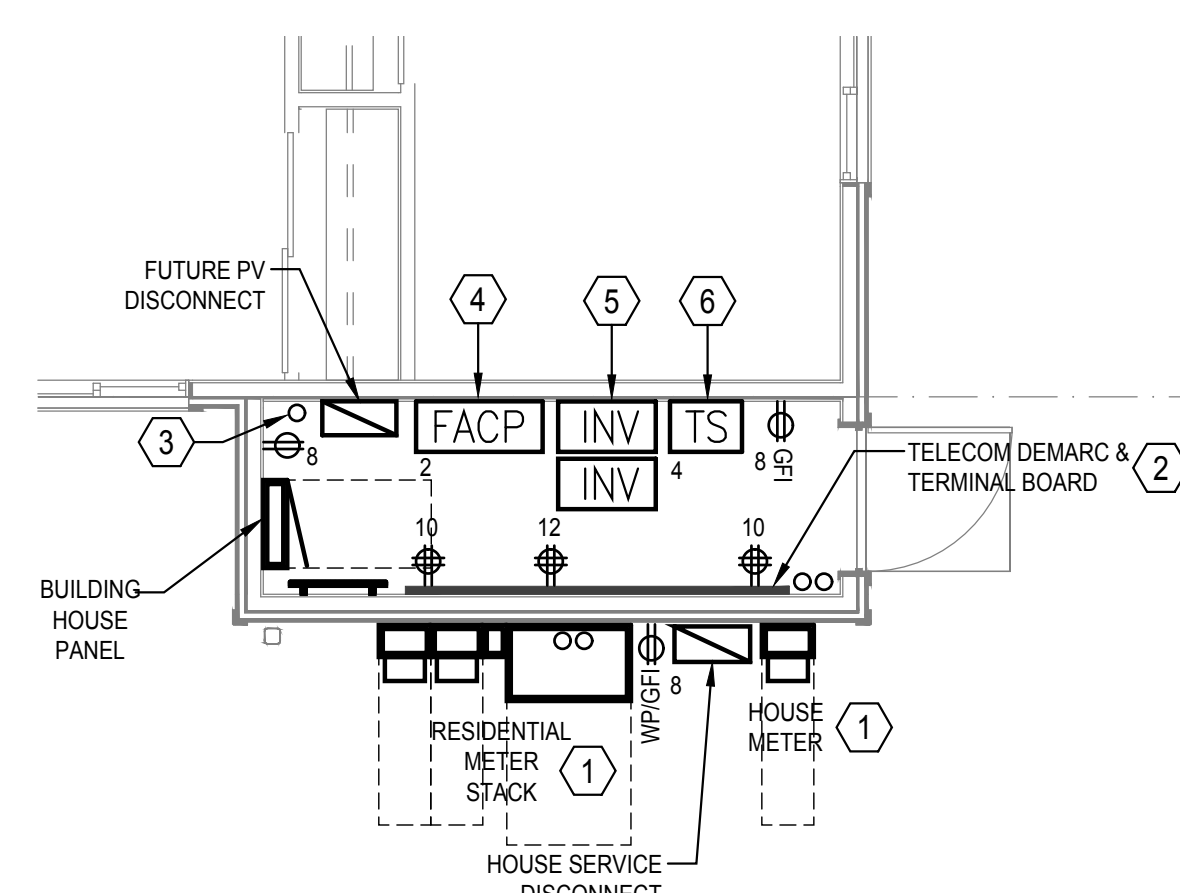


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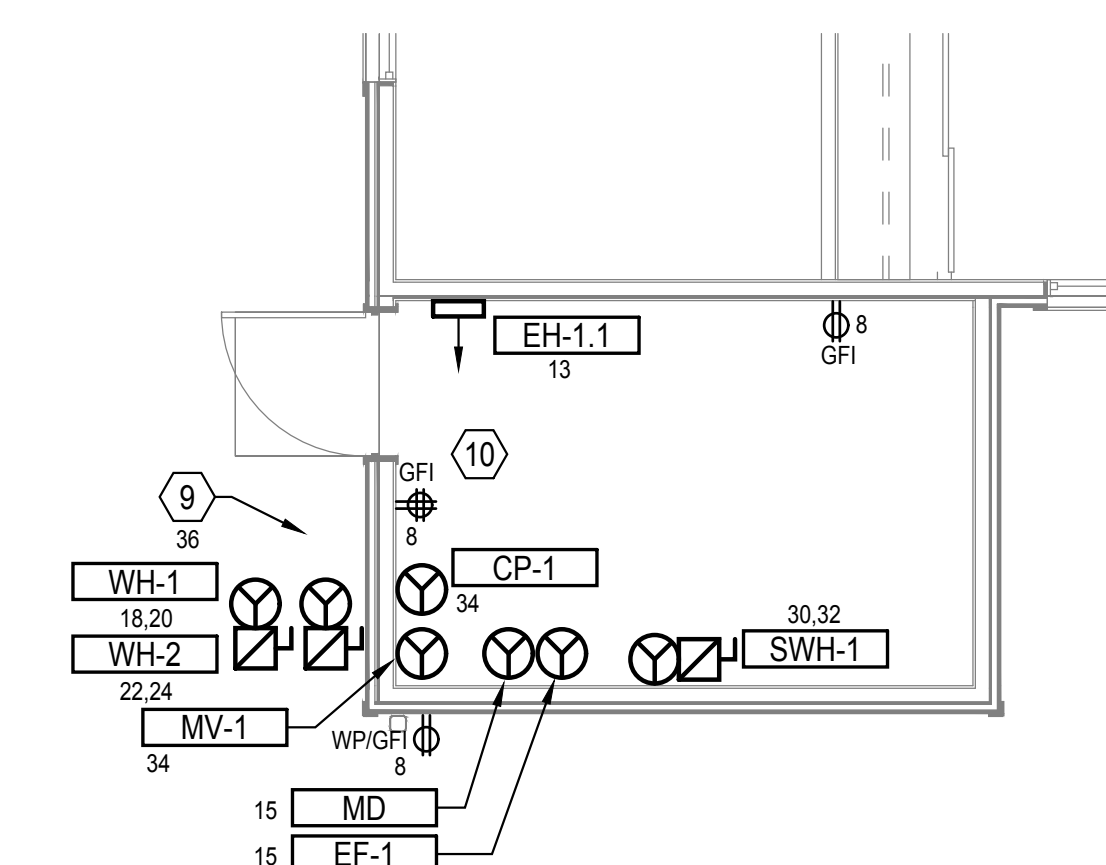
SEE ENLARGED DWELLING UNIT PLANS FOR  
EQUIPMENT AND DEVICE QUANTITIES AND  
LOCATIONS IN DWELLING UNITS.

A.	PROVIDE TAMPER-PROOF RECEPTS IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
B.	INSTALL GFC PROTECTED RECEPTS 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 RISK OF THE CONTRACTOR TO RE-OPEN CEILING AND WALLS FOR INSPECTION BY DESIGN TEAM.

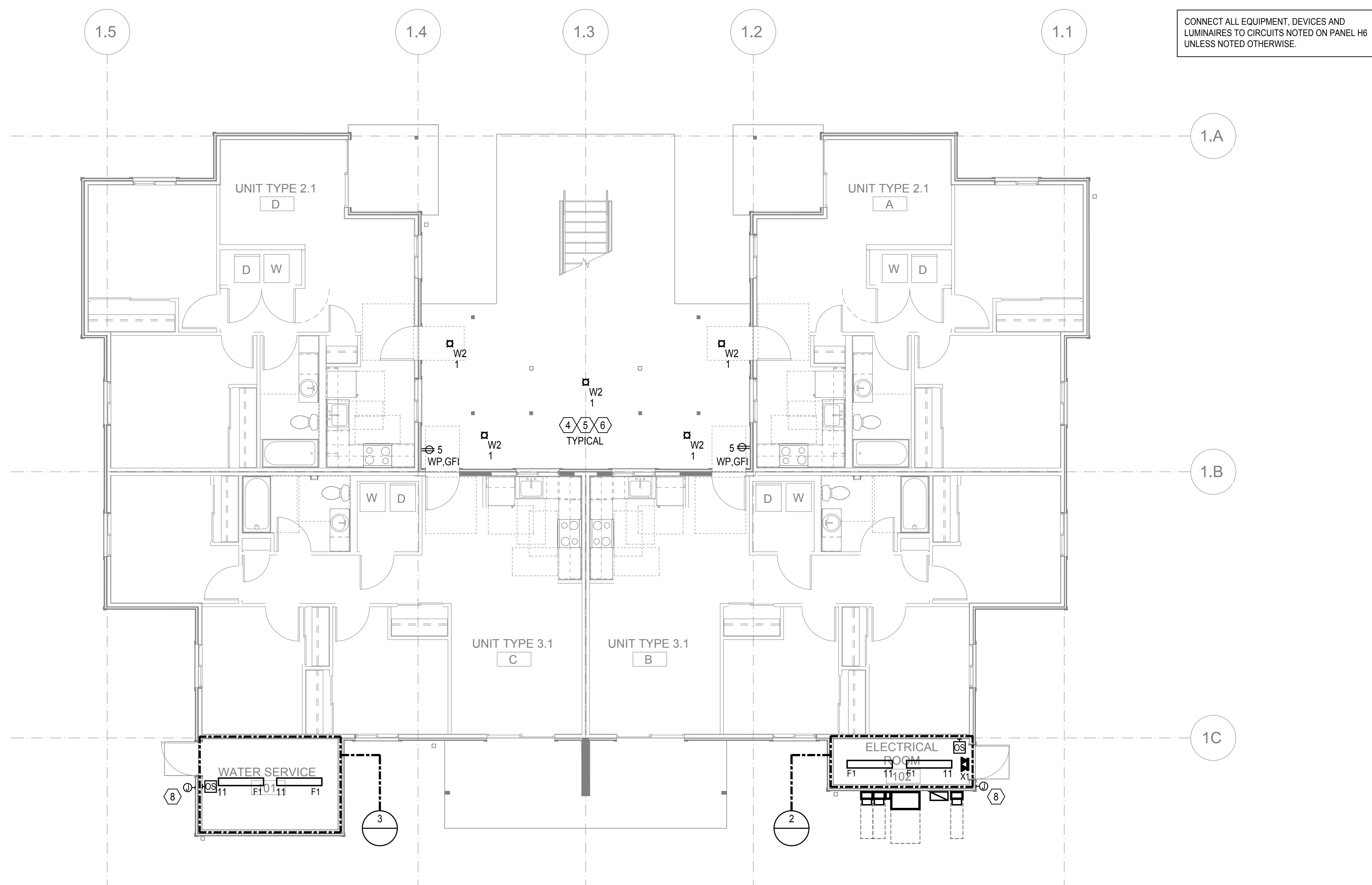
1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING 'HOUSE' LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
2. PROVIDE NEW TELECOM UTILITY SERVICE CONNECTIONS IN ELECTRICAL ROOM. PROVIDE RECEPTACLES AND GROUND BAR AT TELCOM DEMARC LOCATION. CONTRACTOR TO INSTALL FIRE RATED BACKBOARD MOUNTED TO WALLS INDICATED (CONFORM WITH ARCHITECT) AC GRADGE SHEETS 4"FT X 8"FT X 3/4-INCH. TOP OF SHEETS TO BE 8'-9" AFT. ALL EDGES TO BE SMOOTH AND SPLINTER-FREE. PAINT TO MATCH FINISHED WALLS WITH FIRE RETARDANT PAINT.
3. 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 TO P/F 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 MARSHAL AND AHJ. PROVIDE DEVICES THROUGHOUT BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
5. PROVIDE (1) 220 VOLT 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 PROGRAMMING WITH OWNER.
7. LIGHTING FIXTURES TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDINGS IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
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 COMPLY COMPLETE PER CODE AND MANUFACTURERS INSTRUCTION. COORDINATE ALL CONNECTION QUANTITIES, LOCATIONS AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN. SEE OTHERS FOR EXHAUST FAN CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



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



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

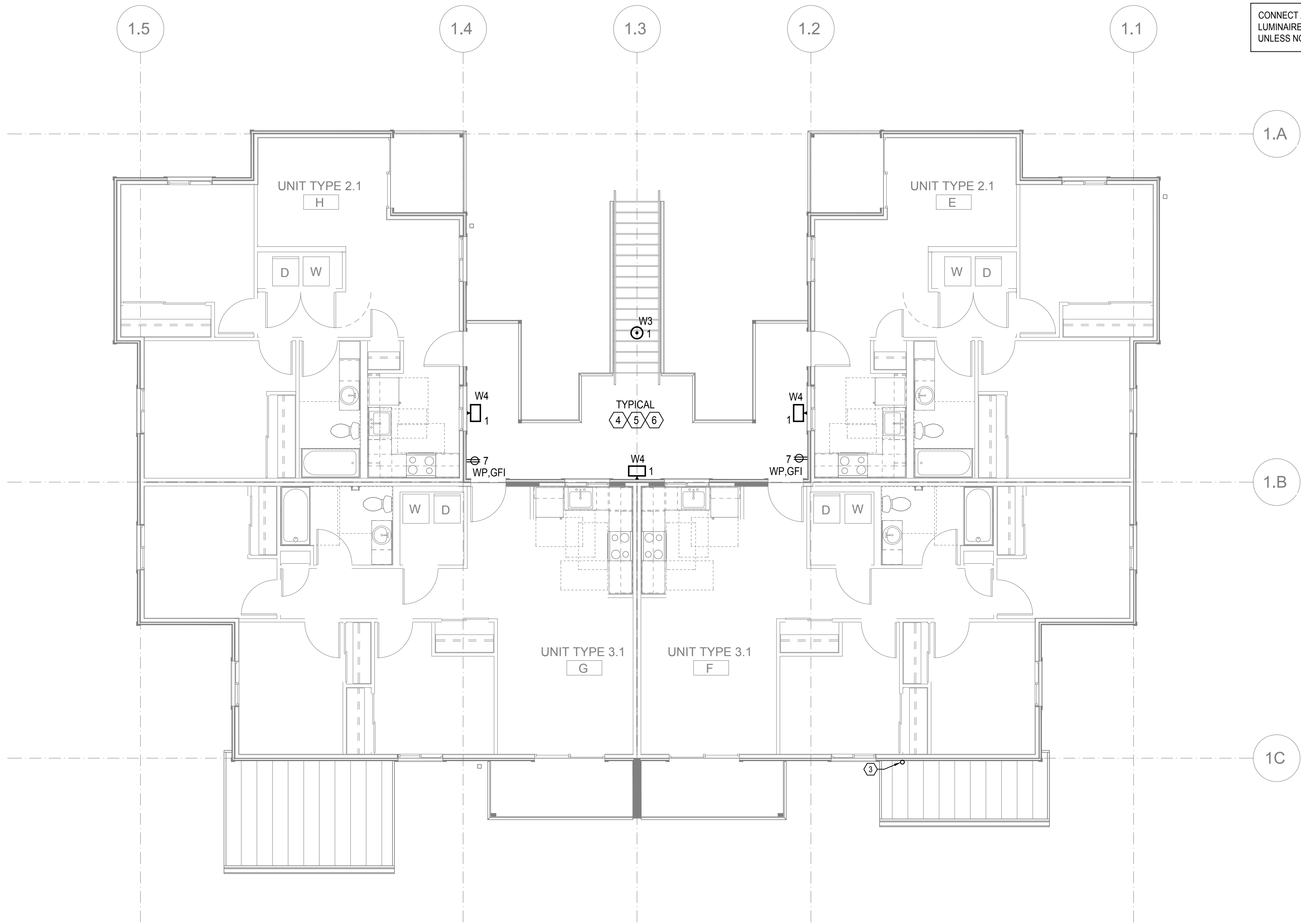


**POWER AND LIGHTING PLAN - BUILDING 6 - LEVEL 1**  
SCALE: 3/16"=1'-0"

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**POWER AND LIGHTING PLAN - BUILDING 6 - LEVEL 2**  
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:

- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):

- NOT USED.
- NOT USED.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
- ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.



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

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 6**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

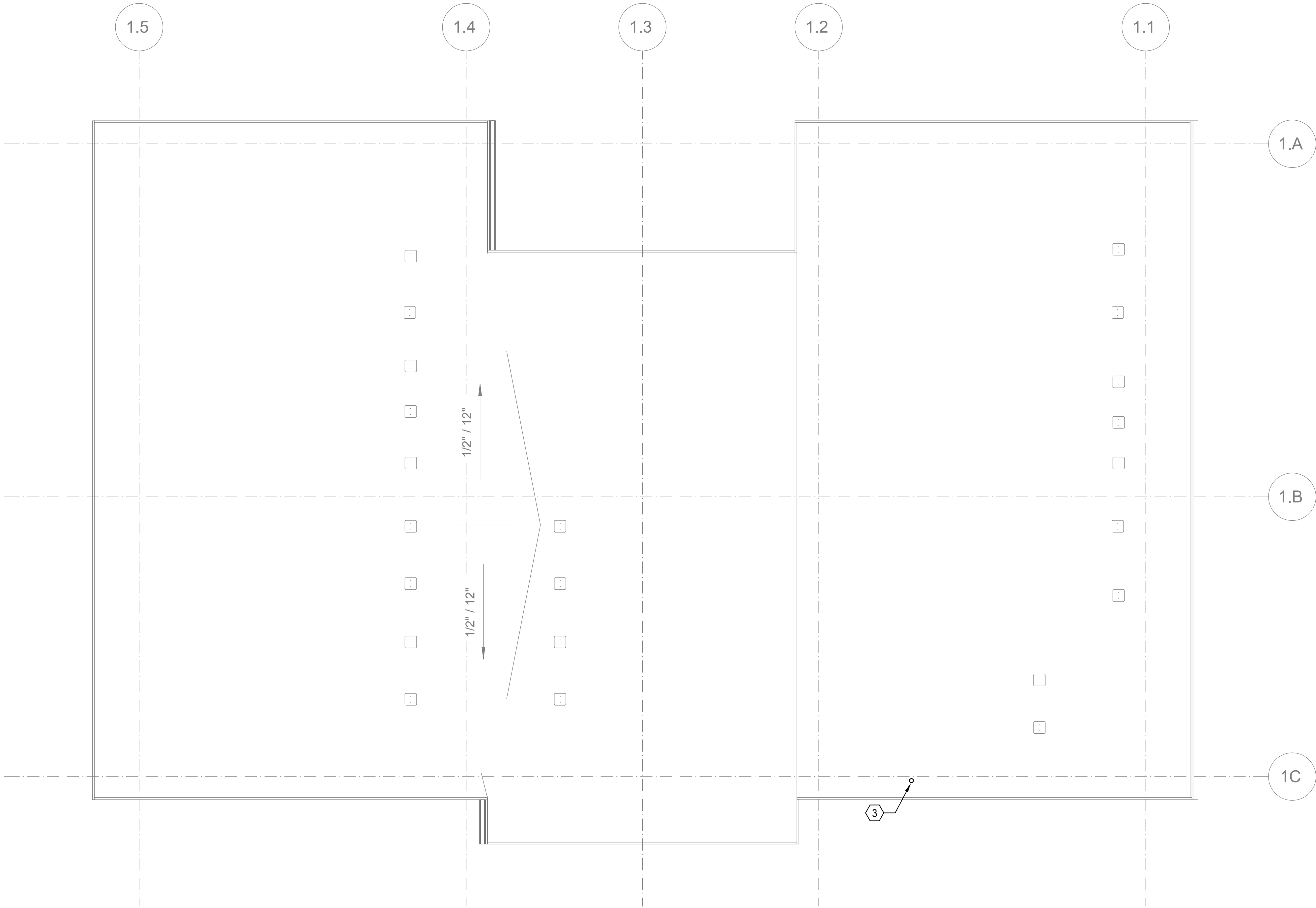
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TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 6 -  
LEVEL 2**

PERMIT #  
DRAWN RA, JF  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E6-102**





**POWER PLAN - BUILDING 6 - 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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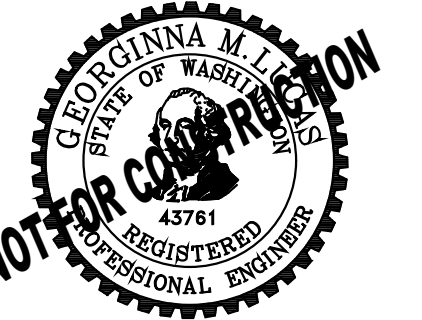


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**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 6**  
BID SET



REVISIONS / NOTES  
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TITLE  
**POWER PLAN -  
BUILDING 6 -  
ROOF**

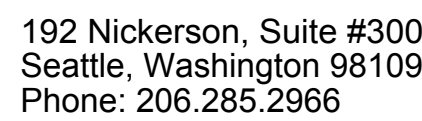
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SHEET NO.:

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## MECHANICAL EQUIPMENT SCHEDULES

## MECHANICAL/ PLUMBING EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	LOCATION	ELECTRICAL CHARACTERISTICS					ALTERNATE POWER	NOTES:
			VOLTAGE/ PH	KW	HP	MCA	MOCp		
WH-1	HEAT PUMP WATER HEATER	WATER SVC ROOM	208 / 1				7.2	15	
WH-2	HEAT PUMP WATER HEATER	WATER SVC ROOM	208 / 1				7.2	15	
SWH-1	ELECT SWING TANK	WATER SVC ROOM	208 / 1	4.5					
CP-1	HW CIRC PUMP	WATER SVC ROOM	120 / 1			FIP			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

**SPECIFIC INSTALLATION NOTES:**

1. PROVIDE 120V CONNECTION TO EQUIPMENT AND ANY RELATED CONTROLLER AS REQUIRED BY MANUFACTURER AND MECH SCHEDULE. 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 CONTRACTOR PRIOR TO ROUGH-IN.
3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

### ELECTRIC HEATER SCHEDULE

MARK	SERVICES	MAKE	MODEL	KW	VOLT / PH	DIMENSIONS	NOTES
CH-0.42	DWELLING UNITS	KING	KCV COVE HEATER	0.42	240 / 1	4 1/4" x 34 1/4"	1
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4 1/4" x 47 1/2"	1
CH-0.56	DWELLING UNITS	KING	KCV COVE HEATER	0.56	240 / 1	4 1/4" x 47 1/2"	1
CH-0.84	DWELLING UNITS	KING	KCV COVE HEATER	0.84	240 / 1	4 1/4" x 71 1/2"	1
CH-0.82	DWELLING UNITS	KING	KCV COVE HEATER	0.85	240 / 1	4 1/4" x 85 1/2"	1
CH-1.1	DWELLING UNITS	KING	KCV COVE HEATER	1.1	240 / 1	4 1/4" x 94 1/2"	1
CH-1.4	DWELLING UNITS	KING	KCV COVE HEATER	1.4	240 / 1	4 1/4" x 115 1/2"	1
CH-1.8	DWELLING UNITS	KING	KCV COVE HEATER	1.8	240 / 1	4 1/4" x 118 1/2"	1
EH-1.1	FIRE SPRINKLER ROOM	KING	PAW WALL HEATER	1.50	240 / 1	7 9/16" x 13 1/8" x 5 3/16"	1, 2

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 - 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-0.56	
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.56	
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.

10/7/2021 7:33:34 AM

**TITLE**

## SCHEDULES

PERMIT #

CHECKED	GL
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ISSUE DATE 4/14/2023

JOB NO. 22016

SHEET NO.:

E7-004



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

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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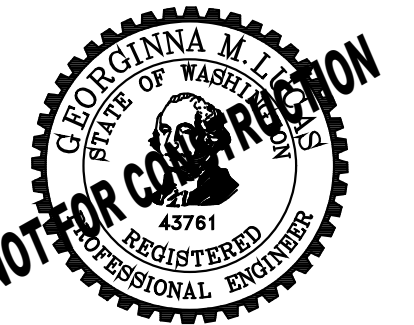


New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 7  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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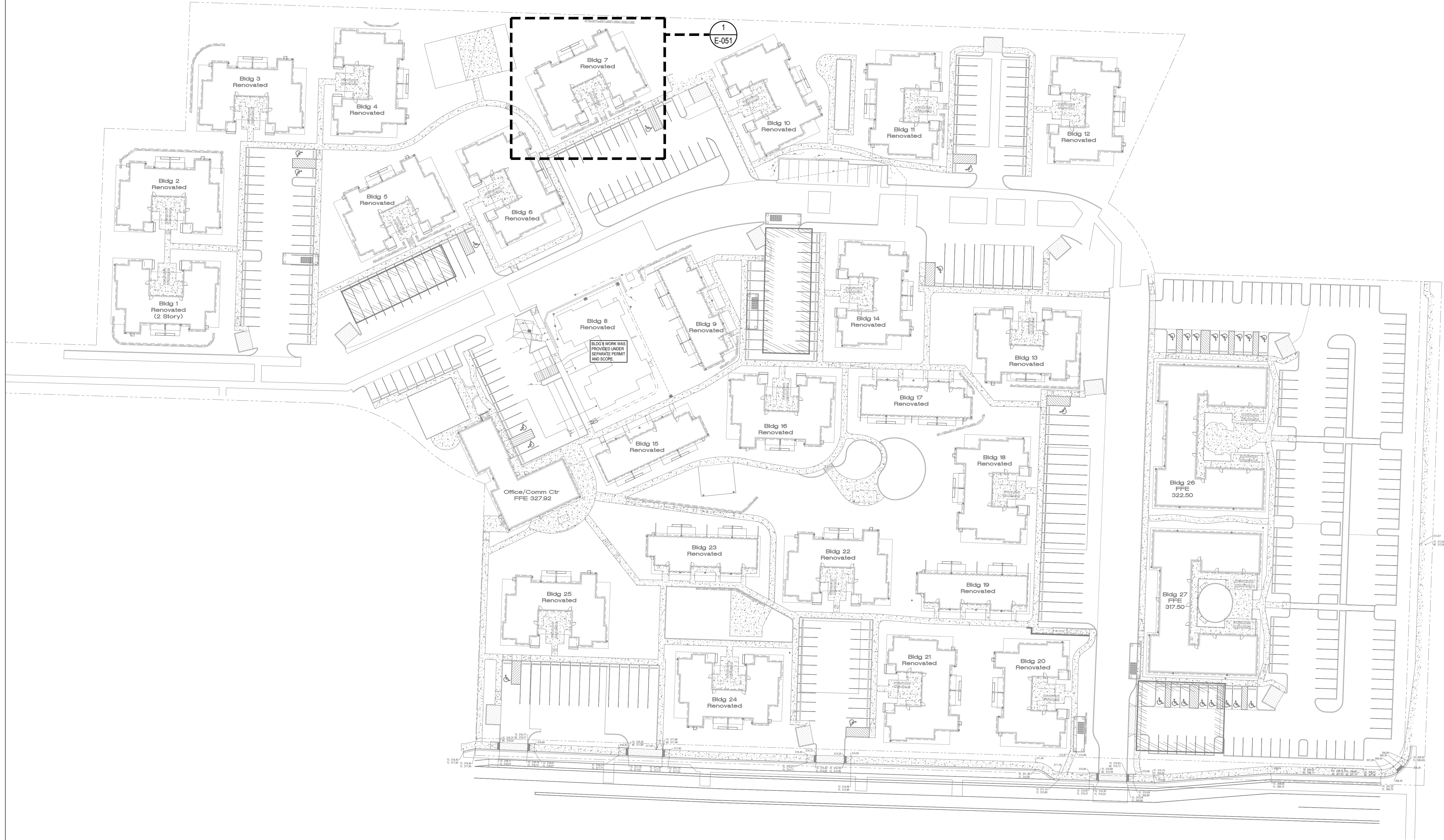
TITLE  
LUMINAIRE  
SCHEDULE

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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

E7-005



10/7/2021 1:33:34 AM



## 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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CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.  
Kirkland, WA 98034

## BUILDING 7 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

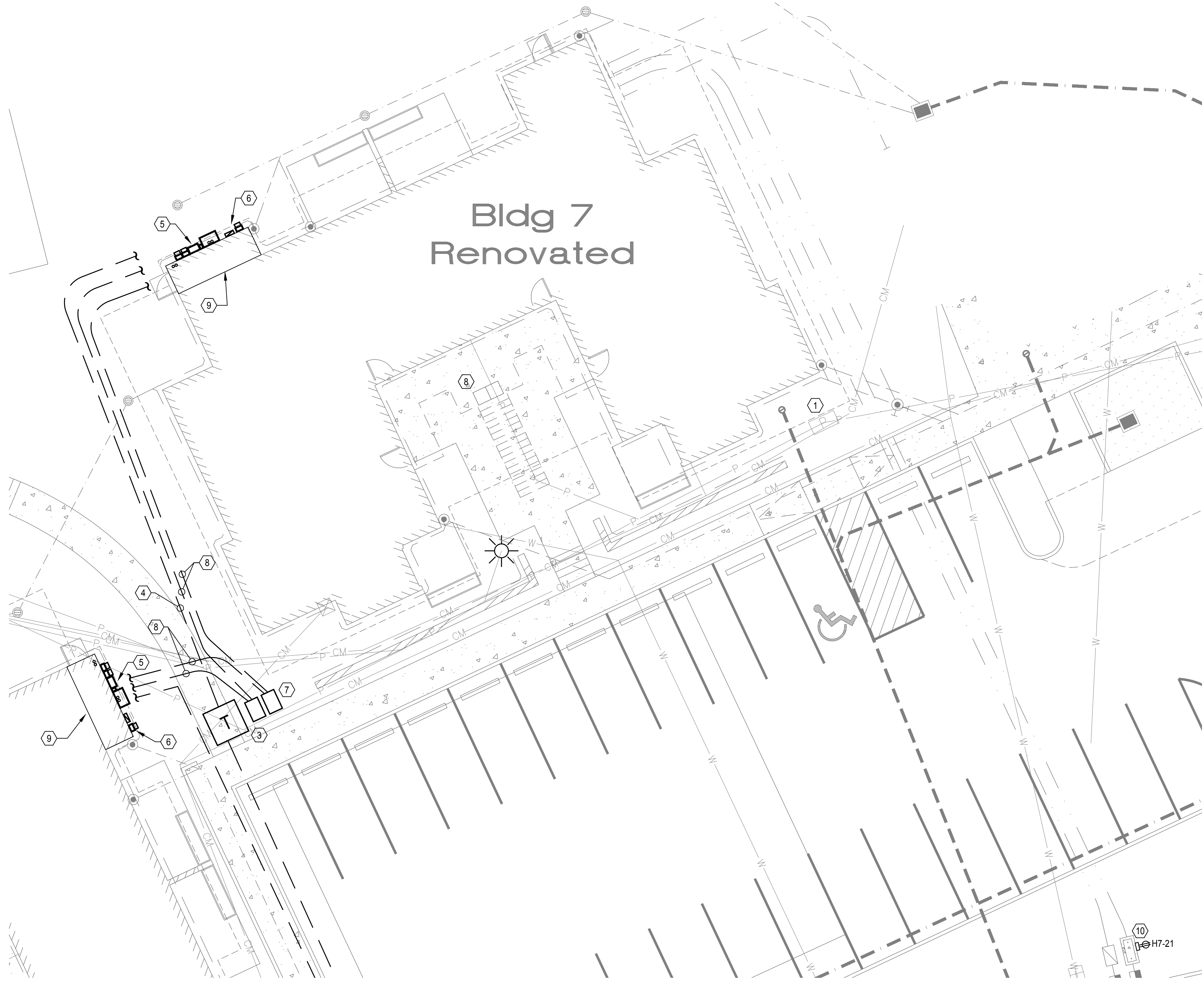
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TITLE  
OVERALL  
PROJECT SITE  
PLAN

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

# E7-050





 **ELECTRICAL SITE PLAN - BUILDING 7**  
SCALE: 1/8" = 1'-0"

**FLAG NOTES (X):**

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

**GENERAL NOTES:**

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 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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**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 7  
BID SET**



REVISIONS / NOTES  
NO DATE DESCRIPTION

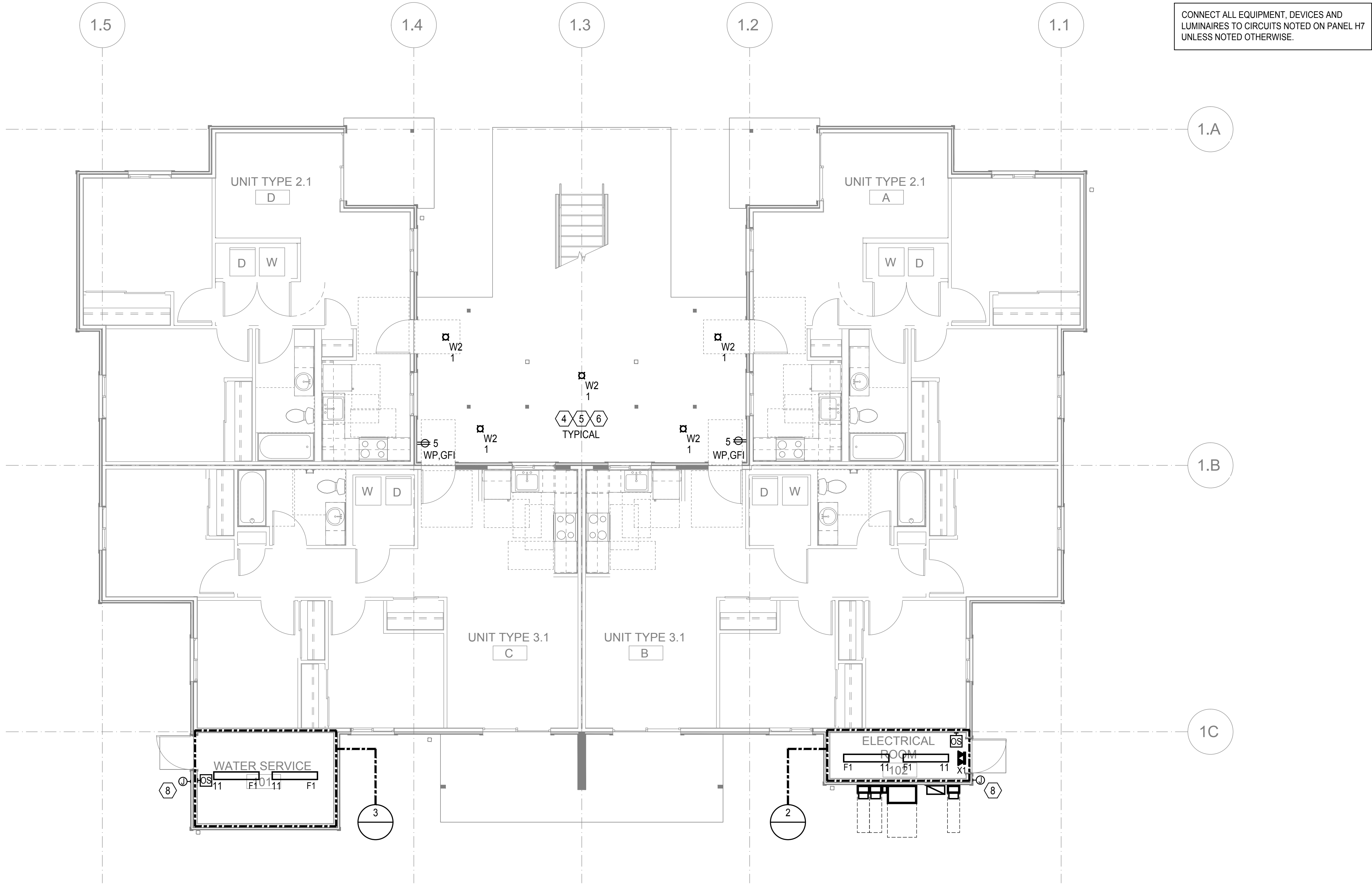
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**ELECTRICAL  
SITE PLAN -  
BUILDING 7**

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JOB NO. 22016  
SHEET NO.:

**E7-051**





**POWER AND LIGHTING PLAN - BUILDING 7 - 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.

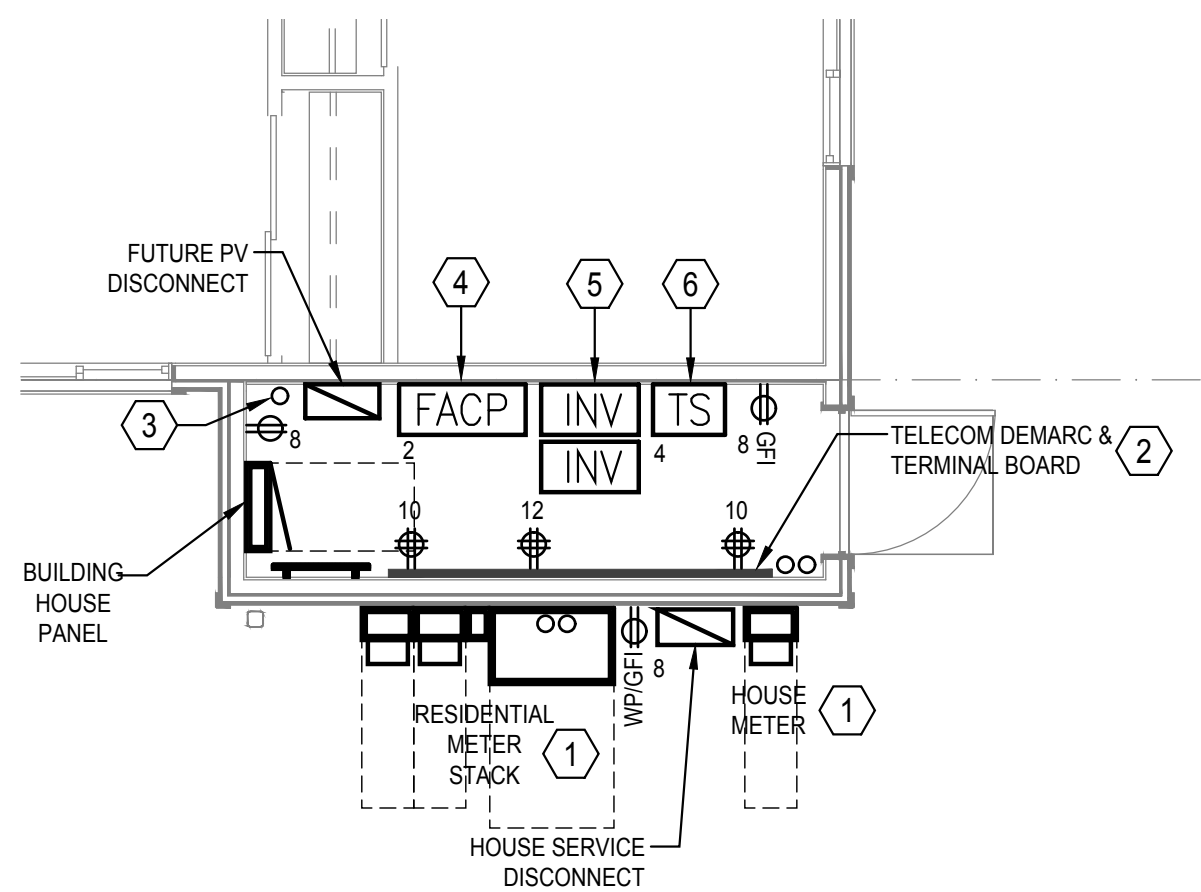
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

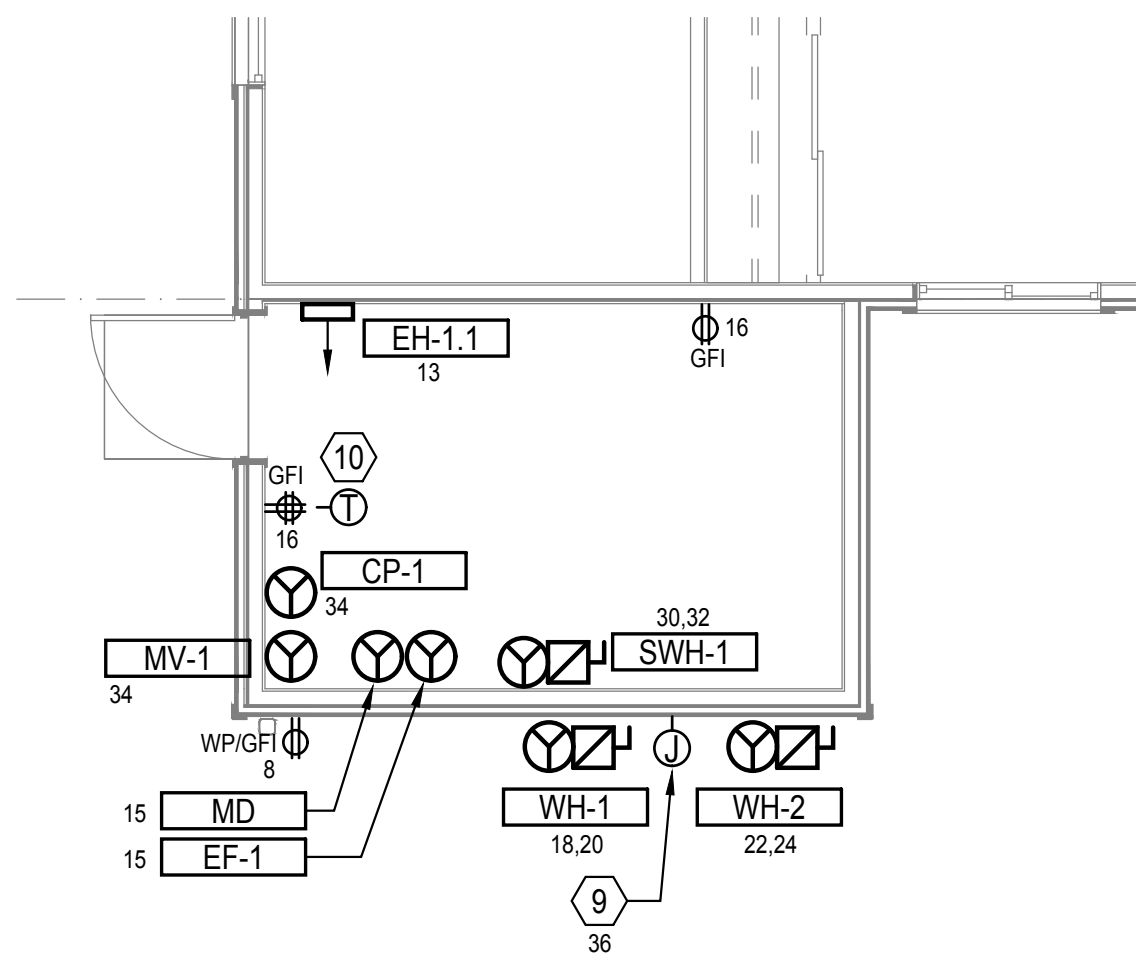
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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'-0" 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



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



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



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

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 7**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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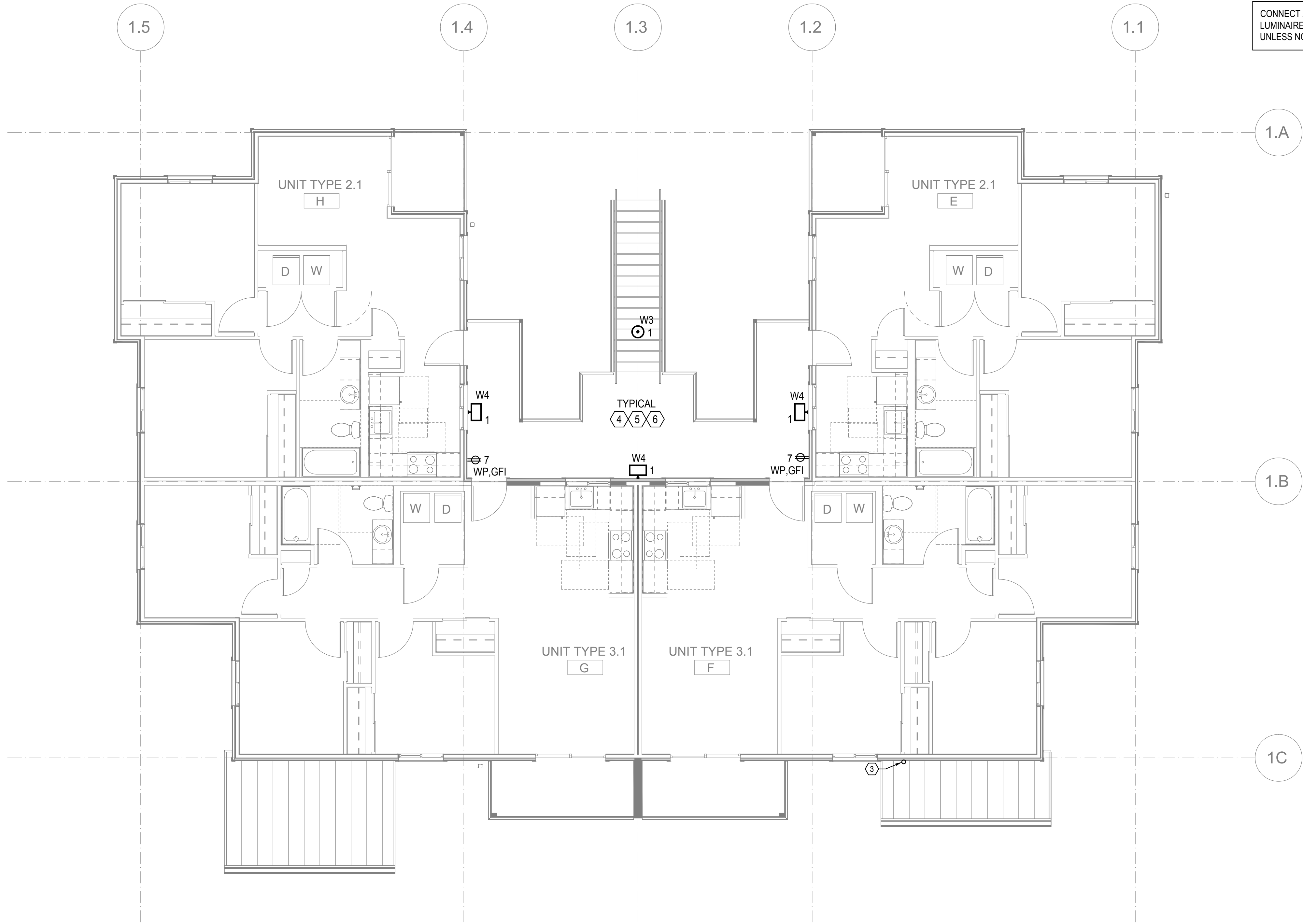
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**POWER AND LIGHTING PLAN - BUILDING 7 - LEVEL 1**

PERMIT #  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E7-101**



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**POWER AND LIGHTING PLAN - BUILDING 7 - LEVEL 2**  
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:**
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):**
- NOT USED.
  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
  - ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.



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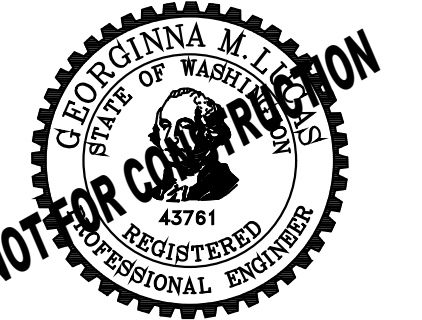


**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133rd St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
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**BUILDING 7**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

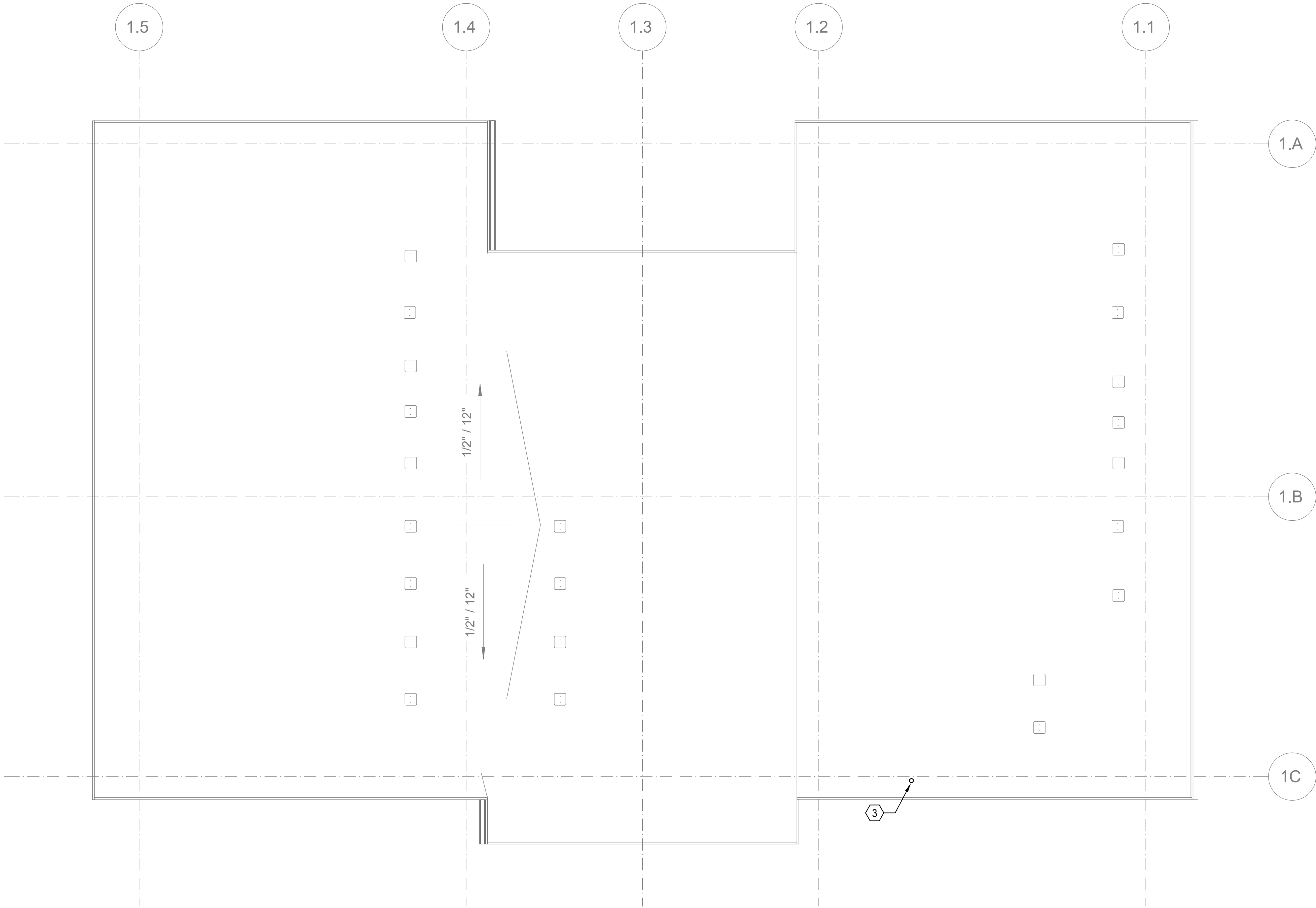
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TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 7 -  
LEVEL 2**

PERMIT #	
DRAWN	RA, JF
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ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

**E7-102**





POWER PLAN - BUILDING 7 - 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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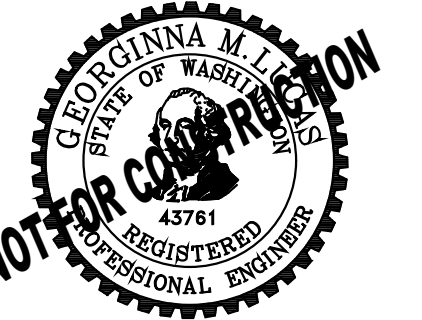


New Kirkland Heights LLLP  
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CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
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BUILDING 7  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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TITLE  
POWER PLAN -  
BUILDING 7 -  
ROOF

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

E7-103



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (FEET) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 DER SET UND)
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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
60.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
60.3	(1) 1.5-INCH	CU	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1.5-INCH	CU	(3) #4	#10
60.2N	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1.5-INCH	CU	(2) #4	#10
60.1	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
50.3	(1) 1.5-INCH	CU	(3) #5	#10
50.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
50.2	(1) 1.5-INCH	CU	(2) #5	#10
50.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
40.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
40.3	(1) 1.5-INCH	CU	(3) #5	#10
40.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
40.2	(1) 1.5-INCH	CU	(2) #5	#10
40.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1.5-INCH	CU	(3) #10	#10
30.2N	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1.5-INCH	CU	(2) #10	#10
30.1	(1) 1.5-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1.5-INCH	CU	(3) #12	#12
20.2N	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1.5-INCH	CU	(2) #12	#12
20.1	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES:

4/6/2023

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

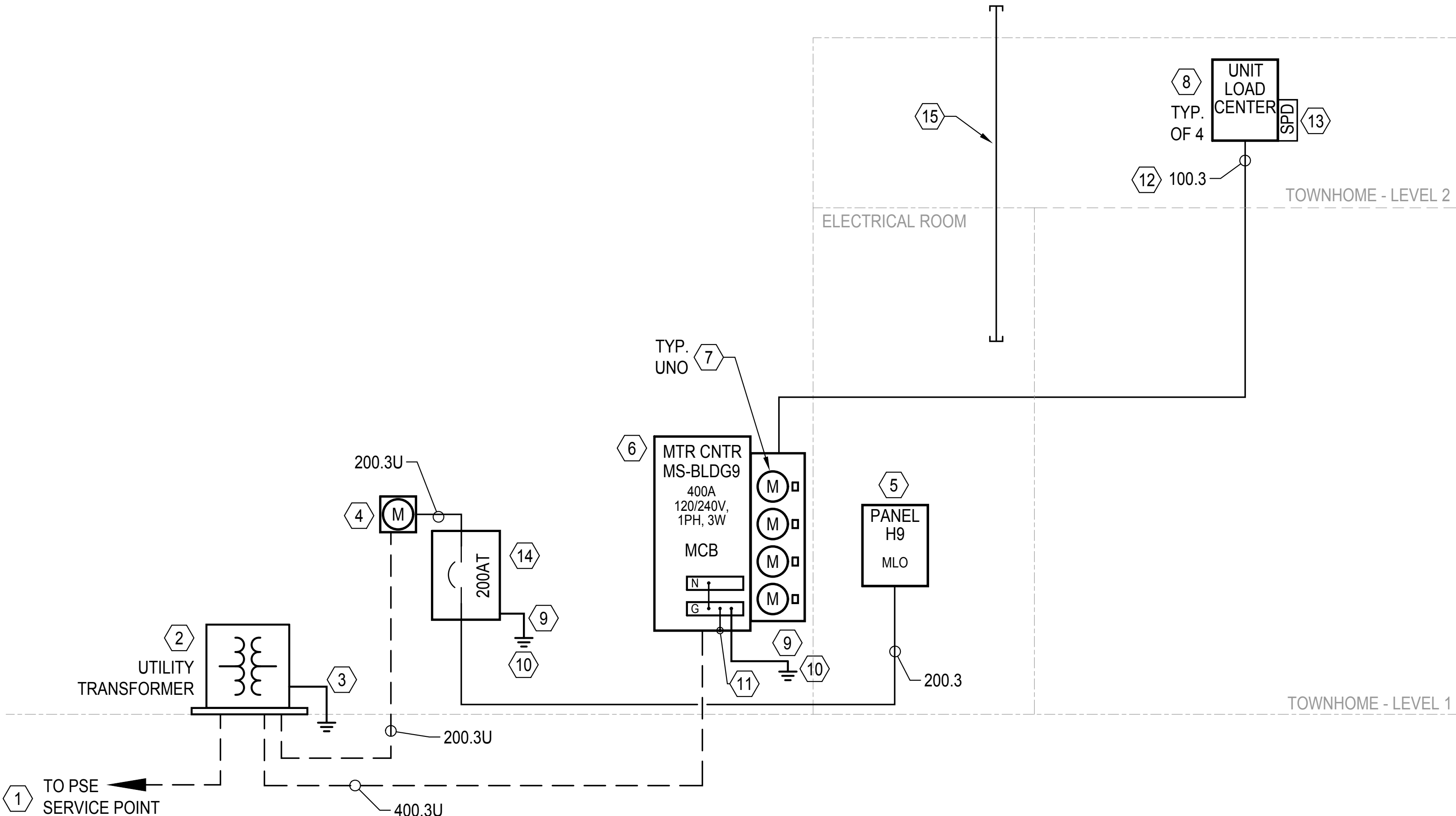
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75 DEGREES C (167 DEGREES F) AS PER NEC 110.14C(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60 DEGREES C (140 DEGREES F).

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 UND.



## SINGLE LINE DIAGRAM

SCALE:NTS

## LOAD CALCULATIONS - BLDG 9

UNIT TYPE: TOWNHOUSE UNIT		AREA (SF):	1,211	4/6/2023
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 [220.63]:				
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% = 2.55 kVA				
GENERAL APPLIANCE LOAD - DEMAND = 2.55 kVA				
MOTORS [220.50]:				
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				
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													4/6/2023
DEMAND LOAD (kVA):			57.61 ==>			240.0 AMPS AT		240 V		1 PH						
						CLOTHES DRYERS		1.5< X < 3.5kW		COOKING APPLIANCES		3.5kW < X < 8.75kW		8.75kW < X < 12kW		
UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	QTY	LOAD (kVA)	QTY	LOAD (kVA)	QTY	LOAD (kVA)	QTY	LOAD (kVA)	QTY	LOAD (kVA)	
TOWNHOUSE UNIT	0							0	0.00	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	0.00	
TOTALS:	4	32.53	13.60	0.44	24.22	4	22.00	0	0.00	0	0.00	4	35.20	0	0.00	
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)		4/6/2023
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
240.0N 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 RISC):		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
112.456 AMPS @ 120/240V, 1-PHASE		
PROVIDE 200A HOUSE SERVICE		
TOTAL BUILDING SERVICE:		98.12 kVA
272.36 AMPS @ 120/240V, 1-PHASE		



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



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

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

## BUILDING 9

BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

## SINGLE LINE DIAGRAM AND LOAD CALCS

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

## E9-003



FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT #SETS) SIZE	AL OR CU	CONDUCTORS PER SET		GROUND (1 PER SET UNO)
			PHASE / NEUTRAL (N) (QTY) SIZE	NOTE #1	
500.3U	(2) 4-INCH	AL	(3) 500 KCMIL		#20
500.3	(2) 4-INCH	AL	(3) 500 KCMIL		#10
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N		#10
500.3	(2) 4-INCH	AL	(3) 350 KCMIL		#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N		#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL		NOTE #1
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL		#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) 3-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		#4
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		#5
100.3	(1) 2-INCH	AL	(3) #1/0		#5
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N		#5
90.3	(1) 1.5-INCH	CU	(3) #2		#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N		#5
80.3	(1) 1.5-INCH	CU	(3) #3		#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N		#5
70.3	(1) 1.5-INCH	CU	(3) #4		#5
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N		#10
60.3	(1) 1-INCH	CU	(3) #4		#10
60.2U	(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) #5 / (1) #5 N		#10
50.3	(1) 1-INCH	CU	(3) #5		#10
50.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N		#10
50.2	(1) 1-INCH	CU	(2) #5		#10
50.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N		#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N		#10
40.3	(1) 1-INCH	CU	(3) #5		#10
40.2U	(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
30.2U	(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
20.2U	(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:**  
A. AL= ALUMINUM (STABILLOY 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	565	865	1370	
	4	0.48	250	420	645	1025	
	6	0.72	165	275	430	685	
	8	0.96	125	210	330	515	
	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	
	4	0.42	380	640	965	1565	
	6	0.63	440	730	1125	1780	
208V / 1-PHASE	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	6.32			110	175	
	45	9.36				155	
	50	10.40				140	
	2	0.72	1000	1695	2600	4120	
208V / 3-PHASE	4	1.44	500	845	1300	2080	
	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	250	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:
- 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			FED FROM			XFR			LOCATION ELECTRICAL ROOM			
AC, SEE SINGLE LINE DIAGRAM			VOLTAGE 120 / 240 V			1-PHASE, 3-WIRE			SURFACE MOUNTED			
AC, SEE SINGLE LINE DIAGRAM			SER. RATING 200 AMPS			MCCB RATING 200 AMPS			MCCB RATING 200 AMPS			
CKT #	DESCRIPTION	TYPE	CONV. LOAD	CB	AMPS/PH	PH	AMPS/PH	CB	CONV. LOAD	TYPE	CKT #	
1	120-ELECT. MECH. CLOSERS	L	0.12	20.1	20	/ 1	A	20	/ 1	A	1	
2	120-ELECT. MECH. CLOSERS	L	0.12	20.1	20	/ 1	B	20	/ 1	B	2	
3	ELECT. HEATER, FRS SPRINKLER	C	1.50	20.1	20	/ 1	B	20	/ 1	B	3	
4	EXHAUST FAN, 1 & MOTO DAMPER	M	0.12	20.1	20	/ 1	A	20	/ 1	A	4	
5	SPARE		0.00	20	/ 1	B			0.00	SPARE	5	
6	SPARE		0.00	20	/ 1	A			0.00	SPARE	6	
7	SPARE		0.00	20	/ 1	A			0.00	SPARE	7	
8	SPARE		0.00	20	/ 1	B			0.00	SPARE	8	
9	SPARE		0.00	20	/ 1	A			0.00	SPARE	9	
10	SPARE		0.00	20	/ 1	B			0.00	SPARE	10	
11	SPARE		0.00	20	/ 1	A			0.00	SPARE	11	
12	SPARE		0.00	20	/ 1	B			0.00	SPARE	12	
13	SPARE		0.00	20	/ 1	A			0.00	SPARE	13	
14	SPARE		0.00	20	/ 1	B			0.00	SPARE	14	
15	SPARE		0.00	20	/ 1	A			0.00	SPARE	15	
16	SPARE		0.00	20	/ 1	B			0.00	SPARE	16	
17	SPARE		0.00	20	/ 1	A			0.00	SPARE	17	
18	SPARE		0.00	20	/ 1	B			0.00	SPARE	18	
19	SPARE		0.00	20	/ 1	A			0.00	SPARE	19	
20	SPARE		0.00	20	/ 1	B			0.00	SPARE	20	
21	HEAT TRACE - WATER CONNECTION	N	0.24	20.1	20	/ 1	A	15	/ 2	20.20	C	21
22	HEAT TRACE - WATER CONNECTION	N	0.24	20.1	20	/ 1	B	15	/ 2	20.20	C	22
23	SPARE		0.00	20	/ 1	B			0.00	SPARE	23	
24	SPARE		0.00	20	/ 1	A			0.00	SPARE	24	
25	SPARE		0.00	20	/ 1	A			0.00	SPARE	25	
26	SPARE		0.00	20	/ 1	B			0.00	SPARE	26	
27	SPARE		0.00	20	/ 1	A			0.00	SPARE	27	
28	SPARE		0.00	20	/ 1	B			0.00	SPARE	28	
29	SPARE ONLY						A	30	/ 2	30.2	C	29
30	SPARE ONLY						B	30	/ 2	30.2	C	30
31	SPARE ONLY						A	20	/ 1	20.1	N	31
32	SPARE ONLY						B	20	/ 1	20.1	N	32
33	SPARE ONLY						A	20	/ 1	20.1	N	33
34	SPARE ONLY						B	20	/ 1	20.1	N	34
35	SPARE ONLY						A	20	/ 1	20.1	N	35
36	SPARE ONLY						B	20	/ 1	20.1	N	36
37	SPARE ONLY						A					37
38	SPARE ONLY						B					38
39	SPARE ONLY						A					39
40	SPARE ONLY						B					40
41	SPARE ONLY						A					41
42	SPARE ONLY						B					42

**CONNECTED LOAD**  
L = LIGHTING 0.12 KVA 120% 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 8.48 KVA 120% 11.82 KVA  
N = NON-CONTINUOUS 1.20 KVA 100% 1.20 KVA  
K = KITCHEN 0.00 KVA 75% 0.00 KVA  
**PANEL CONNECTED TOTAL:**  
13.42 KVA  
55.82 AMPS  
**PANEL DEMAND TOTAL:**  
15.54 KVA  
66.00 AMPS

NOTES:

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

**CIRCUIT NOTES (U)**

1. PROVIDE 300A 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		
AC, SEE SINGLE LINE DIAGRAM (BUS RATING)						NO. CIRCUITS			WLG. 120 AMP		



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

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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General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 9  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

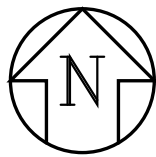
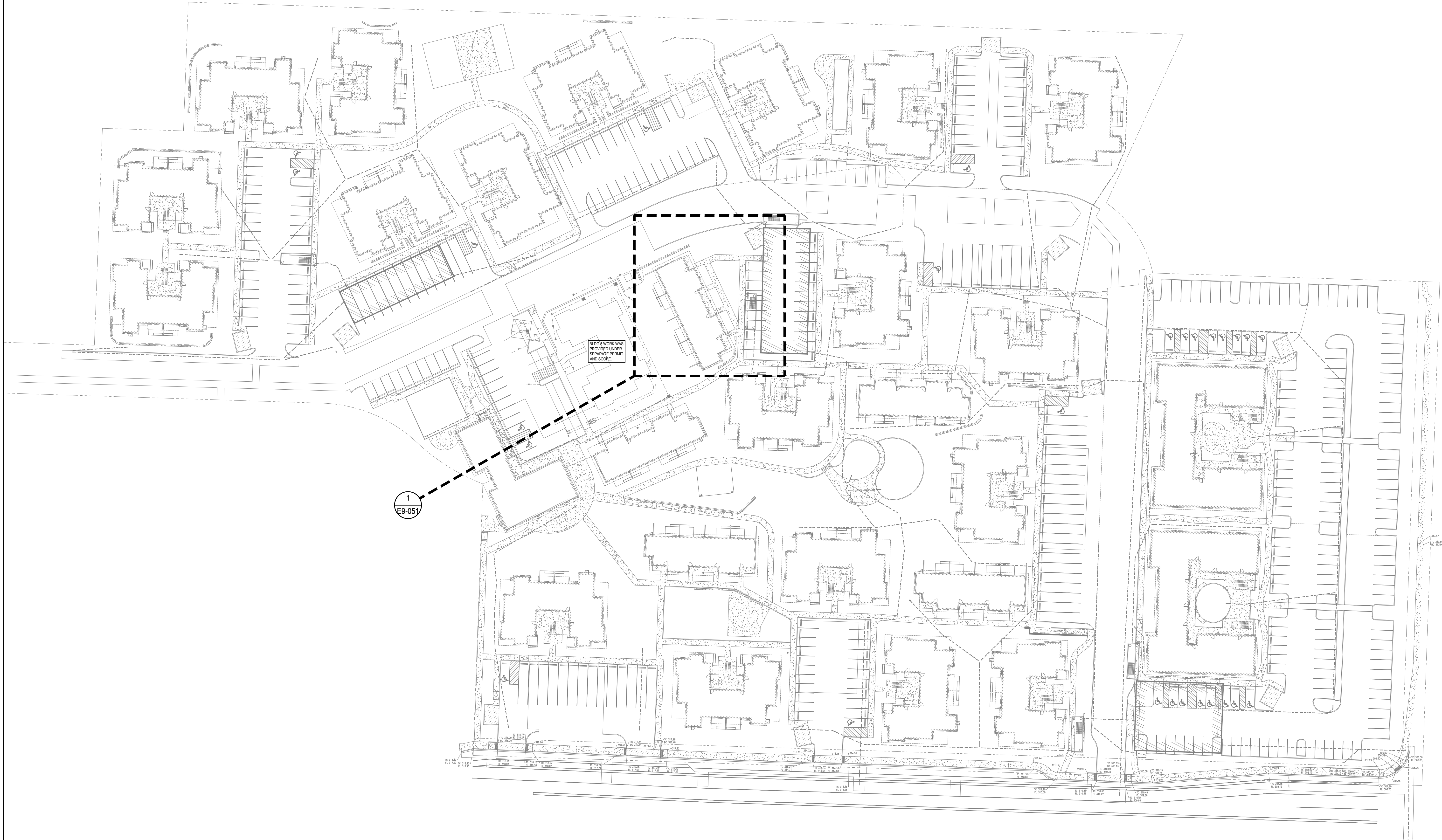
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LUMINAIRE  
SCHEDULE

PERMIT #  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

E9-005



10/7/2021 1:33:34 AM



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  
APARTMENTS

13317 NE 133rd St.  
Kirkland, WA 98034

BUILDING 9  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

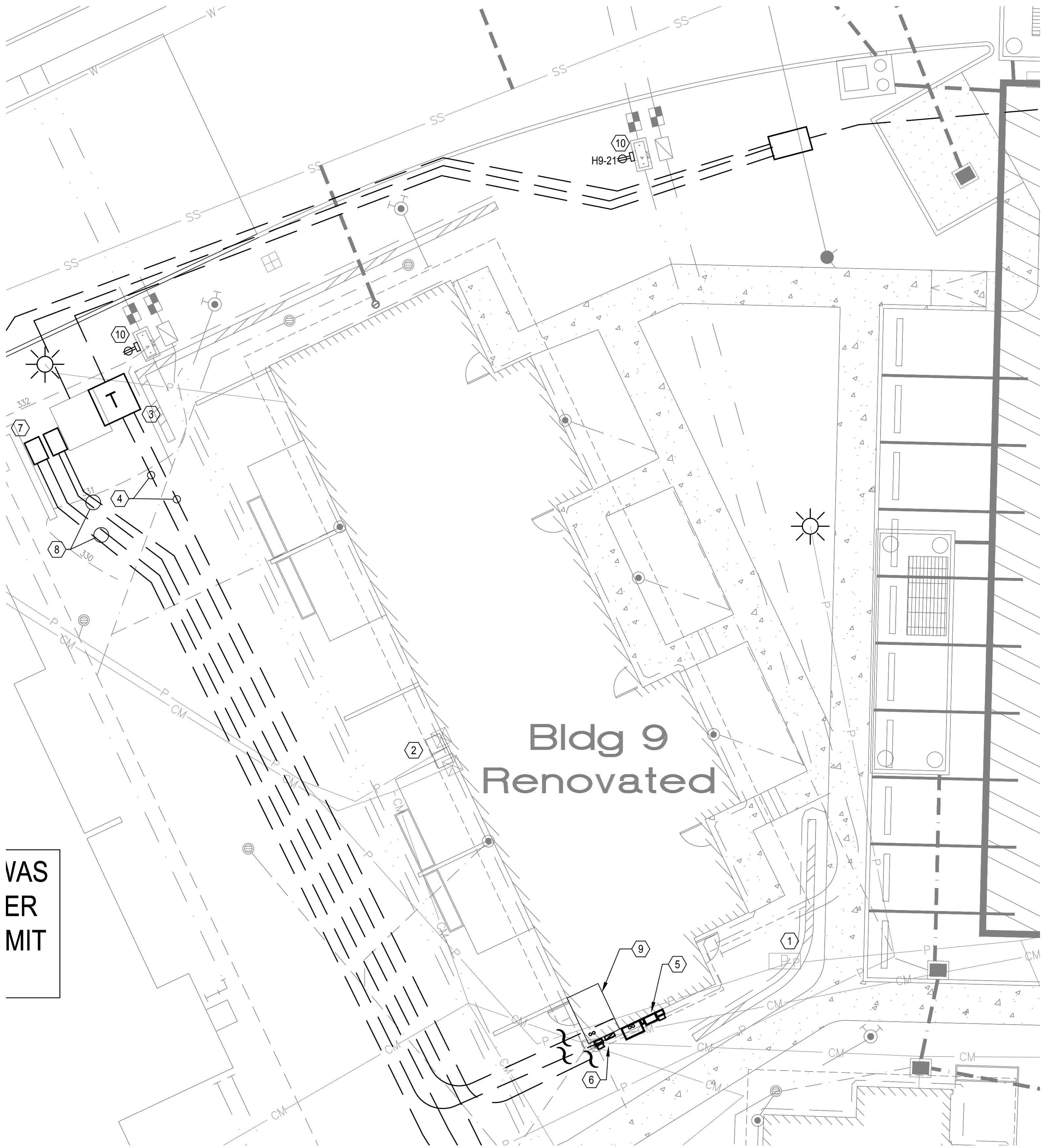
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TITLE  
OVERALL  
PROJECT SITE  
PLAN

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

E9-050





 **ELECTRICAL SITE PLAN - BUILDING 9**  
SCALE: 1/8" = 1'-0"

**FLAG NOTES (X):**

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

**GENERAL NOTES:**

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 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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**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 9**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

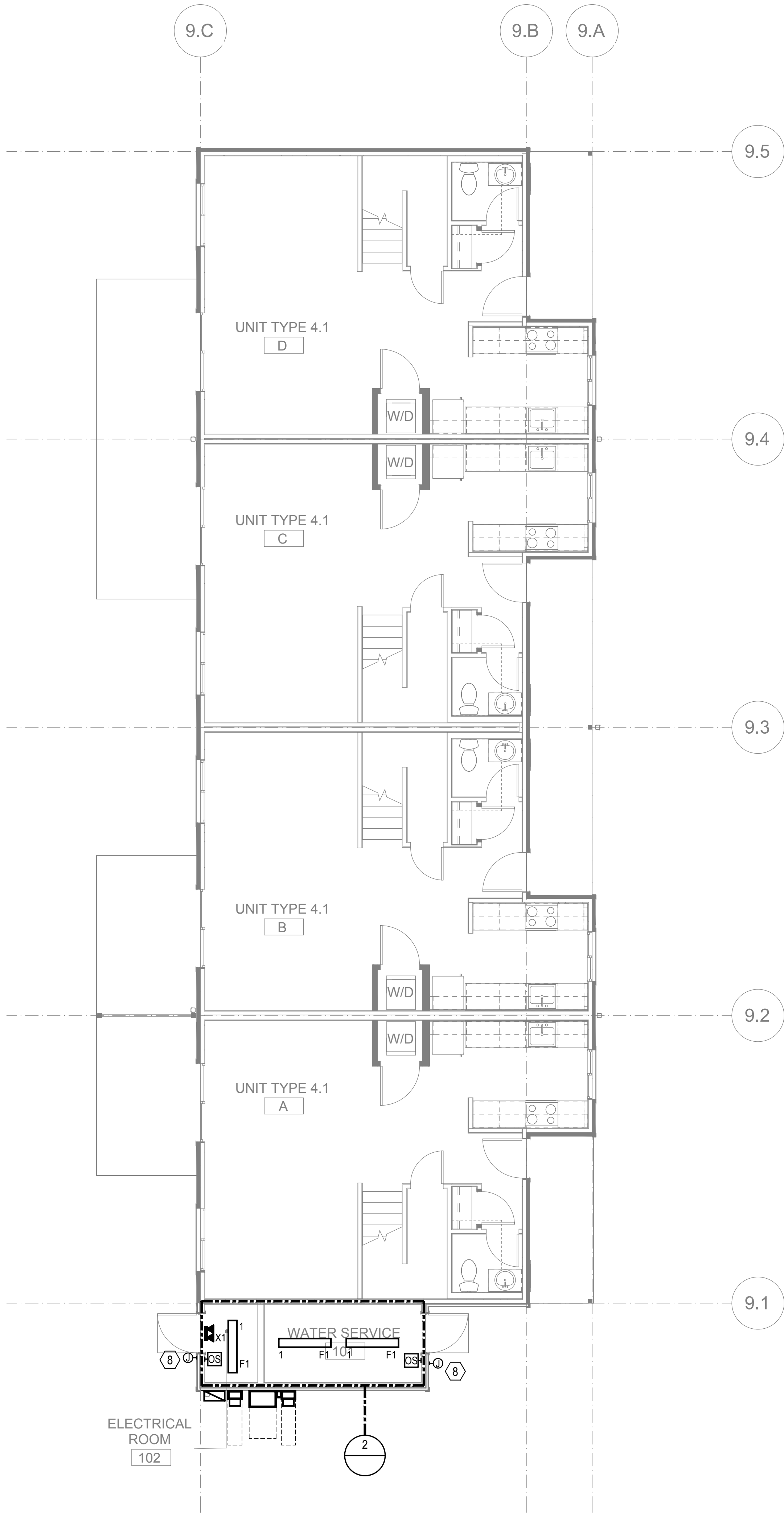
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**ELECTRICAL  
SITE PLAN -  
BUILDING 9**

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JOB NO. 22016  
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**E9-051**





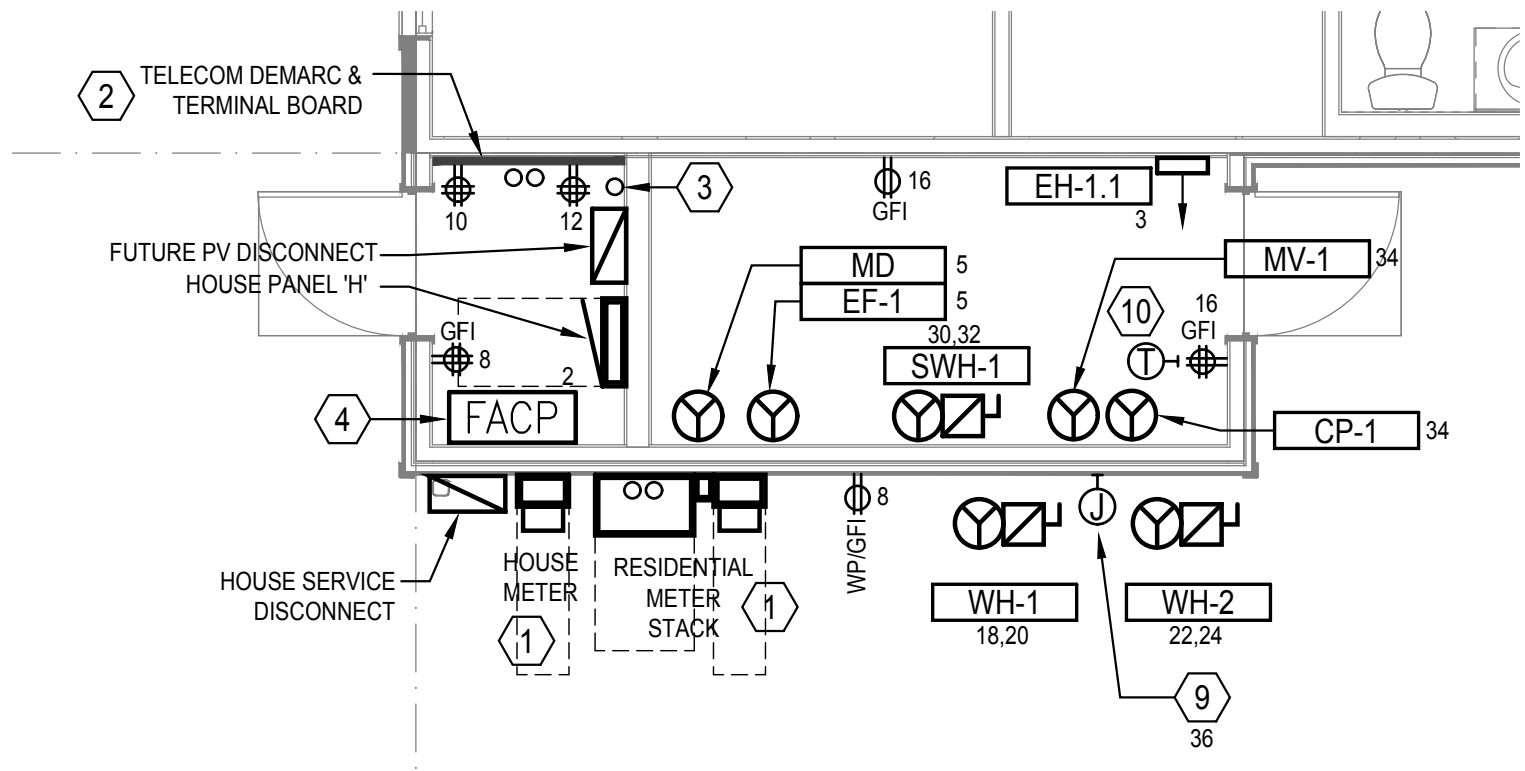
POWER AND LIGHTING PLAN - BUILDING 9 - LEVEL 1  
SCALE: 3/16"=1'-0"

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:
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):
- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
  - 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.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - NOT USED.
  - NOT USED.
  - NOT USED.
  - 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.
  - 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.
  - 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 HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 9  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

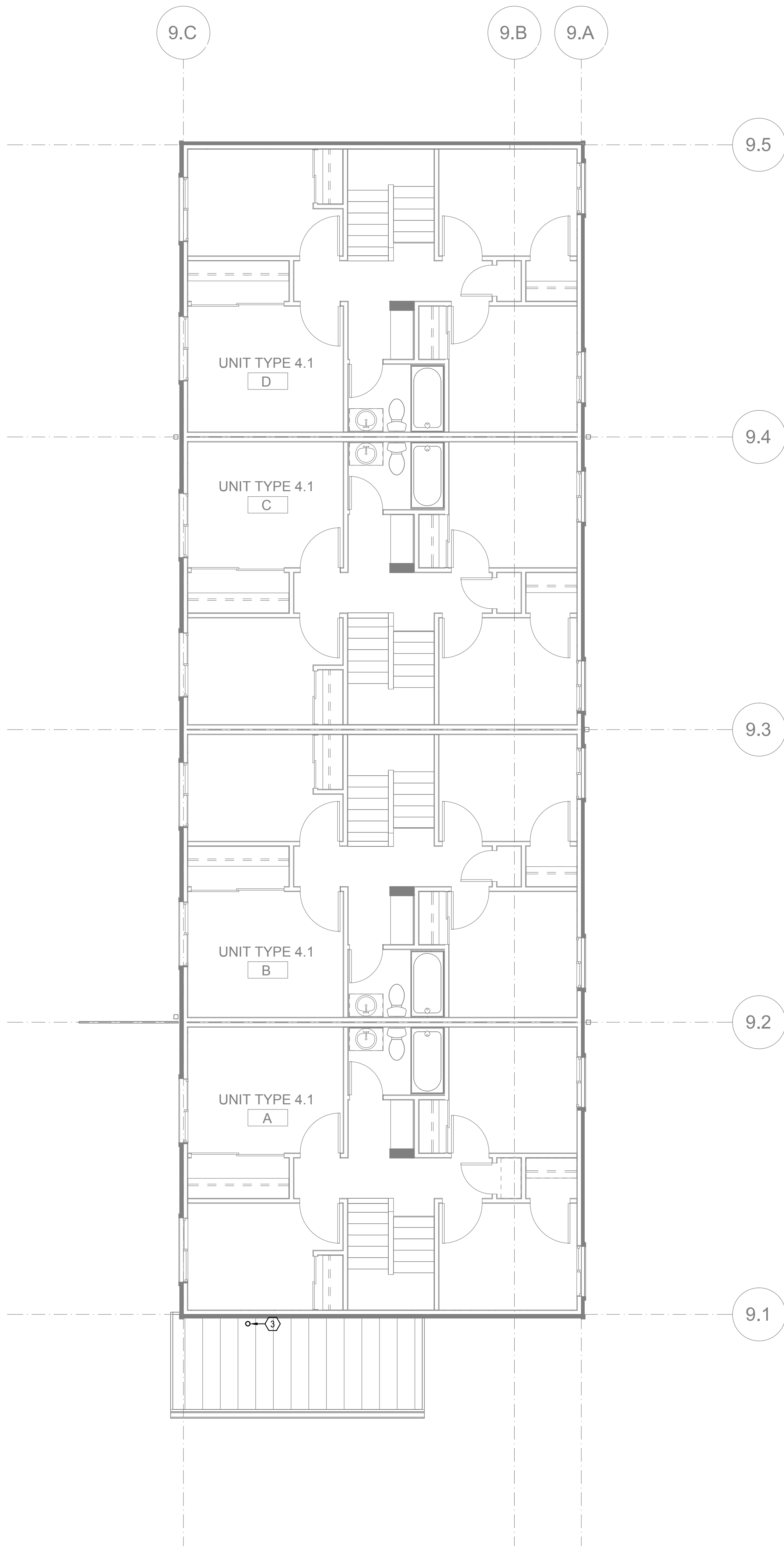
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TITLE  
POWER AND  
LIGHTING  
PLAN -  
BUILDING 9 -  
LEVEL 1

PERMIT #  
DRAWN RA, JF  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

E9-101





POWER AND LIGHTING PLAN - BUILDING 9 - LEVEL 2  
SCALE: 3/16"=1'-0"

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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).



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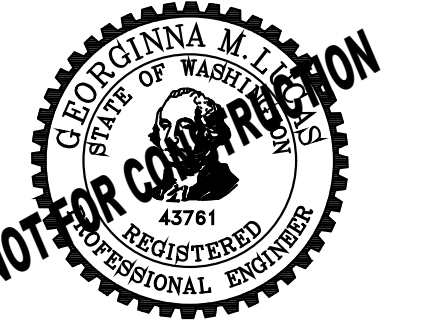


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KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 9  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

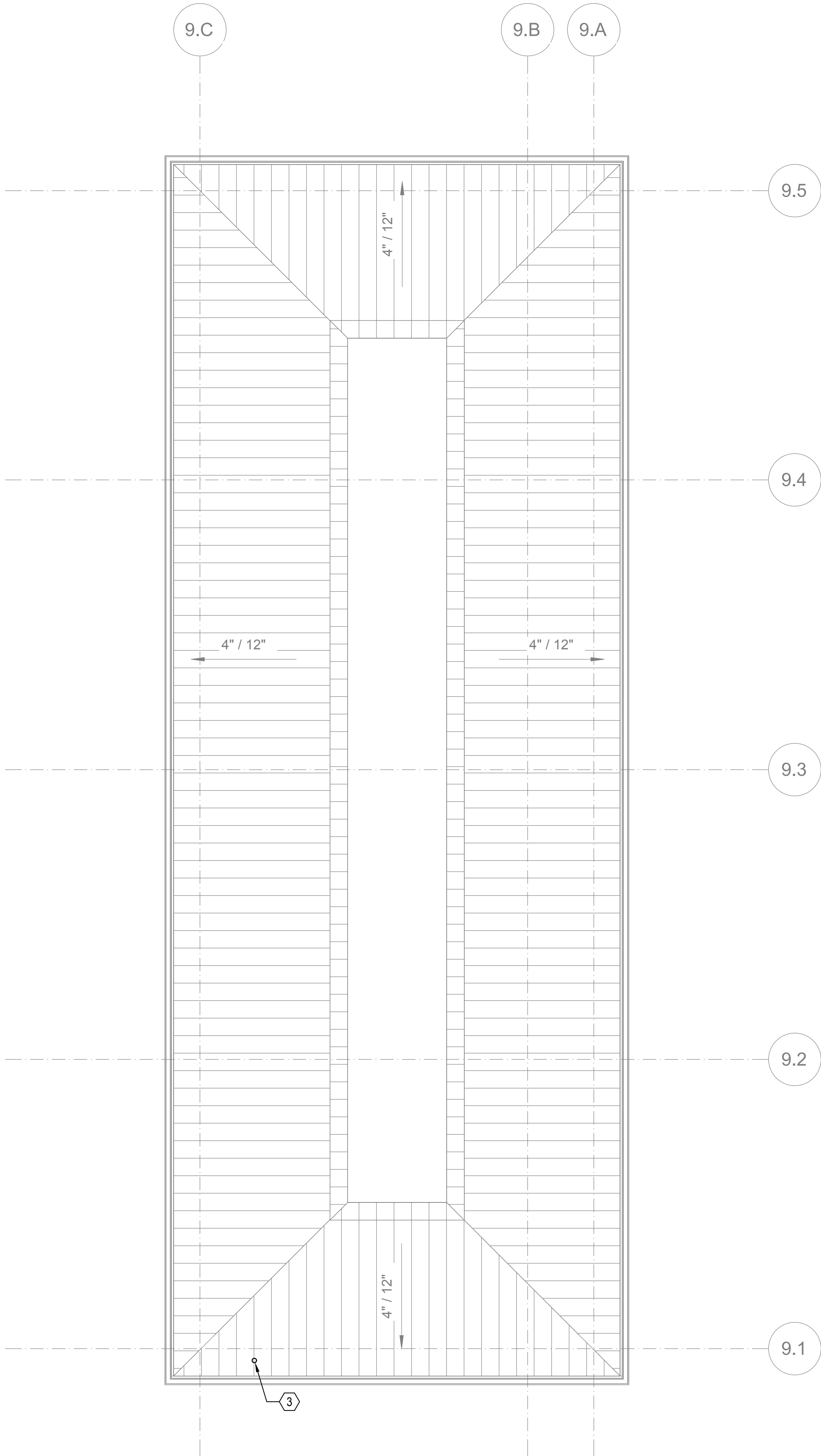
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TITLE  
POWER AND  
LIGHTING  
PLAN -  
BUILDING 9 -  
LEVEL 2

PERMIT #	
DRAWN	RA, JF
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ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

E9-102





**POWER PLAN - BUILDING 9 - 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  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 9**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

DPD STAMP

TITLE

**POWER PLAN -  
BUILDING 9 -  
ROOF**

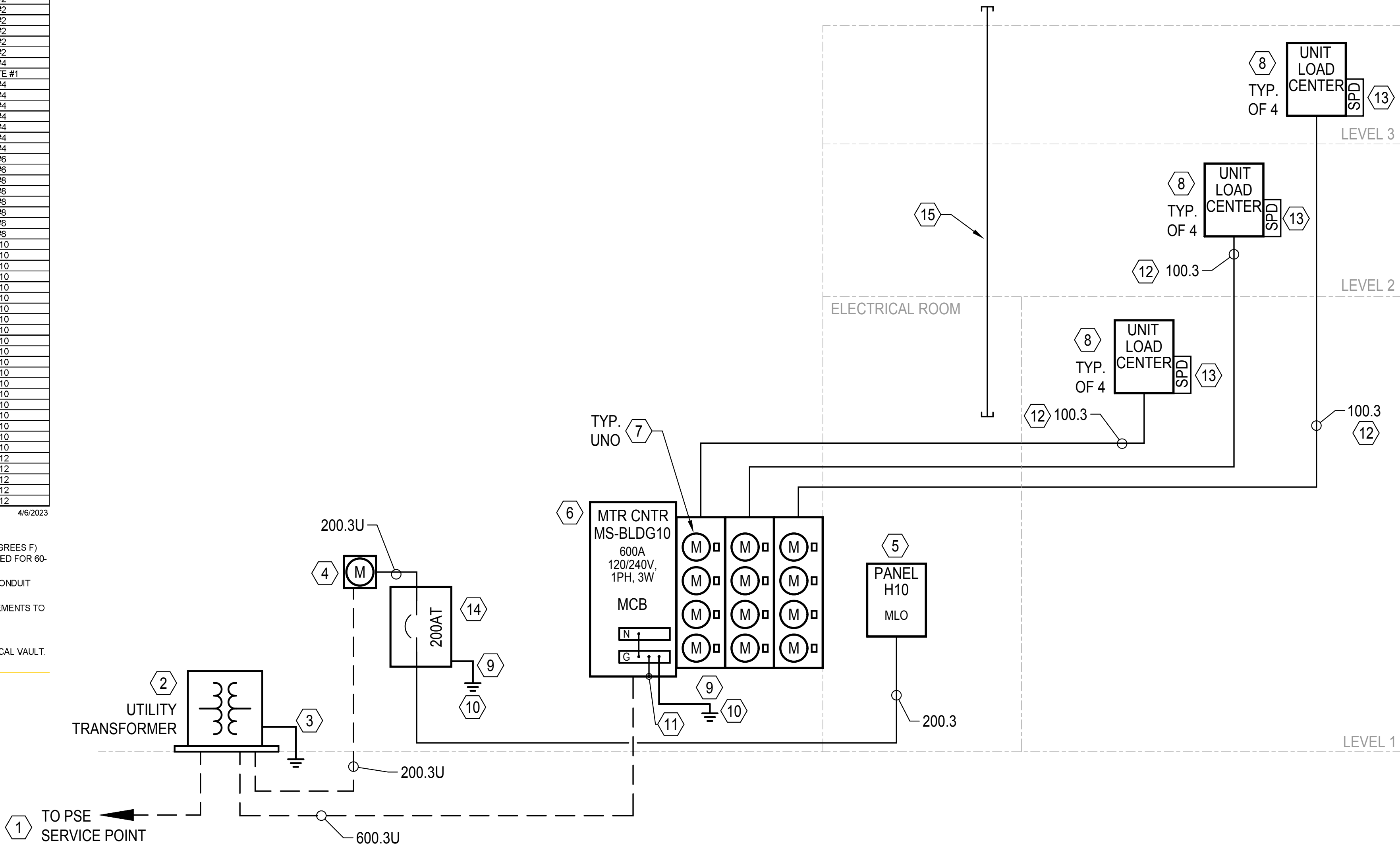
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**E9-103**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (FEET) 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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
80.3	(1) 1.5-INCH	CU	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1.5-INCH	CU	(3) #4	#10
60.2N	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1.5-INCH	CU	(2) #4	#10
60.1	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
50.3	(1) 1.5-INCH	CU	(3) #5	#10
50.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
50.2	(1) 1.5-INCH	CU	(2) #5	#10
50.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
40.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
40.3	(1) 1.5-INCH	CU	(3) #5	#10
40.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
40.2	(1) 1.5-INCH	CU	(2) #5	#10
40.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1.5-INCH	CU	(3) #10	#10
30.2N	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1.5-INCH	CU	(2) #10	#10
30.1	(1) 1.5-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1.5-INCH	CU	(3) #12	#12
20.2N	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1.5-INCH	CU	(2) #12	#12
20.1	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 4/6/2023  
A. AL= ALUMINUM (STRAYLOY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/TMVN INSULATION).  
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75 DEGREES C (167 DEGREES F).  
AS PER NEC 110.10 (KVA). 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.



## SINGLE LINE DIAGRAM SCALE: NTS

## LOAD CALCULATIONS - BLDG 10

UNIT TYPE: 2BR - 2.1		AREA (SF): 782	4/6/2023
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]:			
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 [220.50]:			
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			
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	= 8.80 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): 908	4/6/2023
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]:			
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 [220.50]:			
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			
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	= 8.80 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	4/6/2023
DEMAND LOAD (KVA): 137.09		671.2 AMPS AT 240 V 1 PH	
QTY ON METER STACK		SPACE HEATING/ AC LOAD (KVA)	CLOTHES DRYERS
UNIT TYPE	GEN LTG LOAD (KVA)	APPLIANCES LOAD (KVA)	MOTOR LOAD (KVA)
2BR - 2.1	6 41.08	13.20	0.66
3BR - 3.1	6 43.31	13.20	0.66
0	0	0	0
TOTALS:	12 84.38	26.40	1.32
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)		4/6/2023
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
270.14 AMPS @ 120/240V, 1-PHASE		
WITH 25% SPARE CAPACITY		
53.04 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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SMR Architects  
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New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133rd St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 10  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE

## SINGLE LINE DIAGRAM AND LOAD CALCS

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

# E10-003



FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT #(SETS) SIZE	AL OR CU	CONDUCTORS PER SET		GROUND (1 PER SET UNO)
			PHASE / NEUTRAL (N) QTY SIZE	CONDUCTOR QTY SIZE	
500.3U	(2) 4-INCH	AL	(3) 500 KCMIL	(1) 500 KCMIL N	NOTE #1
500.3	(2) 4-INCH	AL	(3) 500 KCMIL	(1) 500 KCMIL N	#10
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	(1) 350 KCMIL N	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	(1) 350 KCMIL N	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	(1) 300 KCMIL N	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	(1) 300 KCMIL N	NOTE #1
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	(1) 250 KCMIL N	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	(1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	(1) 700 KCMIL N	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	(1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	(1) 500 KCMIL N	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	(1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	(1) 350 KCMIL N	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	(1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	(1) 300 KCMIL N	#2
200.4U	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	(1) 250 KCMIL N	NOTE #1
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	(1) 250 KCMIL N	#4
175.4	(1) 3-INCH	AL	(3) 250 KCMIL	(1) 250 KCMIL N	#4
175.3	(1) 3-INCH	AL	(3) #40 / (1) #40 N	(1) #40 N	#4
150.4	(1) 2-INCH	AL	(3) #30 / (1) #30 N	(1) #30 N	#4
150.3	(1) 2-INCH	AL	(3) #30	(1) #30 N	#4
125.4	(1) 2-INCH	AL	(3) #20 / (1) #20 N	(1) #20 N	#4
100.4	(1) 2-INCH	AL	(3) #10 / (1) #10 N	(1) #10 N	#5
100.3	(1) 2-INCH	AL	(3) #10	(1) #10 N	#5
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	(1) #2 N	#5
90.3	(1) 1.5-INCH	CU	(3) #2	(1) #2 N	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	(1) #3 N	#5
80.3	(1) 1.5-INCH	CU	(3) #3	(1) #3 N	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	(1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	(1) #4 N	#5
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N	(1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	(1) #4 N	#10
60.2U	(1) 1-INCH	CU	(2) #4 / (1) #4 N	(1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	(1) #4 N	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	(1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	(1) #5 N	#10
50.3	(1) 1-INCH	CU	(3) #5	(1) #5 N	#10
50.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	(1) #5 N	#10
50.2	(1) 1-INCH	CU	(2) #5	(1) #5 N	#10
50.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	(1) #5 N	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	(1) #5 N	#10
40.3	(1) 1-INCH	CU	(3) #5	(1) #5 N	#10
40.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	(1) #5 N	#10
40.2	(1) 1-INCH	CU	(2) #5	(1) #5 N	#10
40.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	(1) #5 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	(1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	(1) #10 N	#10
30.2U	(1) 1-INCH	CU	(2) #10 / (1) #10 N	(1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	(1) #10 N	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	(1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	(1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	(1) #12 N	#12
20.2U	(1) 1-INCH	CU	(2) #12 / (1) #12 N	(1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	(1) #12 N	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	(1) #12 N	#12

- GENERAL SCHEDULE NOTES:**
- A. AL= ALUMINUM (STABILLOY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/THW 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	#4 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055	
	3	0.36	335	565	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	
	4	0.42	380	645	995	1595	
	6	0.63	440	730	1125	1780	
	8	1.25	290	485	750	1185	
208V / 1-PHASE	3	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	
	2	0.72	1000	1695	2600	4120	
	4	1.44	500	845	1300	2080	
	6	2.16	335	565	865	1370	
208V / 3-PHASE	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	250	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:**
- 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											
NORMAL POWER		VOLTAGE		120 / 240 V		1 PHASE, 3 WIRE		LOCATION		ELECTRICAL ROOM	
AC - SEE SINGLE LINE DIAGRAM		SER. AMP		100 AMP		M.C.O.R. MCB		M.C.O. 100 AMP		SURFACE MOUNTED	
CKT #	DESCRIPTION	CKT TAG	CB	AMP/SP	PH	CKT TAG	CB	AMP/SP	PH	CKT TAG	DESCRIPTION
1	175-BRKR (2)	20.1	20	1	A	20.1	20	1	A	0.90	175-BRKR (2)
3	SPARE	20.1	20	1	B	20.1	20	1	B	0.24	175-BRKR (2)
5	RECEPT-LVLS-BRKR (2)	20.1	20	1	A	20.1	20	1	A	0.90	RECEPT-LVLS-BRKR (2)
7	RECEPT-LVLS-BRKR (2)	20.1	20	1	B	20.1	20	1	B	0.90	RECEPT-LVLS-BRKR (2)
9	RECEPT-LVLS-BRKR (2)	20.1	20	1	A	20.1	20	1	A	0.72	RECEPT-LVLS-BRKR (2)
11	RECEPT-LVLS-BRKR (2)	20.1	20	1	B	20.1	20	1	B	0.90	RECEPT-LVLS-BRKR (2)
13	RECEPT-LVLS-BRKR (2)	20.1	20	1	A	20.1	20	1	A	0.90	RECEPT-LVLS-BRKR (2)
15	EXHAUST FAN EFF. 1 & MOTO DAMPER	20.1	20	1	A	20.1	20	1	A	0.72	EXHAUST FAN EFF. 1 & MOTO DAMPER
17	SPARE	20.1	20	1	B	20.1	20	1	B	0.72	EXHAUST FAN EFF. 1 & MOTO DAMPER
21	HEAT TRACE - WATER CONNECTION	20.1	20	1	A	20.1	20	1	A	0.72	HEAT TRACE - WATER CONNECTION
23	SPARE	20.1	20	1	B	20.1	20	1	B	0.72	HEAT TRACE - WATER CONNECTION
25	SPARE	20.1	20	1	A	20.1	20	1	A	0.72	HEAT TRACE - WATER CONNECTION
27	SPARE	20.1	20	1	B	20.1	20	1	B	0.72	HEAT TRACE - WATER CONNECTION
29	SPACE ONLY	20.1	20	1	A	20.1	20	1	A	0.90	SPACE ONLY
31	SPACE ONLY	20.1	20	1	B	20.1	20	1	B	0.90	SPACE ONLY
33	SPACE ONLY	20.1	20	1	A	20.1	20	1	A	0.90	SPACE ONLY
35	SPACE ONLY	20.1	20	1	B	20.1	20	1	B	0.90	SPACE ONLY
37	SPACE ONLY	20.1	20	1	A	20.1	20	1	A	0.90	SPACE ONLY
39	SPACE ONLY	20.1	20	1	B	20.1	20	1	B	0.90	SPACE ONLY
41	SPACE ONLY	20.1	20	1	A	20.1	20	1	A	0.90	SPACE ONLY

PANEL H10											
NORMAL POWER		VOLTAGE		120 / 240 V		1 PHASE, 3 WIRE		LOCATION		DWELLING UNITS	
AC - SEE SINGLE LINE DIAGRAM		SER. AMP		100 AMP		M.C.O.R. MCB		M.C.O. 100 AMP		SURFACE MOUNTED	
CKT #	DESCRIPTION	CKT TAG	CB	AMP/SP	PH	CKT TAG	CB	AMP/SP	PH	CKT TAG	DESCRIPTION
1	175-BRKR (2)	20.1	20	1	A	20.1	20	1	A	0.90	175-BRKR (2)
3	SPARE	20.1	20	1	B	20.1	20	1	B	0.24	175-BRKR (2)
5	RECEPT-LVLS-BRKR (2)	20.1	20	1	A	20.1	20	1	A	0.90	RECEPT-LVLS-BRKR (2)
7	RECEPT-LVLS-BRKR (2)	20.1	20	1	B	20.1	20	1	B	0.90	RECEPT-LVLS-BRKR (2)
9	RECEPT-LVLS-BRKR (2)	20.1	20	1	A	20.1	20	1	A	0.72	RECEPT-LVLS-BRKR (2)
11	RECEPT-LVLS-BRKR (2)	20.1	20	1	B	20.1	20	1	B	0.90	RECEPT-LVLS-BRKR (2)
13	RECEPT-LVLS-BRKR (2)	20.1	20	1	A	20.1	20	1	A	0.90	RECEPT-LVLS-BRKR (2)
15	EXHAUST FAN EFF. 1 & MOTO DAMPER	20.1	20	1	A	20.1	20	1	A	0.72	EXHAUST FAN EFF. 1 & MOTO DAMPER
17	SPARE	20.1	20	1	B	20.1	20	1	B	0.72	EXHAUST FAN EFF. 1 & MOTO DAMPER
21	HEAT TRACE - WATER CONNECTION	20.1	20	1	A	20.1	20	1	A	0.72	HEAT TRACE - WATER CONNECTION
23	SPARE	20.1	20	1	B	20.1	20	1	B	0.72	HEAT TRACE - WATER CONNECTION
25	SPARE	20.1	20	1	A	20.1	20	1	A	0.72	HEAT TRACE - WATER CONNECTION
27	SPARE	20.1	20	1	B	20.1	20	1	B	0.72	HEAT TRACE - WATER CONNECTION
29	SPACE ONLY	20.1	20	1	A	20.1	20	1	A	0.90	SPACE ONLY
31	SPACE ONLY	20.1	20	1	B	20.1	20	1	B	0.90	SPACE ONLY
33	SPACE ONLY	20.1	20	1	A	20.1	20	1	A	0.90	SPACE ONLY
35	SPACE ONLY	20.1	20	1	B	20.1	20	1	B	0.90	SPACE ONLY
37	SPACE ONLY	20.1	20	1	A	20.1	20	1	A	0.90	SPACE ONLY
39	SPACE ONLY	20.1	20	1	B	20.1	20	1	B	0.90	SPACE ONLY

NOTES:

A. SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL LOAD CENTER CALCULATIONS

B. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CO-ORDINATE AND COORDINATOR INFORMATION PER CIRCUIT TAG

CIRCUIT NOTES:

1. PROVIDE COMBO-ARREST TRIP CIRCUIT INTERRUPTER BREAKER

2. PROVIDE CIRCUIT BREAKER FOR CO-ORDINATE AND COORDINATOR INFORMATION PER BREAKER NAME RECEPTACLE IS WITHIN 6 FT OF SINK EDGE. OTHERWISE PROVIDE COMBO-ARREST CIRCUIT INTERRUPTER BREAKER.



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

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

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 10  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

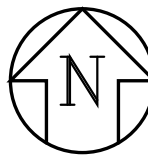
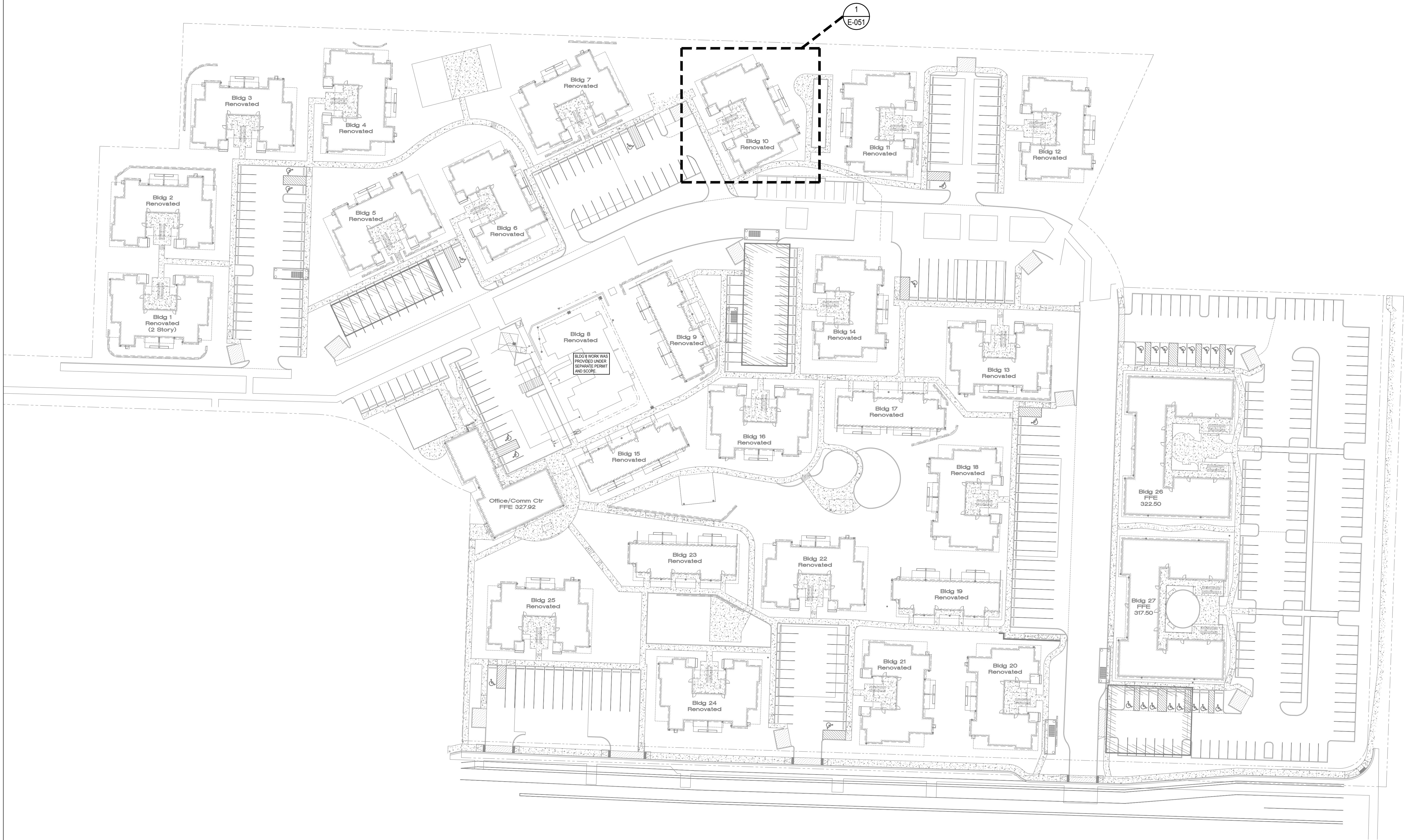
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LUMINAIRE  
SCHEDULE

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

E10-005



10/7/2021 1:33:34 AM



**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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**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
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Kirkland, WA 98034  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 10  
BID SET**



REVISIONS / NOTES  
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**OVERALL  
PROJECT SITE  
PLAN**

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

**E10-050**



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.

**SIDER+BYERS**  
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**King County Housing Authority**

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

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 10**  
BID SET



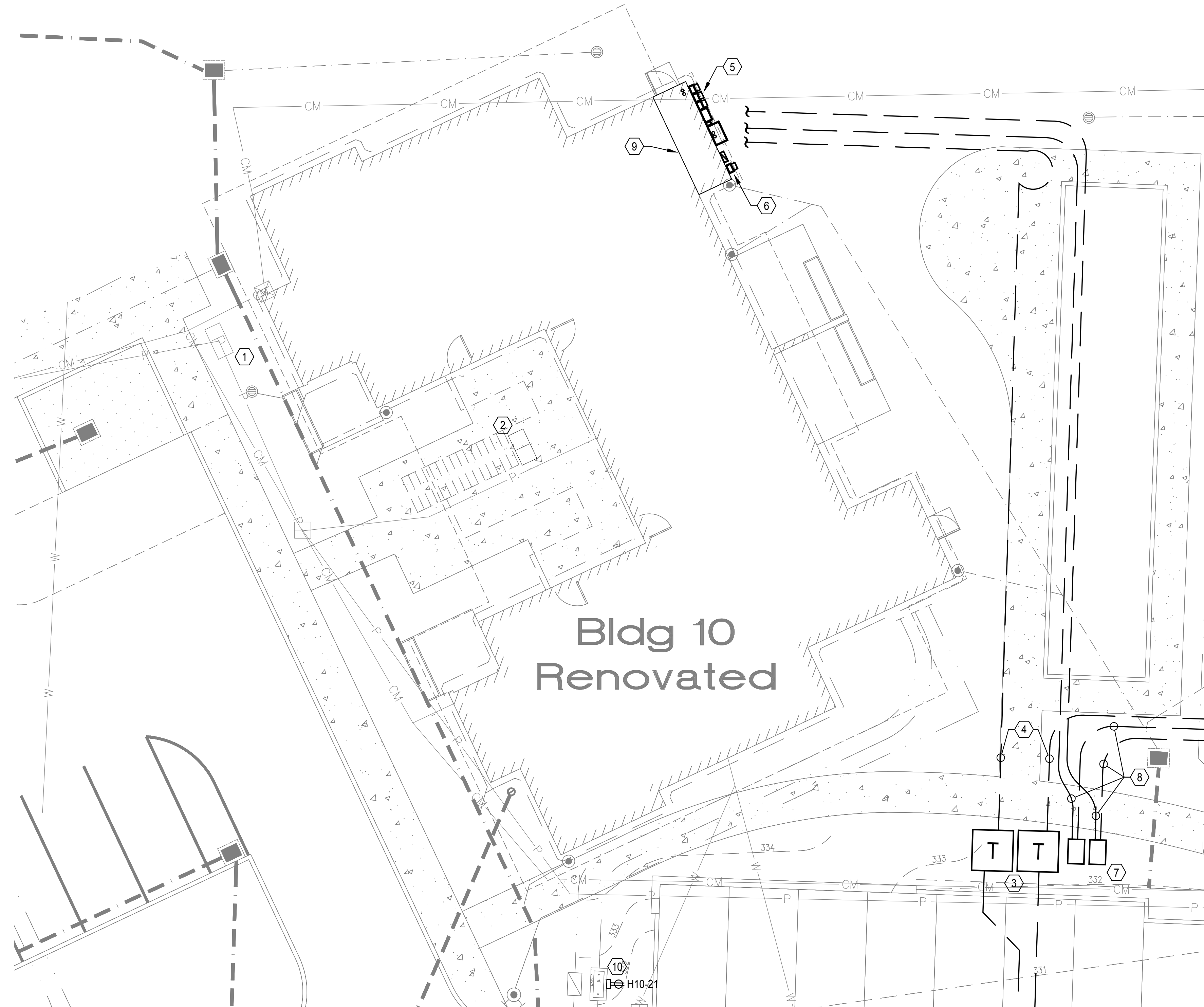
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TITLE  
**ELECTRICAL SITE PLAN - BUILDING 10**

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

**E10-051**



**ELECTRICAL SITE PLAN - BUILDING 10**  
SCALE: 1/8" = 1'-0"

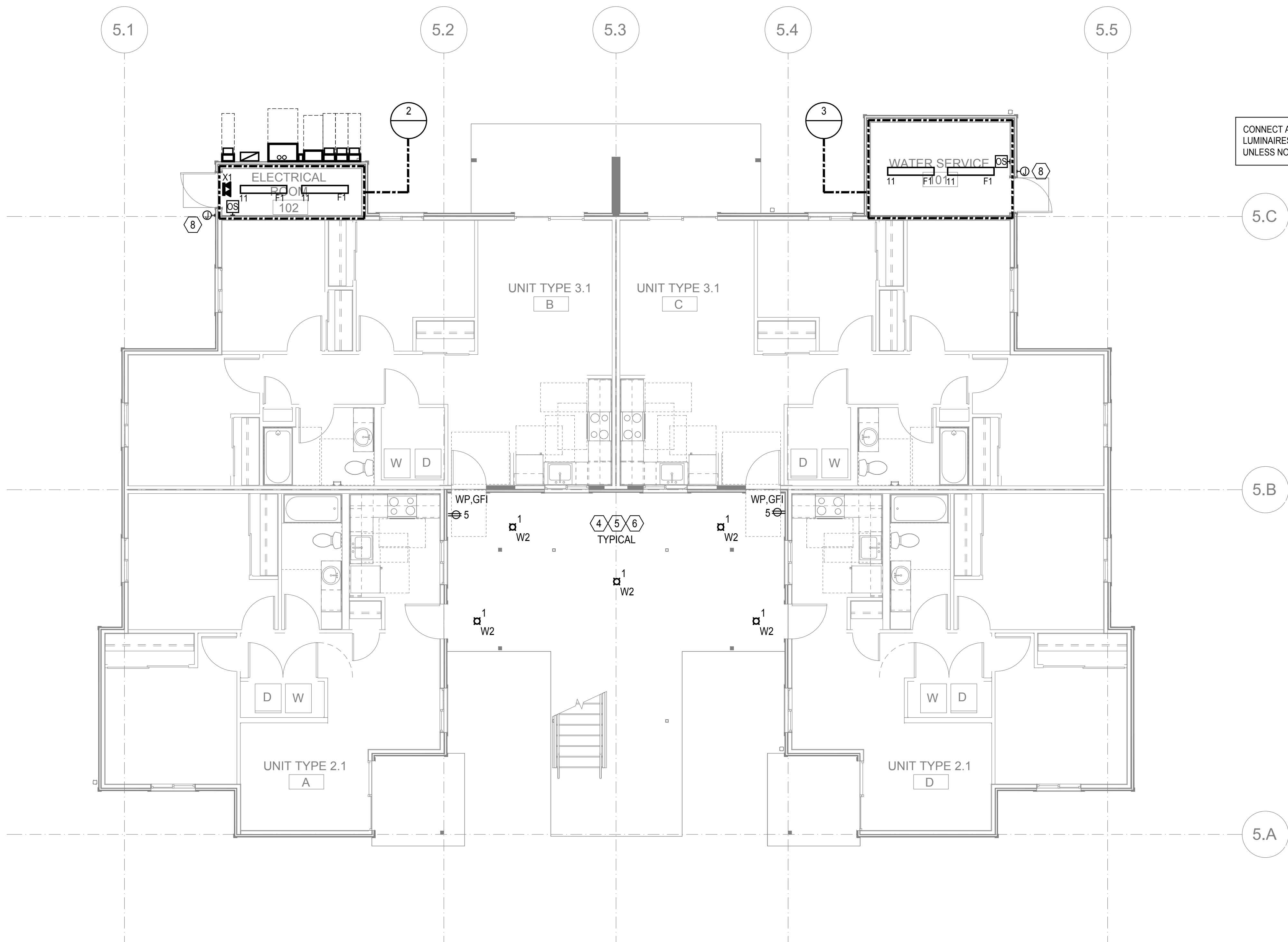
**FLAG NOTES (X):**

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

**GENERAL NOTES:**

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.





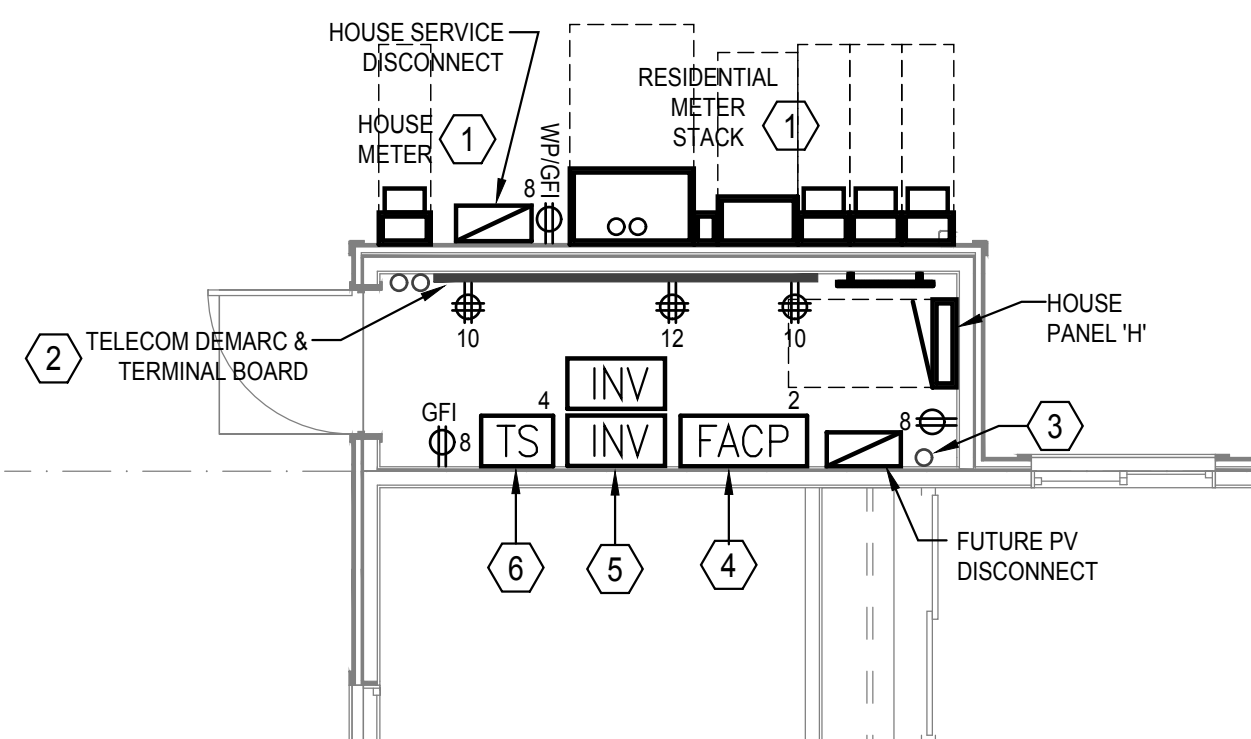
**POWER AND LIGHTING PLAN - BUILDING 10 - LEVEL 1**  
SCALE: 3/16"=1'-0"

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.

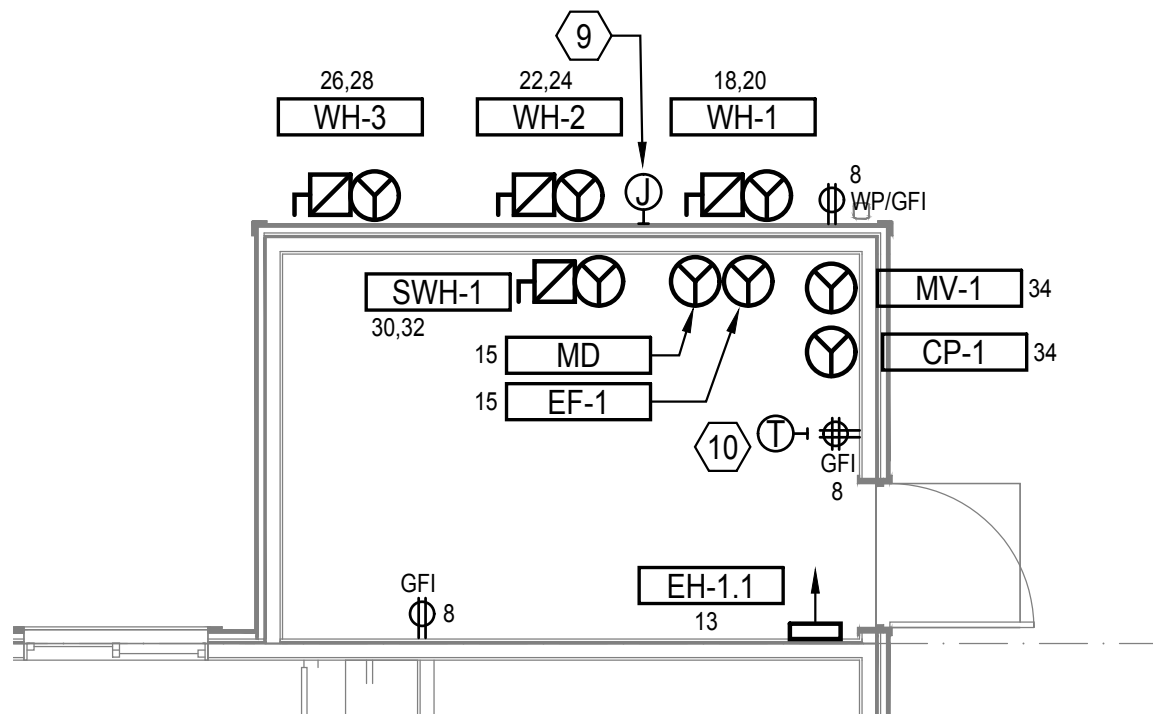
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

- GENERAL NOTES:**
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):**
- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
  - 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.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - 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
  - 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.
  - LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
  - 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.
  - 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.
  - 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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**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
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**BUILDING 10**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

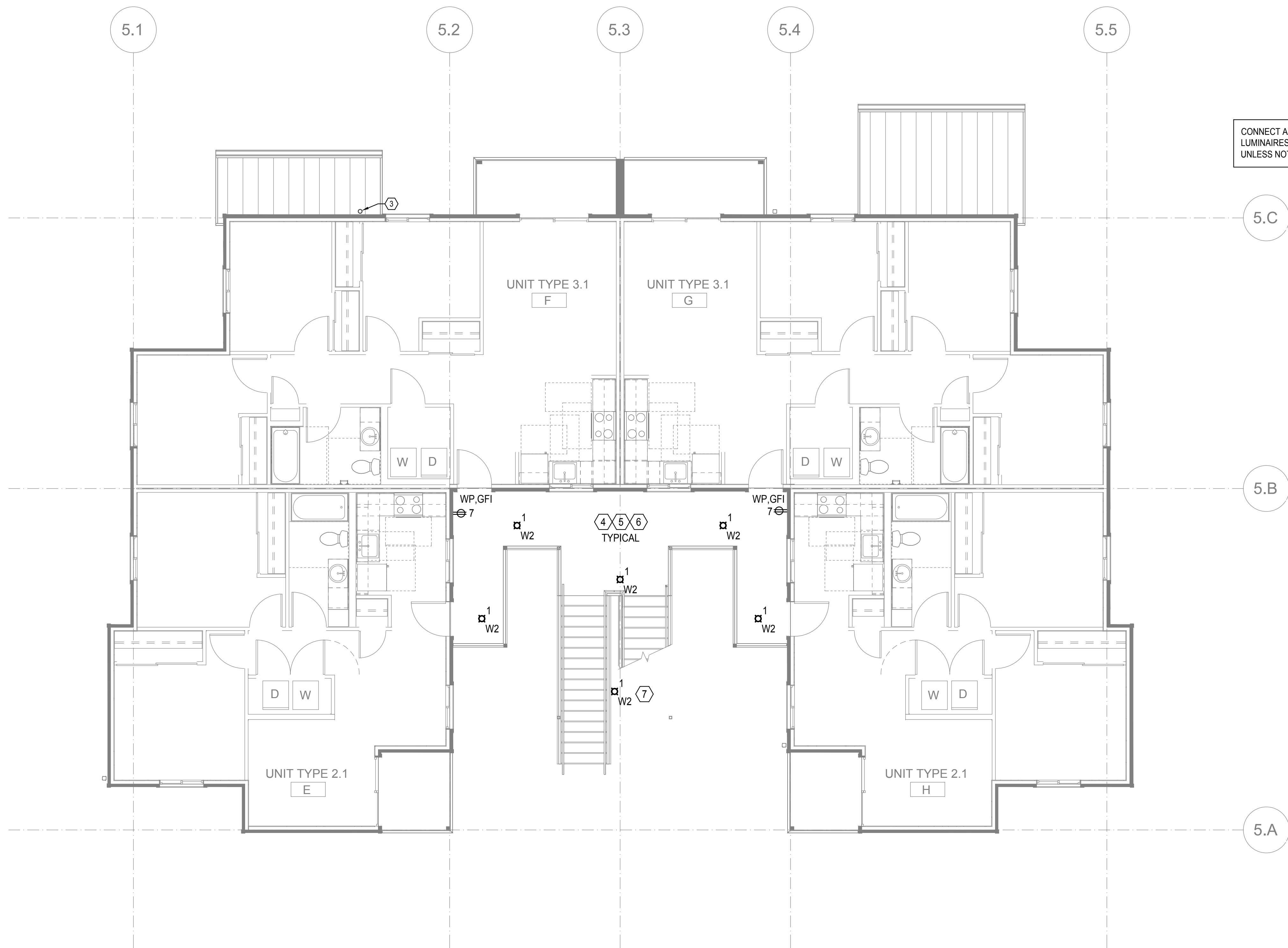
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TITLE  
**POWER AND LIGHTING PLAN - BUILDING 10 - LEVEL 1**

PERMIT #  
DRAWN RA, JF  
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SHEET NO.:

**E10-101**





**POWER AND LIGHTING PLAN - BUILDING 10 - LEVEL 2**  
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. 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 MARSHAL 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 PROGRAMMING WITH OWNER.
  - 7. LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.



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

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 10**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

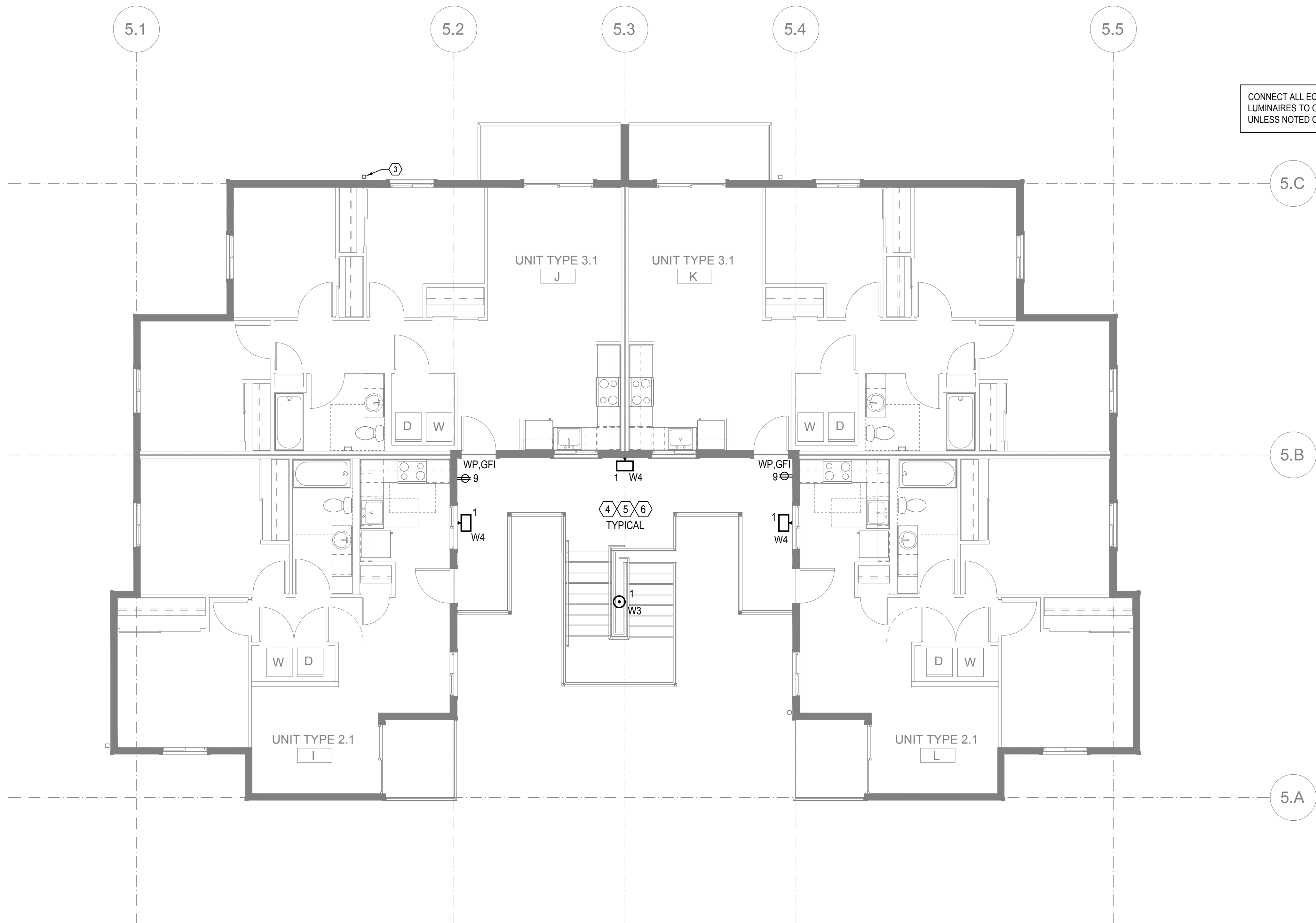
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**POWER AND  
LIGHTING  
PLAN -  
BUILDING 10 -  
LEVEL 2**

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

**E10-102**



10/7/2021 1:33:34 AM



**POWER AND LIGHTING PLAN - BUILDING 10 - LEVEL 3**  
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. 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 MARSHAL 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.



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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 10**  
BID SET



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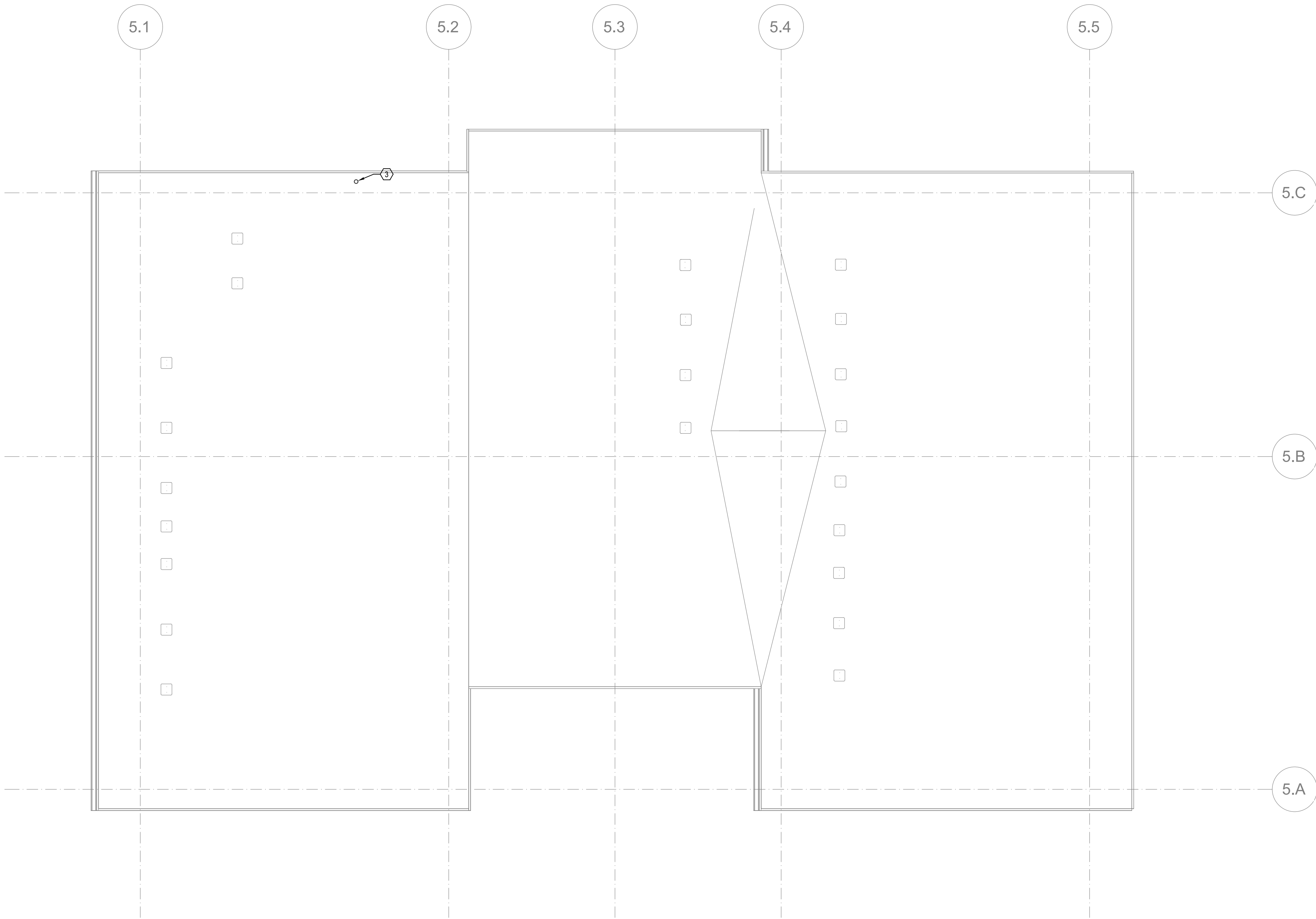
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**POWER AND  
LIGHTING  
PLAN -  
BUILDING 10 -  
LEVEL 3**

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

**E10-103**



10/7/2021 1:33:34 AM



POWER PLAN - BUILDING 10 - ROOF

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

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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.
- 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).



**SIDER+BYERS**  
MECHANICAL • ELECTRICAL ENGINEERS

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KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 10  
BID SET



REVISIONS / NOTES  
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TITLE  
  
POWER PLAN -  
BUILDING 10 -  
ROOF

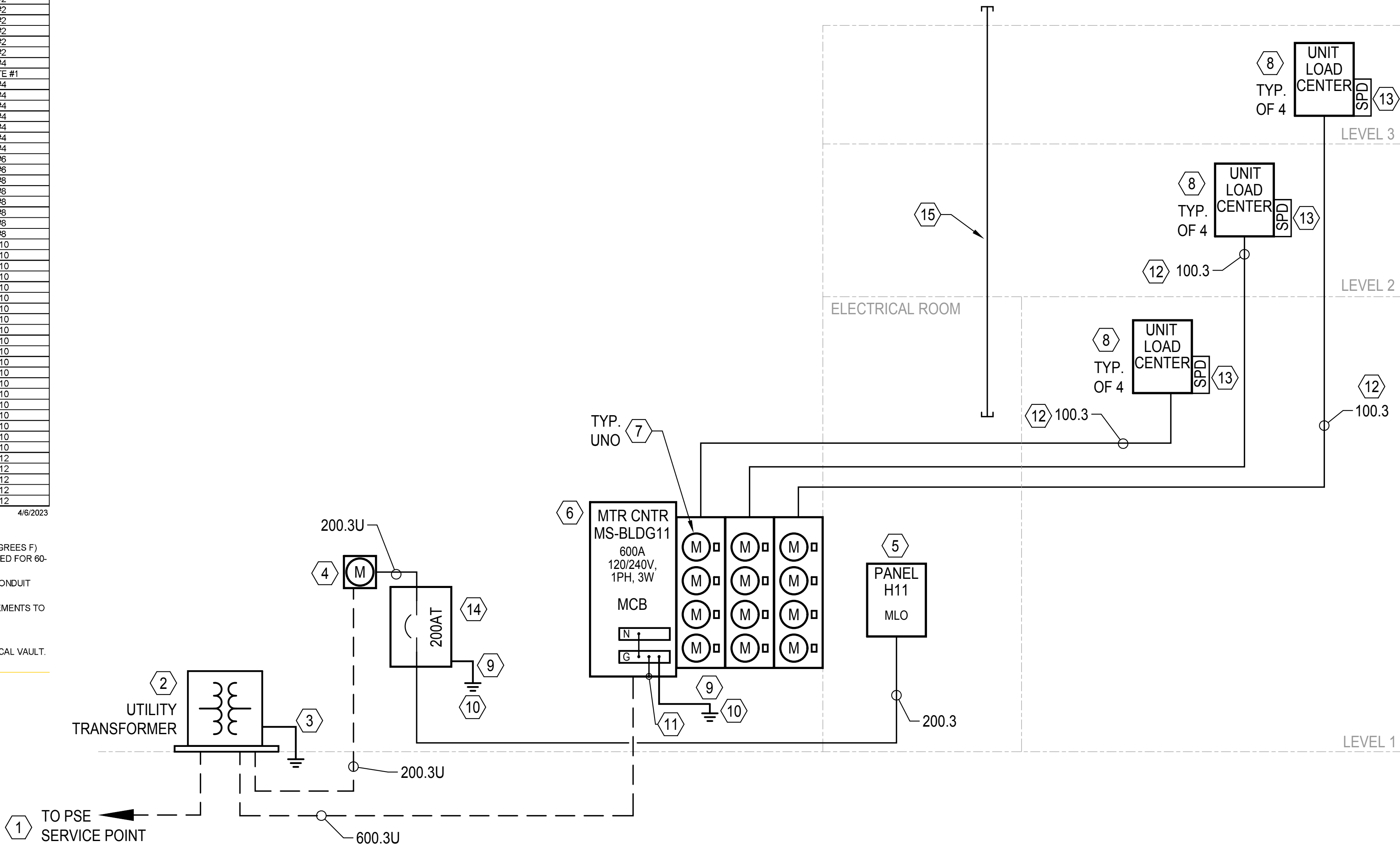
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SHEET NO.:

E10-104



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (FEET) 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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
80.3	(1) 1.5-INCH	CU	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#1/0
60.3	(1) 1.5-INCH	CU	(3) #4	#1/0
60.2N	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#1/0
60.2	(1) 1.5-INCH	CU	(2) #4	#1/0
60.1	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#1/0
50.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#1/0
50.3	(1) 1.5-INCH	CU	(3) #5	#1/0
50.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#1/0
50.2	(1) 1.5-INCH	CU	(2) #5	#1/0
50.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#1/0
40.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#1/0
40.3	(1) 1.5-INCH	CU	(3) #5	#1/0
40.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#1/0
40.2	(1) 1.5-INCH	CU	(2) #5	#1/0
40.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#1/0
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#1/0
30.3	(1) 1.5-INCH	CU	(3) #10	#1/0
30.2N	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#1/0
30.2	(1) 1.5-INCH	CU	(2) #10	#1/0
30.1	(1) 1.5-INCH	CU	(1) #10 / (1) #10 N	#1/0
20.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#1/2
20.3	(1) 1.5-INCH	CU	(3) #12	#1/2
20.2N	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#1/2
20.2	(1) 1.5-INCH	CU	(2) #12	#1/2
20.1	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#1/2

GENERAL SCHEDULE NOTES: 4/6/2023  
A. AL= ALUMINUM (STRAY) 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 110.14C(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.



## SINGLE LINE DIAGRAM

SCALE: NTS

## LOAD CALCULATIONS - BLDG 11

UNIT TYPE: 2BR - 2.1		AREA (SF): 782	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	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			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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): 908	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	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			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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	4/6/2023
DEMAND LOAD (KVA): 137.09		671.2 AMPS AT 240 V 1 PH	
QTY ON METER STACK		SPACE HEATING/ AC LOAD (KVA)	CLOTHES DRYERS
UNIT TYPE	QTY	GEN LTG LOAD (KVA)	APPLIANCES LOAD (KVA)
2BR - 2.1	6	41.08	13.20
3BR - 3.1	6	43.31	13.20
0	0	0.00	0.00
TOTALS:	12	84.38	26.40
ADDITIONAL 25% OF LARGEST MOTOR:		1.32	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)		4/6/2023
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
270.14 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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## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

## BUILDING 11

BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

## SINGLE LINE DIAGRAM AND LOAD CALCS

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

# E11-003



FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT #(SETS) SIZE	AL OR CU	CONDUCTORS PER SET		GROUND (1 PER SET UNO)
			PHASE / NEUTRAL (N) (QTY) SIZE	NOTE #1	
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL		#20
600.3	(2) 4-INCH	AL	(3) 500 KCMIL		#10
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N		#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL		#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N		#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL		#10
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
200.4U	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N		NOTE #1
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL		#4
175.4	(1) 3-INCH	AL	(3) #40 / (1) #40 N		#4
175.3	(1) 3-INCH	AL	(3) #40		#4
150.4	(1) 2-INCH	AL	(3) #30 / (1) #30 N		#4
150.3	(1) 2-INCH	AL	(3) #30		#4
125.4	(1) 2-INCH	AL	(3) #20 / (1) #20 N		#4
100.4	(1) 2-INCH	AL	(3) #10 / (1) #10 N		#5
100.3	(1) 2-INCH	AL	(3) #10		#5
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N		#5
90.3	(1) 1.5-INCH	CU	(3) #2		#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N		#5
80.3	(1) 1.5-INCH	CU	(3) #3		#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N		#5
70.3	(1) 1.5-INCH	CU	(3) #4		#5
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N		#10
60.3	(1) 1-INCH	CU	(3) #4		#10
60.2U	(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) #5 / (1) #5 N		#10
50.3	(1) 1-INCH	CU	(3) #5		#10
50.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N		#10
50.2	(1) 1-INCH	CU	(2) #5		#10
50.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N		#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N		#10
40.3	(1) 1-INCH	CU	(3) #5		#10
40.2U	(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
30.2U	(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
20.2U	(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:**
- A. AL= ALUMINUM (STABILTY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/THW 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	40	65	100	160
	30	3.60	35	55	85	135
	4	0.42	380	645	995	1605
	6	0.63	440	730	1125	1780
	8	1.25	290	485	750	1185
208V / 1-PHASE	3	1.66	220	365	560	885
	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	70	115	180	285
	30	6.24	60	95	150	235
	35	7.28	50	80	125	200
	40	8.32	45	70	110	175
	45	9.36	40	60	95	155
	50	10.40	35	50	80	140
	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2080
	6	2.16	335	565	865	1370
	8	2.88	250	420	650	1030
208V / 3-PHASE	10	3.80	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	250	410
	25	9.01	80	135	205	325
	30	10.81	70	110	170	270
	35	12.61	60	95	145	235
	40	14.41	50	80	120	200
	45	16.21	45	70	105	180
	50	18.01	40	60	90	160

- NOTES:**
- 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			VOLTAGE: 120 / 240 V			FED FROM: 1-PHASE 3-WIRE			LOCATION: ELECTRICAL ROOM		
AC - SEE SINGLE LINE DIAGRAM			100 AMP			M.C.P. OR M.C.B. 100 AMP			SURFACE MOUNTED		
CKT #	DESCRIPTION	TYPE	KVA	TAG	AMPS/PH	PH	CB	CKT TAG	TYPE	KVA	DESCRIPTION
1	120-BREKFAST	R	0.21	20.1	20	/ 1	A	20	/ 1	20.1	N
2	SPARE		0.00		20	/ 1	B	20	/ 1	20.1	N
3	RECEPT-LVS-1 BREAKSWAY	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
4	RECEPT-LVS-2 BREAKSWAY	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
5	RECEPT-LVS-3 BREAKSWAY	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
6	RECEPT-LVS-4 BREAKSWAY	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
7	ELECT-HVAC-1 FIRE SPRINKLER	C	0.150	20.1	20	/ 1	A	20	/ 1	20.1	N
8	ELECT-HVAC-2 FIRE SPRINKLER	C	0.150	20.1	20	/ 1	B	20	/ 1	20.1	N
9	ELECT-HVAC-3 FIRE SPRINKLER	C	0.150	20.1	20	/ 1	A	20	/ 1	20.1	N
10	ELECT-HVAC-4 FIRE SPRINKLER	C	0.150	20.1	20	/ 1	B	20	/ 1	20.1	N
11	SPARE		0.00	20	/ 1	A	20	/ 1	20.1	N	
12	SPARE		0.00	20	/ 1	B	20	/ 1	20.1	N	
13	HEAT TRACE-WATER CONNECTION	W	0.24	20.1	20	/ 1	A	20	/ 1	20.1	N
14	HEAT TRACE-WATER CONNECTION	W	0.24	20.1	20	/ 1	B	20	/ 1	20.1	N
15	HEAT TRACE-WATER CONNECTION	W	0.24	20.1	20	/ 1	A	20	/ 1	20.1	N
16	HEAT TRACE-WATER CONNECTION	W	0.24	20.1	20	/ 1	B	20	/ 1	20.1	N
17	SPARE		0.00	20	/ 1	A	20	/ 1	20.1	N	
18	SPARE		0.00	20	/ 1	B	20	/ 1	20.1	N	
19	HEAT TRACE-WATER CONNECTION	W	0.24	20.1	20	/ 1	A	20	/ 1	20.1	N
20	HEAT TRACE-WATER CONNECTION	W	0.24	20.1	20	/ 1	B	20	/ 1	20.1	N
21	HEAT TRACE-WATER CONNECTION	W	0.24	20.1	20	/ 1	A	20	/ 1	20.1	N
22	HEAT TRACE-WATER CONNECTION	W	0.24	20.1	20	/ 1	B	20	/ 1	20.1	N
23	SPARE		0.00	20	/ 1	A	20	/ 1	20.1	N	
24	SPARE		0.00	20	/ 1	B	20	/ 1	20.1	N	
25	120-SITE		0.34	20.1	20	/ 1	A	20	/ 1	20.1	N
26	SPARE ONLY		0.00	20	/ 1	A	20	/ 1	20.1	N	
27	SPARE ONLY		0.00	20	/ 1	B	20	/ 1	20.1	N	
28	SPARE ONLY		0.00	20	/ 1	A	20	/ 1	20.1	N	
29	SPARE ONLY		0.00	20	/ 1	B	20	/ 1	20.1	N	
30	SPARE ONLY		0.00	20	/ 1	A	20	/ 1	20.1	N	
31	SPARE ONLY		0.00	20	/ 1	B	20	/ 1	20.1	N	
32	SPARE ONLY		0.00	20	/ 1	A	20	/ 1	20.1	N	
33	SPARE ONLY		0.00	20	/ 1	B	20	/ 1	20.1	N	
34	SPARE ONLY		0.00	20	/ 1	A	20	/ 1	20.1	N	
35	SPARE ONLY		0.00	20	/ 1	B	20	/ 1	20.1	N	
36	SPARE ONLY		0.00	20	/ 1	A	20	/ 1	20.1	N	
37	SPARE ONLY		0.00	20	/ 1	B	20	/ 1	20.1	N	
38	SPARE ONLY		0.00	20	/ 1	A	20	/ 1	20.1	N	
39	SPARE ONLY		0.00	20	/ 1	B	20	/ 1	20.1	N	
40	SPARE ONLY		0.00	20	/ 1	A	20	/ 1	20.1	N	
41	SPARE ONLY		0.00	20	/ 1	B	20	/ 1	20.1	N	

CONNECTED LOAD		DEMAND LOAD		DEMAND FACTOR	
L = LIGHTING	0.85 KVA	125%	1.05	KVA	
R = RECEPTACLES	0.14 KVA	NEC 220-44	4.14	KVA	
M = MOTORS	0.24 KVA	100%	0.24	KVA	
P = PLUS 25% OF LARGEST MOTOR	0.24	25%	0.25	KVA	
C = CONTINUOUS	11.15	100%	11.15	KVA	
N = NON-CONTINUOUS	1.44	100%	1.44	KVA	
K = KITCHEN	0.00 KVA	75%	0.00	KVA	

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

NOTE: B. REVERSE SWAP GROUND FAULT EQUIPMENT PROTECTION BREAKER.

PANEL CONNECTED TOTAL:

17.85 KVA

74.33 AMPS

PANEL DEMAND TOTAL:

30.92 KVA

127.18 AMPS

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

LOAD CENTER - 2 BEDROOM											
NORMAL POWER			VOLTAGE			FED FROM			LOCATION, OVERLAPPING		
AC - SEE SINGLE LINE DIAGRAM(S) RATING			120 / 240 V			1 PHASE, 3WIRE			FLUSH MOUNTED		
			100 AMP			M.C.P. OR M.C.B.			100 AMP		
CKT #	DESCRIPTION	TYPE	KVA	TAG	AMPS/PH	PH	CB	CKT TAG	TYPE	KVA	DESCRIPTION
1	BATHROOMS (1)	R	0.21	20.1	20	/ 1	A	20	/ 1	20.1	N
2	BATHROOMS (2)	R	0.21	20.1	20	/ 1	B	20	/ 1	20.1	N
3	RECEPTS (1)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
4	RECEPTS (2)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
5	RECEPTS (3)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
6	RECEPTS (4)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
7	RECEPTS (5)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
8	RECEPTS (6)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
9	RECEPTS (7)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
10	RECEPTS (8)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
11	GENERAL (1) (KITCHEN/INAPARTMENT)	R	0.21	20.1	20	/ 1	A	20	/ 1	20.1	N
12	GENERAL (2) (RECEPTS LITE SD)	R	0.21	20.1	20	/ 1	B	20	/ 1	20.1	N
13	RECEPTS (1)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
14	RECEPTS (2)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
15	RECEPTS (3)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
16	RECEPTS (4)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
17	RECEPTS (5)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
18	RECEPTS (6)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
19	RECEPTS (7)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
20	RECEPTS (8)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
21	RECEPTS (9)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
22	RECEPTS (10)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
23	RECEPTS (11)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
24	RECEPTS (12)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
25	RECEPTS (13)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
26	RECEPTS (14)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
27	RECEPTS (15)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
28	RECEPTS (16)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
29	RECEPTS (17)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
30	RECEPTS (18)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
31	RECEPTS (19)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
32	RECEPTS (20)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
33	RECEPTS (21)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
34	RECEPTS (22)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
35	RECEPTS (23)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
36	RECEPTS (24)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
37	RECEPTS (25)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
38	RECEPTS (26)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
39	RECEPTS (27)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
40	RECEPTS (28)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
41	RECEPTS (29)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
42	RECEPTS (30)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
43	RECEPTS (31)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
44	RECEPTS (32)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
45	RECEPTS (33)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
46	RECEPTS (34)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
47	RECEPTS (35)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
48	RECEPTS (36)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
49	RECEPTS (37)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
50	RECEPTS (38)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
51	RECEPTS (39)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
52	RECEPTS (40)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
53	RECEPTS (41)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
54	RECEPTS (42)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
55	RECEPTS (43)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
56	RECEPTS (44)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
57	RECEPTS (45)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
58	RECEPTS (46)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
59	RECEPTS (47)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
60	RECEPTS (48)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
61	RECEPTS (49)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
62	RECEPTS (50)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
63	RECEPTS (51)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
64	RECEPTS (52)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
65	RECEPTS (53)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
66	RECEPTS (54)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
67	RECEPTS (55)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
68	RECEPTS (56)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
69	RECEPTS (57)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
70	RECEPTS (58)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
71	RECEPTS (59)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
72	RECEPTS (60)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
73	RECEPTS (61)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
74	RECEPTS (62)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
75	RECEPTS (63)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
76	RECEPTS (64)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
77	RECEPTS (65)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
78	RECEPTS (66)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
79	RECEPTS (67)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
80	RECEPTS (68)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
81	RECEPTS (69)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
82	RECEPTS (70)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
83	RECEPTS (71)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
84	RECEPTS (72)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
85	RECEPTS (73)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
86	RECEPTS (74)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
87	RECEPTS (75)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
88	RECEPTS (76)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
89	RECEPTS (77)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
90	RECEPTS (78)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
91	RECEPTS (79)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
92	RECEPTS (80)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
93	RECEPTS (81)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
94	RECEPTS (82)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
95	RECEPTS (83)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
96	RECEPTS (84)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
97	RECEPTS (85)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
98	RECEPTS (86)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
99	RECEPTS (87)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
100	RECEPTS (88)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
101	RECEPTS (89)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
102	RECEPTS (90)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
103	RECEPTS (91)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
104	RECEPTS (92)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
105	RECEPTS (93)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
106	RECEPTS (94)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
107	RECEPTS (95)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
108	RECEPTS (96)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
109	RECEPTS (97)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
110	RECEPTS (98)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
111	RECEPTS (99)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
112	RECEPTS (100)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
113	RECEPTS (101)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
114	RECEPTS (102)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
115	RECEPTS (103)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
116	RECEPTS (104)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
117	RECEPTS (105)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
118	RECEPTS (106)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
119	RECEPTS (107)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
120	RECEPTS (108)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
121	RECEPTS (109)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
122	RECEPTS (110)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
123	RECEPTS (111)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
124	RECEPTS (112)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
125	RECEPTS (113)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
126	RECEPTS (114)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
127	RECEPTS (115)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
128	RECEPTS (116)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
129	RECEPTS (117)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
130	RECEPTS (118)	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	N
131	RECEPTS (119)	R	0.36	20.1	20	/ 1	A	20	/ 1	20.1	N
132	RECEPTS (120)										



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL. OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS. EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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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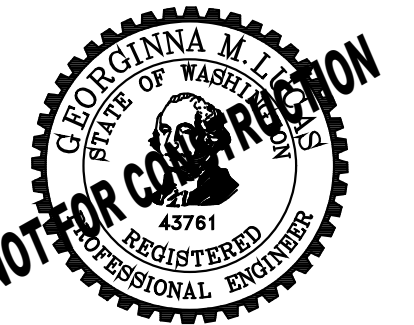


New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 11  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

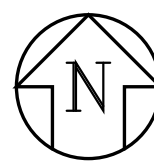
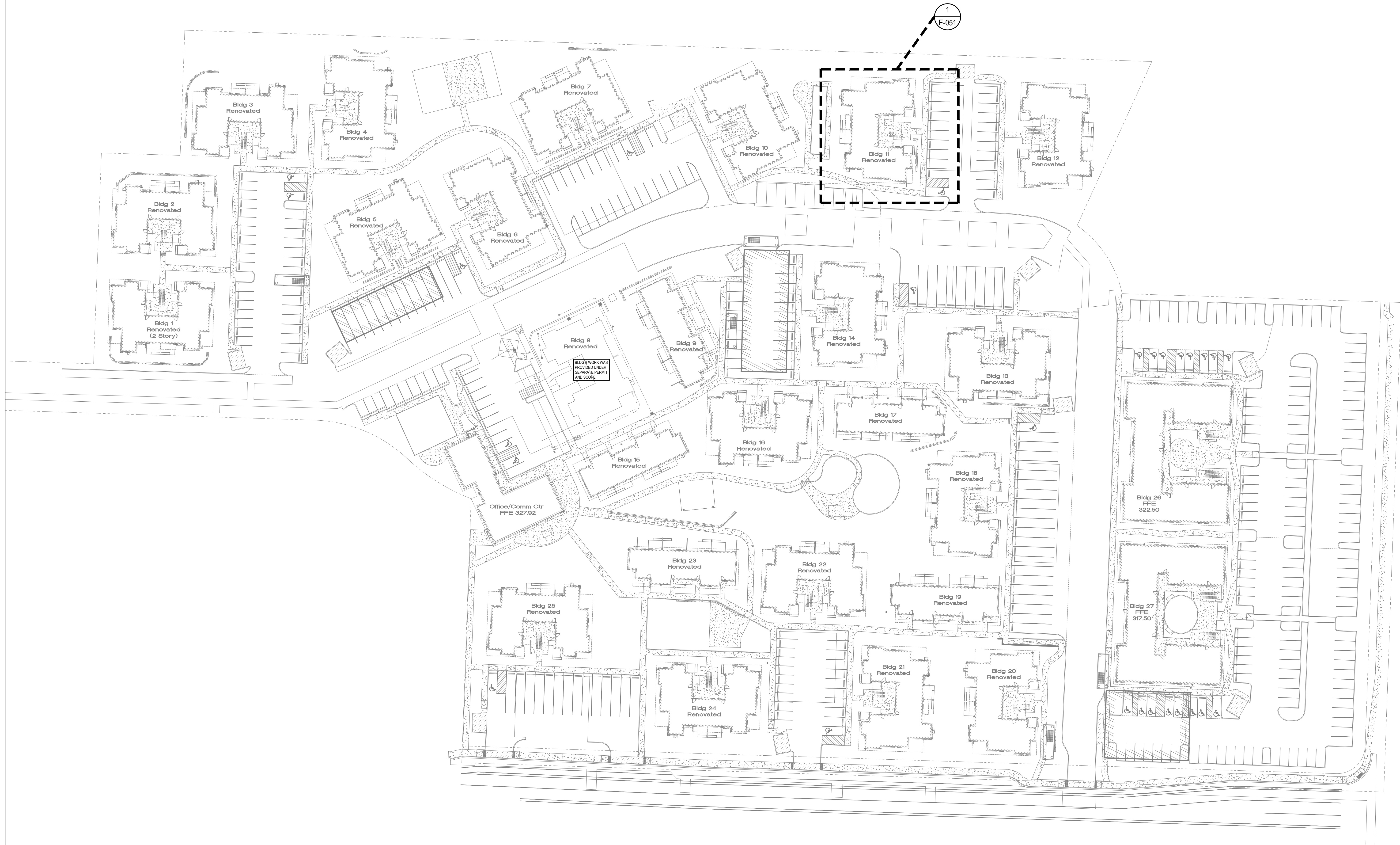
TITLE  
LUMINAIRE  
SCHEDULE

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

E11-005



10/7/2021 1:33:34 AM



**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.



**SIDER+BYERS**  
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**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 11  
BID SET**



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE

**OVERALL  
PROJECT SITE  
PLAN**

PERMIT #  
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.

**SIDER+BYERS**  
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**King County Housing Authority**

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

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 11**  
BID SET



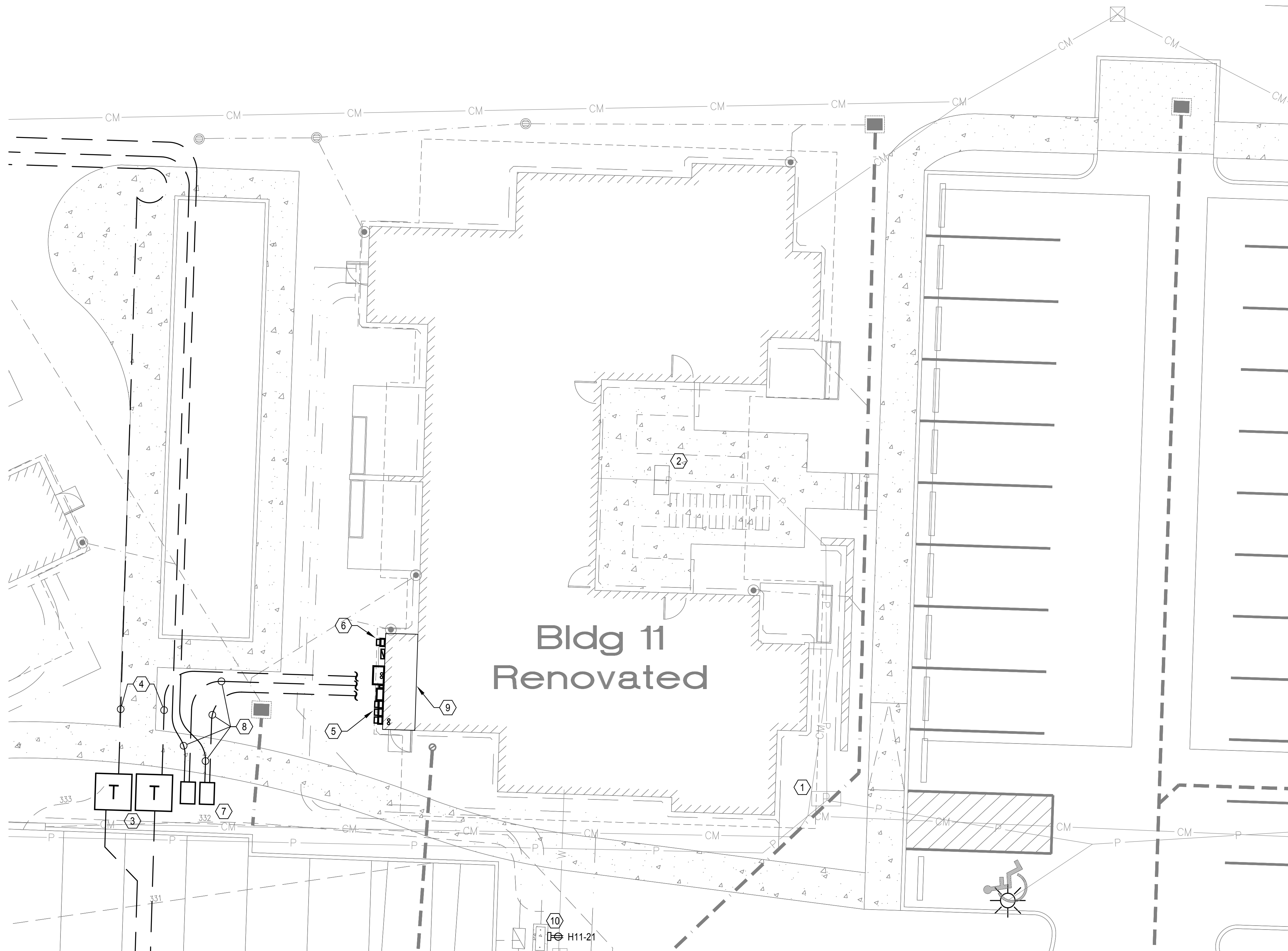
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TITLE  
**ELECTRICAL SITE PLAN - BUILDING 11**

PERMIT #  
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CHECKED GL  
ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E11-051**



**ELECTRICAL SITE PLAN - BUILDING 11**  
SCALE: 1/8" = 1'-0"

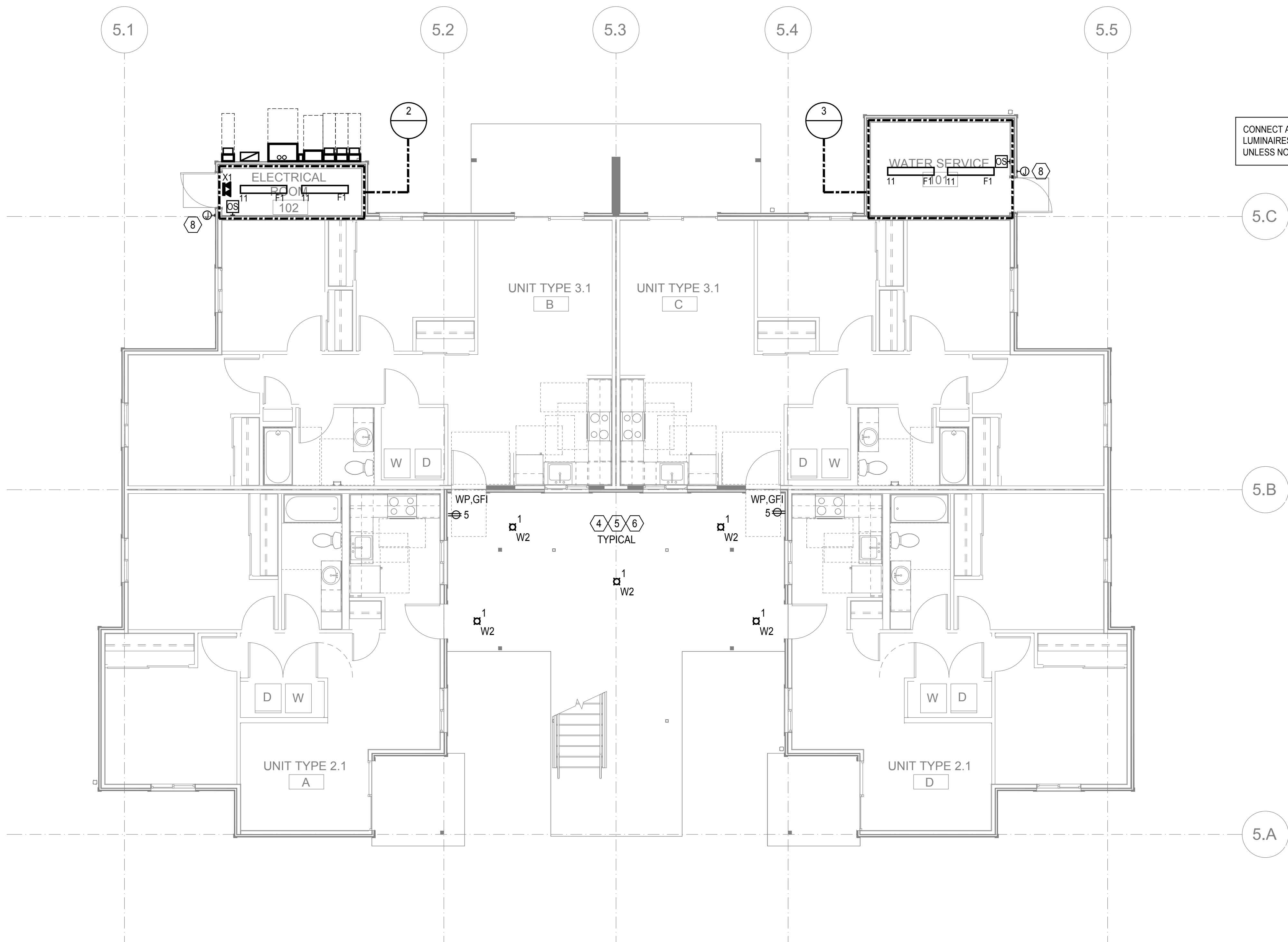
**FLAG NOTES (X):**

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

**GENERAL NOTES:**

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.





**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.

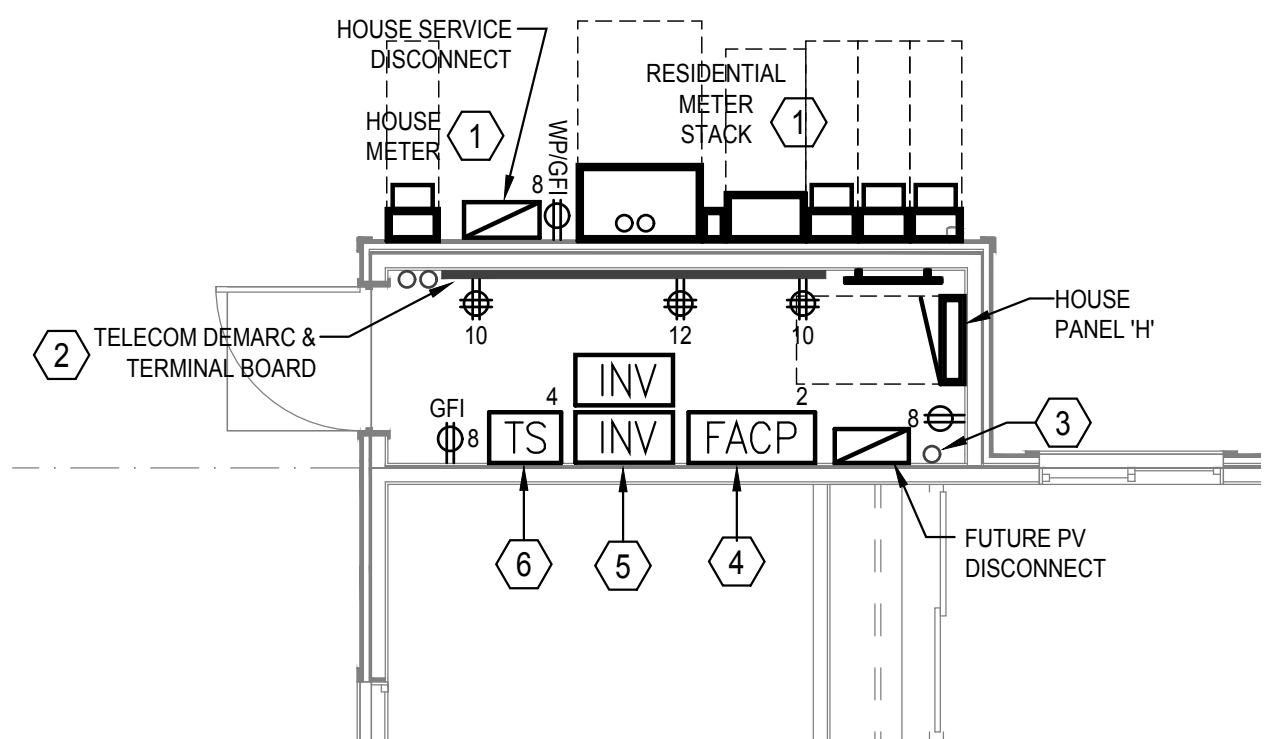
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

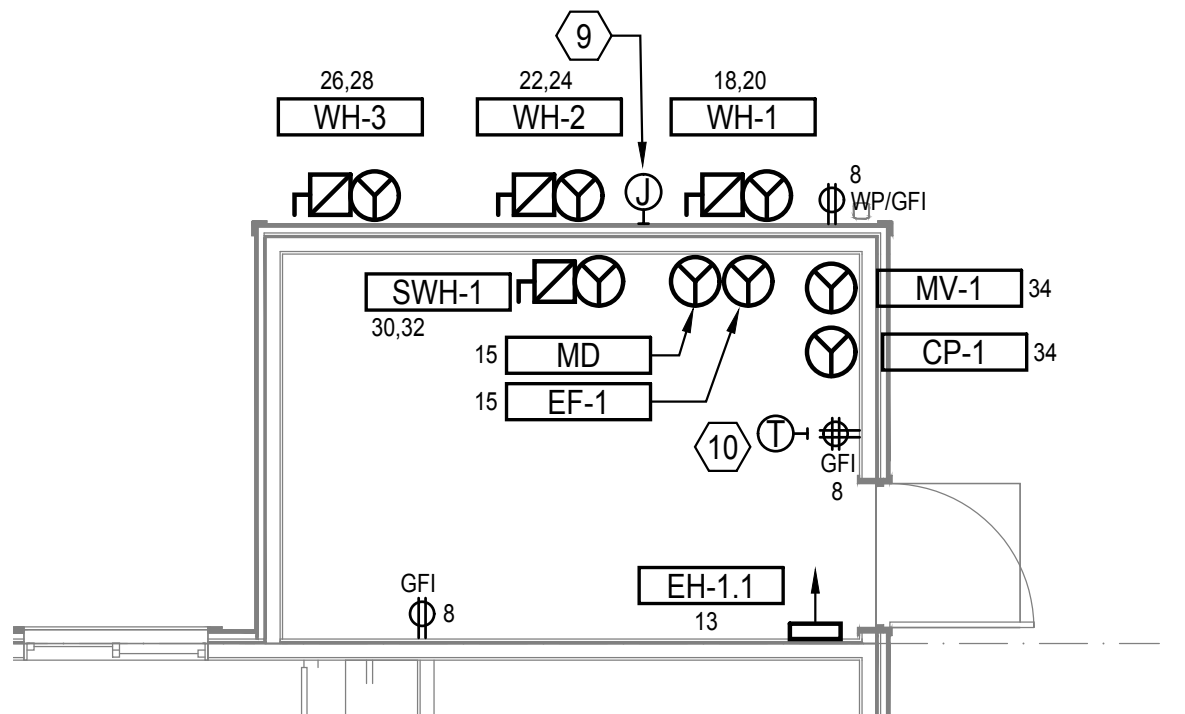
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHI. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- 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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**New Kirkland Heights LLLP**  
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13310 NE 133<sup>rd</sup> St.  
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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 11**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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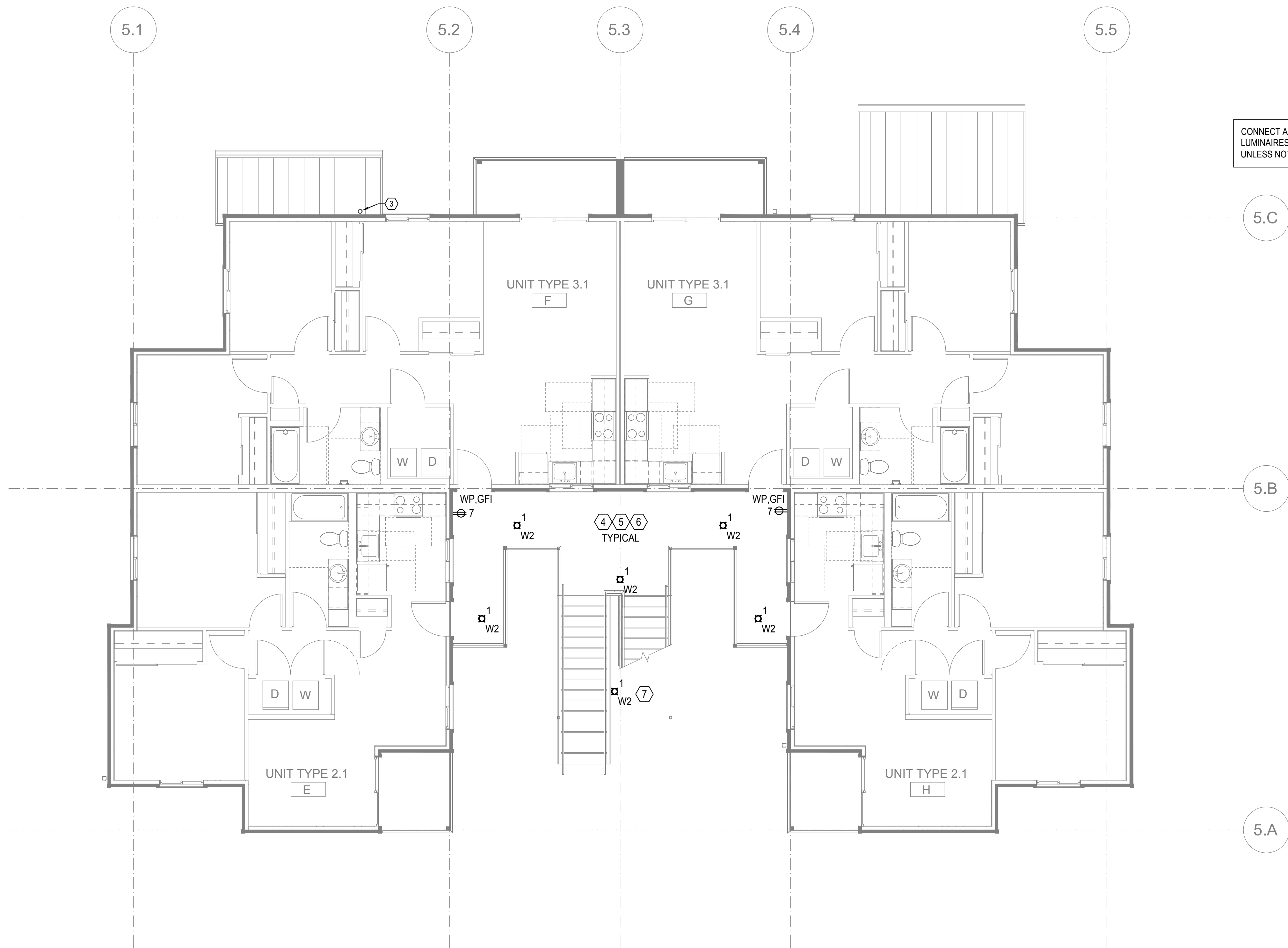
TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 11 -  
LEVEL 1**

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

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**POWER AND LIGHTING PLAN - BUILDING 11 - LEVEL 2**  
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:**

- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- NOT USED.
- NOT USED.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.



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

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.  
Kirkland, WA 98034

**BUILDING 11**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

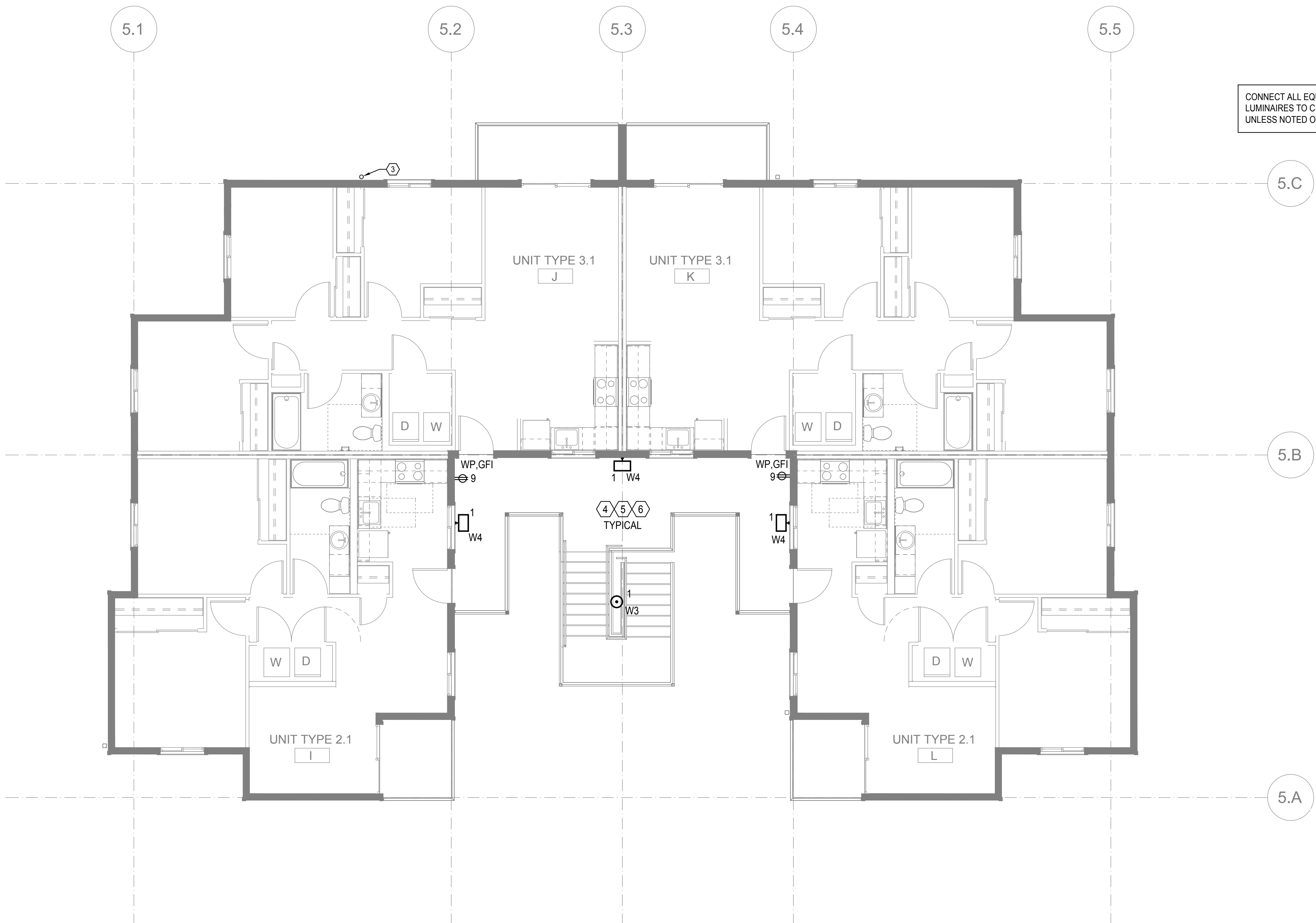
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**POWER AND  
LIGHTING  
PLAN -  
BUILDING 11 -  
LEVEL 2**

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

**E11-102**



10/7/2021 1:33:34 AM



**POWER AND LIGHTING PLAN - BUILDING 11 - LEVEL 3**  
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.

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- FLAG NOTES (X):**
- NOT USED.
  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - 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
  - 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.



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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 11**  
BID SET



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NO DATE DESCRIPTION

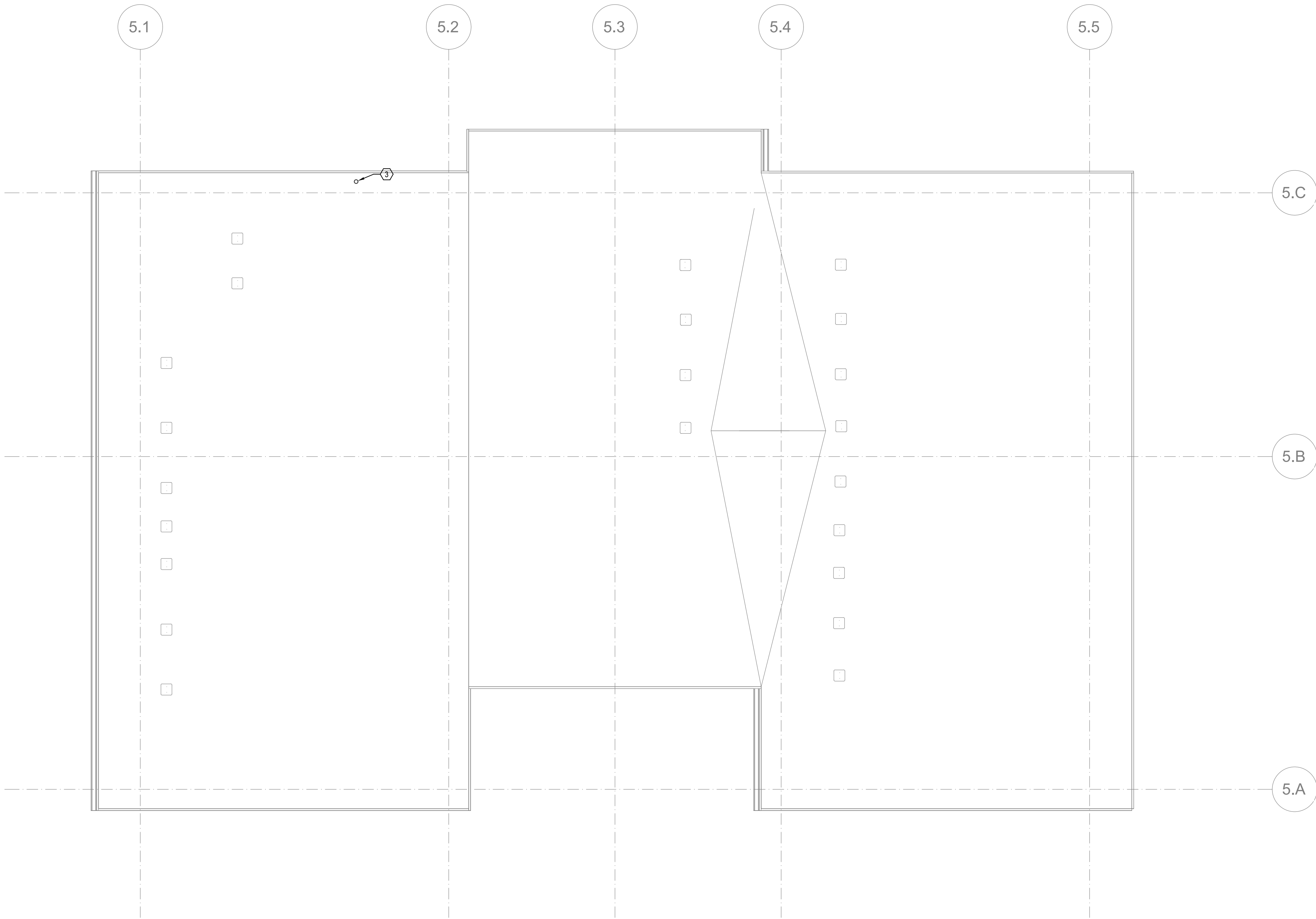
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TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 11 -  
LEVEL 3**

PERMIT #  
DRAWN RA, JF  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E11-103**





**POWER PLAN - BUILDING 11 - ROOF**  
SCALE: 3/16"=1'-0"

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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.
  - 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  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 11**  
BID SET



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TITLE  
**POWER PLAN -  
BUILDING 11 -  
ROOF**

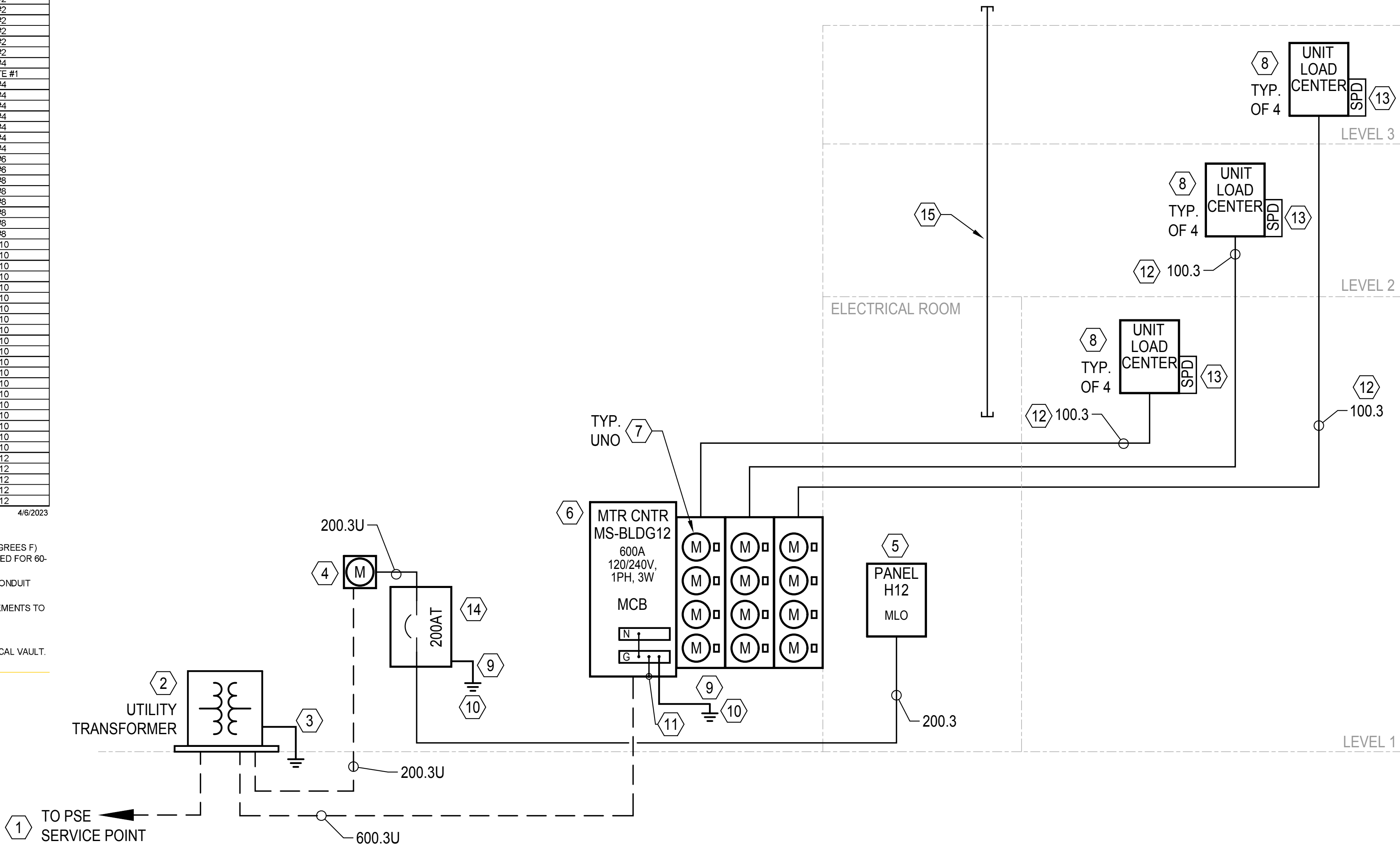
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**E11-104**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (FEET) 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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
80.3	(1) 1.5-INCH	CU	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#1/0
60.3	(1) 1.5-INCH	CU	(3) #4	#1/0
60.2N	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#1/0
60.2	(1) 1.5-INCH	CU	(2) #4	#1/0
60.1	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#1/0
50.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#1/0
50.3	(1) 1.5-INCH	CU	(3) #5	#1/0
50.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#1/0
50.2	(1) 1.5-INCH	CU	(2) #5	#1/0
50.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#1/0
40.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#1/0
40.3	(1) 1.5-INCH	CU	(3) #5	#1/0
40.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#1/0
40.2	(1) 1.5-INCH	CU	(2) #5	#1/0
40.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#1/0
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#1/0
30.3	(1) 1.5-INCH	CU	(3) #10	#1/0
30.2N	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#1/0
30.2	(1) 1.5-INCH	CU	(2) #10	#1/0
30.1	(1) 1.5-INCH	CU	(1) #10 / (1) #10 N	#1/0
20.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#1/2
20.3	(1) 1.5-INCH	CU	(3) #12	#1/2
20.2N	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#1/2
20.2	(1) 1.5-INCH	CU	(2) #12	#1/2
20.1	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#1/2

GENERAL SCHEDULE NOTES: 4/6/2023  
A. AL= ALUMINUM (STRAYLOY 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 110.14C(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.



## SINGLE LINE DIAGRAM

SCALE: NTS

## LOAD CALCULATIONS - BLDG 12

UNIT TYPE: 2BR - 2.1		AREA (SF): 782	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	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			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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): 908	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	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			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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	4/6/2023
DEMAND LOAD (KVA): 137.09		671.2 AMPS AT 240 V 1 PH	
QTY ON METER STACK		SPACE HEATING/ AC LOAD (KVA)	CLOTHES DRYERS
UNIT TYPE	GEN LTG LOAD (KVA)	APPLIANCES LOAD (KVA)	MOTOR LOAD (KVA)
2BR - 2.1	6	41.08	13.20
3BR - 3.1	6	43.31	13.20
0	0	0	0
TOTALS:	12	84.38	26.40
ADDITIONAL 25% OF LARGEST MOTOR:		1.32	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)		4/6/2023
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/Hallway:		1.5 kVA
LIGHTING - SITE:		1.5 kVA
GENERAL RECEPTACLES:		4.0 kVA
MECHANICAL:		1.0 kVA
ELECT HEAT (WATER RNS):		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
270.14 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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## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.  
Kirkland, WA 98034

## BUILDING 12

BID SET



REVISIONS / NOTES  
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## SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #  
DRAWN RA, JF  
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# E12-003



FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT #(SETS) SIZE	AL OR CU	CONDUCTORS PER SET		GROUND (1 PER SET UNO)
			PHASE / NEUTRAL (N) QTY SIZE	NOTE #1	
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	#20	
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	#20	
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#10	
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#10	
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#10	
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#10	
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) #40 / (1) #40 N	#4	
175.3	(1) 3-INCH	AL	(3) #40	#4	
150.4	(1) 2-INCH	AL	(3) #30 / (1) #30 N	#4	
150.3	(1) 2-INCH	AL	(3) #30	#4	
125.4	(1) 2-INCH	AL	(3) #20 / (1) #20 N	#4	
125.3	(1) 2-INCH	AL	(3) #20	#4	
100.4	(1) 2-INCH	AL	(3) #10 / (1) #10 N	#5	
100.3	(1) 2-INCH	AL	(3) #10	#5	
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5	
90.3	(1) 1.5-INCH	CU	(3) #2	#5	
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5	
80.3	(1) 1.5-INCH	CU	(3) #3	#5	
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5	
70.3	(1) 1.5-INCH	CU	(3) #4	#5	
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N	#10	
60.3	(1) 1-INCH	CU	(3) #4	#10	
60.2U	(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) #5 / (1) #5 N	#10	
50.3	(1) 1-INCH	CU	(3) #5	#10	
50.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10	
50.2	(1) 1-INCH	CU	(2) #5	#10	
50.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	#10	
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10	
40.3	(1) 1-INCH	CU	(3) #5	#10	
40.2U	(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	
30.2U	(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	
20.2U	(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:**
- A. AL= ALUMINUM (STABILLOY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/THW 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	565	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	40	65	100	160
	30	3.60	35	55	85	135
	4	0.42	380	645	995	1595
	4	0.63	440	730	1125	1780
	6	1.25	290	485	750	1185
208V / 1-PHASE	3	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	70	115	180	285
	30	6.24	60	95	150	235
	35	7.28	50	80	125	200
	40	8.32	40	65	110	175
	45	9.36	35	55	100	155
	50	10.40	30	45	90	140
	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2080
	6	2.16	335	565	865	1370
208V / 3-PHASE	6	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	250	410
	25	9.01	80	135	205	325
	30	10.81	70	110	170	270
	35	12.61	60	95	145	235
	40	14.41	50	80	120	200
	45	16.21	40	65	100	160
	50	18.01	30	50	90	140

- NOTES:**
- 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												
NORMAL POWER		VOLTAGE		FED FROM		XFR		LOCATION: ELECTRICAL ROOM				
AC - SEE SINGLE LINE DIAGRAM		120 / 240 V		METER STACK		1 PHASE, 3 WIRE		SURFACE MOUNTED				
CKT #	DESCRIPTION	CON LOAD	CKT TAG	AMP/PH	PH	AMP/PH	CKT TAG	CON LOAD	CKT TAG	DESCRIPTION	CKT #	
1	TO BREAKDOWN	0.00	1	20	1	A	20	1	20	1	1	
2	SPARE	0.00	2	20	1	B	20	1	20	1	2	
3	RECEPT LVL 1 BREAKDOWN	0.24	3	20	1	A	20	1	20	1	3	
4	RECEPT LVL 2 BREAKDOWN	0.96	4	20	1	B	20	1	20	1	4	
5	RECEPT LVL 3 BREAKDOWN	0.96	5	20	1	A	20	1	20	1	5	
6	RECEPT LVL 4 BREAKDOWN	0.96	6	20	1	B	20	1	20	1	6	
7	RECEPT LVL 5 BREAKDOWN	0.96	7	20	1	A	20	1	20	1	7	
8	RECEPT LVL 6 BREAKDOWN	0.96	8	20	1	B	20	1	20	1	8	
9	RECEPT LVL 7 BREAKDOWN	0.96	9	20	1	A	20	1	20	1	9	
10	RECEPT LVL 8 BREAKDOWN	0.96	10	20	1	B	20	1	20	1	10	
11	RECEPT LVL 9 BREAKDOWN	0.96	11	20	1	A	20	1	20	1	11	
12	RECEPT LVL 10 BREAKDOWN	0.96	12	20	1	B	20	1	20	1	12	
13	RECEPT LVL 11 BREAKDOWN	0.96	13	20	1	A	20	1	20	1	13	
14	RECEPT LVL 12 BREAKDOWN	0.96	14	20	1	B	20	1	20	1	14	
15	RECEPT LVL 13 BREAKDOWN	0.96	15	20	1	A	20	1	20	1	15	
16	RECEPT LVL 14 BREAKDOWN	0.96	16	20	1	B	20	1	20	1	16	
17	RECEPT LVL 15 BREAKDOWN	0.96	17	20	1	A	20	1	20	1	17	
18	RECEPT LVL 16 BREAKDOWN	0.96	18	20	1	B	20	1	20	1	18	
19	RECEPT LVL 17 BREAKDOWN	0.96	19	20	1	A	20	1	20	1	19	
20	RECEPT LVL 18 BREAKDOWN	0.96	20	20	1	B	20	1	20	1	20	
21	RECEPT LVL 19 BREAKDOWN	0.96	21	20	1	A	20	1	20	1	21	
22	RECEPT LVL 20 BREAKDOWN	0.96	22	20	1	B	20	1	20	1	22	
23	RECEPT LVL 21 BREAKDOWN	0.96	23	20	1	A	20	1	20	1	23	
24	RECEPT LVL 22 BREAKDOWN	0.96	24	20	1	B	20	1	20	1	24	
25	RECEPT LVL 23 BREAKDOWN	0.96	25	20	1	A	20	1	20	1	25	
26	RECEPT LVL 24 BREAKDOWN	0.96	26	20	1	B	20	1	20	1	26	
27	RECEPT LVL 25 BREAKDOWN	0.96	27	20	1	A	20	1	20	1	27	
28	RECEPT LVL 26 BREAKDOWN	0.96	28	20	1	B	20	1	20	1	28	
29	RECEPT LVL 27 BREAKDOWN	0.96	29	20	1	A	20	1	20	1	29	
30	RECEPT LVL 28 BREAKDOWN	0.96	30	20	1	B	20	1	20	1	30	
31	RECEPT LVL 29 BREAKDOWN	0.96	31	20	1	A	20	1	20	1	31	
32	RECEPT LVL 30 BREAKDOWN	0.96	32	20	1	B	20	1	20	1	32	
33	RECEPT LVL 31 BREAKDOWN	0.96	33	20	1	A	20	1	20	1	33	
34	RECEPT LVL 32 BREAKDOWN	0.96	34	20	1	B	20	1	20	1	34	
35	RECEPT LVL 33 BREAKDOWN	0.96	35	20	1	A	20	1	20	1	35	
36	RECEPT LVL 34 BREAKDOWN	0.96	36	20	1	B	20	1	20	1	36	
37	RECEPT LVL 35 BREAKDOWN	0.96	37	20	1	A	20	1	20	1	37	
38	RECEPT LVL 36 BREAKDOWN	0.96	38	20	1	B	20	1	20	1	38	
39	RECEPT LVL 37 BREAKDOWN	0.96	39	20	1	A	20	1	20	1	39	
40	RECEPT LVL 38 BREAKDOWN	0.96	40	20	1	B	20	1	20	1	40	
41	RECEPT LVL 39 BREAKDOWN	0.96	41	20	1	A	20	1	20	1	41	
42	RECEPT LVL 40 BREAKDOWN	0.96	42	20	1	B	20	1	20	1	42	
NOTES												
A = FEEDER AND BRANCH CIRCUIT SCHEDULE FOR COUOUT AND CONDUCTOR INFORMATION PER CIRCUIT TAG												
CIRCUIT NOTES												
PROVIDE 50A GROUND FAULT EQUIPMENT PROTECTION BREAKER												
L = LIGHTING												
R = RECEPTACLES												
M = MOTORS												
PL = BUS 25% LARGEST MOTOR												
C = CONTINUOUS												
N = NON-CONTINUOUS												
K = KITCHEN												
CONNECTIONS												
		CONNECTION FACTOR	DEMAND FACTOR	DEMAND LOAD	DEMAND WVA	PANEL CONNECTED TOTAL:						
		0.51	WVA	125%	0.84	WVA	17.51 WVA					
		0.24	WVA	NEC 220-4.4	0.41	WVA	72.08 AMP					
		0.24	WVA	25%	0.05	WVA						
		11.18	WVA	125%	1.33	WVA	PANEL DEMAND TOTAL:					
		1.44	WVA	100%	1.44	WVA	30.50 WVA					
		0.00	WVA	75%	0.00	WVA	85.41 AMPS					



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L-EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

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

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 12  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

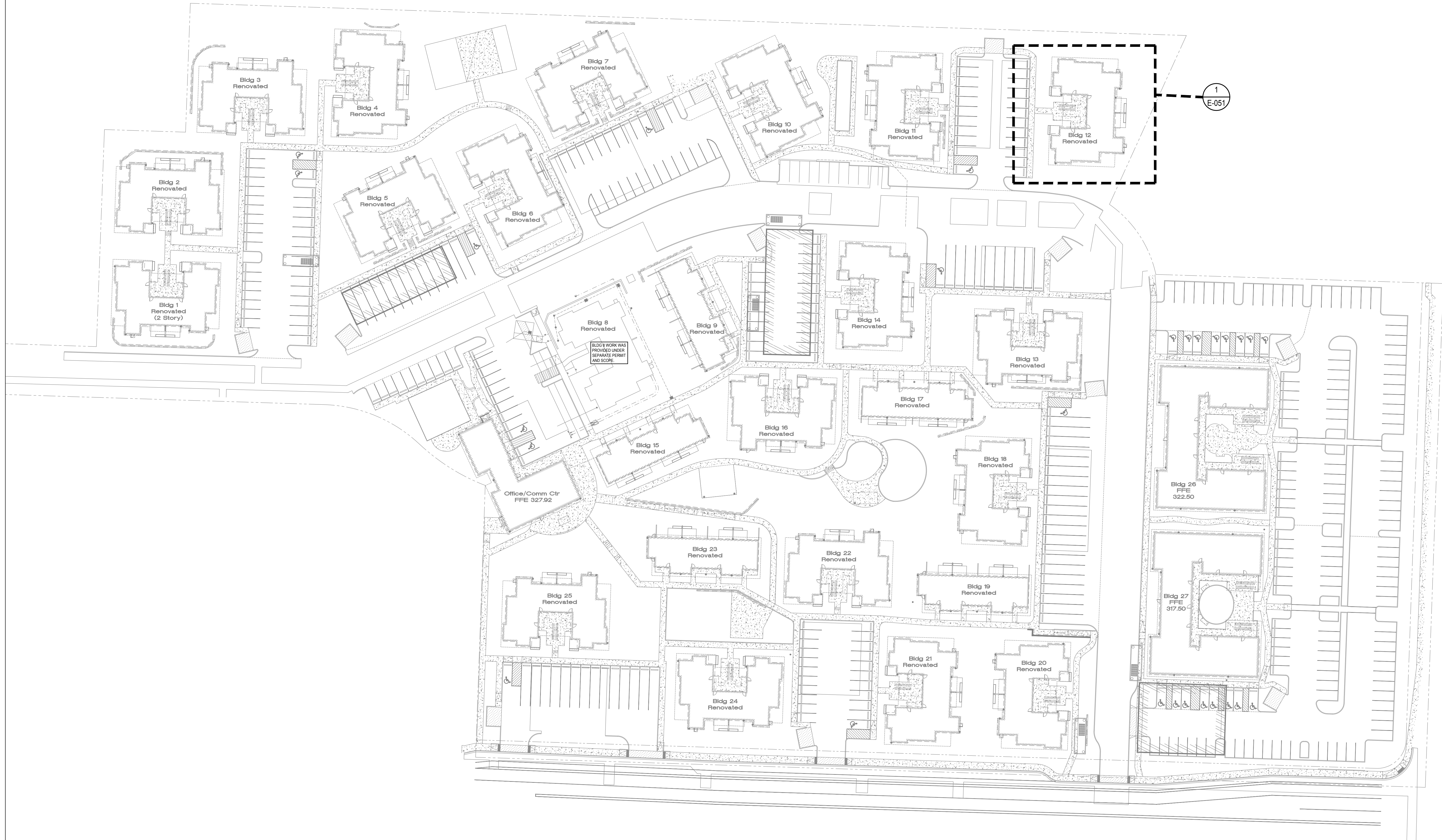
TITLE  
  
LUMINAIRE  
SCHEDULE

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

E12-005



10/7/2021 7:33:34 AM



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

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

## BUILDING 12 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

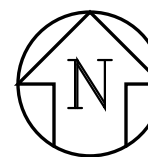
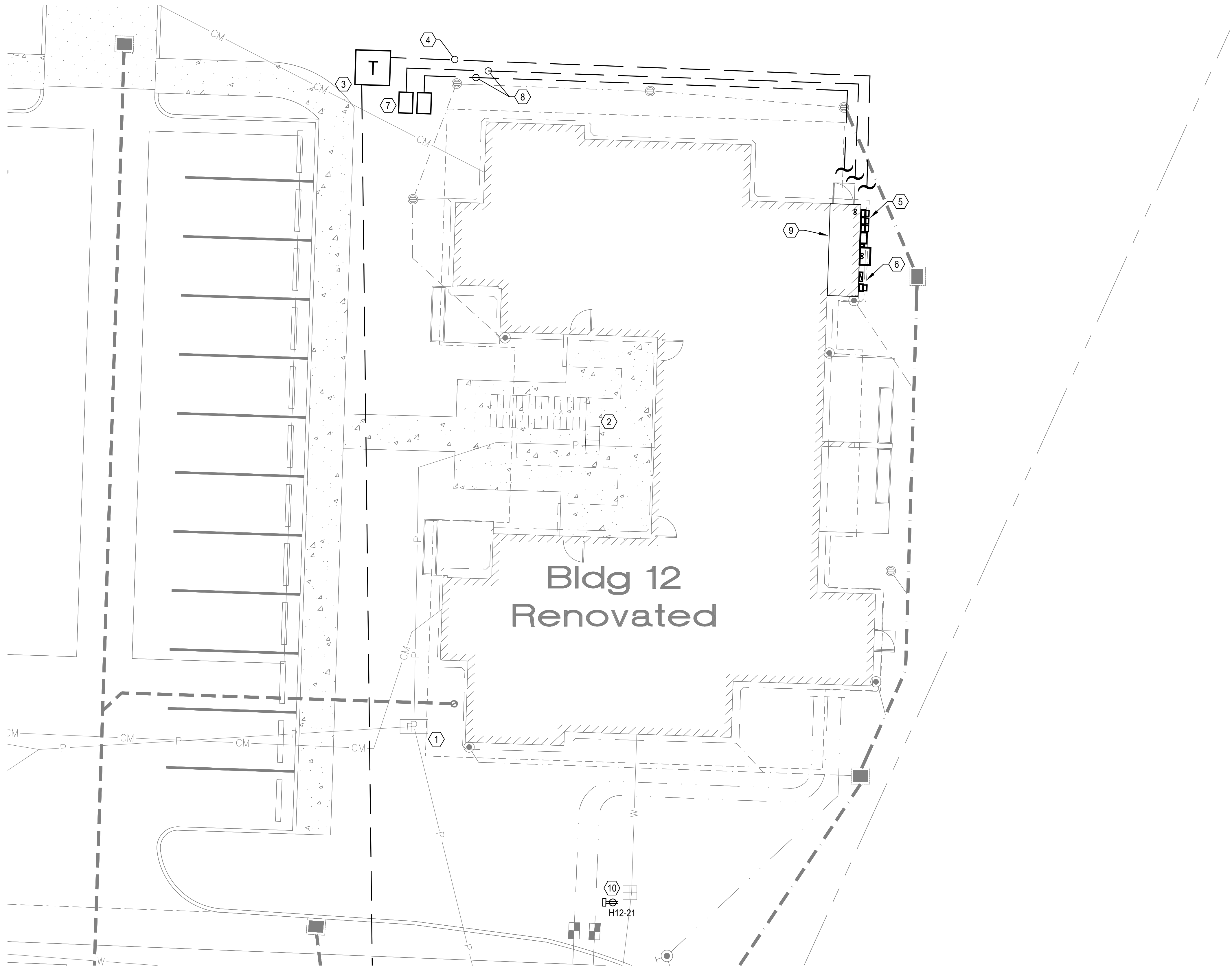
TITLE

OVERALL  
PROJECT SITE  
PLAN

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

# E12-050





## ELECTRICAL SITE PLAN - BUILDING 12

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

### FLAG NOTES (X):

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

### GENERAL NOTES:

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 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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New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

## BUILDING 12 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

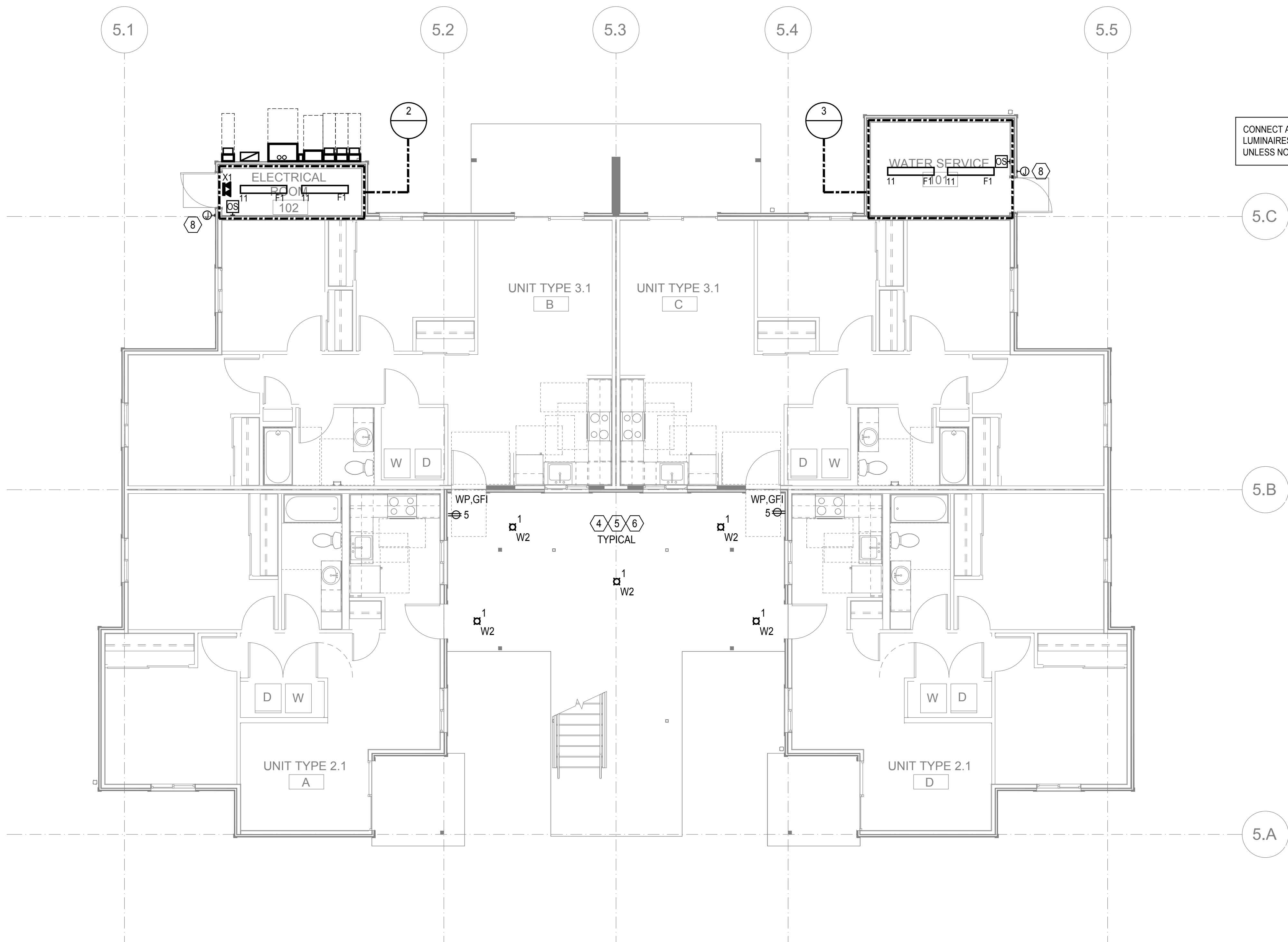
TITLE

## ELECTRICAL SITE PLAN - BUILDING 12

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

# E12-051





**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.

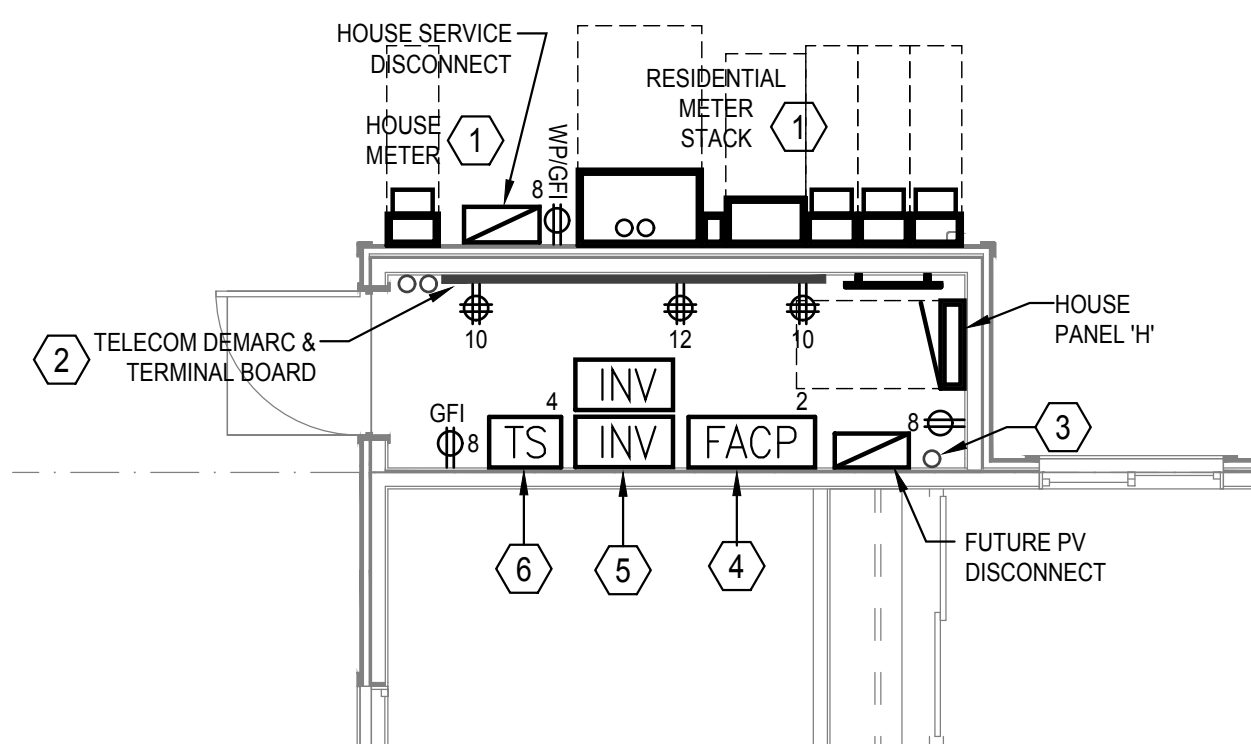
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

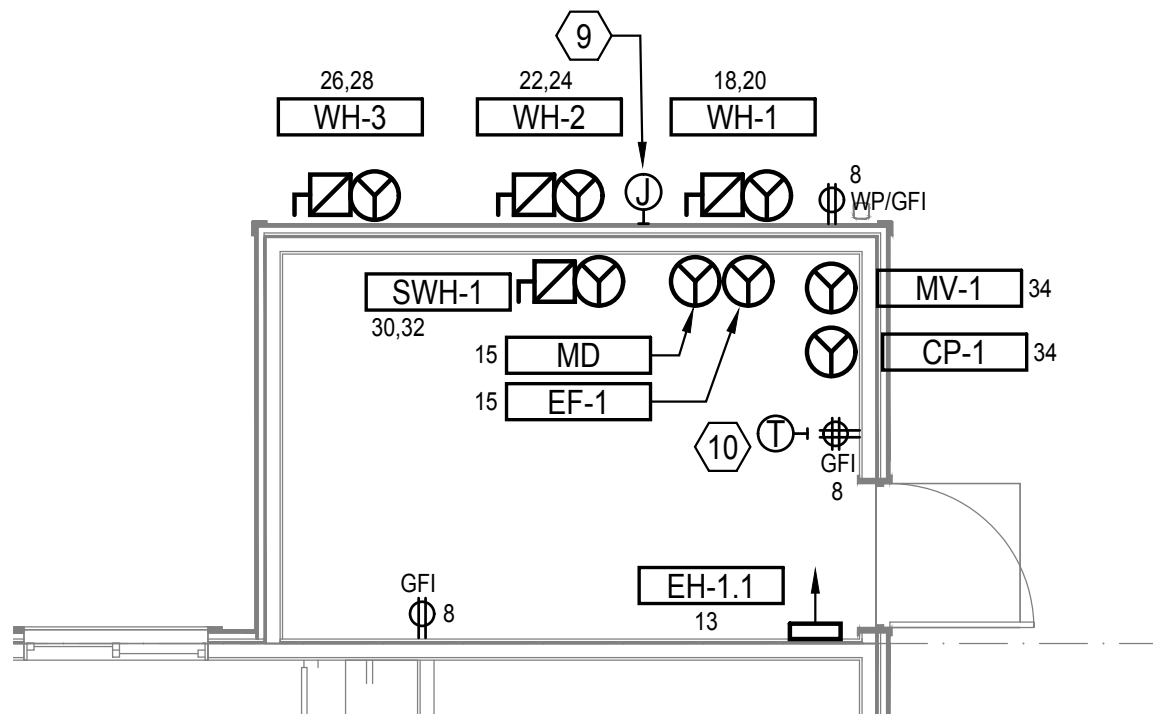
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHI. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- PROVIDE DIGITAL ASTRODAL TIME CLOCK, IN ELECTRICAL ROOM, FOR AUTOMATIC CONTROL OF 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- 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**  
W-101 1/4"=1'-0"



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

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 12**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

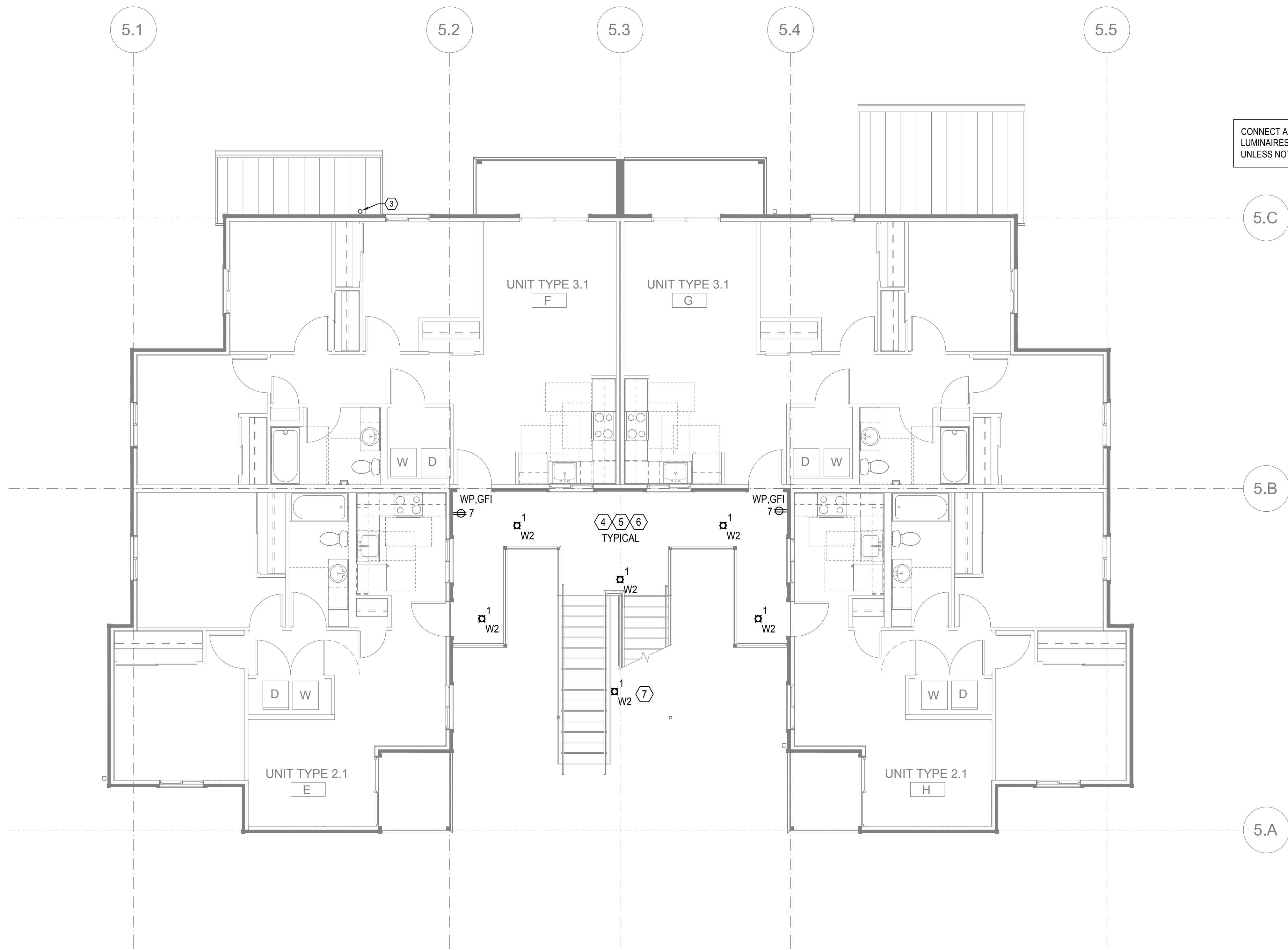
**POWER AND LIGHTING PLAN - BUILDING 12 - LEVEL 1**

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

**E12-101**



10/7/2021 1:33:34 AM



**POWER AND LIGHTING PLAN - BUILDING 12 - LEVEL 2**  
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:**

- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- NOT USED.
- NOT USED.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.



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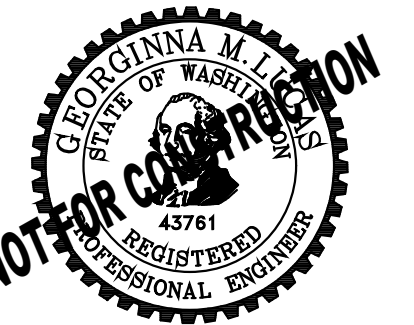


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13310 NE 133<sup>rd</sup> St.  
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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 12**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

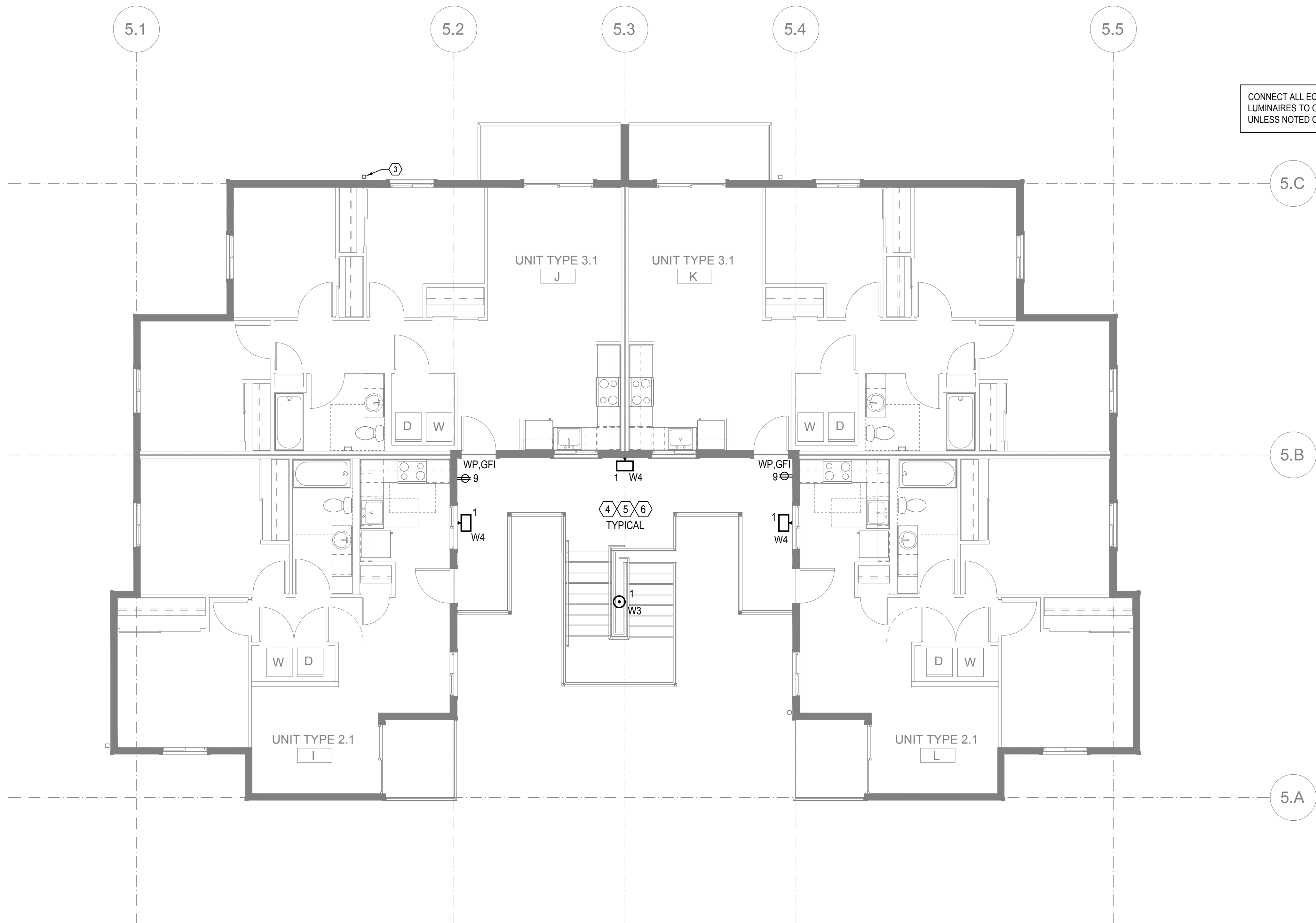
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**POWER AND  
LIGHTING  
PLAN -  
BUILDING 12 -  
LEVEL 2**

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

**E12-102**



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**POWER AND LIGHTING PLAN - BUILDING 12 - LEVEL 3**  
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:**
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  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
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  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - 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
  - 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.



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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 12**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

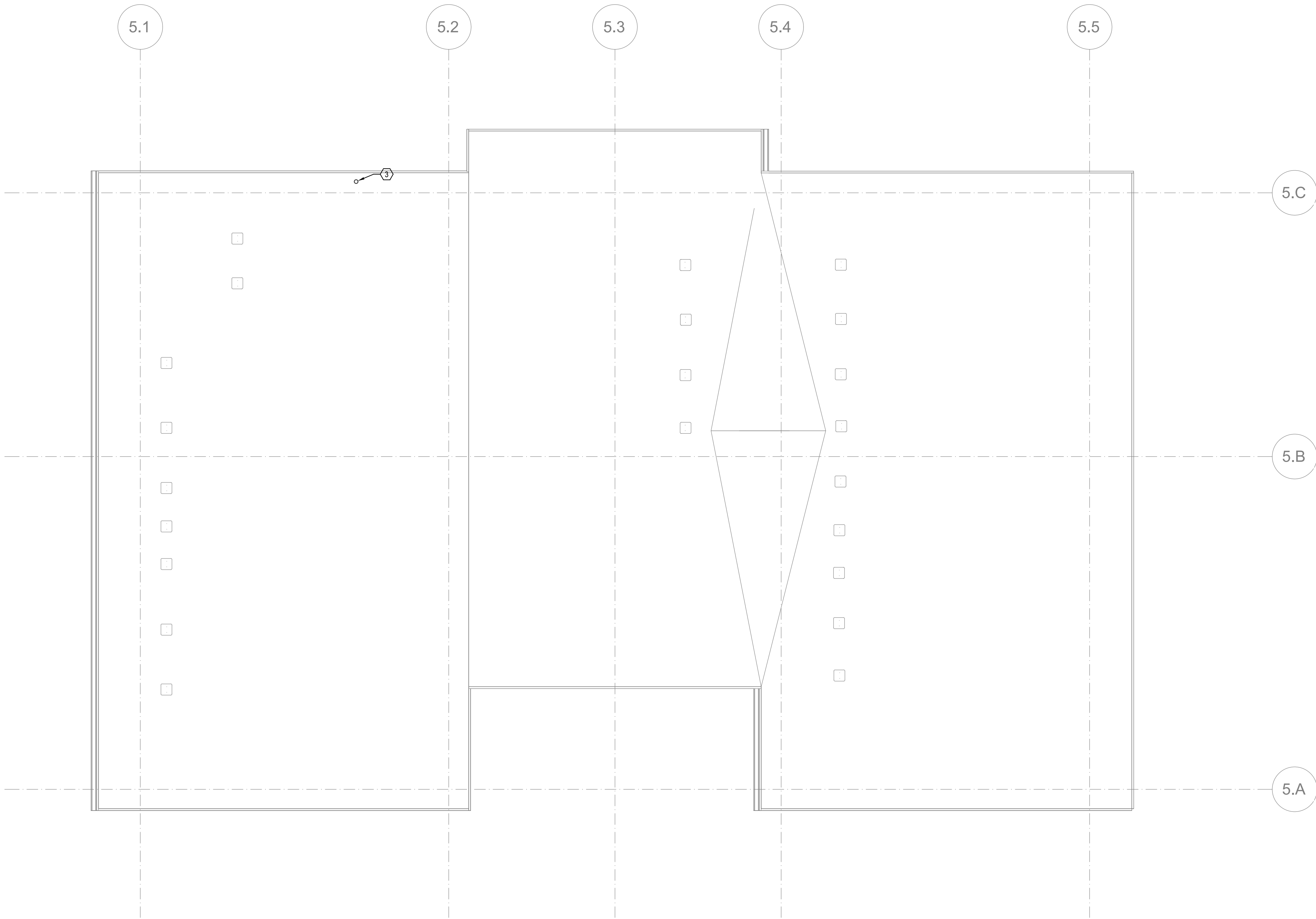
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TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 12 -  
LEVEL 3**

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

**E12-103**





**POWER PLAN - BUILDING 12 - 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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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 12**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE  
**POWER PLAN -  
BUILDING 12 -  
ROOF**

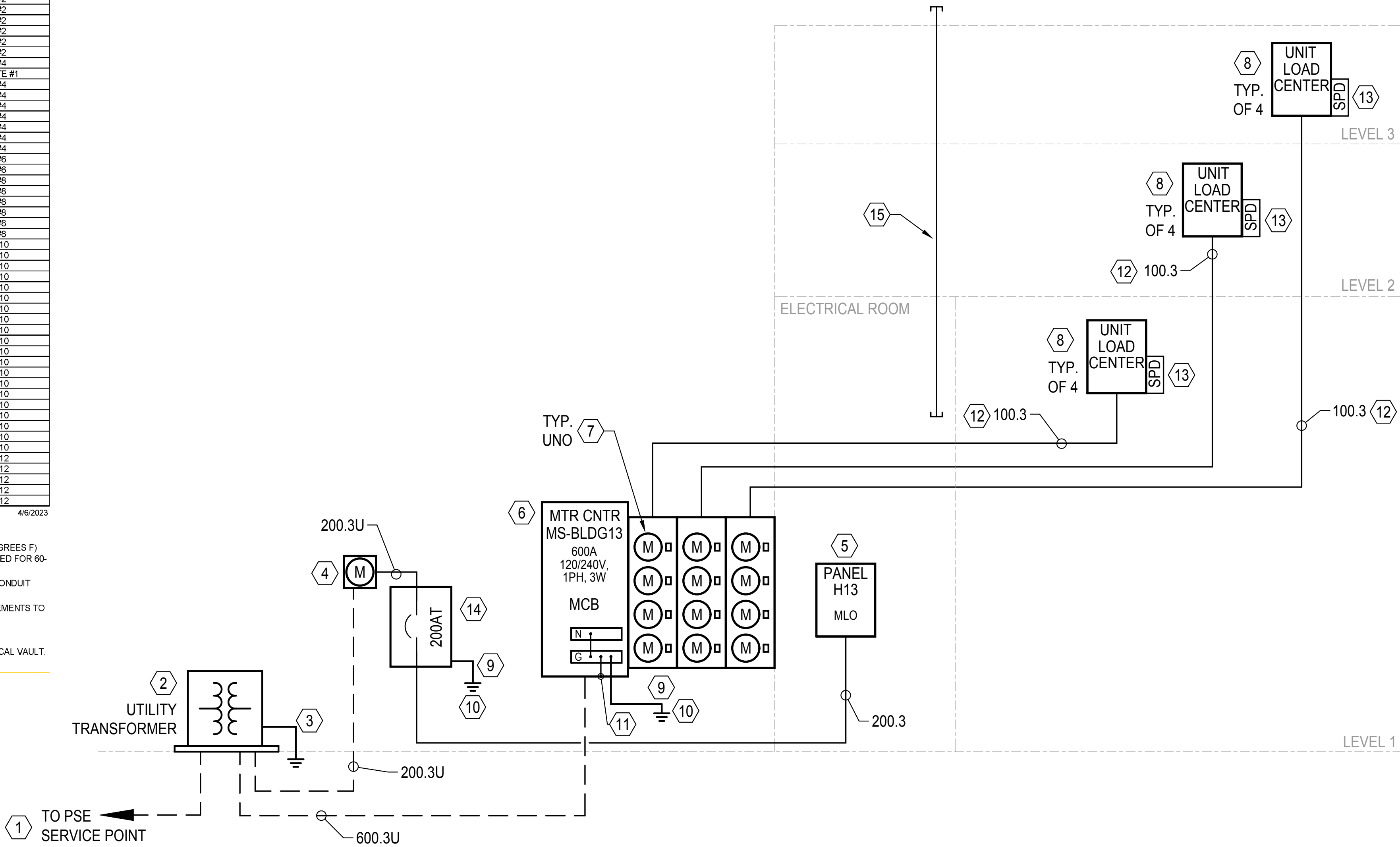
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SHEET NO.:

**E12-104**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WETS) 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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
80.3	(1) 1.5-INCH	CU	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#1/0
60.3	(1) 1.5-INCH	CU	(3) #4	#1/0
60.2N	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#1/0
60.2	(1) 1.5-INCH	CU	(2) #4	#1/0
60.1	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#1/0
50.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#1/0
50.3	(1) 1.5-INCH	CU	(3) #5	#1/0
50.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#1/0
50.2	(1) 1.5-INCH	CU	(2) #5	#1/0
50.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#1/0
40.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#1/0
40.3	(1) 1.5-INCH	CU	(3) #5	#1/0
40.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#1/0
40.2	(1) 1.5-INCH	CU	(2) #5	#1/0
40.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#1/0
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#1/0
30.3	(1) 1.5-INCH	CU	(3) #10	#1/0
30.2N	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#1/0
30.2	(1) 1.5-INCH	CU	(2) #10	#1/0
30.1	(1) 1.5-INCH	CU	(1) #10 / (1) #10 N	#1/0
20.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#1/2
20.3	(1) 1.5-INCH	CU	(3) #12	#1/2
20.2N	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#1/2
20.2	(1) 1.5-INCH	CU	(2) #12	#1/2
20.1	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#1/2

GENERAL SCHEDULE NOTES: 4/6/2023  
A. AL= ALUMINUM (STRAYLOY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/TMVN INSULATION).  
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75 DEGREES C (167 DEGREES F).  
AS PER NEC 110.14C(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.



## SINGLE LINE DIAGRAM

SCALE: NTS

## LOAD CALCULATIONS - BLDG 13

UNIT TYPE: 2BR - 2.1		AREA (SF):	782	4/6/2023
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]:				
REFRIGERATOR	1	AT	0.7	= 0.70 kVA
RANGE HOOD	1	AT	0.3	= 0.30 kVA
MICROWAVE	1	AT	0.0	= 0.00 kVA
DISHWASHER	1	AT	0.0	= 0.00 kVA
WASHER	1	AT	1.2	= 1.20 kVA
GARBAGE DISPOSAL	1	AT	0.0	= 0.00 kVA
WATER HEATER	1	AT	0.0	= 0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA				
APPLIANCE DEMAND FACTOR [220.53]: 75%				
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA				
MOTORS [220.50]:				
TOILET EXHAUST FAN	1	AT	0.0	= 0.00 kVA
ERV UNIT	1	AT	0.11	= 0.11 kVA
KITCHEN EXHAUST FAN	1	AT	0.0	= 0.00 kVA
+25% OF LARGEST MOTOR	1	AT	0.03	= 0.03 kVA
GENERAL MOTOR LOAD - DEMAND = 0.14 kVA				
100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 3.91 kVA				
CLOTHES DRYER [220.54]	1	AT	5.5	= 5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.0	= 0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.0	= 0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	= 8.80 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):	908	4/6/2023
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]:				
REFRIGERATOR	1	AT	0.7	= 0.70 kVA
RANGE HOOD	1	AT	0.3	= 0.30 kVA
MICROWAVE	1	AT	0.0	= 0.00 kVA
DISHWASHER	1	AT	0.0	= 0.00 kVA
WASHER	1	AT	1.2	= 1.20 kVA
GARBAGE DISPOSAL	1	AT	0.0	= 0.00 kVA
WATER HEATER	1	AT	0.0	= 0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA				
APPLIANCE DEMAND FACTOR [220.53]: 75%				
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA				
MOTORS [220.50]:				
TOILET EXHAUST FAN	1	AT	0.0	= 0.00 kVA
ERV UNIT	1	AT	0.11	= 0.11 kVA
KITCHEN EXHAUST FAN	1	AT	0.0	= 0.00 kVA
+25% OF LARGEST MOTOR	1	AT	0.03	= 0.03 kVA
GENERAL MOTOR LOAD - DEMAND = 0.14 kVA				
100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 4.53 kVA				
CLOTHES DRYER [220.54]	1	AT	5.5	= 5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.0	= 0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.0	= 0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	= 8.80 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

4/6/2023

DEMAND LOAD (KVA):						137.09	⇒	571.2 AMPS AT	240	V	1	PH	
						COOKING APPLIANCES							
						1.5K < X < 3.5KW : 3.5KW < X < 8.75KW : 8.75KW < X < 12KW							
UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (KVA)	APPLIANCES LOAD (KVA)	MOTOR LOAD (KVA)	SPACE HEATING/ AC LOAD (KVA)	QTY	LOAD (KVA)	QTY	LOAD (KVA)	QTY	LOAD (KVA)	QTY	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	0.00	0.00	0.00	0	0.00	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)		4/6/2023
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/Hallway:		1.5 kVA
LIGHTING - SITE:		1.5 kVA
GENERAL RECEPTACLES:		4.0 kVA
MECHANICAL:		1.0 kVA
ELECT HEAT (WATER RNS):		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
270.14 AMPS @ 120/240V, 1-PHASE		
WITH 25% SPARE CAPACITY		51.04 kVA
232.6708 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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New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133rd St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.  
Kirkland, WA 98034

## BUILDING 13

BID SET



FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE 1 NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO) NOTE #1	
500.3U	(2) 4-INCH	AL	(3) 500 KCMIL		#20
500.3	(2) 4-INCH	AL	(3) 500 KCMIL		#20
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N		#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL		#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N		#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL		#10
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) #40 / (1) #40 N		#4
175.3	(1) 3-INCH	AL	(3) #40		#4
150.4	(1) 2-INCH	AL	(3) #30 / (1) #30 N		#4
150.3	(1) 2-INCH	AL	(3) #30		#4
125.4	(1) 2-INCH	AL	(3) #20 / (1) #20 N		#4
125.3	(1) 2-INCH	AL	(3) #20		#4
100.4	(1) 2-INCH	AL	(3) #10 / (1) #10 N		#6
100.3	(1) 2-INCH	AL	(3) #10		#6
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N		#6
90.3	(1) 1.5-INCH	CU	(3) #2		#6
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N		#6
80.3	(1) 1.5-INCH	CU	(3) #3		#6
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N		#6
70.3	(1) 1.5-INCH	CU	(3) #4		#6
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N		#10
60.3	(1) 1-INCH	CU	(3) #4		#10
60.2U	(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
50.2U	(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) #6		#10
40.2U	(1) 1-INCH	CU	(2) #6 / (1) #6 N		#10
40.2	(1) 1-INCH	CU	(2) #6		#10
40.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N		#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N		#10
30.3	(1) 1-INCH	CU	(3) #10		#10
30.2U	(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
20.2U	(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:**

A. AL= ALUMINUM (STABILLOY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/THW 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
208V / 1-PHASE	20	2.40	50	80	125	205
	25	3.00	45	65	100	160
	30	3.60	40	55	85	135
	2	0.42	580	1465	2250	3695
	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
208V / 3-PHASE	16	3.33	110	180	280	445
	18	3.74	95	160	250	395
	20	4.16	85	145	225	355
	25	5.20	75	115	180	285
	30	6.24	65	95	150	235
	35	7.28	60	85	125	200
	40	8.32	55	75	110	175
	45	9.36	50	70	100	155
	50	10.40	45	65	90	140
	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2080
	6	2.16	335	565	865	1370
	8	2.88	250	430	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	250	410
	25	9.01	85	135	205	325
	30	10.81	75	110	170	270
	35	12.61	65	95	145	235
	40	14.41	60	85	130	205
	45	16.21	55	75	115	180
	50	18.01	50	70	105	160

**NOTES:**

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														
NORMAL POWER		VOLTAGE		FED FROM		METER STACKS		LOCATION: ELECTRICAL ROOM						
AC - SEE SINGLE LINE DIAGRAM		120 / 240 V		1-PHASE, 3-WIRE		FLUSH MOUNTED		SURFACE MOUNTED						
CKT #	DESCRIPTION	DEMAND LOAD		DEMAND FACTOR		DEMAND LOAD		PANEL CONNECTED TOTAL:		CKT #	DESCRIPTION			
		TYPE	KVA	TYPE	KVA	TYPE	KVA	TYPE	KVA					
1	120-BREKDOWN		0.00	20	1	A	20	1	201	N	0.00	FIRE ALARM CONTROL PANEL		
2	SPARE		0.00	20	1	B	20	1	201	N	0.00	TIME-LOCK		
3	RECEPT-LV-1-BREKDOWN	R	0.36	201	20	1	A	20	1	201	N	0.00	SPARE	
4	RECEPT-LV-2-BREKDOWN	R	0.36	201	20	1	B	20	1	201	N	0.00	RECEPT-ELECT M	
5	RECEPT-LV-3-BREKDOWN	R	0.36	201	20	1	A	20	1	201	N	0.00	RECEPT-TELECOM	
6	RECEPT-LV-4-BREKDOWN	R	0.36	201	20	1	B	20	1	201	N	0.00	RECEPT-TELECOM	
7	RECEPT-LV-5-BREKDOWN	R	0.36	201	20	1	A	20	1	201	N	0.00	RECEPT-TELECOM	
8	RECEPT-LV-6-BREKDOWN	R	0.36	201	20	1	B	20	1	201	N	0.00	RECEPT-TELECOM	
9	RECEPT-LV-7-BREKDOWN	R	0.36	201	20	1	A	20	1	201	N	0.00	RECEPT-TELECOM	
10	RECEPT-LV-8-BREKDOWN	R	0.36	201	20	1	B	20	1	201	N	0.00	RECEPT-TELECOM	
11	120-ELECT HEAT PUMP	L	0.24	201	20	1	A	20	1	201	N	0.24	0.00	SPARE
12	EXHAUST FAN-REF. & MOTOR DAMPER	M	0.24	201	20	1	B	20	1	201	N	0.24	0.00	RECEPT-MECHRM
13	SPARE		0.00	20	1	A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-1	
14	SPARE		0.00	20	1	B	20	1	201	N	0.00	0.00	SPARE	
15	HEAT TRACE-WATER CONNECTION	T	0.00	201	20	1	A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-2
16	HEAT TRACE-WATER CONNECTION	T	0.00	201	20	1	B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-3
17	SPARE		0.00	20	1	A	20	1	201	N	0.00	0.00	SPARE	
18	SPARE		0.00	20	1	B	20	1	201	N	0.00	0.00	SPARE	
19	120-WIRE POLES	L	0.36	201	20	1	A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-4
20	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-5
21	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-6
22	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-7
23	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-8
24	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-9
25	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-10
26	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-11
27	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-12
28	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-13
29	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-14
30	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-15
31	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-16
32	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-17
33	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-18
34	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-19
35	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-20
36	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-21
37	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-22
38	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-23
39	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-24
40	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-25
41	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-26
42	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-27
43	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-28
44	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-29
45	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-30
46	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-31
47	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-32
48	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-33
49	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-34
50	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-35
51	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-36
52	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-37
53	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-38
54	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-39
55	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-40
56	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-41
57	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-42
58	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-43
59	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-44
60	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-45
61	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-46
62	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-47
63	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-48
64	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-49
65	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-50
66	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-51
67	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-52
68	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-53
69	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-54
70	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-55
71	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-56
72	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-57
73	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-58
74	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-59
75	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-60
76	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-61
77	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-62
78	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-63
79	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-64
80	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-65
81	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-66
82	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-67
83	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-68
84	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-69
85	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-70
86	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-71
87	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-72
88	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-73
89	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-74
90	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-75
91	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-76
92	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-77
93	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-78
94	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-79
95	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-80
96	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-81
97	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-82
98	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-83
99	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-84
100	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-85
101	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-86
102	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-87
103	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-88
104	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-89
105	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-90
106	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-91
107	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-92
108	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-93
109	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-94
110	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-95
111	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-96
112	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-97
113	SPARE ONLY						B	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-98
114	SPARE ONLY						A	20	1	201	N	0.00	0.00	HEAT TRACE-WATERMETER, VM-99
115														

LOAD CENTER - 2 BEDROOM												
NORMAL POWER		VOLTAGE		FED FROM		METER STACKS		LOCATION: DWELLING UNITS				
AC - SEE SINGLE LINE DIAGRAM (BUS RATING)		120 / 240 V		1-PHASE, 3-WIRE		FLUSH-MOUNTED		SURFACE MOUNTED				
CKT #	DESCRIPTION	TYPE	KVA	TAG	AMPS/PH	PH	CB	AMPS/PH	TAG	TYPE	CKT #	
1	BATHROOMS (1)		0.89	120	20	1	A	20	1	201	N	0.89
2	BATHROOMS (2)		0.89	120	20	1	A	20	1	202	N	0.89
3	KITCHEN RECEPTS (1)	(1)	20.1	201	40	1	B	40	1	203	N	4
4	KITCHEN (2) - MED. (WASH.) (1)	(1)	20.1	201	40	1	B	40	1	204	N	4
5	REFRIGERATOR (EXHAUST HOOD) (2)	(2)	20.1	201	40	1	B	80	2	205	N	8
6	GENERAL KITCHEN APPL. (WASH.) (1)	(1)	20.1	201	40	1	B	40	1	206	N	4
7	GENERAL KITCHEN APPL. (WASH.) (1)	(1)	20.1	201	40	1	B	40	1	207	N	4
8	BEDROOM 1 RECEPTS (1) (2)	(2)	20.1	201	40	1	A	80	2	208	N	8
9	BEDROOM 1 RECEPTS (1) (2)	(2)	20.1	201	40	1	A	80	2	209	N	8
10	BEDROOM 2 RECEPTS (1) (2)	(2)	20.1	201	40	1	A	80	2	210	N	8
11	DECK RECEPT (A.D. UNIT BY TENANT) (1)	(1)	20.1	201	40	1	A	20	1	201	N	4
12	LAUNDRY (1)		0.89	120	20	1	A	20	1	211	N	0.89
13	SLURGE PROTECTION DEVICE		20	1	2	A						22
14	-		20	1	2	A						24

NOTES:

- SEE RESIDENTIAL DWELLING UNIT CALCULATIONS ON DWG FOR RESIDENTIAL. LOAD CENTER CALCULATIONS
- SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CIRCUIT AND CONDUCTOR INFORMATION FOR CIRCUIT TAG

CIRCUIT NOTES:

- PROVIDE COMB. ARC-Fault INTERRUPTER BREAKER
- PROVIDE COMB. SHA OF COMB. ARC-Fault INTERRUPTER BREAKER WHERE NECESSARY & WITHIN 6 FT OF SINK EDGE. OTHERWISE PROVIDE COMB. ARC-Fault INTERRUPTER BREAKER



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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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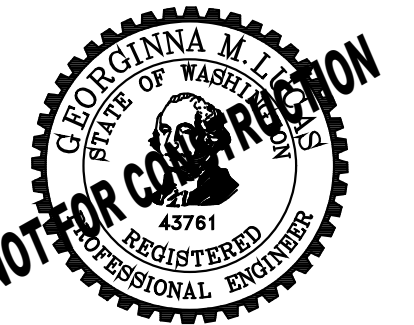


New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 13  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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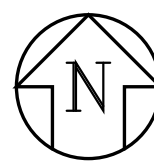
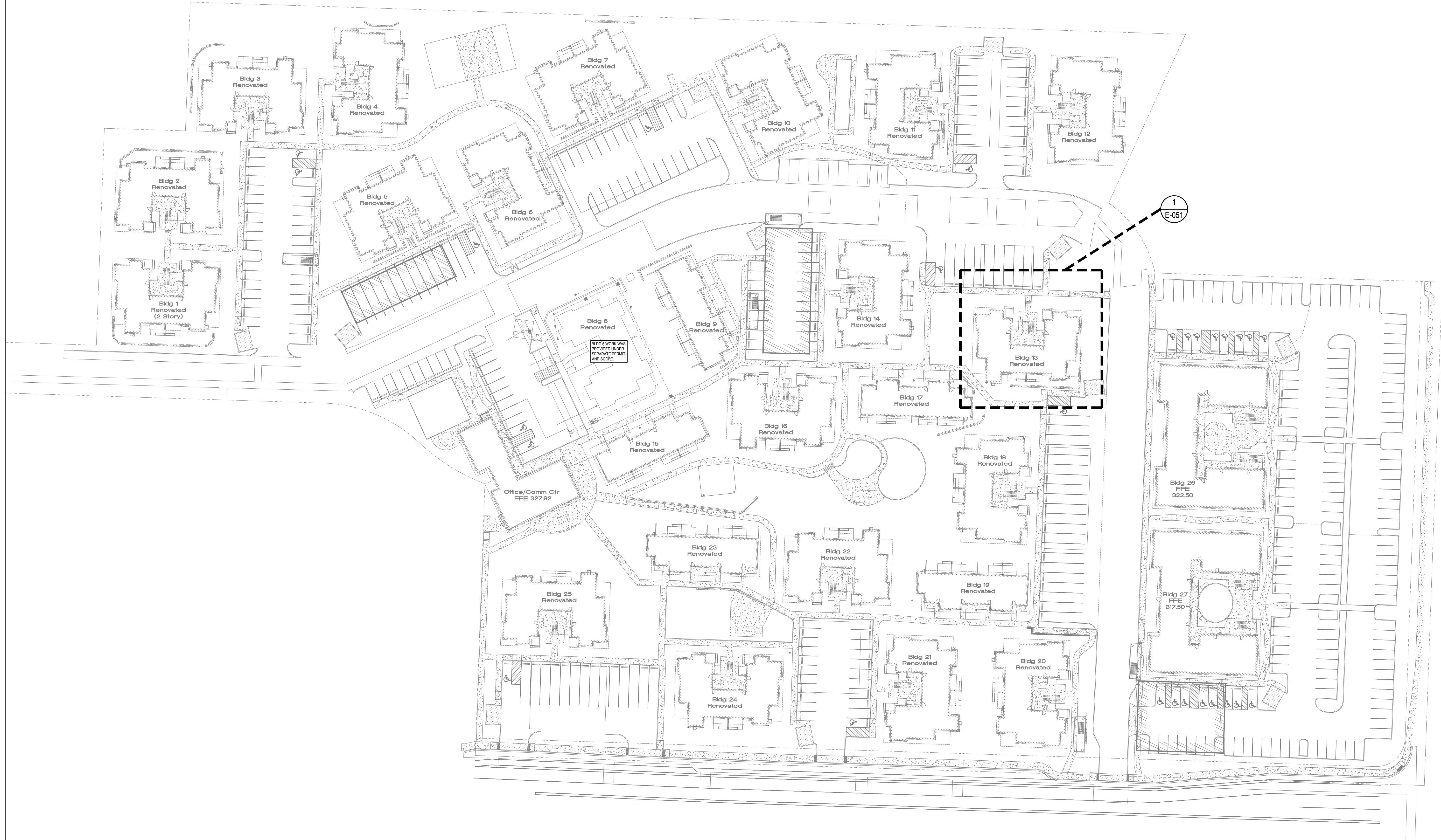
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LUMINAIRE  
SCHEDULE

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

E13-005



10/7/2021 1:33:34 AM



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

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 13  
BID SET**



REVISIONS / NOTES  
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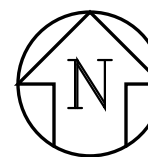
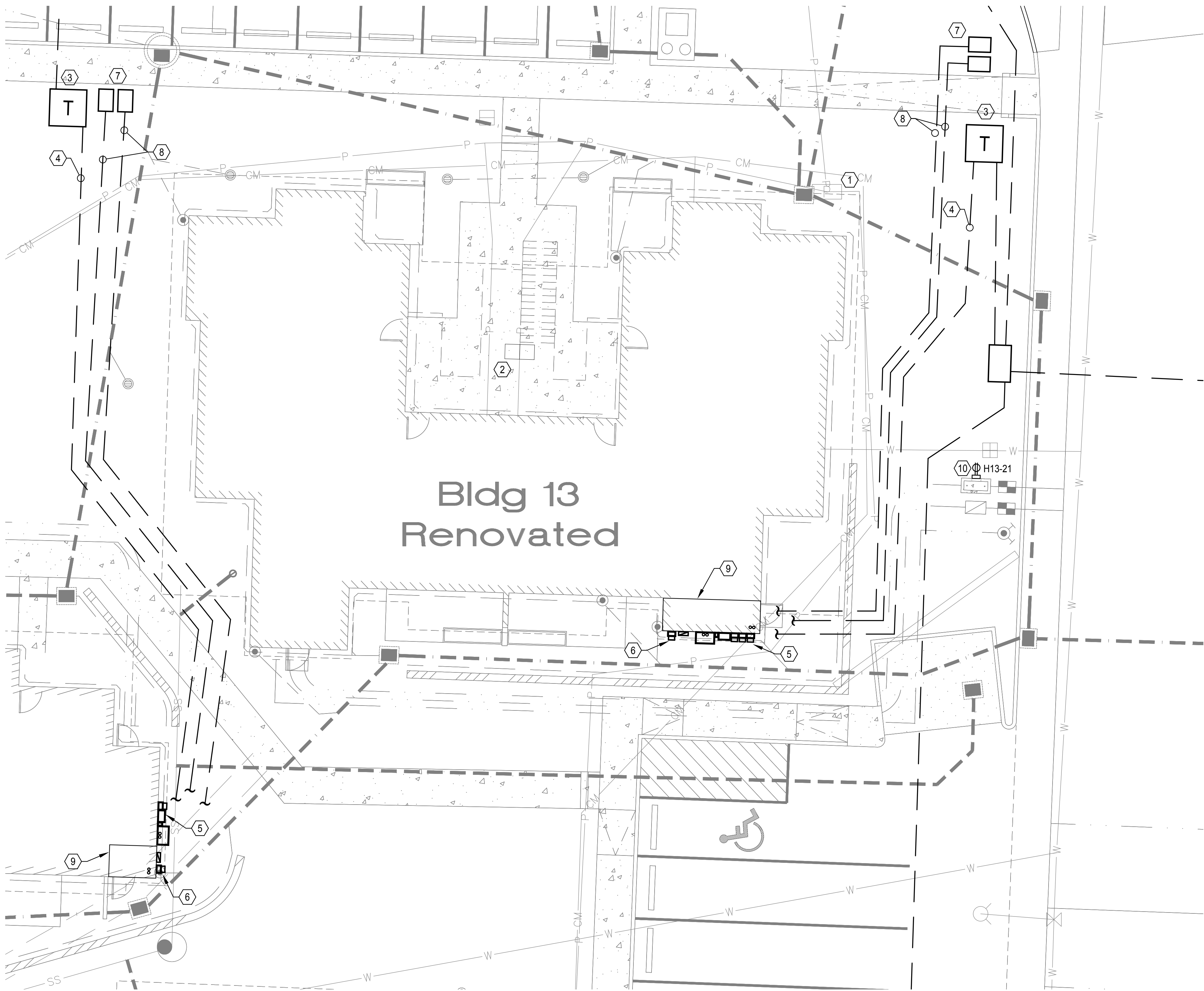
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**OVERALL  
PROJECT SITE  
PLAN**

PERMIT #  
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**E13-050**





## ELECTRICAL SITE PLAN - BUILDING 13

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

### FLAG NOTES (X):

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

### GENERAL NOTES:

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 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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CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

## BUILDING 13 BID SET



REVISIONS / NOTES  
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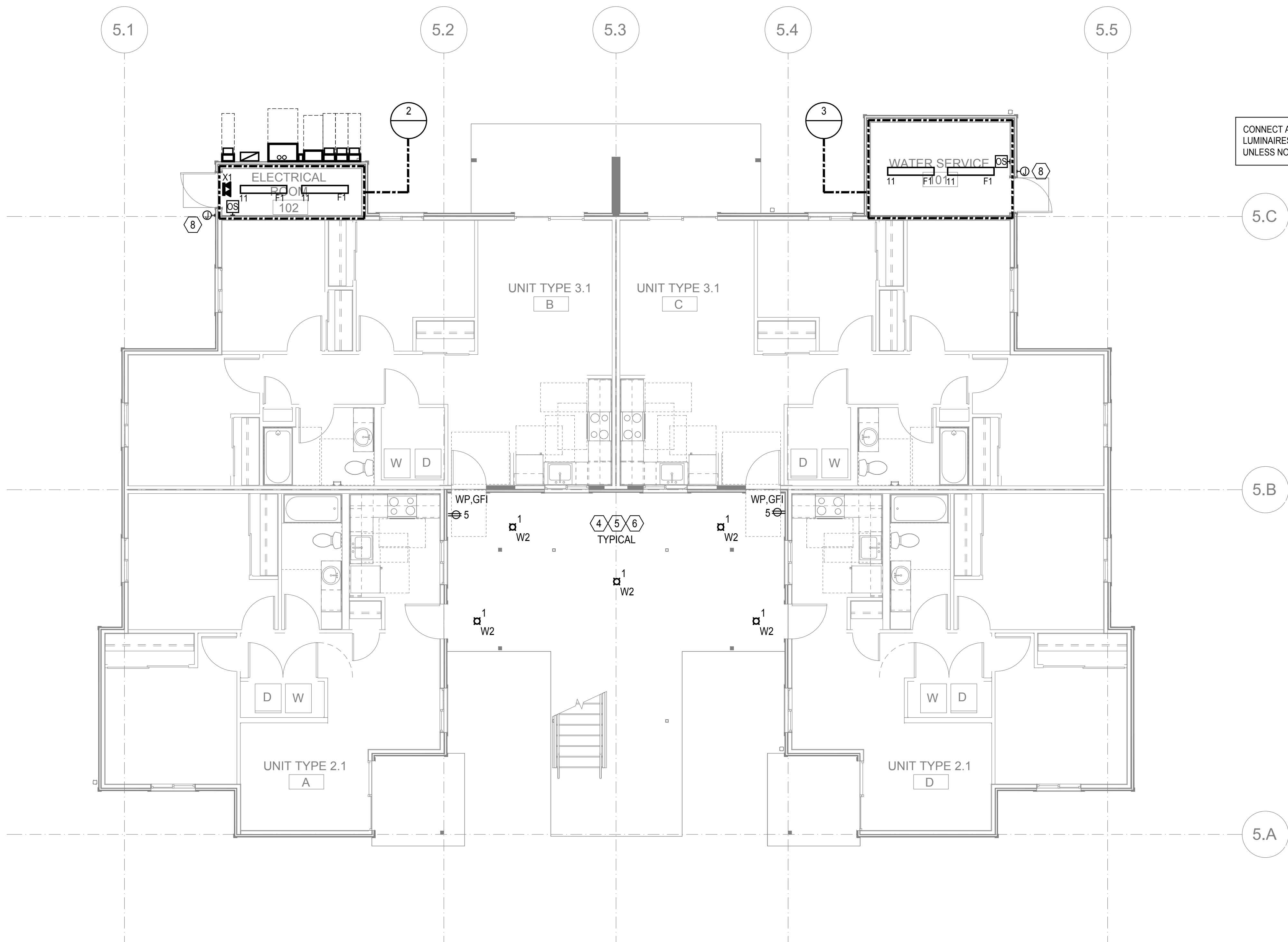
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## ELECTRICAL SITE PLAN - BUILDING 13

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**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.

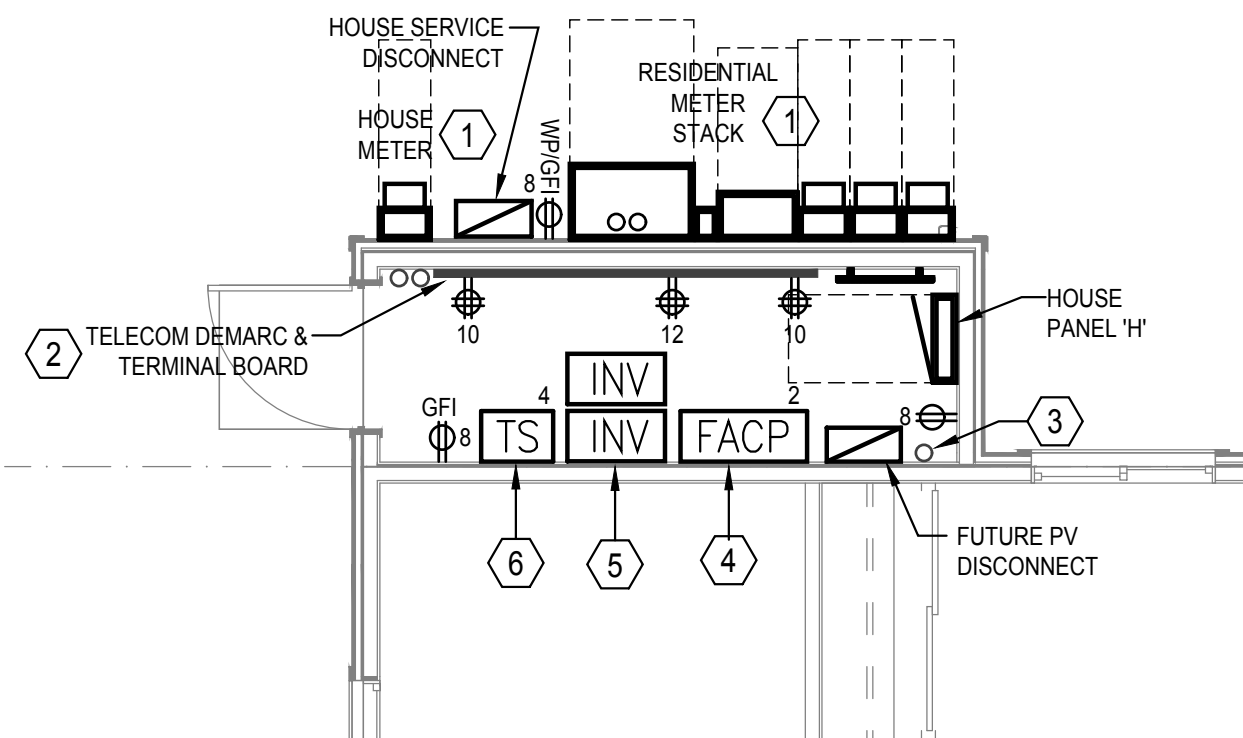
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

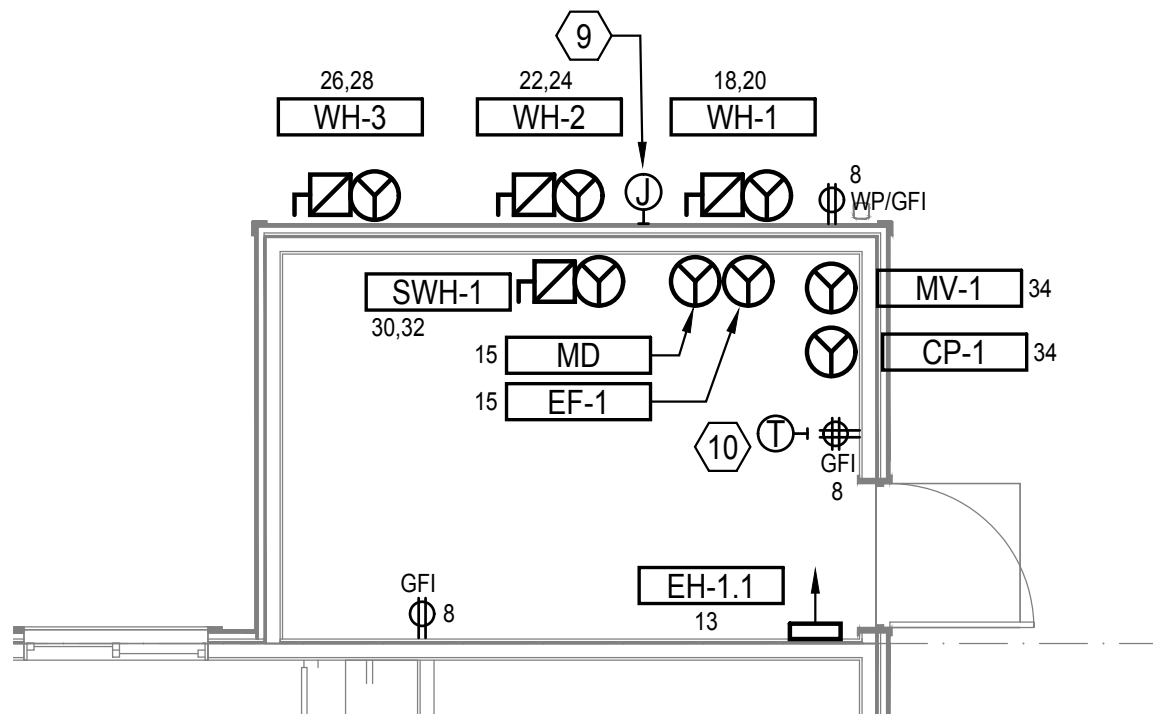
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHI. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- 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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**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 13**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

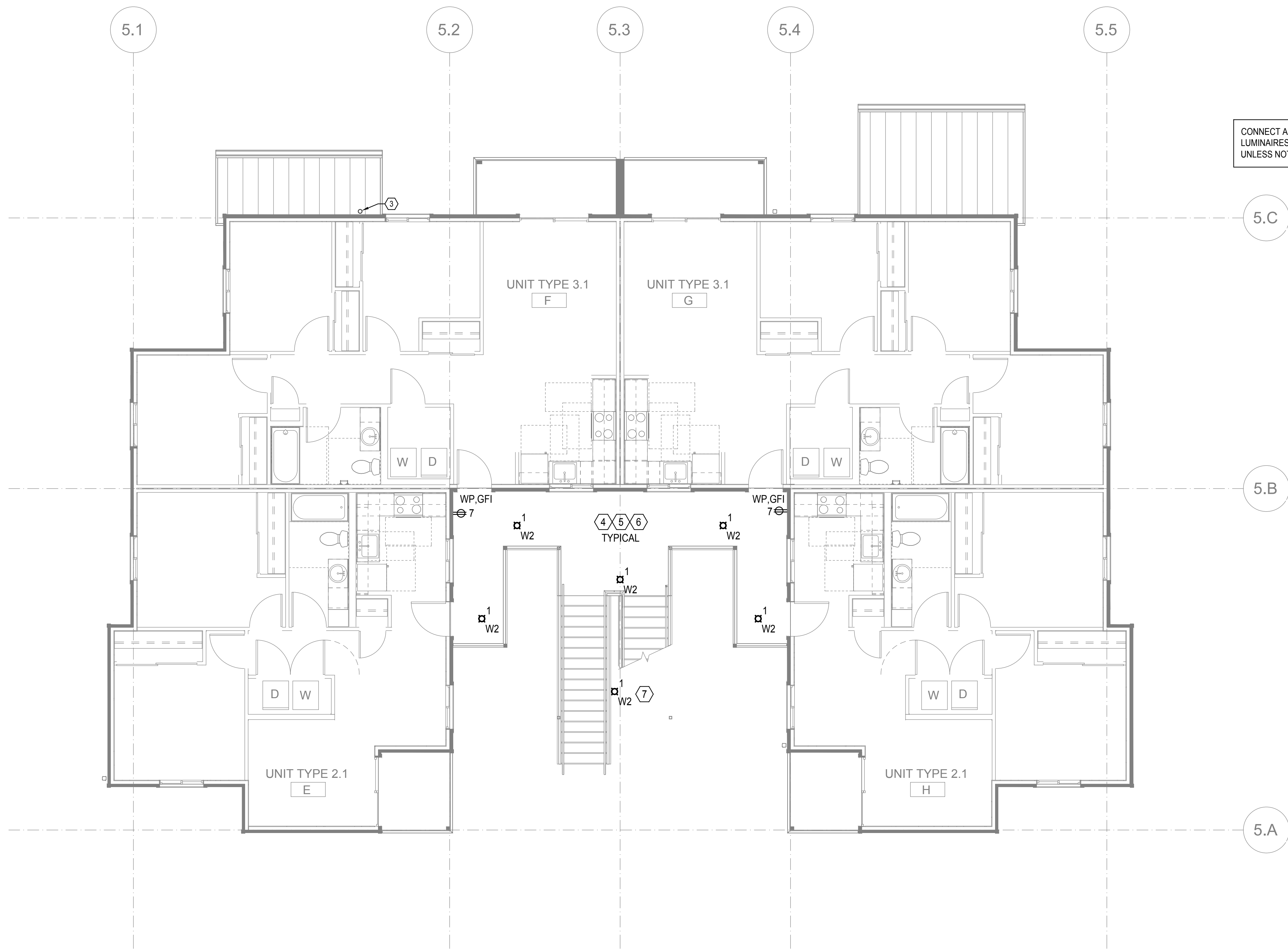
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TITLE  
**POWER AND LIGHTING PLAN - BUILDING 13 - LEVEL 1**

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

**E13-101**





**POWER AND LIGHTING PLAN - BUILDING 13 - LEVEL 2**  
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:
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):
- NOT USED.
  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - 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
  - 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.
  - LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.



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Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 13**  
BID SET



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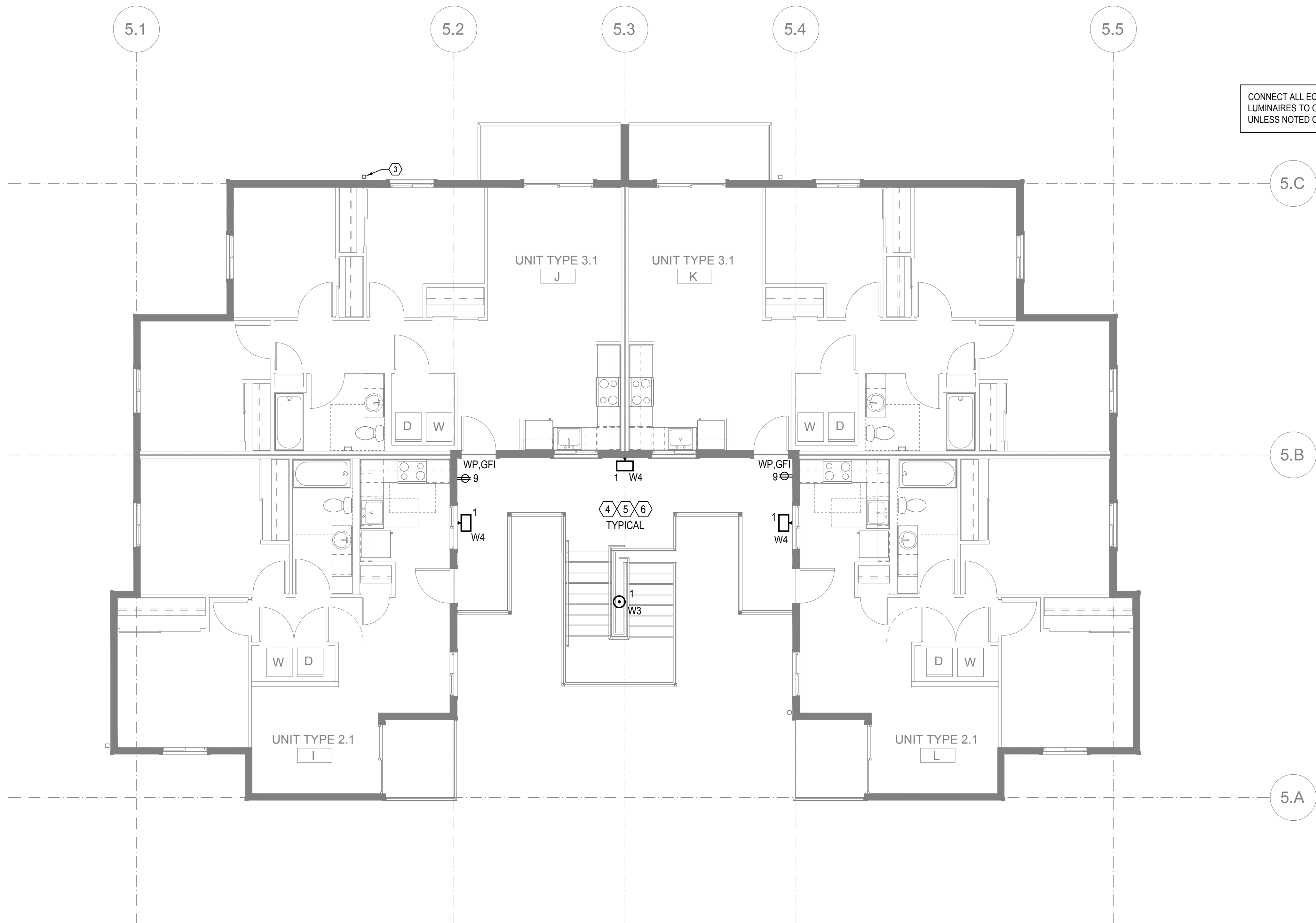
TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 13 -  
LEVEL 2**

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

**E13-102**



10/7/2021 1:33:34 AM



**POWER AND LIGHTING PLAN - BUILDING 13 - LEVEL 3**  
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:**

- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- NOT USED.
- NOT USED.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.



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13310 NE 133<sup>rd</sup> St.  
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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 13**  
BID SET



REVISIONS / NOTES  
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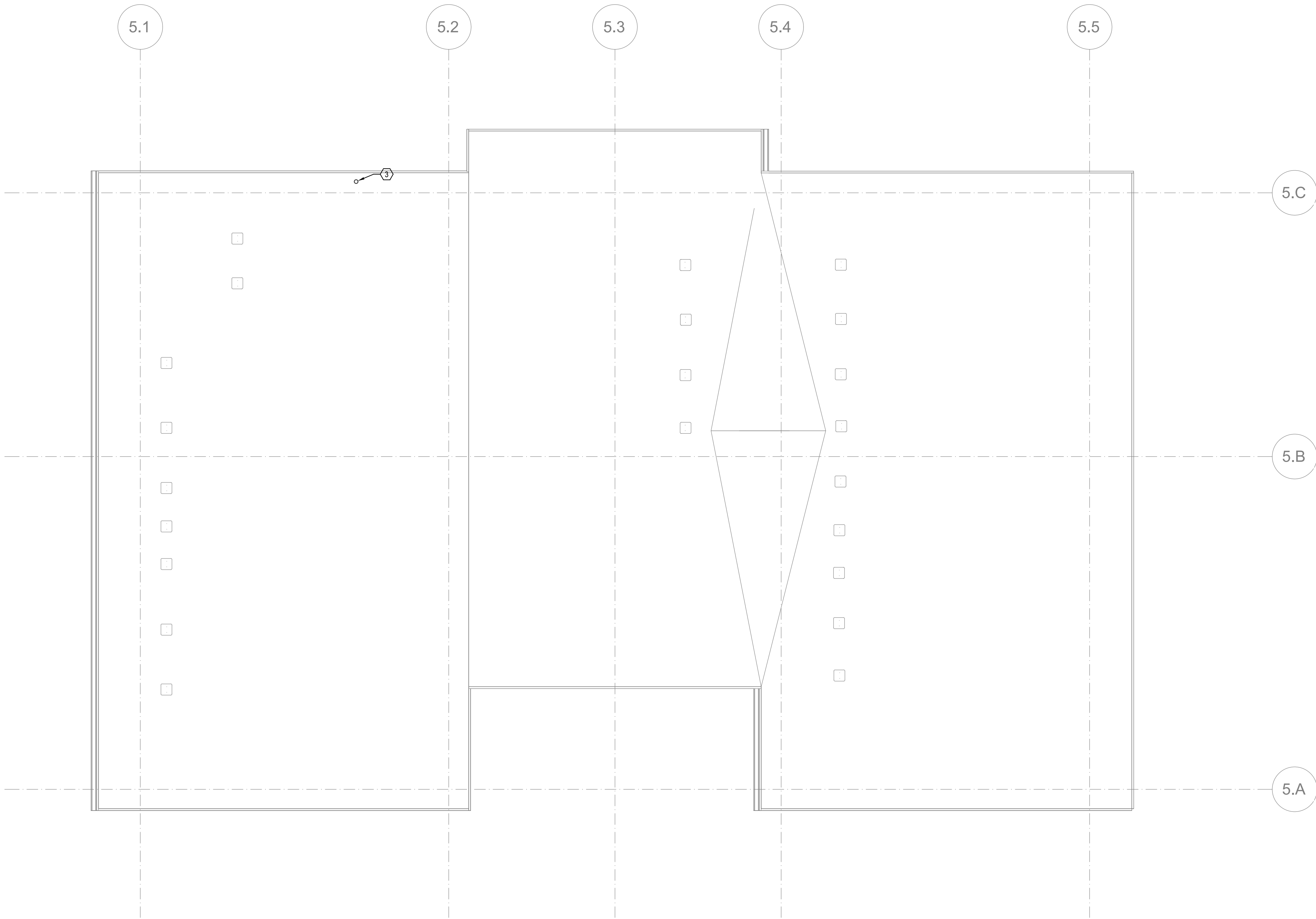
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TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 13 -  
LEVEL 3**

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

**E13-103**





**POWER PLAN - BUILDING 13 - 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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General Partner  
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Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 13**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

DPD STAMP

TITLE

**POWER PLAN -  
BUILDING 13 -  
ROOF**

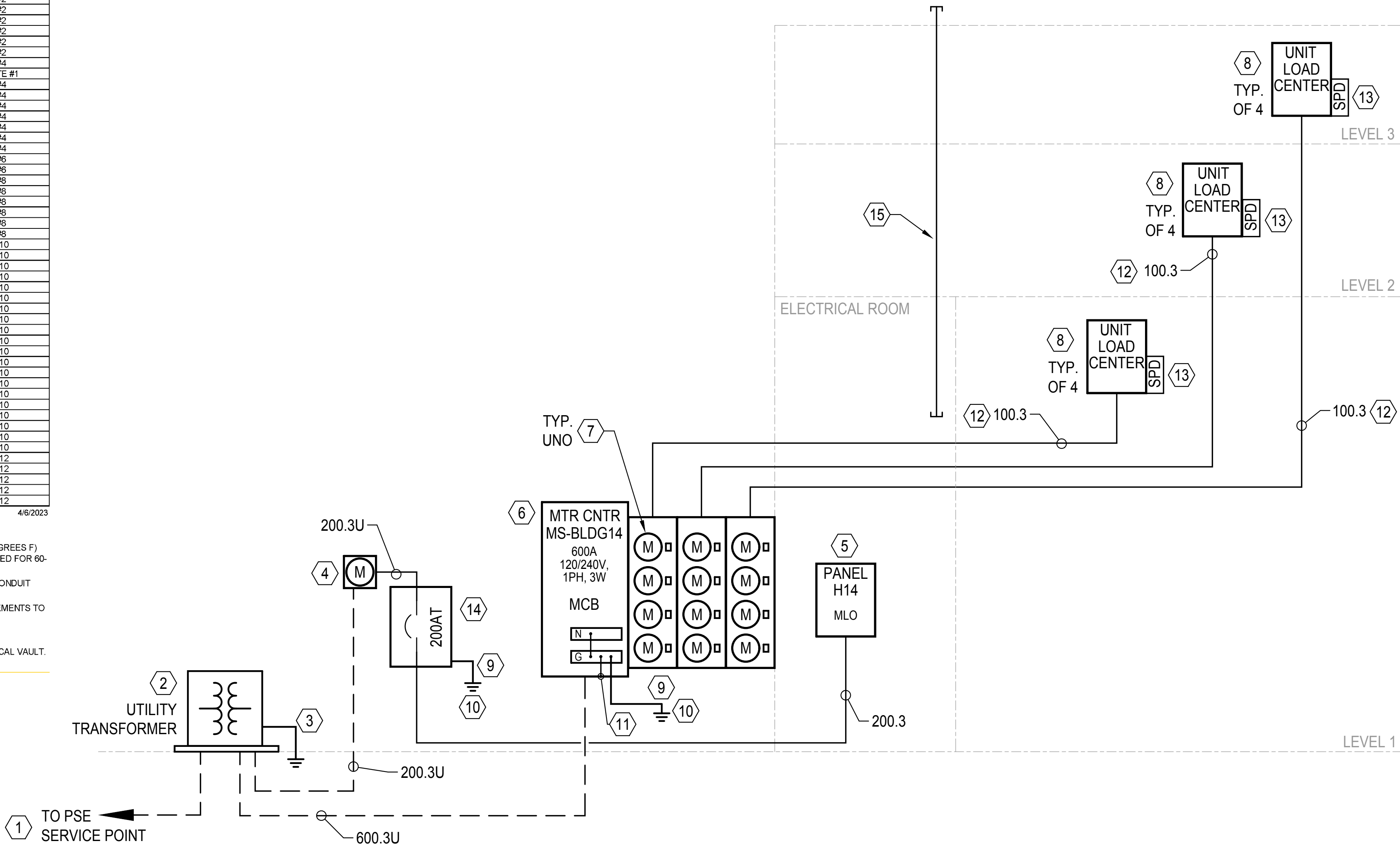
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CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

**E13-104**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WETS) 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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
60.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
60.3	(1) 1.5-INCH	CU	(3) #3	#5
60.2	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#10
60.1	(1) 1.5-INCH	CU	(2) #4	#10
50.4	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#10
50.3	(1) 1.5-INCH	CU	(1) #4	#10
50.2	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
50.1	(1) 1.5-INCH	CU	(2) #5	#10
40.4	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
40.3	(1) 1.5-INCH	CU	(1) #5	#10
40.2	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
40.1	(1) 1.5-INCH	CU	(2) #5	#10
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1.5-INCH	CU	(3) #10	#10
30.2	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#10
30.1	(1) 1.5-INCH	CU	(2) #10	#10
20.4	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#12
20.3	(1) 1.5-INCH	CU	(1) #12	#12
20.2	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#12
20.1	(1) 1.5-INCH	CU	(2) #12	#12

GENERAL SCHEDULE NOTES: 4/6/2023  
A. AL= ALUMINUM (STRAYLOY CONDUCTORS WITH XHHW-2 INSULATION); CU= COPPER (COPPER CONDUCTORS WITH THHN/TMVN INSULATION).  
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75 DEGREES C (167 DEGREES F) AS PER NEC 110.14C(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.



## SINGLE LINE DIAGRAM

SCALE: NTS

## LOAD CALCULATIONS - BLDG 14

UNIT TYPE: 2BR - 2.1		AREA (SF): 782	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	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			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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): 908	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	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			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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					4/6/2023				
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	COOKING APPLIANCES							
							1.5< X < 3.5KW	3.5KW < X < 8.75KW	8.75KW < X < 12KW					
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	0	0	0	0	0.00	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)		4/6/2023
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/Hallway:		1.5 kVA
LIGHTING - SITE:		1.5 kVA
GENERAL RECEPTACLES:		4.0 kVA
MECHANICAL:		1.0 kVA
ELECT HEAT (WATER RNS):		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
270.14 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		



192 Nickerson, Suite #300  
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117 S. Main St., Suite 400  
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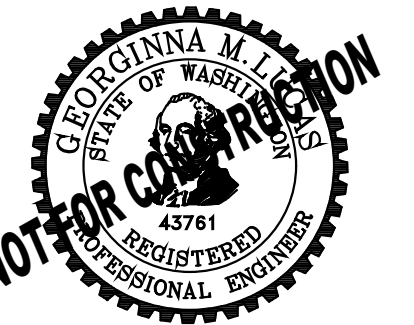
New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133rd St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

## BUILDING 14

BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

## SINGLE LINE DIAGRAM AND LOAD CALCS

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

# E14-003



FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT #(SETS) SIZE	AL OR CU	CONDUCTORS PER SET		GROUND (1 PER SET UNO)
			PHASE / NEUTRAL (N) (QTY) SIZE	CONDUCTOR (QTY) SIZE	
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL	(1) 500 KCMIL N	NOTE #1
600.3	(2) 4-INCH	AL	(3) 500 KCMIL	(1) 500 KCMIL N	#10
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	(1) 350 KCMIL N	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	(1) 350 KCMIL N	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	(1) 300 KCMIL N	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	(1) 300 KCMIL N	NOTE #1
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	(1) 250 KCMIL N	#1
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	(1) 250 KCMIL N	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	(1) 700 KCMIL N	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	(1) 700 KCMIL N	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	(1) 500 KCMIL N	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	(1) 500 KCMIL N	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	(1) 350 KCMIL N	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	(1) 350 KCMIL N	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	(1) 300 KCMIL N	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	(1) 300 KCMIL N	#2
200.4U	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	(1) 250 KCMIL N	NOTE #1
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	(1) 250 KCMIL N	#4
175.4	(1) 3-INCH	AL	(3) #40 / (1) #40 N	(1) #40 N	#4
175.3	(1) 3-INCH	AL	(3) #40	(1) #40 N	#4
150.4	(1) 2-INCH	AL	(3) #30 / (1) #30 N	(1) #30 N	#4
150.3	(1) 2-INCH	AL	(3) #30	(1) #30 N	#4
125.4	(1) 2-INCH	AL	(3) #20 / (1) #20 N	(1) #20 N	#4
125.3	(1) 2-INCH	AL	(3) #20	(1) #20 N	#4
100.4	(1) 2-INCH	AL	(3) #10 / (1) #10 N	(1) #10 N	#5
100.3	(1) 2-INCH	AL	(3) #10	(1) #10 N	#5
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	(1) #2 N	#5
90.3	(1) 1.5-INCH	CU	(3) #2	(1) #2 N	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	(1) #3 N	#5
80.3	(1) 1.5-INCH	CU	(3) #3	(1) #3 N	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	(1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	(1) #4 N	#5
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N	(1) #4 N	#10
60.3	(1) 1-INCH	CU	(3) #4	(1) #4 N	#10
60.2U	(1) 1-INCH	CU	(2) #4 / (1) #4 N	(1) #4 N	#10
60.2	(1) 1-INCH	CU	(2) #4	(1) #4 N	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	(1) #4 N	#10
50.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	(1) #5 N	#10
50.3	(1) 1-INCH	CU	(3) #5	(1) #5 N	#10
50.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	(1) #5 N	#10
50.2	(1) 1-INCH	CU	(2) #5	(1) #5 N	#10
50.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	(1) #5 N	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	(1) #5 N	#10
40.3	(1) 1-INCH	CU	(3) #5	(1) #5 N	#10
40.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	(1) #5 N	#10
40.2	(1) 1-INCH	CU	(2) #5	(1) #5 N	#10
40.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	(1) #5 N	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	(1) #10 N	#10
30.3	(1) 1-INCH	CU	(3) #10	(1) #10 N	#10
30.2U	(1) 1-INCH	CU	(2) #10 / (1) #10 N	(1) #10 N	#10
30.2	(1) 1-INCH	CU	(2) #10	(1) #10 N	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	(1) #10 N	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	(1) #12 N	#12
20.3	(1) 1-INCH	CU	(3) #12	(1) #12 N	#12
20.2U	(1) 1-INCH	CU	(2) #12 / (1) #12 N	(1) #12 N	#12
20.2	(1) 1-INCH	CU	(2) #12	(1) #12 N	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	(1) #12 N	#12

GENERAL SCHEDULE NOTES:  
A. AL= ALUMINUM (STABILLOY 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	565	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	40	65	100	160
	30	3.60	35	55	85	135
	4	0.42	380	645	995	1595
	6	0.63	440	730	1125	1780
	8	1.25	290	485	750	1185
208V/ 1-PHASE	3	1.66	220	365	560	885
	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	70	115	180	285
	30	6.24	60	95	150	235
	35	7.28	50	80	125	200
	40	8.32	45	70	110	175
	45	9.36	40	60	95	155
	50	10.40	35	50	80	140
	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2080
	6	2.16	335	565	865	1370
208V/ 3-PHASE	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	250	410
	25	9.01	80	135	205	325
	30	10.81	70	110	170	270
	35	12.61	60	95	145	235
	40	14.41	50	80	120	200
	45	16.21	45	70	105	180
	50	18.01	40	60	90	160

NOTES:  
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											
NORMAL POWER		VOLTAGE		FED FROM:		METER STACKS		LOCATION: ELECTRICAL ROOM			
AC - SEE SINGLE LINE DIAGRAM		BUS RATED: 200 AMPS		120 / 240 V		1 PHASE, 3 WIRE		FLUSH MOUNTED		SURFACE MOUNTED	
CKT #	DESCRIPTION	CONNECTION		LOAD FACTOR		DEMAND LOAD		CONNECTION		DESCRIPTION	
		TYPE	KVA	TAG	AMPS/PH	PH	AMPS/PH	CKT	TYPE	LOAD	CKT #
1	TO BREAKER		0.24	20.1	20	/	1	A	20	/	1
2	SPARE		0.00	20	/	1	B	20	/	1	
3	SPARE		0.00	20	/	1	B	20	/	1	
4	RECEPT-LV-1 RECEPT	R	0.36	20.1	20	/	1	A	20	/	1
5	RECEPT-LV-1 RECEPT	R	0.36	20.1	20	/	1	B	20	/	1
6	RECEPT-LV-1 RECEPT	R	0.36	20.1	20	/	1	A	20	/	1
7	RECEPT-LV-1 RECEPT	R	0.36	20.1	20	/	1	B	20	/	1
8	RECEPT-LV-1 RECEPT	R	0.36	20.1	20	/	1	A	20	/	1
9	RECEPT-LV-1 RECEPT	R	0.36	20.1	20	/	1	B	20	/	1
10	RECEPT-LV-1 RECEPT	R	0.36	20.1	20	/	1	A	20	/	1
11	TO SELECTOR SWITCH		0.24	20.1	20	/	1	A	20	/	1
12	SELECTOR SWITCH		0.24	20.1	20	/	1	B	20	/	1
13	SELECTOR SWITCH		0.24	20.1	20	/	1	A	20	/	1
14	SELECTOR SWITCH		0.24	20.1	20	/	1	B	20	/	1
15	SELECTOR SWITCH		0.24	20.1	20	/	1	A	20	/	1
16	SELECTOR SWITCH		0.24	20.1	20	/	1	B	20	/	1
17	SELECTOR SWITCH		0.24	20.1	20	/	1	A	20	/	1
18	SELECTOR SWITCH		0.24	20.1	20	/	1	B	20	/	1
19	SELECTOR SWITCH		0.24	20.1	20	/	1	A	20	/	1
20	SELECTOR SWITCH		0.24	20.1	20	/	1	B	20	/	1
21	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	A	15	/	2
22	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	B	15	/	2
23	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	A	15	/	2
24	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	B	15	/	2
25	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	A	15	/	2
26	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	B	15	/	2
27	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	A	15	/	2
28	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	B	15	/	2
29	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	A	15	/	2
30	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	B	15	/	2
31	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	A	15	/	2
32	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	B	15	/	2
33	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	A	15	/	2
34	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	B	15	/	2
35	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	A	15	/	2
36	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	B	15	/	2
37	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	A	15	/	2
38	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	B	15	/	2
39	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	A	15	/	2
40	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	B	15	/	2
41	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	A	15	/	2
42	HEAT TRACE - WATER CONNECTION	H	0.24	20.1	20	/	1	B	15	/	2
		CONNECTED		DEMAND		DEMAND LOAD				PANEL CONNECTED TOTAL:	
L =	LIGHTING	0.74	KVA	12%		0.93	KVA				17.16 KVA
R =	RECEPTACLES	4.14	KVA	ECN 220.44		4.14	KVA				23.83 AMPS
M =	MOTORS	0.00	KVA	0.00%		0.00	KVA				
P =	PLUS 25% OF LARGEST MOTOR	0.34	KVA	25%		0.95	KVA				
C =	CONDUIT RATING	11.18	KVA	125%		13.97	KVA				
N =	NON-CONTINUOUS	1.44	KVA	100%		1.44	KVA				30.79 KVA
* =	* KTC-ENCL	0.00	KVA	70%		0.00	KVA				36.69 AMPS
NOTES:											
AC - SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CONDUIT AND CONDUCTOR INFORMATION PER NEC TABLE 310.16											
GROUND TYPES: 300K GROUND FAULT SYSTEM PROTECTION BREAKER											



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 SLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL2103D-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

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

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 14  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

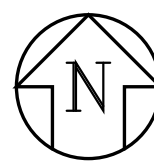
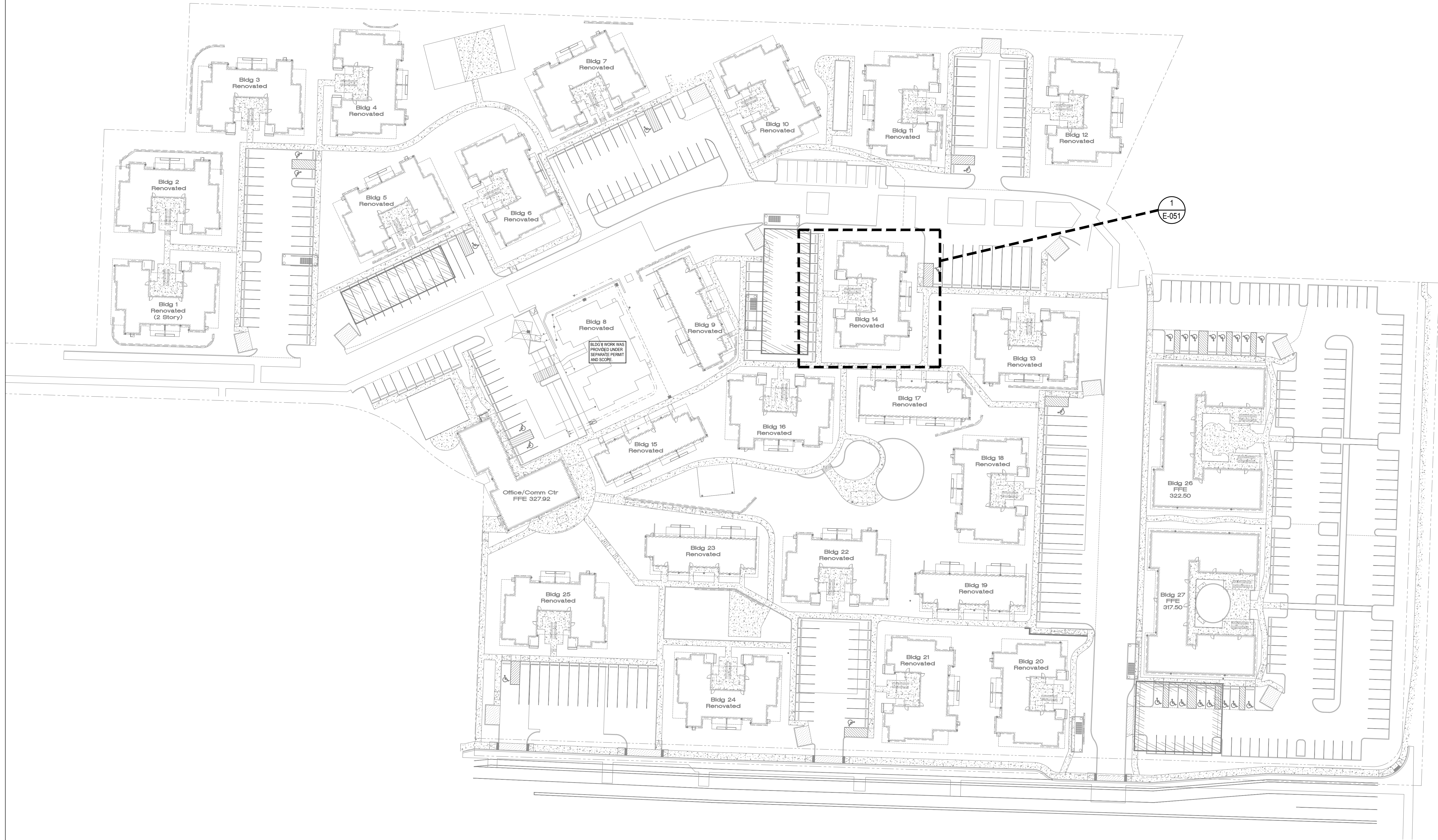
TITLE  
  
LUMINAIRE  
SCHEDULE

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

E14-005



10/7/2021 1:33:34 AM



**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.



**SIDER+BYERS**  
MECHANICAL - ELECTRICAL ENGINEERS

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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 14  
BID SET**



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE

**OVERALL  
PROJECT SITE  
PLAN**

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

**E14-050**



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.



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CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 14 BID SET



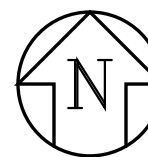
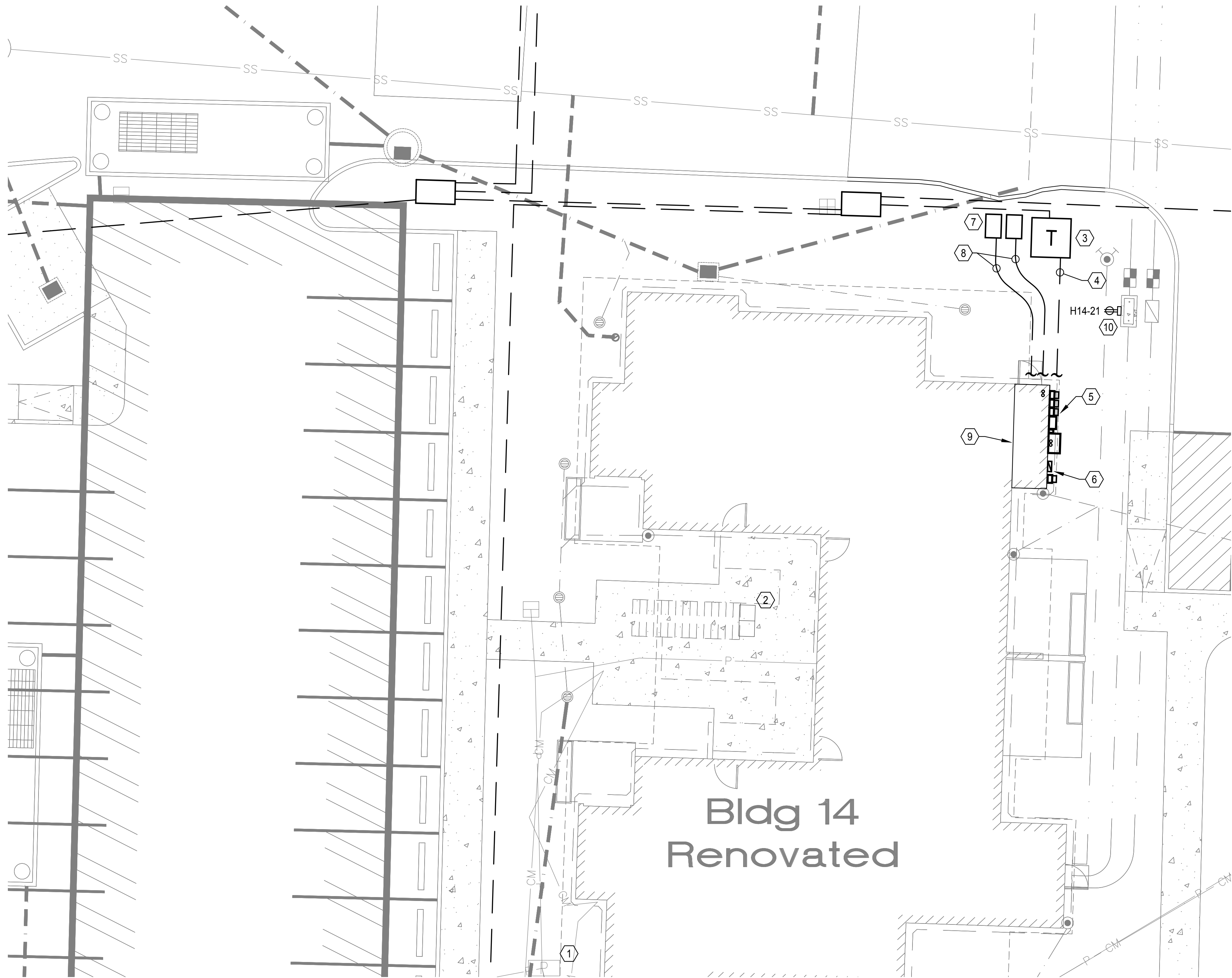
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## ELECTRICAL SITE PLAN - BUILDING 14

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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

# E14-051



## ELECTRICAL SITE PLAN - BUILDING 14

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

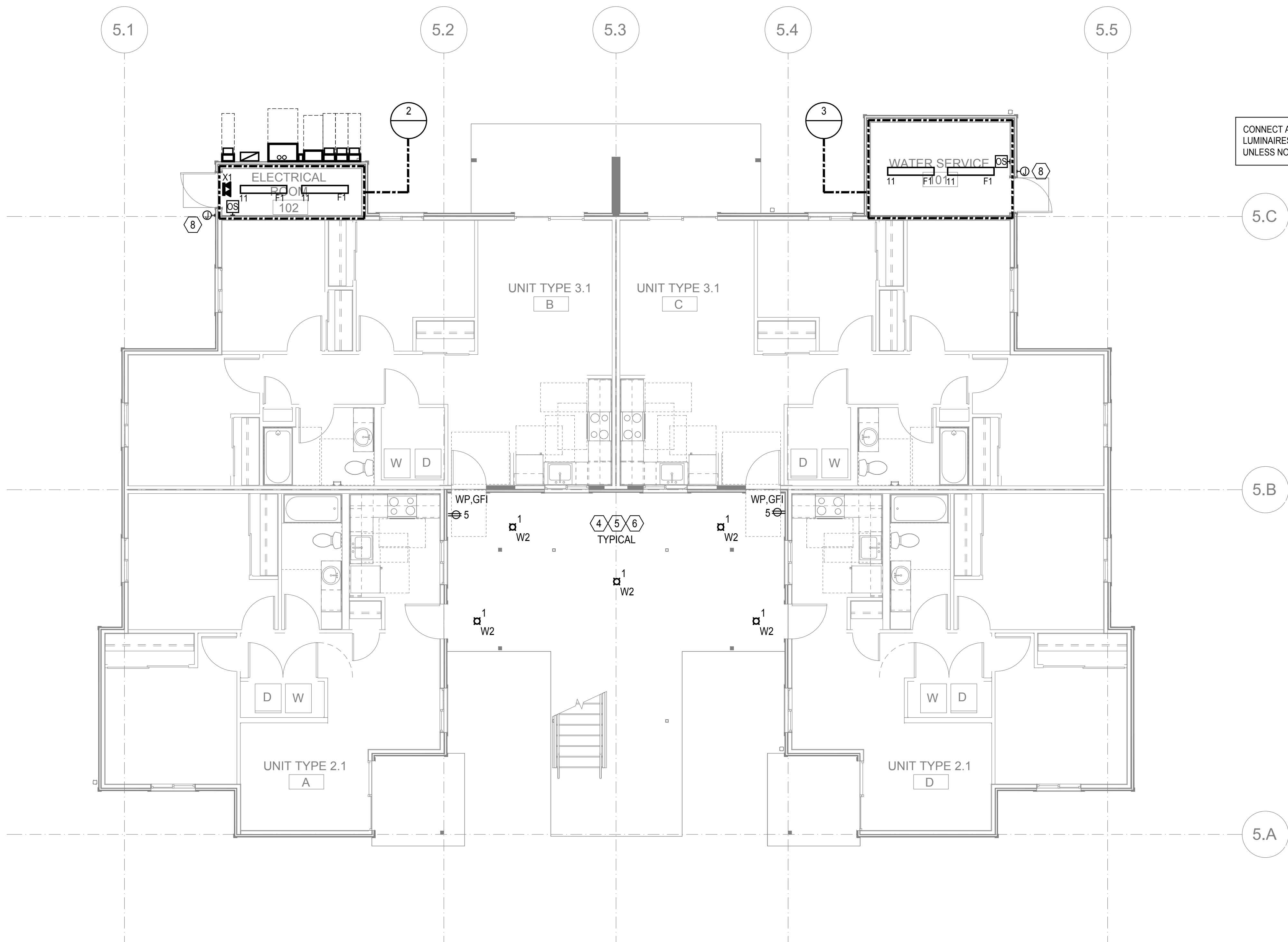
### FLAG NOTES (X):

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

### GENERAL NOTES:

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.





**POWER AND LIGHTING PLAN - BUILDING 14 - 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.

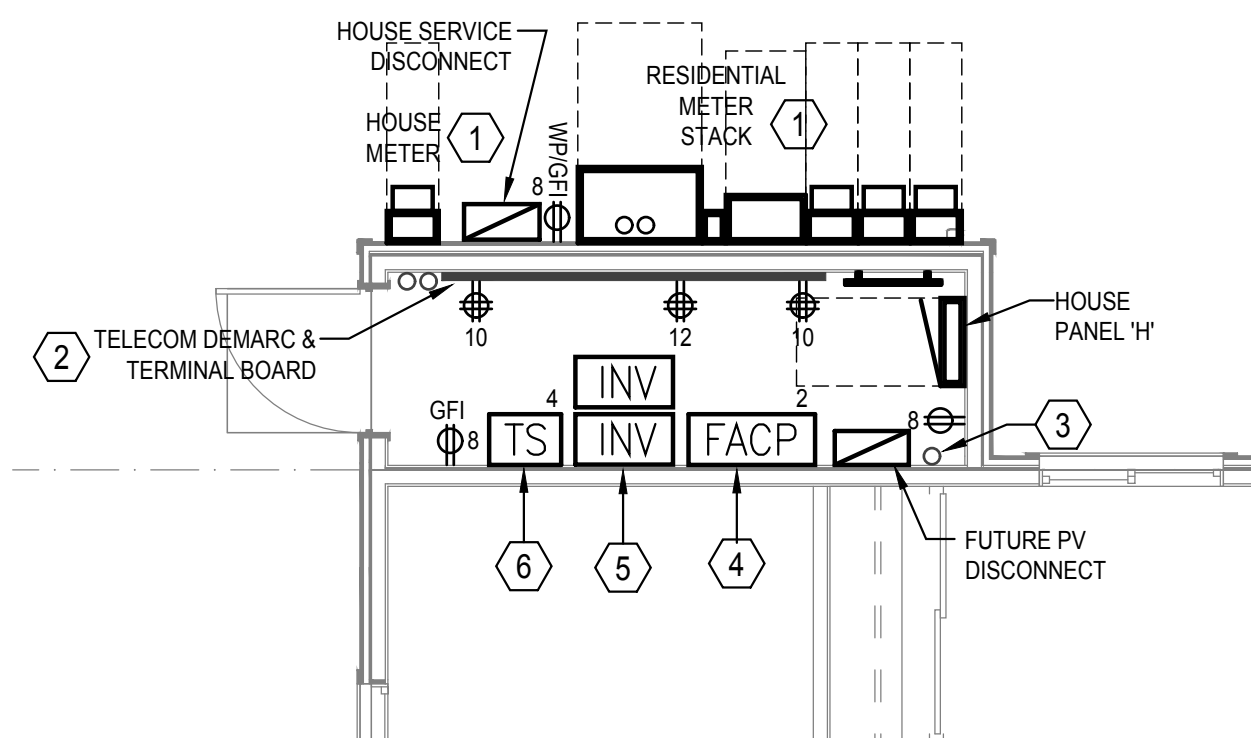
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

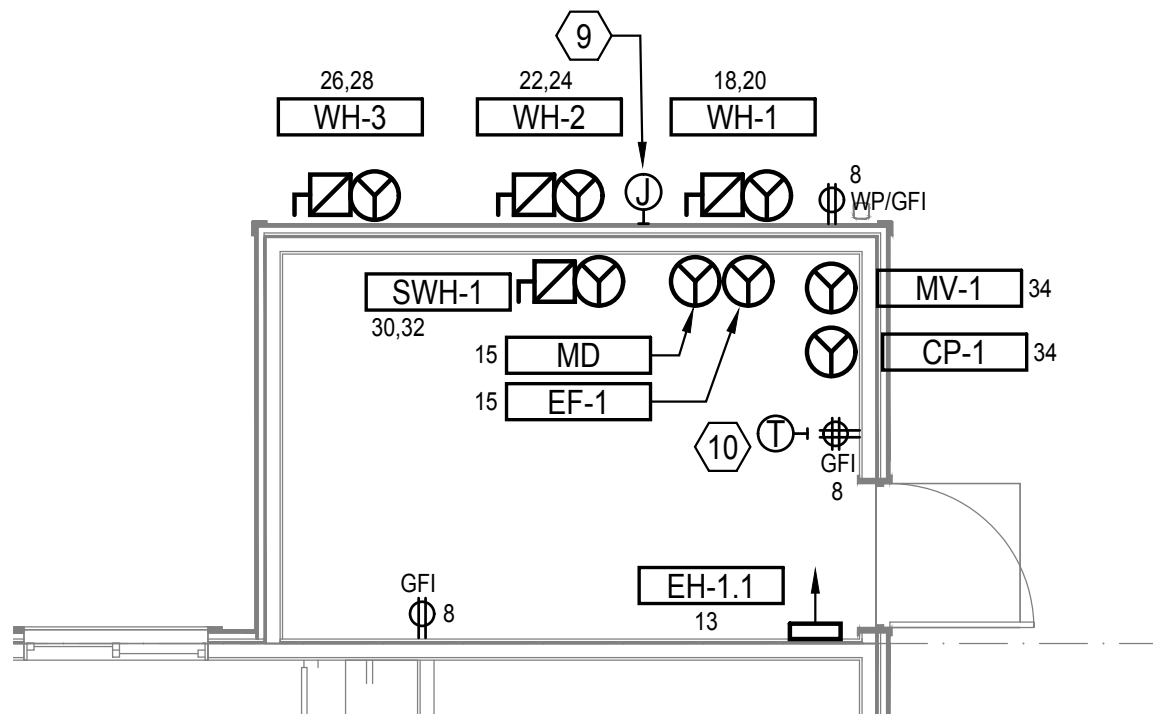
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHI. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- 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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General Partner  
13310 NE 133<sup>rd</sup> St.  
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CONTRACT #: TC2300131

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 14**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

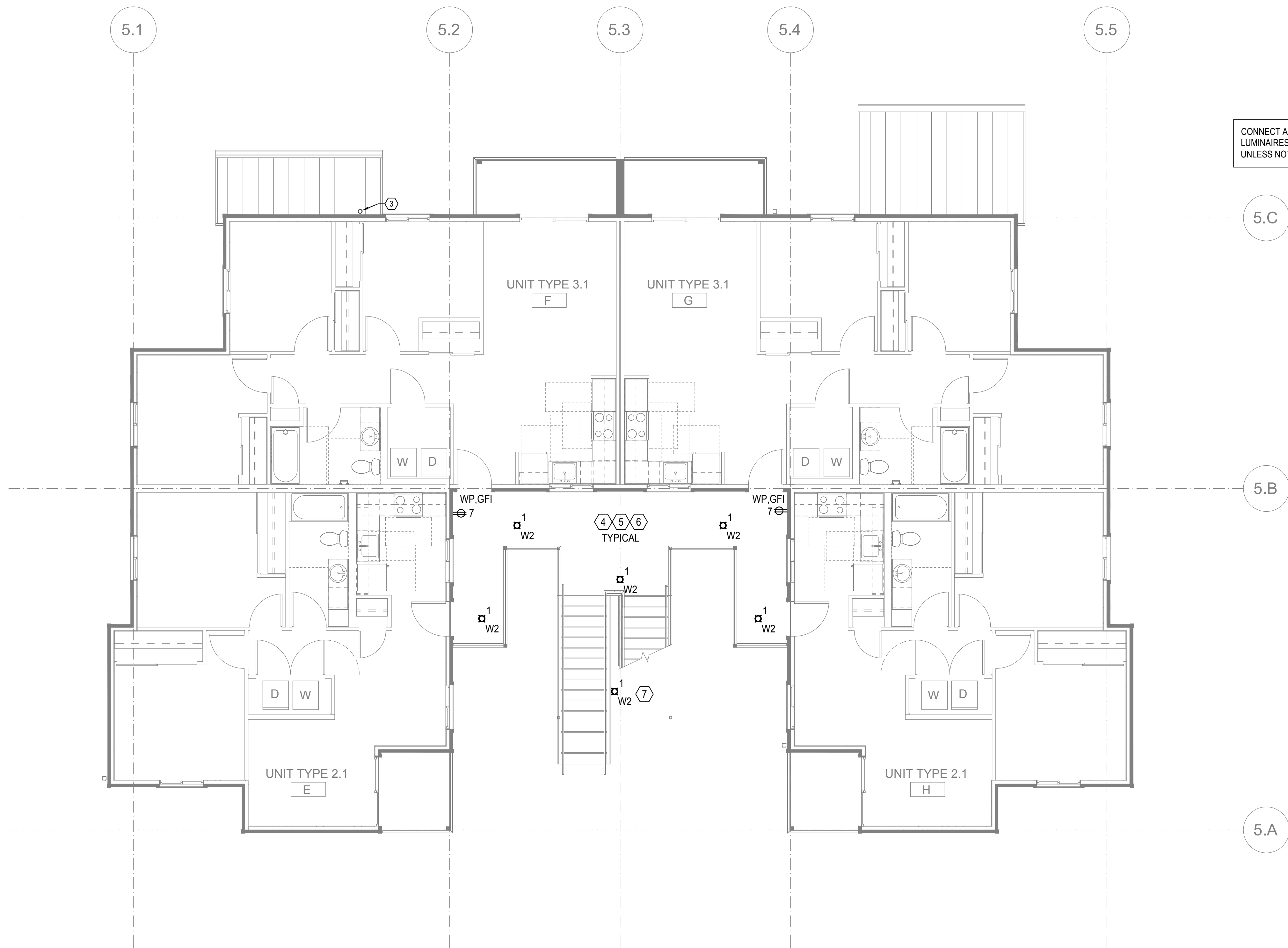
**POWER AND LIGHTING PLAN - BUILDING 14 - LEVEL 1**

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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E14-101**



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**POWER AND LIGHTING PLAN - BUILDING 14 - LEVEL 2**  
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:
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):
- NOT USED.
  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - 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
  - 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.
  - LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.



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**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
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**BUILDING 14**  
BID SET



REVISIONS / NOTES  
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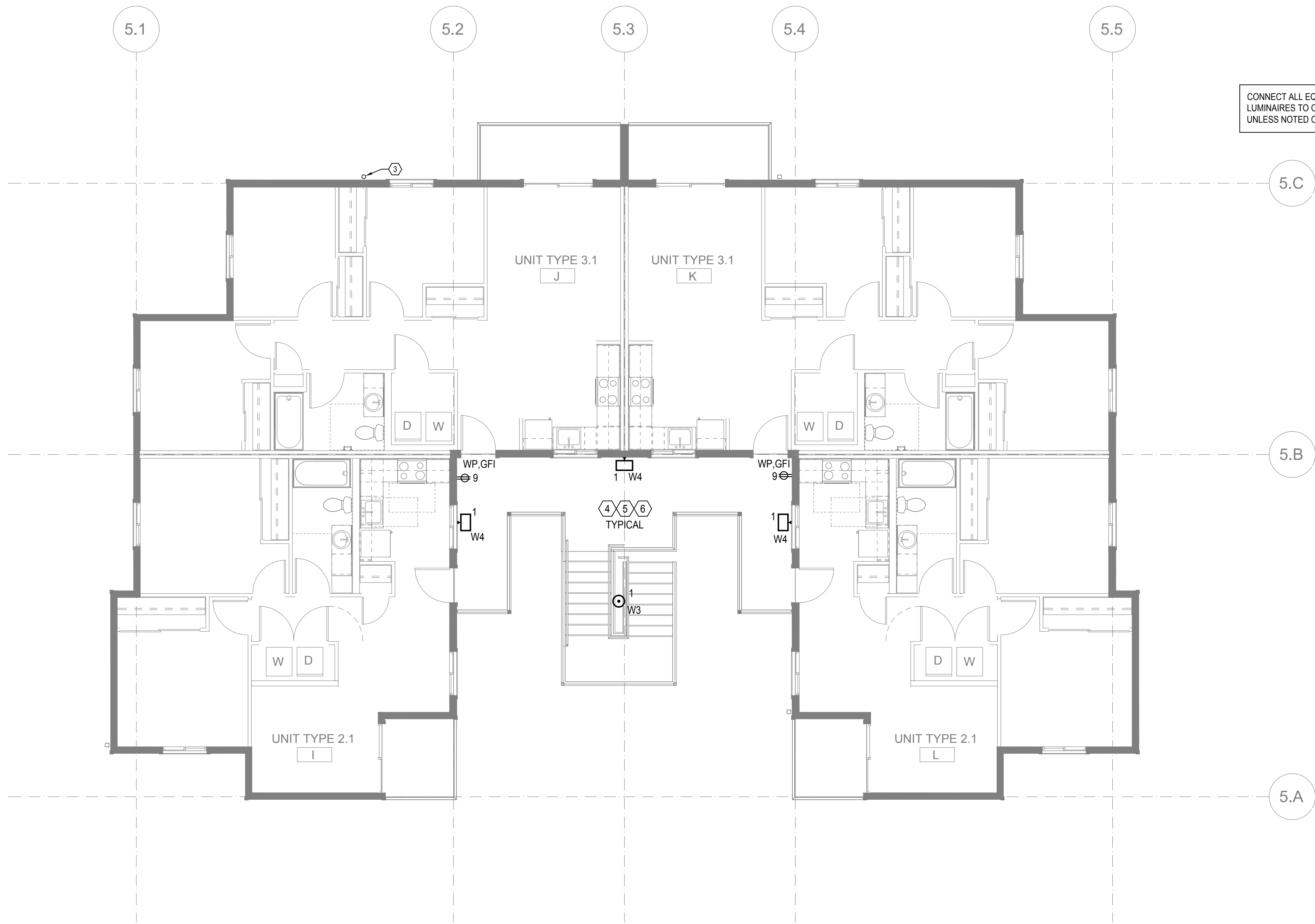
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**POWER AND  
LIGHTING  
PLAN -  
BUILDING 14 -  
LEVEL 2**

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

**E14-102**



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**POWER AND LIGHTING PLAN - BUILDING 14 - LEVEL 3**  
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:**
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):**
- NOT USED.
  - NOT USED.
  - 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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  - 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
  - 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.



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**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 14**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

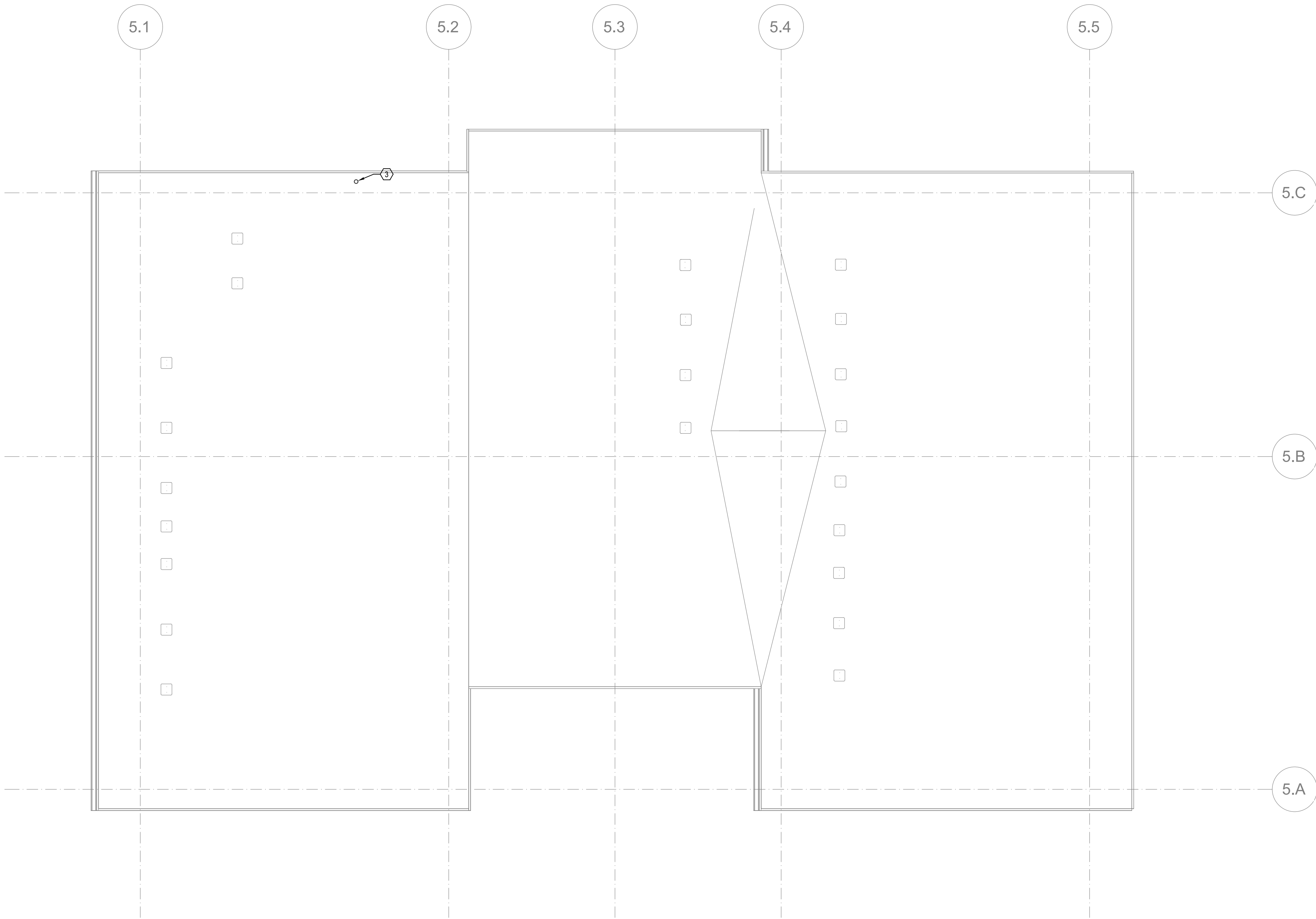
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TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 14 -  
LEVEL 3**

PERMIT #	
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ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

**E14-103**





POWER PLAN - BUILDING 14 - 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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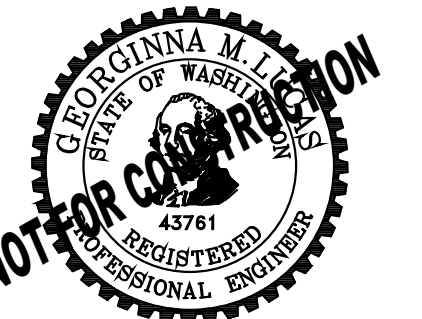


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KIRKLAND  
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BUILDING 14  
BID SET



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POWER PLAN -  
BUILDING 14 -  
ROOF

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SHEET NO.:

E14-104



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WEETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY) SIZE	GROUND (1 DER SET UND)
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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
60.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
60.3	(1) 1.5-INCH	CU	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1.5-INCH	CU	(3) #4	#10
60.2N	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1.5-INCH	CU	(2) #4	#10
60.1	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
50.3	(1) 1.5-INCH	CU	(3) #5	#10
50.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
50.2	(1) 1.5-INCH	CU	(2) #5	#10
50.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
40.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
40.3	(1) 1.5-INCH	CU	(3) #5	#10
40.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
40.2	(1) 1.5-INCH	CU	(2) #5	#10
40.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1.5-INCH	CU	(3) #10	#10
30.2N	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1.5-INCH	CU	(2) #10	#10
30.1	(1) 1.5-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1.5-INCH	CU	(3) #12	#12
20.2N	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1.5-INCH	CU	(2) #12	#12
20.1	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES:

4/6/2023

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

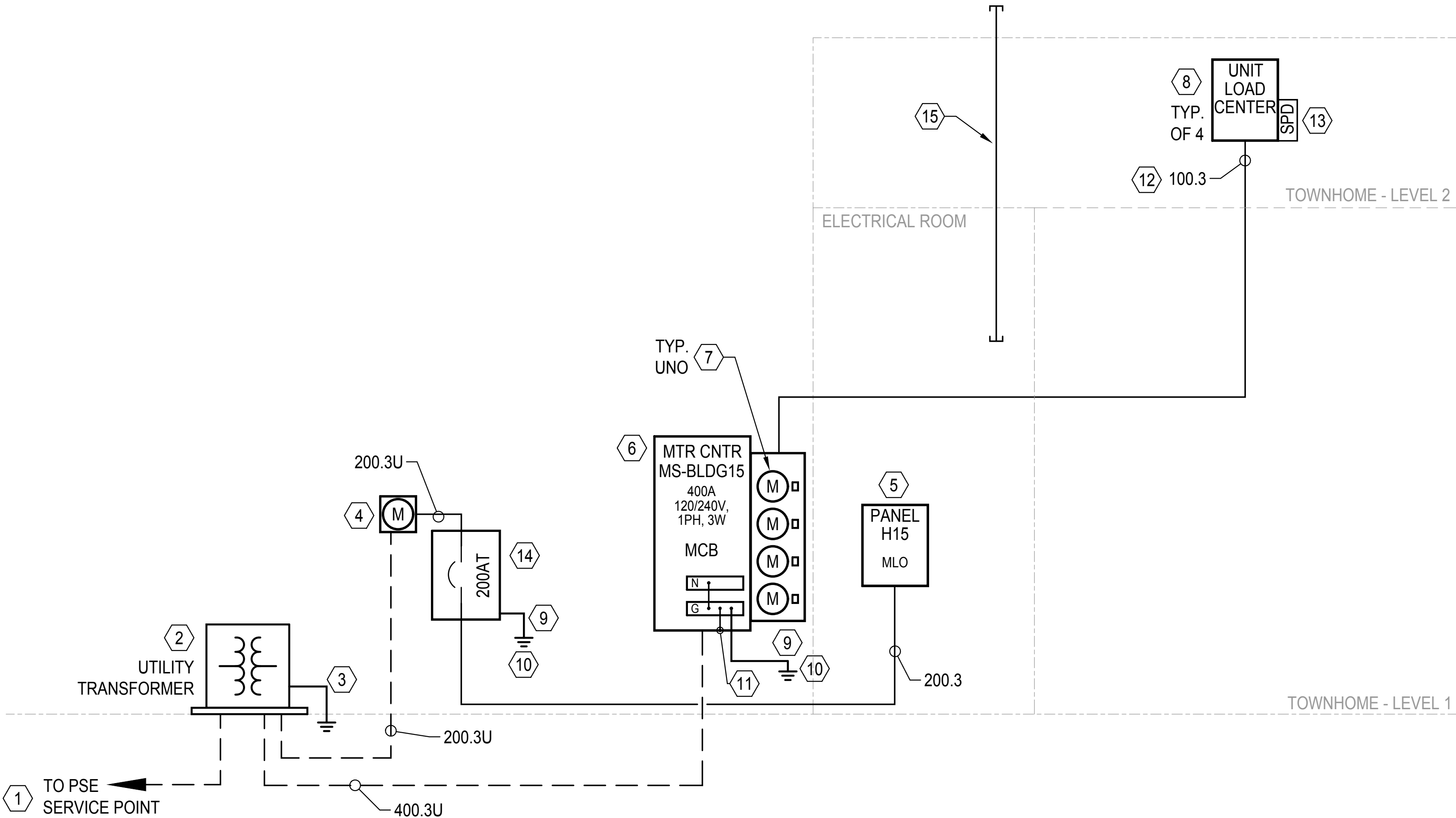
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75 DEGREES C (167 DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60 DEGREES C (140 DEGREES F).

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 UND.



## SINGLE LINE DIAGRAM

SCALE:NTS

## LOAD CALCULATIONS - BLDG 15

UNIT TYPE: TOWNHOUSE UNIT		AREA (SF): 1,211		4/6/2023	
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]:					
TOILET EXHAUST FAN		1	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]					
		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	= 8.80 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					4/6/2023									
DEMAND LOAD (kVA):					57.61 =>					240.0 AMPS AT 240 V 1 PH									
					CLOTHES DRYERS					COOKING APPLIANCES									
					1.5< X < 3.5kW					3.5kW < X < 8.75kW					8.75kW < X < 12kW				
UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (kVA)	APPLIANCES LOAD (kVA)	MOTOR LOAD (kVA)	SPACE HEATING/ AC LOAD (kVA)	QTY	LOAD (kVA)	QTY	LOAD (kVA)	QTY	LOAD (kVA)	QTY	LOAD (kVA)						
TOWNHOUSE UNIT	4	32.53	13.60	0.44	24.22	4	22.00	0	0.00	0	0.00	4	35.20						
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

4/6/2023

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

240.0 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 RISC): 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

112.4556 AMPS @ 120/240V, 1-PHASE

PROVIDE 200A HOUSE SERVICE

TOTAL BUILDING SERVICE: 98.12 kVA

272.36 AMPS @ 120/240V, 1-PHASE



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



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

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.  
Kirkland, WA 98034

BUILDING 15  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE

SINGLE LINE DIAGRAM AND LOAD CALCS

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

E15-003



FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT #SETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE 1 NEUTRAL (N) (QTY) SIZE	GROUND (1 PER SET UNO)	
500.3U	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1	#20
500.3	(2) 4-INCH	AL	(3) 500 KCMIL	NOTE #1	#10
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#10	#10
500.3	(2) 4-INCH	AL	(3) 350 KCMIL	NOTE #1	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#10	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	NOTE #1	#10
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	NOTE #1	#10
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1	#10
350.4	(1) 4-INCH	AL	(3) 200 KCMIL / (1) 200 KCMIL N	#1	#10
350.3	(1) 4-INCH	AL	(3) 200 KCMIL	#1	#10
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2	#10
300.3	(1) 3-INCH	AL	(3) 500 KCMIL	#2	#10
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2	#10
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2	#10
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2	#10
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2	#10
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4	NOTE #1
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	NOTE #1	#4
200.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4	#4
175.4	(1) 3-INCH	AL	(3) #4/0 / (1) #4/0 N	#4	#4
175.3	(1) 3-INCH	AL	(3) #4/0	#4	#4
150.4	(1) 2-INCH	AL	(3) #3/0 / (1) #3/0 N	#4	#4
150.3	(1) 2-INCH	AL	(3) #3/0	#4	#4
125.4	(1) 2-INCH	AL	(3) #2/0 / (1) #2/0 N	#4	#4
125.3	(1) 2-INCH	AL	(3) #2/0	#4	#4
100.4	(1) 2-INCH	AL	(3) #1/0 / (1) #1/0 N	#5	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5	#5
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5	#5
90.3	(1) 1.5-INCH	CU	(3) #2	#5	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5	#5
80.3	(1) 1.5-INCH	CU	(3) #3	#5	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5	#5
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N	#10	#10
60.3	(1) 1-INCH	CU	(3) #4	#10	#10
60.2N	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10	#10
60.2	(1) 1-INCH	CU	(2) #4	#10	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10	#10
50.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10	#10
50.3	(1) 1-INCH	CU	(3) #5	#10	#10
50.2N	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10	#10
50.2	(1) 1-INCH	CU	(2) #5	#10	#10
50.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	#10	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10	#10
40.3	(1) 1-INCH	CU	(3) #5	#10	#10
40.2N	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10	#10
40.2	(1) 1-INCH	CU	(2) #5	#10	#10
40.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	#10	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10	#10
30.3	(1) 1-INCH	CU	(3) #10	#10	#10
30.2N	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10	#10
30.2	(1) 1-INCH	CU	(2) #10	#10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12	#12
20.3	(1) 1-INCH	CU	(3) #12	#12	#12
20.2N	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12	#12
20.2	(1) 1-INCH	CU	(2) #12	#12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12	#12

- GENERAL SCHEDULE NOTES:**
- A. AL= ALUMINUM (STABLOY 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	565	865	1370	
	4	0.48	250	420	645	1025	
	6	0.72	165	275	430	685	
	8	0.96	125	210	330	515	
	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	
208V / 1-PHASE	30	3.60		55	85	135	
	2	0.42	880	1465	2250	3650	
	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	
208V / 3-PHASE	30	6.24		95	150	235	
	35	7.28			125	200	
	40	8.32			110	175	
	45	9.36				155	
	50	10.40				140	
	2	0.72	1000	1695	2600	4120	
	4	1.44	500	845	1300	2080	
	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	250	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:**
- 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			VOLTAGE			FED FROM			LOCATION: ELECTRICAL ROOM		
AC, SEE SINGLE LINE DIAGRAM			120 / 240 V			1-PHASE, 3-WIRE			SURFACE MOUNTED		
SER. RATING: 200 AMPS			SER. RATING: 200 AMPS			M.C.B. RATING: 100, 200 AMPS					
CKT #	DESCRIPTION	TYPE	CONV. LOAD	CB	CB	CB	CB	CB	CONV. LOAD	CB	CKT #
1	170-ELECT. MCH. CLOSERS		1	1	1	1	1	1	1	1	1
1	170-ELECT. MCH. CLOSERS		1	1	1	1	1	1	1	1	1
2	2-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
3	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
4	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
5	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
6	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
7	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
8	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
9	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
10	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
11	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
12	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
13	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
14	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
15	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
16	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
17	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
18	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
19	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
20	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
21	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
22	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
23	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
24	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
25	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
26	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
27	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
28	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
29	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
30	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
31	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
32	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
33	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
34	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
35	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
36	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
37	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
38	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
39	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
40	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE
41	170-ELECT. HEATER, FRS SPRINKLER	C	150	20	1	B	20	1	1	0.05	SPARE



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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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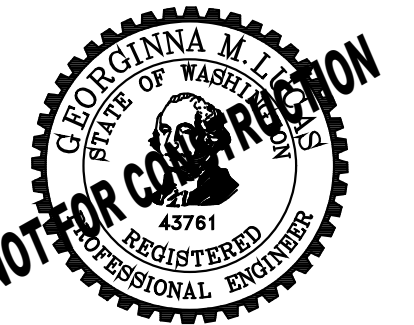


New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 15  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

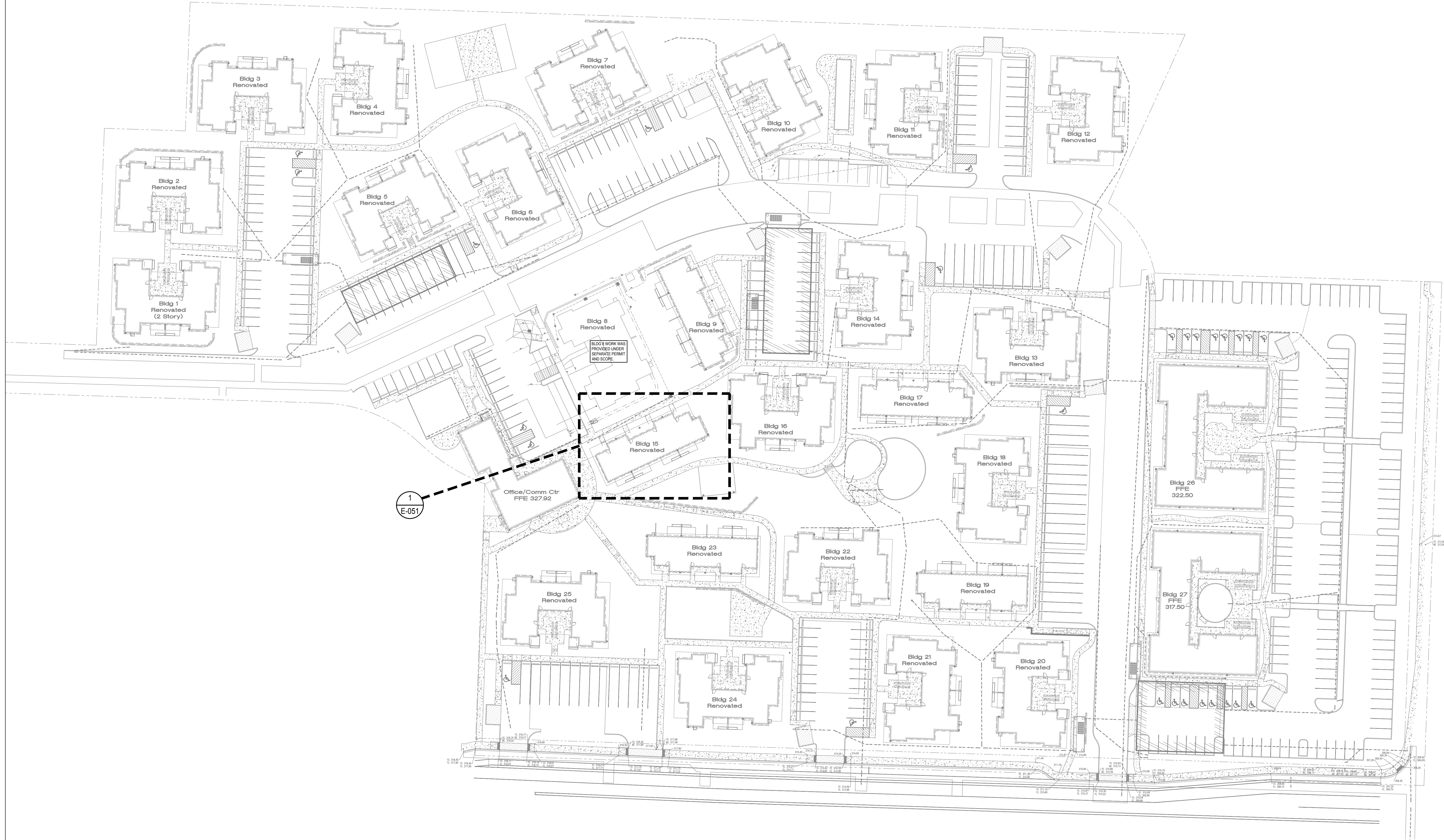
TITLE  
  
LUMINAIRE  
SCHEDULE

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

E15-005



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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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New Kirkland Heights LLLP  
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General Partner  
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Kirkland, WA 98034.  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 15  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

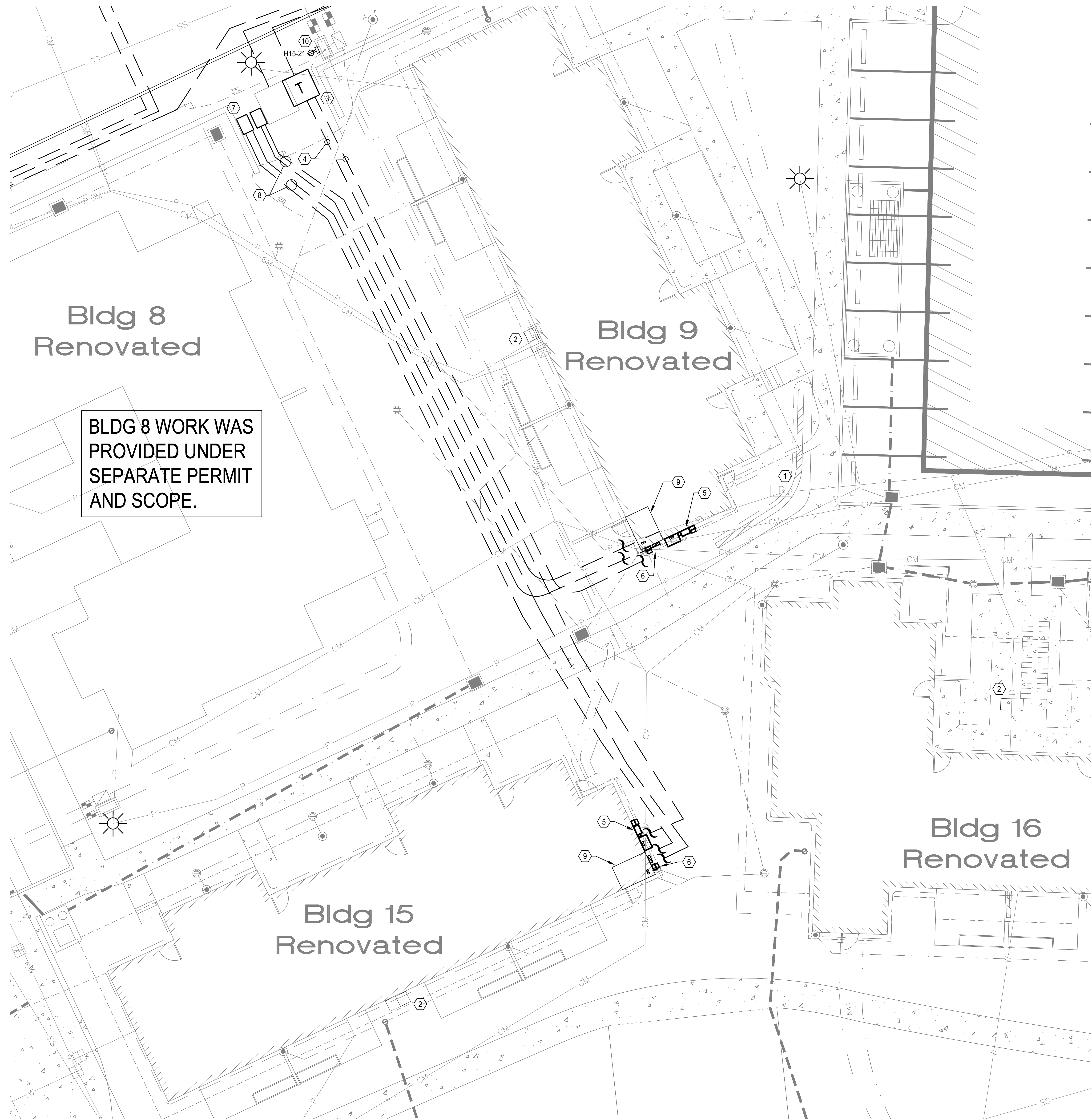
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TITLE  
OVERALL  
PROJECT SITE  
PLAN

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

E15-050





BLDG 8 WORK WAS PROVIDED UNDER SEPARATE PERMIT AND SCOPE.

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

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 15**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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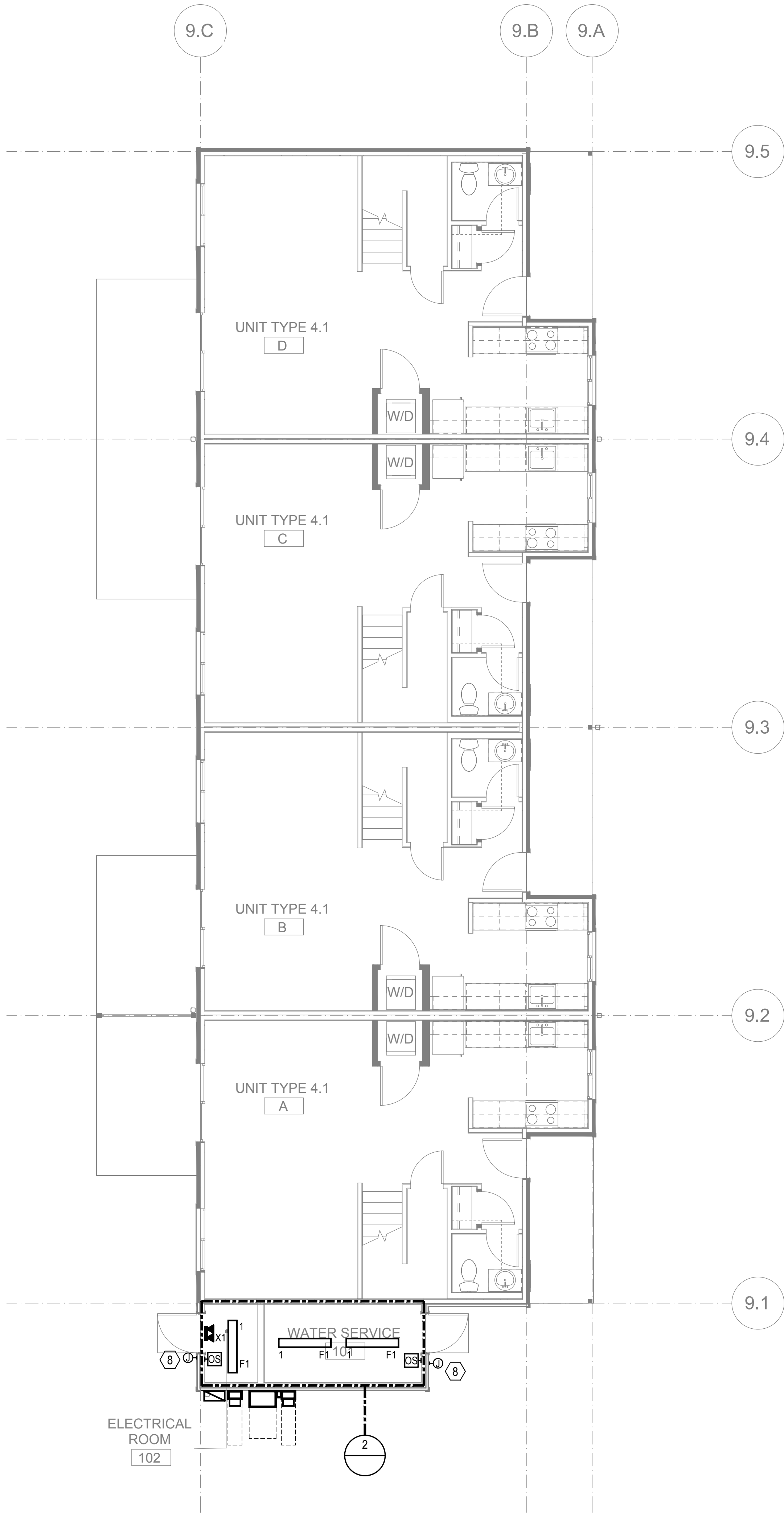
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**ELECTRICAL  
SITE PLAN -  
BUILDING 15**

PERMIT #  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

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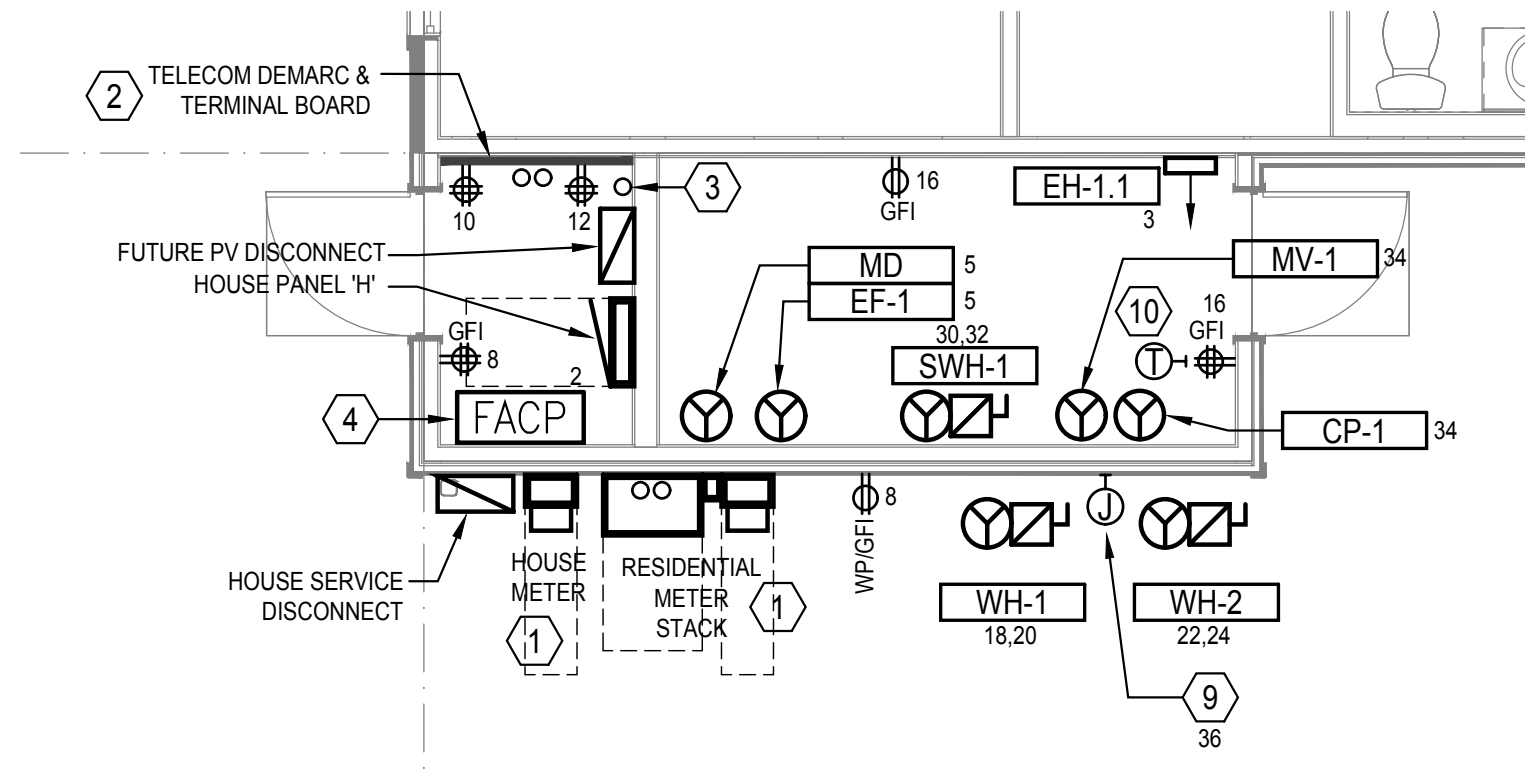
POWER AND LIGHTING PLAN - BUILDING 15 - LEVEL 1  
SCALE: 3/16"=1'-0"

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.

- GENERAL NOTES:
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):
- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
  - 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.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - NOT USED.
  - NOT USED.
  - NOT USED.
  - 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.
  - 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.
  - 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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New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 15  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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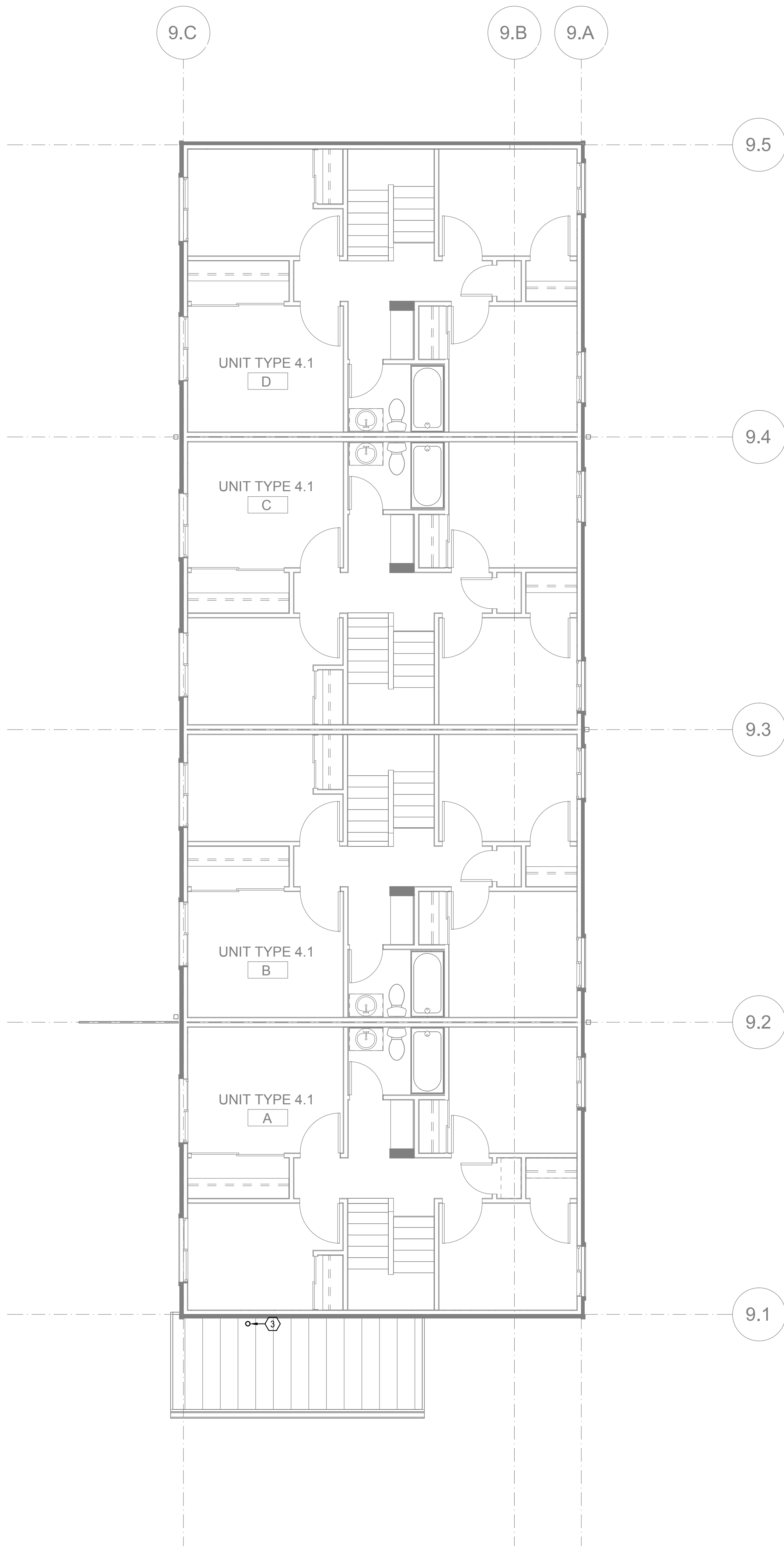
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POWER AND  
LIGHTING  
PLAN -  
BUILDING 15 -  
LEVEL 1

PERMIT #  
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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.

GENERAL NOTES:

- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):

- NOT USED.
- NOT USED.
- 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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General Partner  
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Kirkland, WA 98034.  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 15  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

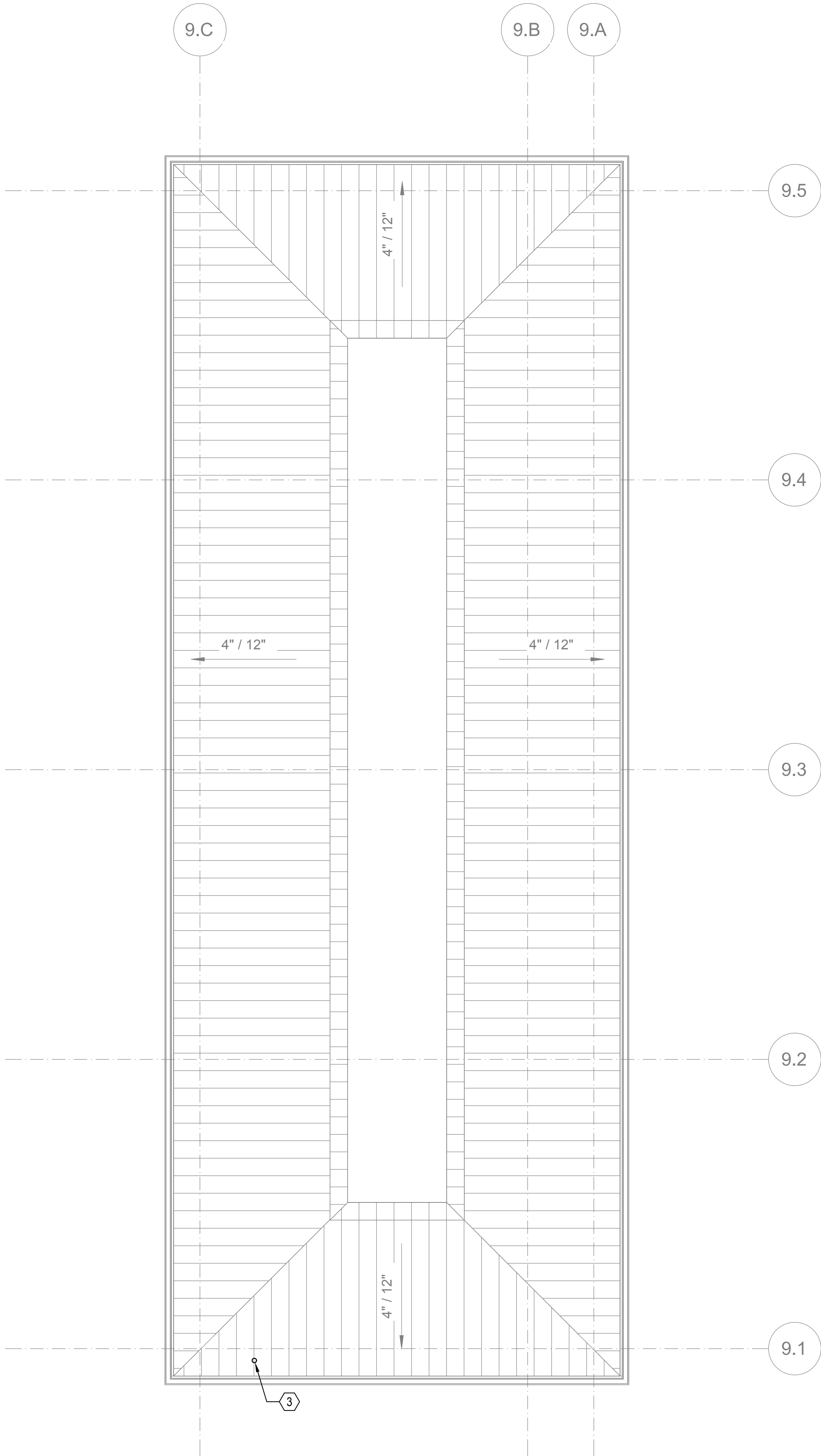
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TITLE  
POWER AND  
LIGHTING  
PLAN -  
BUILDING 15 -  
LEVEL 2

PERMIT #  
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SHEET NO.:

E15-102





**POWER PLAN - BUILDING 15 - 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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**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 15**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

DPD STAMP

TITLE  
**POWER PLAN -  
BUILDING 15 -  
ROOF**

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

**E15-103**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WETS) 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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
80.3	(1) 1.5-INCH	CU	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#1/0
60.3	(1) 1.5-INCH	CU	(3) #4	#1/0
60.2N	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#1/0
60.2	(1) 1.5-INCH	CU	(2) #4	#1/0
60.1	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#1/0
50.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#1/0
50.3	(1) 1.5-INCH	CU	(3) #5	#1/0
50.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#1/0
50.2	(1) 1.5-INCH	CU	(2) #5	#1/0
50.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#1/0
40.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#1/0
40.3	(1) 1.5-INCH	CU	(3) #5	#1/0
40.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#1/0
40.2	(1) 1.5-INCH	CU	(2) #5	#1/0
40.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#1/0
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#1/0
30.3	(1) 1.5-INCH	CU	(3) #10	#1/0
30.2N	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#1/0
30.2	(1) 1.5-INCH	CU	(2) #10	#1/0
30.1	(1) 1.5-INCH	CU	(1) #10 / (1) #10 N	#1/0
20.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#1/2
20.3	(1) 1.5-INCH	CU	(3) #12	#1/2
20.2N	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#1/2
20.2	(1) 1.5-INCH	CU	(2) #12	#1/2
20.1	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#1/2

GENERAL SCHEDULE NOTES:

4/6/2023

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

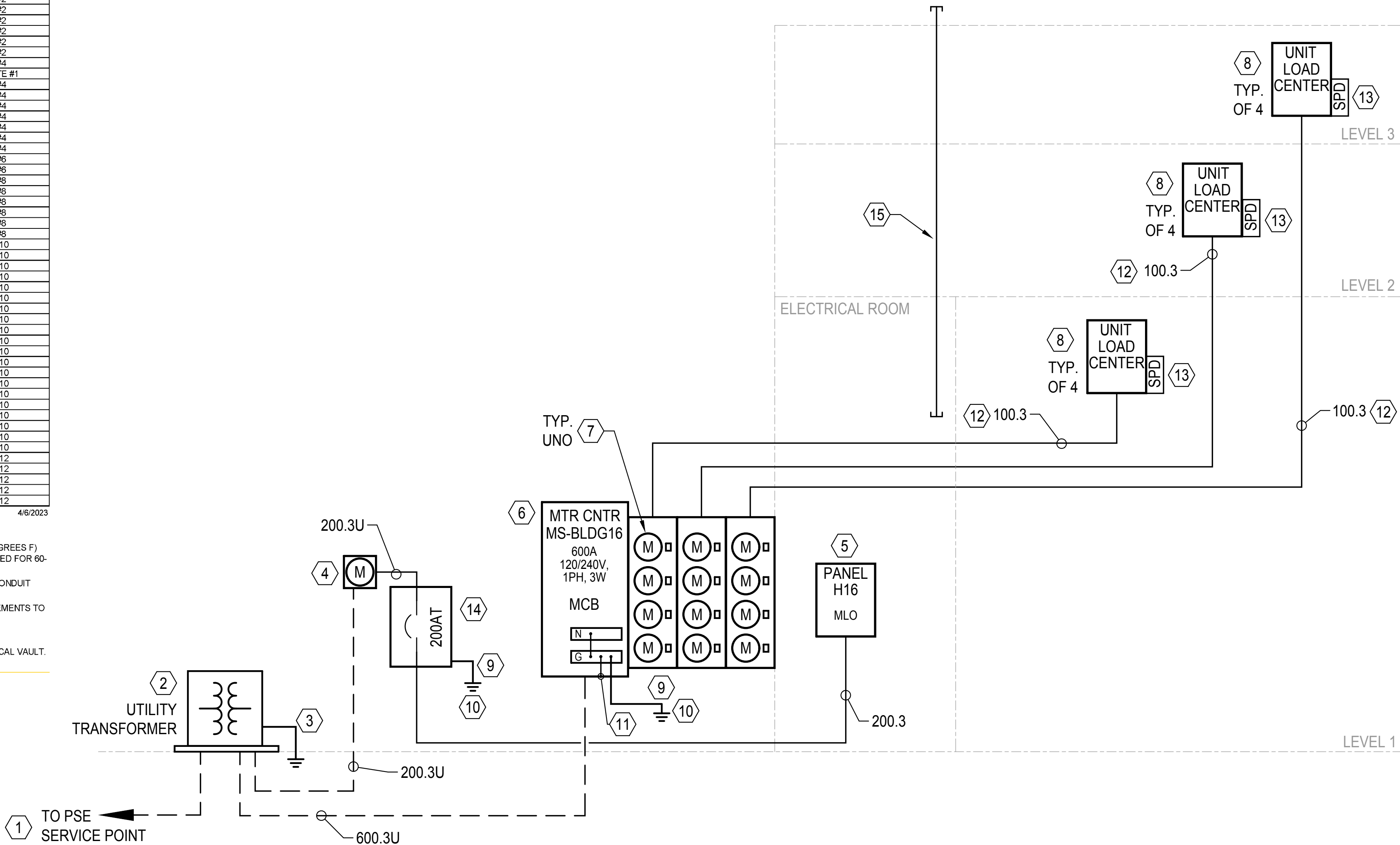
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75 DEGREES C (167 DEGREES F) AS PER NEC 110.14C(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60 DEGREES C (140 DEGREES F).

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.



## SINGLE LINE DIAGRAM

SCALE: NTS

## LOAD CALCULATIONS - BLDG 16

UNIT TYPE: 2BR - 2.1		AREA (SF): 782	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	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			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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): 908	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	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			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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			4/6/2023				
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				COOKING APPLIANCES						
							QTY	LOAD (KVA)		1.5< X < 3.5KW	QTY	LOAD (KVA)	3.5KW < X < 8.75KW	8.75KW < X < 12KW	QTY	LOAD (KVA)	
2BR - 2.1		6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	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	0	0.00	6	52.80	
0									0	0.00	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	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)		4/6/2023
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
270.14 AMPS @ 120/240V, 1-PHASE		
WITH 25% SPARE CAPACITY		
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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New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133rd St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.  
Kirkland, WA 98034

## BUILDING 16

BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

## SINGLE LINE DIAGRAM AND LOAD CALCS

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

# E16-003



FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT #(SETS) SIZE	AL OR CU	CONDUCTORS PER SET		GROUND (1 PER SET UNO)
			PHASE / NEUTRAL (N) (QTY) SIZE	NOTE #1	
500.3U	(2) 4-INCH	AL	(3) 500 KCMIL	#10	#10
500.3	(2) 4-INCH	AL	(3) 500 KCMIL	#10	#10
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#10	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#10	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#10	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#10	#10
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	#10	#10
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#10	#10
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#10	#10
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#10	#10
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	#2	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#4	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	#4	#4
175.4	(1) 3-INCH	AL	(3) 250 KCMIL	#4	#4
175.3	(1) 3-INCH	AL	(3) 250 KCMIL	#4	#4
150.4	(1) 2-INCH	AL	(3) #30 / (1) #30 N	#4	#4
150.3	(1) 2-INCH	AL	(3) #30	#4	#4
125.4	(1) 2-INCH	AL	(3) #20 / (1) #20 N	#4	#4
125.3	(1) 2-INCH	AL	(3) #20	#4	#4
100.4	(1) 2-INCH	AL	(3) #10 / (1) #10 N	#5	#5
100.3	(1) 2-INCH	AL	(3) #10	#5	#5
90.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#5	#5
90.3	(1) 1.5-INCH	CU	(3) #12	#5	#5
80.4	(1) 1.5-INCH	CU	(3) #8 / (1) #8 N	#5	#5
80.3	(1) 1.5-INCH	CU	(3) #8	#5	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5	#5
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N	#10	#10
60.3	(1) 1-INCH	CU	(3) #4	#10	#10
60.2U	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10	#10
60.2	(1) 1-INCH	CU	(2) #4	#10	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10	#10
50.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10	#10
50.3	(1) 1-INCH	CU	(3) #6	#10	#10
50.2U	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10	#10
50.2	(1) 1-INCH	CU	(2) #6	#10	#10
50.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10	#10
40.4	(1) 1-INCH	CU	(3) #6 / (1) #6 N	#10	#10
40.3	(1) 1-INCH	CU	(3) #6	#10	#10
40.2U	(1) 1-INCH	CU	(2) #6 / (1) #6 N	#10	#10
40.2	(1) 1-INCH	CU	(2) #6	#10	#10
40.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N	#10	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10	#10
30.3	(1) 1-INCH	CU	(3) #10	#10	#10
30.2U	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10	#10
30.2	(1) 1-INCH	CU	(2) #10	#10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12	#12
20.3	(1) 1-INCH	CU	(3) #12	#12	#12
20.2U	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12	#12
20.2	(1) 1-INCH	CU	(2) #12	#12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12	#12

- GENERAL SCHEDULE NOTES:**
- A. AL= ALUMINUM (STABILTY 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	#4 AWG
120V / 1-PHASE	2	0.24	505	845	1295	2055	
	3	0.36	335	565	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	
	4	0.42	380	645	995	1595	
	6	0.63	440	730	1125	1780	
	8	1.25	290	485	750	1185	
208V / 1-PHASE	3	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		80	125	200	
	40	8.32		70	110	175	
	45	9.36				155	
	50	10.40				140	
	2	0.72	1000	1695	2600	4120	
	4	1.44	500	845	1300	2080	
	6	2.16	335	565	865	1370	
208V / 3-PHASE	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	250	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:**
- 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											
NORMAL POWER		VOLTAGE		120 / 240 V		1 PHASE, 3 WIRE		LOCATION		ELECTRICAL ROOM	
AC - SEE SINGLE LINE DIAGRAM		SER. AMP		100 AMP		M.U. OR MCB		M.U. 100 AMP		SURFACE MOUNTED	
CKT #	DESCRIPTION	CKT TAG	CB	AMP/PH	PH	AMP/PH	CKT TAG	CB	AMP/PH	CKT TAG	DESCRIPTION
1	175-BRIDGEWAY	1	20	1	A	20	1	20	1	A	175-BRIDGEWAY
2	SPARE										SPARE
3	RECEPT-LV-1-BRIDGEWAY	3	20	1	A	20	1	20	1	A	RECEPT-LV-1-BRIDGEWAY
4	RECEPT-LV-2-BRIDGEWAY	4	20	1	A	20	1	20	1	A	RECEPT-LV-2-BRIDGEWAY
5	RECEPT-LV-3-BRIDGEWAY	5	20	1	A	20	1	20	1	A	RECEPT-LV-3-BRIDGEWAY
6	RECEPT-LV-4-BRIDGEWAY	6	20	1	A	20	1	20	1	A	RECEPT-LV-4-BRIDGEWAY
7	RECEPT-LV-5-BRIDGEWAY	7	20	1	A	20	1	20	1	A	RECEPT-LV-5-BRIDGEWAY
8	RECEPT-LV-6-BRIDGEWAY	8	20	1	A	20	1	20	1	A	RECEPT-LV-6-BRIDGEWAY
9	RECEPT-LV-7-BRIDGEWAY	9	20	1	A	20	1	20	1	A	RECEPT-LV-7-BRIDGEWAY
10	RECEPT-LV-8-BRIDGEWAY	10	20	1	A	20	1	20	1	A	RECEPT-LV-8-BRIDGEWAY
11	RECEPT-LV-9-BRIDGEWAY	11	20	1	A	20	1	20	1	A	RECEPT-LV-9-BRIDGEWAY
12	RECEPT-LV-10-BRIDGEWAY	12	20	1	A	20	1	20	1	A	RECEPT-LV-10-BRIDGEWAY
13	RECEPT-LV-11-BRIDGEWAY	13	20	1	A	20	1	20	1	A	RECEPT-LV-11-BRIDGEWAY
14	RECEPT-LV-12-BRIDGEWAY	14	20	1	A	20	1	20	1	A	RECEPT-LV-12-BRIDGEWAY
15	EXHAUST FAN EFF. 1 & MOTOR DAMPER	15	20	1	A	20	1	20	1	A	EXHAUST FAN EFF. 1 & MOTOR DAMPER
16	SPARE										SPARE
17	SPARE										SPARE
18	SPARE										SPARE
19	SPARE										SPARE
20	SPARE										SPARE
21	HEAT TRACE - WATER CONNECTION	21	20	1	A	20	1	20	1	A	HEAT TRACE - WATER CONNECTION
22	SPARE										SPARE
23	SPARE										SPARE
24	SPARE										SPARE
25	SPARE										SPARE
26	SPARE										SPARE
27	SPARE										SPARE
28	SPARE										SPARE
29	SPARE										SPARE
30	SPARE										SPARE
31	SPARE										SPARE
32	SPARE										SPARE
33	SPARE										SPARE
34	SPARE										SPARE
35	SPARE										SPARE
36	SPARE										SPARE
37	SPARE										SPARE
38	SPARE										SPARE
39	SPARE										SPARE
40	SPARE										SPARE
41	SPARE										SPARE

LOAD CENTER - 2 BEDROOM											
NORMAL POWER		VOLTAGE		120 / 240 V		1 PHASE, 3 WIRE		LOCATION		DWELLING UNITS	
AC - SEE SINGLE LINE DIAGRAM (BUS RATING)		SER. AMP		100 AMP		M.U. OR MCB		M.U. 100 AMP		SURFACE MOUNTED	
CKT #	DESCRIPTION	CKT TAG	CB	AMP/PH	PH	AMP/PH	CKT TAG	CB	AMP/PH	CKT TAG	DESCRIPTION
1	BATHROOMS (1)	20	1	A	20	1	20	1	A	20	BATHROOMS (1)
2	RECEPTS (1)	20	1	A	20	1	20	1	A	20	RECEPTS (1)
3	RECEPTS (2)	20	1	A	20	1	20	1	A	20	RECEPTS (2)
4	RECEPTS (3)	20	1	A	20	1	20	1	A	20	RECEPTS (3)
5	RECEPTS (4)	20	1	A	20	1	20	1	A	20	RECEPTS (4)
6	RECEPTS (5)	20	1	A	20	1	20	1	A	20	RECEPTS (5)
7	RECEPTS (6)	20	1	A	20	1	20	1	A	20	RECEPTS (6)
8	RECEPTS (7)	20	1	A	20	1	20	1	A	20	RECEPTS (7)
9	RECEPTS (8)	20	1	A	20	1	20	1	A	20	RECEPTS (8)
10	RECEPTS (9)	20	1	A	20	1	20	1	A	20	RECEPTS (9)
11	RECEPTS (10)	20	1	A	20	1	20	1	A	20	RECEPTS (10)
12	RECEPTS (11)	20	1	A	20	1	20	1	A	20	RECEPTS (11)
13	RECEPTS (12)	20	1	A	20	1	20	1	A	20	RECEPTS (12)
14	RECEPTS (13)	20	1	A	20	1	20	1	A	20	RECEPTS (13)
15	RECEPTS (14)	20	1	A	20	1	20	1	A	20	RECEPTS (14)
16	RECEPTS (15)	20	1	A	20	1	20	1	A	20	RECEPTS (15)
17	RECEPTS (16)	20	1	A	20	1	20	1	A	20	RECEPTS (16)
18	RECEPTS (17)	20	1	A	20	1	20	1	A	20	RECEPTS (17)
19	RECEPTS (18)	20	1	A	20	1	20	1	A	20	RECEPTS (18)
20	RECEPTS (19)	20	1	A	20	1	20	1	A	20	RECEPTS (19)
21	RECEPTS (20)	20	1	A	20	1	20	1	A	20	RECEPTS (20)
22	RECEPTS (21)	20	1	A	20	1	20	1	A	20	RECEPTS (21)
23	RECEPTS (22)	20	1	A	20	1	20	1	A	20	RECEPTS (22)
24	RECEPTS (23)	20	1	A	20	1	20	1	A	20	RECEPTS (23)
25	RECEPTS (24)	20	1	A	20	1	20	1	A	20	RECEPTS (24)
26	RECEPTS (25)	20	1	A	20	1	20	1	A	20	RECEPTS (25)
27	RECEPTS (26)	20	1	A	20	1	20	1	A	20	RECEPTS (26)
28	RECEPTS (27)	20	1	A	20	1	20	1	A	20	RECEPTS (27)
29	RECEPTS (28)	20	1	A	20	1	20	1	A	20	RECEPTS (28)
30	RECEPTS (29)	20	1	A	20	1	20	1	A	20	RECEPTS (29)
31	RECEPTS (30)	20	1	A	20	1	20	1	A	20	RECEPTS (30)
32	RECEPTS (31)	20	1	A	20	1	20	1	A	20	RECEPTS (31)
33	RECEPTS (32)	20	1	A	20	1	20	1	A	20	RECEPTS (32)
34	RECEPTS (33)	20	1	A	20	1	20	1	A	20	RECEPTS (33)
35	RECEPTS (34)	20	1	A	20	1	20	1	A	20	RECEPTS (34)
36	RECEPTS (35)	20	1	A	20	1	20	1	A	20	RECEPTS (35)
37	RECEPTS (36)	20	1	A	20	1	20	1	A	20	RECEPTS (36)
38	RECEPTS (37)	20	1	A	20	1	20	1	A	20	RECEPTS (37)
39	RECEPTS (38)	20	1	A	20	1	20	1	A	20	RECEPTS (38)
40	RECEPTS (39)	20	1	A	20	1	20	1	A	20	RECEPTS (39)
41	RECEPTS (40)	20	1	A	20	1	20	1	A	20	RECEPTS (40)
42	RECEPTS (41)	20	1	A	20	1	20	1	A	20	RECEPTS (41)
43	RECEPTS (42)	20	1	A	20	1	20	1	A	20	RECEPTS (42)
44	RECEPTS (43)	20	1	A	20	1	20	1	A	20	RECEPTS (43)
45	RECEPTS (44)	20	1	A	20	1	20	1	A	20	RECEPTS (44)
46	RECEPTS (45)	20	1	A	20	1	20	1	A	20	RECEPTS (45)
47	RECEPTS (46)	20	1	A	20	1	20	1	A	20	RECEPTS (46)
48	RECEPTS (47)	20	1	A	20	1	20	1	A	20	RECEPTS (47)
49	RECEPTS (48)	20	1	A	20	1	20	1	A	20	RECEPTS (48)
50	RECEPTS (49)	20	1	A	20	1	20	1	A	20	RECEPTS (49)
51	RECEPTS (50)	20	1	A	20	1	20	1	A	20	RECEPTS (50)
52	RECEPTS (51)	20	1	A	20	1	20	1	A	20	RECEPTS (51)
53	RECEPTS (52)	20	1	A	20	1	20	1	A	20	RECEPTS (52)
54	RECEPTS (53)	20	1	A	20	1	20	1	A	20	RECEPTS (53)
55	RECEPTS (54)	20	1	A	20	1	20	1	A	20	RECEPTS (54)
56	RECEPTS (55)	20	1	A	20	1	20	1	A	20	RECEPTS (55)
57	RECEPTS (56)	20	1	A	20	1	20	1	A	20	RECEPTS (56)
58	RECEPTS (57)	20	1	A	20	1	20	1	A	20	RECEPTS (57)
59	RECEPTS (58)	20	1	A	20	1	20	1	A	20	RECEPTS (58)
60	RECEPTS (59)	20	1	A	20	1	20	1	A	20	RECEPTS (59)
61	RECEPTS (60)	20	1	A	20	1	20	1	A	20	RECEPTS (60)
62	RECEPTS (61)	20	1	A	20	1	20	1	A	20	RECEPTS (61)
63	RECEPTS (62)	20	1	A	20	1	20	1	A	20	RECEPTS (62)
64	RECEPTS (63)	20	1	A	20	1	20	1	A	20	RECEPTS (63)
65	RECEPTS (64)	20	1	A	20	1	20	1	A	20	RECEPTS (64)
66	RECEPTS (65)	20	1	A	20	1	20	1	A	20	RECEPTS (65)
67	RECEPTS (66)	20	1	A	20	1	20	1	A	20	RECEPTS (66)
68	RECEPTS (67)	20	1	A	20	1	20	1	A	20	RECEPTS (67)
69	RECEPTS (68)	20	1	A	20	1	20	1	A	20	RECEPTS (68)
70	RECEPTS (69)	20	1	A	20	1	20	1	A	20	RECEPTS (69)
71	RECEPTS (70)	20	1	A	20	1	20	1	A	20	RECEPTS (70)
72	RECEPTS (71)	20	1	A	20	1	20	1	A	20	RECEPTS (71)
73	RECEPTS (72)	20	1	A	20	1	20	1	A	20	RECEPTS (72)
74	RECEPTS (73)	20	1	A	20	1	20	1	A	20	RECEPTS (73)
75	RECEPTS (74)	20	1	A	20	1	20	1	A	20	RECEPTS (74)
76	RECEPTS (75)	20	1	A	20	1	20	1	A	20	RECEPTS (75)
77	RECEPTS (76)	20	1	A	20	1	20	1	A	20	RECEPTS (76)
78	RECEPTS (77)	20	1	A	20	1	20	1	A	20	RECEPTS (77)
79	RECEPTS (78)	20	1	A	20	1	20	1	A	20	RECEPTS (78)
80	RECEPTS (79)	20	1	A	20	1	20	1	A	20	RECEPTS (79)
81	RECEPTS (80)	20	1	A	20	1	20	1	A	20	RECEPTS (80)
82	RECEPTS (81)	20	1	A	20	1	20	1	A	20	RECEPTS (81)
83	RECEPTS (82)	20	1	A	20	1	20	1	A	20	RECEPTS (82)
84	RECEPTS (83)	20	1	A	20	1	20	1	A	20	RECEPTS (83)
85	RECEPTS (84)	20	1	A	20	1	20	1	A	20	RECEPTS (84)
86	RECEPTS (85)	20	1	A	20	1	20	1	A	20	RECEPTS (85)
87	RECEPTS (86)	20	1	A	20	1	20	1	A	20	RECEPTS (86)
88	RECEPTS (87)	20	1	A	20	1	20	1	A	20	RECEPTS (87)
89	RECEPTS (88)	20	1	A	20	1	20	1	A	20	RECEPTS (88)
90	RECEPTS (89)	20	1	A	20	1	20	1	A	20	RECEPTS (89)
91	RECEPTS (90)	20	1	A	20	1	20	1	A	20	RECEPTS (90)
92	RECEPTS (91)	20	1	A	20	1	20	1	A	20	RECEPTS (91)
93	RECEPTS (92)	20	1	A	20	1	20	1	A	20	RECEPTS (92)
94	RECEPTS (93)	20	1	A	20	1	20	1	A	20	RECEPTS (93)
95	RECEPTS (94)	20	1	A	20	1	20	1	A	20	RECEPTS (94)
96	RECEPTS (95)	20	1	A	20	1	20	1	A	20	RECEPTS (95)
97	RECEPTS (96)	20	1	A	20	1	20	1	A	20	RECEPTS (96)
98	RECEPTS (97)	20	1	A	20	1	20	1	A	20	RECEPTS (97)
99	RECEPTS (98)	20	1	A	20	1	20	1	A	20	RECEPTS (98)
100	RECEPTS (99)	20	1	A	20	1	20	1	A	20	RECEPTS (99)
101	RECEPTS (100)	20	1	A	20	1	20	1	A	20	RECEPTS (100)
102	RECEPTS (101)	20	1	A	20	1	20	1	A	20	RECEPTS (101)
103	RECEPTS (102)	20	1	A	20	1	20	1	A	20	RECEPTS (102)
104	RECEPTS (103)	20	1	A	20	1	20	1	A	20	RECEPTS (103)
105	RECEPTS (104)	20	1	A	20	1	20	1	A	20	RECEPTS (104)
106	RECEPTS (105)	20	1	A	20	1	20	1	A	20	RECEPTS (105)
107	RECEPTS (106)	20	1	A	20	1	20	1	A	20	RECEPTS (106)
108	RECEPTS (107)	20	1	A	20	1	20	1	A	20	RECEPTS (107)
109	RECEPTS (108)	20	1	A	20	1	20	1	A	20	RECEPTS (108)
110	RECEPTS (109)	20	1	A	20	1	20	1	A	20	RECEPTS (109)
111	RECEPTS (110)	20	1	A	20	1	20	1	A	20	RECEPTS (110)
112	RECEPTS (111)	20	1	A	20	1	20	1	A	20	RECEPTS (111)
113	RECEPTS (112)	20	1	A	20	1	20	1	A	20	RECEPTS (112)
114	RECEPTS (113)	20	1	A	20	1	20	1	A	20	RECEPTS (113)
115	RECEPTS (114)	20	1	A	20	1	20	1	A	20	RECEPTS (114)
116	RECEPTS (115)	20	1	A	20	1	20	1	A	20	RECEPTS (115)
117	RECEPTS (116)	20	1	A	20	1	20	1	A	20	RECEPTS (116)
118	RECEPTS (117)	20	1	A	20	1	20	1	A	20	RECEPTS (117)
119	RECEPTS (118)	20	1	A	20	1	20	1	A	20	RECEPTS (118)
120	RECEPTS (119)	20	1	A	20	1	20	1	A	20	RECEPTS (119)
121	RECEPTS (120)	20	1	A	20	1	20	1	A	20	RECEPTS (120)
122	RECEPTS (121)	20	1	A	20	1	20	1	A	20	RECEPTS (121)
123	RECEPTS (122)	20	1	A	20	1	20	1	A	20	RECEPTS (122)
124	RECEPTS (123)	20	1	A	20	1	20	1	A	20	RECEPTS (123)
125	RECEPTS (124)	20	1	A	20	1	20	1	A	20	RECEPTS (124)
126	RECEPTS (125)	20	1	A	20	1	20	1	A	20	RECEPTS (125)
127	RECEPTS (126)	20	1	A	20	1	20	1	A	20	RECEPTS (126)
128	RECEPTS (127)	20	1	A	20	1	20	1	A	20	RECEPTS (127)
129	RECEPTS (128)	20	1	A	20	1	20	1	A	20	RECEPTS (128)
130	RECEPTS (129)	20	1	A	20	1	20	1	A	20	RECEPTS (129)
131	RECEPTS (130)	20	1	A	20	1	20	1	A	20	RECEPTS (130)
132	RECEPTS (131)	20	1	A	20	1	20	1	A	20	RECEPTS (131)
133	RECEPTS (132)	20	1	A	20	1	20	1	A	20	RECEPTS (132)
134	RECEPTS (133)	20	1	A	20	1	20	1	A	20	RECEPTS (133)
135	RECEPTS (134)	20	1	A	20	1	20	1	A	20	RECEPTS (134)
136											



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S8707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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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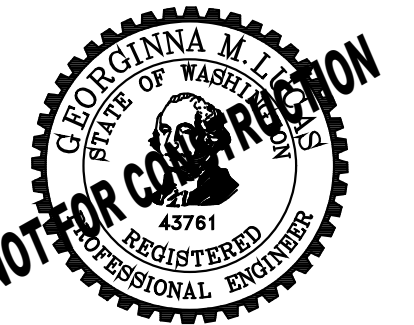


New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 16  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

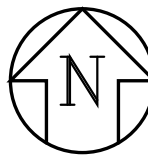
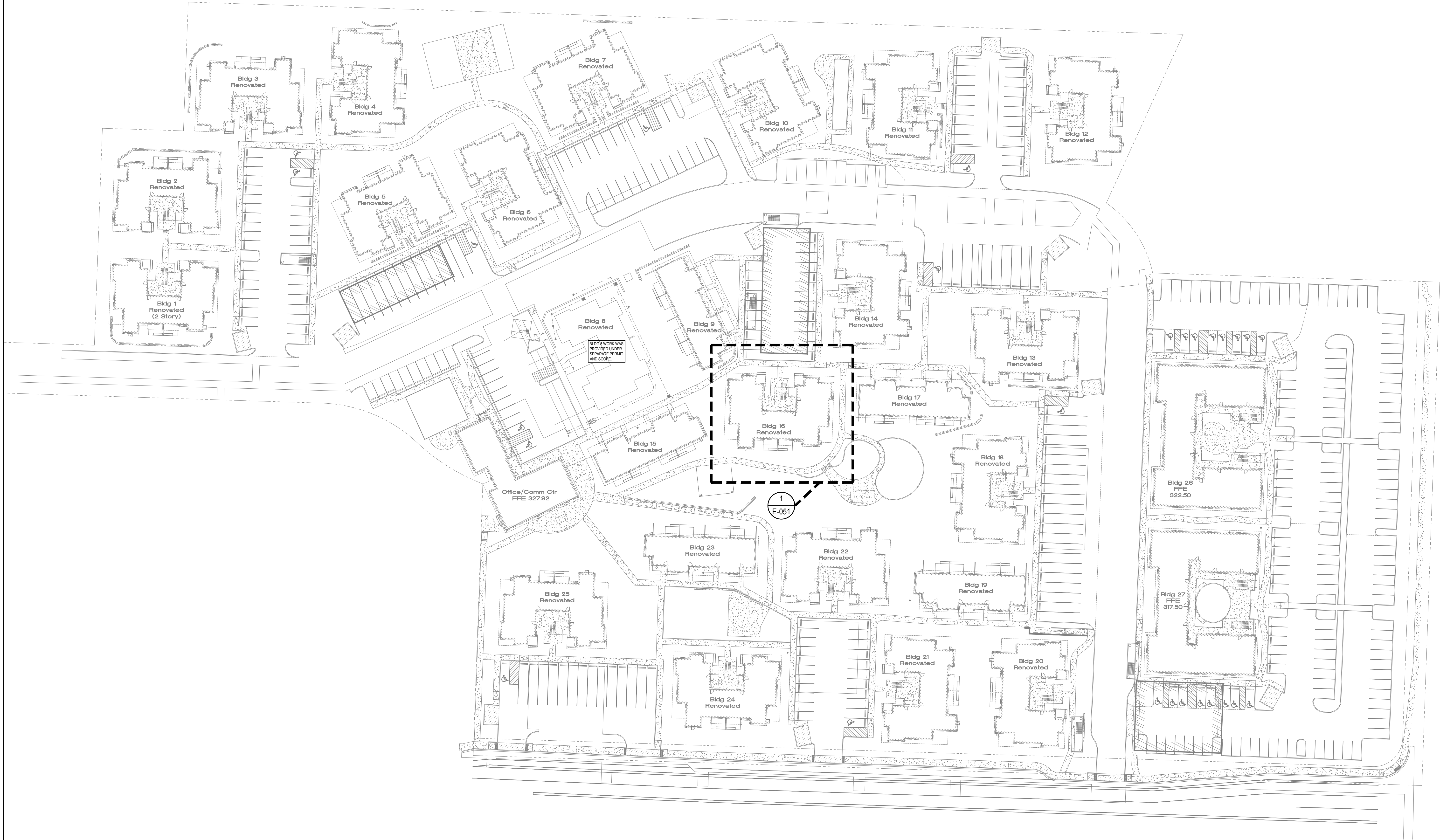
TITLE  
  
LUMINAIRE  
SCHEDULE

PERMIT #  
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CHECKED GL  
ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

E16-005



10/7/2021 1:33:34 AM



**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.



**SIDER+BYERS**  
MECHANICAL • ELECTRICAL ENGINEERS

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General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 16  
BID SET**



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

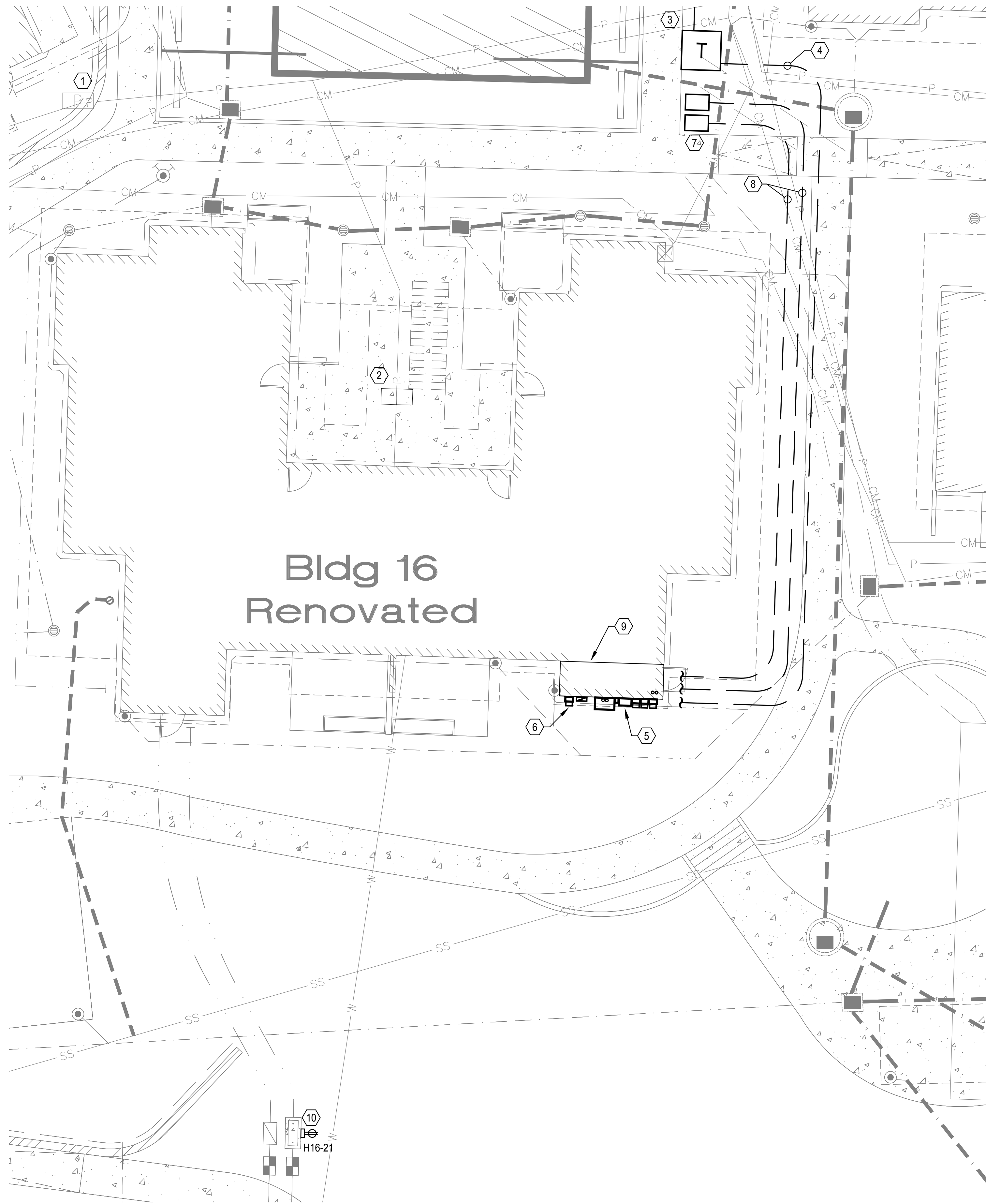
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**OVERALL  
PROJECT SITE  
PLAN**

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

**E16-050**





**ELECTRICAL SITE PLAN - BUILDING 16**  
SCALE: 1/8" = 1'-0"

**FLAG NOTES (X):**

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

**GENERAL NOTES:**

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 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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**KIRKLAND  
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13317 NE 133rd St.,  
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**BUILDING 16**  
BID SET



REVISIONS / NOTES  
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DPD STAMP

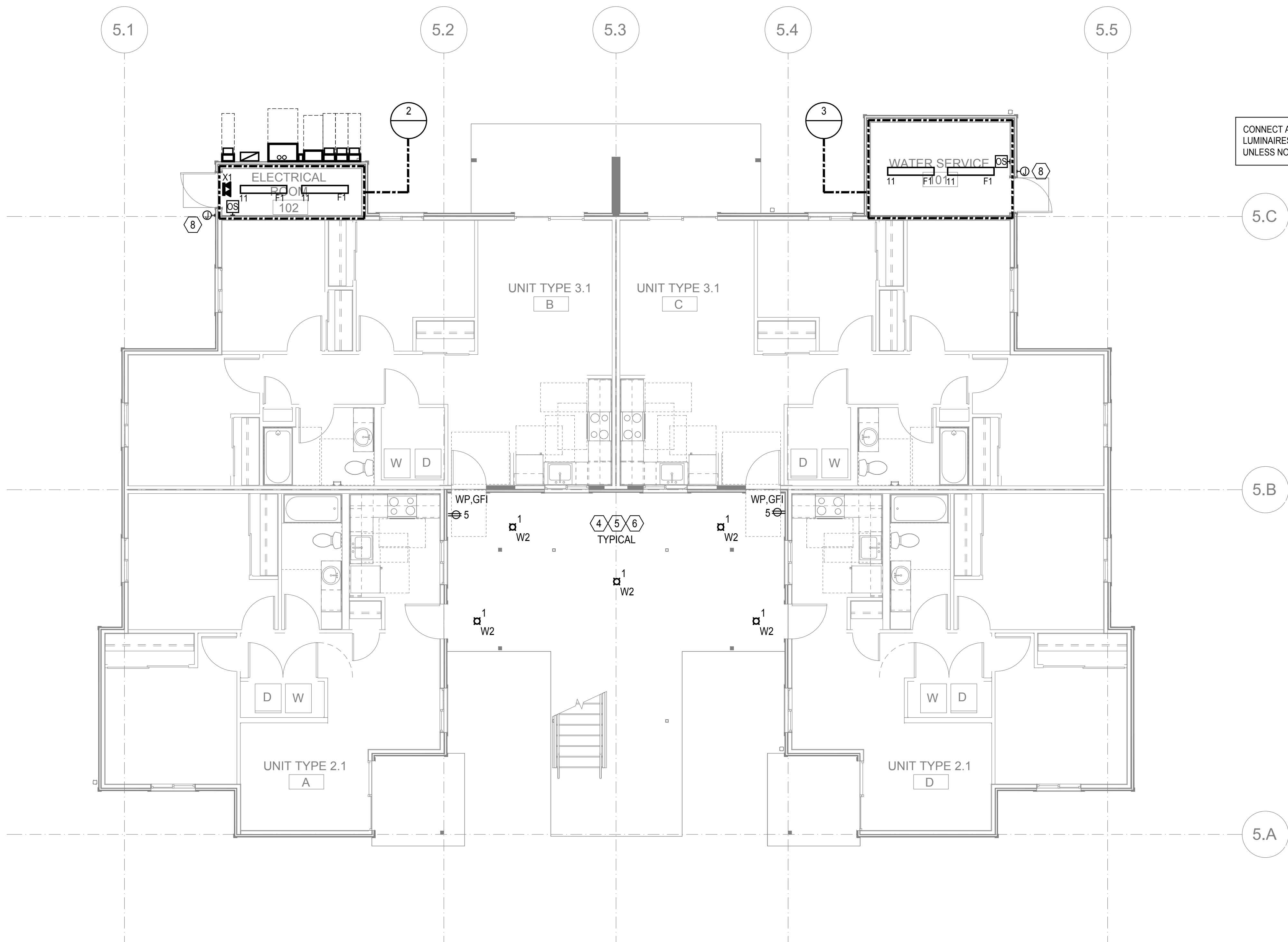
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**ELECTRICAL  
SITE PLAN -  
BUILDING 16**

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JOB NO. 22016  
SHEET NO.:

**E16-051**





**POWER AND LIGHTING PLAN - BUILDING 16 - 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.

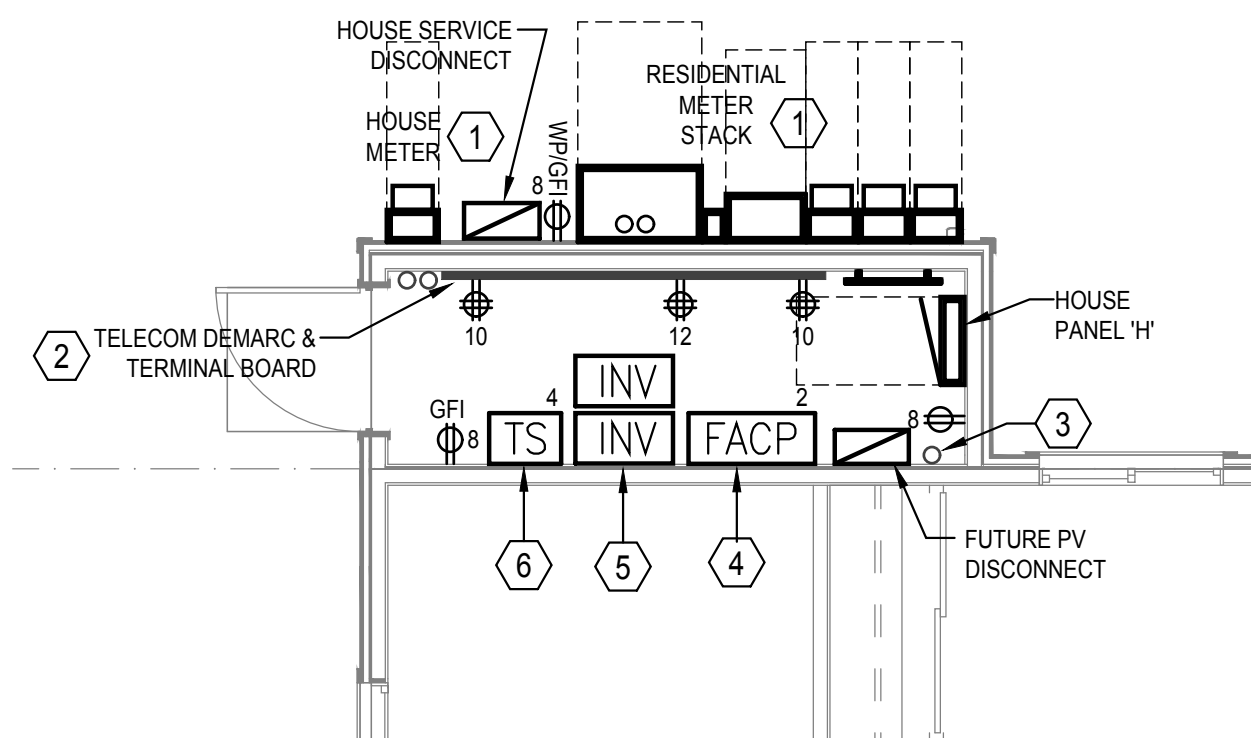
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

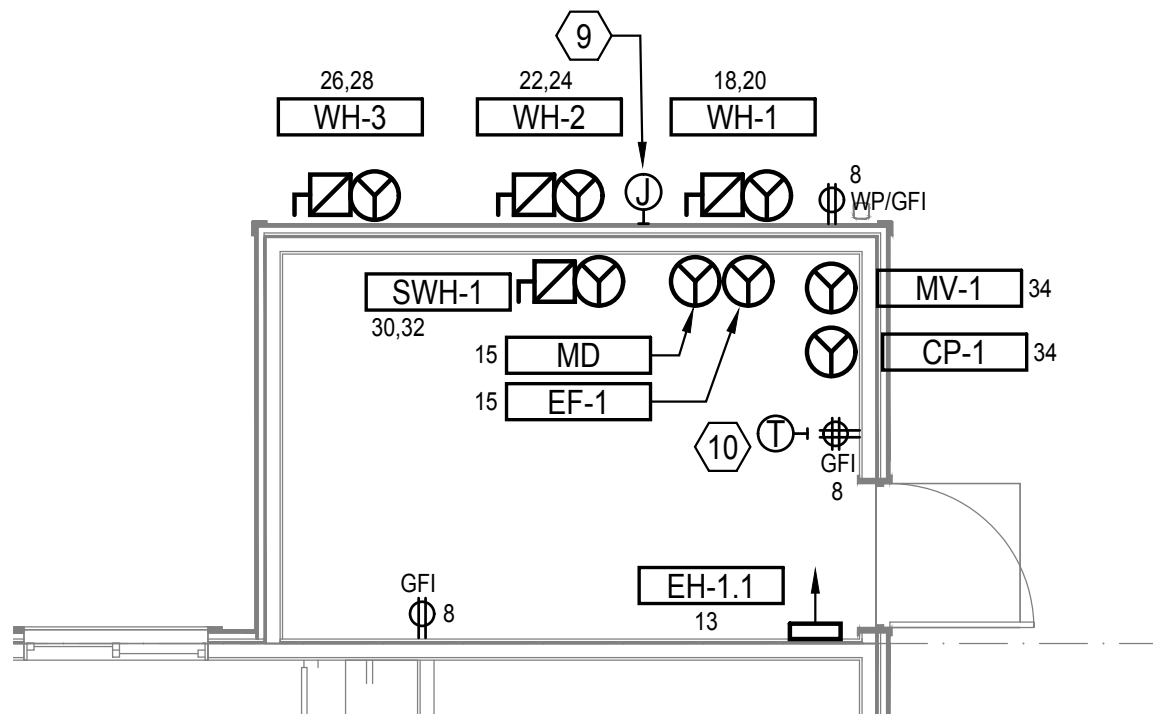
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHA. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- 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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c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 16**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

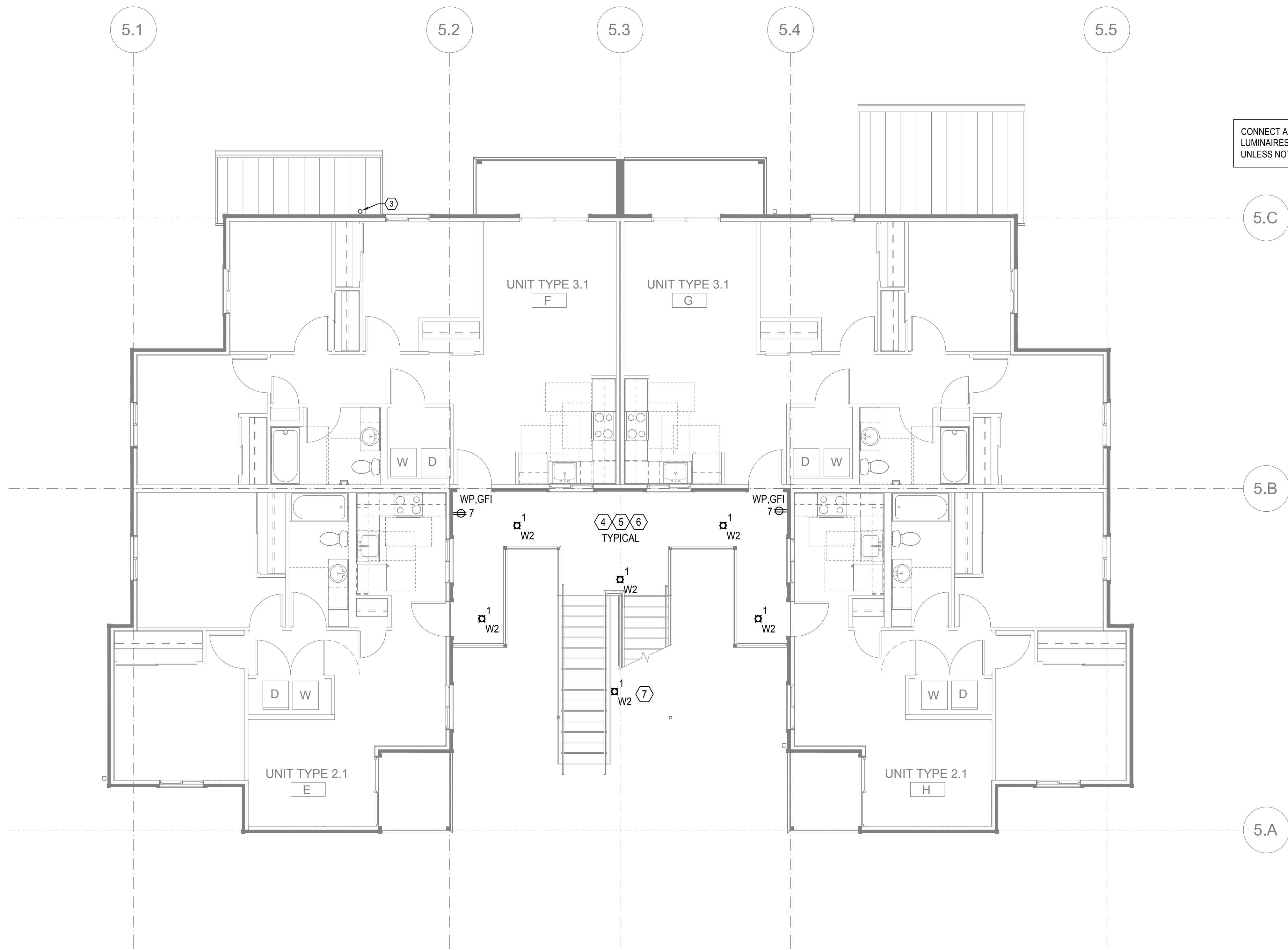
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**POWER AND LIGHTING PLAN - BUILDING 16 - LEVEL 1**

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

**E16-101**



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**POWER AND LIGHTING PLAN - BUILDING 16 - LEVEL 2**  
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 CONTRACTORS 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:**
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):**
- NOT USED.
  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - 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
  - 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.
  - LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.



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**KIRKLAND  
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13317 NE 133rd St.,  
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**BUILDING 16**  
BID SET



REVISIONS / NOTES  
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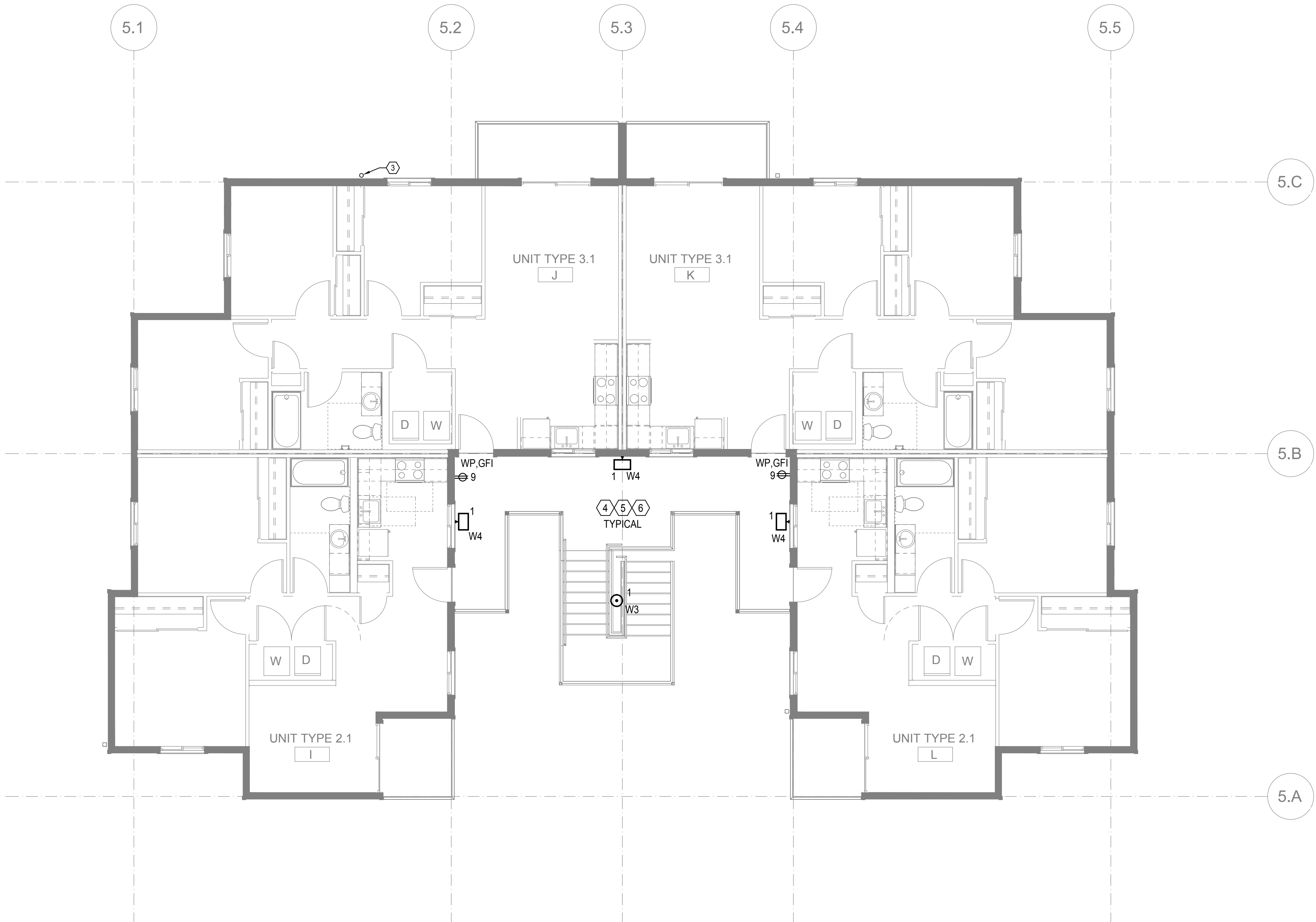
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**POWER AND  
LIGHTING  
PLAN -  
BUILDING 16 -  
LEVEL 2**

PERMIT #  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E16-102**



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**POWER AND LIGHTING PLAN - BUILDING 16 - LEVEL 3**  
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 CONTRACTORS 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:**
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
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- FLAG NOTES (X):**
- NOT USED
  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
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  - 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.



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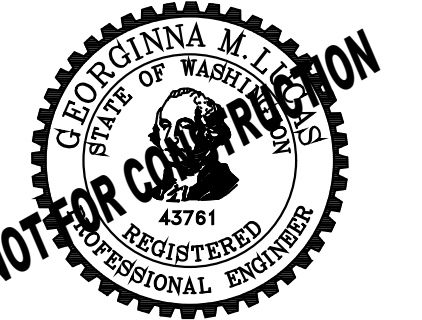


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13310 NE 133<sup>rd</sup> St.  
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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 16**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

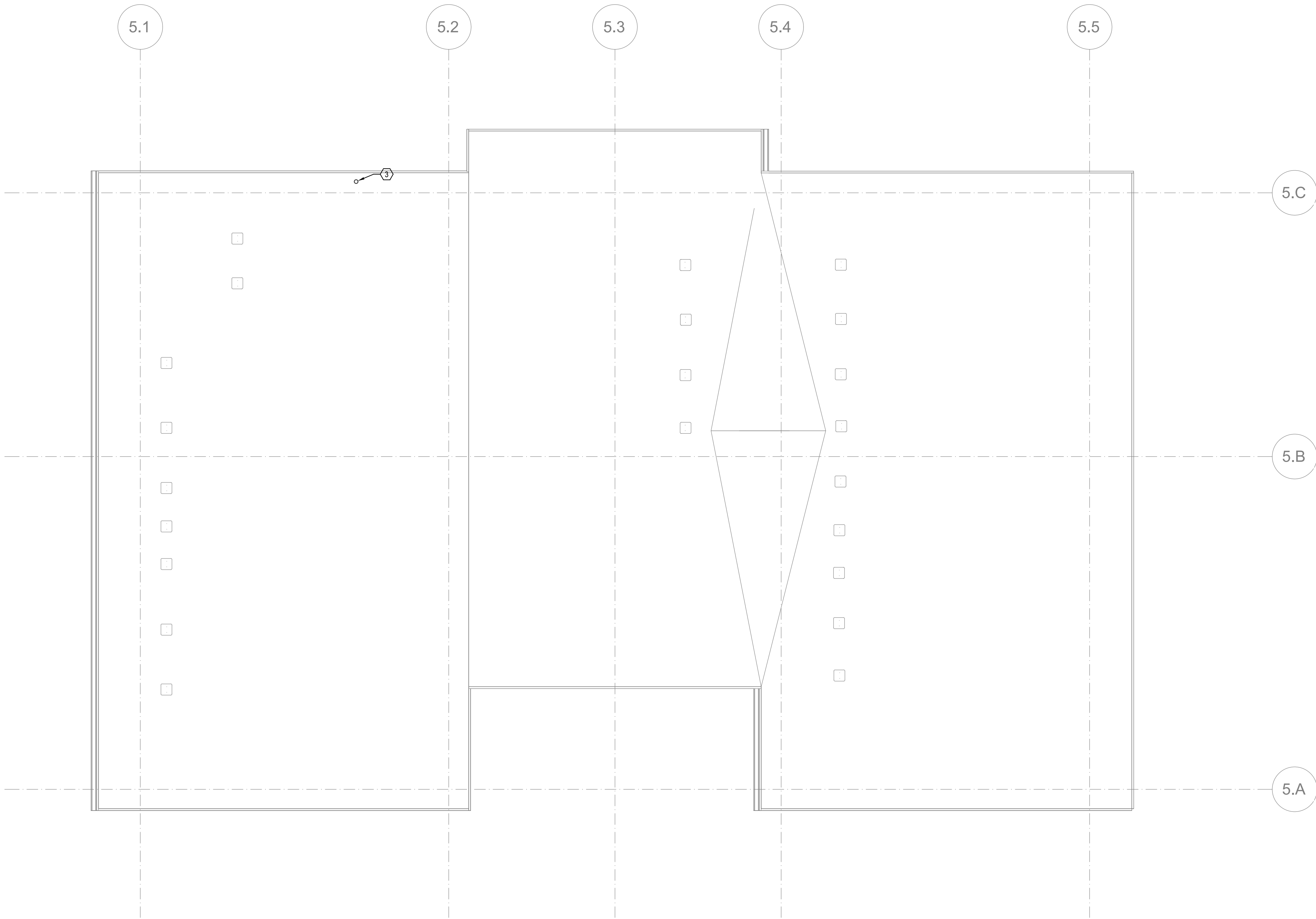
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TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 16 -  
LEVEL 3**

PERMIT #	
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JOB NO.	22016
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**E16-103**





**POWER PLAN - BUILDING 16 - 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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BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

DPD STAMP

TITLE

**POWER PLAN -  
BUILDING 16 -  
ROOF**

PERMIT #	
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SHEET NO.:	

**E16-104**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (FEET) 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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
80.3	(1) 1.5-INCH	CU	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1.5-INCH	CU	(3) #4	#10
60.2N	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1.5-INCH	CU	(2) #4	#10
60.1	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
50.3	(1) 1.5-INCH	CU	(3) #5	#10
50.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
50.2	(1) 1.5-INCH	CU	(2) #5	#10
50.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
40.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
40.3	(1) 1.5-INCH	CU	(3) #5	#10
40.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
40.2	(1) 1.5-INCH	CU	(2) #5	#10
40.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1.5-INCH	CU	(3) #10	#10
30.2N	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1.5-INCH	CU	(2) #10	#10
30.1	(1) 1.5-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1.5-INCH	CU	(3) #12	#12
20.2N	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1.5-INCH	CU	(2) #12	#12
20.1	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES:

4/6/2023

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

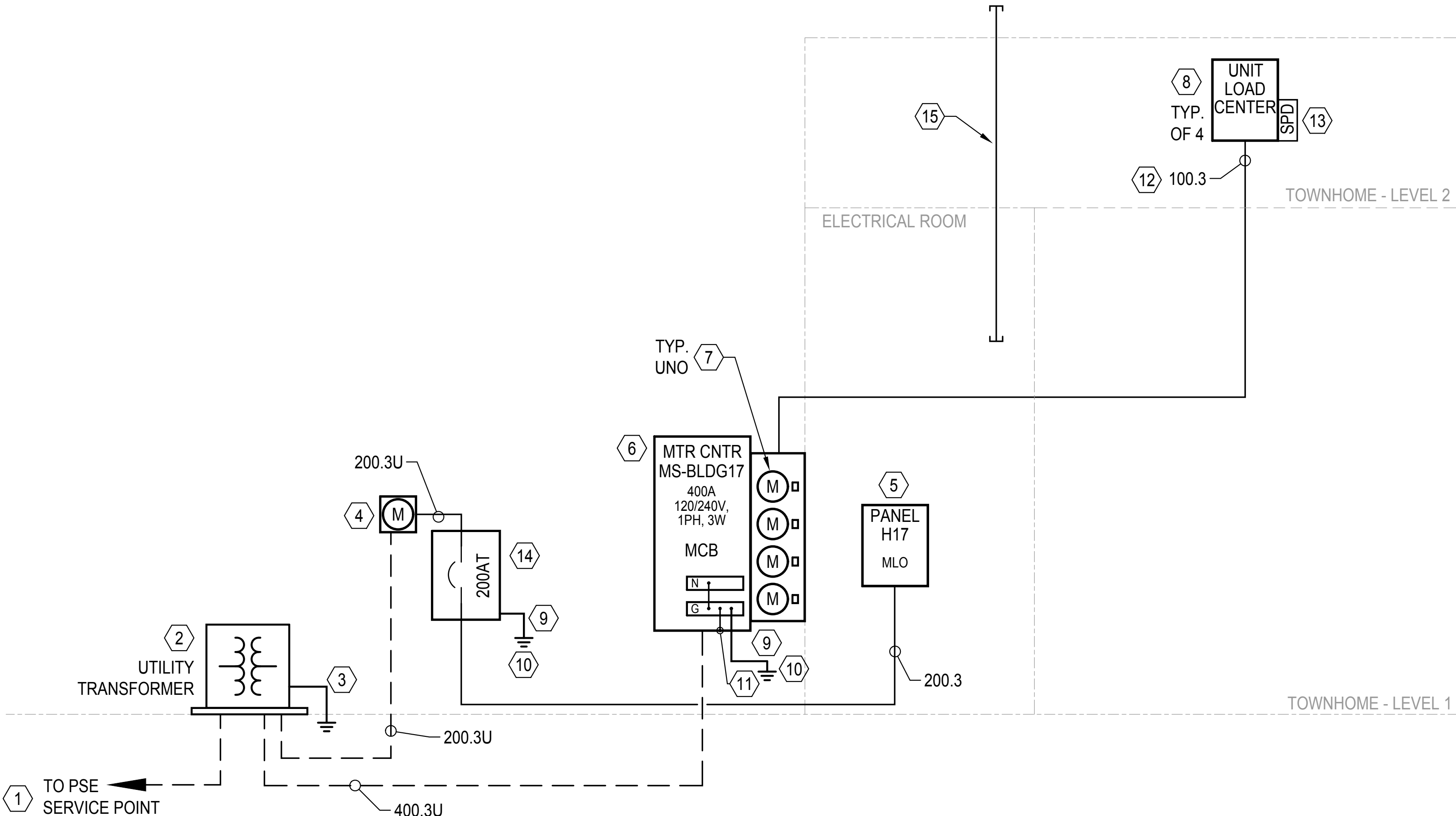
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75 DEGREES C (167 DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60 DEGREES C (140 DEGREES F).

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.



## SINGLE LINE DIAGRAM

SCALE:NTS

## LOAD CALCULATIONS - BLDG 17

UNIT TYPE: TOWNHOUSE UNIT		AREA (SF):	1,211	4/6/2023
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 [220.63]:				
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% = 2.55 kVA				
GENERAL APPLIANCE LOAD - DEMAND = 2.55 kVA				
MOTORS [220.50]:				
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				
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	4/6/2023
DEMAND LOAD (KVA):		57.61 =>	240.0 AMPS AT 240 V 1 PH
UNIT TYPE		QTY ON METER STACK	GEN LTG LOAD (KVA)
TOWNHOUSE UNIT		4	32.53
TOTALS:		4	32.53
APPLIANCES LOAD (KVA)		13.60	0.44
MOTOR LOAD (KVA)		0.44	24.22
SPACE HEATING/ AC LOAD (KVA)		4	22.00
CLOTHES DRYERS		4	22.00
COOKING APPLIANCES		0	0.00
1.6< X < 3.6kW		0	0.00
3.6kW < X < 8.75kW		0	0.00
8.75kW < X < 12kW		4	35.20
TOTALS:		0	0.00
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)		4/6/2023
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
240.0N 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 RISC):		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
112.456 AMPS @ 120/240V, 1-PHASE		
PROVIDE 200A HOUSE SERVICE		
TOTAL BUILDING SERVICE:		98.12 kVA
272.36 AMPS @ 120/240V, 1-PHASE		



192 Nickerson, Suite #300  
Seattle, Washington 98109  
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FX: 206.623.5285



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

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.  
Kirkland, WA 98034

BUILDING 17  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE

## SINGLE LINE DIAGRAM AND LOAD CALCS

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

# E17-003



FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT #(SETS) SIZE	AL OR CU	CONDUCTORS PER SET		GROUND (1 PER SET UNO)
			PHASE / NEUTRAL (N) (QTY) SIZE	NOTE #1	
500.3U	(2) 4-INCH	AL	(3) 500 KCMIL		#20
500.3	(2) 4-INCH	AL	(3) 500 KCMIL		#10
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N		#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL		#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N		#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL		NOTE #1
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL		#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) 3-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		#6
90.3	(1) 1.5-INCH	CU	(3) #2		#6
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N		#6
80.3	(1) 1.5-INCH	CU	(3) #3		#6
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N		#6
70.3	(1) 1.5-INCH	CU	(3) #4		#6
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N		#10
60.3	(1) 1-INCH	CU	(3) #4		#10
60.2U	(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
50.2U	(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) #6		#10
40.2U	(1) 1-INCH	CU	(2) #6 / (1) #6 N		#10
40.2	(1) 1-INCH	CU	(2) #6		#10
40.1	(1) 1-INCH	CU	(1) #6 / (1) #6 N		#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N		#10
30.3	(1) 1-INCH	CU	(3) #10		#10
30.2U	(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
20.2U	(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:**
- A. AL= ALUMINUM (STABILLOY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/TWAN 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	565	865	1370	
	4	0.48	250	420	645	1025	
	6	0.72	165	275	430	685	
	8	0.96	125	210	330	515	
	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	
	4	0.42	580	1465	2250	3650	
	6	0.83	440	730	1125	1780	
208V 1-PHASE	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	
	2	0.72	1000	1695	2600	4120	
208V 3-PHASE	4	1.44	500	845	1300	2080	
	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	250	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:**
- 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			FED FROM			LOCATION			ELECTRICAL ROOM		
AC, SEE SINGLE LINE DIAGRAM			VOLTAGE 120 / 240 V			1-PHASE, 3-WIRE			SURFACE MOUNTED		
AC, SEE SINGLE LINE DIAGRAM			BKR RATING: 200 AMPS			MCCB RATING: MCB 100 AMPS					
CKT #	DESCRIPTION	CONNECTION	TYPE	KVA	TAG	CB	AMPS/PH	PH	AMPS/PH	TAG	CKT #
1	TO ELECT MECH CLOSERS										
2	TO ELECT HEATER, FIRE SPRINKLER										
3	ELECT HEATER, FIRE SPRINKLER										
4	TO ELECT HEATER, FIRE SPRINKLER										
5	TO ELECT HEATER, FIRE SPRINKLER										
6	TO ELECT HEATER, FIRE SPRINKLER										
7	TO ELECT HEATER, FIRE SPRINKLER										
8	TO ELECT HEATER, FIRE SPRINKLER										
9	TO ELECT HEATER, FIRE SPRINKLER										
10	TO ELECT HEATER, FIRE SPRINKLER										
11	TO ELECT HEATER, FIRE SPRINKLER										
12	TO ELECT HEATER, FIRE SPRINKLER										
13	TO ELECT HEATER, FIRE SPRINKLER										
14	TO ELECT HEATER, FIRE SPRINKLER										
15	TO ELECT HEATER, FIRE SPRINKLER										
16	TO ELECT HEATER, FIRE SPRINKLER										
17	TO ELECT HEATER, FIRE SPRINKLER										
18	TO ELECT HEATER, FIRE SPRINKLER										
19	TO ELECT HEATER, FIRE SPRINKLER										
20	TO ELECT HEATER, FIRE SPRINKLER										
21	TO ELECT HEATER, FIRE SPRINKLER										
22	TO ELECT HEATER, FIRE SPRINKLER										
23	TO ELECT HEATER, FIRE SPRINKLER										
24	TO ELECT HEATER, FIRE SPRINKLER										
25	TO ELECT HEATER, FIRE SPRINKLER										
26	TO ELECT HEATER, FIRE SPRINKLER										
27	TO ELECT HEATER, FIRE SPRINKLER										
28	TO ELECT HEATER, FIRE SPRINKLER										
29	TO ELECT HEATER, FIRE SPRINKLER										
30	TO ELECT HEATER, FIRE SPRINKLER										
31	TO ELECT HEATER, FIRE SPRINKLER										
32	TO ELECT HEATER, FIRE SPRINKLER										
33	TO ELECT HEATER, FIRE SPRINKLER										
34	TO ELECT HEATER, FIRE SPRINKLER										
35	TO ELECT HEATER, FIRE SPRINKLER										
36	TO ELECT HEATER, FIRE SPRINKLER										
37	TO ELECT HEATER, FIRE SPRINKLER										
38	TO ELECT HEATER, FIRE SPRINKLER										
39	TO ELECT HEATER, FIRE SPRINKLER										
40	TO ELECT HEATER, FIRE SPRINKLER										
41	TO ELECT HEATER, FIRE SPRINKLER										

LOAD CENTER - 4 BEDROOM											
NORMAL POWER			FED FROM			METER STACS			LOCATION: DWELLING UNITS		
AC, SEE SINGLE LINE DIAGRAM (BUS RATING)			VOLTAGE: 120 / 240 V			1-PHASE, 3-WIRE			FLUSH MOUNTED		
AC, SEE SINGLE LINE DIAGRAM (BUS RATING)			BKR RATING: 100 AMPS			MCCB RATING: MCB 100 AMPS					
CKT #	DESCRIPTION	CONNECTION	TYPE	KVA	TAG	CB	AMPS/PH	PH	AMPS/PH	TAG	CKT #
1	BATHROOMS (1)			20.1	20 / 1	B	40	F	40, 21	RANGE	2
2	GENERAL TO RECEPTS, RFD (1)			20.1	20 / 1	B					3
3	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B	40	F	20, 12, 20	HEAT - BEDROOMS	4
4	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					5
5	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					6
6	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					7
7	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					8
8	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					9
9	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					10
10	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					11
11	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					12
12	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					13
13	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					14
14	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					15
15	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					16
16	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					17
17	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					18
18	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					19
19	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					20
20	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					21
21	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					22
22	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					23
23	RECEPTS, EPV, MEDIA, NITE (1)			20.1	20 / 1	B					24

NOTES:

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

CIRCUIT TAGS:

- PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.
- PROVIDE COMBO 40/100 AMP 1-PHASE 3-WIRE INTERP. INTERRUPTER BREAKER, 100 AMP, 120/240 V, WITH 90% OF S.A.K. VALUE.
- WHENEVER PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.



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 SLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL2103D-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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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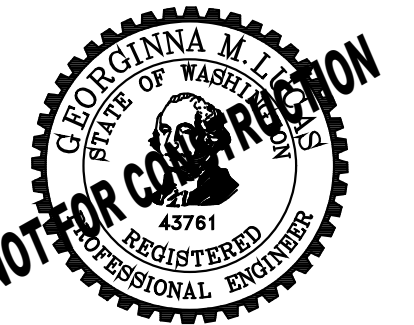


New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 17  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE  
  
LUMINAIRE  
SCHEDULE

PERMIT #  
DRAWN RA, JF  
CHECKED GL  
ISSUE DATE 4/14/2023  
JOB NO. 22016  
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## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 17 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

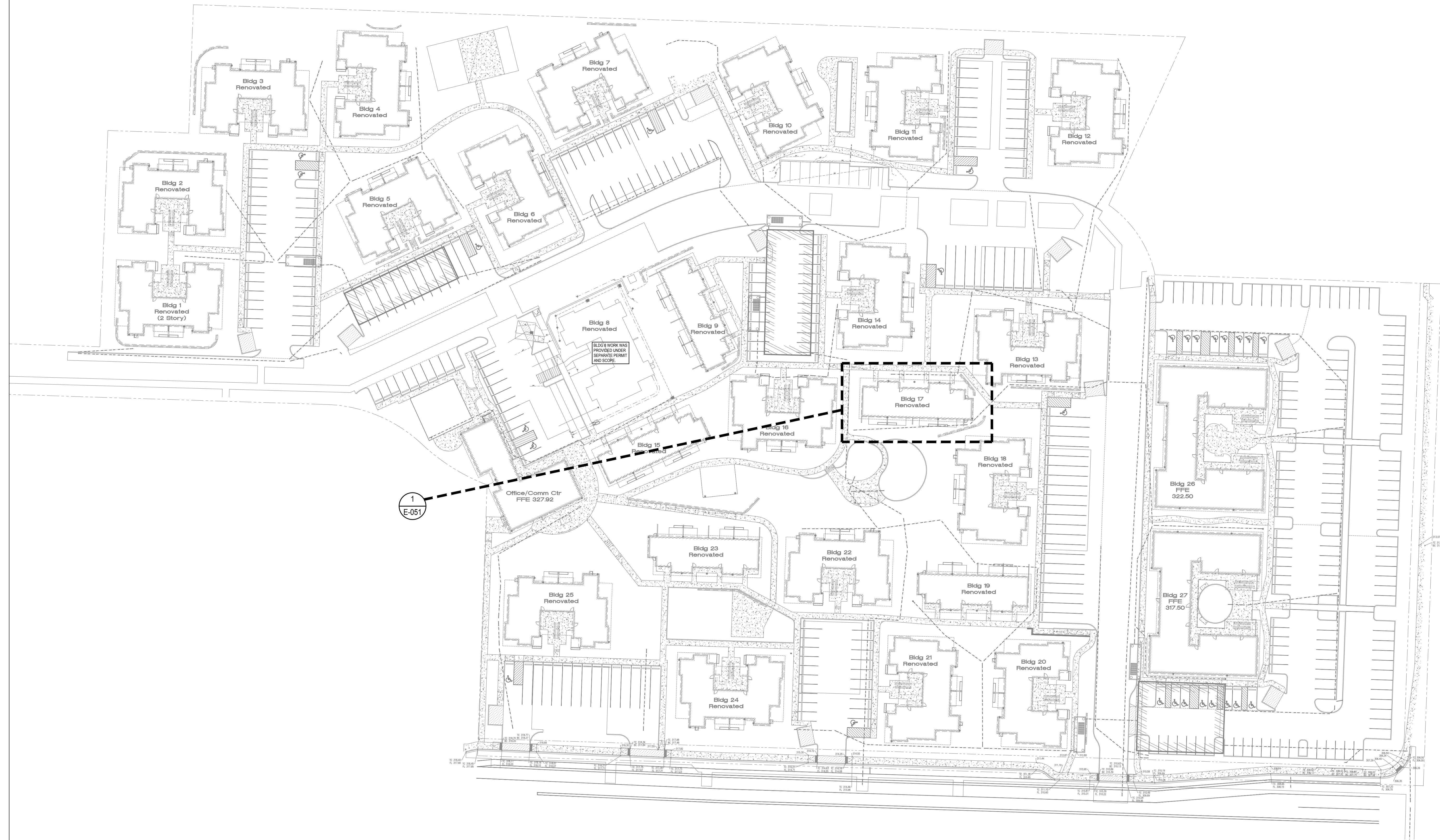
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TITLE

OVERALL  
PROJECT SITE  
PLAN

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

E17-050



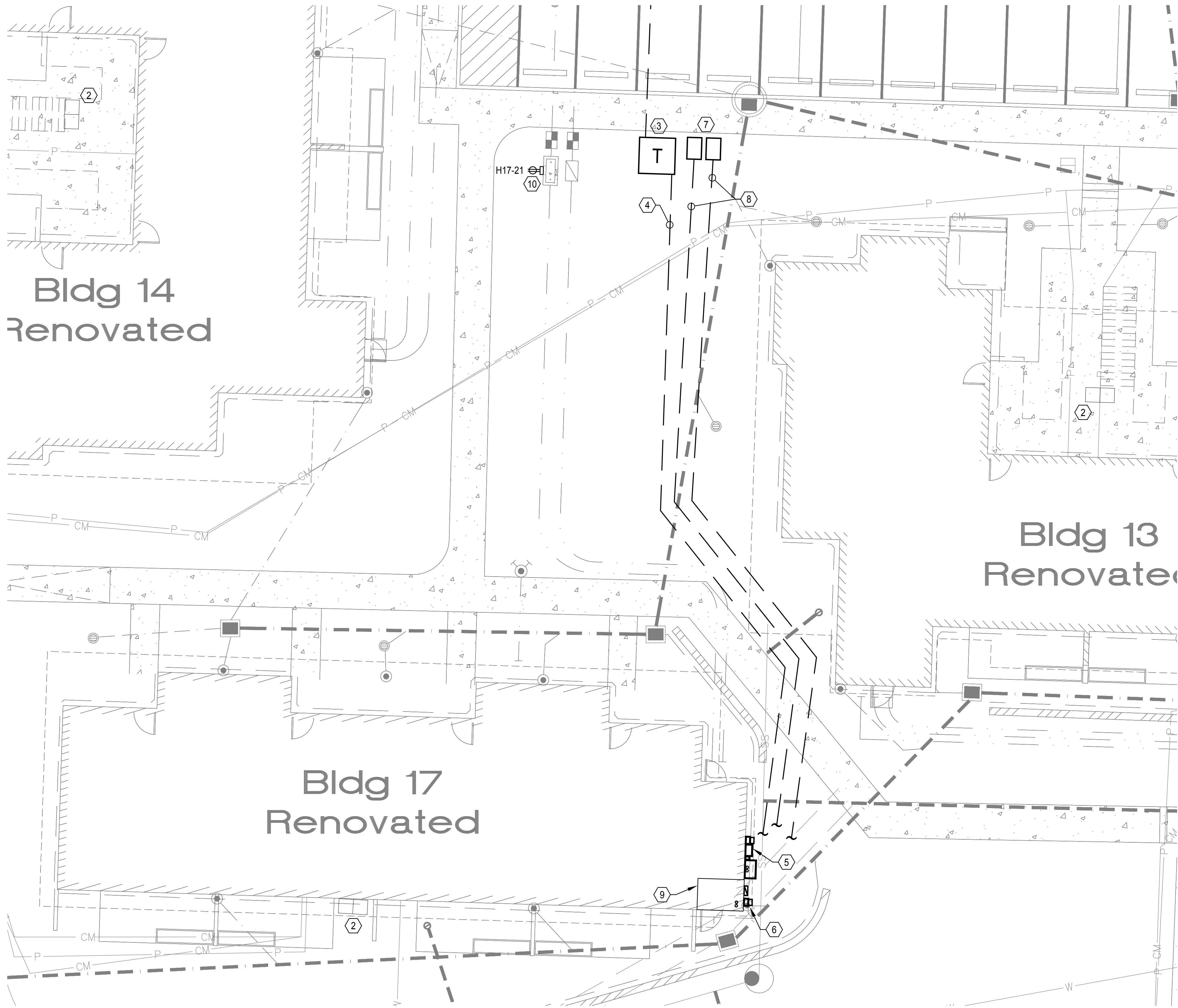
## OVERALL PROJECT SITE PLAN

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.





**ELECTRICAL SITE PLAN - BUILDING 17**  
SCALE: 1/8" = 1'-0"

**FLAG NOTES (X):**

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

**GENERAL NOTES:**

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 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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**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 17**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

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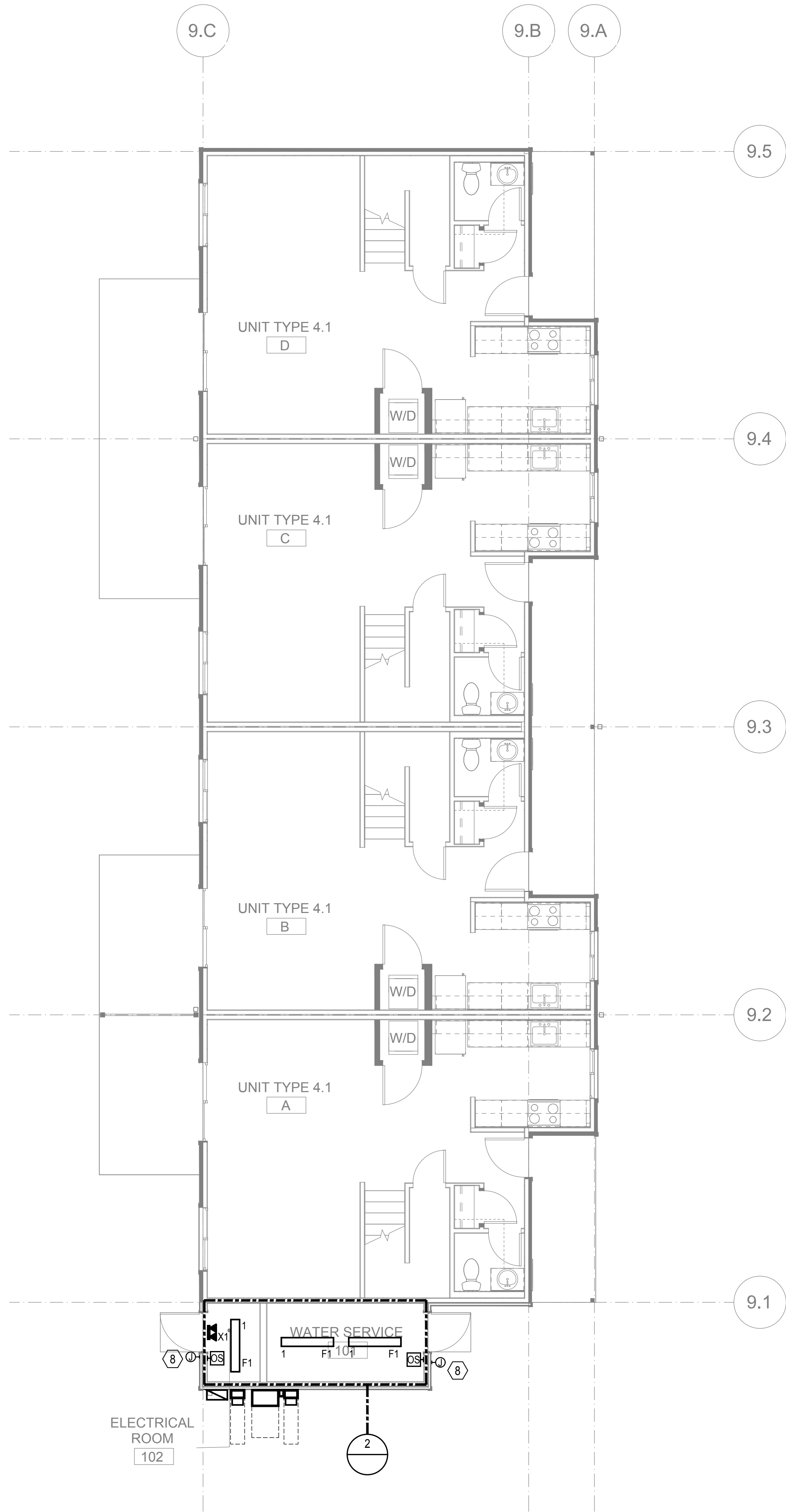
**ELECTRICAL  
SITE PLAN -  
BUILDING 17**

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ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

**E17-051**



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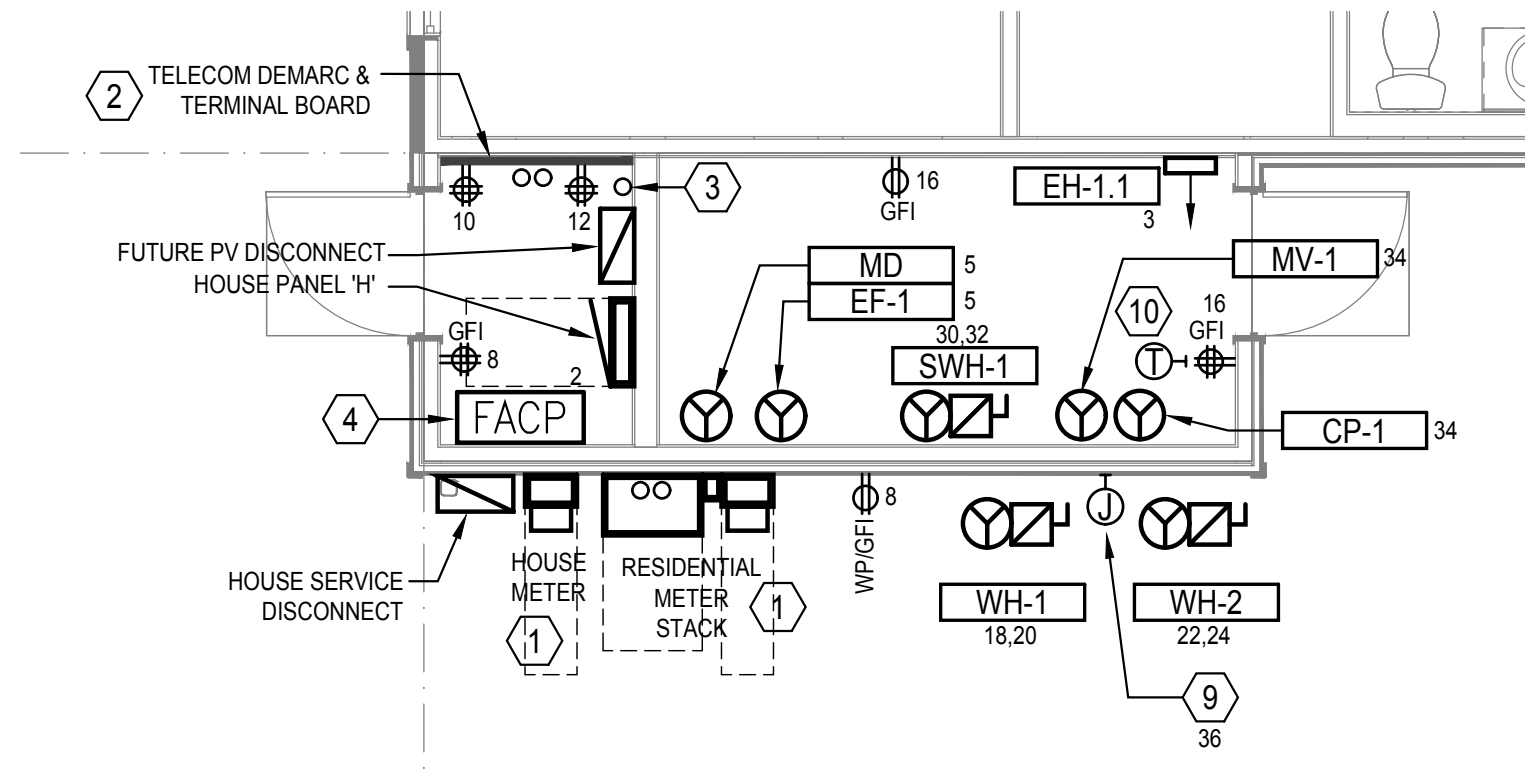
POWER AND LIGHTING PLAN - BUILDING 17 - LEVEL 1  
SCALE: 3/16"=1'-0"

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:
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):
- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
  - 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.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - NOT USED.
  - NOT USED.
  - NOT USED.
  - 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.
  - 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.
  - ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



ELECTRICAL AND  
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 133<sup>rd</sup> St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 17  
BID SET



NOT FOR CONSTRUCTION

REVISIONS / NOTES		
NO	DATE	DESCRIPTION

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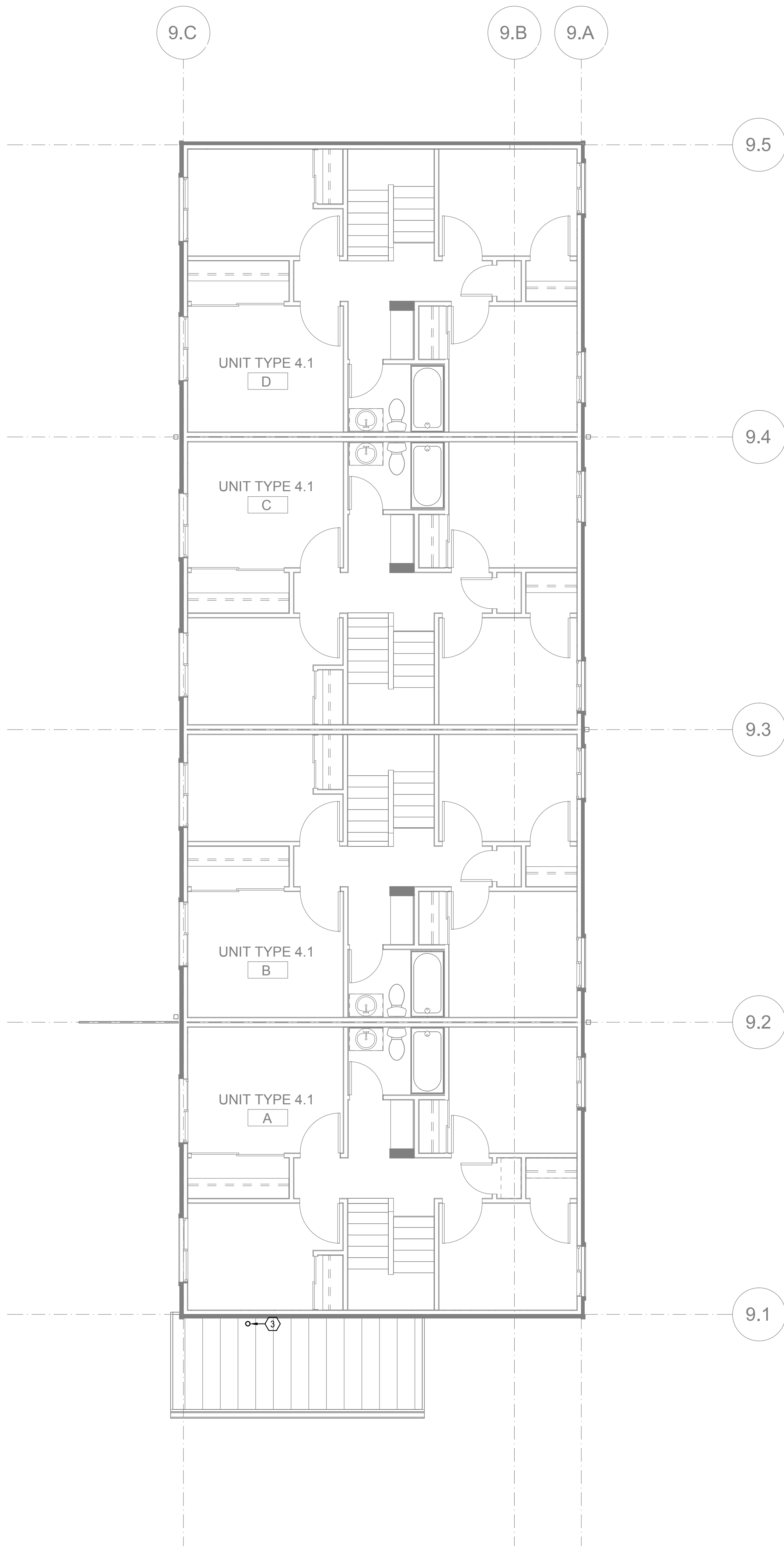
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POWER AND  
LIGHTING  
PLAN -  
BUILDING 17 -  
LEVEL 1

PERMIT #	
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JOB NO.	22016
SHEET NO.:	

E17-101





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 17 - LEVEL 2  
SCALE: 3/16"=1'-0"



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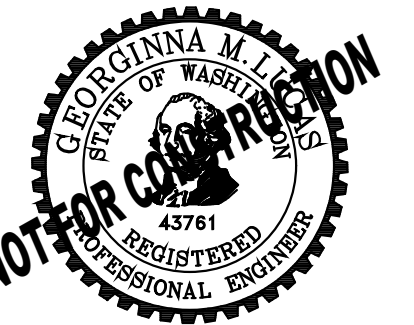


New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
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13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
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KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 17  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

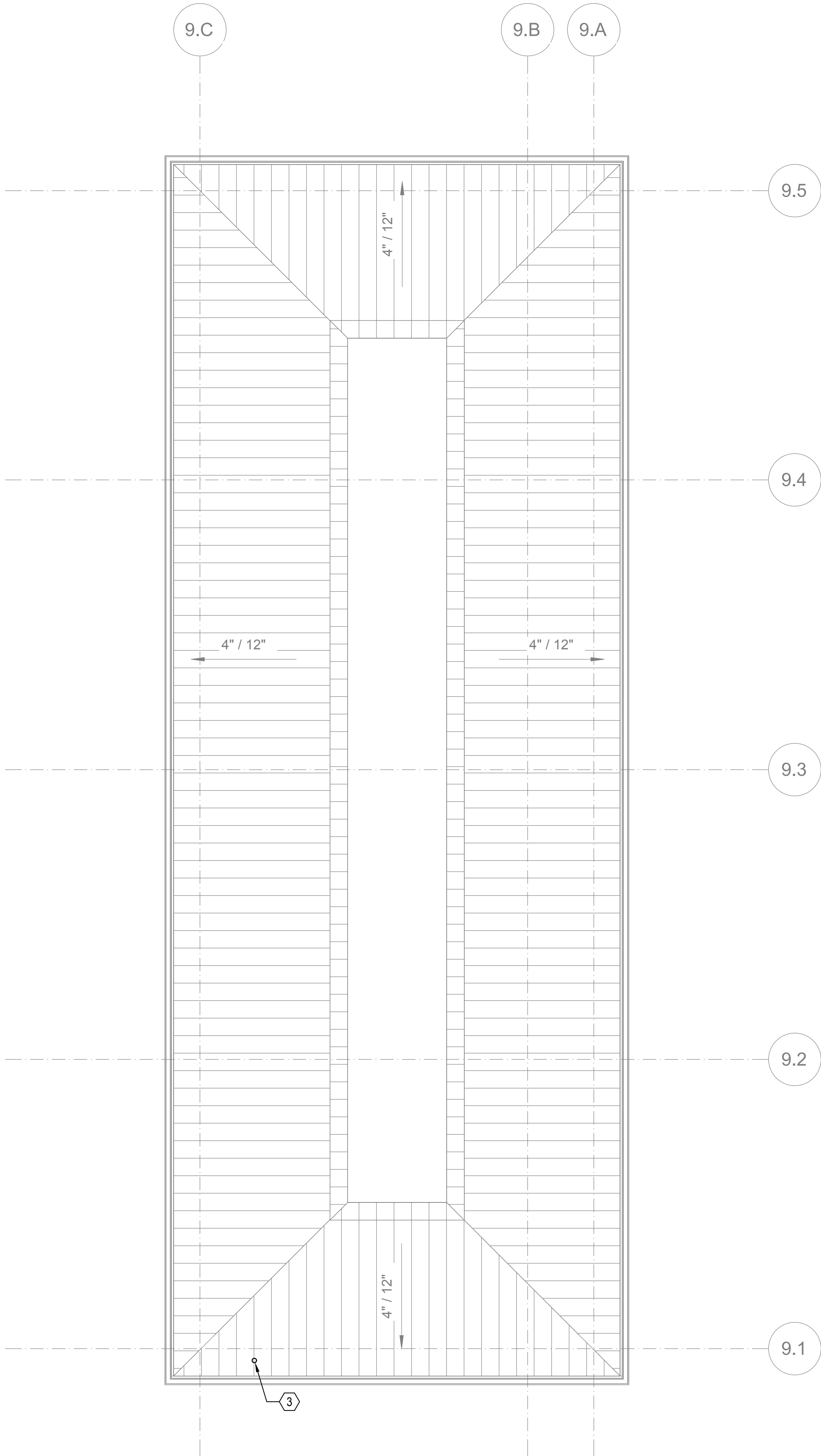
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POWER AND  
LIGHTING  
PLAN -  
BUILDING 17 -  
LEVEL 2

PERMIT #	
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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  
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13317 NE 133rd St.,  
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BUILDING 17  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

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TITLE  
  
POWER PLAN -  
BUILDING 17 -  
ROOF

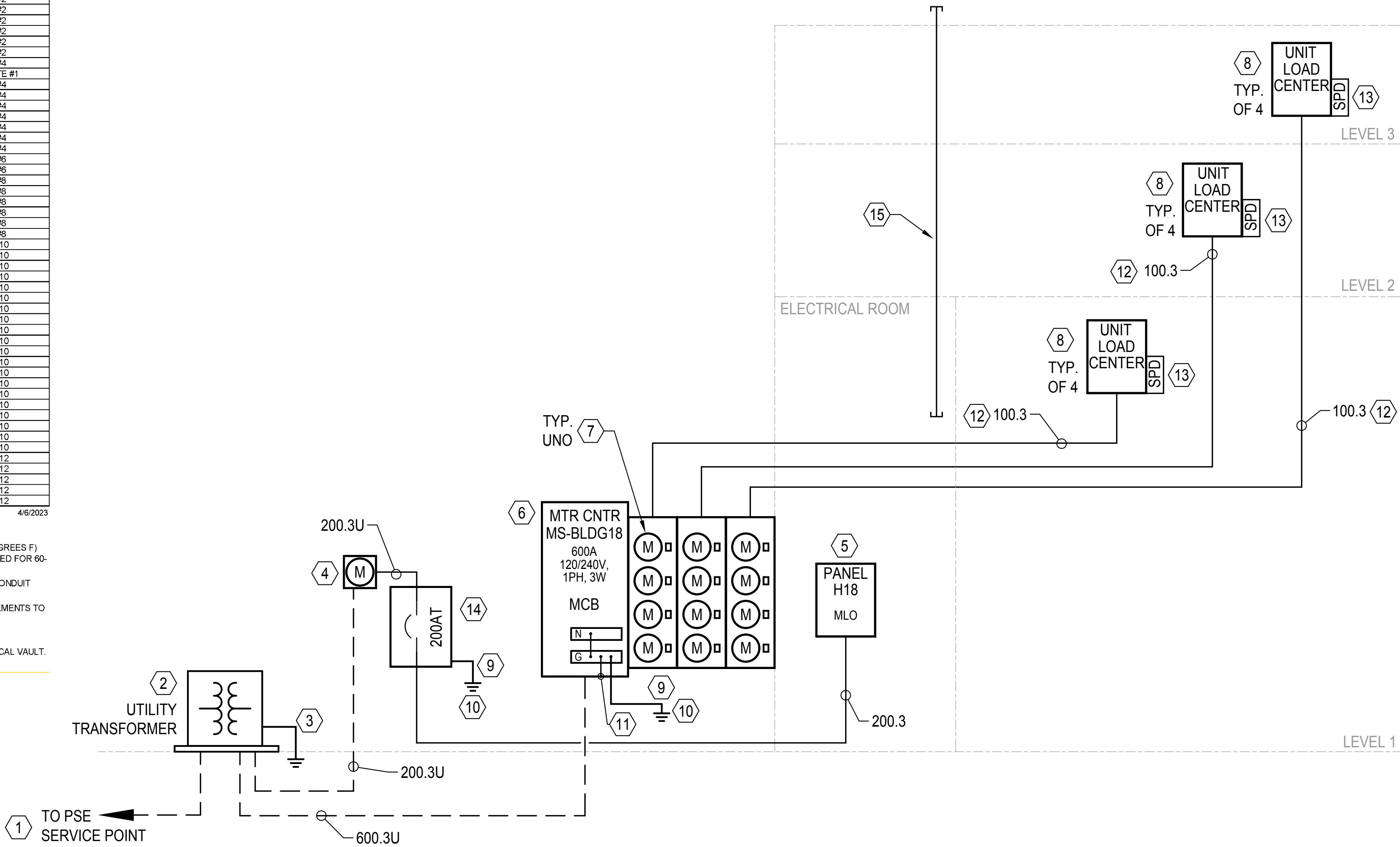
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E17-103



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WETS) 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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
80.3	(1) 1.5-INCH	CU	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#1/0
60.3	(1) 1.5-INCH	CU	(3) #4	#1/0
60.2N	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#1/0
60.2	(1) 1.5-INCH	CU	(2) #4	#1/0
60.1	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#1/0
50.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#1/0
50.3	(1) 1.5-INCH	CU	(3) #5	#1/0
50.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#1/0
50.2	(1) 1.5-INCH	CU	(2) #5	#1/0
50.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#1/0
40.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#1/0
40.3	(1) 1.5-INCH	CU	(3) #5	#1/0
40.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#1/0
40.2	(1) 1.5-INCH	CU	(2) #5	#1/0
40.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#1/0
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#1/0
30.3	(1) 1.5-INCH	CU	(3) #10	#1/0
30.2N	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#1/0
30.2	(1) 1.5-INCH	CU	(2) #10	#1/0
30.1	(1) 1.5-INCH	CU	(1) #10 / (1) #10 N	#1/0
20.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#1/2
20.3	(1) 1.5-INCH	CU	(3) #12	#1/2
20.2N	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#1/2
20.2	(1) 1.5-INCH	CU	(2) #12	#1/2
20.1	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#1/2

GENERAL SCHEDULE NOTES: 4/6/2023  
A. AL= ALUMINUM (STRAYLOY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/TMVN INSULATION).  
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75 DEGREES C (167 DEGREES F).  
AS PER NEC 110.14C(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.



## SINGLE LINE DIAGRAM

SCALE: NTS

## LOAD CALCULATIONS - BLDG 18

UNIT TYPE: 2BR - 2.1		AREA (SF): 782	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	AT	0.00 kVA
+25% OF LARGEST MOTOR	1	AT	0.03 kVA
GENERAL MOTOR LOAD - DEMAND = 0.14 kVA			
100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 3.91 kVA			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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): 908	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	AT	0.00 kVA
+25% OF LARGEST MOTOR	1	AT	0.03 kVA
GENERAL MOTOR LOAD - DEMAND = 0.14 kVA			
100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 4.53 kVA			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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					4/6/2023				
DEMAND LOAD (KVA):					137.09 =>		\$71.2 AMPS AT		240 V		1 PH			
SPACE HEATING/ AC LOAD (KVA)					CLOTHES DRYERS		COOKING APPLIANCES							
1.5< X < 3.5KW					3.5KW < X < 8.75KW		8.75KW < X < 12KW							
UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (KVA)	APPLIANCES LOAD (KVA)	MOTOR LOAD (KVA)	SPACE HEATING/ AC LOAD (KVA)	QTY	LOAD (KVA)	QTY	LOAD (KVA)	QTY	LOAD (KVA)	QTY	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	0.00	0.00	0.00	0	0.00	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)		4/6/2023
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
270.14 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		



192 Nickerson, Suite #300  
Seattle, Washington 98109  
Phone: 206.285.2966

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117 S. Main St., Suite 400  
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PH: 206.623.1104  
FX: 206.623.5285



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

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.  
Kirkland, WA 98034

## BUILDING 18

BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

## SINGLE LINE DIAGRAM AND LOAD CALCS

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

# E18-003



FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT #(SETS) SIZE	AL OR CU	CONDUCTORS PER SET		GROUND (1 PER SET UNO)
			PHASE 1 (NEUTRAL (N) QTY) SIZE	PHASE 2 (NEUTRAL (N) QTY) SIZE	
500.3U	(2) 4-INCH	AL	(3) 500 KCMIL	(3) 500 KCMIL	NOTE #1
500.3	(2) 4-INCH	AL	(3) 500 KCMIL	(3) 500 KCMIL	#10
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	(3) 350 KCMIL	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	(3) 350 KCMIL	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	(3) 300 KCMIL	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	(3) 300 KCMIL	NOTE #1
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	(3) 700 KCMIL	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	(3) 500 KCMIL	#2
300.3	(1) 4-INCH	AL	(3) 500 KCMIL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	(3) 350 KCMIL	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	(3) 300 KCMIL	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	(3) 250 KCMIL	NOTE #1
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	(3) 250 KCMIL	#4
175.4	(1) 3-INCH	AL	(3) #40 / (1) #40 N	(3) #40	#4
175.3	(1) 3-INCH	AL	(3) #40	(3) #40	#4
150.4	(1) 2-INCH	AL	(3) #30 / (1) #30 N	(3) #30	#4
150.3	(1) 2-INCH	AL	(3) #30	(3) #30	#4
125.4	(1) 2-INCH	AL	(3) #20 / (1) #20 N	(3) #20	#4
125.3	(1) 2-INCH	AL	(3) #20	(3) #20	#4
100.4	(1) 2-INCH	AL	(3) #10 / (1) #10 N	(3) #10	#5
100.3	(1) 2-INCH	AL	(3) #10	(3) #10	#5
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	(3) #2	#5
90.3	(1) 1.5-INCH	CU	(3) #2	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	(3) #3	#5
80.3	(1) 1.5-INCH	CU	(3) #3	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	(3) #4	#5
70.3	(1) 1.5-INCH	CU	(3) #4	(3) #4	#5
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N	(3) #4	#10
60.3	(1) 1-INCH	CU	(3) #4	(3) #4	#10
60.2U	(1) 1-INCH	CU	(2) #4 / (1) #4 N	(2) #4	#10
60.2	(1) 1-INCH	CU	(2) #4	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	(1) #4	#10
50.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	(3) #5	#10
50.3	(1) 1-INCH	CU	(3) #5	(3) #5	#10
50.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	(2) #5	#10
50.2	(1) 1-INCH	CU	(2) #5	(2) #5	#10
50.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	(1) #5	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	(3) #5	#10
40.3	(1) 1-INCH	CU	(3) #5	(3) #5	#10
40.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	(2) #5	#10
40.2	(1) 1-INCH	CU	(2) #5	(2) #5	#10
40.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	(1) #5	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	(3) #10	#10
30.3	(1) 1-INCH	CU	(3) #10	(3) #10	#10
30.2U	(1) 1-INCH	CU	(2) #10 / (1) #10 N	(2) #10	#10
30.2	(1) 1-INCH	CU	(2) #10	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	(1) #10	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	(3) #12	#12
20.3	(1) 1-INCH	CU	(3) #12	(3) #12	#12
20.2U	(1) 1-INCH	CU	(2) #12 / (1) #12 N	(2) #12	#12
20.2	(1) 1-INCH	CU	(2) #12	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	(1) #12	#12

- GENERAL SCHEDULE NOTES:**
- A. AL= ALUMINUM (STABILLOY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/THW 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	565	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	40	65	100	160
	30	3.60	35	55	85	135
	4	0.42	380	645	995	1595
	6	0.63	440	730	1125	1780
	8	1.25	290	485	750	1185
208V/ 1-PHASE	3	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	70	115	180	285
	30	6.24	60	95	150	235
	35	7.28	50	80	125	200
	40	8.32	40	70	110	175
	45	9.36	35	60	100	155
	50	10.40	30	50	90	140
	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2080
	6	2.16	335	565	865	1370
208V/ 3-PHASE	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	250	410
	25	9.01	80	135	205	325
	30	10.81	70	110	170	270
	35	12.61	60	100	145	235
	40	14.41	50	90	130	205
	45	16.21	45	80	120	180
	50	18.01	40	70	110	160

- NOTES:**
- 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											
NORMAL POWER		VOLTAGE		120 / 240 V		1 PHASE, 3 WIRE		FLUSH MOUNTED		LOCATION: ELECTRICAL ROOM	
AC - SEE SINGLE LINE DIAGRAM		SER. AMPERES (RATING)		100 AMP		MLO OR MCB		MLO 100 AMP		SURFACE MOUNTED	
CKT #	DESCRIPTION	CKT TAG	CB TAG	AMPS/PH	PH	CB AMPS/PH	CKT TAG	CB TAG	AMPS/PH	DESCRIPTION	CKT #
1	175-BREKDRY	1	20	1	A	20	1	20	1	0.90 FIRE ALARM CONTROLLER	1
3	SPARE									120 TIME CLOCK	4
5	RECEPT-LVLS BREAKAWAY	R	30	2	A	30	2	30	2	0.90 SPARE	8
7	RECEPT-LVLS BREAKAWAY	R	30	2	A	30	2	30	2	0.90 RECEPTS-ELECTRM	9
9	RECEPT-LVLS BREAKAWAY	R	30	2	A	30	2	30	2	0.90 RECEPTS-TELECOM	10
11	175-ELECT-MEDIA CLOSURE	L	20	1	A	20	1	20	1	0.90 SPARE	14
13	ELECT GATER-FIRE SPRINKLER	G	15	1	A	15	1	15	1	0.90 SPARE	15
15	EXHAUST FANLET-1 & MOTO DAMPER	M	20	1	A	20	1	20	1	0.72 RECEPTS-MECHRM	16
17	SPARE									HEATPUMP WATER HTER-WH-1	17
19	SPARE										20
21	HEAT TRACE-WATER CONNECTION	N	20	1	A	15	2	20.2N	C	1.75 HEATPUMP WATER HTER-WH-2	22
23	175-SITE PAGES	A	20	1	A	20	1	20	1	0.90 SPARE	24
25	SPARE									HEATPUMP WATER HTER-WH-3	26
27	SPARE										28
29	SPACE ONLY									WASHING TANK-SMALT	30
31	SPACE ONLY										32
33	SPACE ONLY									CIRC PUMP CP-1 & MAX VALVE MM-1	34
35	SPACE ONLY									HEAT TRACE-HEATPUMP WATER LEE	36
37	SPACE ONLY									SPACE ONLY	40
39	SPACE ONLY									SPACE ONLY	42
41	SPACE ONLY									SPACE ONLY	43

**LOAD**

L = LIGHTING 0.76 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

PLUG SPN OF LARGEST MOTOR 0.24 KVA 25% 0.06 KVA

C = CONTINUOUS 11.18 KVA 125% 13.98 KVA

N = NCH CONTINUOUS 1.44 KVA 100% 1.44 KVA

K = KITCHEN 0.60 KVA 75% 0.45 KVA

**PANEL CONNECTED TOTAL:**

17.14 KVA

73.93 AMPS

**PANEL DEMAND TOTAL:**

11.18 KVA

55.55 AMPS

**NOTES:**

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

**CIRCUIT NOTES (A):**

1. PROVIDE 300A GROUND FAULT EQUIPMENT PROTECTION BREAKER.

LOAD CENTER - 2 BEDROOM											
NORMAL POWER		VOLTAGE		120 / 240 V		1 PHASE, 3 WIRE		FLUSH MOUNTED		LOCATION: DWELLING UNITS	
AC - SEE SINGLE LINE DIAGRAM(S) RATING		SER. AMPERES (RATING)		100 AMP		MLO OR MCB		MLO 100 AMP		SURFACE MOUNTED	
CKT #	DESCRIPTION	CKT TAG	CB TAG	AMPS/PH	PH	CB AMPS/PH	CKT TAG	CB TAG	AMPS/PH	DESCRIPTION	CKT #
1	BATHROOMS (1)	20	1	A	20	1	20	1	0.90 RANGE	2	2
3	GEN/ULT RECEPTS SD (1)	20	1	A	20	1	20	1	0.90		4
5	RECEPTS ENR MEDIA PNL (1)	20	1	A	20	1	20	1	0.90	HEAT-BEDROOMS	8
7	REFRIGERATOR EXHAUST HOOD (2)	20	1	A	20	1	20	1	0.90		9
9	GENERAL KITCHEN APPLIANCE (1)	20	1	A	20	1	20	1	0.90	HEAT-LIVING ROOM	10
11	GENERAL KITCHEN APPLIANCE (1)	20	1	A	20	1	20	1	0.90		12
13	BEDROOM 1 RECEPTS LITS SD (1)	20	1	A	20	1	20	1	0.90	DRYER (2)	14
15	BEDROOM 2 RECEPTS LITS SD (1)	20	1	A	20	1	20	1	0.90		16
17	2ND RECEPT-AC UNIT BY TITANIUM	20	1	A	20	1	20	1	0.90	WASHER (2)	18
19											20
21	WASHER PROTECTION DEVICE	20	1	A	20	1	20	1	0.90		22
23											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 (A):**

1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

2. PROVIDE COMBO SNA GFCI COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 8 FT OF SINK EDGE. OTHERWISE PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER.

LOAD CENTER - 3 BEDROOM											
NORMAL POWER		VOLTAGE		120 / 240 V		1 PHASE, 3 WIRE		FLUSH MOUNTED		LOCATION: DWELLING UNITS	
AC - SEE SINGLE LINE DIAGRAM(S) RATING		SER. AMPERES (RATING)		100 AMP		MLO OR MCB		MLO 100 AMP		SURFACE MOUNTED	
CAT#		DESCRIPTION		CB		CB		CB		DESCRIPTION	
				AMP/IN/FP		AMP/IN/FP		KCT		KCT	
				IN		IN		KCT		KCT	
1	GAT#00000000	20	1	20	1	45	2	40	20	RANGE	2
2	GEN'L TO RECEPTS SHD (1)	20	1	20	1						4
3	RECEPTS (ENR. MED. PNL.) (1)	20	1	20	1	20	1	20	2	HEAT - BEDROOMS	5
4	DISINTEGRATION/COAGULANT PNOX (2)	20	1	20	1						2
5	GENERAL KITCHEN APPLANCE (1)	20	1	20	1	20	1	20	2	HEAT - LIVING ROOM	10
11	GENERAL KITCHEN APPLANCE (1)	20	1	20	1						12
12	RECEPTS (ENR. MED. PNL.) (1)	20	1	20	1	20	1	20	2	DRYER	10
16	BEDROOM 2 RECEPTS LITS SHD (S)	20	1	20	1	20	1	20	2		16
18	BEDROOM 3 RECEPTS LITS SHD (S)	20	1	20	1	20	1	20	2		18
17	BEDROOM 3 RECEPTS LITS SHD (S)	20	1	20	1	20	1	20	2	WASH-DR	16
21	BURST PROTECTION DEVICE	20	1	20	1	20	1	20	2	RECEPT - ACUATE BY TYPING	24
24	"	20	1	20	1	20	1	20	2		24
NOTES:											
A. SET FIELD RATING OVERLOADING CALCULATIONS ON DOWN FOR RESIDENTIAL LOAD CENTER CALCULATIONS											
B. SET FIELD RATING BRANCH CIRCUIT CALCULATIONS ON DOWN FOR CONDUIT AND CONDUCTION INFORMATION ON DOWN											
CIRCUIT NOTES:											
1. PROVIDE COMBO ARG-FULL CIRCUIT INTERRUPTER BREAKER											
2. PROVIDE COMBO ARG-FULL CIRCUIT ARG-FULL CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 1' OF SINK/DIE. OTHERWISE PROVIDE COMBO ARG-FULL CIRCUIT INTERRUPTER BREAKER											



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

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

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 18  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

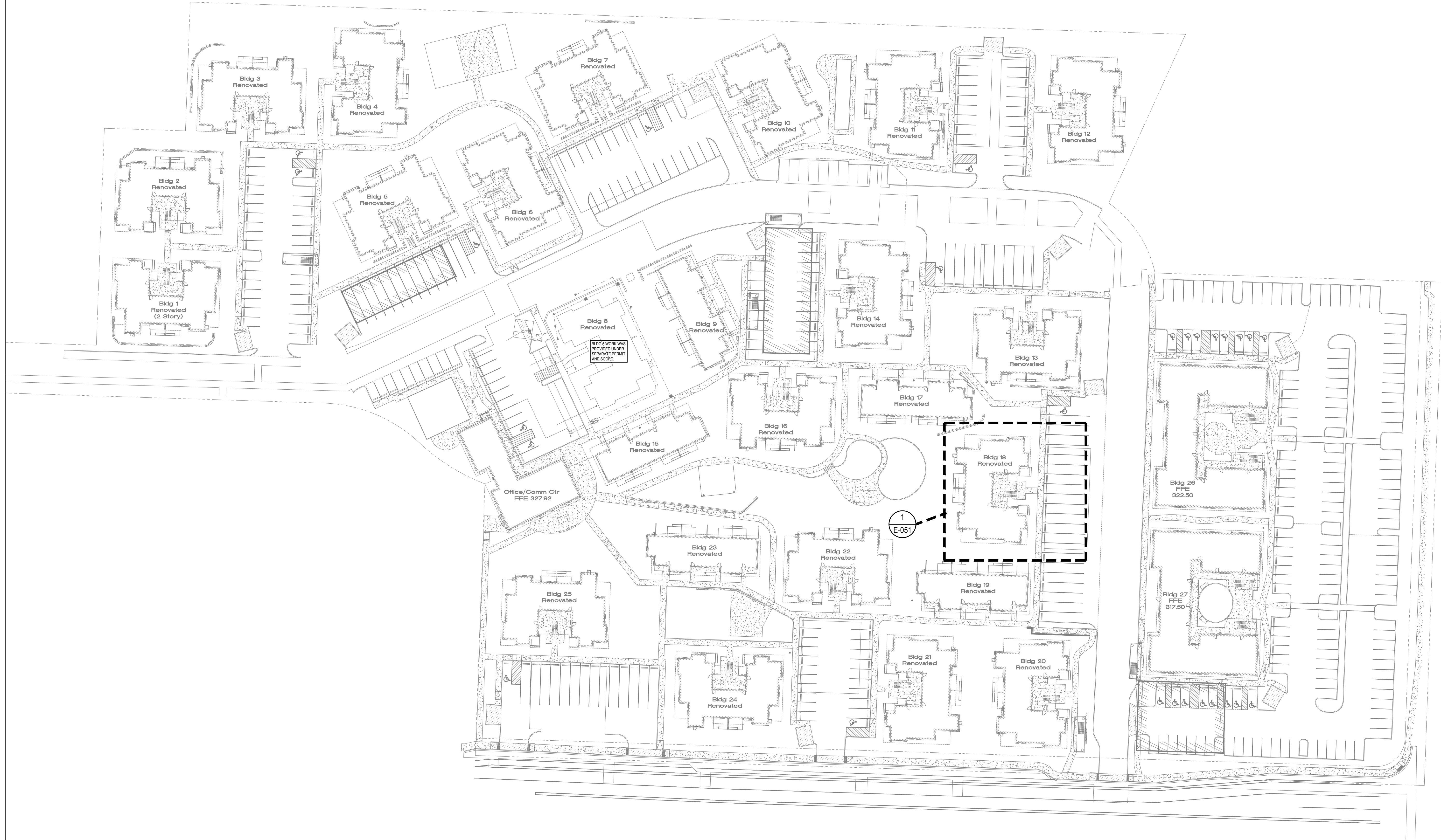
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LUMINAIRE  
SCHEDULE

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

E18-005



10/7/2021 1:33:34 AM



**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.



**SIDER+BYERS**  
MECHANICAL • ELECTRICAL ENGINEERS

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General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 18  
BID SET**



REVISIONS / NOTES  
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TITLE

**OVERALL  
PROJECT SITE  
PLAN**

PERMIT #  
DRAWN RA, JF  
CHECKED GL  
ISSUE DATE 4/14/2023  
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**E18-050**



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.



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13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

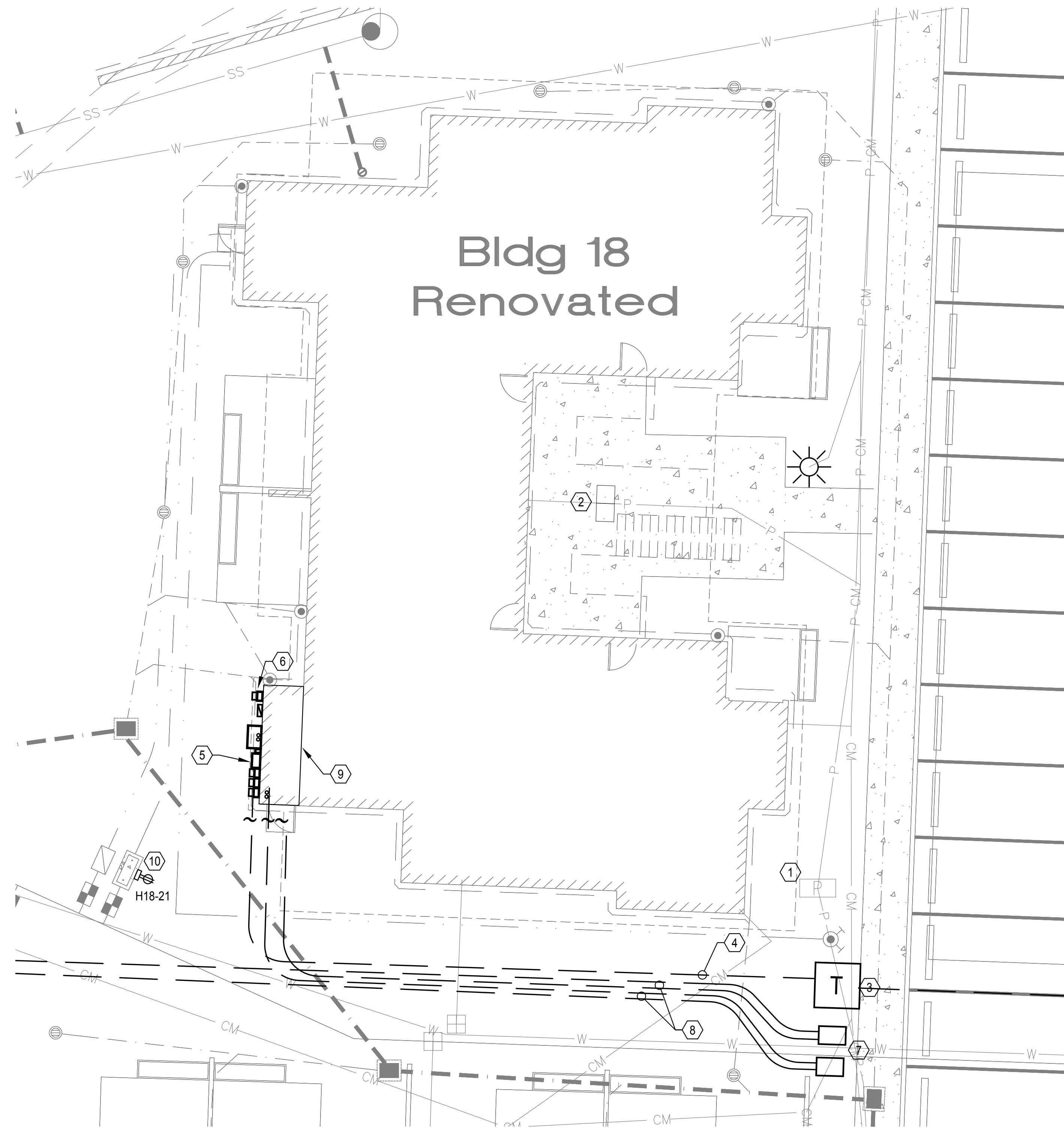
## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 18 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION



### ELECTRICAL SITE PLAN - BUILDING 18 SCALE: 1/8" = 1'-0"

#### FLAG NOTES (X):

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

#### GENERAL NOTES:

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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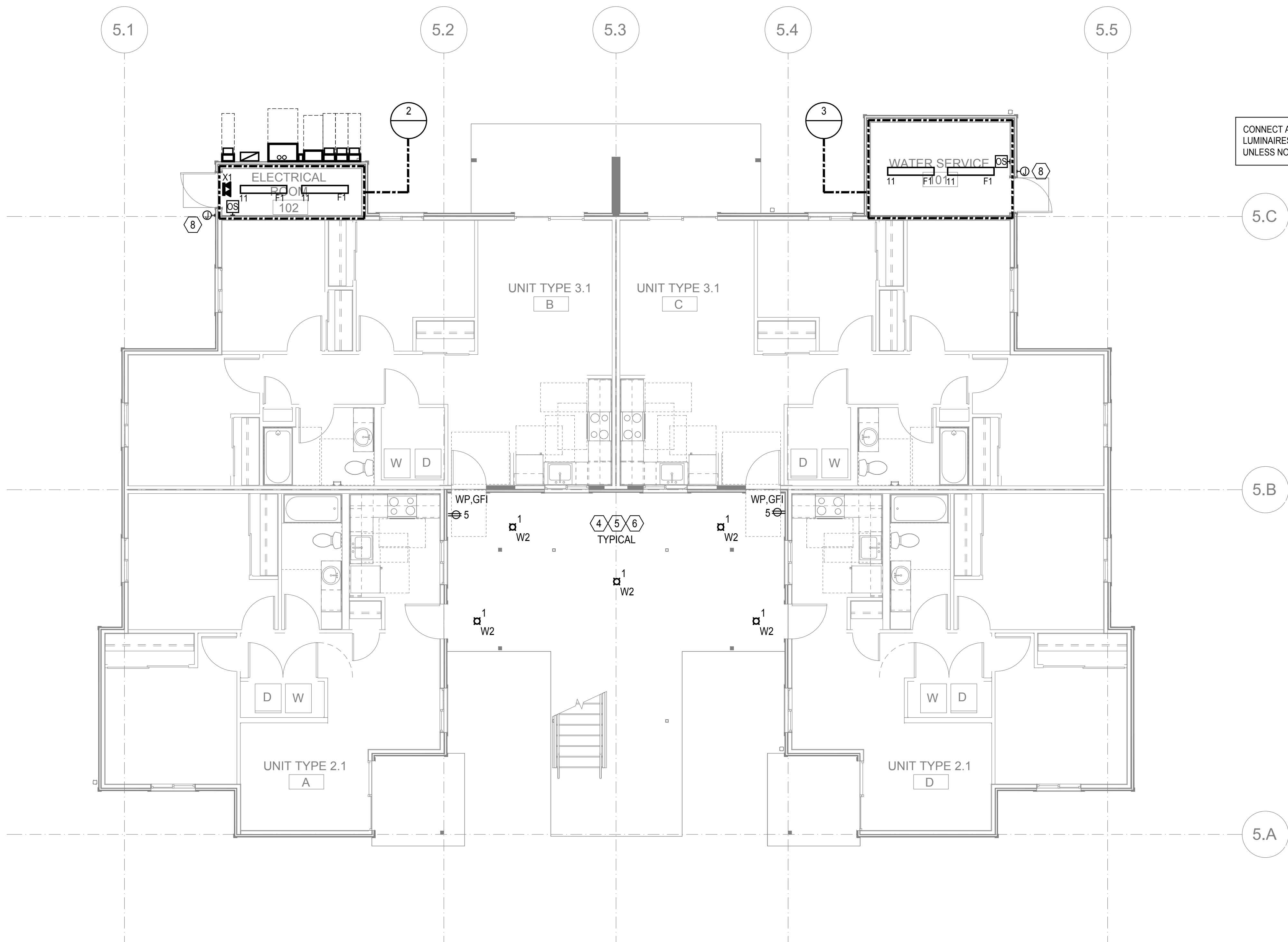
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### ELECTRICAL SITE PLAN - BUILDING 18

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# E18-051





**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.

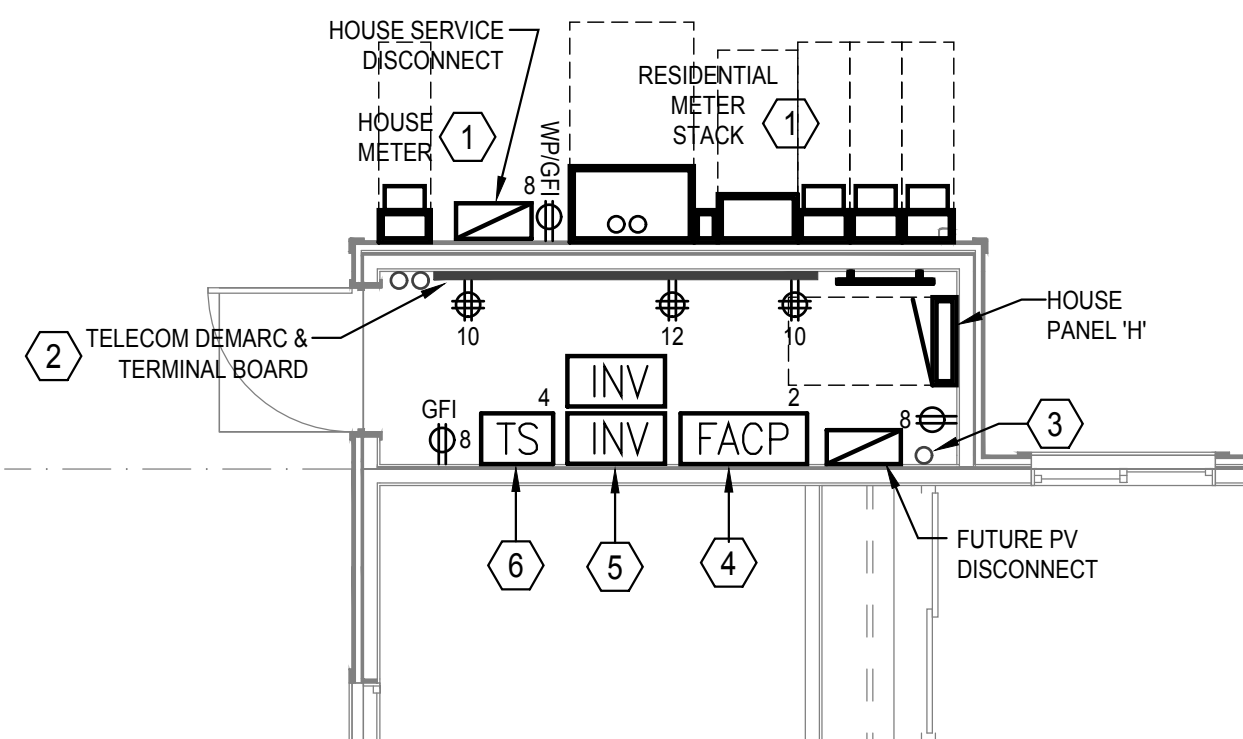
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

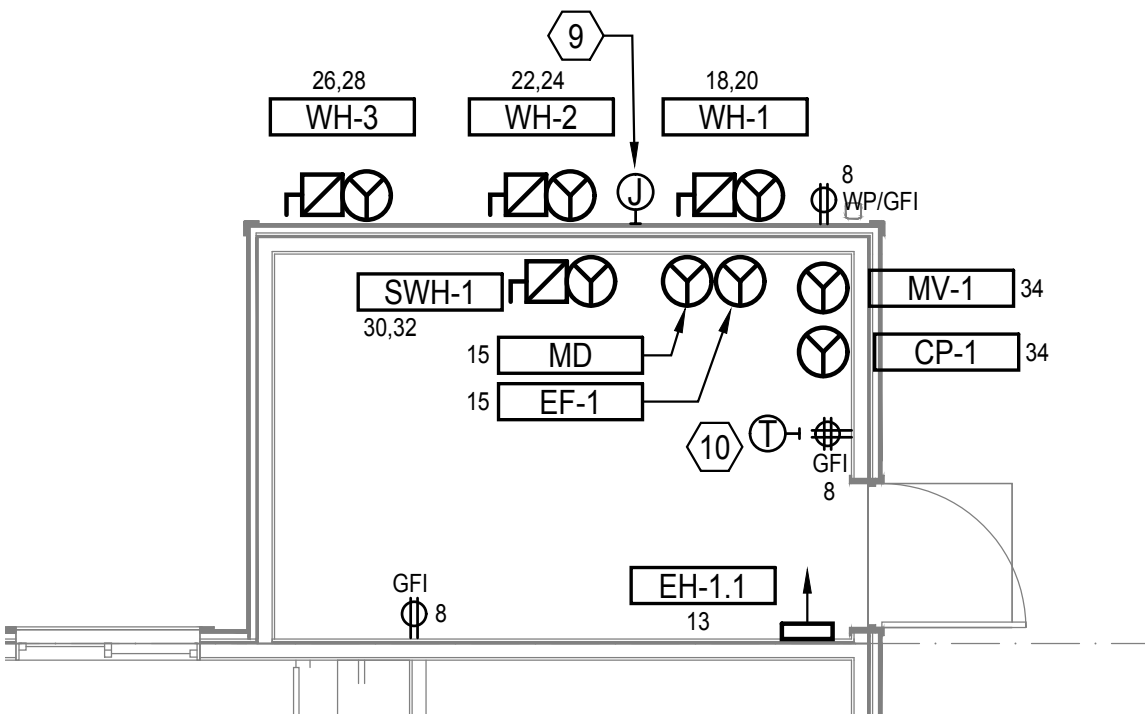
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHA. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- 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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**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 18**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

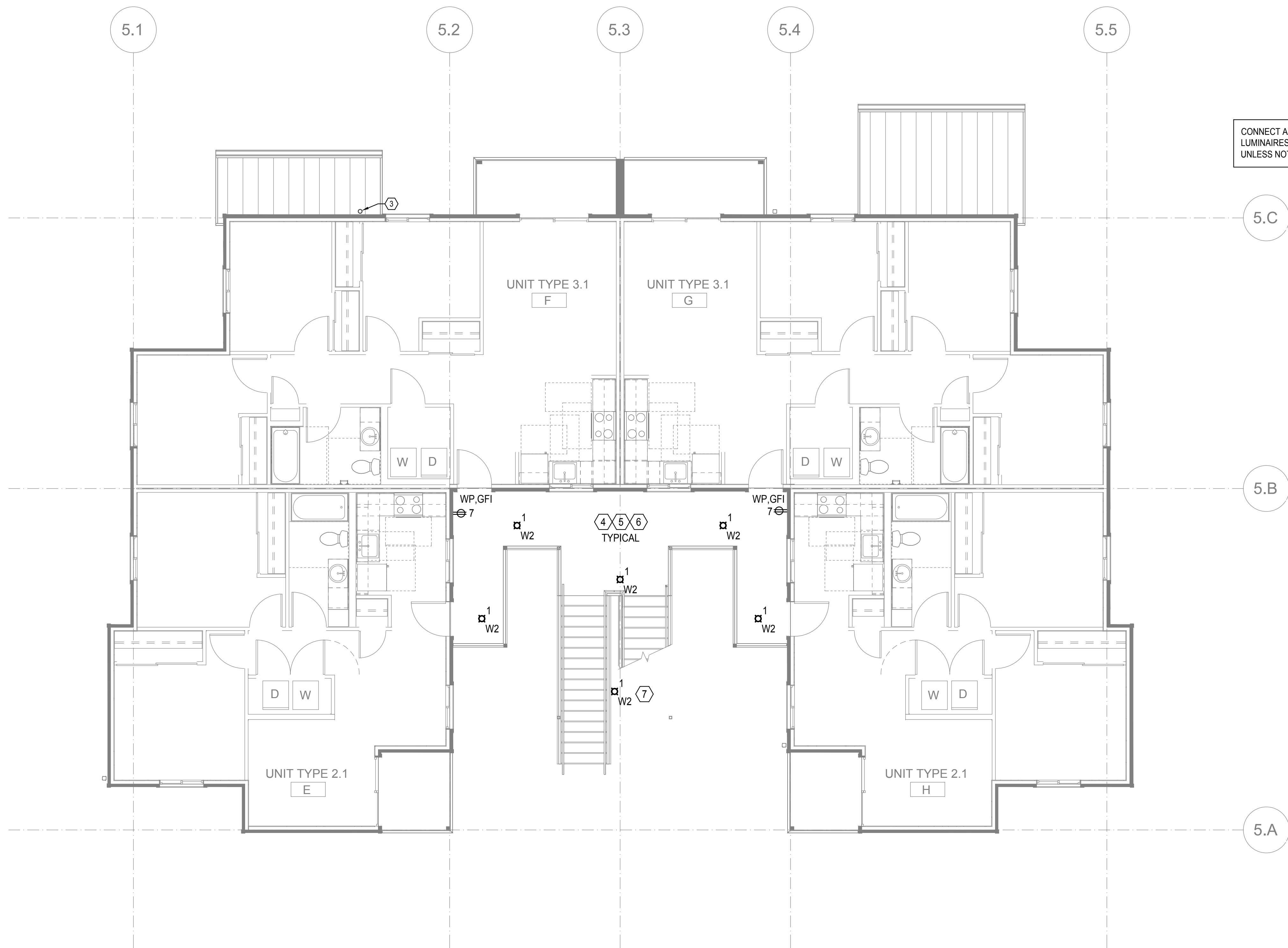
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**POWER AND LIGHTING PLAN - BUILDING 18 - LEVEL 1**

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

**E18-101**





**POWER AND LIGHTING PLAN - BUILDING 18 - LEVEL 2**  
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:**
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):**
- NOT USED
  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - 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
  - 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.
  - LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.



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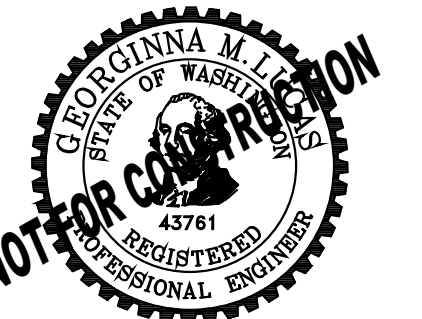


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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 18**  
BID SET



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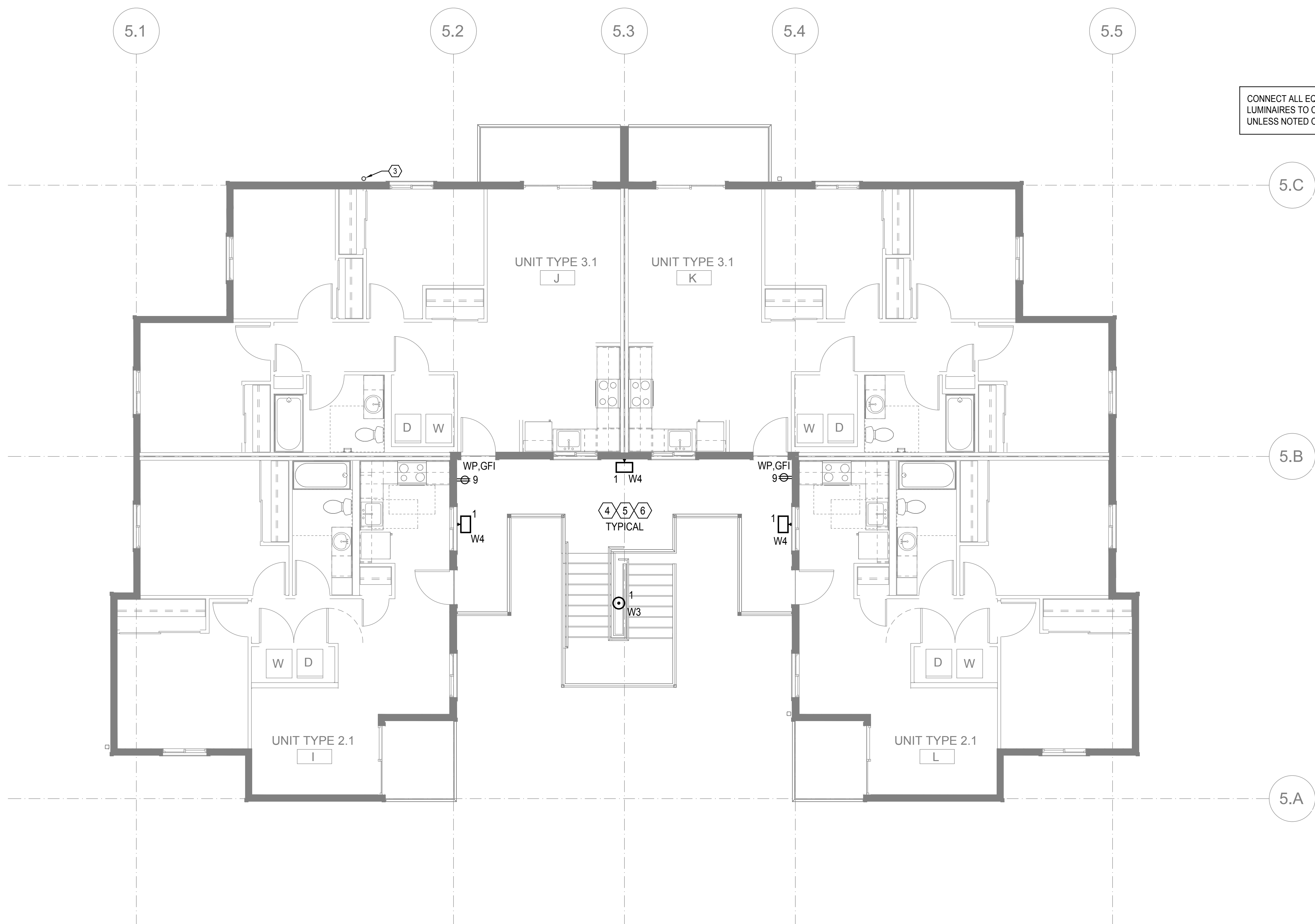
TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 18 -  
LEVEL 2**

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

**E18-102**



10/7/2021 1:33:34 AM



**POWER AND LIGHTING PLAN - BUILDING 18 - LEVEL 3**  
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:**

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- NOT USED.
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- 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.



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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 18**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

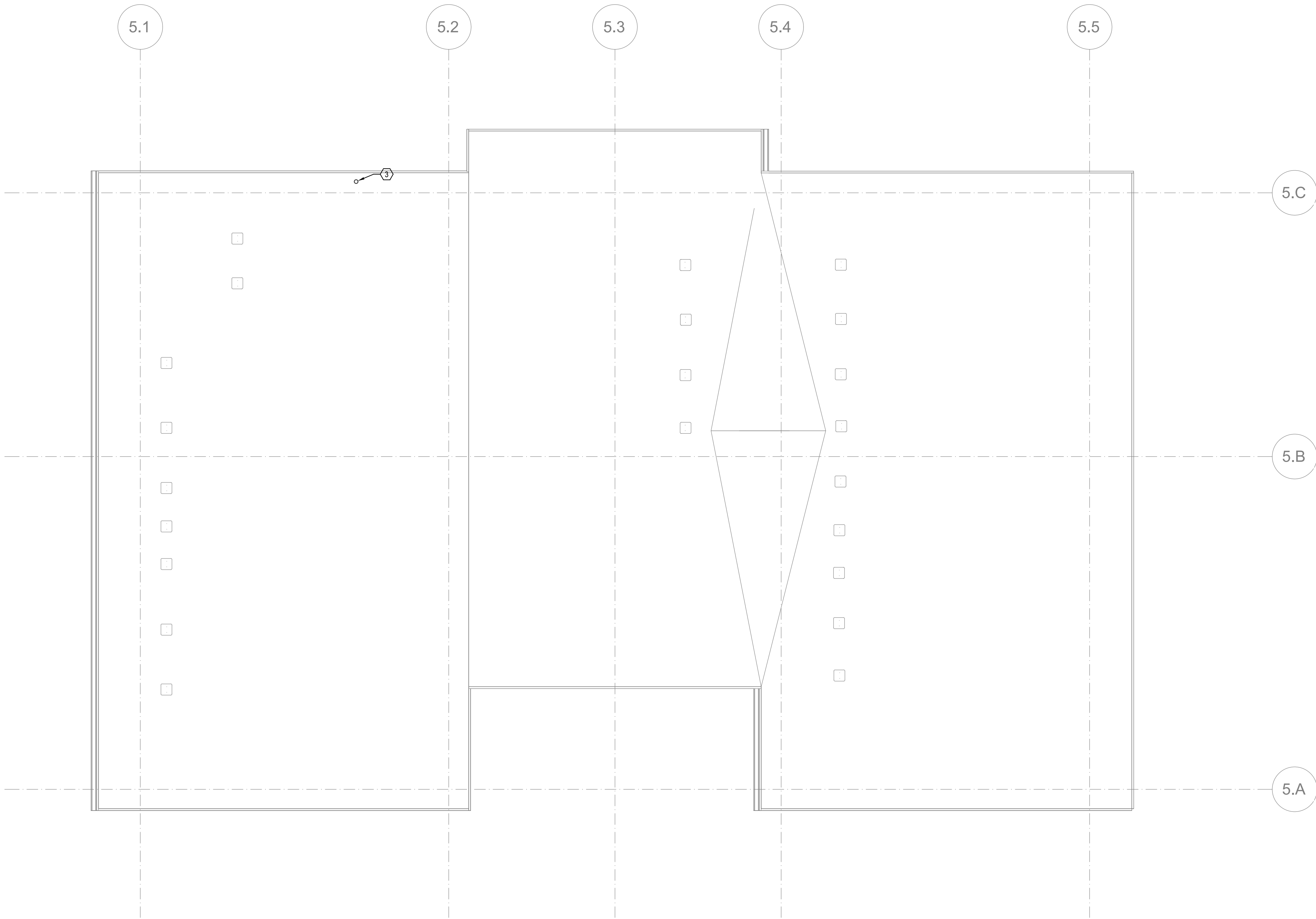
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TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 18 -  
LEVEL 3**

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

**E18-103**





**POWER PLAN - BUILDING 18 - 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.
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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):

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- 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  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 18**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

DPD STAMP

TITLE  
**POWER PLAN -  
BUILDING 18 -  
ROOF**

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

**E18-104**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WEETS) SIZE	AL OR CU	CONDUCTORS PER SET PHASE / NEUTRAL (N) (QTY SIZE)	GROUND (1 DER SET UND)
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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
80.3	(1) 1.5-INCH	CU	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1.5-INCH	CU	(3) #4	#10
60.2N	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1.5-INCH	CU	(2) #4	#10
60.1	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
50.3	(1) 1.5-INCH	CU	(3) #5	#10
50.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
50.2	(1) 1.5-INCH	CU	(2) #5	#10
50.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
40.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
40.3	(1) 1.5-INCH	CU	(3) #5	#10
40.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
40.2	(1) 1.5-INCH	CU	(2) #5	#10
40.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1.5-INCH	CU	(3) #10	#10
30.2N	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1.5-INCH	CU	(2) #10	#10
30.1	(1) 1.5-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1.5-INCH	CU	(3) #12	#12
20.2N	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1.5-INCH	CU	(2) #12	#12
20.1	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES:

4/6/2023

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

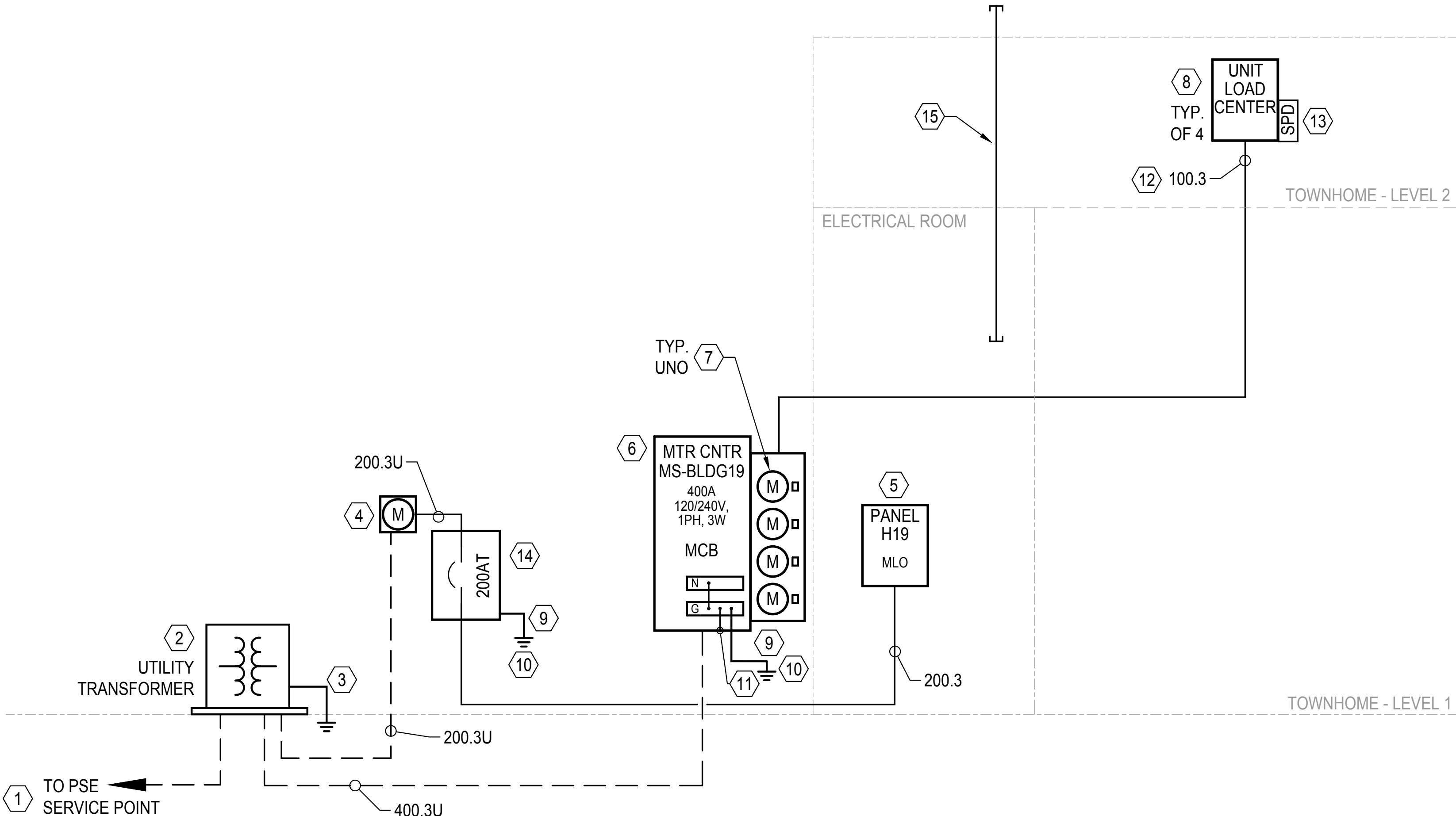
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75 DEGREES C (167 DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60 DEGREES C (140 DEGREES F).

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 UND.



## SINGLE LINE DIAGRAM

SCALE:NTS

## LOAD CALCULATIONS - BLDG 19

UNIT TYPE: TOWNHOUSE UNIT	AREA (SF): 1,211	4/6/2023
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 = 4.00 kVA		
FIXED IN PLACE APPLIANCES [220.63]:		
REFRIGERATOR	1 AT	0.70 kVA
RANGE HOOD	1 AT	0.30 kVA
MICROWAVE	1 AT	0.00 kVA
DISHWASHER	1 AT	1.20 kVA
WASHER	1 AT	1.20 kVA
GARBAGE DISPOSAL	1 AT	0.00 kVA
WATER HEATER	1 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]:		
TOILET EXHAUST FAN	1 AT	0.00 kVA
ERV UNIT	1 AT	0.11 kVA
KITCHEN EXHAUST FAN	1 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		
CLOTHES DRYER [220.54]	1 AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1 AT	0.00 kVA
ELECTRIC OVEN [220.55]	1 AT	0.00 kVA
ELECTRIC RANGE [220.55]	1 AT	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 4/6/2023											
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	LOAD (KVA)	COOKING APPLIANCES			
								1.6< X < 3.6kW	3.6kW < X < 8.75kW	8.75kW < X < 12kW	
								QTY	LOAD (KVA)	QTY	LOAD (KVA)
TOWNHOUSE UNIT	4	32.53	13.60	0.44	24.22	4	22.00	0	0.00	0	0.00
TOTALS:	4	32.53	13.60	0.44	24.22	4	22.00	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) 4/6/2023											
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											
240.0N 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 RISC): 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											
112.456 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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c/o: King County Housing Authority,  
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CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.  
Kirkland, WA 98034

## BUILDING 19

BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

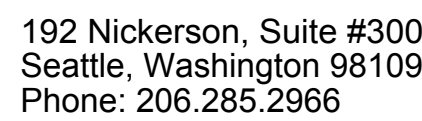
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## SINGLE LINE DIAGRAM AND LOAD CALCS

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

# E19-003





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FX: 206.623.5285

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

## MECHANICAL EQUIPMENT SCHEDULES

**GENERAL SCHEDULE NOTES:**

- A. ALL ALUMINUM (STABLY) CONDUCTORS WITH XHHW-2 INSULATION;  
CUL COPPER (COPPER CONDUCTORS WITH THHN/THWN INSULATION).
- B. FEEDERS RATED 100 AMPERS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F) AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMP 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 CONDUCTOR ARE INDICATED, PROVIDE ONE GROUND WIRE IN EACH SET.
- D. SEE BRANCH CIRCUIT LENGTHS LISTED SCHEDULE FOR ADDITIONAL CONDUCTOR SIZING REQUIREMENTS TO MEET ENERGY CODE VOLTAGE DROP REQUIREMENTS ON BRANCH CIRCUITS.

**SPECIAL SCHEDULE NOTES:**

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

**NOTES:** 4/6/2023

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).

LOCAL CARRIER - 4 BEDROOM		FAN / MOTOR		METRIC BAR		LOCATION / DWELLING DATA	
NORMAL POWER VOLTAGE:		100 / 240 V		1.5 KW / 3 PHASE 3WIRE		FLUSH / HUB	
NO. OF LINES AND DISCONNECTS IN THE LINE		NO. OF LINES		NO. OF LINES		NO. OF LINES	
DESCRIPTION	UNIT	CB	PH	CB	PH	DESCRIPTION	UNIT
1. BATHROOM (S)	20	1	40	2	40	RANGE	2
2. CLOSET, LINEN, REFRIG. STOVE (S)	20	1	40	2	40		2
3. REFRIG. STOVE, LINEN, LINEN (S)	20	1	40	2	40		2
4. REFRIG. STOVE, LINEN, LINEN (S)	20	1	40	2	40	HEAT - BEDROOMS	2
5. REFRIG. STOVE, LINEN, LINEN (S)	20	1	40	2	40	HEAT - KITCHEN	2
6. REFRIG. STOVE, LINEN, LINEN (S)	20	1	40	2	40	HEAT - LIVING ROOM	2
7. GENERAL, KITCHEN, APPLIANCE (S)	20	1	40	2	40		2
8. GENERAL, KITCHEN, APPLIANCE (S)	20	1	40	2	40		2
9. BEDROOM, REFRIG. STOVE, LINEN (S)	20	1	40	2	40	CORRIDOR	2
10. BEDROOM, REFRIG. STOVE, LINEN (S)	20	1	40	2	40		2
11. BEDROOM, REFRIG. STOVE, LINEN (S)	20	1	40	2	40	WASHROOM	2
12. BEDROOM, REFRIG. STOVE, LINEN (S)	20	1	40	2	40	REFRIG. AC UNIT (BY TYPAN)	2
13. REFRIG. STOVE, LINEN, LINEN (S)	20	1	40	2	40	HEAT - KITCHEN, BATH	2
14. REFRIG. STOVE, LINEN, LINEN (S)	20	1	40	2	40		2

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.

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



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10-JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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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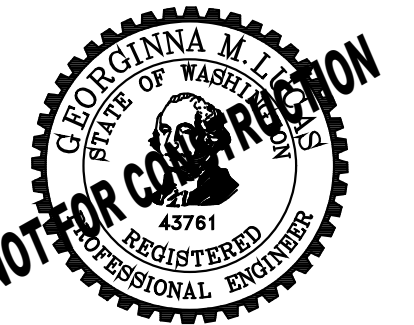


New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 19  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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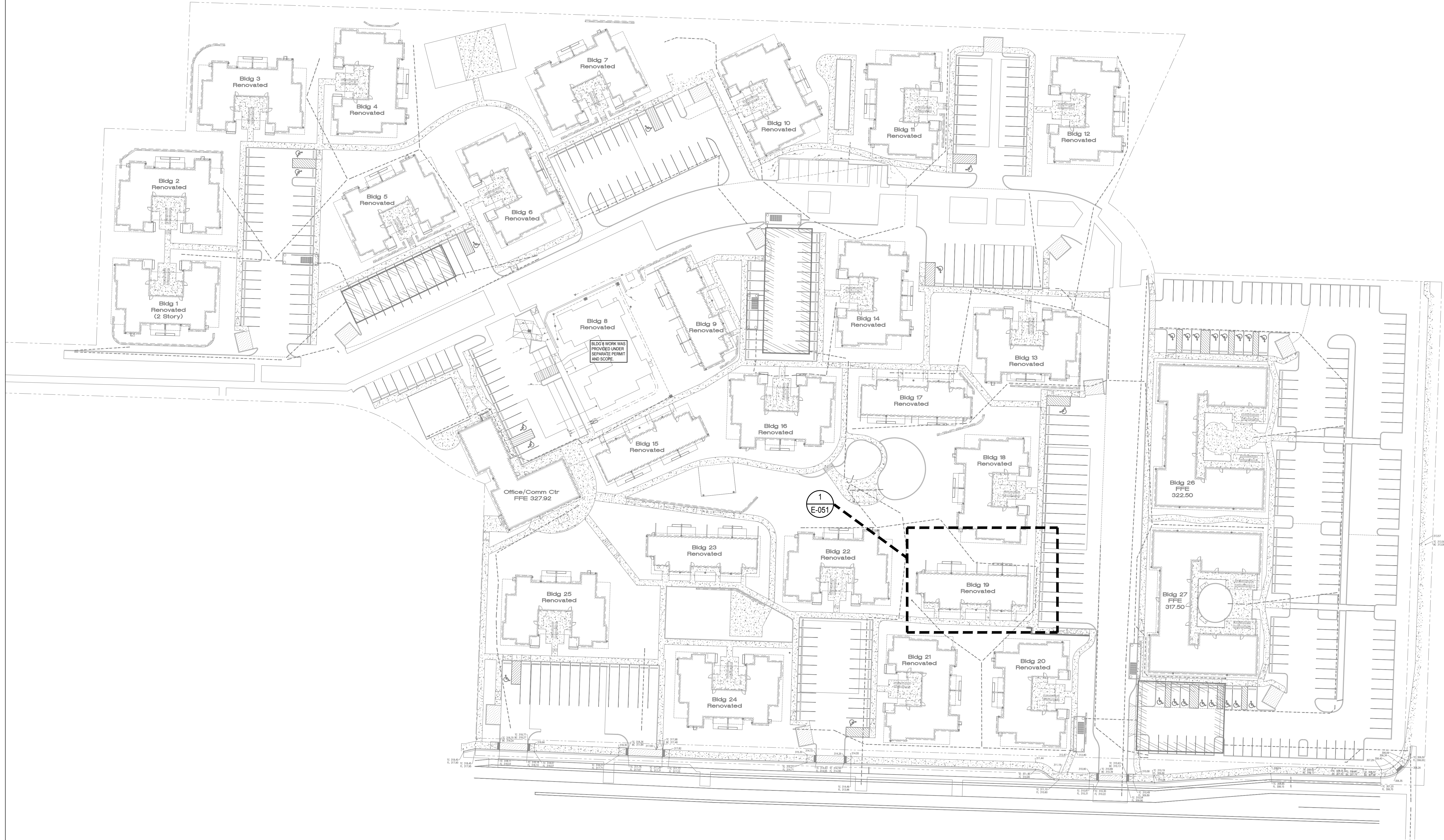
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LUMINAIRE  
SCHEDULE

PERMIT #  
DRAWN RA, JF  
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ISSUE DATE 4/14/2023  
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SHEET NO.:

E19-005



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

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 19  
BID SET**



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TITLE  
**OVERALL  
PROJECT SITE  
PLAN**

PERMIT #  
DRAWN RA, JF  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E19-050**



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.



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**New Kirkland Heights LLLP**  
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13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

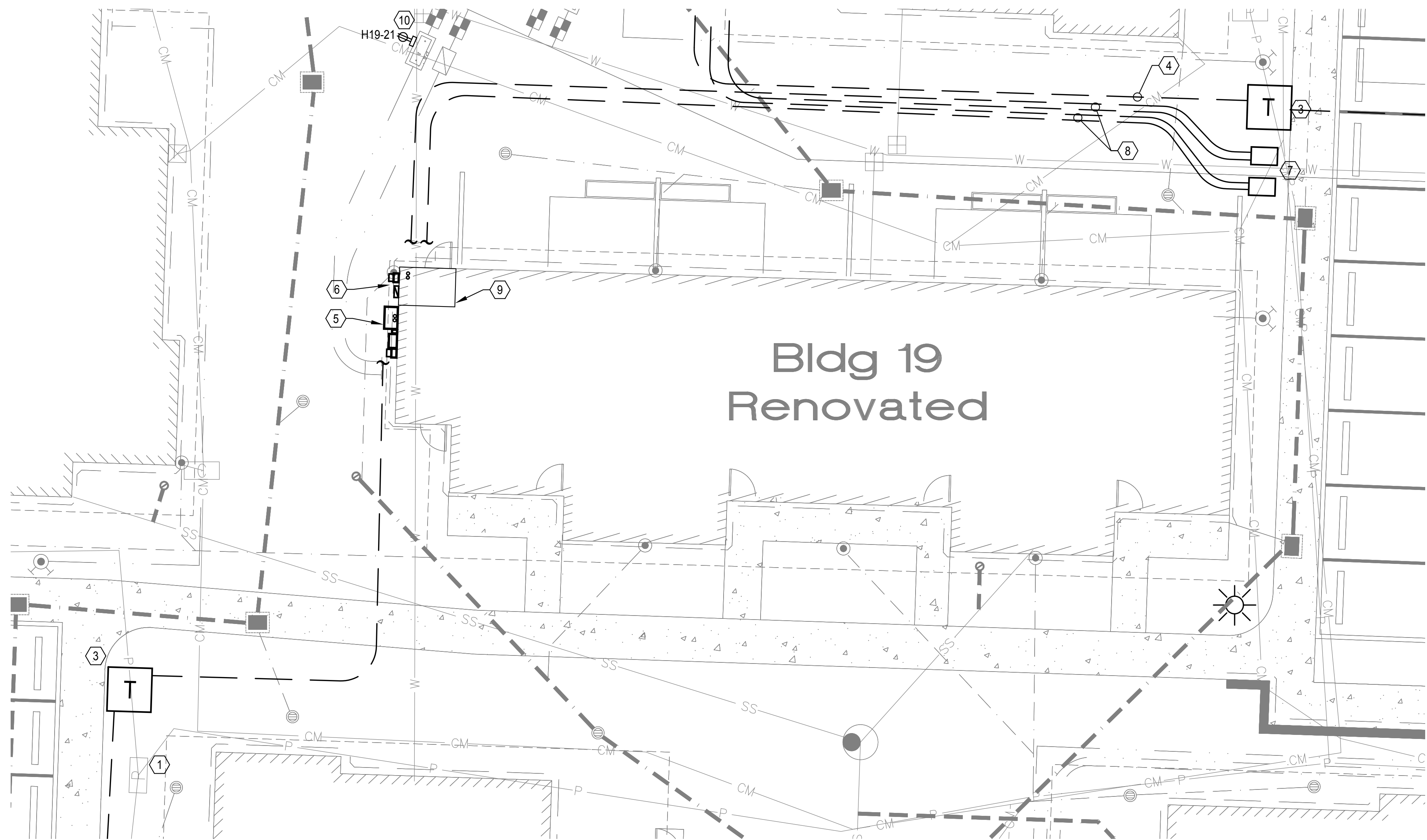
## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 19 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION



### ELECTRICAL SITE PLAN - BUILDING 19

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

#### FLAG NOTES (X):

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

#### GENERAL NOTES:

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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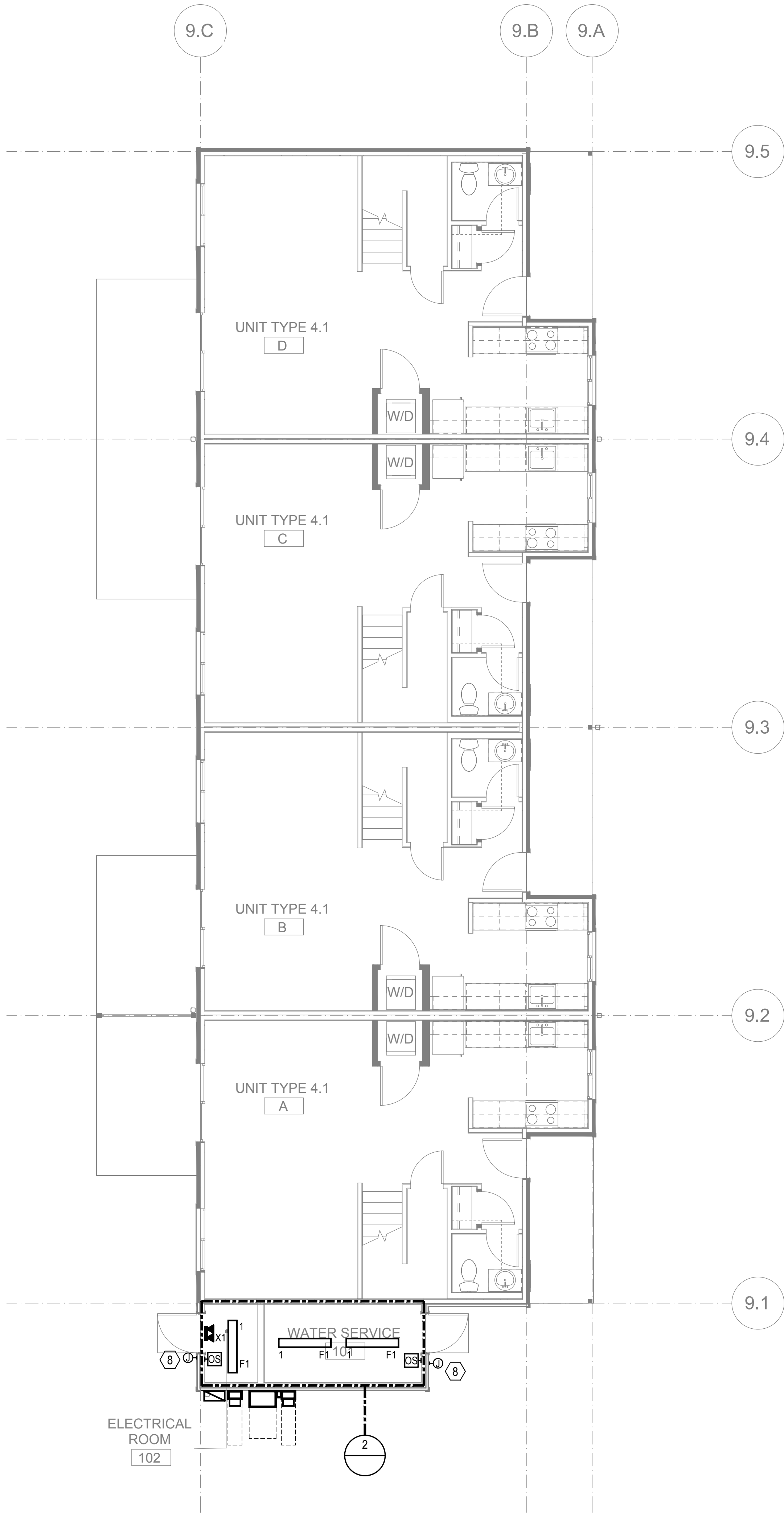
### ELECTRICAL SITE PLAN - BUILDING 19

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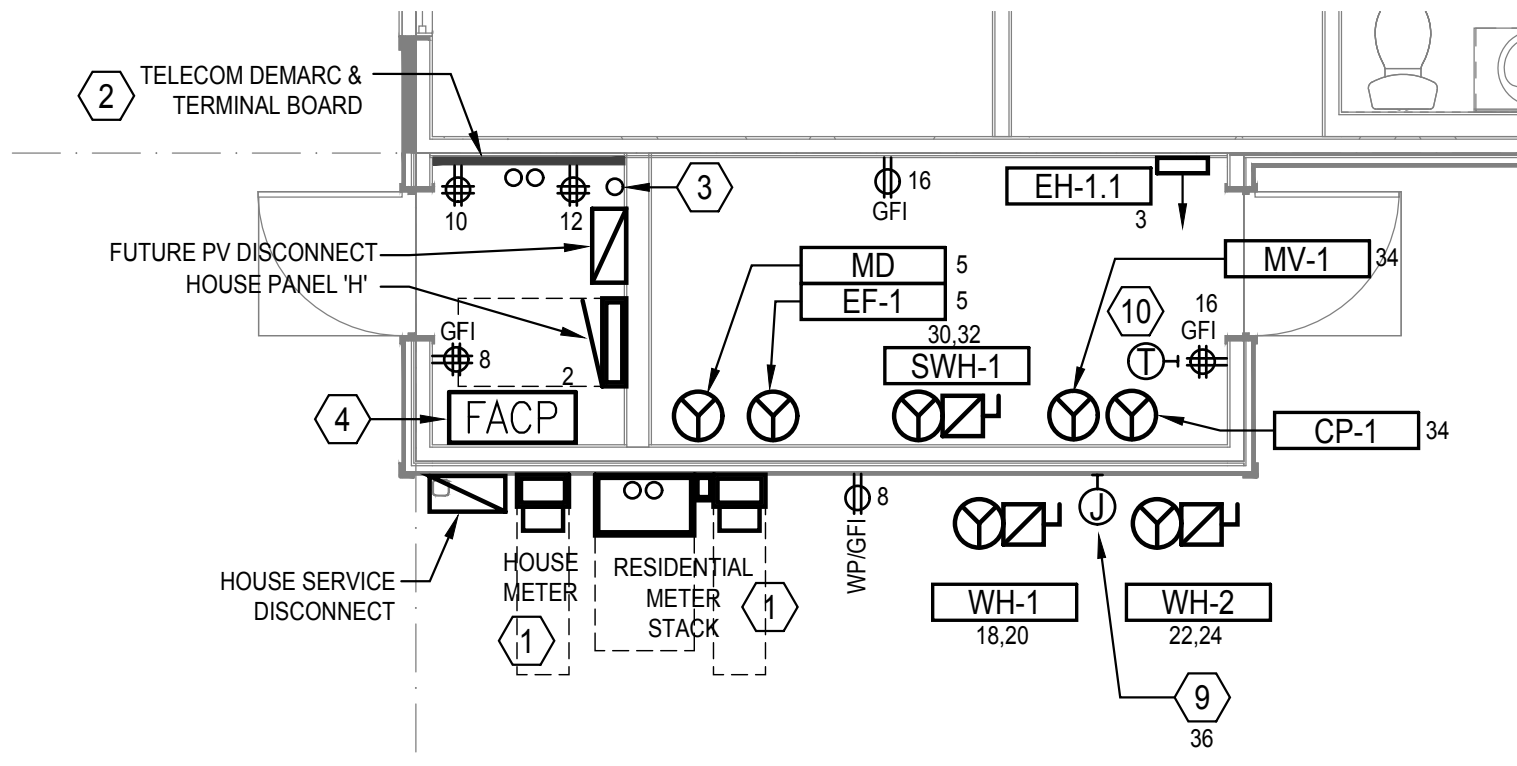
POWER AND LIGHTING PLAN - BUILDING 19 - LEVEL 1  
SCALE: 3/16"=1'-0"

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:
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):
- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
  - 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.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - NOT USED.
  - NOT USED.
  - NOT USED.
  - 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.
  - 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.
  - ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



ELECTRICAL AND  
WATER ROOM

1/4"=1'-0"




SIDER+BYERS

MECHANICAL • ELECTRICAL ENGINEERS

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King County  
Housing  
Authority

New Kirkland Heights LLLP  
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KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 19  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

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TITLE

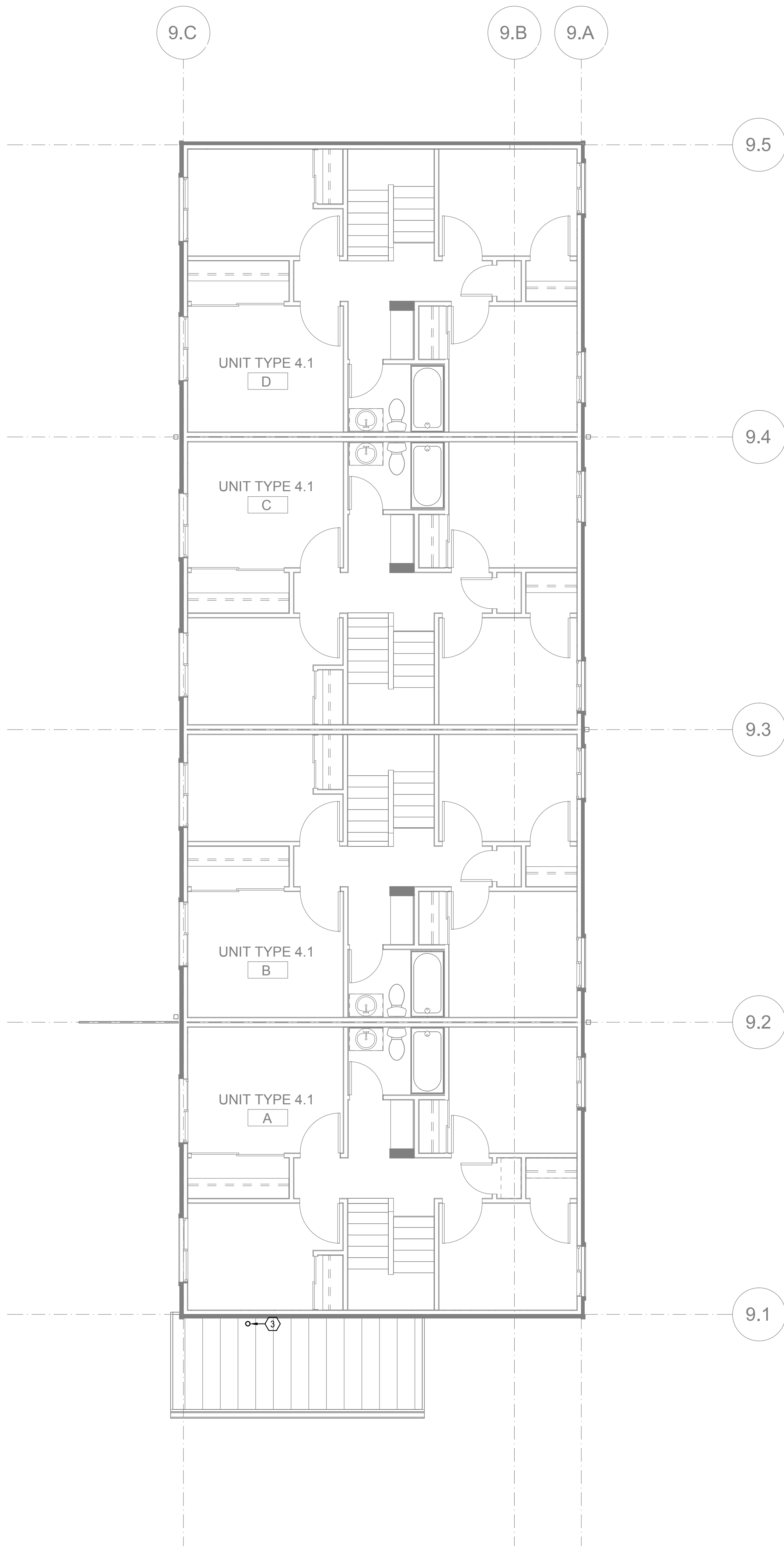
POWER AND  
LIGHTING  
PLAN -  
BUILDING 19 -  
LEVEL 1

PERMIT #	
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ISSUE DATE	4/14/2023
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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.

GENERAL NOTES:

- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):

- NOT USED.
- NOT USED.
- 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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KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 19  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

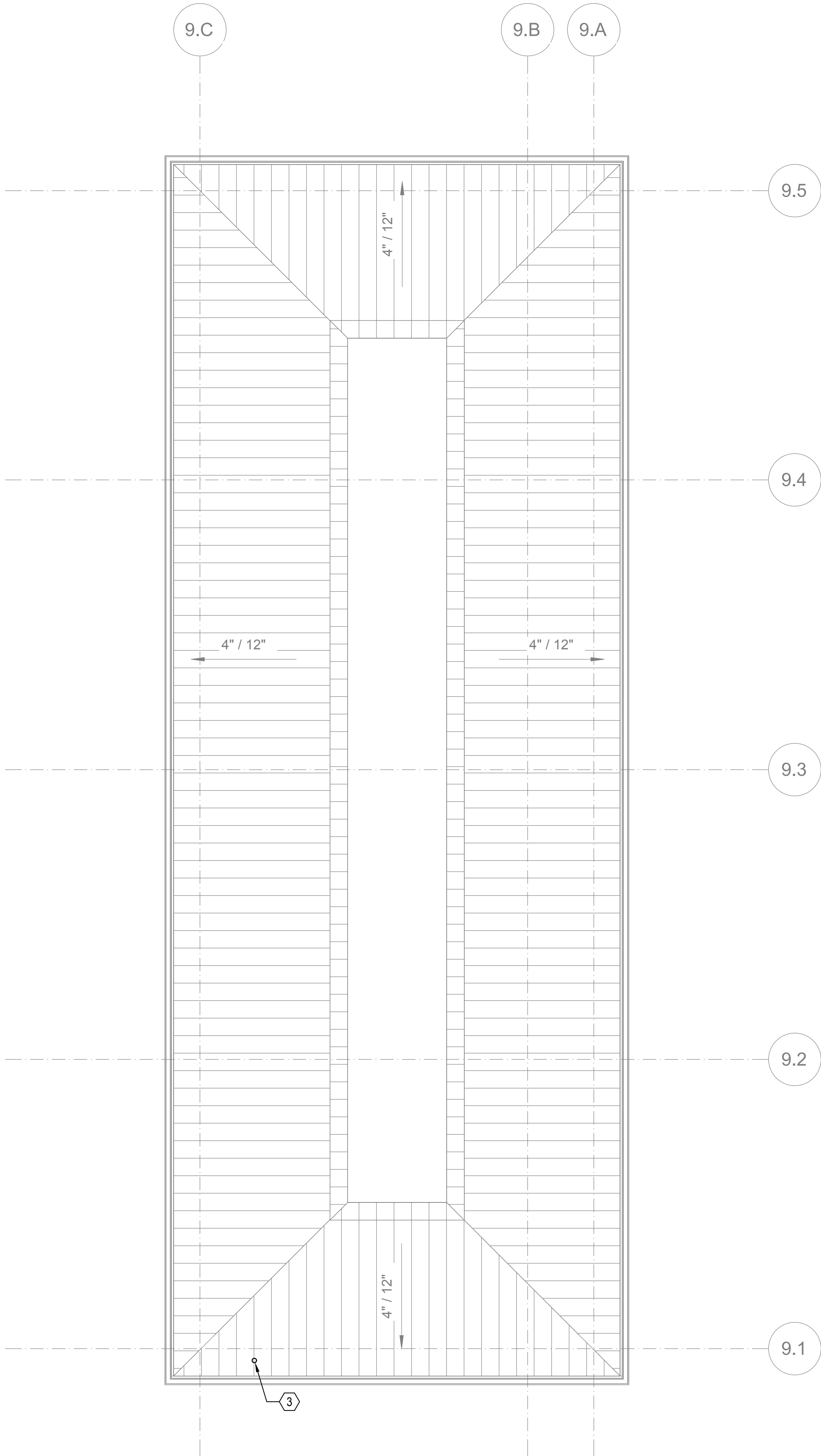
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TITLE  
POWER AND LIGHTING  
PLAN -  
BUILDING 19 -  
LEVEL 2

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

E19-102





**POWER PLAN - BUILDING 19 - 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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**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 19**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

DPD STAMP

TITLE  
**POWER PLAN -  
BUILDING 19 -  
ROOF**

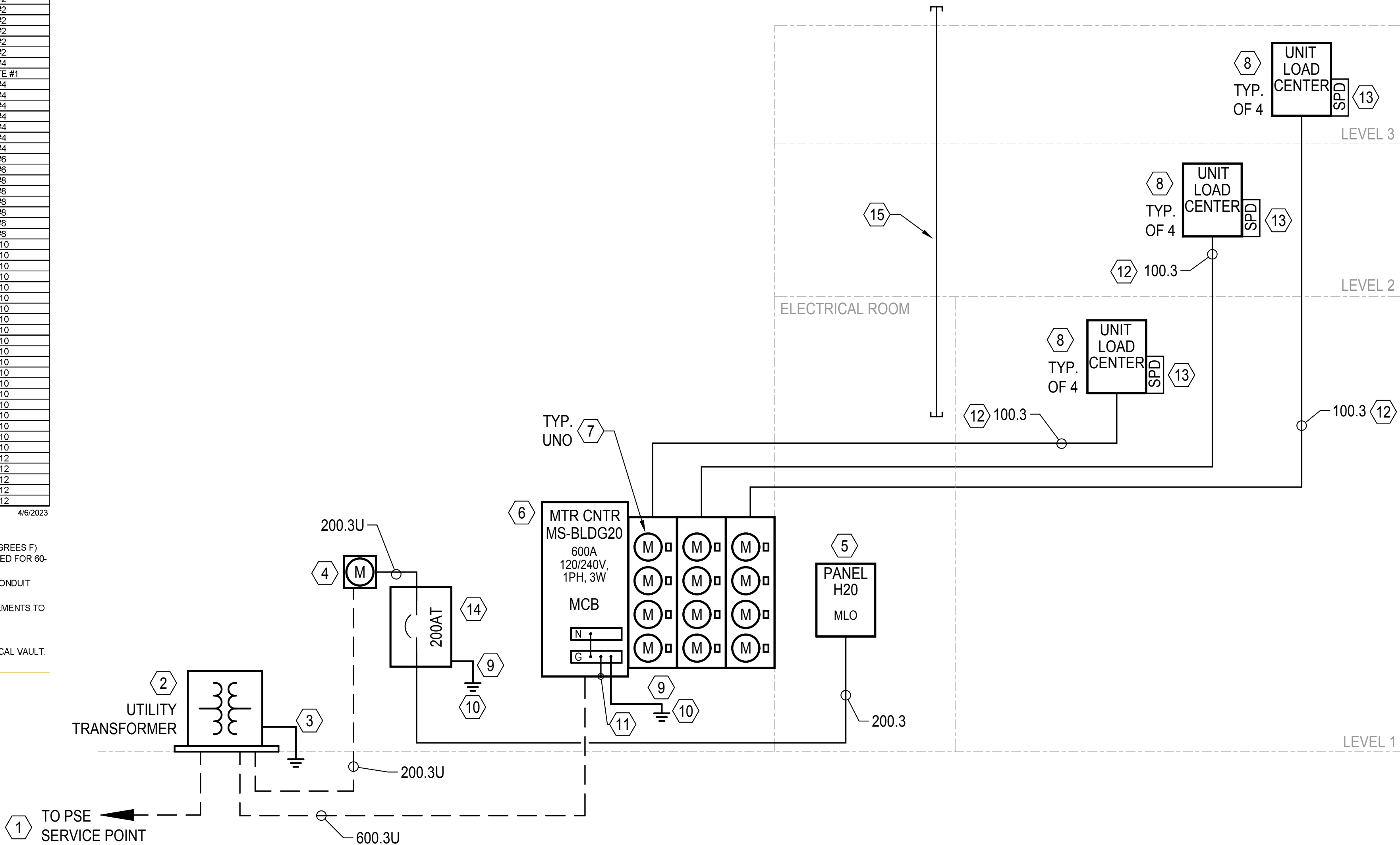
PERMIT #	
DRAWN	RA, JF
CHECKED	GL
ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

**E19-103**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WETS) 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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
80.3	(1) 1.5-INCH	CU	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#1/0
60.3	(1) 1.5-INCH	CU	(3) #4	#1/0
60.2N	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#1/0
60.2	(1) 1.5-INCH	CU	(2) #4	#1/0
60.1	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#1/0
50.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#1/0
50.3	(1) 1.5-INCH	CU	(3) #5	#1/0
50.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#1/0
50.2	(1) 1.5-INCH	CU	(2) #5	#1/0
50.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#1/0
40.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#1/0
40.3	(1) 1.5-INCH	CU	(3) #5	#1/0
40.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#1/0
40.2	(1) 1.5-INCH	CU	(2) #5	#1/0
40.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#1/0
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#1/0
30.3	(1) 1.5-INCH	CU	(3) #10	#1/0
30.2N	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#1/0
30.2	(1) 1.5-INCH	CU	(2) #10	#1/0
30.1	(1) 1.5-INCH	CU	(1) #10 / (1) #10 N	#1/0
20.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#1/2
20.3	(1) 1.5-INCH	CU	(3) #12	#1/2
20.2N	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#1/2
20.2	(1) 1.5-INCH	CU	(2) #12	#1/2
20.1	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#1/2

GENERAL SCHEDULE NOTES: 4/6/2023  
A. AL= ALUMINUM (STRAYLOY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/TMVN INSULATION).  
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75 DEGREES C (167 DEGREES F).  
AS PER NEC 110.14C(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.



## SINGLE LINE DIAGRAM

SCALE: NTS

## LOAD CALCULATIONS - BLDG 20

UNIT TYPE: 2BR - 2.1		AREA (SF): 782	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	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			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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): 908	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	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			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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			4/6/2023				
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				COOKING APPLIANCES						
							QTY	LOAD (KVA)		1.5< X < 3.5KW	QTY	LOAD (KVA)	3.5KW < X < 8.75KW	8.75KW < X < 12KW	QTY	LOAD (KVA)	
2BR - 2.1		6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	0	0.00	6	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	0	0.00	6	52.80	
0									0	0.00	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	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)		4/6/2023
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
270.14 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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c/o: King County Housing Authority,  
General Partner  
13310 NE 133rd St.  
Kirkland, WA 98034  
CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.  
Kirkland, WA 98034

## BUILDING 20

BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

## SINGLE LINE DIAGRAM AND LOAD CALCS

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

# E20-003



FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT #(SETS) SIZE	AL OR CU	CONDUCTORS PER SET		GROUND (1 PER SET UNO)
			PHASE 1 (NEUTRAL (N) QTY) SIZE	PHASE 2 (NEUTRAL (N) QTY) SIZE	
500.3U	(2) 4-INCH	AL	(3) 500 KCMIL	(3) 500 KCMIL	NOTE #1
500.3	(2) 4-INCH	AL	(3) 500 KCMIL	(3) 500 KCMIL	#10
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	(3) 350 KCMIL	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	(3) 350 KCMIL	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	(3) 300 KCMIL	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	(3) 300 KCMIL	NOTE #1
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	(3) 250 KCMIL	#1
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	(3) 700 KCMIL	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	(3) 700 KCMIL	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	(3) 500 KCMIL	#2
300.3	(1) 3-INCH	AL	(3) 500 KCMIL	(3) 500 KCMIL	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	(3) 350 KCMIL	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	(3) 350 KCMIL	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	(3) 300 KCMIL	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	(3) 300 KCMIL	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	(3) 250 KCMIL	#4
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	(3) 250 KCMIL	NOTE #1
175.4	(1) 3-INCH	AL	(3) 250 KCMIL	(3) 250 KCMIL	#4
175.3	(1) 3-INCH	AL	(3) #40 / (1) #40 N	(3) #40	#4
150.4	(1) 2-INCH	AL	(3) #30 / (1) #30 N	(3) #30	#4
150.3	(1) 2-INCH	AL	(3) #30	(3) #30	#4
125.4	(1) 2-INCH	AL	(3) #20 / (1) #20 N	(3) #20	#4
125.3	(1) 2-INCH	AL	(3) #20	(3) #20	#4
100.4	(1) 2-INCH	AL	(3) #10 / (1) #10 N	(3) #10	#5
100.3	(1) 2-INCH	CU	(3) #10	(3) #10	#5
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	(3) #2	#5
90.3	(1) 1.5-INCH	CU	(3) #2	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	(3) #3	#5
80.3	(1) 1.5-INCH	CU	(3) #3	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	(3) #4	#5
70.3	(1) 1.5-INCH	CU	(3) #4	(3) #4	#5
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N	(3) #4	#10
60.3	(1) 1-INCH	CU	(3) #4	(3) #4	#10
60.2U	(1) 1-INCH	CU	(2) #4 / (1) #4 N	(2) #4	#10
60.2	(1) 1-INCH	CU	(2) #4	(2) #4	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	(1) #4	#10
50.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	(3) #5	#10
50.3	(1) 1-INCH	CU	(3) #5	(3) #5	#10
50.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	(2) #5	#10
50.2	(1) 1-INCH	CU	(2) #5	(2) #5	#10
50.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	(1) #5	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	(3) #5	#10
40.3	(1) 1-INCH	CU	(3) #5	(3) #5	#10
40.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	(2) #5	#10
40.2	(1) 1-INCH	CU	(2) #5	(2) #5	#10
40.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	(1) #5	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	(3) #10	#10
30.3	(1) 1-INCH	CU	(3) #10	(3) #10	#10
30.2U	(1) 1-INCH	CU	(2) #10 / (1) #10 N	(2) #10	#10
30.2	(1) 1-INCH	CU	(2) #10	(2) #10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	(1) #10	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	(3) #12	#12
20.3	(1) 1-INCH	CU	(3) #12	(3) #12	#12
20.2U	(1) 1-INCH	CU	(2) #12 / (1) #12 N	(2) #12	#12
20.2	(1) 1-INCH	CU	(2) #12	(2) #12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	(1) #12	#12

**GENERAL SCHEDULE NOTES:**

A. AL= ALUMINUM (STABLOY 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	40	65	100	160
	30	3.60	35	55	85	135
	40	4.80	25	40	60	95
	50	6.00	20	30	45	70
208V / 3-PHASE	2	0.42	580	1465	2250	3695
	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	65	115	180	285
	30	6.24	55	95	150	235
	35	7.28	45	75	125	200
	40	8.32	35	60	100	155
	45	9.36	30	50	85	135
208V / 3-PHASE	50	10.40	25	40	60	90
	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2080
	6	2.16	335	565	865	1370
	8	2.88	250	430	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	250	410
	25	9.01	75	135	205	325
	30	10.81	60	110	170	270
	35	12.61	50	90	145	235
	40	14.41	40	70	110	175
208V / 3-PHASE	45	16.21	35	60	90	140
	50	18.01	30	50	75	115
	55	19.81	25	40	60	90

**NOTES:**

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											
NORMAL POWER		200 AMPERE		FED FROM		XFR		LOCATION		ELECTRICAL ROOM	
AC - SEE SINGLE LINE DIAGRAM		VOLTAGE		120 / 240 V		1 PHASE, 3 WIRE		FLUSH MOUNTED		SURFACE MOUNTED	
CKT #	DESCRIPTION	CONN LOAD	TYPE	AMPS	CB	AMP	PH	CONN LOAD	TYPE	AMPS	DESCRIPTION
1	170-BRIDGEWAY	1	20	20	1	A	20	20	1	A	FIRE ALARM CONTROL PANEL
2	SPARE										SPARE
3	RECEPT-LV-1-BRIDGEWAY	3	20	20	1	A	20	20	1	A	171-1A
4	RECEPT-LV-2-BRIDGEWAY	4	20	20	1	A	20	20	1	A	171-1A
5	RECEPT-LV-3-BRIDGEWAY	5	20	20	1	A	20	20	1	A	171-1A
6	RECEPT-LV-4-BRIDGEWAY	6	20	20	1	A	20	20	1	A	171-1A
7	RECEPT-LV-5-BRIDGEWAY	7	20	20	1	A	20	20	1	A	171-1A
8	RECEPT-LV-6-BRIDGEWAY	8	20	20	1	A	20	20	1	A	171-1A
9	RECEPT-LV-7-BRIDGEWAY	9	20	20	1	A	20	20	1	A	171-1A
10	RECEPT-LV-8-BRIDGEWAY	10	20	20	1	A	20	20	1	A	171-1A
11	RECEPT-LV-9-BRIDGEWAY	11	20	20	1	A	20	20	1	A	171-1A
12	RECEPT-LV-10-BRIDGEWAY	12	20	20	1	A	20	20	1	A	171-1A
13	ELECTRIC HEATER	13	20	20	1	A	20	20	1	A	171-1A
14	ELECTRIC HEATER	14	20	20	1	A	20	20	1	A	171-1A
15	ELECTRIC HEATER	15	20	20	1	A	20	20	1	A	171-1A
16	ELECTRIC HEATER	16	20	20	1	A	20	20	1	A	171-1A
17	ELECTRIC HEATER	17	20	20	1	A	20	20	1	A	171-1A
18	ELECTRIC HEATER	18	20	20	1	A	20	20	1	A	171-1A
19	ELECTRIC HEATER	19	20	20	1	A	20	20	1	A	171-1A
20	ELECTRIC HEATER	20	20	20	1	A	20	20	1	A	171-1A
21	ELECTRIC HEATER	21	20	20	1	A	20	20	1	A	171-1A
22	ELECTRIC HEATER	22	20	20	1	A	20	20	1	A	171-1A
23	ELECTRIC HEATER	23	20	20	1	A	20	20	1	A	171-1A
24	ELECTRIC HEATER	24	20	20	1	A	20	20	1	A	171-1A
25	ELECTRIC HEATER	25	20	20	1	A	20	20	1	A	171-1A
26	ELECTRIC HEATER	26	20	20	1	A	20	20	1	A	171-1A
27	ELECTRIC HEATER	27	20	20	1	A	20	20	1	A	171-1A
28	ELECTRIC HEATER	28	20	20	1	A	20	20	1	A	171-1A
29	ELECTRIC HEATER	29	20	20	1	A	20	20	1	A	171-1A
30	ELECTRIC HEATER	30	20	20	1	A	20	20	1	A	171-1A
31	ELECTRIC HEATER	31	20	20	1	A	20	20	1	A	171-1A
32	ELECTRIC HEATER	32	20	20	1	A	20	20	1	A	171-1A
33	ELECTRIC HEATER	33	20	20	1	A	20	20	1	A	171-1A
34	ELECTRIC HEATER	34	20	20	1	A	20	20	1	A	171-1A
35	ELECTRIC HEATER	35	20	20	1	A	20	20	1	A	171-1A
36	ELECTRIC HEATER	36	20	20	1	A	20	20	1	A	171-1A
37	ELECTRIC HEATER	37	20	20	1	A	20	20	1	A	171-1A
38	ELECTRIC HEATER	38	20	20	1	A	20	20	1	A	171-1A
39	ELECTRIC HEATER	39	20	20	1	A	20	20	1	A	171-1A
40	ELECTRIC HEATER	40	20	20	1	A	20	20	1	A	171-1A
41	ELECTRIC HEATER	41	20	20	1	A	20	20	1	A	171-1A
42	ELECTRIC HEATER	42	20	20	1	A	20	20	1	A	171-1A
43	ELECTRIC HEATER	43	20	20	1	A	20	20	1	A	171-1A
44	ELECTRIC HEATER	44	20	20	1	A	20	20	1	A	171-1A
45	ELECTRIC HEATER	45	20	20	1	A	20	20	1	A	171-1A
46	ELECTRIC HEATER	46	20	20	1	A	20	20	1	A	171-1A
47	ELECTRIC HEATER	47	20	20	1	A	20	20	1	A	171-1A
48	ELECTRIC HEATER	48	20	20	1	A	20	20	1	A	171-1A
49	ELECTRIC HEATER	49	20	20	1	A	20	20	1	A	171-1A
50	ELECTRIC HEATER	50	20	20	1	A	20	20	1	A	171-1A
51	ELECTRIC HEATER	51	20	20	1	A	20	20	1	A	171-1A
52	ELECTRIC HEATER	52	20	20	1	A	20	20	1	A	171-1A
53	ELECTRIC HEATER	53	20	20	1	A	20	20	1	A	171-1A
54	ELECTRIC HEATER	54	20	20	1	A	20	20	1	A	171-1A
55	ELECTRIC HEATER	55	20	20	1	A	20	20	1	A	171-1A
56	ELECTRIC HEATER	56	20	20	1	A	20	20	1	A	171-1A
57	ELECTRIC HEATER	57	20	20	1	A	20	20	1	A	171-1A
58	ELECTRIC HEATER	58	20	20	1	A	20	20	1	A	171-1A
59	ELECTRIC HEATER	59	20	20	1	A	20	20	1	A	171-1A
60	ELECTRIC HEATER	60	20	20	1	A	20	20	1	A	171-1A
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64	ELECTRIC HEATER	64	20	20	1	A	20	20	1	A	171-1A
65	ELECTRIC HEATER	65	20	20	1	A	20	20	1	A	171-1A
66	ELECTRIC HEATER	66	20	20	1	A	20	20	1	A	171-1A
67	ELECTRIC HEATER	67	20	20	1	A	20	20	1	A	171-1A
68	ELECTRIC HEATER	68	20	20	1	A	20	20	1	A	171-1A
69	ELECTRIC HEATER	69	20	20	1	A	20	20	1	A	171-1A
70	ELECTRIC HEATER	70	20	20	1	A	20	20	1	A	171-1A
71	ELECTRIC HEATER	71	20	20	1	A	20	20	1	A	171-1A
72	ELECTRIC HEATER	72	20	20	1	A	20	20	1	A	171-1A
73	ELECTRIC HEATER	73	20	20	1	A	20	20	1	A	171-1A
74	ELECTRIC HEATER	74	20	20	1	A	20	20	1	A	171-1A
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76	ELECTRIC HEATER	76	20	20	1	A	20	20	1	A	171-1A
77	ELECTRIC HEATER	77	20	20	1	A	20	20	1	A	171-1A
78	ELECTRIC HEATER	78	20	20	1	A	20	20	1	A	171-1A
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107	ELECTRIC HEATER	107	20	20	1	A	20	20	1	A	171-1A
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113	ELECTRIC HEATER	113	20	20	1	A	20	20	1	A	171-1A
114	ELECTRIC HEATER	114	20	20	1	A	20	20	1	A	171-1A
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116	ELECTRIC HEATER	116	20	20	1	A	20	20	1	A	171-1A
117	ELECTRIC HEATER	117	20	20	1	A	20	20	1	A	171-1A
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121	ELECTRIC HEATER	121	20	20	1	A	20	20	1	A	171-1A
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127	ELECTRIC HEATER	127	20	20	1	A	20	20	1	A	171-1A
128	ELECTRIC HEATER	128	20	20	1	A	20	20	1	A	171-1A
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134	ELECTRIC HEATER	134	20	20	1	A	20	20	1	A	171-1A
135	ELECTRIC HEATER	135	20	20	1	A	20	20	1	A	171-1A
136	ELECTRIC HEATER	136	20	20	1	A	20	20	1	A	171-1A
137	ELECTRIC HEATER	137	20	20	1	A	20	2			



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S8707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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.



192 Nickerson, Suite #300  
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FX: 206.623.5285



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

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 20  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

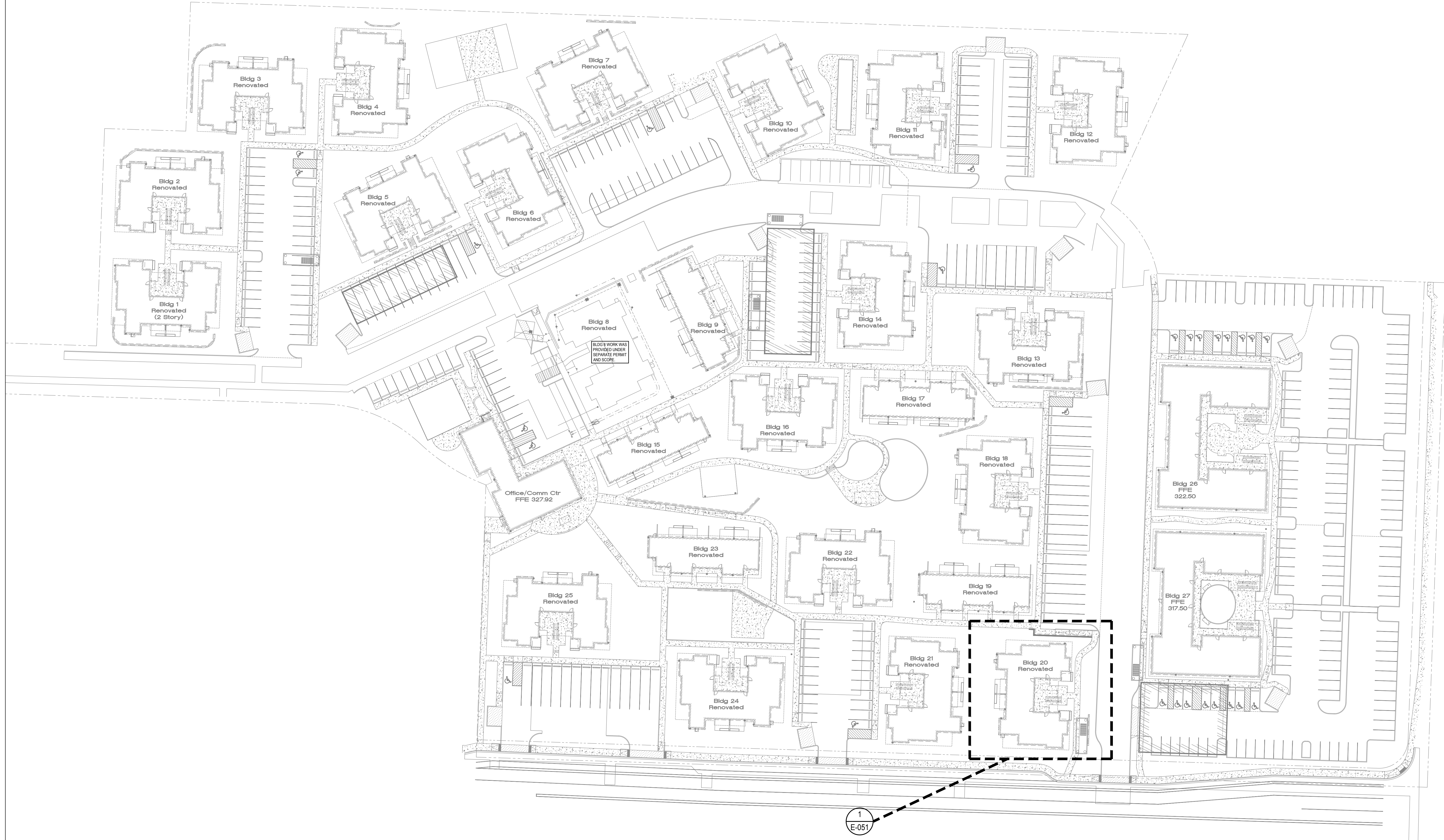
TITLE  
  
LUMINAIRE  
SCHEDULE

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

E20-005



10/7/2021 7:33:34 AM



## 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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CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

## BUILDING 20 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

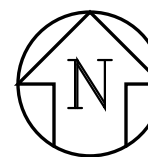
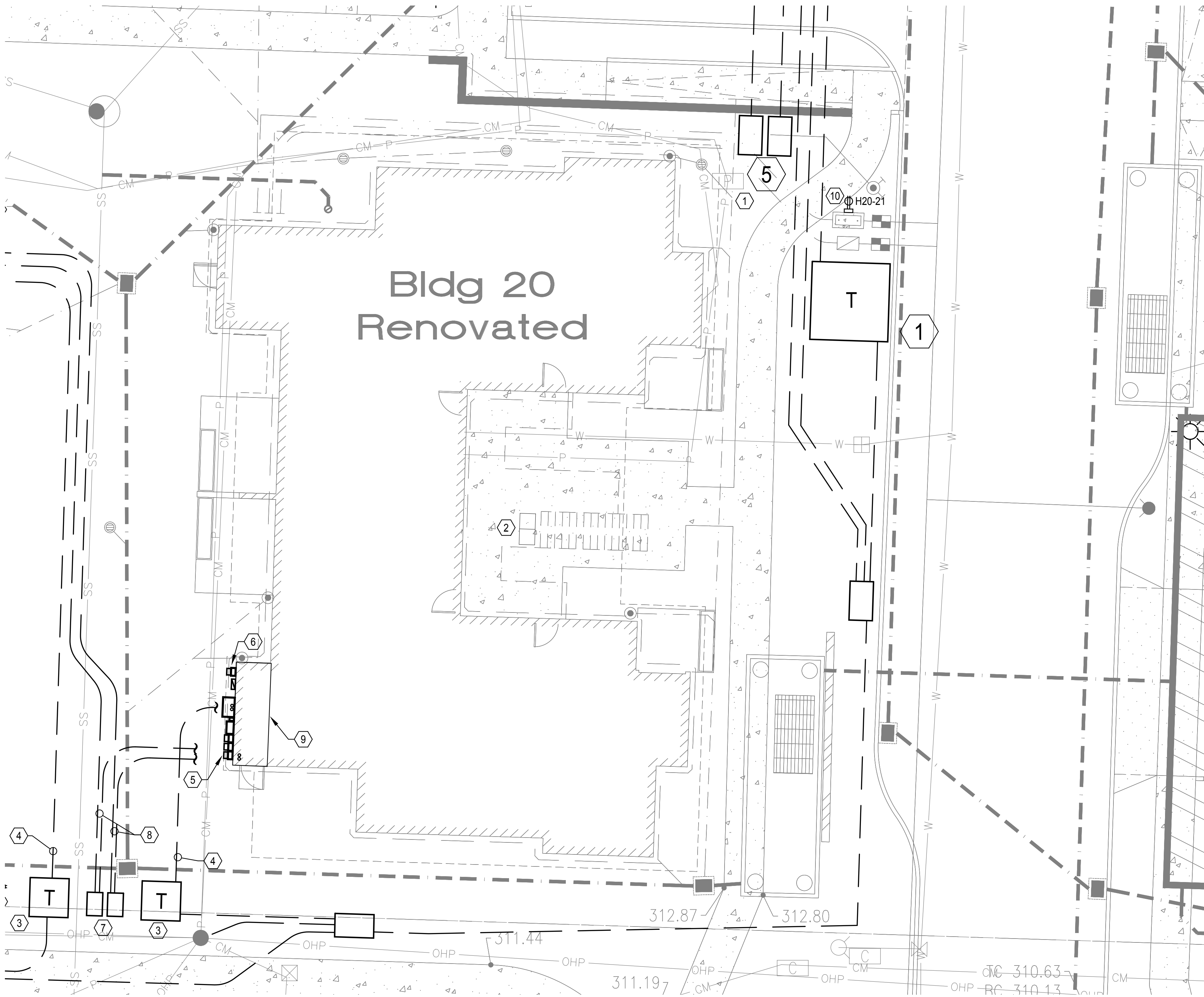
TITLE

OVERALL  
PROJECT SITE  
PLAN

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

E20-050





**ELECTRICAL SITE PLAN - BUILDING 20**  
SCALE: 1/8" = 1'-0"

**FLAG NOTES (X):**

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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 ENCASMENT AS REQUIRED PER PSE REQUIREMENTS.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

**GENERAL NOTES:**

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 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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**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 20  
BID SET**



REVISIONS / NOTES  
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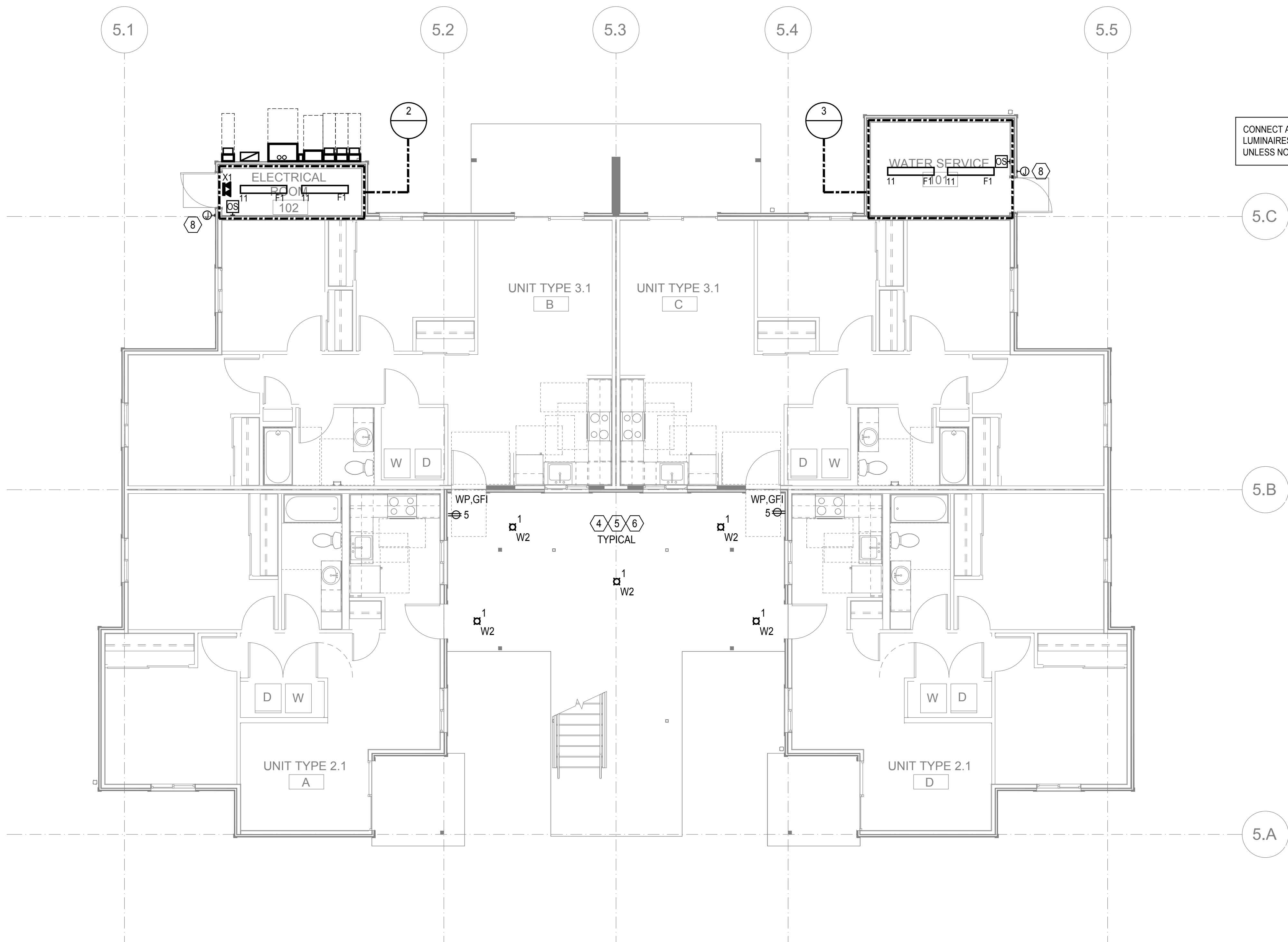
TITLE

**ELECTRICAL  
SITE PLAN -  
BUILDING 20**

PERMIT #  
DRAWN RA, JF  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E20-051**





**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.

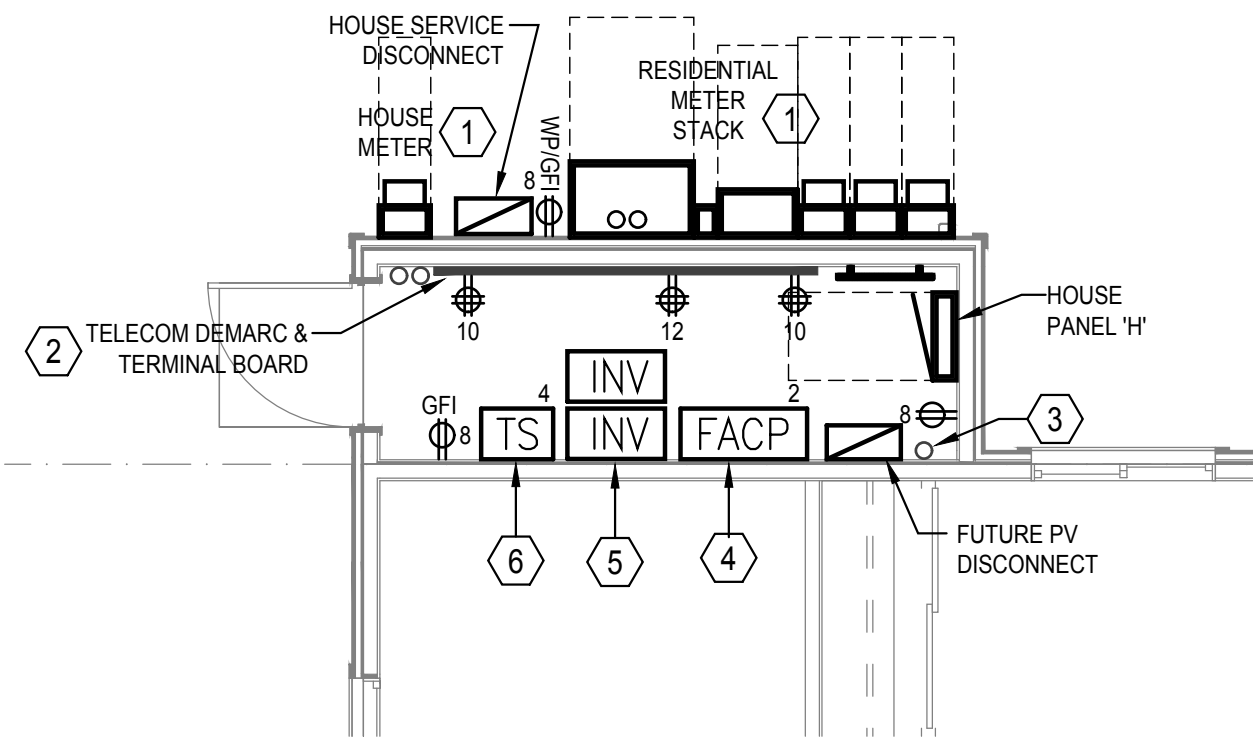
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

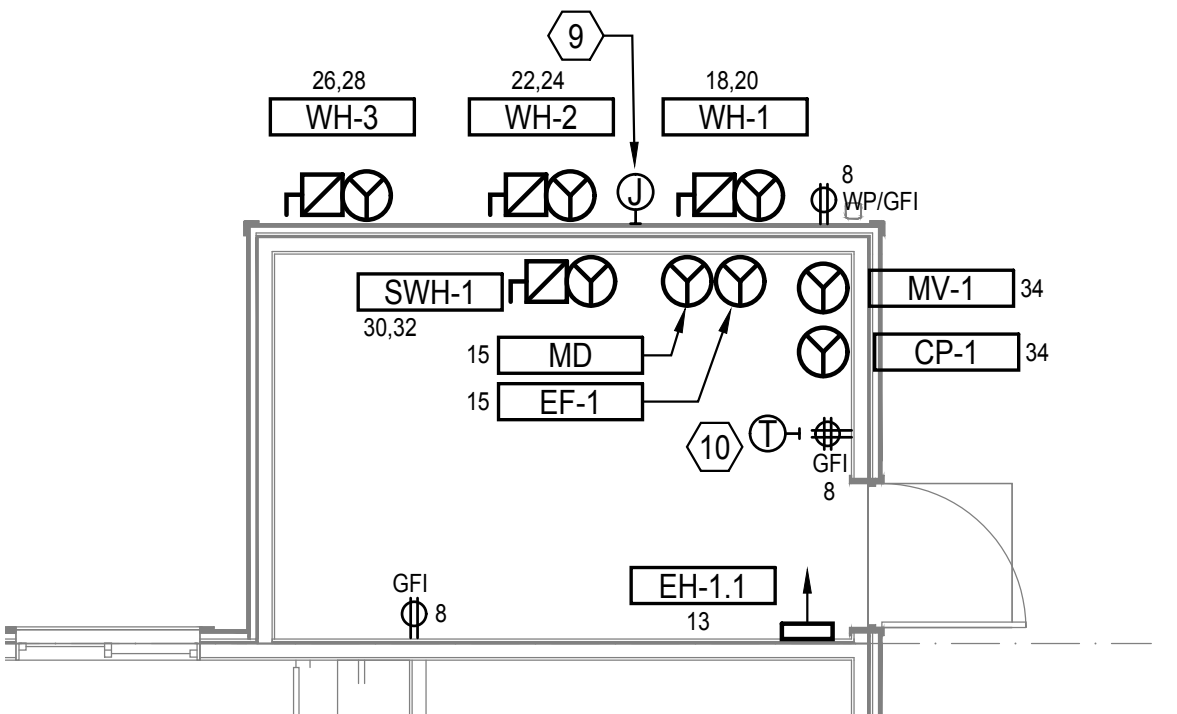
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHA. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



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



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



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New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
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13310 NE 133<sup>rd</sup> St.  
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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 20**  
BID SET



REVISIONS / NOTES  
NO. DATE DESCRIPTION

DPD STAMP

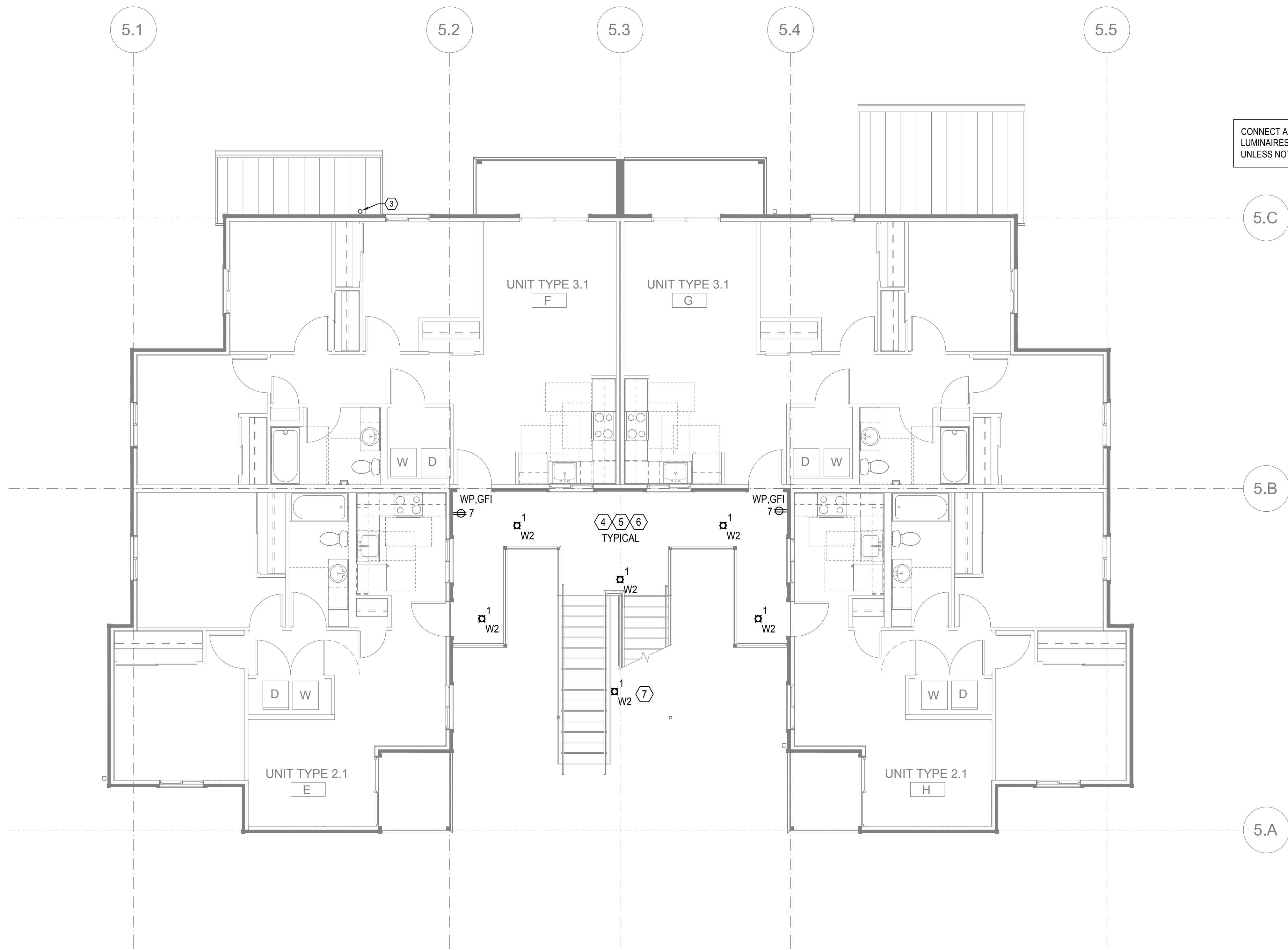
TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 20 -  
LEVEL 1**

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

**E20-101**



10/7/2021 1:33:34 AM



**POWER AND LIGHTING PLAN - BUILDING 20 - LEVEL 2**  
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:**

- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- NOT USED.
- NOT USED.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.



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13317 NE 133rd St.,  
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**BUILDING 20**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

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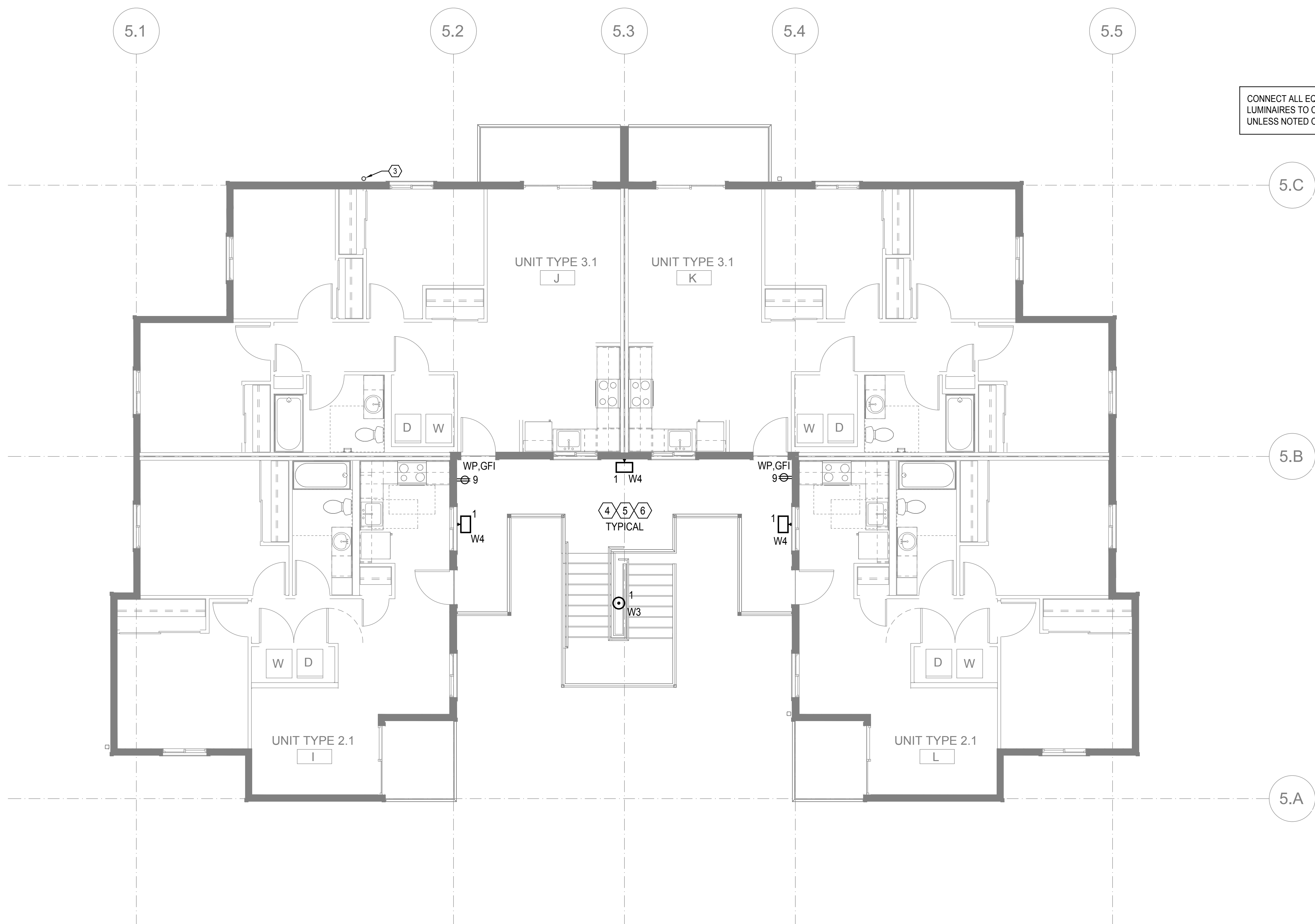
TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 20 -  
LEVEL 2**

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

**E20-102**



10/7/2021 1:33:34 AM



**POWER AND LIGHTING PLAN - BUILDING 20 - LEVEL 3**  
SCALE: 3/16"=1'-0"

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

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  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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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  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - 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
  - 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.



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13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 20**  
BID SET



REVISIONS / NOTES  
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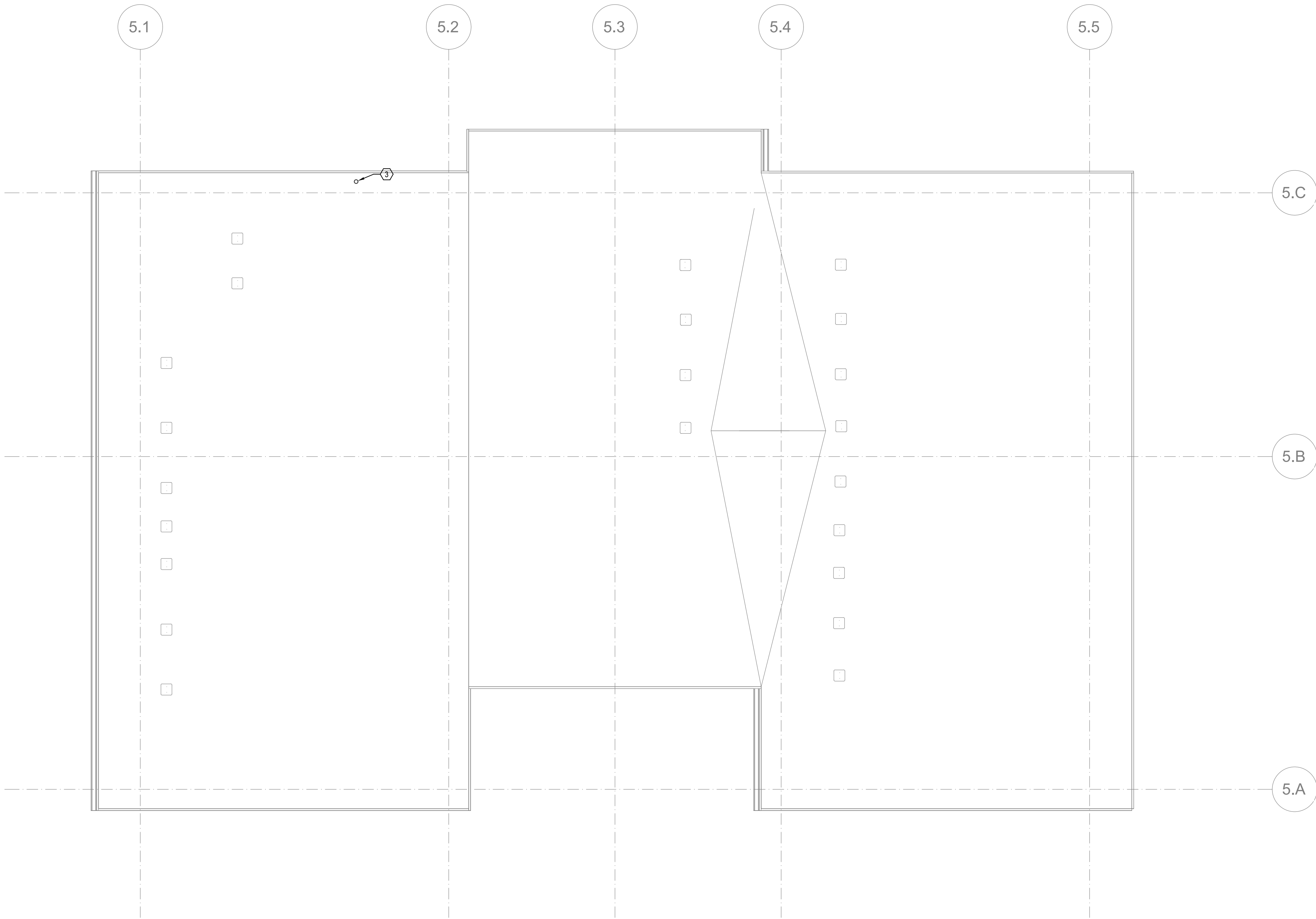
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TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 20 -  
LEVEL 3**

PERMIT #  
DRAWN RA, JF  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E20-103**





**POWER PLAN - BUILDING 20 - 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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CONTRACT #: TC2300131

**KIRKLAND  
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13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 20**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

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TITLE  
**POWER PLAN -  
BUILDING 20 -  
ROOF**

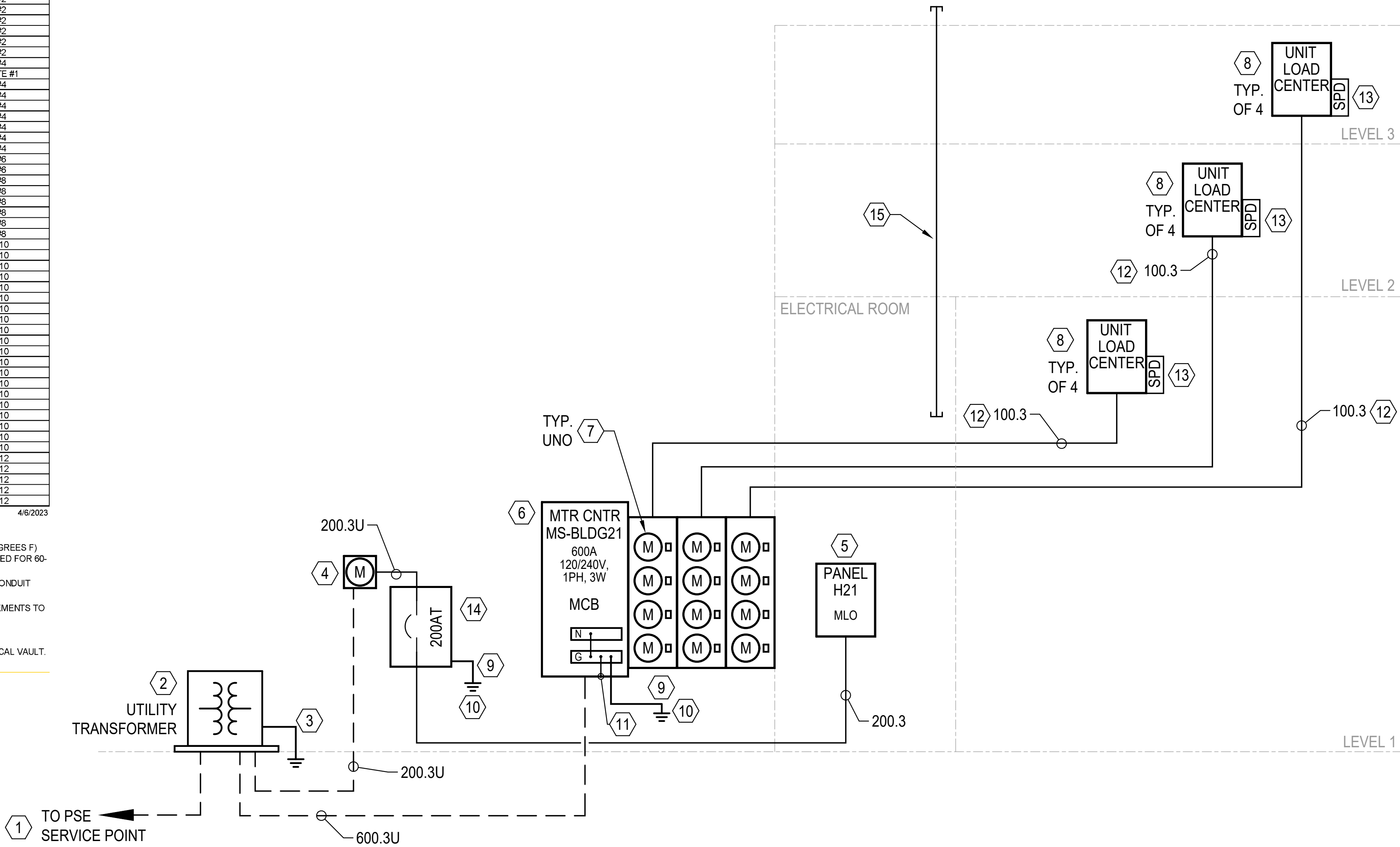
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**E20-104**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WETS) 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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
80.3	(1) 1.5-INCH	CU	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1.5-INCH	CU	(3) #4	#10
60.2N	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1.5-INCH	CU	(2) #4	#10
60.1	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
50.3	(1) 1.5-INCH	CU	(3) #5	#10
50.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
50.2	(1) 1.5-INCH	CU	(2) #5	#10
50.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
40.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
40.3	(1) 1.5-INCH	CU	(3) #5	#10
40.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
40.2	(1) 1.5-INCH	CU	(2) #5	#10
40.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1.5-INCH	CU	(3) #10	#10
30.2N	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1.5-INCH	CU	(2) #10	#10
30.1	(1) 1.5-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1.5-INCH	CU	(3) #12	#12
20.2N	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1.5-INCH	CU	(2) #12	#12
20.1	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 4/6/2023  
A. AL= ALUMINUM (STRAYLOY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/TMVN INSULATION).  
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75 DEGREES C (167 DEGREES F).  
AS PER NEC 110.14C(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.



## SINGLE LINE DIAGRAM

SCALE: NTS

## LOAD CALCULATIONS - BLDG 21

UNIT TYPE: 2BR - 2.1		AREA (SF): 782	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	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			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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): 908	4/6/2023
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]:			
REFRIGERATOR	1	AT	0.70 kVA
RANGE HOOD	1	AT	0.30 kVA
MICROWAVE	1	AT	0.00 kVA
DISHWASHER	1	AT	0.00 kVA
WASHER	1	AT	1.20 kVA
GARBAGE DISPOSAL	1	AT	0.00 kVA
WATER HEATER	1	AT	0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA			
APPLIANCE DEMAND FACTOR [220.53]: 75%			
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA			
MOTORS [220.50]:			
TOILET EXHAUST FAN	1	AT	0.00 kVA
ERV UNIT	1	AT	0.11 kVA
KITCHEN EXHAUST FAN	1	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			
CLOTHES DRYER [220.54]	1	AT	5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	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					4/6/2023				
DEMAND LOAD (KVA):					137.09 =>		571.2 AMPS AT		240 V		1 PH			
SPACE HEATING/ AC LOAD (KVA)					CLOTHES DRYERS		COOKING APPLIANCES							
1.5< X < 3.5KW					3.5KW < X < 8.75KW		8.75KW < X < 12KW							
UNIT TYPE	QTY ON METER STACK	GEN LTG LOAD (KVA)	APPLIANCES LOAD (KVA)	MOTOR LOAD (KVA)	SPACE HEATING/ AC LOAD (KVA)	QTY	LOAD (KVA)	QTY	LOAD (KVA)	QTY	LOAD (KVA)	QTY	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)		4/6/2023
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
270.14 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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FX: 206.623.5285



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

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

## BUILDING 21

BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

## SINGLE LINE DIAGRAM AND LOAD CALCS

PERMIT #  
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		GROUND (1 PER SET UNO)
			PHASE / NEUTRAL (N) (QTY) SIZE	NOTE #1	
500.3U	(2) 4-INCH	AL	(3) 500 KCMIL	#1	#20
500.3	(2) 4-INCH	AL	(3) 500 KCMIL	#1	#20
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1	#10
450.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#1	#10
450.3	(2) 3-INCH	AL	(3) 350 KCMIL	#1	#10
400.3U	(2) 3-INCH	AL	(3) 250 KCMIL	#1	#10
400.3	(2) 3-INCH	AL	(3) 250 KCMIL	#1	#10
350.4	(1) 4-INCH	AL	(3) 700 KCMIL / (1) 700 KCMIL N	#1	#1
350.3	(1) 4-INCH	AL	(3) 700 KCMIL	#1	#1
300.4	(1) 4-INCH	AL	(3) 500 KCMIL / (1) 500 KCMIL N	#2	#2
300.3	(1) 3-INCH	AL	(3) 500 KCMIL	#2	#2
250.4	(1) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N	#2	#2
250.3	(1) 3-INCH	AL	(3) 350 KCMIL	#2	#2
225.4	(1) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#2	#2
225.3	(1) 3-INCH	AL	(3) 300 KCMIL	#2	#2
200.4	(1) 3-INCH	AL	(3) 250 KCMIL / (1) 250 KCMIL N	#2	#2
200.3U	(1) 3-INCH	AL	(3) 250 KCMIL	#2	#2
175.4	(1) 3-INCH	AL	(3) 250 KCMIL	#4	#4
175.3	(1) 3-INCH	AL	(3) #40 / (1) #40 N	#4	#4
150.4	(1) 2-INCH	AL	(3) #30 / (1) #30 N	#4	#4
150.3	(1) 2-INCH	AL	(3) #30	#4	#4
125.4	(1) 2-INCH	AL	(3) #20 / (1) #20 N	#4	#4
100.4	(1) 2-INCH	AL	(3) #10 / (1) #10 N	#5	#5
100.3	(1) 2-INCH	AL	(3) #10	#5	#5
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5	#5
90.3	(1) 1.5-INCH	CU	(3) #2	#5	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5	#5
80.3	(1) 1.5-INCH	CU	(3) #3	#5	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5	#5
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N	#10	#10
60.3	(1) 1-INCH	CU	(3) #4	#10	#10
60.2U	(1) 1-INCH	CU	(2) #4 / (1) #4 N	#10	#10
60.2	(1) 1-INCH	CU	(2) #4	#10	#10
60.1	(1) 1-INCH	CU	(1) #4 / (1) #4 N	#10	#10
50.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10	#10
50.3	(1) 1-INCH	CU	(3) #5	#10	#10
50.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10	#10
50.2	(1) 1-INCH	CU	(2) #5	#10	#10
50.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	#10	#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N	#10	#10
40.3	(1) 1-INCH	CU	(3) #5	#10	#10
40.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N	#10	#10
40.2	(1) 1-INCH	CU	(2) #5	#10	#10
40.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N	#10	#10
30.4	(1) 1-INCH	CU	(3) #10 / (1) #10 N	#10	#10
30.3	(1) 1-INCH	CU	(3) #10	#10	#10
30.2U	(1) 1-INCH	CU	(2) #10 / (1) #10 N	#10	#10
30.2	(1) 1-INCH	CU	(2) #10	#10	#10
30.1	(1) 1-INCH	CU	(1) #10 / (1) #10 N	#10	#10
20.4	(1) 1-INCH	CU	(3) #12 / (1) #12 N	#12	#12
20.3	(1) 1-INCH	CU	(3) #12	#12	#12
20.2U	(1) 1-INCH	CU	(2) #12 / (1) #12 N	#12	#12
20.2	(1) 1-INCH	CU	(2) #12	#12	#12
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12	#12

**GENERAL SCHEDULE NOTES:**  
A. AL= ALUMINUM (STABILLOY 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	40	65	100	160
	30	3.60	35	55	85	135
	40	4.80	25	40	60	95
	50	6.00	20	30	45	70
208V/ 1-PHASE	2	0.42	580	1465	2250	3650
	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	70	115	180	285
	30	6.24	60	95	150	235
	35	7.28	50	80	125	200
	40	8.32	40	70	110	175
	45	9.36	35	60	95	155
208V/ 3-PHASE	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2080
	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	250	410
	25	9.01	80	135	205	325
	30	10.81	70	110	170	270
	35	12.61	60	95	145	235
	40	14.41	50	80	120	200
	45	16.21	40	70	110	180
	50	18.01	30	60	95	160

**NOTES:**  
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											
NORMAL POWER		VOLTAGE: 120 / 240 V		FED FROM: 1-PHASE, 3-WIRE		LOCATION: ELECTRICAL ROOM					
AC - SEE SINGLE LINE DIAGRAM		BUS RATED: 200 AMPS		MOTOR MISC. 200 AMPS		SURFACE MOUNTED					
CKT #	DESCRIPTION	TYPE	CB	CB	CB	CB	CB				
1	2	3	4	5	6	7	8				
1	TO BREAKDOWN	1	0.00	20	1	1	20				
2	SPARE	2	0.00	20	1	1	20				
3	RECEPT-LV-1 BREAKDOWN	3	0.00	20	1	1	20				
4	RECEPT-LV-2 BREAKDOWN	4	0.00	20	1	1	20				
5	RECEPT-LV-3 BREAKDOWN	5	0.00	20	1	1	20				
6	RECEPT-LV-4 BREAKDOWN	6	0.00	20	1	1	20				
7	RECEPT-LV-5 BREAKDOWN	7	0.00	20	1	1	20				
8	RECEPT-LV-6 BREAKDOWN	8	0.00	20	1	1	20				
9	RECEPT-LV-7 BREAKDOWN	9	0.00	20	1	1	20				
10	RECEPT-LV-8 BREAKDOWN	10	0.00	20	1	1	20				
11	TO ELECT. MISC. EQUIP.	11	0.00	20	1	1	20				
12	TO ELECT. MISC. EQUIP.	12	0.00	20	1	1	20				
13	ELECT. HEATER - FIRE SPRINKLER	13	0.50	150	20	1	20				
14	TO ELECT. MISC. EQUIP.	14	0.00	20	1	1	20				
15	TO ELECT. MISC. EQUIP.	15	0.00	20	1	1	20				
16	TO ELECT. MISC. EQUIP.	16	0.00	20	1	1	20				
17	SPARE	17	0.00	20	1	1	20				
18	TO ELECT. MISC. EQUIP.	18	0.00	20	1	1	20				
19	TO ELECT. MISC. EQUIP.	19	0.00	20	1	1	20				
20	TO ELECT. MISC. EQUIP.	20	0.00	20	1	1	20				
21	TO ELECT. MISC. EQUIP.	21	0.00	20	1	1	20				
22	TO ELECT. MISC. EQUIP.	22	0.00	20	1	1	20				
23	TO ELECT. MISC. EQUIP.	23	0.00	20	1	1	20				
24	TO ELECT. MISC. EQUIP.	24	0.00	20	1	1	20				
25	TO ELECT. MISC. EQUIP.	25	0.00	20	1	1	20				
26	TO ELECT. MISC. EQUIP.	26	0.00	20	1	1	20				
27	TO ELECT. MISC. EQUIP.	27	0.00	20	1	1	20				
28	TO ELECT. MISC. EQUIP.	28	0.00	20	1	1	20				
29	TO ELECT. MISC. EQUIP.	29	0.00	20	1	1	20				
30	TO ELECT. MISC. EQUIP.	30	0.00	20	1	1	20				
31	TO ELECT. MISC. EQUIP.	31	0.00	20	1	1	20				
32	TO ELECT. MISC. EQUIP.	32	0.00	20	1	1	20				
33	TO ELECT. MISC. EQUIP.	33	0.00	20	1	1	20				
34	TO ELECT. MISC. EQUIP.	34	0.00	20	1	1	20				
35	TO ELECT. MISC. EQUIP.	35	0.00	20	1	1	20				
36	TO ELECT. MISC. EQUIP.	36	0.00	20	1	1	20				
37	TO ELECT. MISC. EQUIP.	37	0.00	20	1	1	20				
38	TO ELECT. MISC. EQUIP.	38	0.00	20	1	1	20				
39	TO ELECT. MISC. EQUIP.	39	0.00	20	1	1	20				
40	TO ELECT. MISC. EQUIP.	40	0.00	20	1	1	20				
41	TO ELECT. MISC. EQUIP.	41	0.00	20	1	1	20				
42	TO ELECT. MISC. EQUIP.	42	0.00	20	1	1	20				
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182	TO ELECT. MISC. EQUIP.	182	0.00								



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10 JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

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.



192 Nickerson, Suite #300  
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FX: 206.623.5285

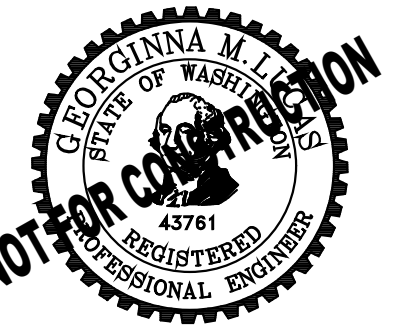


New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 21  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

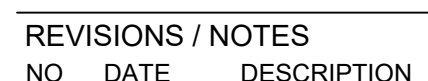
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TITLE  
LUMINAIRE  
SCHEDULE

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

E21-005





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TITLE

PERMIT #

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.





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

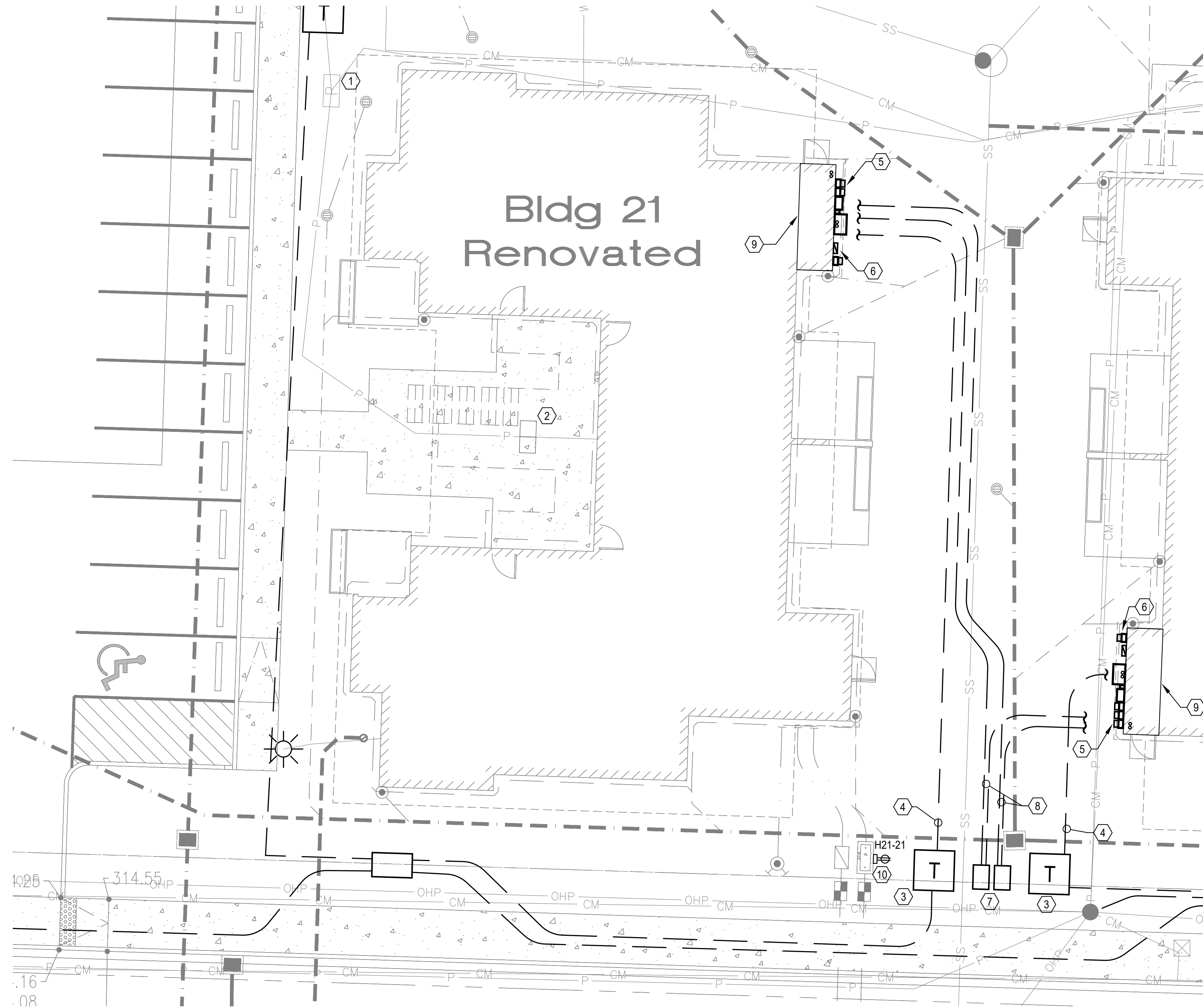
## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 21 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION



## ELECTRICAL SITE PLAN - BUILDING 21

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

### FLAG NOTES (X):

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

### GENERAL NOTES:

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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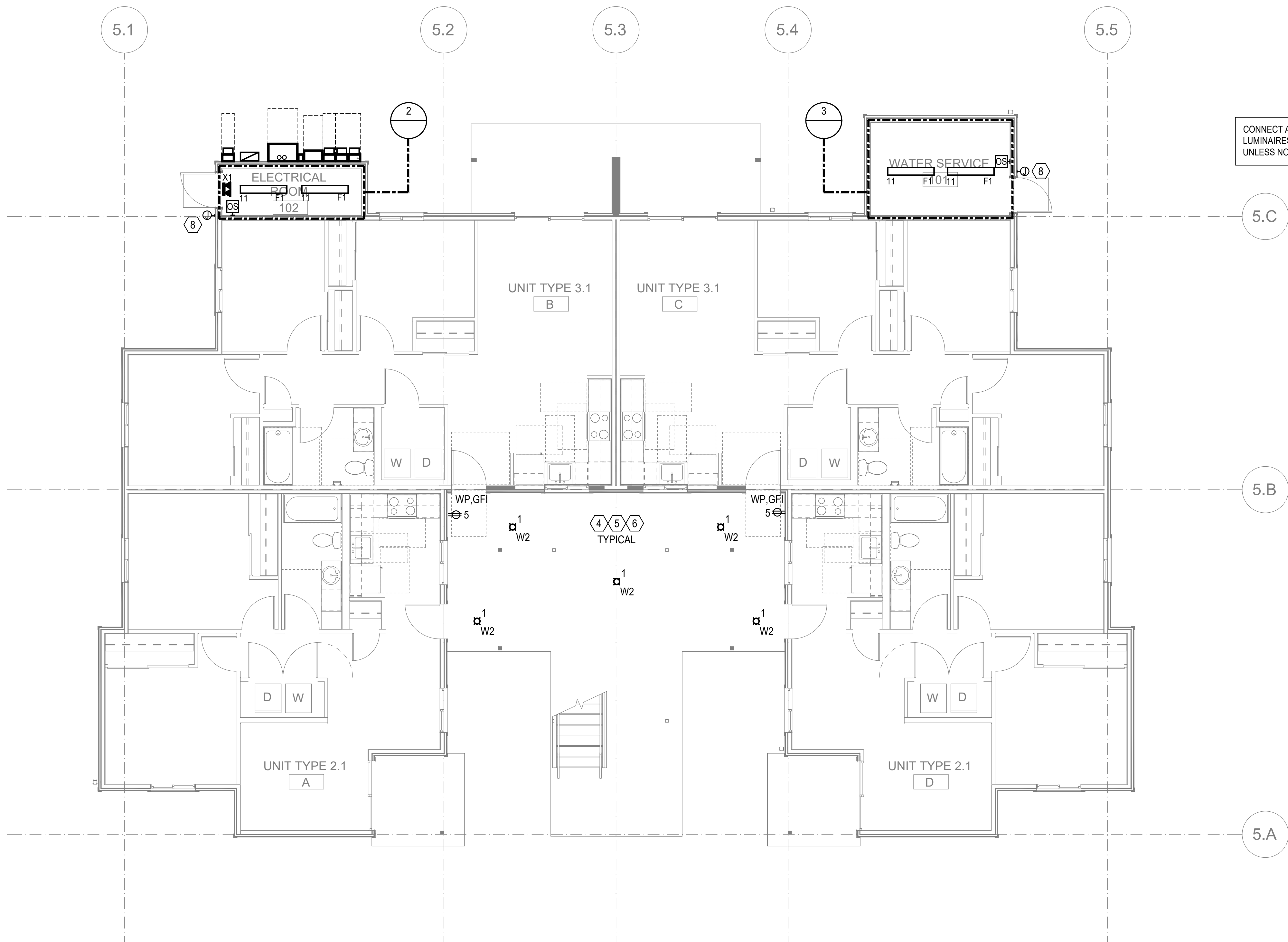
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## ELECTRICAL SITE PLAN - BUILDING 21

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

# E21-051





**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.

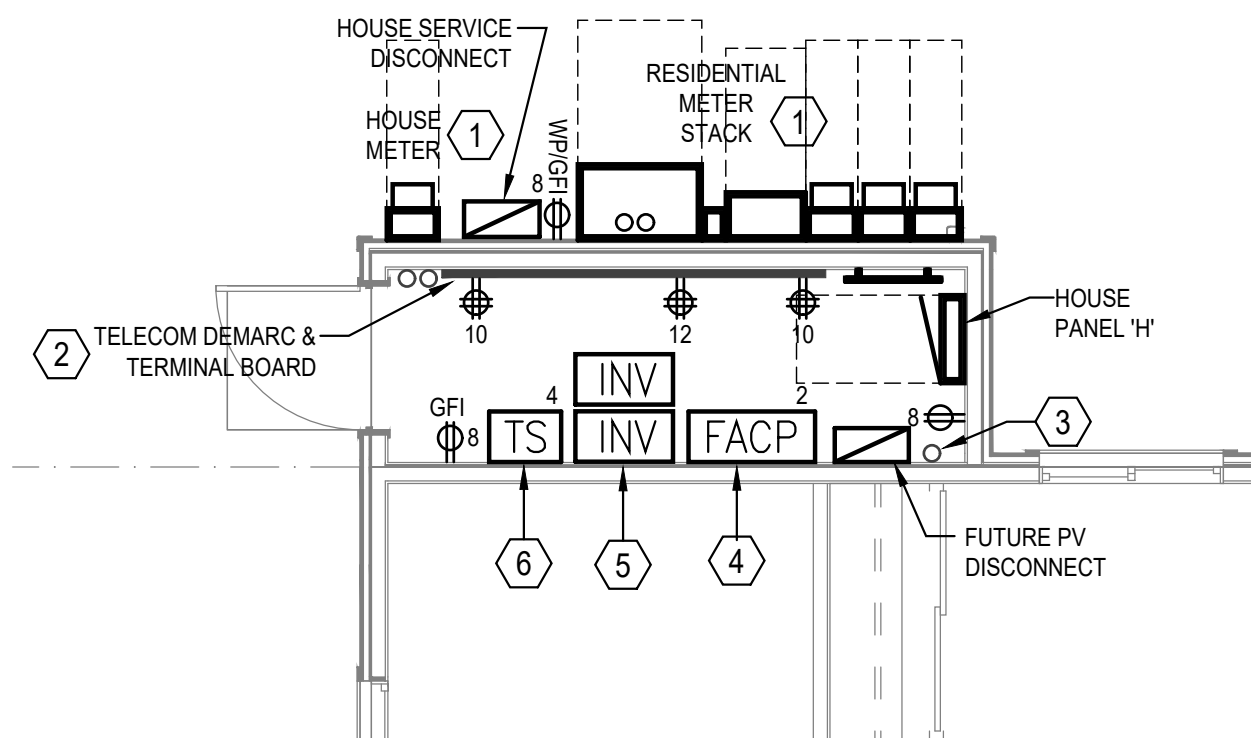
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

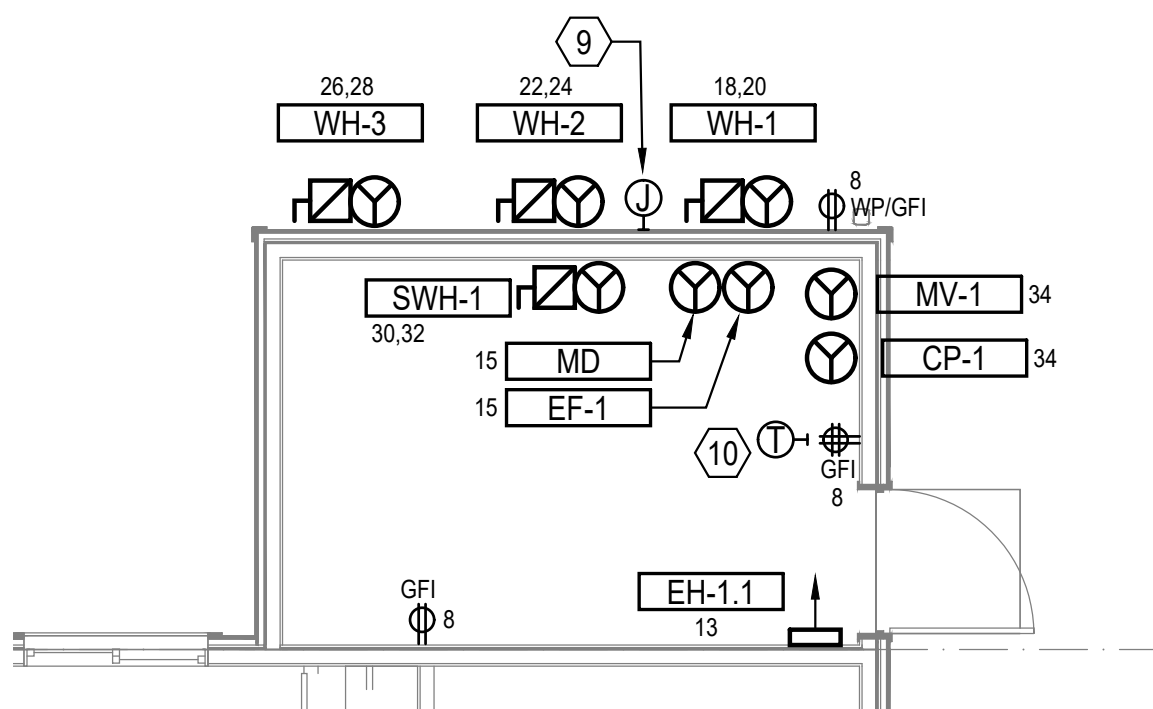
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHA. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- 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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**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 21**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

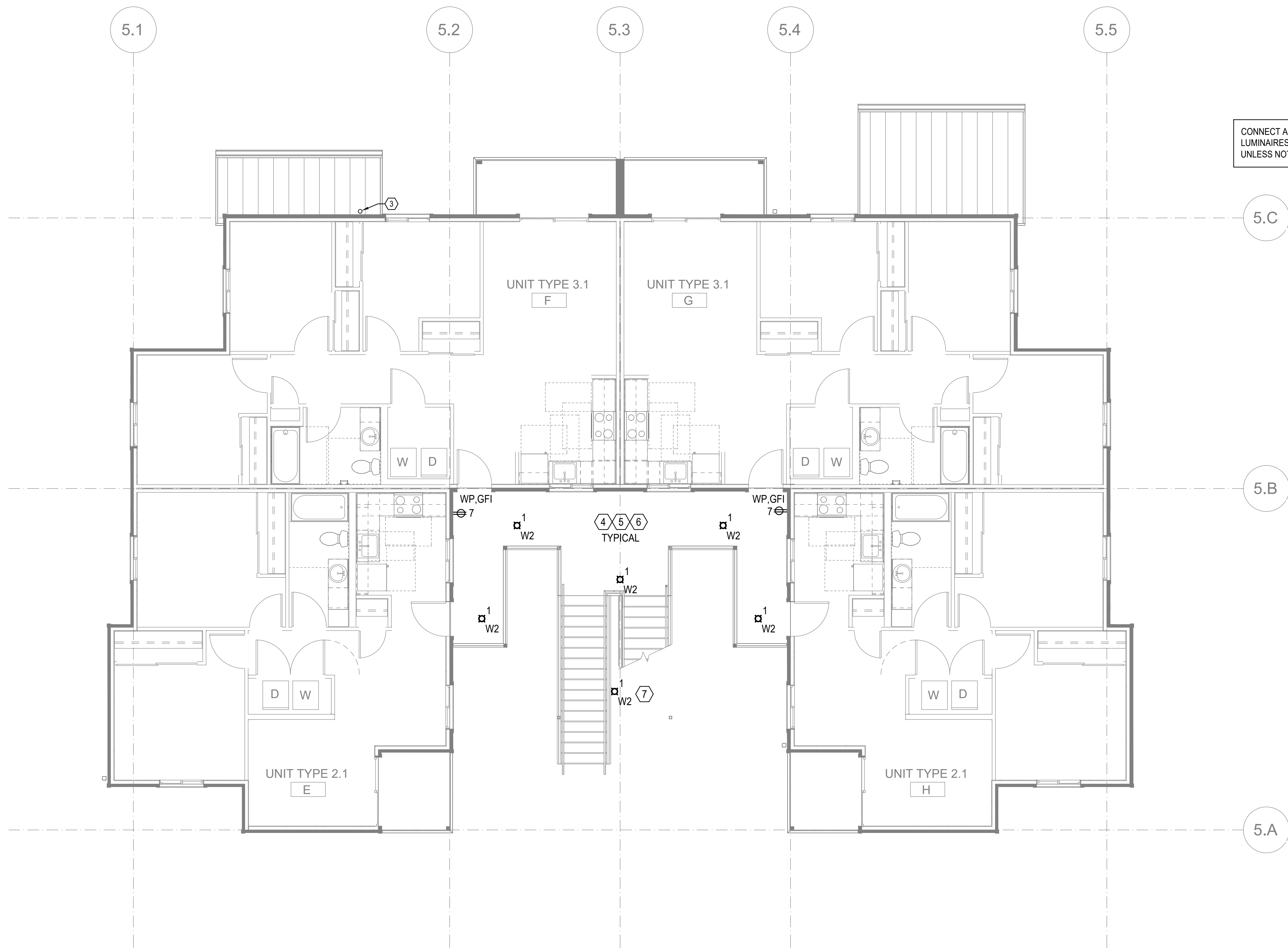
**POWER AND LIGHTING PLAN - BUILDING 21 - LEVEL 1**

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

**E21-101**



10/7/2021 1:33:34 AM



**POWER AND LIGHTING PLAN - BUILDING 21 - LEVEL 2**  
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:**
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):**
- NOT USED
  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - 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
  - 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 PROGRAMMING WITH OWNER.
  - LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.



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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 21**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE  
**POWER AND  
LIGHTING  
PLAN -  
BUILDING 21 -  
LEVEL 2**

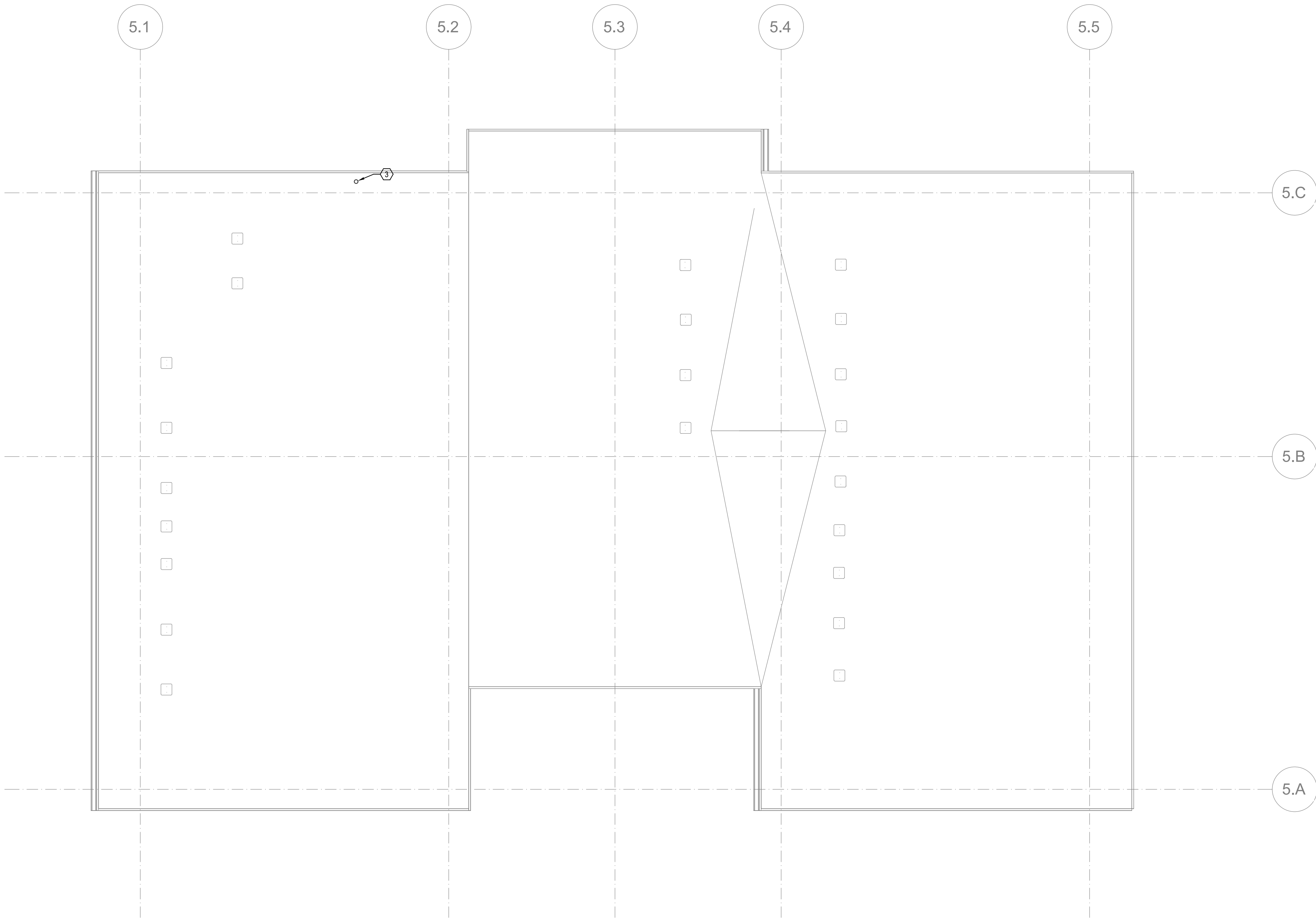
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CHECKED GL  
ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E21-102**









**POWER PLAN - BUILDING 21 - 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).



**SIDER+BYERS**  
MECHANICAL • ELECTRICAL ENGINEERS

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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 21**  
BID SET



**REVISIONS / NOTES**  
NO DATE DESCRIPTION

DPD STAMP

TITLE  
**POWER PLAN -  
BUILDING 21 -  
ROOF**

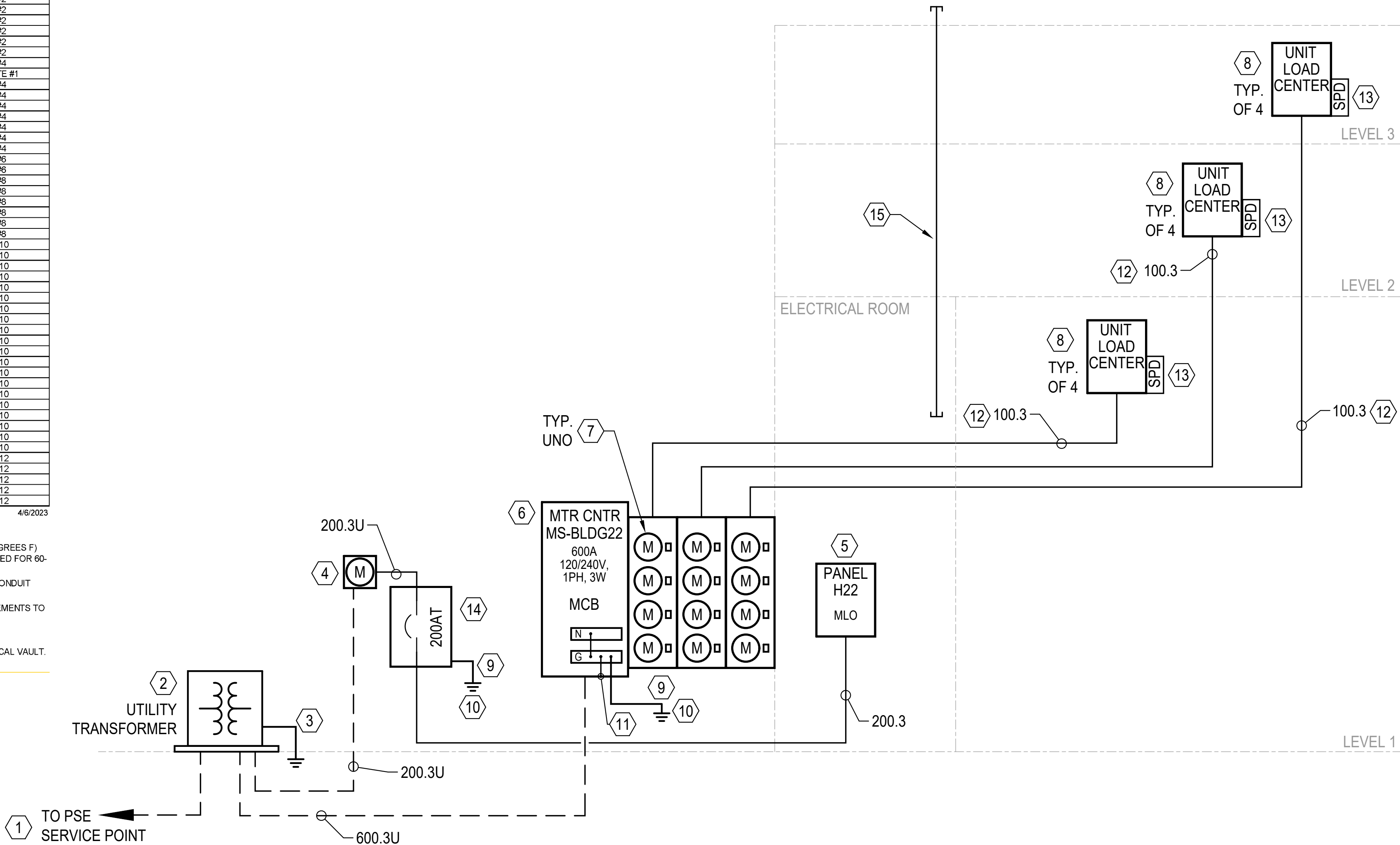
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CHECKED GL  
ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E21-104**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WETS) 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	#5
100.3	(1) 2-INCH	AL	(3) #1/0	#5
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#5
80.3	(1) 1.5-INCH	CU	(3) #2	#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#5
80.3	(1) 1.5-INCH	CU	(3) #3	#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#5
70.3	(1) 1.5-INCH	CU	(3) #4	#5
60.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#10
60.3	(1) 1.5-INCH	CU	(3) #4	#10
60.2N	(1) 1.5-INCH	CU	(2) #4 / (1) #4 N	#10
60.2	(1) 1.5-INCH	CU	(2) #4	#10
60.1	(1) 1.5-INCH	CU	(1) #4 / (1) #4 N	#10
50.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
50.3	(1) 1.5-INCH	CU	(3) #5	#10
50.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
50.2	(1) 1.5-INCH	CU	(2) #5	#10
50.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
40.4	(1) 1.5-INCH	CU	(3) #5 / (1) #5 N	#10
40.3	(1) 1.5-INCH	CU	(3) #5	#10
40.2N	(1) 1.5-INCH	CU	(2) #5 / (1) #5 N	#10
40.2	(1) 1.5-INCH	CU	(2) #5	#10
40.1	(1) 1.5-INCH	CU	(1) #5 / (1) #5 N	#10
30.4	(1) 1.5-INCH	CU	(3) #10 / (1) #10 N	#10
30.3	(1) 1.5-INCH	CU	(3) #10	#10
30.2N	(1) 1.5-INCH	CU	(2) #10 / (1) #10 N	#10
30.2	(1) 1.5-INCH	CU	(2) #10	#10
30.1	(1) 1.5-INCH	CU	(1) #10 / (1) #10 N	#10
20.4	(1) 1.5-INCH	CU	(3) #12 / (1) #12 N	#12
20.3	(1) 1.5-INCH	CU	(3) #12	#12
20.2N	(1) 1.5-INCH	CU	(2) #12 / (1) #12 N	#12
20.2	(1) 1.5-INCH	CU	(2) #12	#12
20.1	(1) 1.5-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES: 4/6/2023  
A. AL= ALUMINUM (STRAYLOY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/TMVN INSULATION).  
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75 DEGREES C (167 DEGREES F).  
AS PER NEC 110.14C(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.



## SINGLE LINE DIAGRAM

SCALE: NTS

## LOAD CALCULATIONS - BLDG 22

UNIT TYPE: 2BR - 2.1		AREA (SF):	782	4/6/2023
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]:				
REFRIGERATOR	1	AT	0.7	= 0.70 kVA
RANGE HOOD	1	AT	0.3	= 0.30 kVA
MICROWAVE	1	AT	0.0	= 0.00 kVA
DISHWASHER	1	AT	0.0	= 0.00 kVA
WASHER	1	AT	1.2	= 1.20 kVA
GARBAGE DISPOSAL	1	AT	0.0	= 0.00 kVA
WATER HEATER	1	AT	0.0	= 0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA				
APPLIANCE DEMAND FACTOR [220.53]: 75%				
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA				
MOTORS [220.50]:				
TOILET EXHAUST FAN	1	AT	0.0	= 0.00 kVA
ERV UNIT	1	AT	0.11	= 0.11 kVA
KITCHEN EXHAUST FAN	1	AT	0.0	= 0.00 kVA
+25% OF LARGEST MOTOR	1	AT	0.03	= 0.03 kVA
GENERAL MOTOR LOAD - DEMAND = 0.14 kVA				
100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 3.91 kVA				
CLOTHES DRYER [220.54]	1	AT	5.5	= 5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.0	= 0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.0	= 0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	= 8.80 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):	908	4/6/2023
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]:				
REFRIGERATOR	1	AT	0.7	= 0.70 kVA
RANGE HOOD	1	AT	0.3	= 0.30 kVA
MICROWAVE	1	AT	0.0	= 0.00 kVA
DISHWASHER	1	AT	0.0	= 0.00 kVA
WASHER	1	AT	1.2	= 1.20 kVA
GARBAGE DISPOSAL	1	AT	0.0	= 0.00 kVA
WATER HEATER	1	AT	0.0	= 0.00 kVA
SUBTOTAL (CONNECTED) = 2.20 kVA				
APPLIANCE DEMAND FACTOR [220.53]: 75%				
GENERAL APPLIANCE LOAD - DEMAND = 1.65 kVA				
MOTORS [220.50]:				
TOILET EXHAUST FAN	1	AT	0.0	= 0.00 kVA
ERV UNIT	1	AT	0.11	= 0.11 kVA
KITCHEN EXHAUST FAN	1	AT	0.0	= 0.00 kVA
+25% OF LARGEST MOTOR	1	AT	0.03	= 0.03 kVA
GENERAL MOTOR LOAD - DEMAND = 0.14 kVA				
100% AC EQUIP [220.50] / SPACE HEATING [220.51] = 4.53 kVA				
CLOTHES DRYER [220.54]	1	AT	5.5	= 5.50 kVA
ELECTRIC COOKTOP [220.55]	1	AT	0.0	= 0.00 kVA
ELECTRIC OVEN [220.55]	1	AT	0.0	= 0.00 kVA
ELECTRIC RANGE [220.55]	1	AT	8.8	= 8.80 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			4/6/2023				
DEMAND LOAD (KVA):										137.09 =>		571.2 AMPS AT		240 V		1 PH	
QTY ON METER STACK		GEN LTG LOAD (KVA)		APPLIANCES LOAD (KVA)		MOTOR LOAD (KVA)		SPACE HEATING/ AC LOAD (KVA)		CLOTHES DRYERS		COOKING APPLIANCES					
UNIT TYPE								QTY	LOAD (KVA)			QTY	LOAD (KVA)	QTY	LOAD (KVA)		
2BR - 2.1	6	41.08	13.20	0.66	23.46	6	33.00	0	0.00	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	0	0.00	6	52.80		
0												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	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)		4/6/2023
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
270.14 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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New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133rd St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

## BUILDING 22

BID SET







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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL. OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L.EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS. EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10-JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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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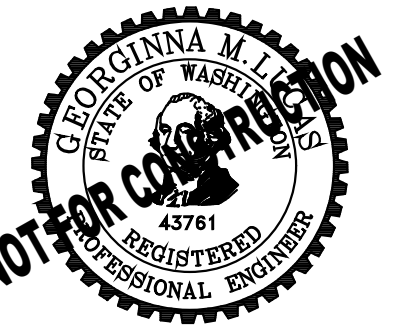


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KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 22  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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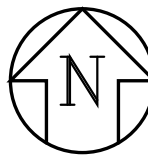
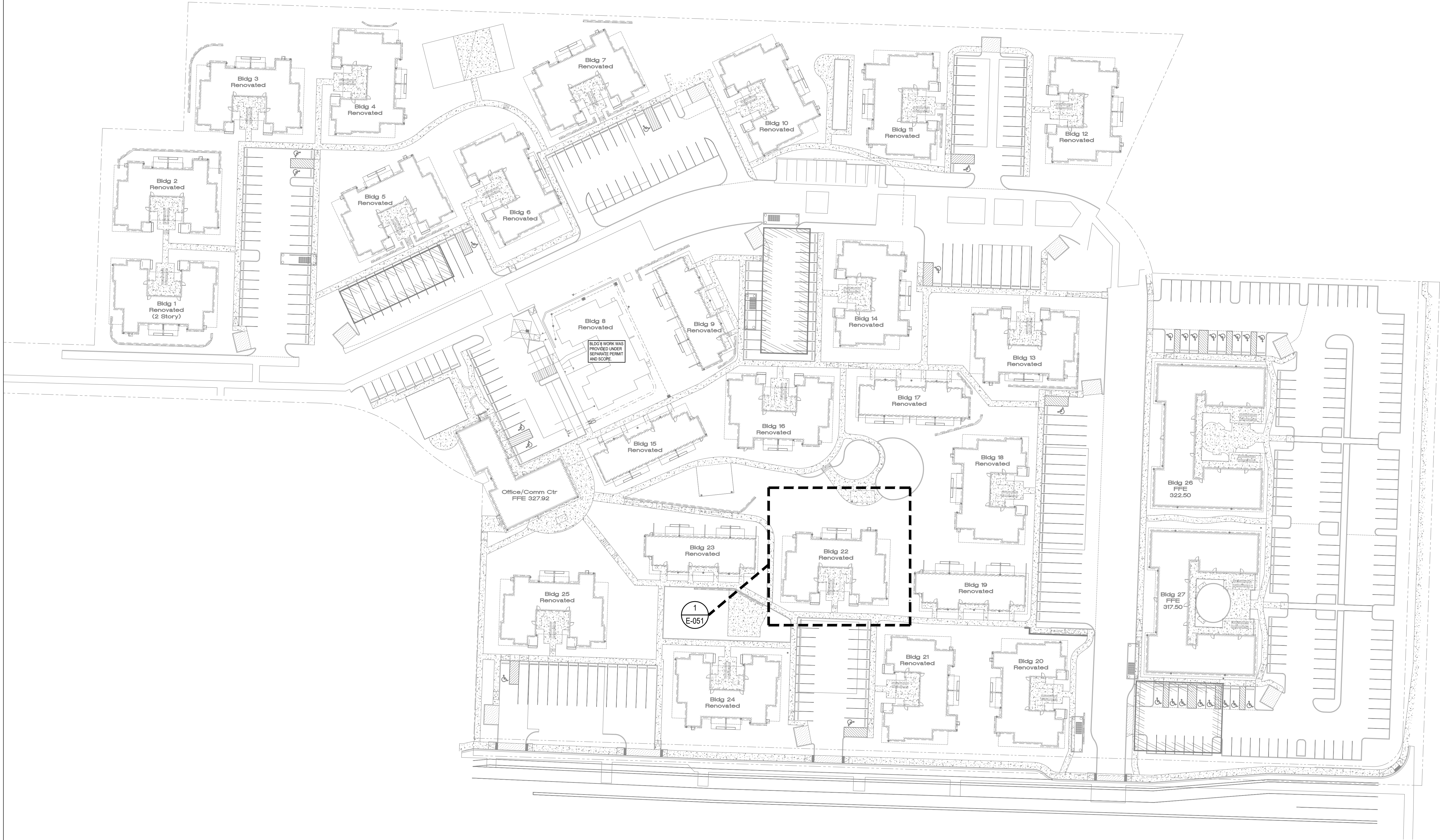
TITLE  
LUMINAIRE  
SCHEDULE

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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

E22-005



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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  
APARTMENTS

13317 NE 133rd St.,  
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BUILDING 22  
BID SET



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OVERALL  
PROJECT SITE  
PLAN

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JOB NO. 22016  
SHEET NO.:

E22-050



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.



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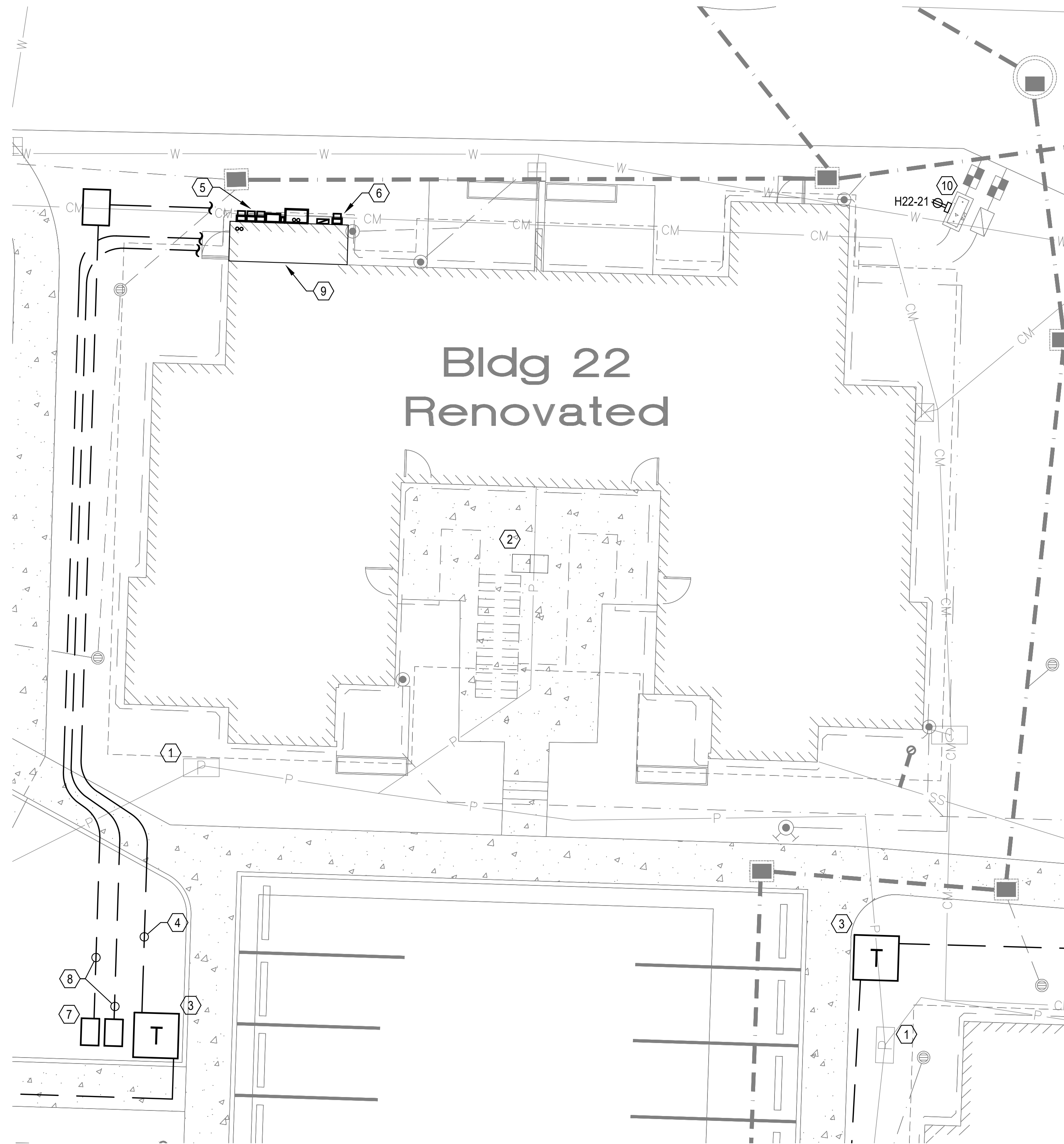
## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 22 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION



## ELECTRICAL SITE PLAN - BUILDING 22

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

### FLAG NOTES (X):

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

### GENERAL NOTES:

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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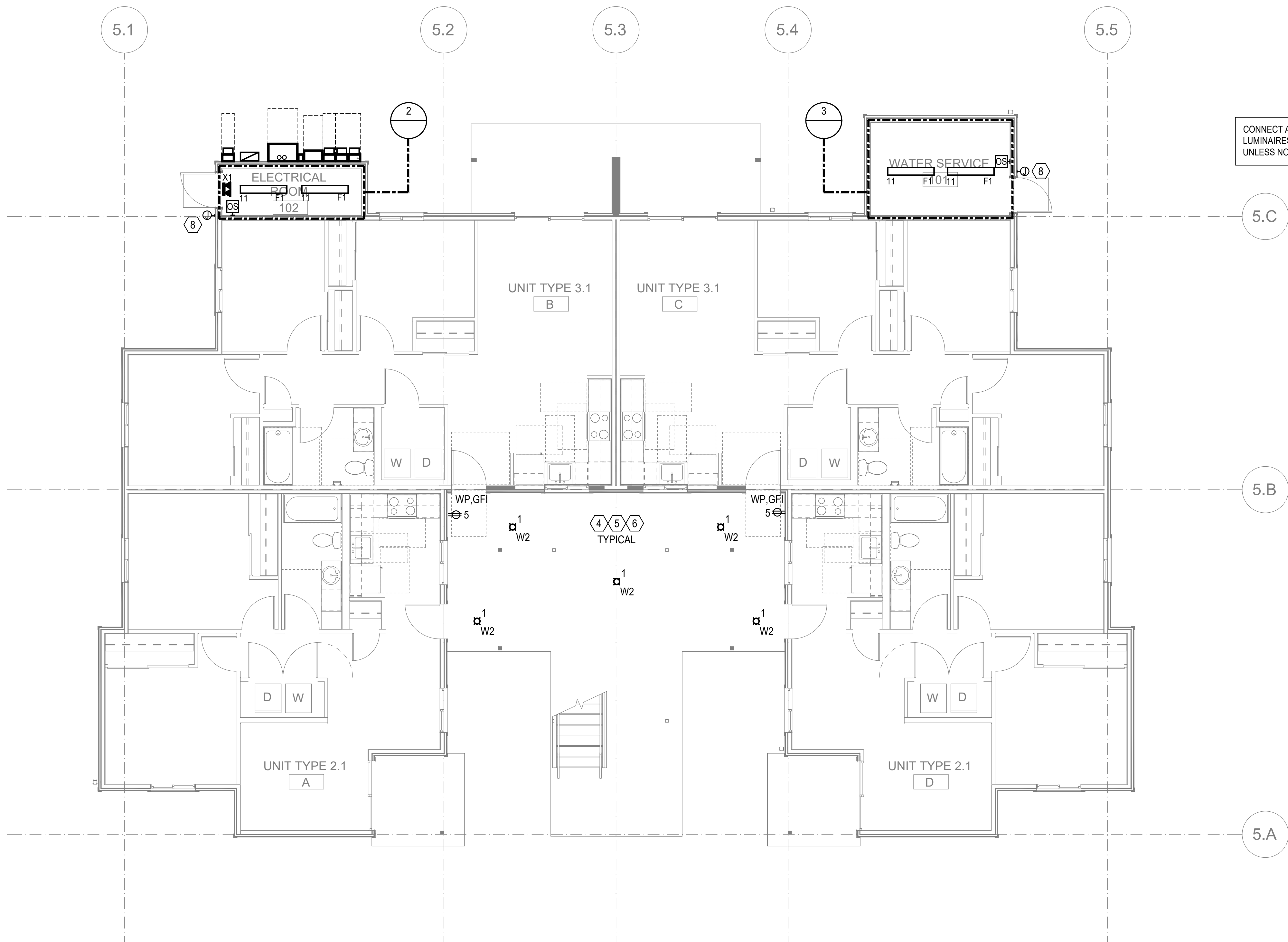
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## ELECTRICAL SITE PLAN - BUILDING 22

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SHEET NO.:

E22-051





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.

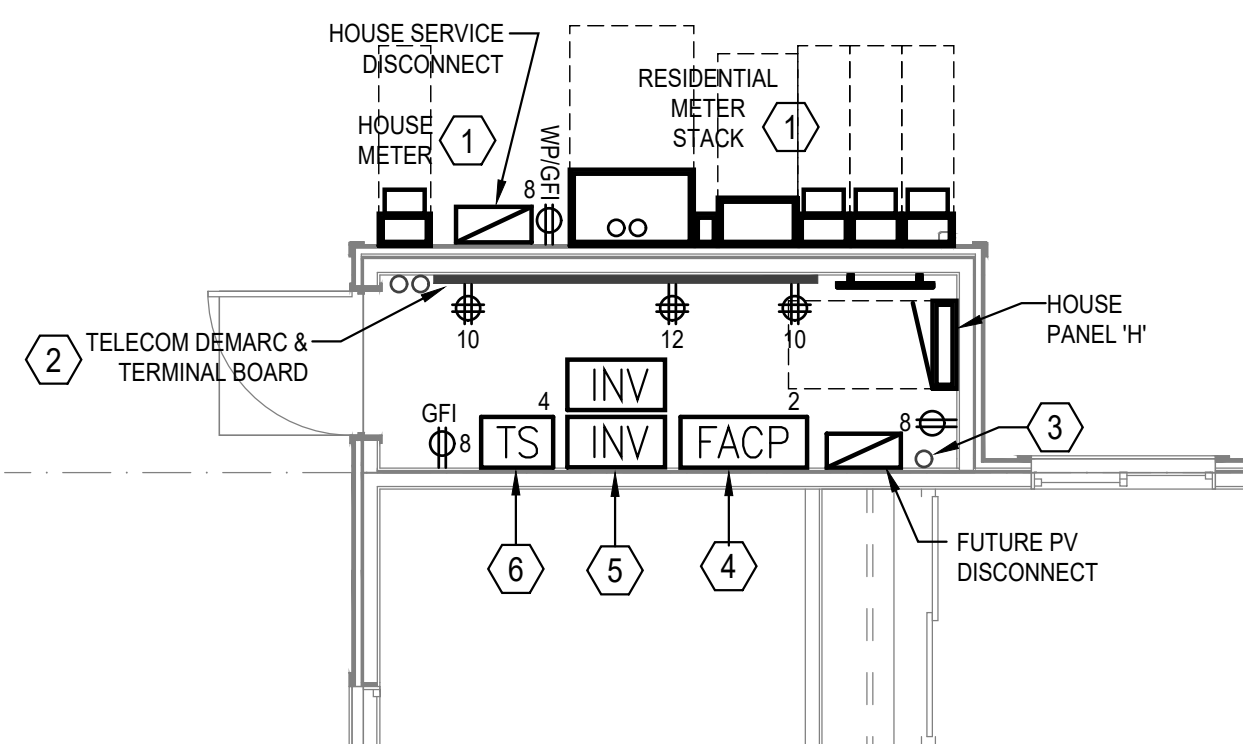
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

GENERAL NOTES:

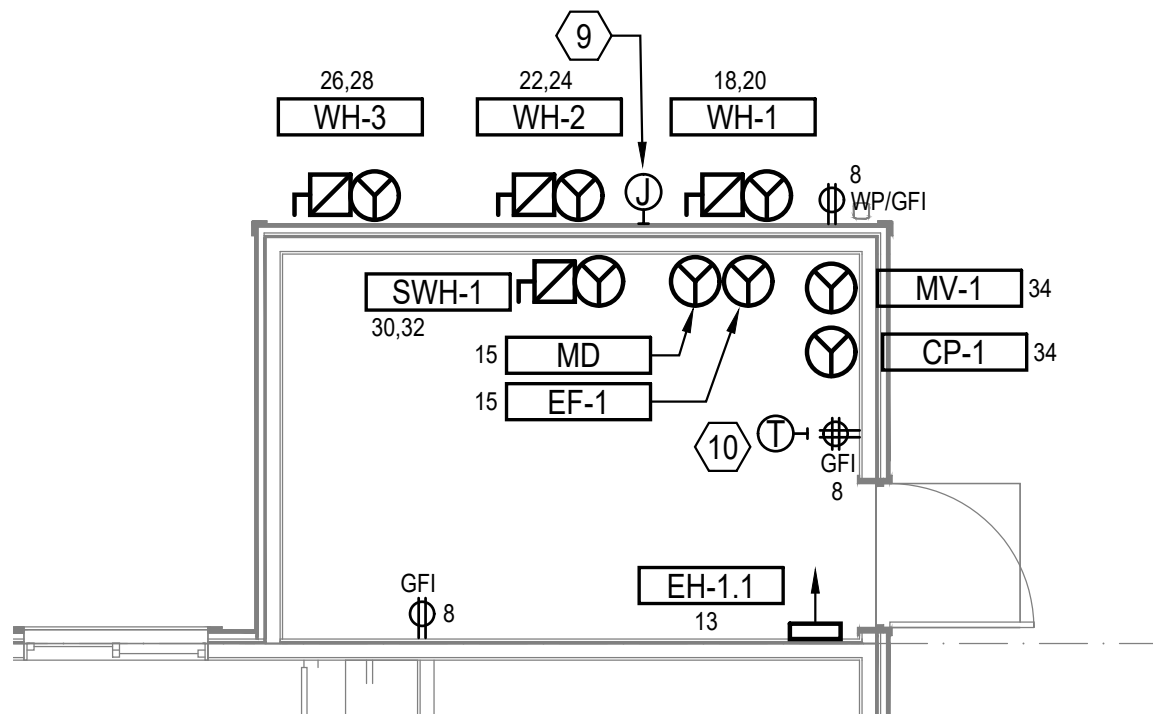
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHI. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- 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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KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 22  
BID SET



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NO DATE DESCRIPTION

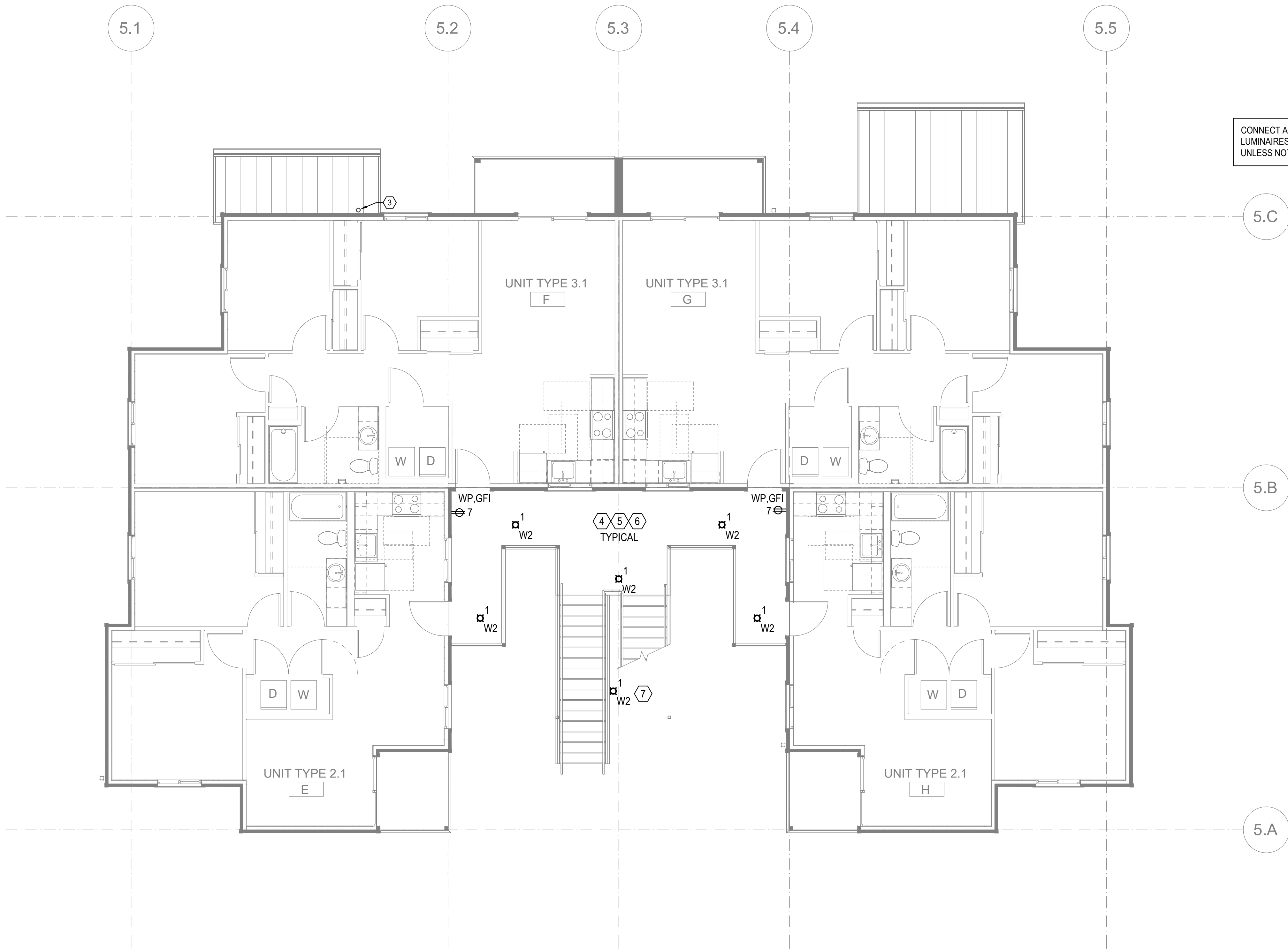
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TITLE  
POWER AND  
LIGHTING  
PLAN -  
BUILDING 22 -  
LEVEL 1

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**POWER AND LIGHTING PLAN - BUILDING 22 - LEVEL 2**  
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 CONTRACTORS 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:**

- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- NOT USED.
- NOT USED.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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.
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.



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**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
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**BUILDING 22**  
BID SET



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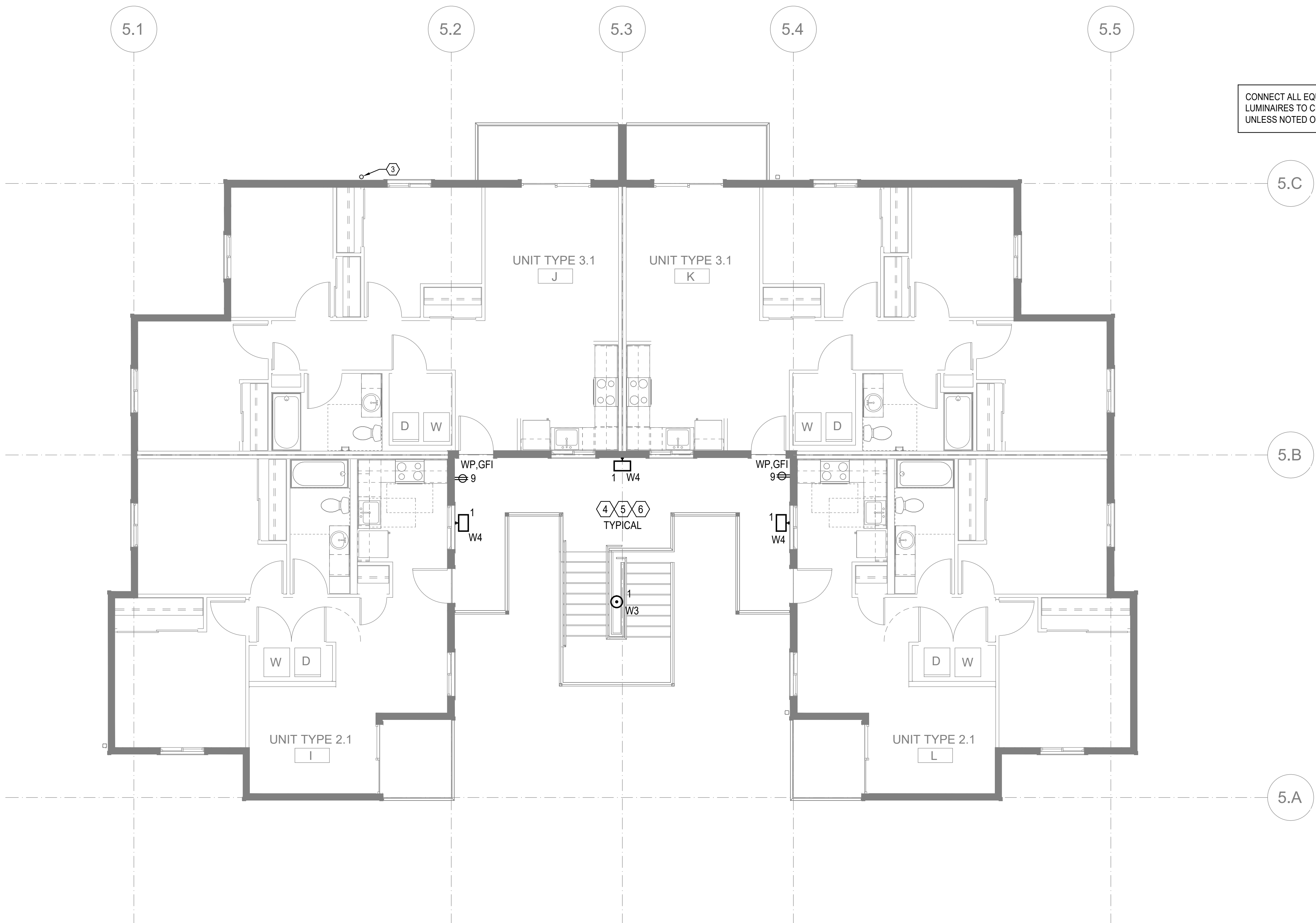
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**POWER AND  
LIGHTING  
PLAN -  
BUILDING 22 -  
LEVEL 2**

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**POWER AND LIGHTING PLAN - BUILDING 22 - LEVEL 3**  
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:**

- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- NOT USED.
- NOT USED.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.



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

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 22**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

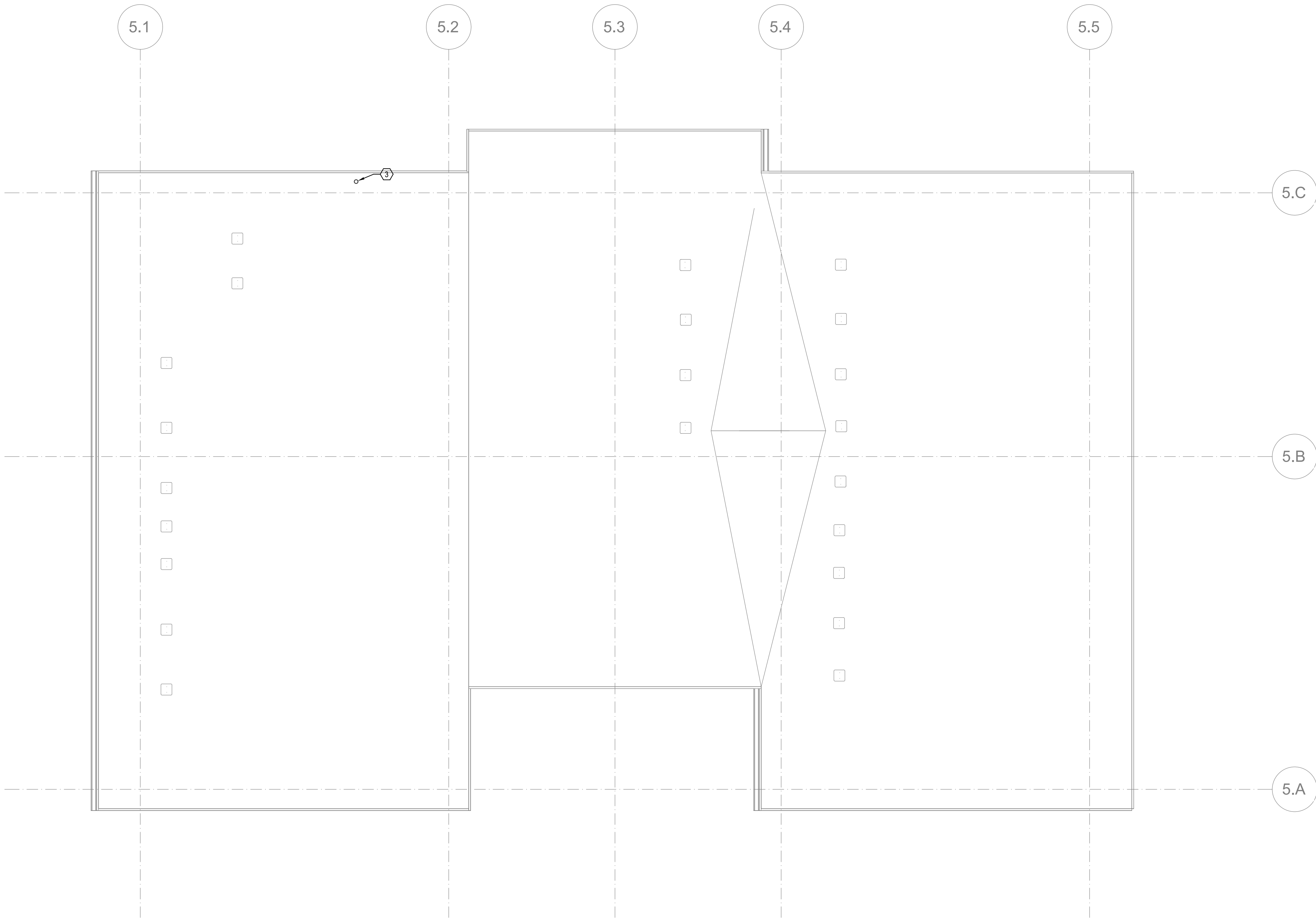
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**POWER AND  
LIGHTING  
PLAN -  
BUILDING 22 -  
LEVEL 3**

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

**E22-103**





**POWER PLAN - BUILDING 22 - 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  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 22**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

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TITLE

**POWER PLAN -  
BUILDING 22 -  
ROOF**

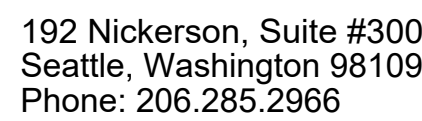
PERMIT #	
DRAWN	RA, JF
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ISSUE DATE	4/14/2023
JOB NO.	22016
SHEET NO.:	

**E22-104**









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CONTRACT #: TC2300131

## MECHANICAL EQUIPMENT SCHEDULES

**GENERAL SCHEDULE NOTES:**

- A. AL-ALUMINUM (STABILITY CONDUCTORS WITH XHHW-2 INSULATION).
- CU-COPPER (COPPER CONDUCTORS WITH THHN/THW 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 90-DEGREES C (194-DEGREES F).
- C. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS. WHERE MULTIPLE SETS OF PARALLEL CONDUCTORS 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. MARKING IDENTIFY FEEDERS ARE UTILITY SECONDARY SERVICE FEEDERS FROM THE UTILITY ELECTRICAL VAULT. NO EQUIPMENT GROUNDING CONDUCTORS TO BE PROVIDED UNO.

NOTES: 4/6/2023

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).

[illegible]

**GENERAL SCHEDULE NOTES:** 4/10/2023

A. THE ELECTRICAL CONTRACTOR WILL PROVIDE AND CONNECT COMPLETE DISCONNECTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER CODE AND MANUFACTURER 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 SERVICE. 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 CONTRACTOR PRIOR TO ROUGH-IN.
- 3. UNIT BEING PROVIDED BY OTHERS WITH LINE VOLTAGE THERMOSTAT. EC TO CONNECT COMPLETE.

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.

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



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-0PL-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10-JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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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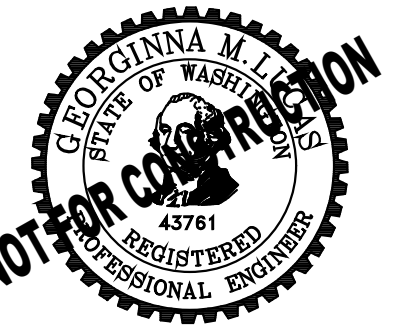


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CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 23  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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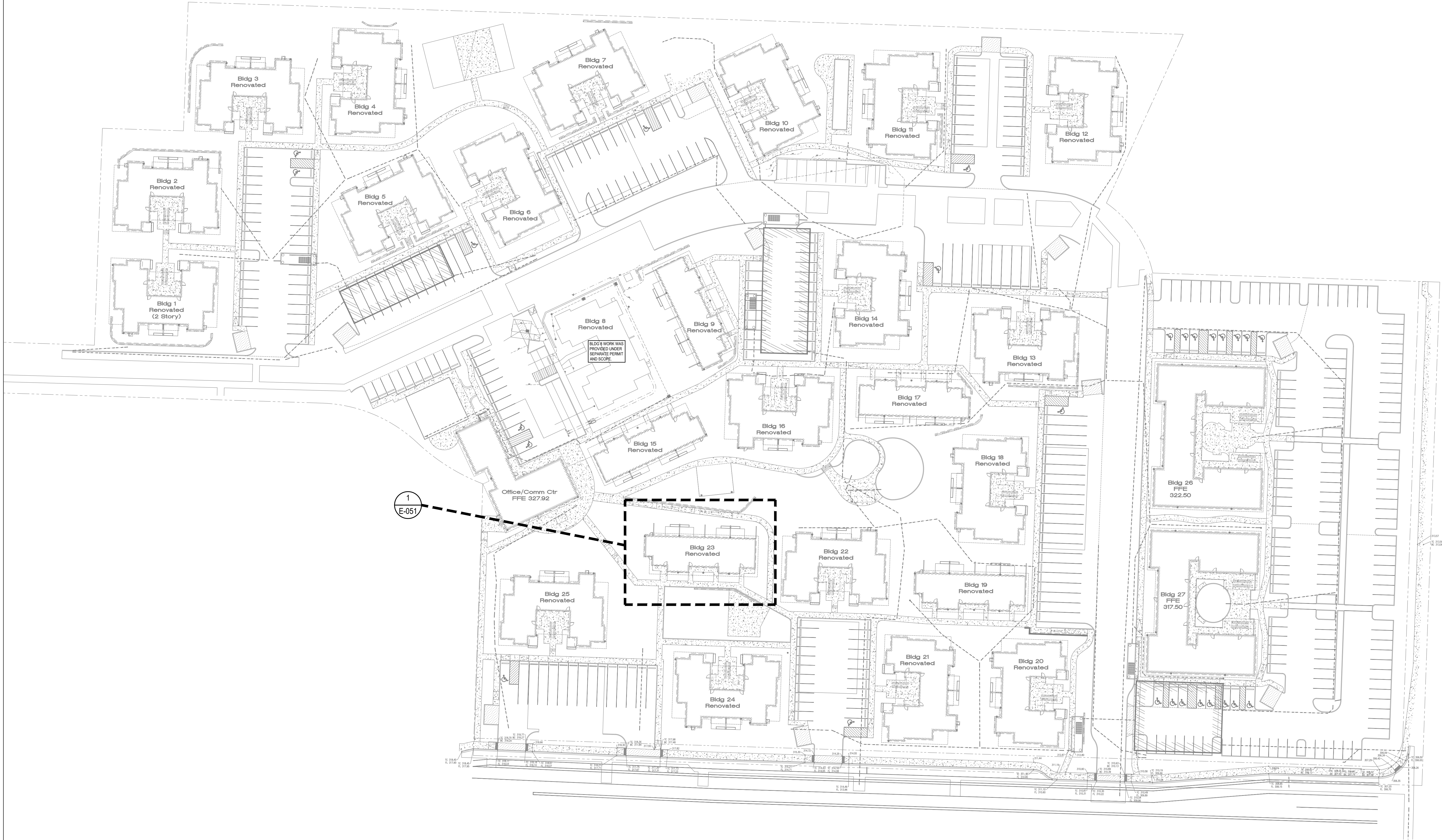
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LUMINAIRE  
SCHEDULE

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

E23-005



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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  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 23  
BID SET**



REVISIONS / NOTES  
NO DATE DESCRIPTION

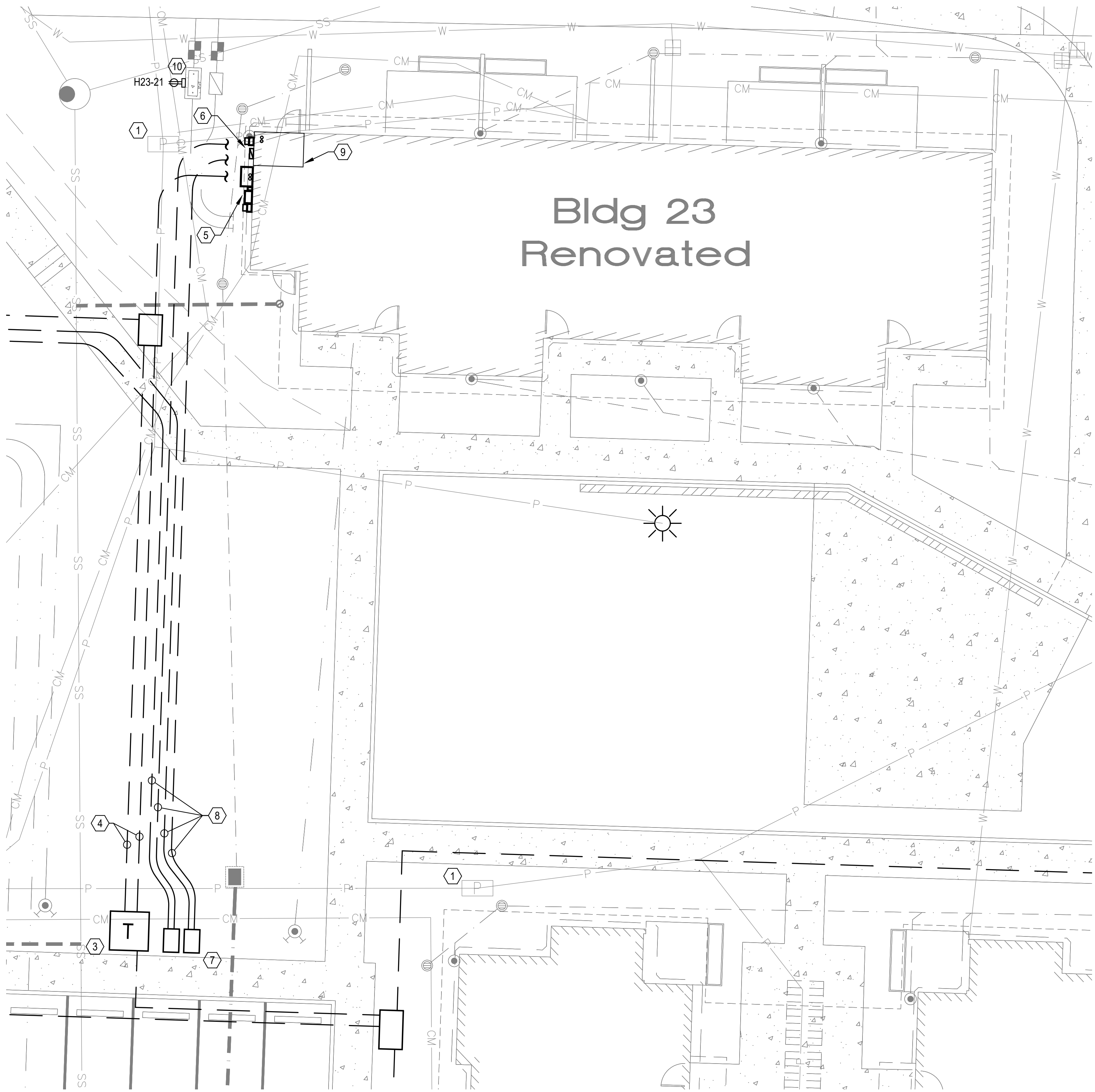
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TITLE  
**OVERALL  
PROJECT SITE  
PLAN**

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

**E23-050**





**ELECTRICAL SITE PLAN - BUILDING 23**  
SCALE: 1/8" = 1'-0"

**FLAG NOTES (X):**

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

**GENERAL NOTES:**

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 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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**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
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**BUILDING 23**  
BID SET



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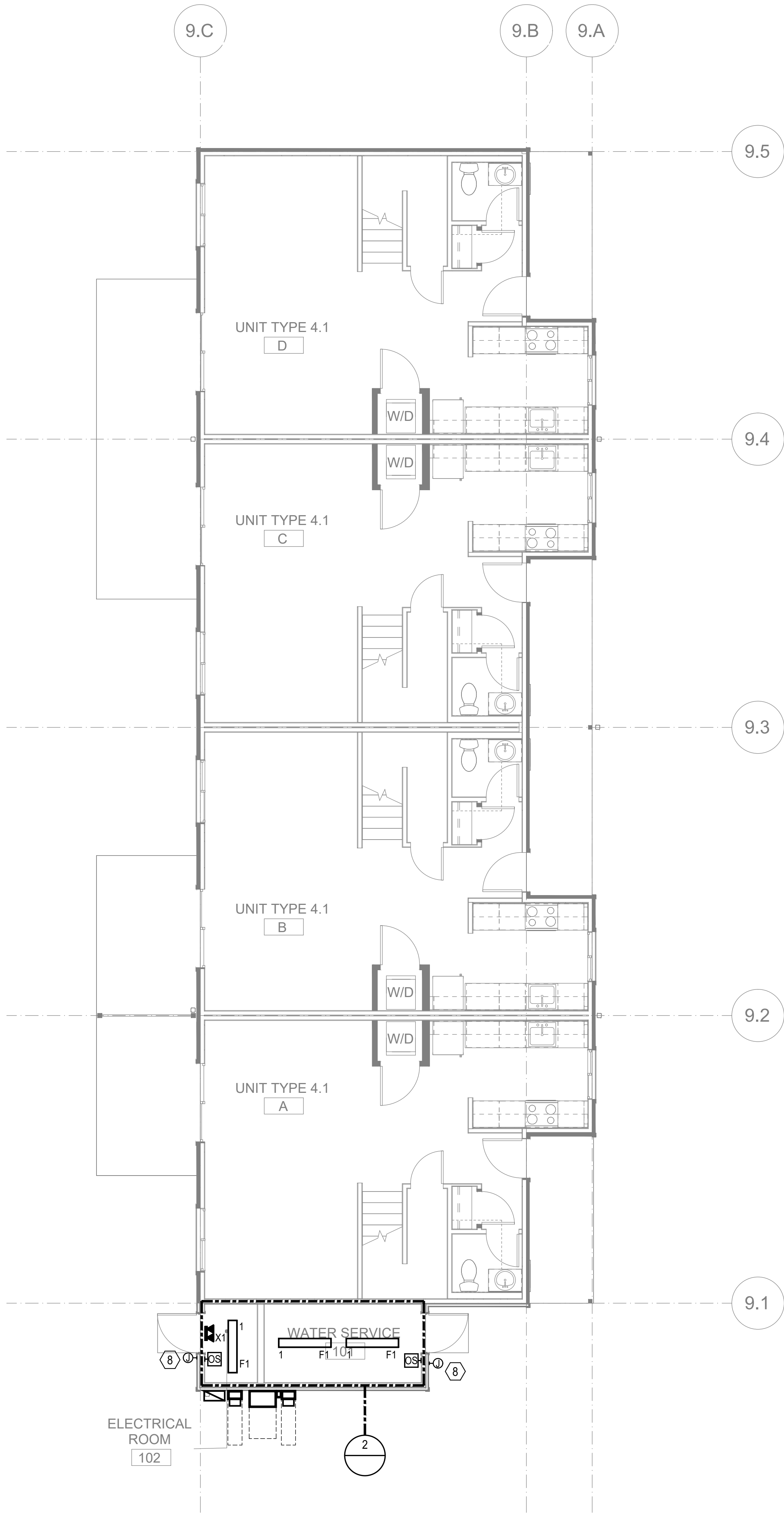
**ELECTRICAL  
SITE PLAN -  
BUILDING 23**

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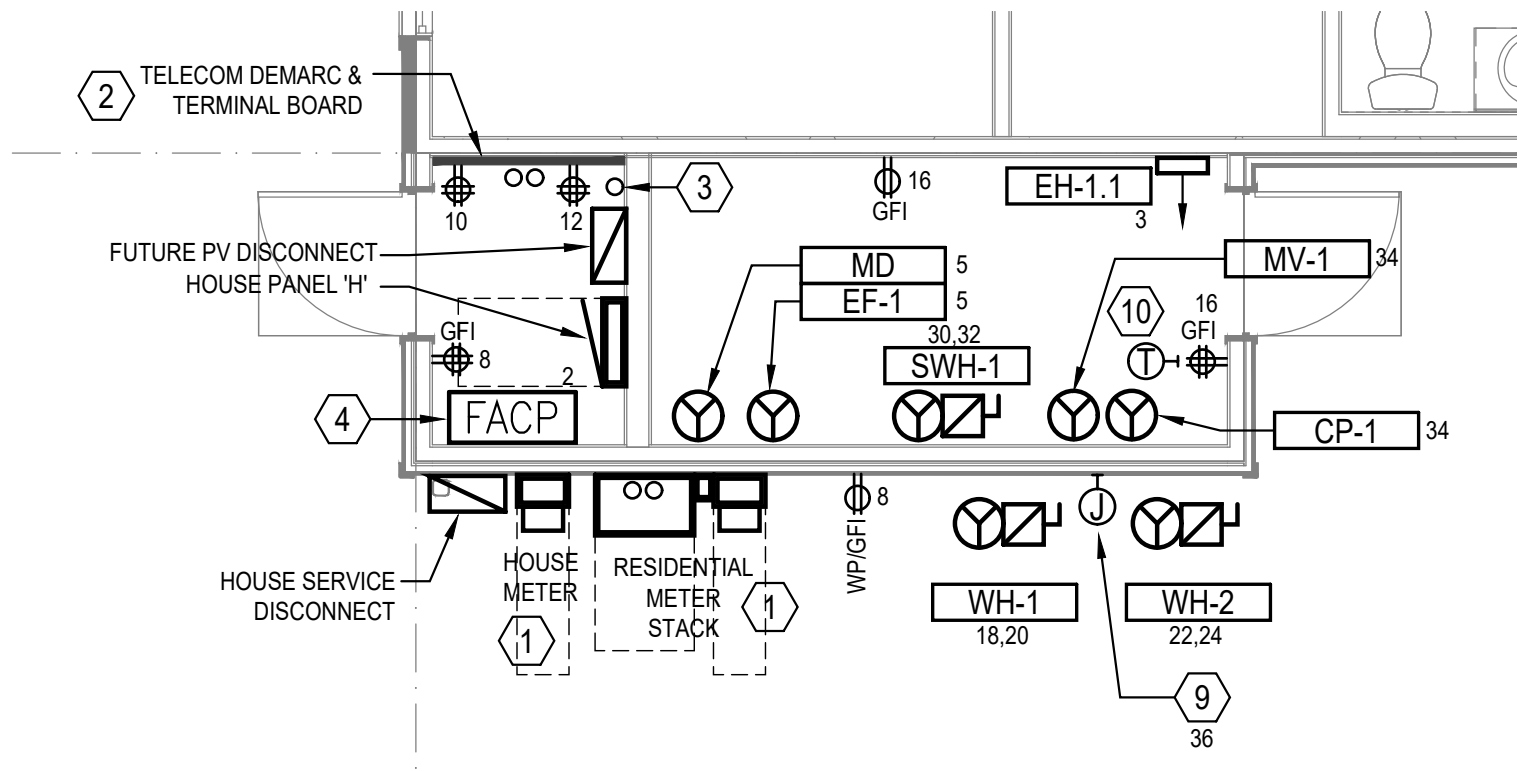
POWER AND LIGHTING PLAN - BUILDING 23 - LEVEL 1  
SCALE: 3/16"=1'-0"

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:
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):
- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
  - 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.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - NOT USED.
  - NOT USED.
  - NOT USED.
  - 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.
  - 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.
  - ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.

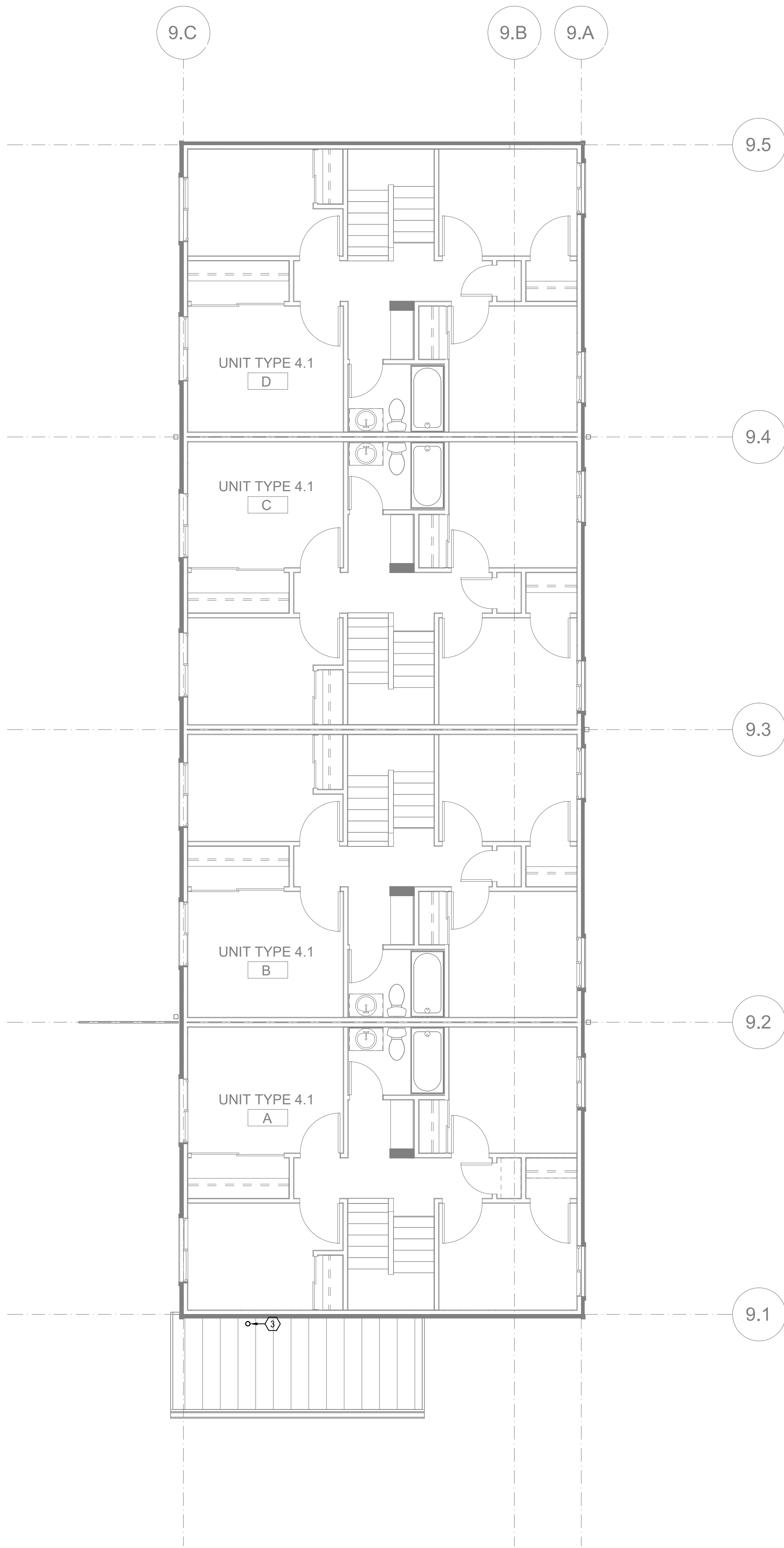


ELECTRICAL AND  
WATER ROOM

2  
E-101 1/4"=1'-0"



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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 H23 UNLESS NOTED OTHERWISE.

- GENERAL NOTES:
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):
- NOT USED.
  - NOT USED.
  - 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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New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 23  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

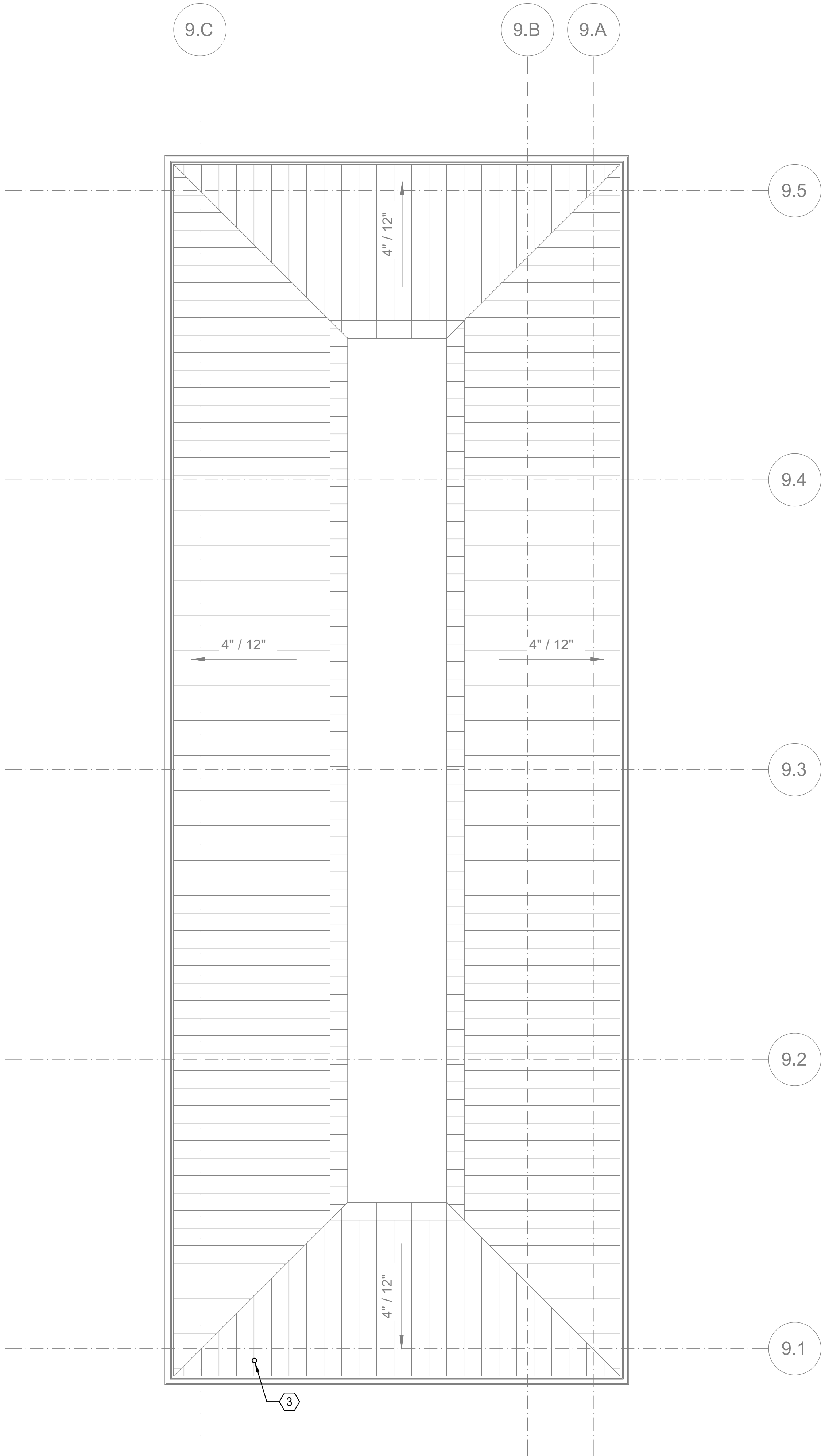
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TITLE  
POWER AND LIGHTING  
PLAN -  
BUILDING 23 -  
LEVEL 2

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

E23-102





**POWER PLAN - BUILDING 23 - 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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**New Kirkland Heights LLLP**  
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General Partner  
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Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 23**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

DPD STAMP

TITLE  
**POWER PLAN -  
BUILDING 23 -  
ROOF**

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

**E23-103**











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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L-EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE, UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OP-L-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10-JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 24  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

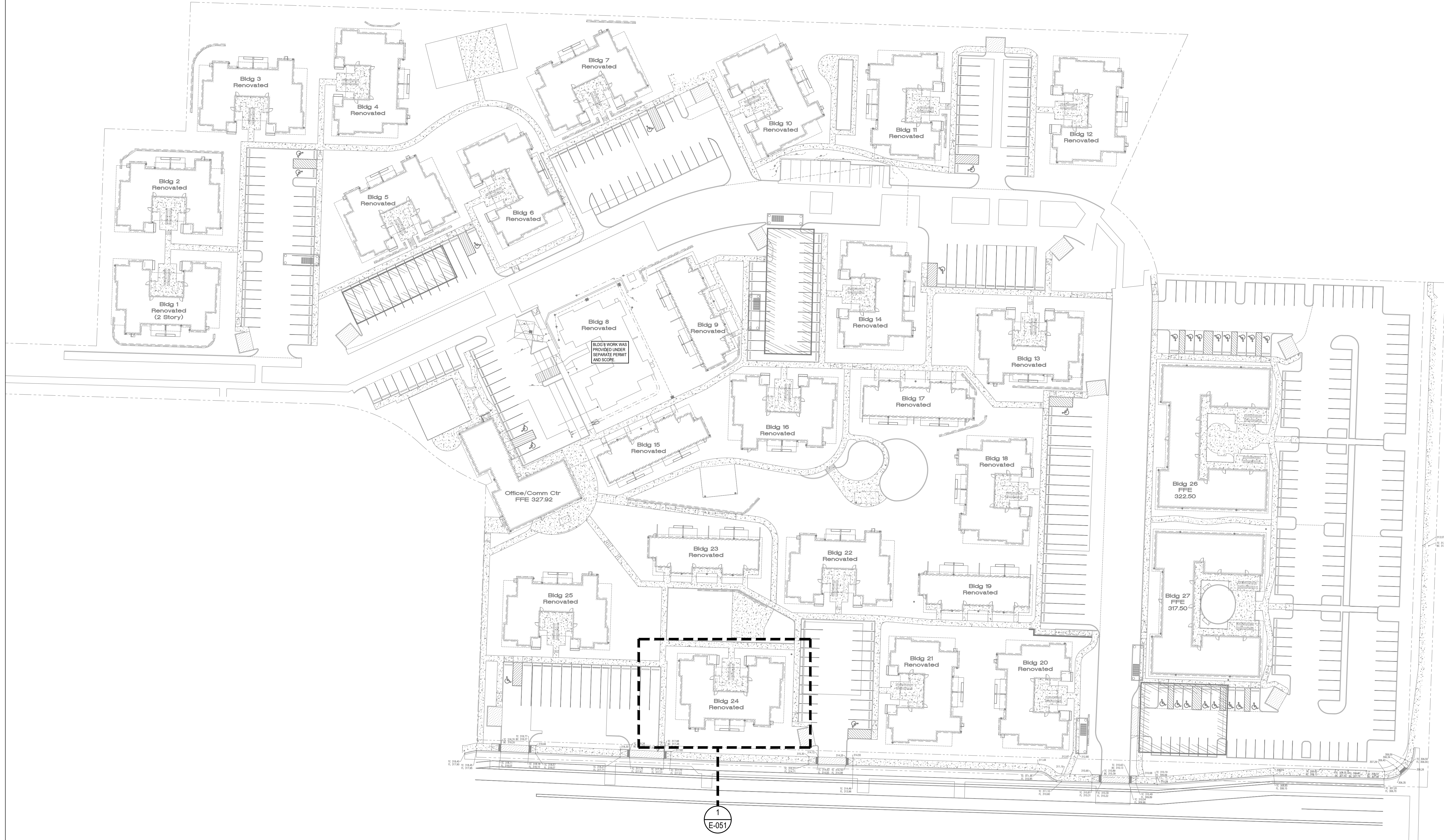
TITLE  
  
LUMINAIRE  
SCHEDULE

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

E24-005



10/7/2021 1:33:34 AM



# 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 APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 24 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

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TITLE

OVERALL  
PROJECT SITE  
PLAN

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

E24-050



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.



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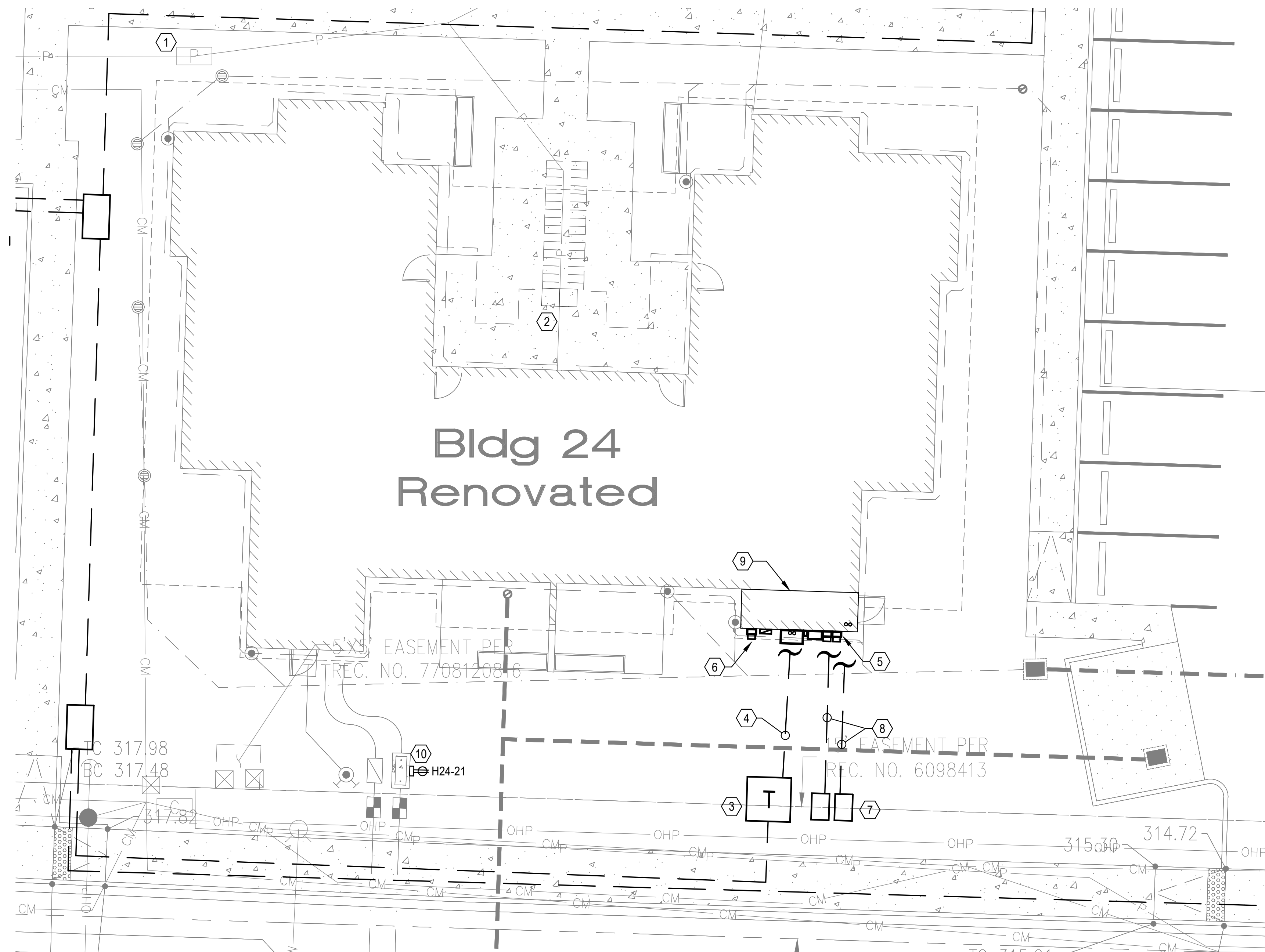
## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 24 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION



### ELECTRICAL SITE PLAN - BUILDING 24 SCALE: 1/8" = 1'-0"

#### FLAG NOTES (X):

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

#### GENERAL NOTES:

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- SEE SHEETS E110-E116 FOR SITE LIGHTING FIXTURE LOCATIONS AND ASSOCIATED BRANCH CIRCUITS BEING SERVED FROM THIS BUILDING.

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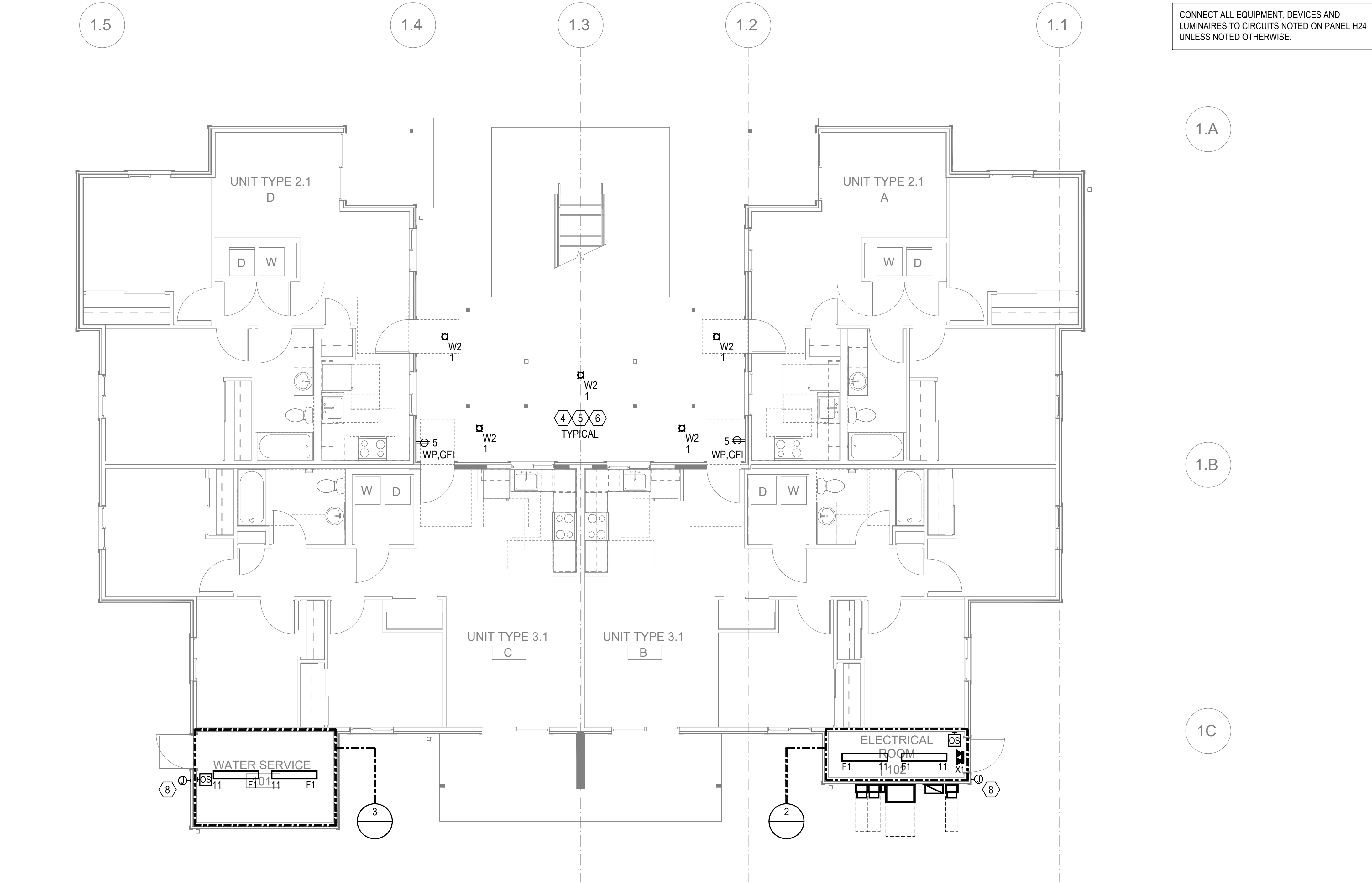
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### ELECTRICAL SITE PLAN - BUILDING 24

PERMIT #  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

# E24-051





**POWER AND LIGHTING PLAN - BUILDING 24 - 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.

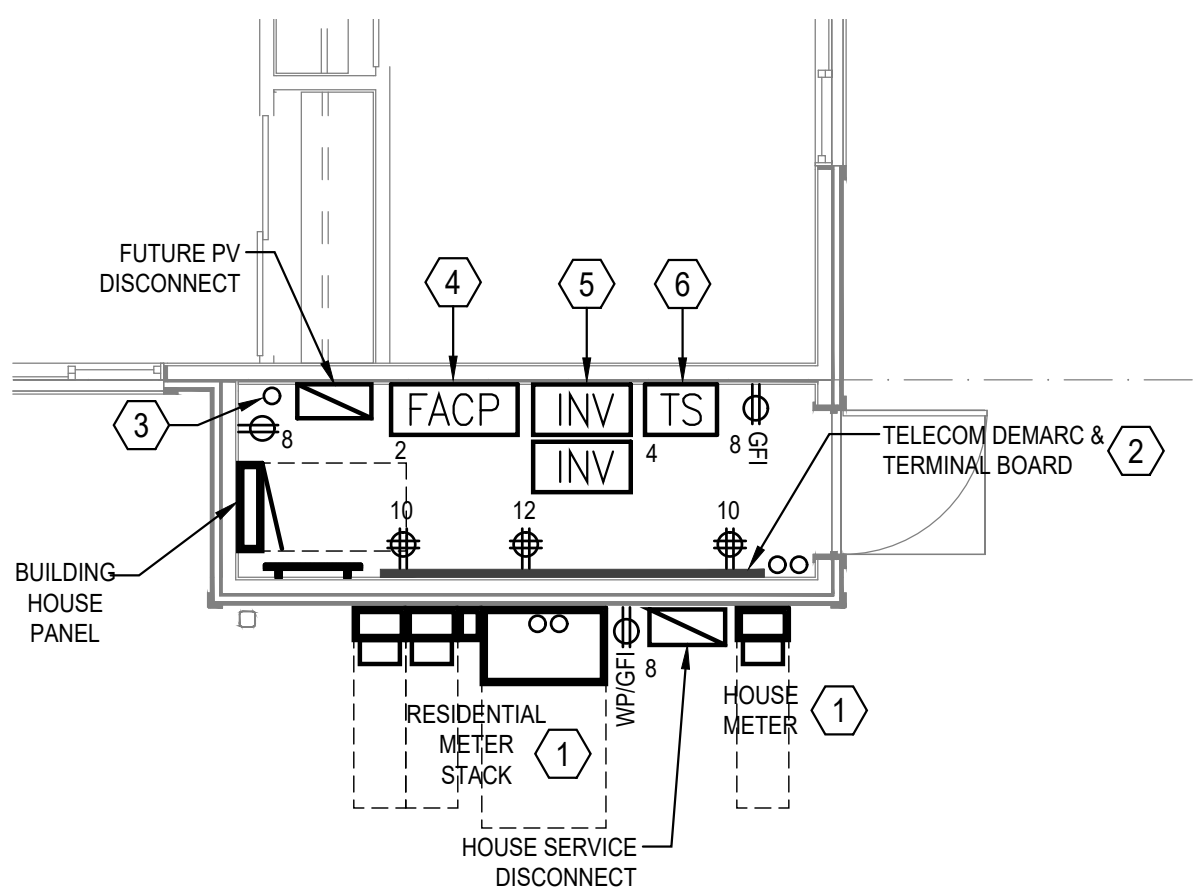
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

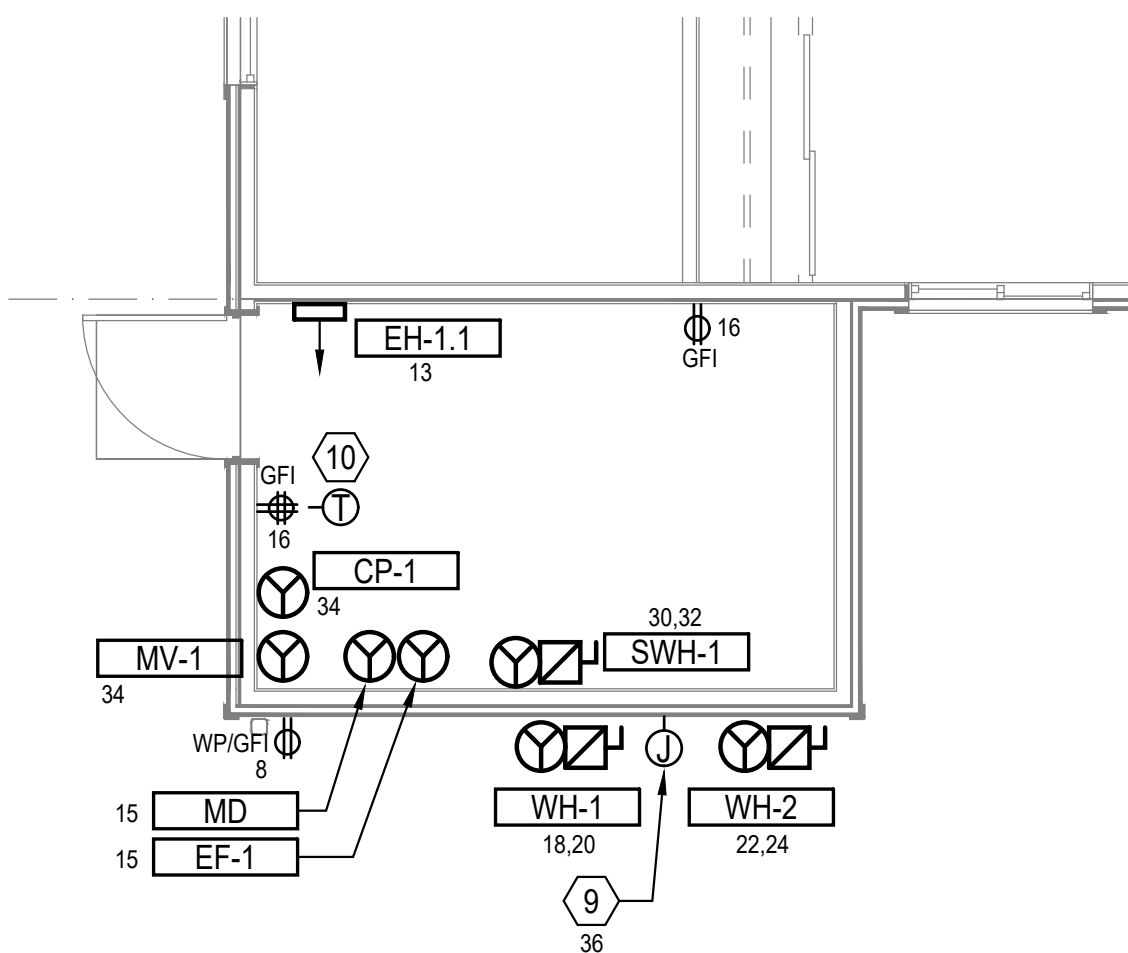
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



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



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



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CONTRACT #: TC2300131

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 24**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

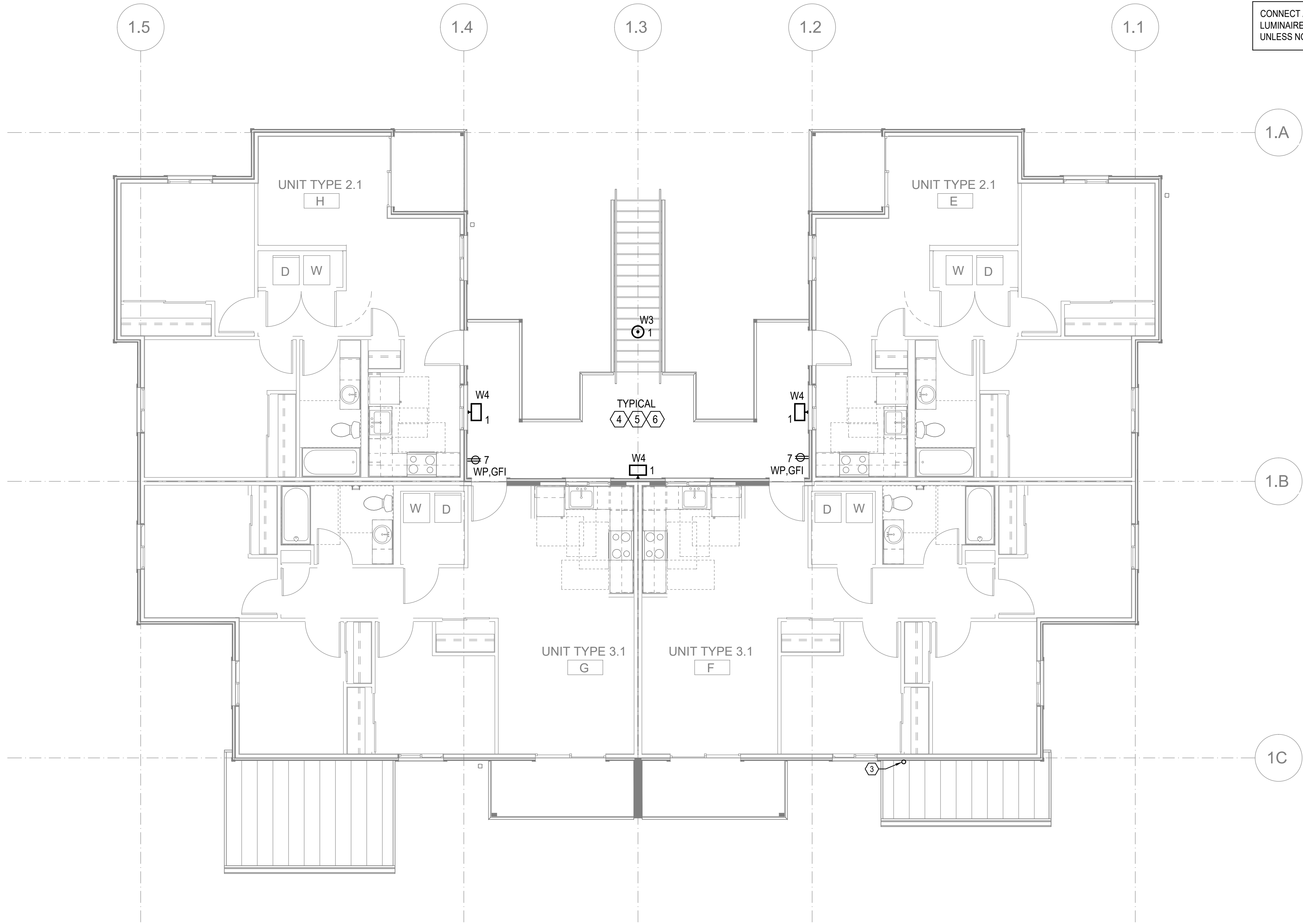
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**POWER AND LIGHTING PLAN - BUILDING 24 - LEVEL 1**

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

**E24-101**



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**POWER AND LIGHTING PLAN - BUILDING 24 - LEVEL 2**  
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:
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):
- NOT USED.
  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
  - ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.



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## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

## BUILDING 24

BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

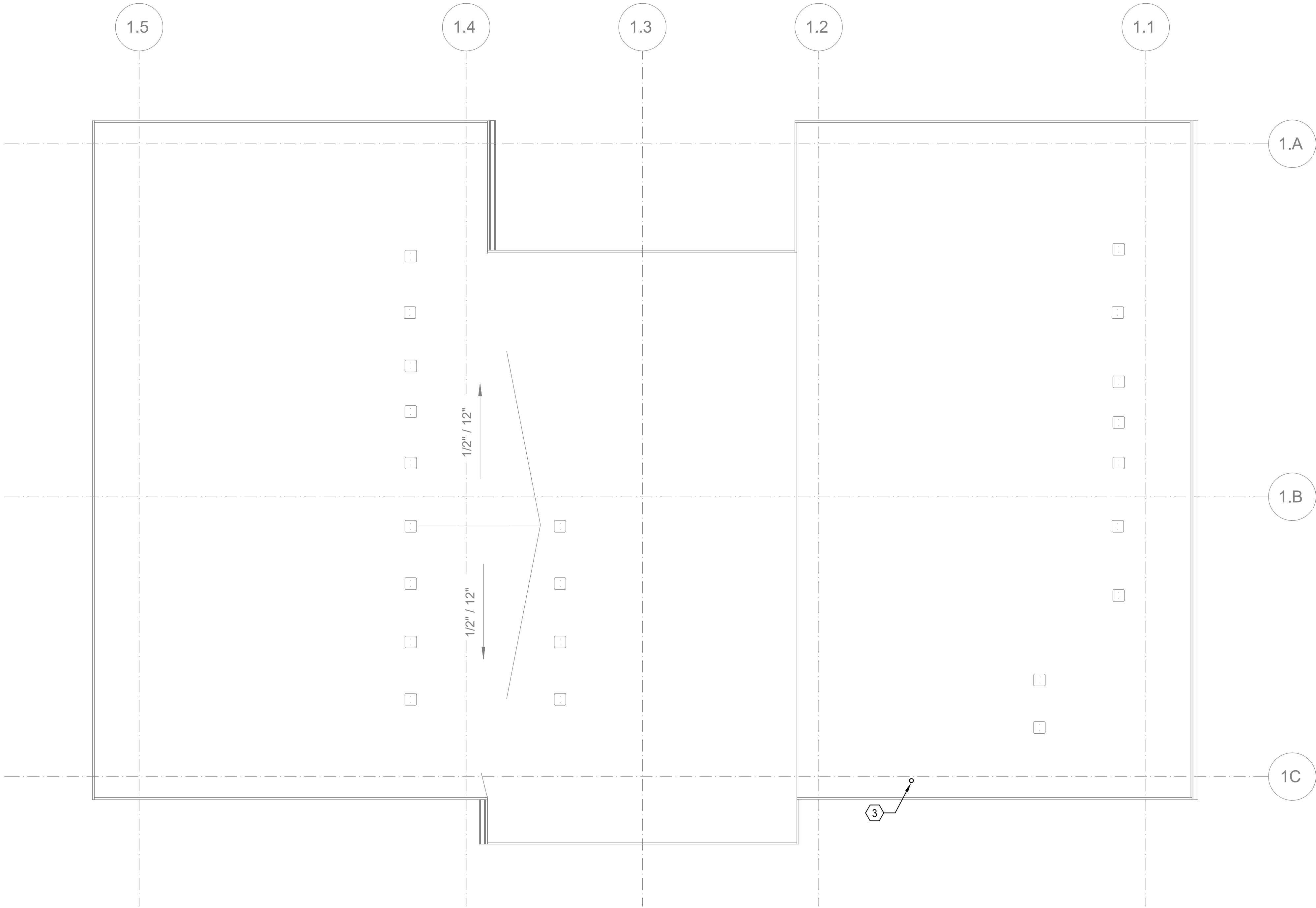
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TITLE  
**POWER AND LIGHTING PLAN - BUILDING 24 - LEVEL 2**

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

# E24-102





**POWER PLAN - BUILDING 24 - 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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**New Kirkland Heights LLLP**  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 24**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

DPD STAMP

TITLE  
**POWER PLAN -  
BUILDING 24 -  
ROOF**

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

**E24-103**



FEEDER/ CIRCUIT SCHEDULE				
MARK	CONDUIT (WET) 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	#20
550.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 300 KCMIL N	#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL	#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N	#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL	#10
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	#2
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
80.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N	#6
80.3	(1) 1.5-INCH	CU	(3) #2	#6
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N	#6
80.3	(1) 1.5-INCH	CU	(3) #3	#6
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N	#6
70.3	(1) 1-INCH	CU	(3) #4	#6
60.4	(1) 1-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
60.1	(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
50.1	(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
40.1	(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
30.1	(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
20.1	(1) 1-INCH	CU	(1) #12 / (1) #12 N	#12

GENERAL SCHEDULE NOTES:

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

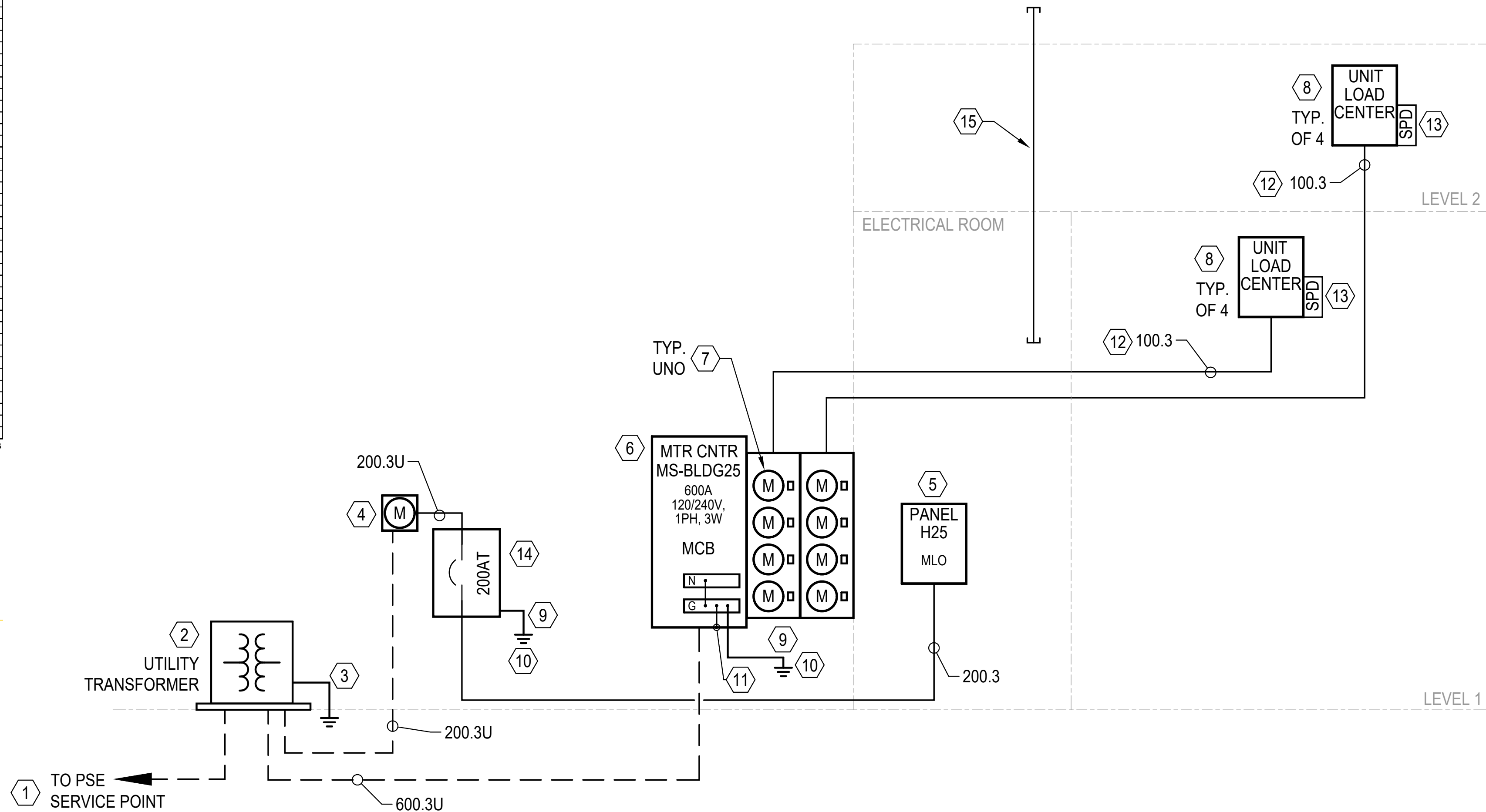
B. FEEDERS RATED OVER 100 AMPS ARE BASED ON TERMINALS RATED FOR 75-DEGREES C (167-DEGREES F). AS PER NEC 110.14(C)(1). FEEDERS RATED 100 AMPS AND LOWER ARE BASED ON TERMINALS RATED FOR 60-DEGREES C (140-DEGREES F).

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.



**SINGLE LINE DIAGRAM**  
SCALE: NTS

#### LOAD CALCULATIONS - BLDG 25

UNIT TYPE: 2BR - 2.1		AREA (SF): 782	4/6/2023
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 [220.63]:			
REFRIGERATOR	1 AT	0.70 kVA	
RANGE HOOD	1 AT	0.30 kVA	
MICROWAVE	AT	0.00 kVA	
DISHWASHER	AT	0.00 kVA	
WASHER	1 AT	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]:			
TOILET EXHAUST FAN	AT	0.00 kVA	
ERV UNIT	1 AT	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			
CLOTHES DRYER [220.54]	1 AT	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	8.80 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): 908	4/6/2023
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 [220.63]:			
REFRIGERATOR	1 AT	0.70 kVA	
RANGE HOOD	1 AT	0.30 kVA	
MICROWAVE	AT	0.00 kVA	
DISHWASHER	AT	0.00 kVA	
WASHER	1 AT	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]:			
TOILET EXHAUST FAN	AT	0.00 kVA	
ERV UNIT	1 AT	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			
CLOTHES DRYER [220.54]	1 AT	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	8.80 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	4/6/2023
DEMAND LOAD (KVA): 95.86 =>		399.4 AMPS AT 240 V 1 PH	
UNIT TYPE		QTY ON METER STACK	GEN LTG LOAD (KVA)
2BR - 2.1	4	27.38	8.80
3BR - 3.1	4	28.97	8.80
0	4	0.00	0.00
TOTALS:	8	56.26	17.60
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)		4/6/2023
PRELIMINARY LOAD CALCULATIONS		
RESIDENTIAL SERVICE:		
RESIDENTIAL UNITS (QTY = 8):		95.86 kVA
(SEE ATTACHED CALC)		
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 - Brezeway +Interior:		1.5 kVA
LIGHTING - SITE:		1.5 kVA
GENERAL RECEPTACLES:		4.0 kVA
MECHANICAL:		1.0 kVA
ELECT HEAT (WATER RMIS):		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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New Kirkland Heights LLLP  
c/o: King County Housing Authority,  
General Partner  
13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034.  
CONTRACT #: TC2300131

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 25  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE  
SINGLE LINE DIAGRAM AND LOAD CALCS

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

E25-003



FEEDER/ CIRCUIT SCHEDULE					
MARK	CONDUIT (#SETS) SIZE	AL OR CU	CONDUCTORS PER SET		GROUND (1 PER SET UNO)
			PHASE 1 (NEUTRAL (N) QTY) SIZE	NOTE #1	
600.3U	(2) 4-INCH	AL	(3) 500 KCMIL		#20
600.3	(2) 4-INCH	AL	(3) 500 KCMIL		#10
500.4	(2) 3-INCH	AL	(3) 350 KCMIL / (1) 350 KCMIL N		#10
500.3	(2) 3-INCH	AL	(3) 350 KCMIL		#10
450.4	(2) 3-INCH	AL	(3) 300 KCMIL / (1) 300 KCMIL N		#10
450.3	(2) 3-INCH	AL	(3) 300 KCMIL		#10
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) #40 / (1) #40 N		#4
175.3	(1) 3-INCH	AL	(3) #40		#4
150.4	(1) 2-INCH	AL	(3) #30 / (1) #30 N		#4
150.3	(1) 2-INCH	AL	(3) #30		#4
125.4	(1) 2-INCH	AL	(3) #20 / (1) #20 N		#4
125.3	(1) 2-INCH	AL	(3) #20		#4
100.4	(1) 2-INCH	AL	(3) #10 / (1) #10 N		#5
100.3	(1) 2-INCH	AL	(3) #10		#5
90.4	(1) 1.5-INCH	CU	(3) #2 / (1) #2 N		#5
90.3	(1) 1.5-INCH	CU	(3) #2		#5
80.4	(1) 1.5-INCH	CU	(3) #3 / (1) #3 N		#5
80.3	(1) 1.5-INCH	CU	(3) #3		#5
70.4	(1) 1.5-INCH	CU	(3) #4 / (1) #4 N		#5
70.3	(1) 1.5-INCH	CU	(3) #4		#5
60.4	(1) 1-INCH	CU	(3) #4 / (1) #4 N		#10
60.3	(1) 1-INCH	CU	(3) #4		#10
60.2U	(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) #5 / (1) #5 N		#10
50.3	(1) 1-INCH	CU	(3) #5		#10
50.2U	(1) 1-INCH	CU	(2) #5 / (1) #5 N		#10
50.2	(1) 1-INCH	CU	(2) #5		#10
50.1	(1) 1-INCH	CU	(1) #5 / (1) #5 N		#10
40.4	(1) 1-INCH	CU	(3) #5 / (1) #5 N		#10
40.3	(1) 1-INCH	CU	(3) #5		#10
40.2U	(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
30.2U	(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
20.2U	(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:**
- A. AL= ALUMINUM (STABILTY CONDUCTORS WITH XHHW-2 INSULATION);  
CU= COPPER (COPPER CONDUCTORS WITH THHN/THW 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
	4	0.42	580	1465	2250	3650
	6	0.63	440	730	1125	1780
	8	1.25	290	485	750	1185
208V / 3-PHASE	3	1.66	220	365	560	885
	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		80	125	200
	40	8.32		70	110	175
	45	9.36				155
	50	10.40				140
	2	0.72	1000	1695	2600	4120
	4	1.44	500	845	1300	2080
	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	250	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:**
- 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			VOLTAGE: 120 / 240 V			FED FROM: 3PH			LOCATION: ELECTRICAL ROOM					
AC - SEE SINGLE-LINE DIAGRAM			BUS RATING: 200 AMPS			M.O.D OR MCB: MLO 100 AMPS			SURFACE-MOUNTED					
CKT #	DESCRIPTION	TYPE	KVA	TAG	AMPS/PH	PH	AMPS/PH	TAG	TYPE	KVA	DESCRIPTION	CKT #		
1	TO BREAKDOWN	L	0.15	20.1	20	/ 1	A	20	/ 1	0.15	LINE ALARM CONTROL PANEL	1		
3	SPARE		0.00	20	/ 1	B	20	/ 1	20.1	N	0.24	TO TIME CLOCK	2	
5	RECEIPT-LVL 1 BREAKERWAY	R	0.36	20.1	20	/ 1	A	20	/ 1		0.00	SPARE	3	
7	RECEIPT-LVL 1 BREAKERWAY	R	0.36	20.1	20	/ 1	B	20	/ 1	20.1	R	0.36	RECEPTS- ELECTRM	4
9	SPARE		0.00	20	/ 1	A	20	/ 1	20.1	R	0.72	RECEPTS- TELECOM	5	
11	TO ELECT MCHD-CLOSETS	L	0.24	20.1	20	/ 1	B	20	/ 1	20.1	R	0.36	RECEPTS- TELECOM	6
13	ELECT WATER-FIRE SPRINKLER	L	0.120	20.1	20	/ 1	A	20	/ 1		0.00	SPARE	7	
15	EXHAUST FAN-1 & MOTO DAMPER	M	0.24	20.1	20	/ 1	B	20	/ 1	20.1	R	0.72	RECEPTS- MECH RM	8
17	SPARE		0.00	20	/ 1	A	20	/ 1	20.2	C	1.72	HEATPUMP WATER-TR- VEH-1	9	
19	SPARE		0.00	20	/ 1	B							10	
21	HEAT TRACE -WATER CONNECTION	M	0.24	20.1	20	/ 1	A	15	/ 2	20.2N	C	1.72	HEATPUMP WATER-TR- VEH-2	11
23	SPARE		0.00	20	/ 1	B							12	
25	TO SITE POLES	L	0.30	20.1	20	/ 1	A	20	/ 1		0.00	SPARE	13	
27	SPARE		0.00	20	/ 1	B	20	/ 1			0.00	SPARE	14	
29	SPACE ONLY					A	30	/ 2	30.2N	C	4.56	WASHING TANK "SMALL"	15	
31	SPACE ONLY					B							16	
33	SPACE ONLY					A	20	/ 1	20.1	N	0.36	CIRC PUMP CO-1 & MCK VALVE "MCK-1"	17	
35	SPACE ONLY					B	20	/ 1	20.1	R	0.72	HEAT TRACE -HEATPUMP WATER-TR-36	18	
37	SPACE ONLY					A						SPACE ONLY	19	
39	SPACE ONLY					B						SPACE ONLY	20	
41	SPACE ONLY					A						SPACE ONLY	21	
CONNECTED FACTOR														
L			0.59	WVA	0.256	DEMAND LOAD			0.86			WVA	0.344	
R			0.76	WVA	0.28	DEMAND LOAD			0.78			WVA	0.31	
M			0.24	WVA	100%	DEMAND LOAD			0.62			WVA	100%	
P			0.24	WVA	100%	DEMAND LOAD			0.09			WVA	100%	
C			1.66	WVA	115%	DEMAND LOAD			11.52			WVA	100%	
N			1.44	WVA	100%	DEMAND LOAD			1.44			WVA	100%	
W			0.00	WVA	75%	DEMAND LOAD			0.00			WVA	75.94	
TOTALS												75.94		AMPS
NOTES														
A. SEE FEEDER AND BRANCH CIRCUIT SCHEDULE FOR CIRCUIT AND CONDUCTOR INFORMATION PER CIRCUIT TAG.														
CIRCUIT NOTES														
1. PROVIDE 3000 GRADE FAULT EQUIPMENT PROTECTION BREAKER														

- CONNECTED LOAD FACTOR**
- L = LIGHTING 0.69 KVA 120% 0.86 KVA  
R = RECEPTACLES 3.78 KVA REG 32044 3.78 KVA  
M = MOTORS 0.24 KVA 100% 0.24 KVA  
N = PLUS 20% OF LARGEST MOTOR 0.24 KVA 25% 0.09 KVA  
C = CONTINUOUS 0.48 KVA 120% 11.60 KVA  
K = NON-CONTINUOUS 1.44 KVA 100% 1.44 KVA  
X = MOTO-EN 0.00 KVA 75% 0.00 KVA

- DEMAND TOTAL:**
- 15.81 KVA  
65.03 AMPS

- PANEL DEMAND TOTAL:**
- 18.02 KVA  
75.04 AMPS

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

- CIRCUIT NOTES (A):**
1. PROVIDE 300MA GROUND FAULT EQUIPMENT PROTECTION BREAKER

## LOAD CENTER - 2 BEDROOM

NORMAL POWER			VOLTAGE: 120 / 240 V			FED FROM: METER STACKS			LOCATION: DWELLING UNITS		
AC - SEE SINGLE-LINE DIAGRAM (PLUS RATING)			BUS RATING: 100 AMPS			M.O.D OR MCB: MLO 100 AMPS			FLUSH MOUNTED		
CKT #	DESCRIPTION	CKT TAG	CB	CKT TAG	AMPS/PH	PH	AMPS/PH	CKT TAG	CB	CKT TAG	DESCRIPTION
1	BATHROOMS (1)	20.1	20	/ 1	A	20	/ 2	20.2N	RANGE		
3	CEILING LIGHTS RECEPTS SD (1)	20.1	20	/ 1	B						
5	RECEPTS-ENR. MEDIA RM. (1)	20.1	20	/ 1	A	20	/ 2	20.2	HEAT- BEDROOMS		
7	REFRIGERATOR EXHAUST HOOD (2)	20.1	20	/ 1	B						
9	GENERAL KITCHEN APPLIANCE (1)	20.1	20	/ 1	A	20	/ 2	20.2	HEAT- LIVING ROOM		
11	GENERAL KITCHEN APPLIANCE (1)	20.1	20	/ 1	B						
13	BEDROOM 1 RECEPTS L.T.S. SD (1)	20.1	20	/ 1	A	30	/ 2	30.2	DRYER (2)		
15	BEDROOM 2 RECEPTS L.T.S. SD (1)	20.1	20	/ 1	B						
17	2ND RECEPT-AD UNIT BY TENANT	20.1	20	/ 1	A	20	/ 1	20.1	WASHER (2)		
19					B						
21	WASHER PROTECTION DEVICE	20	/ 2	A							
23					B						

- 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 (A):**
1. PROVIDE COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER  
2. PROVIDE COMBO SMA GFCI COMBO ARC-FAULT CIRCUIT INTERRUPTER BREAKER WHERE RECEPTACLE IS WITHIN 8 FT 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		
AC - SEE SINGLE-LINE DIAGRAM (PLUS RATING)			BUS RATING: 100 AMPS			M.O.D OR MCB: MLO 100 AMPS			FLUSH MOUNTED		
CKT #	DESCRIPTION	CKT TAG	CB	CKT TAG	AMPS/PH	PH	AMPS/PH	CKT TAG	CB	CKT TAG	DESCRIPTION
1	BATHROOMS (1)	20.1	20	/ 1	A	20	/ 2	20.2N	RANGE		
3	CEILING LIGHTS RECEPTS SD (1)	20.1	20	/ 1	B						
4	GENERAL LIGHTS, MEDIA (1)	20.1	20	/ 1	B						
7	REFRIGERATOR EXHAUST HOOD (2)	20.1	20	/ 1	B						
8	GENERAL OUTLETS APPLANCE (1)	20.1	20	/ 1	B						
9	GENERAL LIGHTS, MEDIA APPLANCE	20.1	20	/ 1	A	20	/ 2	20.2	HEAT - LIVING ROOM		
12	GENERAL LIGHTS, MEDIA APPLANCE	20.1	20	/ 1	B						
13	BEDROOM 1 RECEPTS LTR SD (1)	20.1	20	/ 1	A	20	/ 2	20.2	GRINDER (2)		
14	BEDROOM 2 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
15	BEDROOM 3 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
16	BEDROOM 4 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
17	BEDROOM 5 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
18	BEDROOM 6 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
19	BEDROOM 7 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
20	BEDROOM 8 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
21	BEDROOM 9 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
22	BEDROOM 10 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
23	BEDROOM 11 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
24	BEDROOM 12 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
25	BEDROOM 13 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
26	BEDROOM 14 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
27	BEDROOM 15 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
28	BEDROOM 16 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
29	BEDROOM 17 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
30	BEDROOM 18 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
31	BEDROOM 19 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
32	BEDROOM 20 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
33	BEDROOM 21 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
34	BEDROOM 22 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
35	BEDROOM 23 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
36	BEDROOM 24 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
37	BEDROOM 25 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
38	BEDROOM 26 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
39	BEDROOM 27 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
40	BEDROOM 28 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
41	BEDROOM 29 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
42	BEDROOM 30 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
43	BEDROOM 31 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
44	BEDROOM 32 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
45	BEDROOM 33 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
46	BEDROOM 34 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
47	BEDROOM 35 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
48	BEDROOM 36 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
49	BEDROOM 37 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
50	BEDROOM 38 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
51	BEDROOM 39 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
52	BEDROOM 40 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
53	BEDROOM 41 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
54	BEDROOM 42 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
55	BEDROOM 43 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
56	BEDROOM 44 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
57	BEDROOM 45 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
58	BEDROOM 46 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
59	BEDROOM 47 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
60	BEDROOM 48 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
61	BEDROOM 49 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
62	BEDROOM 50 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
63	BEDROOM 51 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
64	BEDROOM 52 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
65	BEDROOM 53 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
66	BEDROOM 54 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
67	BEDROOM 55 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
68	BEDROOM 56 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
69	BEDROOM 57 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
70	BEDROOM 58 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
71	BEDROOM 59 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
72	BEDROOM 60 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
73	BEDROOM 61 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
74	BEDROOM 62 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
75	BEDROOM 63 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
76	BEDROOM 64 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
77	BEDROOM 65 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
78	BEDROOM 66 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
79	BEDROOM 67 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
80	BEDROOM 68 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
81	BEDROOM 69 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
82	BEDROOM 70 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
83	BEDROOM 71 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
84	BEDROOM 72 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
85	BEDROOM 73 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
86	BEDROOM 74 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
87	BEDROOM 75 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
88	BEDROOM 76 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
89	BEDROOM 77 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
90	BEDROOM 78 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
91	BEDROOM 79 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
92	BEDROOM 80 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
93	BEDROOM 81 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
94	BEDROOM 82 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
95	BEDROOM 83 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
96	BEDROOM 84 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
97	BEDROOM 85 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
98	BEDROOM 86 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
99	BEDROOM 87 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
100	BEDROOM 88 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
101	BEDROOM 89 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
102	BEDROOM 90 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
103	BEDROOM 91 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
104	BEDROOM 92 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
105	BEDROOM 93 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
106	BEDROOM 94 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
107	BEDROOM 95 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
108	BEDROOM 96 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
109	BEDROOM 97 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
110	BEDROOM 98 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
111	BEDROOM 99 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
112	BEDROOM 100 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
113	BEDROOM 101 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
114	BEDROOM 102 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
115	BEDROOM 103 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
116	BEDROOM 104 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
117	BEDROOM 105 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
118	BEDROOM 106 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
119	BEDROOM 107 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
120	BEDROOM 108 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
121	BEDROOM 109 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
122	BEDROOM 110 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
123	BEDROOM 111 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
124	BEDROOM 112 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
125	BEDROOM 113 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
126	BEDROOM 114 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
127	BEDROOM 115 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
128	BEDROOM 116 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
129	BEDROOM 117 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
130	BEDROOM 118 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
131	BEDROOM 119 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
132	BEDROOM 120 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
133	BEDROOM 121 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
134	BEDROOM 122 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
135	BEDROOM 123 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
136	BEDROOM 124 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
137	BEDROOM 125 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
138	BEDROOM 126 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
139	BEDROOM 127 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
140	BEDROOM 128 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
141	BEDROOM 129 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
142	BEDROOM 130 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
143	BEDROOM 131 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
144	BEDROOM 132 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
145	BEDROOM 133 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
146	BEDROOM 134 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
147	BEDROOM 135 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
148	BEDROOM 136 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
149	BEDROOM 137 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
150	BEDROOM 138 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
151	BEDROOM 139 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
152	BEDROOM 140 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
153	BEDROOM 141 RECEPTS LTR SD (1)	20.1	20	/ 1	B						
154	BEDROOM 142 RECEPTS LTR SD (1)	20.1	20	/ 1	B						



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	ZL10-L48-3000LM-FST-MVOLT-40K-80CRI FSS SERIES SNLED SERIES	1, 2
										1, 2
U1	11-INCH DECORATIVE SURFACE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(2) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	22.0	120	CEILING		NUVO NO EXCEPTIONS	60-2621	1, 2
U2	LOW-PROFILE SURFACE-MOUNTED LED BOWL, OVAL SHAPE, 32-INCH LENGTH, WHITE/FROSTED ACRYLIC LENS. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	4000 LUMENS 3000K 80+	ELECTRONIC	50.0	120	CEILING		EFFICIENT LIGHTING	EL-855-50L,EDAC	1, 2
U3	2-FT VANITY LUMINAIRE, LED SOURCE, WHITE ACRYLIC DIFFUSER. FIXTURE MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	2200 LUMENS 3000K 80+	ELECTRONIC	23.0	120	WALL		LUMENCIA NO EXCEPTIONS	LLFL21030-30K-8N	1, 2
U4	15-INCH DECORATIVE DOME. PROVIDE WITH LED GU-24 REPLACEMENT LAMPS. LAMPS MUST HAVE EFFICACY OF AT LEAST 65 LUMENS PER WATT PER ENERGY CODE REQUIREMENTS.	(3) SATCO S9707 A19/GU24 27K LED LAMPS	NONE	33.0	120	SUSPENDED		NUVO NO EXCEPTIONS	60-2623	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 SATCO COOPER LTG	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH S21525 SMD4 SERIES	1, 2
W1	EXTERIOR WALL-MOUNTED DECORATIVE SCONCE. UL LISTED WET LOCATION. PROVIDE WITH LED SCREW-BASE REPLACEMENT LAMPS.	(1) SATCO S8914 A19/E26 27K LED LAMPS	NONE	8.5	120	WALL		NUVO NO EXCEPTIONS	60-533	1, 2
W2	SURFACE MOUNTED AREA LIGHT, FROSTED POLYCARBONATE LENS, EXTERIOR RATED, BRONZE COLOR	1850 LUMENS 3000K 80+	ELECTRONIC	20.0	120	SURFACE / CEILING		FAILSAFE WILLIAMS LUMINAIRE	G12-BZ-LDE-20W-30-OP-L-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, BRONZE COLOR, WET LABEL.	1000 LUMENS 3000K 80+	ELECTRONIC	10.0	120	SUSPENDED		ACUITY / GOTHAM INSIGHT	ICO4PC 30/10 AR LSS 30D MVOLT EZ10-JBX PCAN45 S6 WL DDBT WITH CYLSTBL KIT SPM-MO-30K-30-PND-UNV-DIM-TLB	1, 2, 3
W4	WALL MOUNTED ARCHITECTURAL AREA LIGHT, WIDE THROW DISTRIBUTION, WET LABEL RATED MOUNT @ 8-FOOT AFF	1200 LUMENS 3000K 80+	ELECTRONIC	10.0	120	WALL		ACUITY WILLIAMS	WDGE1 LED P1 30K 80CRI VW MVOLT DDBXD VWM H - L10/830 - TL - DBR - SDGL - DIM - UNV	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	ELUC SD EMER/LED-WH7-SDT-D	

- 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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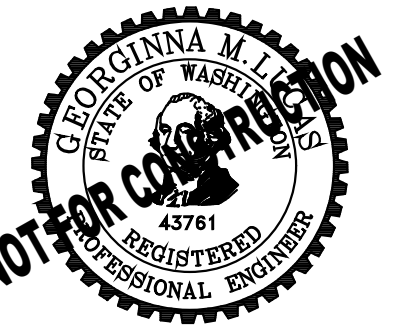


New Kirkland Heights LLLP  
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13310 NE 133<sup>rd</sup> St.  
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CONTRACT #: TC2300131

KIRKLAND  
HEIGHTS  
APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 25  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE  
  
LUMINAIRE  
SCHEDULE

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

E25-005





**SIDER+BYERS**  
MECHANICAL • ELECTRICAL ENGINEERS

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## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 25 BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

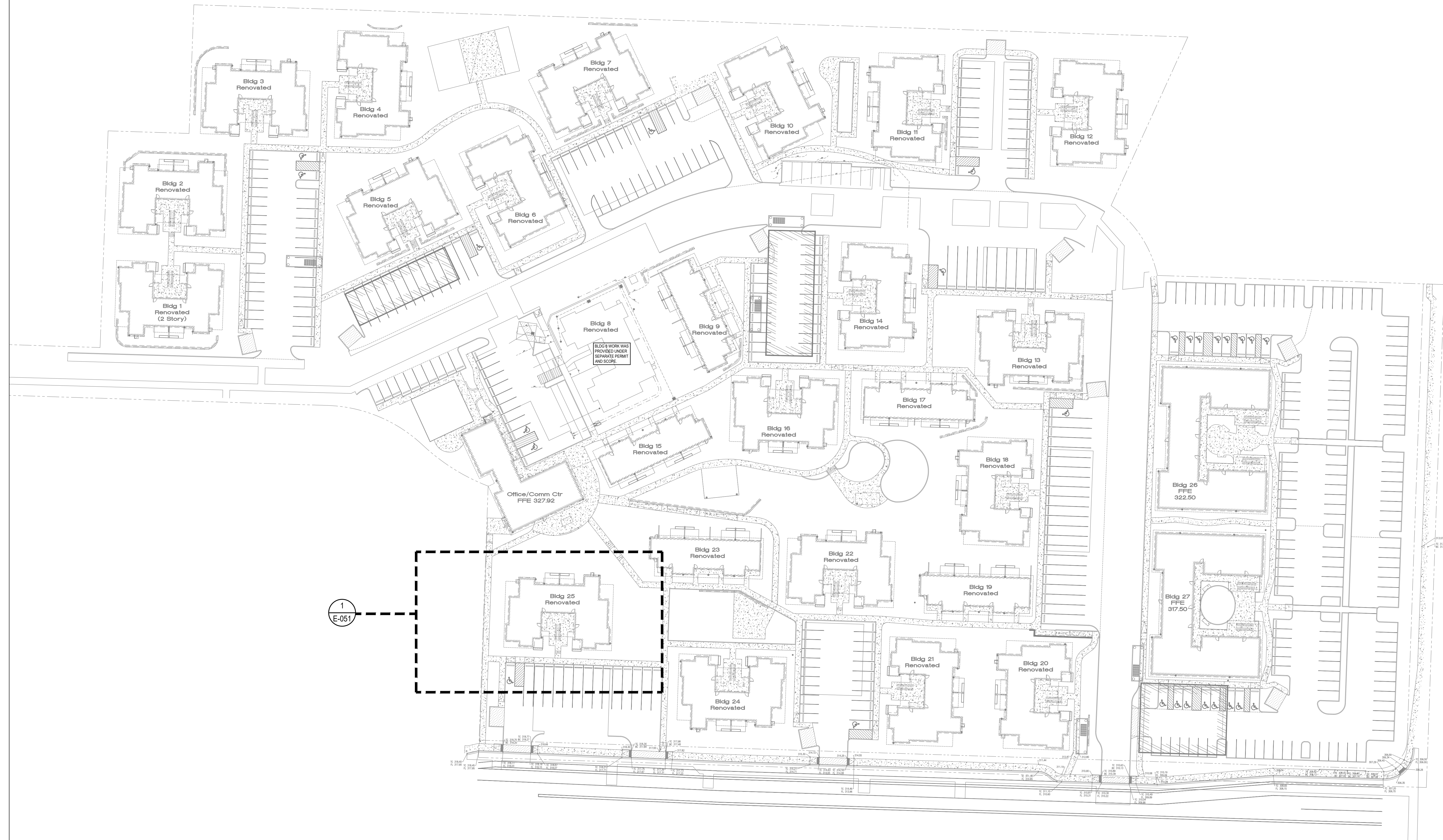
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TITLE

OVERALL  
PROJECT SITE  
PLAN

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

E25-050



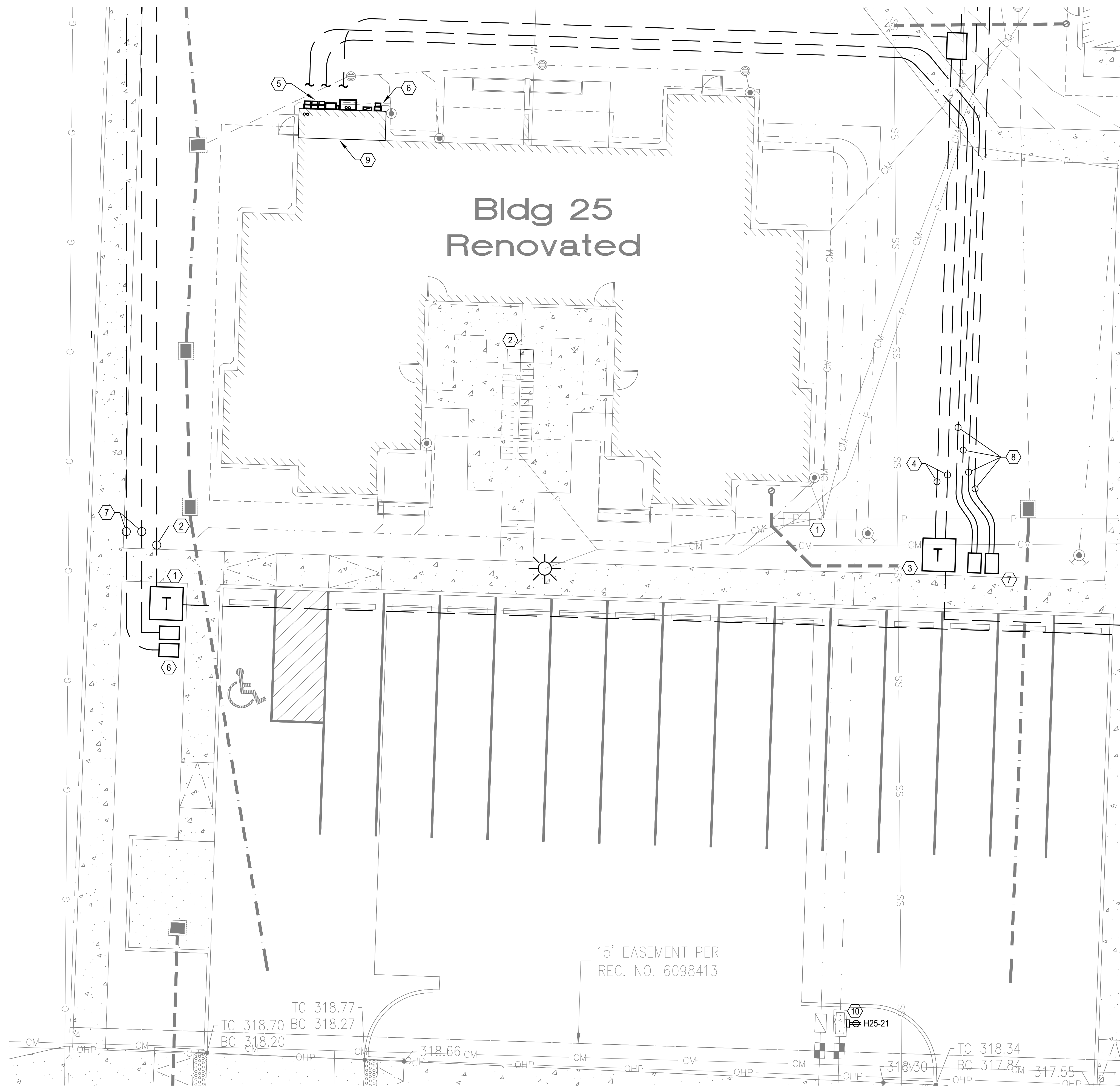
## OVERALL PROJECT SITE PLAN

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.





**ELECTRICAL SITE PLAN - BUILDING 25**  
SCALE: 1/8" = 1'-0"

**FLAG NOTES (X):**

- 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.
- DEMOLISH EXISTING RESIDENTIAL METER CENTER.
- 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.
- 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.
- NEW RESIDENTIAL METER CENTER TO SERVE APARTMENT UNITS. SEE ONE-LINE FOR ADDITIONAL INFORMATION.
- NEW HOUSE SERVICE METER AND MAIN DISCONNECT.
- NEW 2' x 3' TELECOM HANDHOLE FOR NEW TELECOM SERVICES TO BUILDING.
- PROVIDE AND INSTALL ONE (1) 4-INCH CONDUIT, PER TELECOM SERVICE PROVIDER, BETWEEN NEW HANDHOLES AND NEW TELECOM DEMARCATION.
- NEW TELECOM BACKBOARD AND DEMARCATION, LOCATED INSIDE ELECTRICAL ROOM.
- PROVIDE 120V DUPLEX RECEPTACLE FOR WATER LINE HEAT TRACE. COORDINATE WITH CIVIL TO VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS.

**GENERAL NOTES:**

- 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.
- ALL TRENCHING, BACKFILL, COVER AND RESTORATION NEEDED FOR THE ELECTRICAL SCOPE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 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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CONTRACT #: TC2300131

**KIRKLAND  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 25  
BID SET**



REVISIONS / NOTES  
NO DATE DESCRIPTION

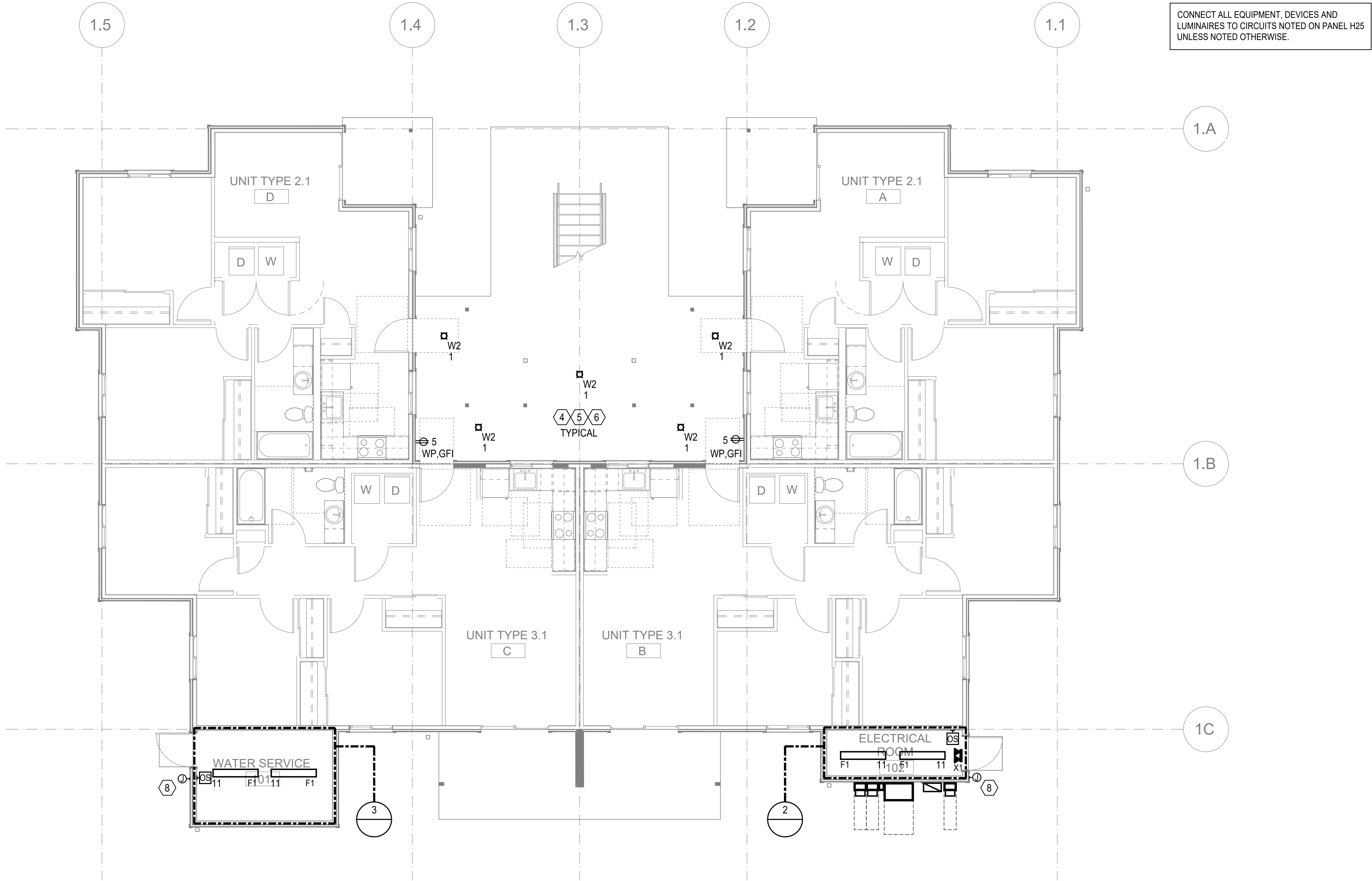
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**ELECTRICAL  
SITE PLAN -  
BUILDING 1**

PERMIT #  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E25-051**





**POWER AND LIGHTING PLAN - BUILDING 25 - 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.

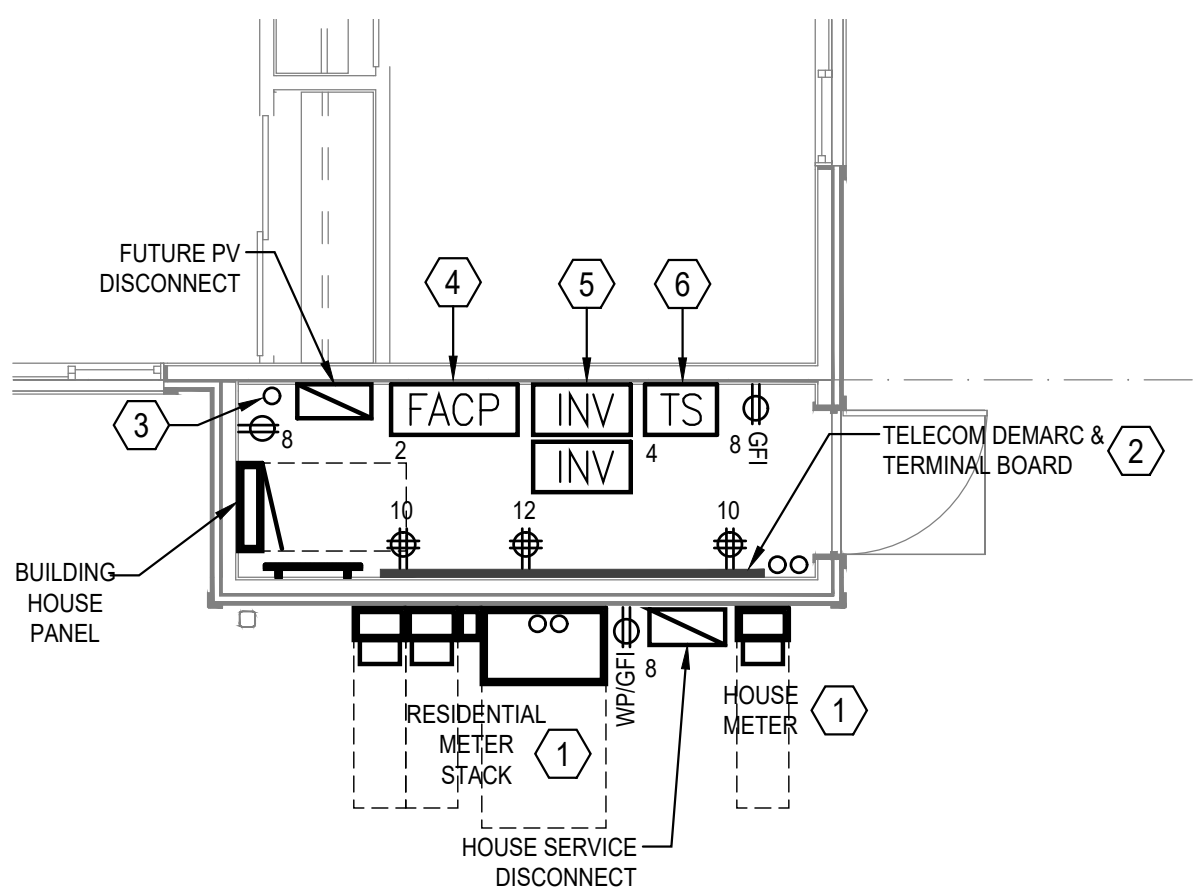
SEE ENLARGED DWELLING UNIT PLANS FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS IN DWELLING UNITS.

**GENERAL NOTES:**

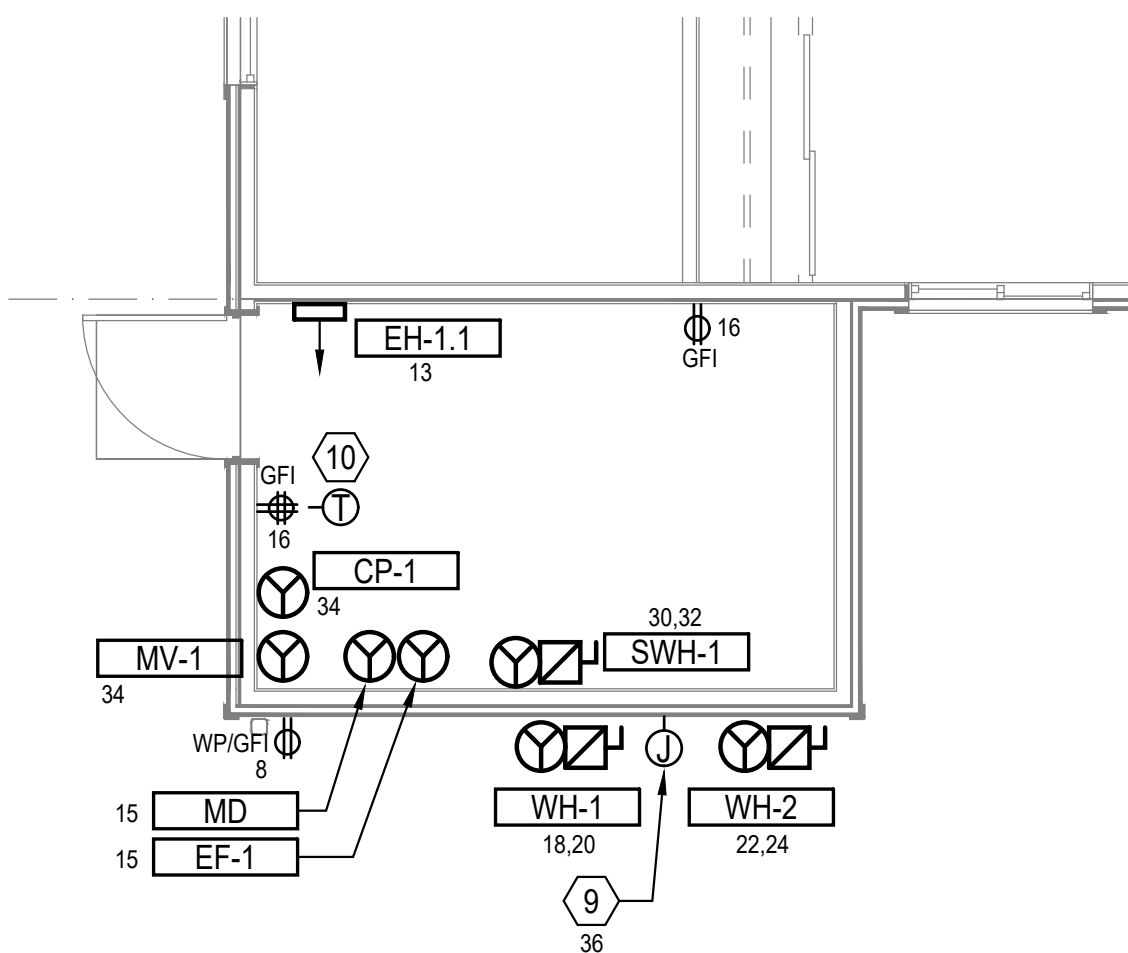
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
- INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
- VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
- 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):**

- PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT FOR NEW APARTMENT UNIT CONFIGURATION AND THE BUILDING "HOUSE" LOADS. SEE ONE-LINE FOR SERVICE EQUIPMENT.
- 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.
- 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).
- PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
- 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
- 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.
- LIGHTING FIXTURE TO BE SURFACE MOUNTED TO BOTTOM OF STAIR LANDING IN ORDER TO ILLUMINATE STAIR TREADS DOWN TO GRADE.
- 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.
- 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.
- ELECTRICAL CONTRACTOR TO PROVIDE POWER CONNECTION FOR EXHAUST FAN THERMOSTAT. CONFIRM CONNECTION REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.



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



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



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13310 NE 133<sup>rd</sup> St.  
Kirkland, WA 98034,  
CONTRACT #: TC2300131

**KIRKLAND HEIGHTS APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 25**  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE  
**POWER AND LIGHTING PLAN - BUILDING 25 - LEVEL 1**

PERMIT #  
DRAWN RA, JF  
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ISSUE DATE 4/14/2023  
JOB NO. 22016  
SHEET NO.:

**E25-101**





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## KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

### BUILDING 25 BID SET



REVISIONS / NOTES  
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TITLE  
POWER AND LIGHTING PLAN -  
BUILDING 25 -  
LEVEL 2

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

# E25-102

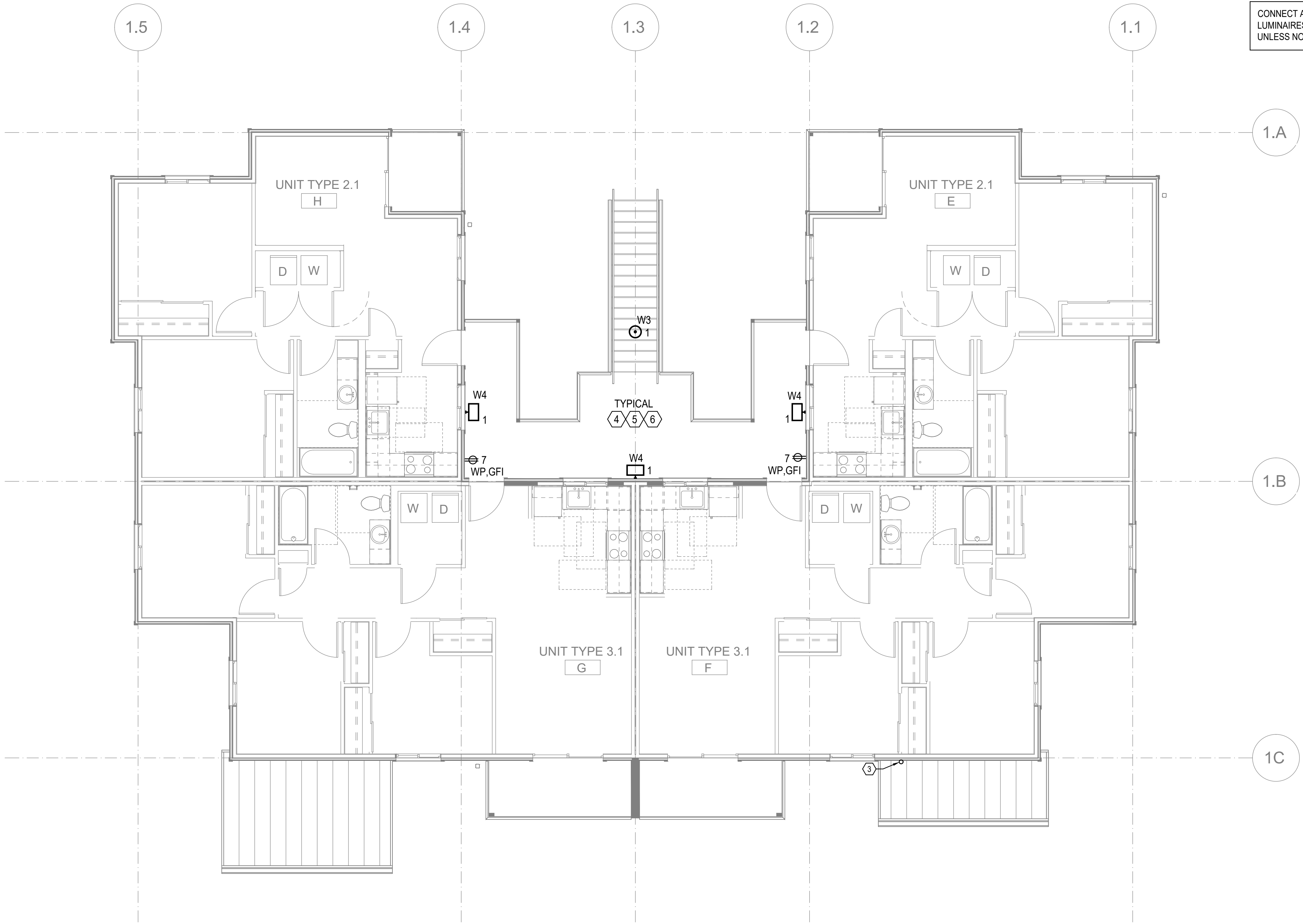
ALL LOW VOLTAGE SYSTEMS ARE DESIGN-BUILD. LOW VOLTAGE DEVICES SHOWN IN THIS SET ARE FOR COORDINATION AND SCOPE INTENT PURPOSES ONLY. SEE LOW VOLTAGE CONTRACTORS DRAWING SET FOR EQUIPMENT AND DEVICE QUANTITIES AND LOCATIONS.

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

- GENERAL NOTES:
- PROVIDE TAMPER-PROOF RECEPTACLES IN ALL BUILDING AREAS ACCESSIBLE TO GENERAL PUBLIC AND IN RESIDENTIAL UNITS.
  - INSTALL GFCI PROTECTED RECEPTACLES WITHIN 25-FEET OF ALL MECHANICAL EQUIPMENT FOR MAINTENANCE. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
  - VERIFY ALL DEVICE AND SWITCH LOCATIONS WITH ARCHITECT, OWNER & TENANTS, PRIOR TO ROUGH-IN.
  - 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):
- NOT USED.
  - NOT USED.
  - 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).
  - PROVIDE NEW FIRE ALARM SYSTEM AND CONTROL PANEL AS REQUIRED BY LOCAL FIRE MARSHAL AND AHJ. PROVIDE DEVICES THROUGH BUILDING CIRCULATION AREAS AS REQUIRED BY CODE.
  - ALL BREEZEWAY AND STAIR LIGHTING TO BE FED BY EMERGENCY LIGHTING INVERTER. SEE LEVEL 1 PLAN FOR LOCATION AND DETAILS.
  - ALL BREEZEWAY LIGHTING TO HAVE AUTOMATIC ON/OFF CONTROL VIA TIME CLOCK. SEE LEVEL 1 PLAN FOR LOCATION.

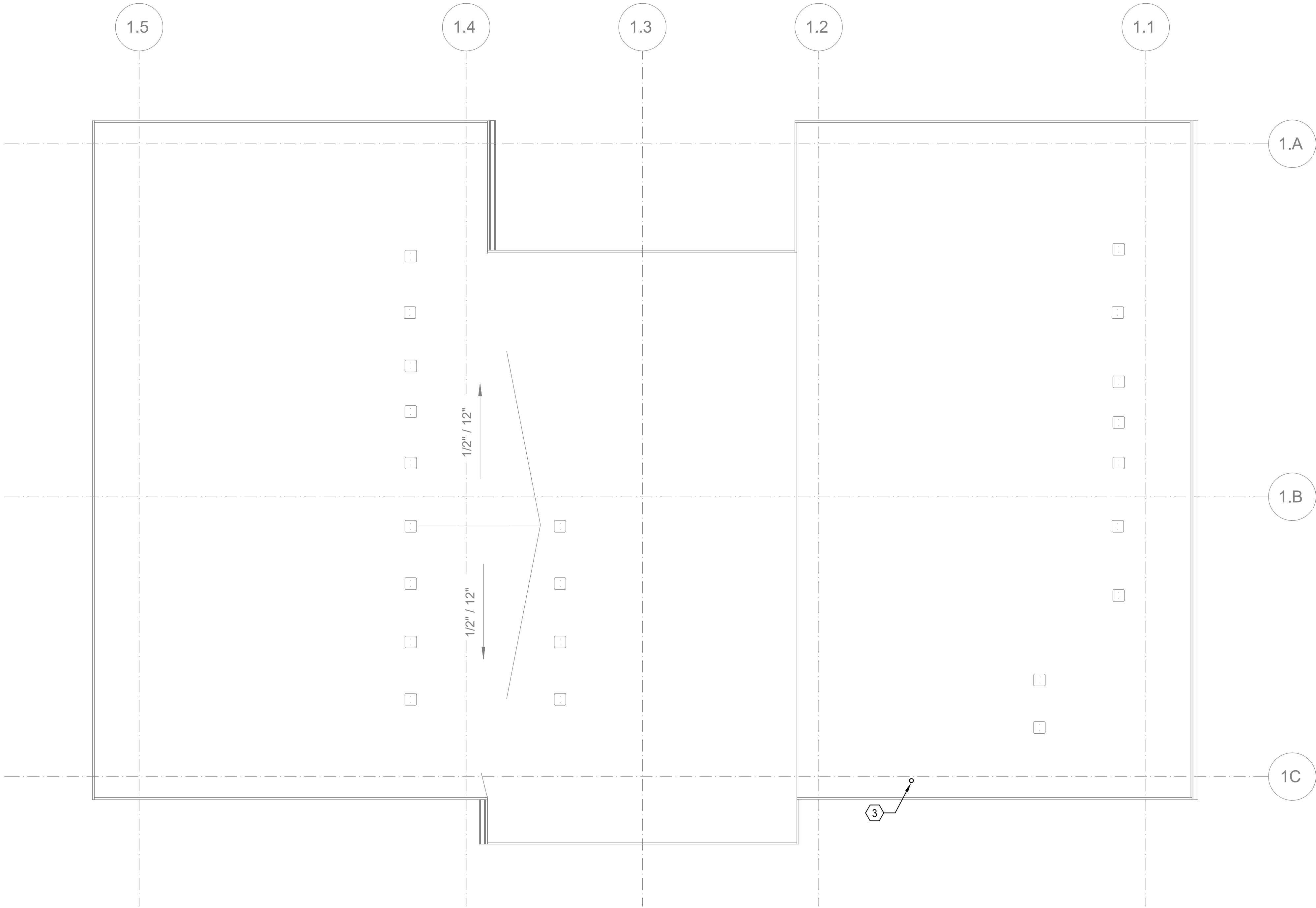
CONNECT ALL EQUIPMENT, DEVICES AND LUMINAIRES TO CIRCUITS NOTED ON PANEL H25 UNLESS NOTED OTHERWISE.



## POWER AND LIGHTING PLAN - BUILDING 25 - LEVEL 2

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





**POWER PLAN - BUILDING 25 - 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  
HEIGHTS  
APARTMENTS**

13317 NE 133rd St.,  
Kirkland, WA 98034

**BUILDING 25**  
BID SET



REVISIONS / NOTES		
NO	DATE	DESCRIPTION

DPD STAMP

TITLE

**POWER PLAN -  
BUILDING 25 -  
ROOF**

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

**E25-103**



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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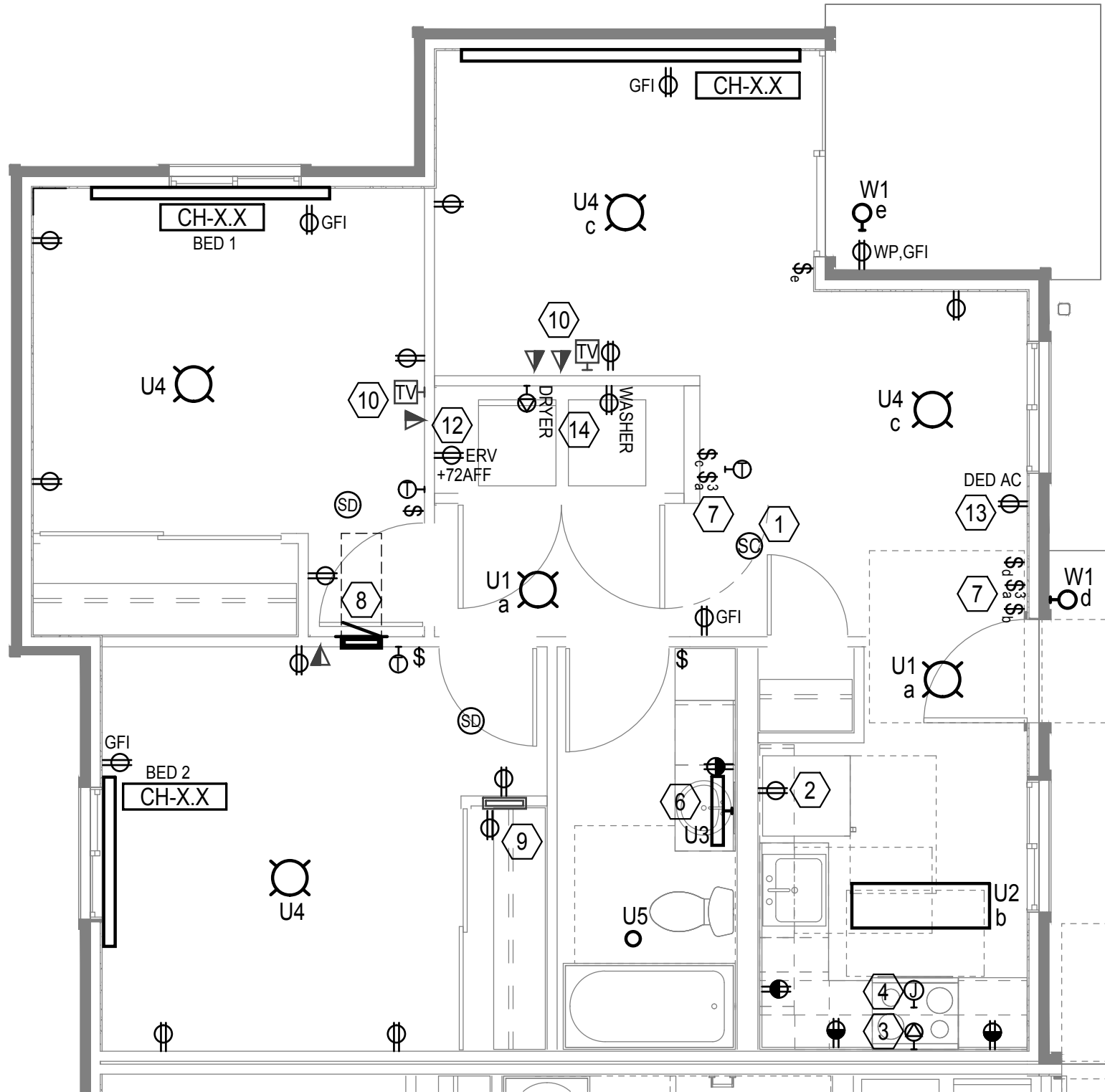
FLAG NOTES (X):

- COMBINATION SMOKE DETECTOR / CARBON MONOXIDE ALARM. FINAL LOCATION AS REQUIRED BY FIRE MARSHAL.
- 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.
- CONNECTION FOR RANGE. FIELD VERIFY EXACT LOCATION. CONFIRM FINAL CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDER.
- 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.
- CONNECTION FOR RANGE EXHAUST HOOD IN TYPE A UNITS. FIELD VERIFY EXACT LOCATION. PROVIDE ACCESSIBLE SWITCH FOR RANGE HOOD CONTROL. VERIFY EXACT LOCATION.
- CENTER VANITY LIGHT WITH THE BATHROOM MIRROR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
- GANG SWITCHES UNDER ONE FACEPLATE.
- 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.
- 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.
- 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.
- 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.
- RECEPTACLE FOR ERV. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR.
- 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.
- CONNECTION FOR WASHER AND DRYER. FIELD VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH ARCHITECT. PROVIDE GFCI PROTECTION PER CODE REQUIREMENTS.

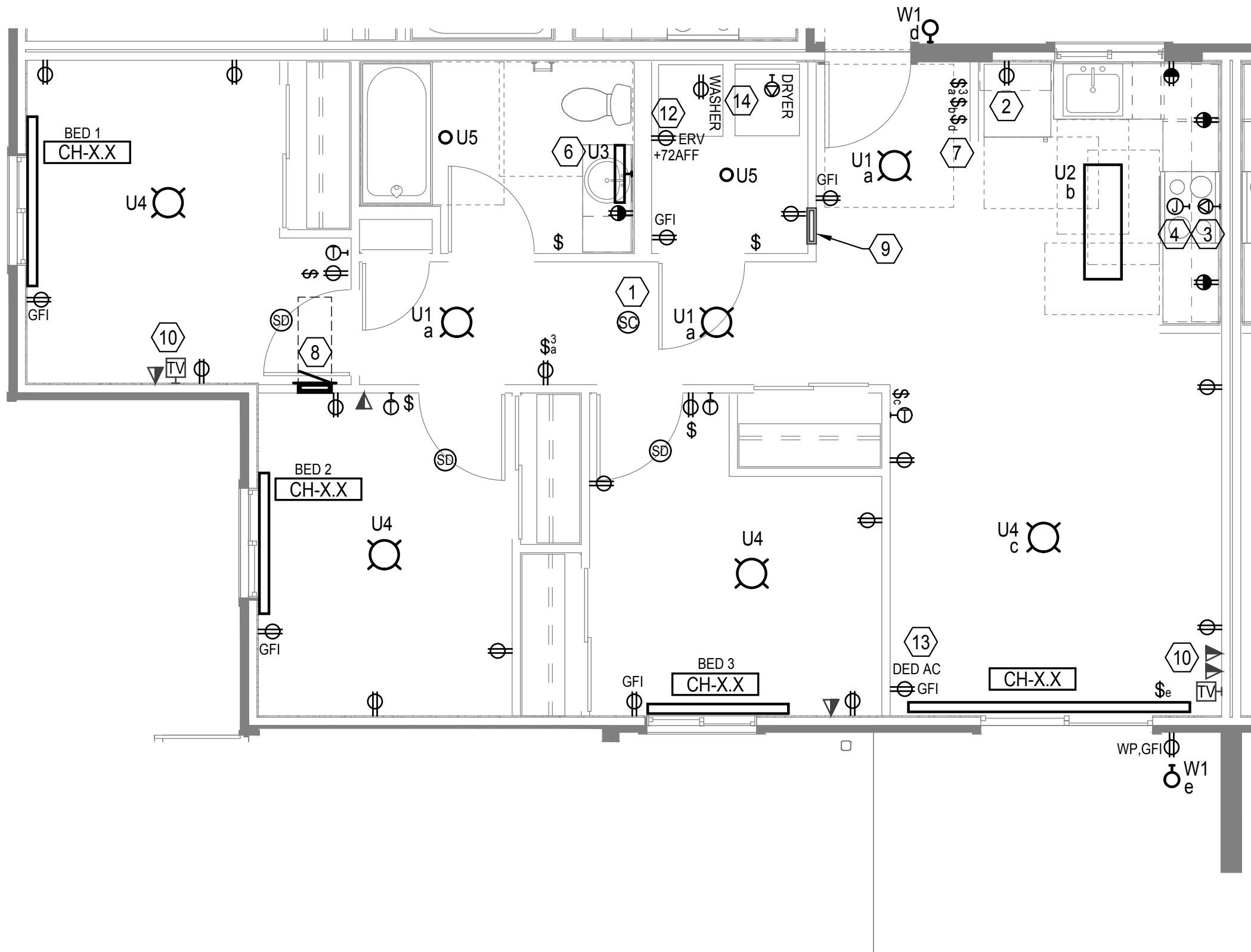
ELECTRIC HEATER DWELLING UNIT SUMMARY - 8 UNIT STACKED FLATS

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-0.83
G	3-BDRM	CH-0.56	CH-0.56	CH-0.42	CH-0.83
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



192 Nickerson, Suite #300  
Seattle, Washington 98109  
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117 S. Main St., Suite 400  
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FX: 206.623.5285



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

KIRKLAND HEIGHTS APARTMENTS

13317 NE 133rd St.,  
Kirkland, WA 98034

BUILDING 1  
BID SET



REVISIONS / NOTES  
NO DATE DESCRIPTION

DPD STAMP

TITLE  
ENLARGED  
UNIT PLANS

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

E1-301





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.

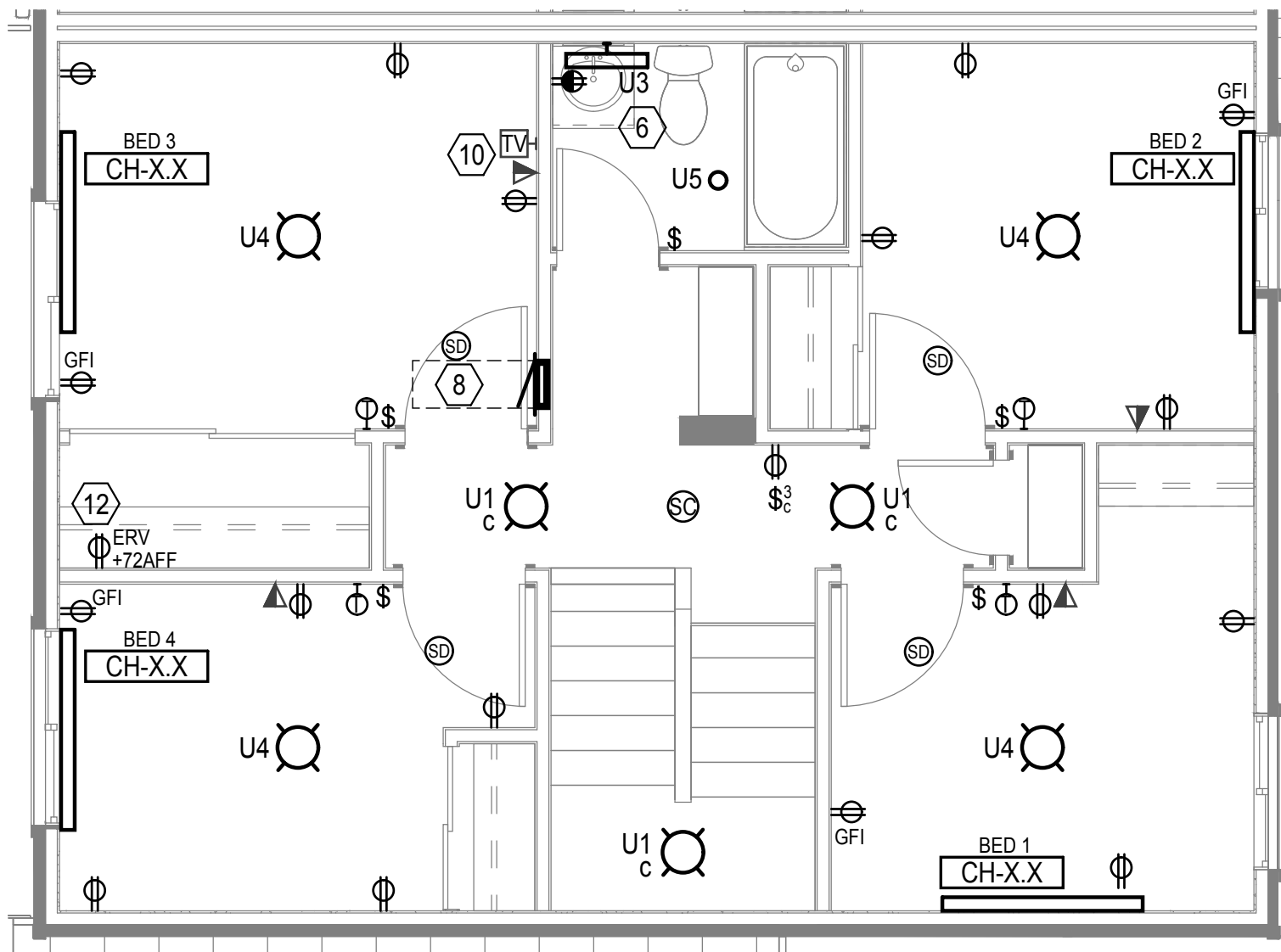
FLAG NOTES (X):

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.

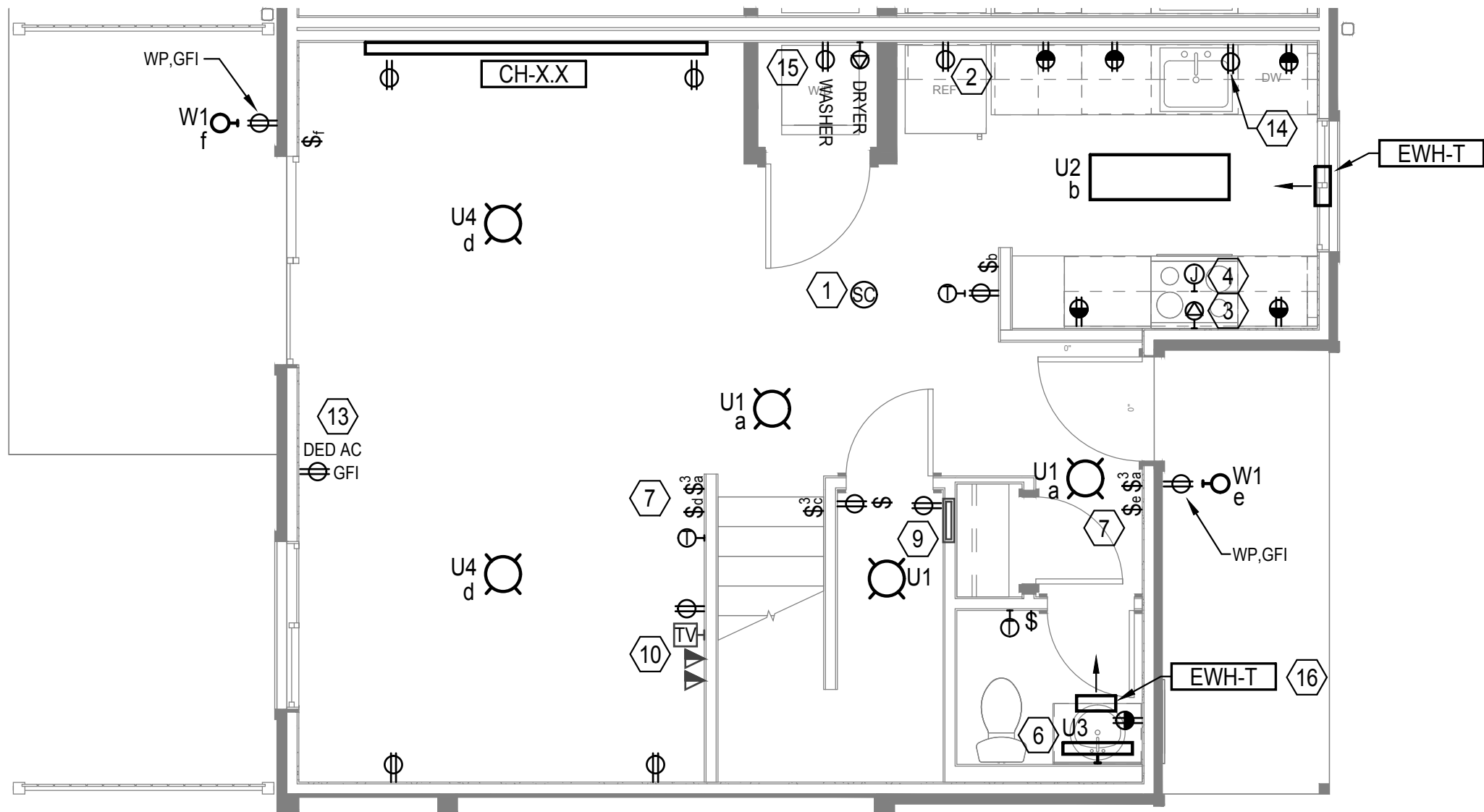
ELECTRIC HEATER DWELLING UNIT SUMMARY -  
4 UNIT TOWNHOMES

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	EWHT	EWHT	CH-1.4
B	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWHT	EWHT	CH-1.12
C	4-BDRM	CH-0.7	CH-0.7	CH-0.7	CH-0.7	EWHT	EWHT	CH-1.12
D	4-BDRM	CH-0.93	CH-0.56	CH-0.56	CH-0.93	EWHT	EWHT	CH-1.4

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



3 ENLARGED PLAN - TH - LEVEL 2  
1/4"=1'-0"



1 ENLARGED PLAN - TH - LEVEL 1  
1/4"=1'-0"