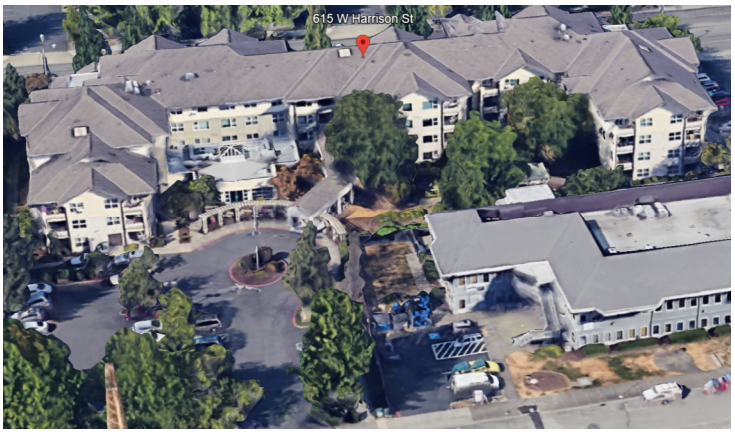
King County Housing Authority

Fire Alarm System Replacement Assessment Report



Harrison House Apartments

615 W. Harrison Street

Kent, WA 98032

CD Project No. XXXXXXXXX

Contact Person:

Amy Kurtz, PM

March 20, 2025

BCE Project No. P515240364

Prepared By:

Consultant Team

BCE Engineers
A Division of TranSystems
6021 12th Street East STE 200
Fife, WA 98424
www.bceengineers.com

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FIRE ALARM SYSTEM – HARRISON HOUSE APARTMENTS ASSESSMENT REPORT:

EXISTING BUILDING INFORMATION:

The Harrison House apartment building located at 615 W Harrison Street, Kent WA 98032 is a four (4) story apartment building with 94 Dwelling Units R2 occupancy. There are eighty-seven (87) one (1) bedroom one (1) bathroom units, and seven (7) two (2) Bedroom one (1) Bathroom units.

APPLICABLE CODES AND STANDARDS:

Codes:

International Existing Building Code (IEBC)	Washington State Existing Building Code (WSEBC)
International Building Code (IBC)	Washington State Building Code (WSBC)
International Fire Code (IFC)	Washington State Fire Code (WFC)
National Electrical Code (NEC) NFPA 70	Washinton State Electrical Code
International Mechanical Code (IMC)	RCW Chapter 19.28 Electricians and Electrical Installations
City of Bellevue Municipal Code	WAC Chapter 296-46B: Electrical Safety Standards, Administration, & Installation
National Fire Alarm and Signaling Code (NFPA 72)	Washington State Energy Code (WSEC)

Standards:

Institute of Electrical and Electronics Engineers (IEEE)	National Electrical Manufacturers Association (NEMA)
ADA (American Disabilities Act)	Underwriters Laboratories.

EXISTING FIRE ALARM SYSTEM EQUIPMENT INFORMATION:

The current fire alarm system was installed in march of 2021 under emergency conditions. The main fire alarm control panel is a Honeywell Silent Knight 6820xl located in the main entry on the first floor. (This was installed inside the old Notifier enclosure). The system is powered by power panel “E-1” circuit breaker #3

The UL-Listed Central Station monitoring is provided by Smith Fire Systems, Inc via AES Radio Transceiver located below the main fire alarm panel, Account # LAC-AES-17386. (See Photos Below).


The existing remote annunciator is located in the maintenance shop at the west end of the

building. The New fire alarm system will replace this with a new remote annunciator. An additional remote annunciator will need to be installed at the main entry as the Main FACP will move to a better location during this installation.

EXISTING FIRE ALARM SYSTEM DETECTORS AND DEVICE COVERAGE INFORMATION:

The current fire alarm system has the following detectors and devices:

1. Addressable loop smoke detectors are in the common areas (corridors, multi-purpose room, and top of stairwell), and maintenance shop/electrical rooms.
2. Stand-alone 120vac multiple-station smoke alarms are installed in each tenant unit living room and bedroom with separate carbon monoxide detectors installed in each living room near the bedroom(s). These are NOT connected to the building fire alarm.
3. There is addressable loop pull stations at every exterior exit and every stairway on each level.
4. Notification and visual coverage consist of Gentex horn/strobes in the common areas (corridors, dining room, kitchen laundry rooms, & maintenance) Gentex horn/strobes in each tenant unit living room only. There is not any notification in the bedrooms.
5. Dwelling unit notification are stand-a-lone 120VAC smoke alarm horns in living and bedroom areas for local dwelling only and living area fire alarm system horn/strobe for full building alarm events.
6. The building is fully sprinklered. The sprinkler system consists of one (1) wet system protecting the interior spaces, (1) dry system protecting the exterior canopies and the attic, with standpipes in each stairwell. These standpipes are not connected to the alarm system.

EXISTING FIRE ALARM SYSTEM RECORD OF COMPLETION /ANNUAL INSPECTION FORM:

Harrison House Apartments				
615 Harrison Street, Kent, WA 98032				
Device Type	**Quantity**	**Make**	**Model**	**Location**
FACP	1	Silent Knight	SK-6820	Front Entry Vestibule
Remote Ann	1	Silent Knight	SK-5860	Maintenace Office
Power Supply	2	Potter	PSN-106	Near lobby - see map
Monitoring	1	AES	7788F	Electrical room
Smoke Detector	103	Silent Knight	SD505-APS	common spaces, Mech/Elec spaces
Smoke Alarm w/Sounder	94	Universal / Kiddie	SS-901-LRC / 21007582	Inside dwelling units - Bedroom & Livingrm
Duct Smoke Detector	N/A			
Kitchen Hood Ansul System	1	Ansul	R-102	Kitchen
Roll Down Fire Door	1			Kitchen - Heat Link Activated
Pull Station	35	Silent Knight	SD500-PS	Exits and Stairs
Outside Bell/	1	Wheelock	MB-G10-24R	Outside Riser Room - North side
/Strobe	1	System Sensor	SRK	
Strobe	8	Gentex	GES3	Common Areas, Dwelling Unit Bathroom
Horn/Strobe	146	Gentex	GEC3	Common Areas, Dwelling Unit Livingroom & Bedroom
Fire Smoke Dampers	N/A			
Door Holders	27			common spaces, common corridors
Elevator Recall	2			Elevator Machine Room
Shunt Trip	Yes			Elevator Machine Room is Sprinklered
Elev Tamper Switches	1	Milwaukee	BBSC Series	Elevator Machine Room Entry
Sprinkler Valve				
Wet	1			Outside Riser Rm - North Side of buildng
Dry	1			Outside Riser Rm - North Side of buildng
Backflow - Tampers	(Inside) - 0	The backflow does not have Tampers		Outside Riser Rm - North Side of buildng
PIV	2	NIBCO		Outside Riser Rm - North Side of buildng
Tamper Switches	2	POTTER	PS10	Outside Riser Rm - North Side of buildng
WF Switches	2	POTTER	VSR-F/PS40	Outside Riser Rm - North Side of buildng
Standpipe	3			Each Stairwell 1st through Roof.

EXISTING FIRE ALARM SYSTEM OPERATION:

During the site visual inspection of the fire alarm system, it appears that the existing fire alarm system operates on the following:

- The activation of any common area smoke detector, manual pull station, or waterflow device activates all notification in the building, (Common area and tenant dwelling unit Audible/visual coverage.) and releases all magnetic door holders.
- Phase I & II Elevator recall - The activation of the 2nd thru 4th floor elevator lobby smoke detectors recalls elevators 1 & 2 to the 1st floor. The activation of the 1st floor elevator lobby smoke detector recalls elevators 1 & 2 to the 2nd floor. The activation of the elevator machine room recalls elevators 1 & 2 to the 2nd floor and activates the fireman's HAT light function within the both the elevator cars.
- The activation of any tenant smoke alarm activates the internal temporal 3 sounder all smoke alarms within that tenant unit only. It appears these smoke alarms are not connected to the building fire alarm system.

EXISTING FIRE ALARM SYSTEM ISSUES:

During the site visual inspection of the fire alarm system, we witnessed the following items:

- The current SD series Silent Knight addressable devices have been discontinued and no longer manufactured or supported. While the current Silent Knight 6820xl is a great fire alarm panel and still functioning, all the field device technology is over 20 years old and the wiring is more than 30 years old. The building maintenance reports that there are many "ghost" issues with the wiring since the 2014 replacement.
- Some of the smoke detectors have been replaced with newer compatible versions however most are the same vintage as the main control panel.
- The notification devices are over 20-year-old technology.
- The elevator has been upgraded recently. There is a sprinkler tamper for the elevator machine room and a tamper switch for the sprinkler heads in the sprinkler pit. The sprinkler heads are lower than 2' from the floor eliminating the need for shunt trip heat detectors. However, ANSI 17.1 still requires shunt trip for the machine room, and a heat detector at the bottom within 24" with the only function to send the car away in the event of a fire. The shunt trip and connection to the elevator are existing.

EXISTING FIRE ALARM SYSTEM LIFE EXPECTANCY:

A fire alarm system, if properly tested and maintained, can last 20 to 30 years. However, many buildings are remodeled before the system reaches its end of life.

The main risks to a fire alarm system are maintenance and replacement. The brain (head-end equipment) of the system typically has an approximately 16-year lifespan, which often aligns with when the manufacturer stops supporting it. This doesn't mean the system will fail immediately, but parts become harder and more expensive to find after this point. If the system's brain fails and is unsupported, it becomes an emergency situation, requiring costly repairs and possibly a fire watch until it's fixed.

Field devices (such as smoke detectors, heat detectors, and pull stations) have their own lifespans set by the manufacturer. On average smoke detectors usually last 15-20 years and

should be tested for sensitivity every two years. Heat detectors typically last 15 years before needing replacement or testing. Newer systems can check the sensitivity of these devices automatically. Additionally, the NFPA-72 standards require the following replacements:

- Residential smoke and carbon monoxide detectors should be replaced every 10 years.
- Fire alarm batteries should be replaced every 5 years.
- System smoke detectors should be replaced every 20 years.

Notification devices (e.g., horn/strobes, strobes) last longer than initiation devices and usually don't depend on the head-end equipment. They can last over 20 years, but if a building's fire alarm system is upgraded to include emergency communication, horn/strobes and strobes must be replaced with speakers.

A well-maintained fire alarm system can last many years, with regular testing and replacement of parts as necessary. The system's longevity is greatly influenced by how well it is maintained and whether replacement parts are available.

NEW FIRE ALARM SYSTEM CODE REQUIREMENTS:

The fire alarm system as recommended by BCE, Engineers:

- Automatic Smoke Detectors required in all Public Egress Pathways, electrical rooms, elevator machine room, and elevator lobby.
- Automatic Heat Detectors required in all inclement spaces, crawl spaces, attics, elevator pits, and elevator shut.
- Automatic Smoke Detectors with low frequency sounder bases programmed to function like single- and -multiple station alarms in all dwelling unit sleeping areas (bedroom & living room)
- Monitoring of the existing full sprinkler system.
- Manual Pull Stations are NOT required per section 907.2.9.1 exception 2 of International Building Code (IBC)
- Graphic Maps (Qty. 2) are required for this project and shall be posted at the fire alarm control panel and at the remote annunciator panel locations.
- Remote Annunciators (Qty. 2) shall be installed. One at a pre-approved fire department location (Front Entry). One at the maintenance office.
    - Quantity and location of remote annunciators are subject to location and accessibility of main fire alarm panel. Coordinate with the local AHJ to determine if they wish to move the current location or add additional locations.
- Audible/Visual Notification shall be installed throughout the entire building in accordance with sections 907.5.2.1 and 907.5.2.3 of the International Building Code (IBC) and section 18.4 and 18.5 of NFPA 72.
    - Audible/Visual Coverage in building common areas (Dining areas, community rooms, laundry rooms, restrooms, library, community outdoor decks, and interior corridors).
    - All sleeping areas will be equipped with low frequency sounder bases activated by building alarm.
- Audible/Visual Notification shall be installed in all dwelling units in accordance with section 907.5.2.1 and 907.5.2.3.3 of the International Building Code (IBC) and section 18.5.5.8 of NFPA 72.

- Provide visual coverage in bedroom, living room, & bathroom of all dwelling units.
- The Fire Alarm System shall also interface with other systems such as Smoke and Fire/Smoke Dampers, Duct Smoke Detectors, H.V.A.C. Systems, Magnetic Door Holders, Magnetic Door Releases, Cooking Hood Fire Suppression Systems, Fire Protection Sprinkler Systems, and Elevators where applicable.
- Provide central station monitoring via AES radio mesh network. (Plain Old Telephone Service (POTS) lines are not permitted)

Section 13.01.090 of the City of Kent municipal code requires the following amendments to the International Fire Code:

- **907.1.3. Equipment.** Systems and their components shall be listed and approved for the purpose for which they are installed. All new alarm systems shall be addressable. Each device shall have its own address and shall annunciate individual addresses at a UL Central Station.
- **907.6.3 Initiating device identification.** The fire alarm system shall identify the specific initiating device address, location, device type, floor level where applicable and status including indication of normal, alarm, trouble and supervisory status, as appropriate.
- **907.8.5.1. Records.** Records of all system inspections, tests and maintenance required by the referenced standards shall be maintained on the premises for three years; a copy shall be submitted in a form and manner determined by the fire code official within 30 calendar days of each test, inspection, or maintenance of the system; and a label or tag shall be affixed to the individual system identifying the date of the scheduled confidence test.
- **907.12. Latched alarms.** All signals shall be automatically “latched” at the fire alarm control unit until their operated devices are returned to normal condition, and the control unit is manually reset.
- **907.13. Resetting.** All fire alarm control units shall be reset only by an approved person.
- **907.14. Fire alarm control unit location.** All fire alarm control units shall be located in the riser room designed and installed in accordance with Section 903.7, or an approved location.
- **907.13.1. Reset code.** The reset code for the fire alarm control unit or keypad shall be 3-7-1-2-3-4. The reset code shall not be changed without approval of the fire code official.

RECOMENDATIONS:

1. The existing Silent Knight 6820xl Fire Alarm Panel and field devices shall be replaced with a Potter Brand fire alarm control panel.
2. Provide zonal output groups for annual inspection bypass. The zonal output groups shall be a minimum of the following:
    a. All Public NAC Circuits.
    b. Dwelling NAC Audio/Visual.
    c. Door Holders
3. Set up a binder with the last fire alarm annual inspection reports, printed point list, and instructions on how to find attic heat detectors and other hard to find fire alarm devices that need to be tested annually. Put half-size as-built drawings inside the binder. These documents could be used to do annual inspections, help the fire department find fire alarm devices, and maintain the fire alarm system.
4. Installing a fire alarm document cabinet adjacent to the fire alarm panel in the building.

a. A fire alarm documents storage cabinet adjacent to the main fire alarm panel per NFPA-72 current code is required.
b. Coordinate location with Owner's Representative prior to installation.
c. Download program data and point list onto the 4GB flash drive built-in to cabinet per NFPA-72 current code.
d. Provide closeout documents in a binder as required.
Manufacturers:
- Space Age Electronic Part Number SSU00685 or equal.

5. Installing a fire alarm "handle" lock on the device for the 120VAC circuit breaker.
   a. NFPA current code requires that all fire alarm circuit breakers install lockout devices.
   Manufacturers:
   - Space Age Electronic Part Number ELOCK_FA or equal.

6. Fire Alarm equipment and device labeling:
   a. We recommend that the main fire alarm panels shall have the following labeling below:

Description:	Example:
Panel Name:	**MAIN FIRE ALARM**
Node #:	**Node 1 / CAB 1**
AC PANEL:	**AC Panel: E-1**
BREAKER #:	**Breaker # 3**

7. Fire Alarm equipment and device labeling:
   a. We recommend the following fire alarm device labels:
   Refer to the example below:

Description:	Example:
Device Name:	**N10SLC1-S03**

   b. Use for the identification of all fire alarm input and output control devices. In clear sight of the floor. Otherwise, provide a duct detector-type label. These address labels shall match the fire alarm readout and as-built drawings. All module devices shall have a description of what it is monitoring and controlling.

8. Data drop with internet access for the fire alarm panel.
   a. Note: all telecom equipment that the fire alarm communication connection (Router) to the internet will need to be battery backup for 24 hours.

9. The cabling support Bridle Ring works better than J and D hooks for open cable support fire alarm installation.

10. The Dwelling Unit bedroom smoke detector should be designed to be a Smoke detector with a low-frequency sounder base. The smoke shall be programmed to operate like dwelling unit tandem multiple-detector alarms as supervisory events to the fire alarm system and central station monitoring.

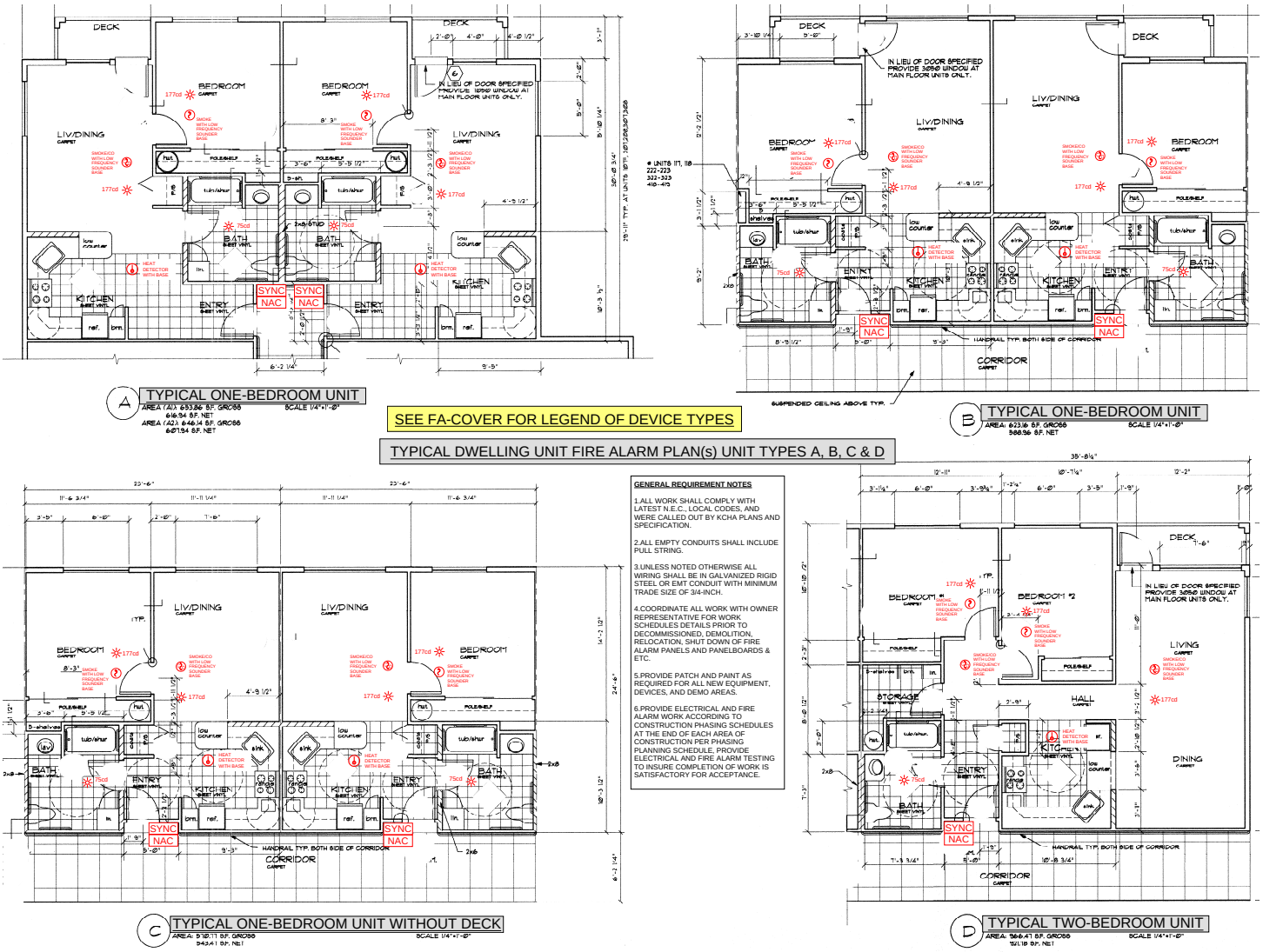
11. The Dwelling Unit Living Room smoke detector should be designed to be a Smoke/Heat/CO multi-criteria detector with a low-frequency sounder base. The heat shall be programmed as a full building alarm event. The smoke and CO shall be programmed to operate like dwelling unit tandem multiple-detector alarms as supervisory events to the fire alarm system and central station monitoring.

12. FIRE ALARM SYSTEM REPLACEMENT:

The following items will require replacement:

1. New fire alarm panel shall be installed in the main electrical room 121 near the AES transceiver. The main fire alarm panel in the main entry shall be removed in its entirety.
2. Additional power supplies shall be installed next to the main fire alarm control panel and in storage rooms 228, 334, & 430 on floors 2nd thru 4th near elevator. Stack the new NAC Panels to maximize space.
3. Mount the new AES radio above the new fire alarm panel.
4. Remove the existing remote annunciator and install new cabling to the new remote annunciators. One in the maintenance office and one in the main entry.
5. The electrical contractor will need to provide Electrical 120VAC equipment and circuits to support any new fire alarm control panels and equipment. They will also need to remove all 120VAC combination smoke detectors in all units once the new fire alarm system has been approved by the local AHJ.
6. Replace each detector or device within 3 feet of the existing detector or device and make sure that all these are within the fire code coverage requirements.
7. The Dwelling Unit shall be designed per the typical drawings provided below.
    a. Each dwelling unit shall have the following items for strobe coverage and control will be provided with:
        - (1) - Addressable NAC module
        - (1) - Sync module
        - (1ea) - fire alarm LED 75CD strobes (Bathroom)
        - (1ea) - fire alarm LED 177CD strobe (Bedrooms/Living Rooms)
        - (1ea) - Addressable low-frequency sounder bases. (Bedrooms/Living Rooms)
        - (1ea) - Addressable Smoke/CO detector heads (Living Rooms)
        - (1ea) - Addressable Smoke detector heads (Bedrooms)
        - (1ea) - Addressable Heat Detector with standard base (Kitchens)
8. The fire alarm addressable SLC loop circuit and 24VDC power circuit.
    a. The 24VDC power is for the addressable NAC module via the sync module to run the dwelling unit strobes and addressable low-frequency sounder bases.
    b. Harrison House Apartments has 4 stories and 94 dwelling units. 20 dwelling units on 1st floor, 26 dwelling units on 2nd & 3rd floor, and 22 dwelling units on the 4th floor.
    c. We can power four(4) dwelling units with one(1) NAC power circuit at 2.9A. The 10A NAC panel can service three (3) NAC circuits which is 12 dwelling units. The Harrison House will need to add two (2) NAC Panels per floor.
    d. Harrison House Apartments shall utilize the main fire alarm panel for public areas on 1st floor horn/strobes, 2nd floor horn/strobes, 3rd floor horn/strobes, and 4th Floor horn/strobes using three (4) NAC circuits.

Figure 1: Typical Fire Alarm Dwelling Unit Layout from Harrison House Apartments



REVISED FIRE ALARM SYSTEM OPERATION

After the replacement of the existing fire alarm system, the fire alarm system will operate in the following:

- The activation of any common area smoke detector, manual pull station, or waterflow device shall activate all notification in the building, including Common area audible/visual devices, tenant low frequency sounder bases, tenant strobes, central station monitoring, and release all magnetic door holders.
- Phase I & II Elevator recall - The activation of the 2nd floor elevator lobby smoke detectors shall recall elevators 1 & 2 to the 1st floor. The activation of the 1st floor elevator lobby smoke detector shall recall elevators 1 & 2 to the 2nd floor. The activation of the elevator machine room shall recall elevators 1 & 2 to the 1st floor and activates the fireman's HAT light function within both elevator cars. Activation of the elevator pit heat detector shall recall the elevator to the 2nd floor. The elevator machine room heat detector shall activate the elevator shunt trip breaker.
- The dwelling unit smoke *detectors* shall be programmed to act like single- and multiple-station *alarms*. If any of the dwelling unit smoke detectors activate an alarm event, all smoke detector sounder bases within that dwelling unit will sound within the unit only.
    - The activation of any tenant smoke detector shall activate the low frequency sounder bases of all smoke detectors within that tenant unit only.
- Each dwelling unit has an SLC loop addressable monitoring module to activate a non-latching supervisory signal to the building fire alarm system and central station monitoring.

FIRE ALARM S SYSTEM LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM CONTROL PANEL
FAPS	POWER SUPPLY FOR NOTIFICATION DEVICES
FARAP	FIRE ALARM SYSTEM REMOTE ANNUNCIATOR PANEL
AES	AES WIRELESS TRANSCEIVER
BAT	BATTERY CABINET
GMAP	GRAPHIC MAP
	SMOKE DETECTOR (CEILING MOUNTED)
	SMOKE/CARBON MONOXIDE *DETECTOR* (CEILING MOUNTED)
	HEAT DETECTOR (CEILING MOUNTED)
P	MANUAL PULL STATION - WALL MOUNT
	DUCT SMOKE DETECTOR
RT / RI	REMOTE TEST STATION / REMOTE INDICATOR
M	FIRE ALARM SYSTEM MONITOR MODULE
R	FIRE ALARM SYSTEM RELAY MODULE
FS	SPRINKLER SYSTEM FLOW SWITCH
PS	SPRINKLER SYSTEM PRESSURE SWITCH
TS	SPRINKLER SYSTEM TAMPER SWITCH
H/L	SPRINKLER SYSTEM HIGH / LOW PRESSURE SWITCH
PIV	SPRINKLER SYSTEM POST INDICATOR VALVE
BFP	SPRINKLER SYSTEM BACKFLOW PREVENTER
	FIRE ALARM HORN/STROBE APPLIANCE - WALL MOUNTED
	FIRE ALARM STROBE ONLY APPLIANCE - WALL MOUNTED
	FIRE ALARM HORN/STROBE APPLIANCE - CEILING MOUNTED
	FIRE ALARM STROBE ONLY - CEILING MOUNTED
	DOOR HOLDER
	TRANSMITTER ANTENNA
FSD	FIRE / SMOKE DAMPER

MISCELLANEOUS

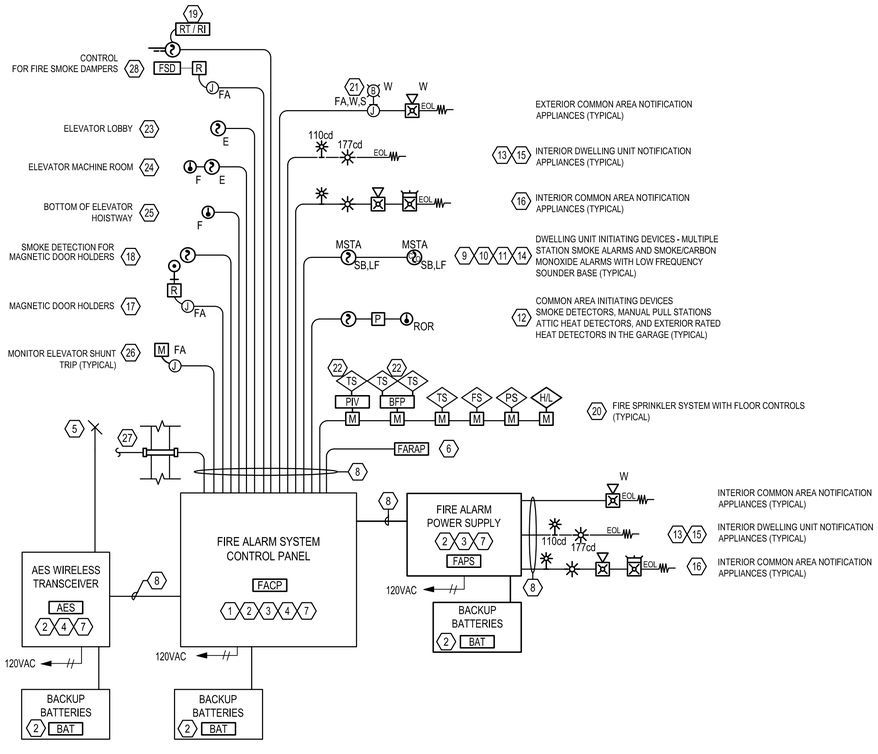
SYMBOL	DESCRIPTION
1	RISER CONSTRUCTION NOTES
J	JUNCTION BOX
F	F INDICATES FIXED TEMPERATURE TYPE
LF,SB	LF INDICATES LOW FREQUENCY, SB INDICATES SOUNDER BASE
MSTA	MULTIPLE STATION *ALARM*
W	W INDICATES WEATHERPROOF DEVICE

FIRE ALARM SYSTEM SCOPE OF WORK NARRATIVE

THE SCOPE OF THIS PROJECT INCLUDES THE FOLLOWING:

1. REPLACE THE EXISTING FIRE ALARM SYSTEM IN ITS ENTIRETY. ALL PANELS, DEVICES, AND WIRE SHALL BE COMPLETELY DEMOLISHED AND REPLACED.
2. THE EXISTING SYSTEM IS TO REMAIN OPERATIONAL AT ALL TIMES UNTIL THE NEW SYSTEM IS INSTALLED, TESTED, AND APPROVED BY THE AUTHORITY HAVING JURISDICTION. ONCE THE NEW SYSTEM IS APPROVED, THE EXISTING SYSTEM SHALL BE DEMOLISHED. AT NO TIME SHALL ANY EXISTING WIRES BE CONNECTED TO THE NEW FIRE ALARM CONTROL PANEL.
3. READ THE ACCOMPANYING DOCUMENTS WHICH INCLUDE THE HARRISON HOUSE APARTMENTS FIRE ALARM REPLACEMENT ASSESSMENT REPORT.
4. PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, DESIGN, AND SERVICES NECESSARY TO PERFORM THE INSTALLATION OF A COMPLETE, FULLY OPERATIONAL, INTELLIGENT (ANALOG) AND ADDRESSABLE (DIGITAL), LOW VOLTAGE 24 VOLTS D.C., POINT IDENTIFICATION, MICROPROCESSOR-BASED FIRE ALARM SYSTEM
5. THE CONTRACTOR SHALL OBTAIN A PERMIT AND FINAL APPROVAL FROM (CITY OF KENT FOR THE FIRE ALARM SYSTEM. ALL PERMITS, FEES FOR PLAN REVIEW, INSPECTIONS, TESTING, ETC. SHALL BE INCLUDED IN THE BID PROPOSAL.

IN THE EVENT OF A CONFLICT BETWEEN THIS STATEMENT OF WORK AND THE DRAWINGS OR SPECIFICATIONS, THE STATEMENT OF WORK SHALL GOVERN OVER SPECIFICATIONS AND DRAWINGS, AND THE SPECIFICATIONS SHALL GOVERN OVER THE DRAWINGS.



FIRE ALARM SYSTEM RISER DIAGRAM

DIAGRAMMATIC

FIRE ALARM RISER DIAGRAM NOTES

1. THE RISER DIAGRAM IS DIAGRAMMATIC IN NATURE. IT DOES NOT SHOW ALL DEVICES AND DOES NOT REPRESENT ACTUAL CONDUIT OR CABLE ROUTING.
2. THE FIRE ALARM SYSTEM SHALL BE FULLY FUNCTIONAL WITHOUT THE USE OF PRIMARY POWER. THE FIRE ALARM SYSTEM SHALL BE PROVIDED WITH A MINIMUM OF 24 HOURS OF STANDBY OPERATION FOLLOWED BY AN ADDITIONAL 5 MINUTES OF ALARM OPERATION. ALL BATTERIES SHALL BE SIZED TO PROVIDE AT LEAST 25% ADDITIONAL SPARE CAPACITY. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. PROVIDE SYSTEM POWER SUPPLIES WHERE REQUIRED. COORDINATE ADDITIONAL POWER CONNECTIONS THAT ARE NOT SHOWN ON ELECTRICAL DRAWINGS WITH ELECTRICAL CONTRACTOR AS REQUIRED. COST FOR ADDITIONAL CONNECTIONS SHALL BE INCLUDED.
4. PROVIDE ALL NECESSARY EQUIPMENT, INTERFACES, OTHER APPURTENANCES, AND PROGRAMMING AS REQUIRED FOR COMMUNICATION TO THE CENTRAL STATION MONITORING COMPANY OR MONITORING STATION. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING MONITORING AGREEMENT.
5. FIRE ALARM CONTRACTOR SHALL MEASURE AES SIGNAL STRENGTH. SIGNAL STRENGTH SHALL BE A NETCON 5 OR BETTER. IF AN OUTDOOR ANTENNA IS REQUIRED, MOUNT ANTENNA SO IT REACHES ABOVE THE ROOF LINE OF THE BUILDING.
6. FIRE ALARM SYSTEM REMOTE ANNUNCIATOR PANEL INSTALLED WHERE REQUIRED BY AHJ - FRONT ENTRY.
7. PROVIDE SURGE PROTECTION ON ALL INCOMING PRIMARY POWER SUPPLIES SERVING FIRE ALARM SYSTEM PANELS.
8. PROVIDE SYSTEM CABLES FOR A FULLY FUNCTIONAL SYSTEM AS REQUIRED.
9. WITHIN ANY ONE DWELLING UNIT, SYSTEM SMOKE *DETECTORS* SHALL BE PROGRAMMED TO ACT LIKE SINGLE- AND MULTIPLE-STATION ALARMS. WHEN THE *DETECTOR* IS ACTIVATED, THE SOUNDER BASE IS ACTIVATED; WHEN THE DETECTOR IS CLEARED, THE SOUNDER BASE IS DEACTIVATED. THE FIRE ALARM CONTRACTOR SHALL PROGRAM THESE *DETECTORS* TO ACTIVATE A SUPERVISORY INDICATION AT THE MAIN FIRE ALARM PANEL AND NOTIFY THE OFF-SITE MONITORING COMPANY OF THE CONDITION. THE MONITORING COMPANY SHALL BE DIRECTED TO TAKE NO ACTION OTHER THAN AUTOMATIC LOGGING AND EMAIL THE EVENT TO PROPERTY MANAGER.
10. THE ACTIVATION OF ANY ONE DWELLING UNIT SMOKE *DETECTOR* SHALL ACTIVATE THE LOW FREQUENCY SOUNDER BASES OF ALL DWELLING UNIT SMOKE *DETECTORS* AND STROBES WITHIN THAT DWELLING UNIT ONLY.
11. THE ACTIVATION OF SMOKE *DETECTOR WITHIN* DWELLING UNIT SHALL ACTIVATE WITHIN THE UNIT ONLY AND ACTIVATION OF THE HEAT OR CARBON MONOXIDE DETECTORS SHALL ACTIVATE THE BUILDING FIRE ALARM SYSTEM.
12. ACTIVATION OF ANY COMMON AREA SMOKE DETECTOR, HEAT DETECTOR, OR MANUAL PULL STATION SHALL ACTIVATE THE BUILDING FIRE ALARM SYSTEM.
13. THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE VISUAL COVERAGE FOR ALL DWELLING UNITS. IF VISUAL COVERAGE IS PROVIDED ON WALLS, GREATER THAN 24" DOWN FROM CEILING, STROBE INTENSITY SHALL BE .110CD. IF VISUAL COVERAGE IS PROVIDED ON THE CEILING OR THE WALL LESS THAN 24" DOWN FROM THE CEILING, STROBE INTENSITY SHALL BE 177CD. VISUAL DEVICES SHALL BE PROVIDED IN EACH BEDROOM, LIVING ROOM, AND BATHROOM.
14. DWELLING UNIT NOTIFICATION SHALL BE ACCOMPLISHED BY LOW FREQUENCY SOUNDER BASES AND VISUAL DEVICES. THERE SHALL BE NO MORE THAN 4 DWELLING UNITS BEING SERVED FROM ONE SOUNDER BASE NOTIFICATION APPLIANCE CIRCUIT. THIS ALLOWS FOR THE VISUAL COVERAGE WITHIN THESE 4 UNITS AS THIS IS A 65+ "SENIOR BUILDING" MANY OF THE TENANTS WILL BE A "MODERATELY SEVERE TO PROFOUND HEARING LOSS" TENANTS. DWELLING UNIT NOTIFICATION CIRCUIT END OF LINE RESISTORS SHALL BE LOCATED IN THE LIVING ROOM OF THE DWELLING UNIT.
15. ALL DWELLING UNITS SHALL BE CONSIDERED TO BE OCCUPIED BY A "MODERATELY SEVERE TO PROFOUND HEARING LOSS" TENANT AND SHALL BE PROVIDED WITH VISUAL COVERAGE AS DESCRIBED ABOVE IN NOTE 13.
16. COMMON AREA NOTIFICATION POWER SUPPLY CIRCUITS SHALL BE KEPT SEPARATE FROM DWELLING UNIT NOTIFICATION POWER SUPPLY CIRCUITS. COMMON AREA NOTIFICATION CIRCUIT END OF LINE RESISTORS SHALL BE LOCATED WITHIN AN ACCESSIBLE COMMON SPACE
17. THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE A RELAY MODULE FOR CONNECTION TO THE MAGNETIC DOOR HOLDERS.THE MAGNETIC DOOR HOLDER SHALL RELEASE UPON ACTIVATION OF THE SMOKE DETECTOR SERVING THE DOOR HOLDERS OR UPON RECEIVING AN ALARM SIGNAL FROM THE FIRE ALARM SYSTEM CONTROL PANEL. (WHERE APPLICABLE) PROVIDE NEW IF NECESSARY.
18. SMOKE DETECTOR FOR MAGNETIC DOOR HOLDER RELEASE SHALL BE LOCATED WITHIN 5'-0" OF THE DOOR IT IS SERVING AND INSTALLED ALONG THE CENTERLINE OF THE DOOR OPENING UNLESS SMOKE DETECTION AS PART OF AN OPEN AREA PROTECTION SYSTEM COVERING THE ROOM, CORRIDOR, OR ENCLOSED SPACE ON EACH SIDE OF THE SMOKE DOOR AND THAT ARE LOCATED AND SPACED AS REQUIRED BY NFPA #72 SECTION 17.7.3 SHALL BE PERMITTED TO ACCOMPLISH SMOKE DOOR RELEASE SERVICE. (WHERE APPLICABLE).
19. PROVIDE REMOTE ALARM INDICATOR FOR EACH INITIATING DEVICE NOT VISIBLE FROM THE FLOOR (WHERE APPLICABLE). REMOTE ALARM INDICATORS INSTALLED IN ACOUSTICAL CEILING TILES SHALL BE CENTERED ON THE CEILING TILES (12" FROM AN ACOUSTICAL TILE RUNNER) OR ON THE WALL OF EXPOSED STRUCTURE SPACES.
20. FIRE SPRINKLER SYSTEM SWITCHES ARE ALL EXISTING. THE SWITCHES SHALL BE WIRED AND CONNECTED TO THE NEW FIRE ALARM SYSTEM BY THE FIRE ALARM CONTRACTOR. EXACT QUANTITIES AND LOCATIONS OF ALL FIRE SPRINKLER SWITCHES, WHICH SHALL BE MONITORED BY THE FIRE ALARM SYSTEM ARE SHOWN WITHIN THE FIRE ALARM SITE ASSESSMENT.
21. THE 24 VOLTS D.C. SPRINKLER SYSTEM ALARM BELL/STROBE SHALL BE PROVIDED BY THE FIRE ALARM SYSTEM CONTRACTOR. THE FIRE ALARM CONTRACTOR SHALL WIRE AND CONNECT THE ALARM BELL TO THE FIRE ALARM SYSTEM CONTROL PANEL (FACP) AND PROGRAM THE ALARM BELL TO ACTIVATE UPON THE FLOW OF WATER.
22. POST INDICATING VALVE (PIV) AND BACKFLOW PREVENTER (BFP) TAMPER SWITCH MONITORING IS REQUIRED. SEE FIRE ALARM SITE ASSESSMENT FOR LOCATION. ADDRESSABLE MONITOR MODULES MUST REMAIN IN A CONDITIONED SPACE AND WET RATED CABLE INSTALLED FROM THE ADDRESSABLE MODULE TO THE OUTSIDE TAMPER SWITCHES VIA EXISTING CONDUIT.
23. PROVIDE A SMOKE DETECTOR IN THE ELEVATOR LOBBY FOR ELEVATOR RECALL ON ALL LEVELS.
24. PROVIDE SMOKE DETECTOR IN ELEVATOR MACHINE ROOM FOR ELEVATOR RECALL AND, A 135°F FIXED TEMPERATURE HEAT DETECTOR FOR ACTUATION OF THE SHUNT TRIP BREAKER FEATURE.
25. THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE A 135°F HEAT DETECTOR AT THE BOTTOM OF THE ELEVATOR HOISTWAY WITHIN 24" OF THE SPRINKLER HEAD FOR ACTUATION OF THE ELEVATOR RECALL FEATURE.
26. FIRE ALARM SYSTEM SHALL MONITOR THE STATUS OF THE ELEVATOR SHUNT TRIP POSITION AND CONTROL ELEVATOR POWER AS REQUIRED BY ASME A17.1.
27. FIRE ALARM SYSTEM CABLING THAT PENETRATES EXISTING OR NEW WALLS SHALL BE PROVIDED WITH AN APPROVED PENETRATION METHOD AS OUTLINED IN THE PROJECT SPECIFICATIONS.
28. THE FIRE ALARM CONTRACTOR SHALL PROVIDE A RELAY MODULE TO CLOSE FIRE SMOKE DAMPER UPON ACTIVATION OF CORRIDOR SMOKE DETECTOR IN ADDITION TO TRANSMITTING A ALARM SIGNAL AT THE FIRE ALARM CONTROL PANEL. (WHERE EXISTING).

FIRE ALARM SYSTEM FLOOR PLAN GENERAL NOTES

1. THESE FIRE ALARM SYSTEM CONTRACT DRAWINGS ARE NOT A COMPLETE DESIGN AND ARE SIMPLY CONCEPTUAL. THESE DOCUMENTS ARE PROVIDED TO AID THE NICET DESIGNER IN CREATING SHOP DRAWINGS IN ACCORDANCE WITH NFPA 72, STATE & LOCAL REQUIREMENTS, AND CONTRACT DOCUMENTS: BCE FIRE ALARM REPLACEMENT ASSESSMENT, AND SPECIFICATIONS. THE CONTRACTORS AND THE FIRE ALARM SYSTEM DESIGNER SHALL COORDINATE THE EXACT QUANTITIES AND LOCATIONS OF ALL SYSTEM COMPONENTS BETWEEN TRADES AND/OR EXISTING CONDITIONS.
2. PROVIDE ALL MATERIALS, EQUIPMENT, LABOR, DESIGN AND PROGRAMMING FOR THE COMPLETE REPLACEMENT OF AN EXISTING SILENT KNIGHT BRAND SK-6820XL WITH A COMPLETE, ADDRESSABLE LOW VOLTAGE 24 VOLT D.C., FULLY OPERATIONAL POTTER BRAND AFC SERIES FIRE ALARM SYSTEM. ALL EQUIPMENT PROVIDED FOR THIS PROJECT SHALL BE NEW, CURRENTLY MANUFACTURED, AND SHALL BE DELIVERED TO THE PROJECT SITE WITH THE ORIGINAL FACTORY SEAL INTACT. MATERIALS AND WORKMANSHIP SHALL FULLY COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (N.F.P.A. #70), NATIONAL FIRE ALARM AND SIGNALING CODE (N.F.P.A. #72), THE LAWS AND REGULATIONS OF WASHINGTON STATE, AND THE CITY OF KENT MUNICIPAL CODE. .
   - 2.1. THE NICET DESIGNER SHALL BE RESPONSIBLE FOR DESIGN, LAYOUT, AND COORDINATION OF SMOKE DETECTION COVERAGE IN ALL CONCEALED SPACES PER NFPA #72
   - 2.2. REMOVE, RELOCATE, ADD, OR REPLACE AS NECESSARY TO ACCOMMODATE THE CHANGES FROM THE TENANT IMPROVEMENT WITHIN THE AREA OF WORK ONLY.
   - 2.3. SHOP DRAWINGS
     - 2.3.1. PREPARE DETAILED WORKING DRAWINGS FOR THE SYSTEM LAYOUT IN ACCORDANCE WITH N.F.P.A. #72 AND THE FOLLOWING:
     - 2.3.2. SHOP DRAWING REQUIREMENTS: THE INSTALLING VENDOR'S/CONTRACTOR'S COMPLETE AND FULL-SIZE SET OF SHOP DRAWINGS SHALL BE ISSUED IN THE FOLLOWING FORMAT:
       - a. THEY SHALL BE CLEAR AND LEGIBLE.
       - b. THE SAME SHEET SIZE AS THE CONTRACT DRAWINGS (I.E. 30" X 42").
       - c. A MINIMUM OF 1/8" TEXT HEIGHT SHALL BE USED FOR ALL TEXT, SYMBOL TEXT, AND SUBSCRIPT TEXT.
       - d. SCALE OF DRAWINGS
       - i. ANY SITE PLAN DRAWINGS SHALL BE THE SAME SCALE AS ISSUED IN THE CONTRACT DOCUMENTS.
       - ii. FLOOR PLAN DRAWINGS SHALL BE 1/8"=1'-0", UNLESS DIRECTED TO DO OTHERWISE.
       - e. THE ELECTRICAL LEGEND, WIRE LEGEND, LOAD AND BATTERY CALCULATIONS, RISER DIAGRAM, SEQUENCE OF OPERATION INFO, WIRING DETAILS, AND MOUNTING DETAILS SHALL PRECEDE THE SITE PLANS AND FLOOR PLANS.
       - f. ALL SHEETS, INCLUDING THE COVER, SHALL INCLUDE A TITLE BLOCK ALONG THE EDGE OF EACH OF THE DRAWINGS THAT, WHEN THE DRAWINGS ARE ROLLED UP, THE FOLLOWING INFORMATION SHALL BE VISIBLE:
       - g. THE SYSTEM-SPECIFIC SHEET NUMBER
       - h. PROJECT NAME, SPECIFICATION SECTION NUMBER AND SECTION TITLE NAME
       - i. FLOOR NAME, AREA, AND/OR SECTION OF THE BUILDING (USE THE NAME OF THE AREA AND/OR FLOOR DESCRIPTION THAT IS ON THE CONTRACT DRAWINGS.)
       - j. ARCHITECTURAL INFORMATION ON THE CONTRACT DRAWINGS SHALL BE INCLUDED ON THE INSTALLING VENDOR'S/CONTRACTOR'S SHOP DRAWINGS, INCLUDING, BUT NOT LIMITED TO: MATCH LINES, GRID LINES, GRID BUBBLES, KEY PLAN, AND ENLARGED FLOOR PLANS.
3. THE GENERAL CONTRACTOR AND FIRE ALARM SYSTEM CONTRACTOR SHALL COORDINATE ALL CUTTING, PATCHING AND FINISH WORK.
4. ALL MANUAL PULL STATIONS SHALL BE DUAL ACTION, KEY OPERABLE. THE USE OF BREAK GLASS FRONT STATIONS ARE NOT ALLOWED.
5. ALL ADDRESSABLE DEVICES AND DETECTOR BASES SHALL BE PERMANENTLY AND CLEARLY LABELED WITH THE DEVICE ADDRESS IN A READILY VISIBLE LOCATION DIRECTLY ON THE DEVICE.
6. CONTRACTOR TO VERIFY EXISTING CONDITIONS. NOTIFY OWNER OF ANY CONDITIONS INCONSISTENT WITH THE INTENT OF THE DRAWINGS PRIOR TO STARTING OR CONTINUING WITH THE WORK.
7. COORDINATE ALL OPERATIONS WITH OWNER, SUCH AS AREAS USED FOR MATERIAL STORAGE, ACCESS TO AND FROM THE SITE, TIMING OF WORK, CUTTING, PATCHING, FINISH WORK, AND REQUIREMENTS OF NOISE ORDINANCE. INSTALL DUST AND NOISE BARRIERS AS REQUIRED TO PROTECT EXISTING ADJACENT AREAS AND OCCUPANTS AND TO MAINTAIN AN ENVIRONMENT SUITABLE TO PERMIT CONTINUED OCCUPANCY.
8. NEW SYSTEM INSTALLATIONS OR REPLACEMENT OF EXISTING SYSTEMS SHALL UTILIZE POTTER BRAND CONTROL PANELS AND EQUIPMENT AVAILABLE FROM MULTIPLE INSTALLERS IN THE LOCAL SERVICE AREA.

FIRE ALARM SYSTEM EQUIPMENT REQUIREMENTS

1. THE FIRE ALARM SYSTEM SHALL BE FULLY FUNCTIONAL WITHOUT THE USE OF PRIMARY POWER. THE FIRE ALARM SYSTEM SHALL BE PROVIDED WITH A MINIMUM OF 24 HOURS OF STANDBY OPERATION FOLLOWED BY AN ADDITIONAL 5 MINUTES OF ALARM OPERATION.
2. ALL BATTERIES SHALL PROVIDE AT LEAST 25% SPARE CAPACITY.
3. PROVIDE 25% SPARE CAPACITY FOR NOTIFICATION POWER SUPPLIES.
4. THE FIRE ALARM SYSTEM CONTROL PANEL (FACP) SHALL BE A ***POTTER AFC SERIES*** AND MAY INCLUDE INTERNAL POWER SUPPLIES. PROVIDE ADDITIONAL QUANTITIES OF POWER SUPPLIES AS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM. THE FIRE ALARM SYSTEM CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE ELECTRICAL CONTRACTOR FOR ALL POWER CONNECTIONS THE FIRE ALARM SYSTEM CONTRACTOR SHALL BE RESPONSIBLE FOR THE ELECTRICAL COSTS ASSOCIATED WITH ALL NON-COORDINATED POWER CONNECTIONS
5. PROVIDE MULTIPLE INITIATING DEVICE CIRCUITS AND SIGNALING LINE CIRCUITS (SLC) SO THAT FAILURE OF ONE CIRCUIT DOES NOT CAUSE THE FACILITY TO LOSE OVER 50% OF ITS DETECTION CAPABILITY PER FLOOR.
6. DWELLING UNIT NOTIFICATION SHALL BE ACCOMPLISHED BY LOW FREQUENCY SOUNDER BASES AND VISUAL DEVICES. THERE SHALL BE NO MORE THAN 4 DWELLING UNITS BEING SERVED FROM ONE SOUNDER BASE NOTIFICATION APPLIANCE CIRCUIT. THIS ALLOWS FOR THE VISUAL COVERAGE WITHIN THESE 4 UNITS AS THIS IS A 65+ "SENIOR BUILDING" MANY OF THE TENANTS WILL BE A "*MODERATELY SEVERE TO PROFOUND HEARING LOSS*" TENANTS.
7. DWELLING UNIT NOTIFICATION CIRCUIT END OF LINE RESISTORS SHALL BE LOCATED IN THE LIVING ROOM OF THE DWELLING UNIT.
8. PROVIDE ISOLATION MODULES PER FLOOR. SEPARATE SLC CIRCUITS SUCH THAT EACH FLOOR SHALL HAVE A ONE ISOLATION MODULE.
9. PROVIDE BATTERY CALCULATIONS FOR ALL FIRE ALARM SYSTEMS.

FIRE ALARM SYSTEM AUDIBILITY REQUIREMENTS

1. THE FIRE ALARM SYSTEM CONTRACTOR SHALL PERFORM AUDIBILITY TESTING IN EACH SPACE OF THE BUILDING PRIOR TO ACCEPTANCE TESTING. DOCUMENTATION OF DECIBEL (dB) VALUES RECORDED IN ALL SPACES SHALL BE PROVIDED TO THE ARCHITECT / ENGINEER PRIOR TO ACCEPTANCE TESTING.
   - A. DECIBEL READINGS SHALL BE TAKEN AT A POINT 10'-0" FROM THE APPLIANCE AT AN ELEVATION OF 5'-0" ABOVE FINISHED FLOOR.
   - B. THE SOUND LEVEL SHALL BE A MINIMUM OF 15 DECIBELS (dBs) ABOVE THE AVERAGE AMBIENT SOUND LEVEL.
   - C. THE SOUND LEVEL SHALL BE A MAXIMUM OF 30 DECIBELS (dBs) ABOVE THE AVERAGE AMBIENT SOUND LEVEL.
   - D. THE SOUND LEVEL SHALL BE A MINIMUM OF 5 DECIBELS (dBs) ABOVE THE MAXIMUM SOUND LEVEL HAVING A MINIMUM DURATION OF 60 SECONDS.
   - E. IN SPACES THAT DO NOT MEET THE MINIMUM AUDIBLE (dB) VALUES, THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE ADDITIONAL AUDIBLE NOTIFICATION APPLIANCES UNTIL THE MINIMUM DECIBEL (dB) VALUES ARE OBTAINED.

BY SUBMITTING A BID, THE CONTRACTOR IS ACKNOWLEDGING THAT THEY HAVE MADE A THOROUGH EXAMINATION OF THE CONTRACT DOCUMENTS, EXISTING SITE AND /OR BUILDING CONDITIONS, AND HAS DETERMINED THAT THESE DOCUMENTS DO SUFFICIENTLY DESCRIBE THE SCOPE OF CONSTRUCTION WORK REQUIRED UNDER THIS CONTRACT.

ALL CONTRACT REQUIREMENTS THAT EXCEED THE MINIMUM REQUIREMENTS OF IBC, IFC, AND NFPA 72 SHALL BE INCORPORATED INTO THE BID, DESIGN, AND CONSTRUCTION.

KCHA

King County Housing Authority

HARRISON HOUSE APARTMENTS

615 WEST HARRISION ST.
KENT, WA 98032

PROJECT #
04.11.2025

KHCA PROJECT MANAGER:
PM PHONE:
PM EMAIL:

SUBMITTAL / REVISION	DATE
PRELIMINARY BID SET	2025-04-11

JURISDICTIONAL APPROVAL STAMP

SHEET TITLE

FIRE ALARM SYSTEM LEGEND , RISER, AND NOTES

SHEET NUMBER

FA-COVER

FIRE ALARM

GENERAL REQUIREMENT NOTES

1.ALL WORK SHALL COMPLY WITH LATEST N.E.C., LOCAL CODES, AND WERE CALLED OUT BY KCHA PLANS AND SPECIFICATION.

2.ALL EMPTY CONDUITS SHALL INCLUDE PULL STRING.

3.UNLESS NOTED OTHERWISE ALL WIRING SHALL BE IN GALVANIZED RIGID STEEL OR EMT CONDUIT WITH MINIMUM TRADE SIZE OF 3/4-INCH.

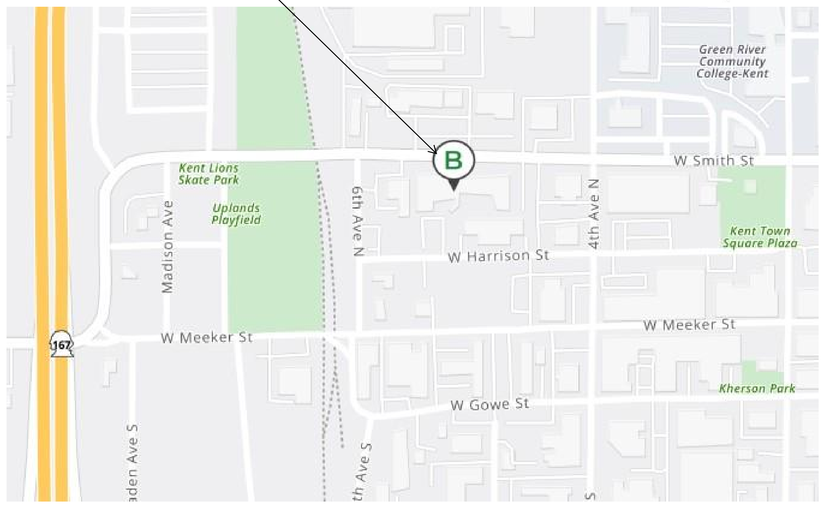
4.COORDINATE ALL WORK WITH OWNER REPRESENTATIVE FOR WORK SCHEDULES DETAILS PRIOR TO DECOMMISSIONED, DEMOLITION, RELOCATION, SHUT DOWN OF FIRE ALARM PANELS AND PANELBOARDS & ETC.

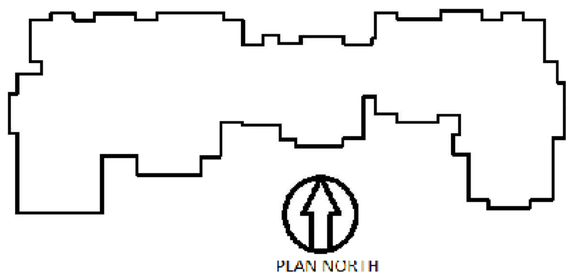
5.PROVIDE PATCH AND PAINT AS REQUIRED FOR ALL NEW EQUIPMENT, DEVICES, AND DEMO AREAS.

6.PROVIDE ELECTRICAL AND FIRE ALARM WORK ACCORDING TO CONSTRUCTION PHASING SCHEDULES AT THE END OF EACH AREA OF CONSTRUCTION PER PHASING PLANNING SCHEDULE, PROVIDE ELECTRICAL AND FIRE ALARM TESTING TO INSURE COMPLETION OF WORK IS SATISFACTORY FOR ACCEPTANCE.

HARRISON HOUSE
615 W. HARRISON ST.
KENT, WA 98032

Site Location





EXISTING FIRE ALARM
FOR REFERENCE ONLY

THIS DRAWING WAS PRODUCED FROM ORIGINAL AS-BUILT DRAWINGS AND FIELD OBSERVATIONS, AND MAY NOT REPRESENT AN ACCURATE AS-BUILT CONDITION. DISCREPANCIES MAY BE ENCOUNTERED, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL CONDITIONS.

FIRE ALARM COVER PAGE

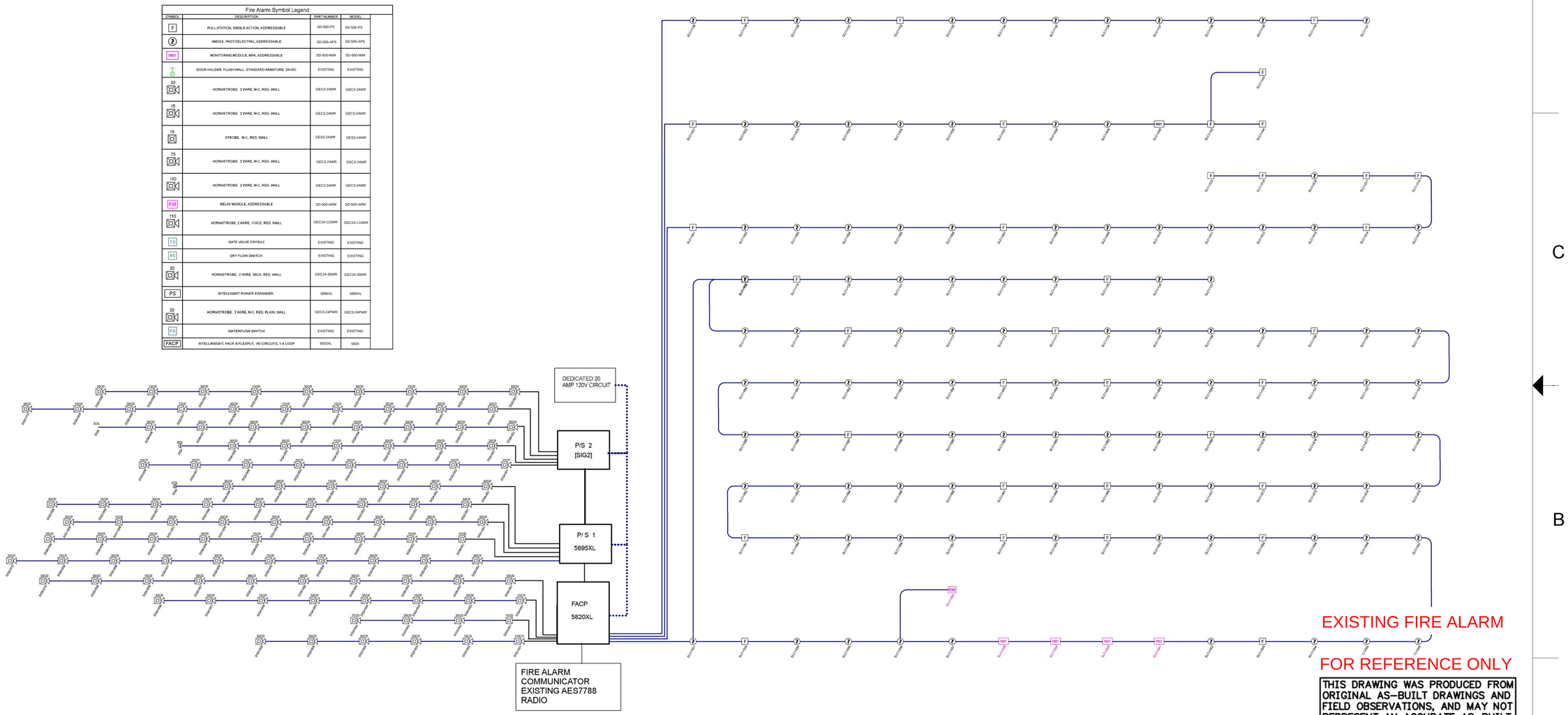
HARRISON HOUSE
615 W. Harrison St.
Kent, WA 98032

SIZE	FSCM NO.	DWG NO.	REV
		FA 0.0	1

SCALE 1/8" = 1' 0" SHEET

Fire Alarm Symbol Legend

SYMBOL	DESCRIPTION	PART NUMBER	MODEL
F	PULL-STATION, SINGLE ACTION, ADDRESSABLE	SD-500-PS	SD-500-PS
?	SMOKE, PHOTOELECTRIC, ADDRESSABLE	SD-505-APS	SD-505-APS
MM1	MONITORING MODULE, MINI, ADDRESSABLE	SD-500-MIM	SD-500-MIM
	DOOR HOLDER, FLUSH WALL, STANDARD ARMATURE, 24VDC	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	STROBE, M-C, RED, WALL	GES3-24WR	GES3-24WR
75	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
110	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
R/M	RELAY MODULE, ADDRESSABLE	SD-500-ARM	SD-500-ARM
110	HORN/STROBE, 2 WIRE, 110CD, RED, WALL	GEC24-110WR	GEC24-110WR
TD	GATE VALVE OSYSU-2	EXISTING	EXISTING
PS	DRY FLOW SWITCH	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, 30CD, RED, WALL	GEC24-30WR	GEC24-30WR
PS	INTELLIGENT POWER EXPANDER,	5895XL	5895XL
30	HORN/STROBE, 2 WIRE, M-C, RED, PLAIN, WALL	GEC3-24PWR	GEC3-24PWR
FS	WATERFLOW SWITCH	EXISTING	EXISTING
FACP	INTELLIKNIGHT, FACP, 6-FLEXPLT, I/O CIRCUITS, 1-4 LOOP	5820XL	5820



FOR REFERENCE ONLY

THIS DRAWING WAS PRODUCED FROM ORIGINAL AS-BUILT DRAWINGS AND FIELD OBSERVATIONS, AND MAY NOT REPRESENT AN ACCURATE AS-BUILT CONDITION. DISCREPANCIES MAY BE ENCOUNTERED, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL CONDITIONS.

FIRE ALARM RISER DIAGRAM

HARRISON HOUSE
615 W. Harrison St.
Kent, WA 98032

SIZE	FSCM NO.	DWG NO.	REV
		FA 0.1	1

SCALE 1/8" = 1' 0" SHEET

Circuit Calculations — Panel: P1 Card: 00 Circuit:SIG1

CircuitName: SIG1
Circuit Type: Notification Terminal Voltage: 20.4V:DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5820 XL	Panel			20.4V	
001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	300'-0	88.0000mA	19.347V	(1.053V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	27'-0	70.0000mA	19.2641V	(0.0829V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	20'-0	70.0000mA	19.2097V	(0.0544V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	34'-0	88.0000mA	19.1291V	(0.0806V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	41'-0	88.0000mA	19.05V	(0.0791V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	21'-0	70.0000mA	19.0187V	(0.0313V)
007	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	39'-0	88.0000mA	18.9742V	(0.0445V)
008	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	22'-0	70.0000mA	18.9588V	(0.0154V)
009	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	29'-0	70.0000mA	18.9487V	(0.0102V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	8'-0	0.0000mA	18.9487V	(0V)
			541'-0	702.0000mA		

Total Current: 702.0000mA
(Total VDrop Percent:7.11%) Total Voltage Drop : 1.4513V

Circuit Calculations — Panel: P1 Card: 00 Circuit:SIG5

CircuitName: SIG5
Circuit Type: Notification Terminal Voltage: 20.4V:DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5820 XL	Panel			20.4V	
001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	268'-0	88.0000mA	18.9769V	(1.4231V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	35'-0	88.0000mA	18.8065V	(0.1704V)
003	GEC24-110WR	HORN/STROBE, 2 WIRE, 110CD, RED, WALL, 110CD	28'-0	252.0000mA	18.6824V	(0.124V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	32'-0	88.0000mA	18.581V	(0.1014V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	29'-0	88.0000mA	18.5018V	(0.0792V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	37'-0	88.0000mA	18.4171V	(0.0847V)
007	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	35'-0	88.0000mA	18.3523V	(0.0648V)
008	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	54'-0	70.0000mA	18.2762V	(0.0761V)
009	GEC24-30WR	HORN/STROBE, 2 WIRE, 30CD, RED, WALL, 30CD	18'-0	124.0000mA	18.2571V	(0.0191V)
010	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	67'-0	88.0000mA	18.2276V	(0.0295V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	11'-0	0.0000mA	18.2276V	(0V)
			614'-0	1062.0000mA		

Total Current: 1062.0000mA
(Total VDrop Percent:10.65%) Total Voltage Drop : 2.1724V

Circuit Calculations — Panel: P1 Card: 00 Circuit:SIG2

CircuitName: SIG2
Circuit Type: Notification Terminal Voltage: 20.4V:DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5820 XL	Panel			20.4V	
001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 110CD	76'-0	185.0000mA	20.1693V	(0.2307V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	84'-0	70.0000mA	19.9921V	(0.1772V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	43'-0	88.0000mA	19.9164V	(0.0757V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	30'-0	88.0000mA	19.8768V	(0.0396V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	29'-0	88.0000mA	19.8513V	(0.0255V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	34'-0	88.0000mA	19.8363V	(0.015V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	13'-0	0.0000mA	19.8363V	(0V)
			309'-0	607.0000mA		

Total Current: 607.0000mA
(Total VDrop Percent:2.76%) Total Voltage Drop : 0.5637V

Battery Calculations for Panel: P1

Part No:5820 XL - INTELLIKNIGHT, FACP, 6-FLEXPUT, I/O CIRCUITS, 1-4 LOOP

Job number: 1 Job name: Drawing1

Part No.	Qty.	Description	Standby	Total Standby	Alarm	Total Alarm
		Panel Equipment				
5820 XLB	1	MAIN MOTHER BOARD	215.0000mA	215.0000mA	385.0000mA	385.0000mA
			Total Panel Stby	215.0000mA	Total Panel Alarm	385.0000mA
		Peripheral Devices				
GEC3-24WR	22	HORN/STROBE, 2 WIRE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	88.0000mA	1936.0000mA
GEC3-24WR	10	HORN/STROBE, 2 WIRE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	70.0000mA	700.0000mA
EOL-24	5	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC (Notification)	0.0000mA	0.0000mA	0.0000mA	0.0000mA
GEC3-24WR	1	HORN/STROBE, 2 WIRE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	185.0000mA	185.0000mA
GES3-24WR	1	STROBE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	42.0000mA	42.0000mA
GEC3-24WR	1	HORN/STROBE, 2 WIRE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	144.0000mA	144.0000mA
GEC24-110WR	1	HORN/STROBE, 2 WIRE, 110CD, RED, WALL (Notification)	0.0000mA	0.0000mA	252.0000mA	252.0000mA
GEC24-30WR	1	HORN/STROBE, 2 WIRE, 30CD, RED, WALL (Notification)	0.0000mA	0.0000mA	124.0000mA	124.0000mA
5895 XL	1	INTELLIGENT POWER EXPANDER, 6-AMP, 6-FLEX OUTPUTS, 5895 XL_MB (Power)	10.0000mA	10.0000mA	10.0000mA	10.0000mA
5895 XL	1	INTELLIGENT POWER EXPANDER, 6-AMP, 6-FLEX OUTPUTS, 5895 XL_MB (Serial)	0.0000mA	0.0000mA	0.0000mA	0.0000mA
SD500-PS	32	PULL-STATION, SINGLE ACTION, ADDRESSABLE (Signaling line)	0.5500mA	17.6000mA	0.5500mA	17.6000mA
SD505-APS	103	SMOKE, PHOTOELECTRIC, ADDRESSABLE (Signaling line)	0.5500mA	56.6500mA	0.5500mA	56.6500mA
SD500-MIM	5	MONITORING MODULE, MINI, ADDRESSABLE (Signaling line)	0.5500mA	2.7500mA	0.5500mA	2.7500mA
SD500-ARM	1	RELAY MODULE, ADDRESSABLE (Signaling line)	0.5500mA	0.5500mA	0.5500mA	0.5500mA
			Total Peripheral Stby	87.5500mA	Total Periph Alarm	3470.5500mA
			Total Standby Amps	302.5500mA	Total Alarm Amps	3855.5500mA

Standby time: 24 Hrs 7.261Ah
Alarm time: 5 Min 0.321Ah
Battery requirement: 7.582Ah
Compensation Factors - Standby: 1.2 Alarm: 1.2 Requirement with compensation: 9.099Ah

Circuit Calculations — Panel: P1 Card: 00 Circuit:SIG3

CircuitName: SIG3
Circuit Type: Notification Terminal Voltage: 20.4V:DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5820 XL	Panel			20.4V	
001	GES3-24WR	STROBE, M-C, RED, WALL, 15CD	12'-0	42.0000mA	20.3783V	(0.0217V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	18'-0	88.0000mA	20.3495V	(0.0288V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	36'-0	88.0000mA	20.3077V	(0.0418V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 75CD	44'-0	144.0000mA	20.276V	(0.0317V)

-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	10'-0	0.0000mA	20.276V	(0V)
			120'-0	362.0000mA		

Total Current: 362.0000mA
(Total VDrop Percent:0.61%) Total Voltage Drop : 0.124V

Fire Alarm Symbol Legend

SYMBOL	DESCRIPTION	PART NUMBER	MODEL
F	PULL-STATION, SINGLE ACTION, ADDRESSABLE	SD500-PS	SD500-PS
	SMOKE, PHOTOELECTRIC, ADDRESSABLE	SD505-APS	SD505-APS
MM1	MONITORING MODULE, MINI, ADDRESSABLE	SD500-MIM	SD500-MIM
	DOOR HOLDER, FLUSH WALL, STANDARD ARMATURE, 24VDC	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	STROBE, M-C, RED, WALL	GES3-24WR	GES3-24WR
75	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
110	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
RM	RELAY MODULE, ADDRESSABLE	SD500-ARM	SD500-ARM
110	HORN/STROBE, 2 WIRE, 110CD, RED, WALL	GEC24-110WR	GEC24-110WR
TS	GATE VALVE OSYSU-2	EXISTING	EXISTING
PS	DRY FLOW SWITCH	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, 30CD, RED, WALL	GEC24-30WR	GEC24-30WR
PS	INTELLIGENT POWER EXPANDER,	5895 XL	5895 XL
30	HORN/STROBE, 2 WIRE, M-C, RED, PLAIN, WALL	GEC3-24PWR	GEC3-24PWR
FS	WATERFLOW SWITCH	EXISTING	EXISTING
FACP	INTELLIKNIGHT, FACP, 6-FLEXPUT, I/O CIRCUITS, 1-4 LOOP	5820 XL	5820

Circuit Calculations — Panel: P1 Card: 00 Circuit:SIG4

CircuitName: SIG4
Circuit Type: Notification Terminal Voltage: 20.4V:DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5820 XL	Panel			20.4V	
001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	296'-0	70.0000mA	19.438V	(0.962V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	27'-0	88.0000mA	19.3597V	(0.0783V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	56'-0	70.0000mA	19.2219V	(0.1378V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	23'-0	88.0000mA	19.1734V	(0.0485V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	31'-0	88.0000mA	19.1216V	(0.0518V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	40'-0	70.0000mA	19.0724V	(0.0492V)
007	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	44'-0	88.0000mA	19.0337V	(0.0387V)
008	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	42'-0	88.0000mA	19.0152V	(0.0185V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	9'-0	0.0000mA	19.0152V	(0V)
			568'-0	650.0000mA		

Total Current: 650.0000mA
(Total VDrop Percent:6.79%) Total Voltage Drop : 1.3848V

OPERATIONAL MATRIX

SYSTEM OUTPUTS
Required Fire Safety Control
Control Unit Annunciation

A: Actuate Audible Alarm Signal
B: Actuate Audible Supervisory Signal
C: Actuate Common Trouble Signal Indicator
D: Actuate Alarm Indicator
E: Actuate Evacuation Signals
F: Transmit Fire Alarm Signal to Supervising Station
G: Transmit Supervisory Signal to Supervising Station
H: Transmit Trouble Signal to Supervising Station
I: Release Magnetically Held Smoke Doors
J: Actuate Exterior Strobe at F.D. Response Point
K: Activate Audio / Visual Devices

	SYSTEM INPUTS	A	B	C	D	E	F	G	H	I	J	K	
1	Manual Fire Alarm Boxes	●			●	●	●			●	●	●	1
2	Smoke Detectors	●			●	●	●			●	●	●	2
3	Waterflow	●			●	●	●			●	●	●	3
4	Sprinkler Control Valve		●					●					4
5	Fire Alarm AC Power Failure			●					●				5
6	Fire Alarm System Low Battery			●					●				6
7	Open Circuit			●					●				7
8	Ground Fault			●					●				8
9	Notification Appliance Circuit Short			●					●				9
		A	B	C	D	E	F	G	H	I	J	K	

EXISTING FIRE ALARM FOR REFERENCE ONLY

THIS DRAWING WAS PRODUCED FROM ORIGINAL AS-BUILT DRAWINGS AND FIELD OBSERVATIONS, AND MAY NOT REPRESENT AN ACCURATE AS-BUILT CONDITION. DISCREPANCIES MAY BE ENCOUNTERED, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL CONDITIONS.

FIRE ALARM CALCS/MATRIX/LEGEND

HARRISON HOUSE
615 W. Harrison St.
Kent, WA 98032

SIZE	FSCM NO.	DWG NO.	REV
		FA 1.0	1

SCALE 1/8" = 1' 0" SHEET

Circuit Calculations Panel: P/ S 1 Card: 03 Circuit:SIG1

CircuitName: SIG1
Circuit Type: Notification Terminal Voltage: 20.2V:DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5895 XL	Panel			20.2V	
001	GES3-24WR	STROBE, M-C, RED, WALL, 15CD	348'-0	42.0000mA	18.8602V	(1.3398V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	33'-0	88.0000mA	18.7401V	(0.1201V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	31'-0	88.0000mA	18.6409V	(0.0992V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	25'-0	70.0000mA	18.5719V	(0.069V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	23'-0	88.0000mA	18.5164V	(0.0554V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	30'-0	88.0000mA	18.4573V	(0.0591V)
007	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	31'-0	88.0000mA	18.4099V	(0.0474V)
008	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	31'-0	88.0000mA	18.3761V	(0.0338V)
009	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	81'-0	88.0000mA	18.3235V	(0.0527V)
010	GES3-24WR	STROBE, M-C, RED, WALL, 15CD	39'-0	42.0000mA	18.3153V	(0.0082V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	6'-0	0.0000mA	18.3153V	(0V)
			678'-0	770.0000mA		

Total Current: 770.0000mA
(Total VDrop Percent:9.33%) Total Voltage Drop : 1.8847V

Circuit Calculations Panel: P/ S 1 Card: 03 Circuit:SIG2

CircuitName: SIG2
Circuit Type: Notification Terminal Voltage: 20.2V:DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5895 XL	Panel			20.2V	
001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	288'-0	88.0000mA	19.1632V	(1.0368V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	29'-0	88.0000mA	19.0716V	(0.0916V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	30'-0	70.0000mA	18.99V	(0.0816V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	60'-0	70.0000mA	18.8478V	(0.1422V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	25'-0	70.0000mA	18.7973V	(0.0505V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	46'-0	88.0000mA	18.7204V	(0.0768V)
007	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	28'-0	88.0000mA	18.686V	(0.0344V)
008	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	35'-0	70.0000mA	18.6583V	(0.0277V)
009	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	21'-0	88.0000mA	18.6491V	(0.0092V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	5'-0	0.0000mA	18.6491V	(0V)
			567'-0	720.0000mA		

Total Current: 720.0000mA
(Total VDrop Percent:7.68%) Total Voltage Drop : 1.5509V

Circuit Calculations Panel: P/ S 1 Card: 03 Circuit:SIG3

CircuitName: SIG3
Circuit Type: Notification Terminal Voltage: 20.2V:DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5895 XL	Panel			20.2V	
001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	406'-0	88.0000mA	18.4704V	(1.7296V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	32'-0	88.0000mA	18.3482V	(0.1222V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	49'-0	88.0000mA	18.1826V	(0.1656V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	32'-0	88.0000mA	18.0885V	(0.0941V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	28'-0	88.0000mA	18.0185V	(0.07V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	30'-0	88.0000mA	17.9567V	(0.0618V)
007	GEC3-24PWR	HORN/STROBE, 2 WIRE, M-C, RED, PLAIN, WALL, 30CD	48'-0	124.0000mA	17.8789V	(0.0778V)
008	GES3-24WR	STROBE, M-C, RED, WALL, 15CD	28'-0	42.0000mA	17.8509V	(0.028V)
009	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	5'-0	70.0000mA	17.847V	(0.0041V)
010	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	36'-0	88.0000mA	17.8311V	(0.0158V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	5'-0	0.0000mA	17.8311V	(0V)
			699'-0	852.0000mA		

Total Current: 852.0000mA
(Total VDrop Percent:11.73%) Total Voltage Drop : 2.3689V

Circuit Calculations Panel: P/ S 1 Card: 03 Circuit:SIG4

CircuitName: SIG4
Circuit Type: Notification Terminal Voltage: 20.2V:DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5895 XL	Panel			20.2V	
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	379'-0	88.0000mA	18.8015V	(1.3985V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	32'-0	70.0000mA	18.6975V	(0.104V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	20'-0	88.0000mA	18.6395V	(0.058V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	81'-0	88.0000mA	18.4402V	(0.1993V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	31'-0	88.0000mA	18.3776V	(0.0626V)
007	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	55'-0	70.0000mA	18.2907V	(0.0869V)
008	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	53'-0	88.0000mA	18.2255V	(0.0652V)
009	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	18'-0	70.0000mA	18.2113V	(0.0142V)
001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	39'-0	88.0000mA	18.1941V	(0.0172V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	6'-0	0.0000mA	18.1941V	(0V)
			714'-0	738.0000mA		

Total Current: 738.0000mA
(Total VDrop Percent:9.93%) Total Voltage Drop : 2.0059V

Circuit Calculations Panel: P/ S 1 Card: 03 Circuit:SIG5

CircuitName: SIG5
Circuit Type: Notification Terminal Voltage: 20.2V:DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5895 XL	Panel			20.2V	
001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	949'-0	88.0000mA	16.366V	(3.834V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	29'-0	88.0000mA	16.2616V	(0.1044V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	70'-0	88.0000mA	16.0404V	(0.2212V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	38'-0	70.0000mA	15.9371V	(0.1034V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	31'-0	70.0000mA	15.8636V	(0.0735V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	77'-0	88.0000mA	15.7081V	(0.1555V)
007	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	27'-0	70.0000mA	15.6654V	(0.0427V)
008	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	29'-0	88.0000mA	15.6297V	(0.0357V)
009	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	30'-0	70.0000mA	15.606V	(0.0237V)
010	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	25'-0	88.0000mA	15.595V	(0.011V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	8'-0	0.0000mA	15.595V	(0V)
			1313'-0	808.0000mA		

Total Current: 808.0000mA
(Total VDrop Percent:22.80%) Total Voltage Drop : 4.605V

Circuit Calculations Panel: P/ S 1 Card: 03 Circuit:SIG6

CircuitName: SIG6
Circuit Type: Notification Terminal Voltage: 20.2V:DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5895 XL	Panel			20.2V	
001	GES3-24WR	STROBE, M-C, RED, WALL, 15CD	1183'-0	42.0000mA	16.0004V	(4.1997V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	22'-0	70.0000mA	15.9269V	(0.0735V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	41'-0	88.0000mA	15.8043V	(0.1226V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	30'-0	88.0000mA	15.7278V	(0.0765V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	25'-0	70.0000mA	15.675V	(0.0527V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	27'-0	88.0000mA	15.6275V	(0.0475V)
007	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	34'-0	88.0000mA	15.5826V	(0.0449V)
008	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	34'-0	88.0000mA	15.5527V	(0.0299V)
009	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	30'-0	88.0000mA	15.5395V	(0.0132V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	3'-0	0.0000mA	15.5395V	(0V)
			1429'-0	710.0000mA		

Total Current: 710.0000mA
(Total VDrop Percent:23.07%) Total Voltage Drop : 4.6605V

Battery Calculations for Panel: P/ S 1

Part No:5895 XL - INTELLIGENT POWER EXPANDER, 6-AMP, 6-FLEX OUTPUTS

Job number: 1 Job name: Drawing1

Part No.	Qty.	Description	Standby	Total Standby	Alarm	Total Alarm
		Panel Equipment				
5895 XL_MB	1	INTELLIGENT POWER EXPANDER	50.0000mA	50.0000mA	170.0000mA	170.0000mA
			Total Panel Stby	50.0000mA	Total Panel Alarm	170.0000mA
		Peripheral Devices				
GES3-24WR	4	STROBE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	42.0000mA	168.0000mA
GEC3-24WR	15	HORN/STROBE, 2 WIRE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	70.0000mA	1050.0000mA
GEC3-24WR	37	HORN/STROBE, 2 WIRE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	88.0000mA	3256.0000mA
EOL-24	6	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC (Notification)	0.0000mA	0.0000mA	0.0000mA	0.0000mA
GEC3-24PWR	1	HORN/STROBE, 2 WIRE, M-C, RED, PLAIN, WALL (Notification)	0.0000mA	0.0000mA	124.0000mA	124.0000mA
5895 XL	1	INTELLIGENT POWER EXPANDER, 6-AMP, 6-FLEX OUTPUTS, 5895 XL_MB (Power)	10.0000mA	10.0000mA	10.0000mA	10.0000mA
5895 XL	1	INTELLIGENT POWER EXPANDER, 6-AMP, 6-FLEX OUTPUTS, 5895 XL_MB (Serial)	0.0000mA	0.0000mA	0.0000mA	0.0000mA
			Total Peripheral Stby	10.0000mA	Total Periph Alarm	4608.0000mA
			Total Standby Amps	60.0000mA	Total Alarm Amps	4778.0000mA

Standby time: 24 Hrs 1.44Ah
Alarm time: 5 Min 0.398Ah
Battery requirement: 1.838Ah
Compensation Factors - Standby: 1.2 Alarm: 1.2 Requirement with compensation: 2.206Ah

EXISTING FIRE ALARM
FOR REFERENCE ONLY

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FIRE ALARM POWER SUPPLY 1 CALCS

HARRISON HOUSE
615 W. Harrison St.
Kent, WA 98032

SIZE	FSCM NO.	DWG NO.	REV
		FA 1.1	1
SCALE 1/8" = 1' 0"			SHEET

Circuit Calculations Panel: P/S 2 Card: 02 Circuit:SIG1

CircuitName: SIG1
Circuit Type: Notification Terminal Voltage: 20.2V.DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5895 XL	Panel			20.2V	

001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	1476'-0	88.0000mA	20.024V	(0.176V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	35'-0	88.0000mA	19.9088V	(0.1151V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	52'-0	88.0000mA	19.7606V	(0.1482V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	42'-0	88.0000mA	19.6594V	(0.1012V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	34'-0	88.0000mA	19.5924V	(0.067V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	36'-0	88.0000mA	19.5374V	(0.0551V)
007	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	49'-0	88.0000mA	19.4839V	(0.0534V)
008	GES3-24WR	STROBE, M-C, RED, WALL, 15CD	22'-0	42.0000mA	19.4696V	(0.0143V)
009	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	36'-0	88.0000mA	19.4538V	(0.0158V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	5'-0	0.0000mA	19.4538V	(0V)

010	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	73'-0	70.0000mA	20.1663V	(0.0256V)
			1860'-0	816.0000mA		

Total Current: 816.0000mA
(Total VDrop Percent:3.69%) Total Voltage Drop : 0.7462V

Circuit Calculations Panel: P/S 2 Card: 02 Circuit:SIG2

CircuitName: SIG2
Circuit Type: Notification Terminal Voltage: 20.2V.DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5895 XL	Panel			20.2V	
001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	112'-0	88.0000mA	19.7867V	(0.4133V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	34'-0	88.0000mA	19.6762V	(0.1105V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	53'-0	70.0000mA	19.5273V	(0.1489V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	27'-0	88.0000mA	19.4609V	(0.0664V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	33'-0	88.0000mA	19.3942V	(0.0667V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	56'-0	70.0000mA	19.3057V	(0.0885V)
007	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	70'-0	88.0000mA	19.2196V	(0.0861V)
008	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	17'-0	70.0000mA	19.2062V	(0.0134V)
009	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	39'-0	88.0000mA	19.189V	(0.0172V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	7'-0	0.0000mA	19.189V	(0V)
			448'-0	738.0000mA		

Total Current: 738.0000mA
(Total VDrop Percent:5.00%) Total Voltage Drop : 1.011V

Circuit Calculations Panel: P/S 2 Card: 02 Circuit:SIG3

CircuitName: SIG3
Circuit Type: Notification Terminal Voltage: 20.2V.DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5895 XL	Panel			20.2V	
001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	63'-0	70.0000mA	19.9952V	(0.2047V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	23'-0	88.0000mA	19.9285V	(0.0667V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	36'-0	70.0000mA	19.84V	(0.0886V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	48'-0	88.0000mA	19.7387V	(0.1013V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	28'-0	88.0000mA	19.6919V	(0.0468V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	31'-0	70.0000mA	19.6538V	(0.0381V)
007	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	26'-0	88.0000mA	19.6309V	(0.0229V)
008	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	40'-0	88.0000mA	19.6133V	(0.0176V)
			295'-0	650.0000mA		

Total Current: 650.0000mA
(Total VDrop Percent:2.90%) Total Voltage Drop : 0.5867V

Circuit Calculations Panel: P/S 2 Card: 02 Circuit:SIG4

CircuitName: SIG4
Circuit Type: Notification Terminal Voltage: 20.2V.DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5895 XL	Panel			20.2V	
001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	45'-0	88.0000mA	20.0852V	(0.1147V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	31'-0	88.0000mA	20.0198V	(0.0654V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	69'-0	88.0000mA	19.9046V	(0.1152V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	33'-0	70.0000mA	19.864V	(0.0406V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	30'-0	88.0000mA	19.8376V	(0.0264V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	29'-0	88.0000mA	19.8249V	(0.0128V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	3'-0	0.0000mA	19.8249V	(0V)
			240'-0	510.0000mA		

Total Current: 510.0000mA
(Total VDrop Percent:1.86%) Total Voltage Drop : 0.3751V

Circuit Calculations Panel: P/S 2 Card: 02 Circuit:SIG5

CircuitName: SIG5
Circuit Type: Notification Terminal Voltage: 20.2V.DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5895 XL	Panel			20.2V	
001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	1220'-0	88.0000mA	19.6632V	(0.5368V)

002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	72'-0	70.0000mA	19.9192V	(0.2808V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	22'-0	88.0000mA	19.8411V	(0.0781V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	25'-0	88.0000mA	19.7633V	(0.0778V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	37'-0	70.0000mA	19.6646V	(0.0988V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	51'-0	70.0000mA	19.5462V	(0.1183V)
007	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	26'-0	88.0000mA	19.495V	(0.0512V)
008	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	34'-0	88.0000mA	19.443V	(0.052V)
009	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	29'-0	88.0000mA	19.4114V	(0.0316V)
010	GES3-24WR	STROBE, M-C, RED, WALL, 15CD	39'-0	42.0000mA	19.386V	(0.0253V)
011	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	20'-0	88.0000mA	19.3772V	(0.0088V)
			1575'-0	868.0000mA		

Total Current: 868.0000mA
(Total VDrop Percent:4.07%) Total Voltage Drop : 0.8228V

Circuit Calculations Panel: P/S 2 Card: 02 Circuit:SIG6

CircuitName: SIG6
Circuit Type: Notification Terminal Voltage: 20.2V.DC Amperage: 3.0000A
Cable: 14/2 SOL JKT FPLP 1M RL RED #14
Calculations based on Running Total Length.
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 10%
Job number: 1 Job name: Drawing1

Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	5895 XL	Panel			20.2V	
001	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	44'-0	88.0000mA	20.0491V	(0.1509V)
002	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	36'-0	88.0000mA	19.9414V	(0.1076V)
003	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	30'-0	88.0000mA	19.8649V	(0.0765V)
004	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 15CD	32'-0	70.0000mA	19.7974V	(0.0675V)
005	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	33'-0	88.0000mA	19.7393V	(0.0581V)
006	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	49'-0	88.0000mA	19.6747V	(0.0647V)
007	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	28'-0	88.0000mA	19.65V	(0.0246V)
008	GEC3-24WR	HORN/STROBE, 2 WIRE, M-C, RED, WALL, 30CD	34'-0	88.0000mA	19.6351V	(0.015V)
-01	EOL-24	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC	8'-0	0.0000mA	19.6351V	(0V)
			294'-0	686.0000mA		

Total Current: 686.0000mA
(Total VDrop Percent:2.80%) Total Voltage Drop : 0.5649V

Battery Calculations for Panel: P/S 2

Part No:5895 XL - INTELLIGENT POWER EXPANDER, 6-AMP, 6-FLEX OUTPUTS

Job number: 1 Job name: Drawing1

Part No.	Qty.	Description	Standby	Total Standby	Alarm	Total Alarm
		Panel Equipment				
5895 XL_MB	1	INTELLIGENT POWER EXPANDER	50.0000mA	50.0000mA	170.0000mA	170.0000mA
			Total Panel Stby	50.0000mA	Total Panel Alarm	170.0000mA
		Peripheral Devices				
GES3-24WR	2	STROBE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	42.0000mA	84.0000mA
GEC3-24WR	38	HORN/STROBE, 2 WIRE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	88.0000mA	3344.0000mA
GEC3-24WR	12	HORN/STROBE, 2 WIRE, M-C, RED, WALL (Notification)	0.0000mA	0.0000mA	70.0000mA	840.0000mA
EOL-24	4	EOL 24VDC NOTIFICATION APPLIANCE RESISTOR, GENERIC (Notification)	0.0000mA	0.0000mA	0.0000mA	0.0000mA
			Total Peripheral Stby	0.0000mA	Total Periph Alarm	4268.0000mA
			Total Standby Amps	50.0000mA	Total Alarm Amps	4438.0000mA

Standby time: 24 Hrs 1.2Ah
Alarm time: 5 Min 0.37Ah
Battery requirement: 1.57Ah
Compensation Factors - Standby: 1.2 Alarm: 1.2 Requirement with compensation: 1.884Ah

EXISTING FIRE ALARM
FOR REFERENCE ONLY

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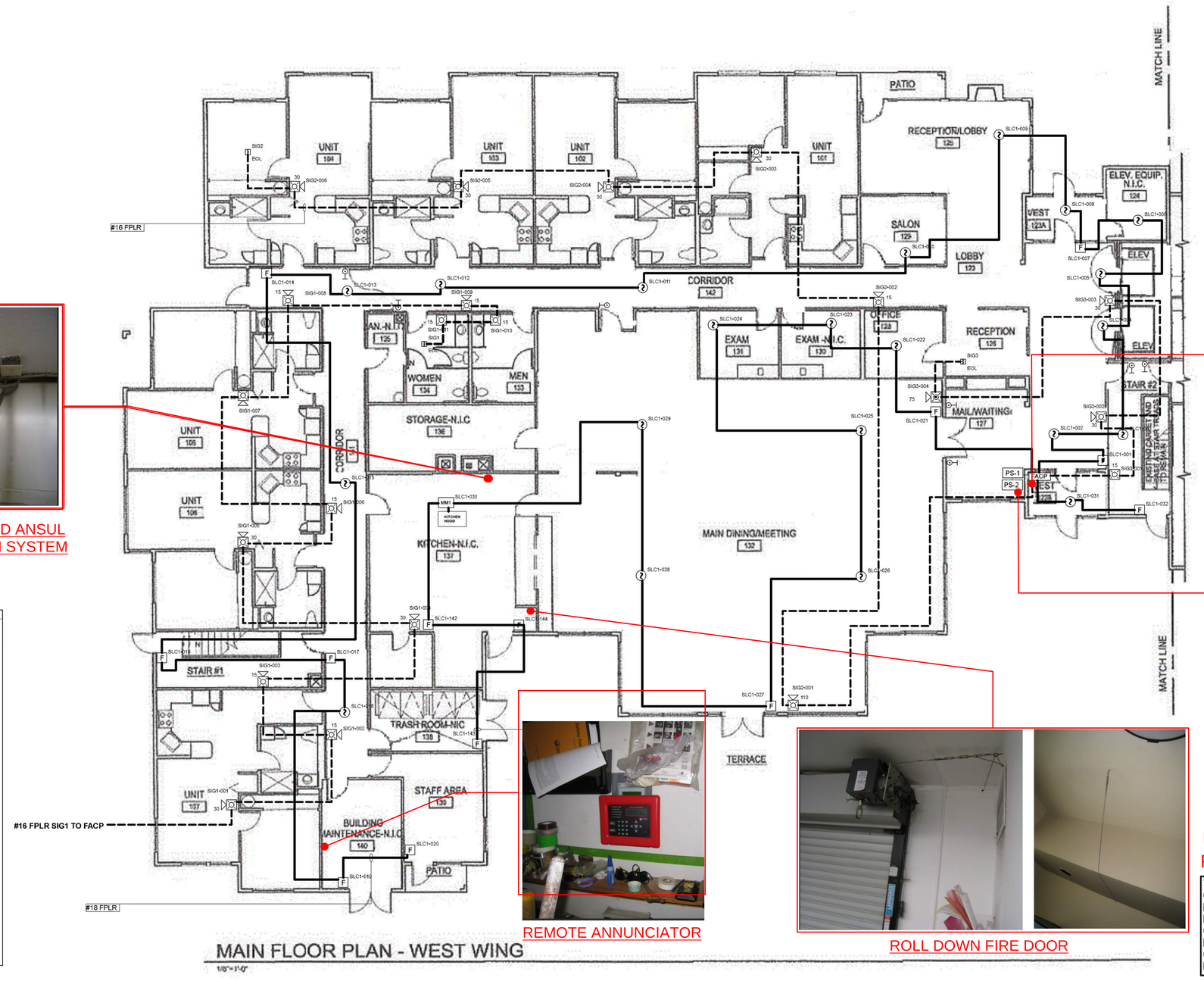
FIRE ALARM POWER SUPPLY 2 CALCS

HARRISON HOUSE
615 W. Harrison St.
Kent, WA 98032

SIZE	FSCM NO.	DWG NO.	REV
		FA 1.2	1
SCALE 1/8" = 1' 0"			SHEET



MAIN FLOOR PLAN - WEST WING

1/8" = 1'-0"

KITCHEN HOOD ANSUL SUPPRESSION SYSTEM

REMOTE ANNUNCIATOR

ROLL DOWN FIRE DOOR

FIRE ALARM CONTROL PANEL

FIRE ALARM POWER SUPPLIES

Fire Alarm Symbol Legend

SYMBOL	DESCRIPTION	PART NUMBER	MODEL
F	PULL-STATION, SINGLE ACTION, ADDRESSABLE	SD560-PS	SD560-PS
?	SMOKE, PHOTOELECTRIC, ADDRESSABLE	SD505-APS	SD505-APS
MM1	MONITORING MODULE, MINI, ADDRESSABLE	SD500-MIM	SD500-MIM
T	DOOR HOLDER, FLUSH WALL, STANDARD ARMATURE, 24VDC	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-34WR
15	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-34WR
15	STROBE, M-C, RED, WALL	GES3-24WR	GES3-34WR
75	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-34WR
110	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-34WR
RM	RELAY MODULE, ADDRESSABLE	SD500-ARM	SD500-ARM
110	HORN/STROBE, 2 WIRE, 110CD, RED, WALL	GEC24-110WR	GEC24-110WR
TS	GATE VALVE OSY3U-2	EXISTING	EXISTING
PS	DRY FLOW SWITCH	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, 30CD, RED, WALL	GEC24-30WR	GEC24-30WR
PS	INTELLIGENT POWER EXPANDER,	5865 XL	5865 XL
30	HORN/STROBE, 2 WIRE, M-C, RED, PLAIN, WALL	GEC3-24PWR	GEC3-24PWR
FS	WATERFLOW SWITCH	EXISTING	EXISTING
FACP	INTELLIKNIGHT, FACP, 6-FLEXPUT, I/O CIRCUITS, 1-4 LOOP	5820 XL	5820

EXISTING FIRE ALARM FOR REFERENCE ONLY

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FIRE ALARM 1ST FLOOR WEST WING

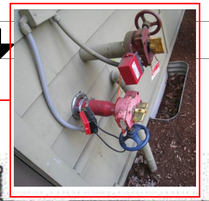
HARRISON HOUSE
615 W. Harrison St.
Kent, WA 98032

SIZE	FSCM NO.	DWG NO.	REV
		FA 2.0	1
SCALE 1/8" = 1' 0"			SHEET

ELEVATOR MACHINE ROOM

ELEVATOR MACHINE ROOM TAMPER

SPRINKLER RISER ROOM



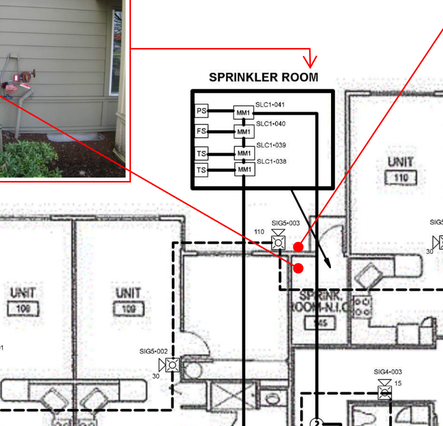
SPRINKLER POST TAMPERS

#16 FPLR SIG5 TO FACP

#16 FPLR SIG4 TO FACP

#18 FPLR TO FACP SLC

PROPOSED LOCATION OF NEW MAIN FIRE ALARM CONTROL PANEL AND POWER SUPPLIES



AES TRANSCEIVER

Fire Alarm Symbol Legend			
SYMBOL	DESCRIPTION	PART NUMBER	MODEL
F	PULL-STATION, SINGLE ACTION, ADDRESSABLE	SD500-PS	SD500-PS
?	SMOKE, PHOTOELECTRIC, ADDRESSABLE	SD505-APS	SD505-APS
MM1	MONITORING MODULE, MINI, ADDRESSABLE	SD500-MIM	SD500-MIM
T	DOOR HOLDER, FLUSH WALL, STANDARD ARMATURE, 24VDC	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	STROBE, M-C, RED, WALL	GES3-24WR	GES3-24WR
75	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
110	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
RM	RELAY MODULE, ADDRESSABLE	SD500-ARM	SD500-ARM
110	HORN/STROBE, 2 WIRE, 110CD, RED, WALL	GEC24-110WR	GEC24-110WR
TS	GATE VALVE OSY/SU-2	EXISTING	EXISTING
PS	DRY FLOW SWITCH	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, 30CD, RED, WALL	GEC24-30WR	GEC24-30WR
PS	INTELLIGENT POWER EXPANDER,	5865 XL	5865 XL
30	HORN/STROBE, 2 WIRE, M-C, RED, PLAIN, WALL	GEC3-24PWR	GEC3-24PWR
FS	WATERFLOW SWITCH	EXISTING	EXISTING
FACP	INTELLIKNIGHT, FACP, 8-FLEXPUT, I/O CIRCUITS, 1-4 LOOP	5820 XL	5820

MAIN FLOOR PLAN - EAST WING

1/8"=1'-0"

EXISTING FIRE ALARM FOR REFERENCE ONLY

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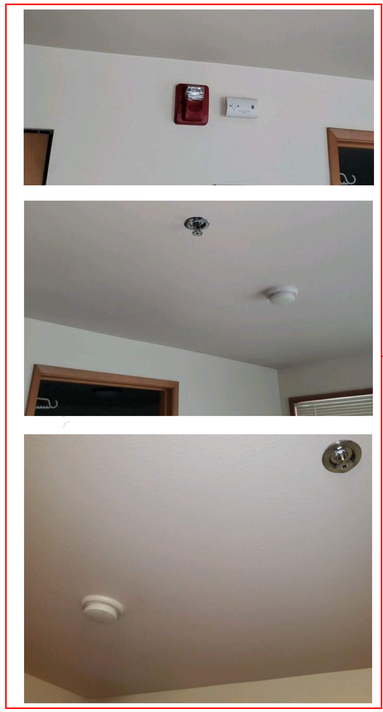
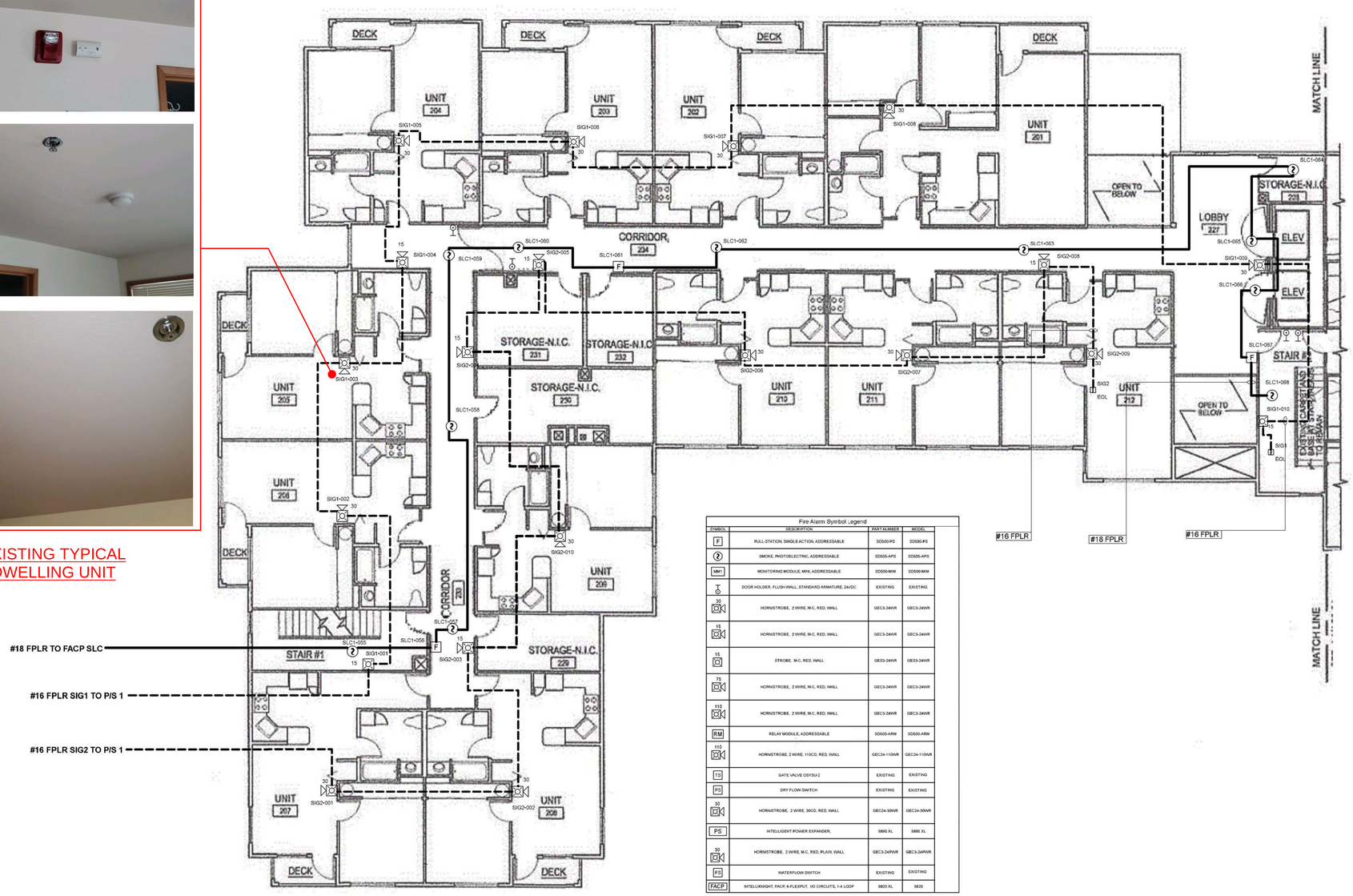
FIRE ALARM 1ST FLOOR EAST WING

HARRISON HOUSE
615 W. Harrison St.
Kent, WA 98032

SIZE	FSCM NO.	DWG NO.	REV
		FA 3.0	1
SCALE 1/8" = 1' 0"			SHEET



EXISTING TYPICAL
DWELLING UNIT



Fire Alarm Symbol Legend

SYMBOL	DESCRIPTION	PART NUMBER	MODEL
F	PULL-STATION, SINGLE ACTION, ADDRESSABLE	SD500-PS	SD500-PS
?	SMOKE, PHOTOELECTRIC, ADDRESSABLE	SD505-APS	SD505-APS
MM1	MONITORING MODULE, MINI, ADDRESSABLE	SD500-MIM	SD500-MIM
T	DOOR HOLDER, FLUSH WALL, STANDARD ARMATURE, 24VDC	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	STROBE, M-C, RED, WALL	GES3-24WR	GES3-24WR
75	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
110	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
RM	RELAY MODULE, ADDRESSABLE	SD500-ARM	SD500-ARM
110	HORN/STROBE, 2 WIRE, 110CD, RED, WALL	GEC24-110WR	GEC24-110WR
TS	GATE VALVE OS Y/SU-2	EXISTING	EXISTING
PS	DRY FLOW SWITCH	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, 30CD, RED, WALL	GEC24-30WR	GEC24-30WR
PS	INTELLIGENT POWER EXPANDER,	5866 XL	5866 XL
30	HORN/STROBE, 2 WIRE, M-C, RED, PLAIN, WALL	GEC3-24PWR	GEC3-24PWR
FS	WATERFLOW SWITCH	EXISTING	EXISTING
FACP	INTELLINIGHT, FACP, 6-FLEXPUT, I/O CIRCUITS, 1-4 LOOP	5820 XL	5820

SECOND FLOOR PLAN - WEST WING
1/8"=1'-0"

EXISTING FIRE ALARM
FOR REFERENCE ONLY

THIS DRAWING WAS PRODUCED FROM ORIGINAL AS-BUILT DRAWINGS AND FIELD OBSERVATIONS, AND MAY NOT REPRESENT AN ACCURATE AS-BUILT CONDITION. DISCREPANCIES MAY BE ENCOUNTERED, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL CONDITIONS.

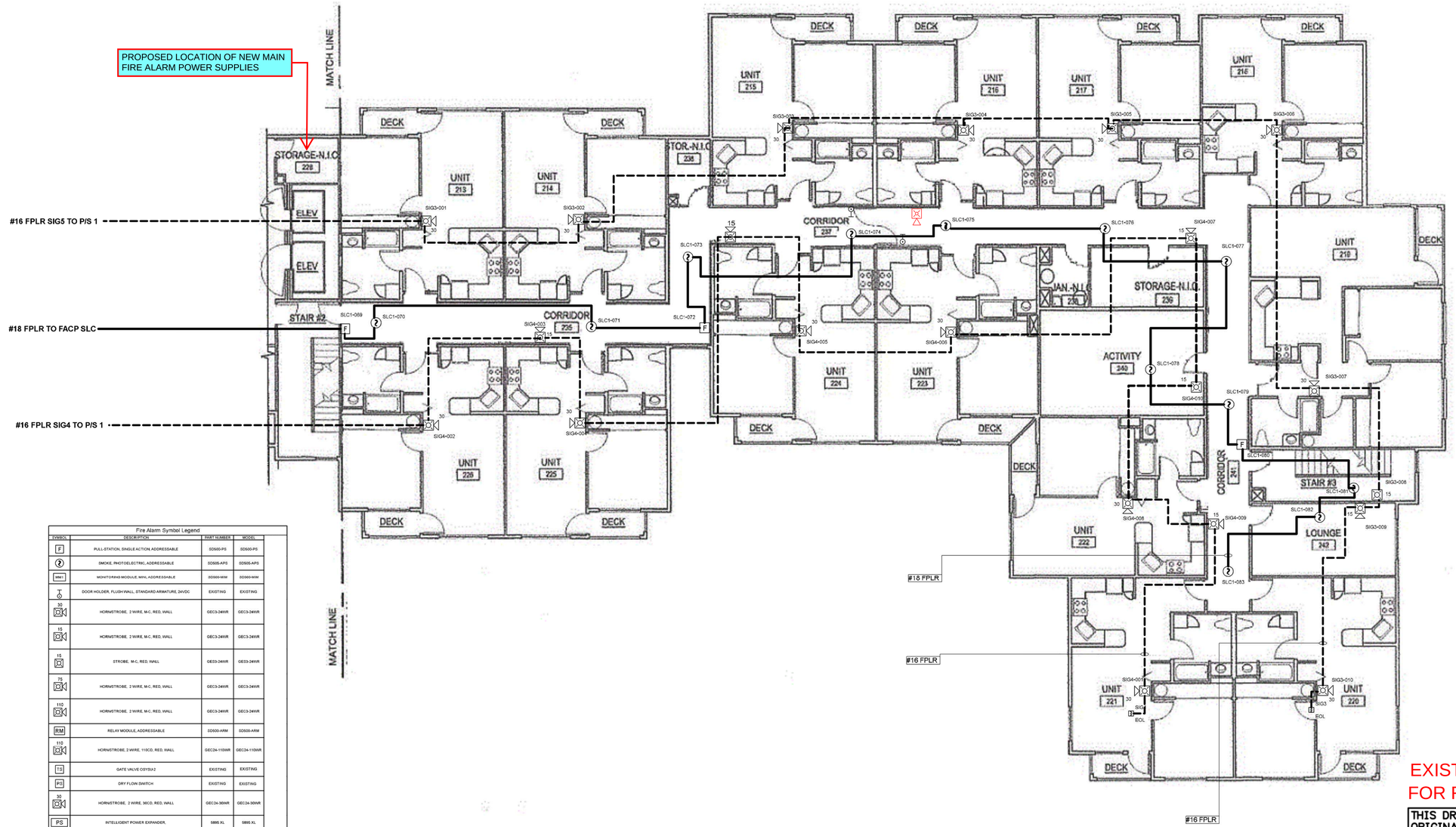
FIRE ALARM 2ND FLOOR WEST WING

HARRISON HOUSE
615 W. Harrison St.
Kent, WA 98032

SIZE	FSCM NO.	DWG NO.	REV
		FA 4.0	1

SCALE 1/8" = 1' 0" | SHEET

PROPOSED LOCATION OF NEW MAIN FIRE ALARM POWER SUPPLIES



Fire Alarm Symbol Legend

SYMBOL	DESCRIPTION	PART NUMBER	MODEL
F	PULL-STATION, SINGLE ACTION, ADDRESSABLE	SD560-PS	SD560-PS
?	SMOKE, PHOTOELECTRIC, ADDRESSABLE	SD605-APS	SD605-APS
MM1	MONITORING MODULE, MINI, ADDRESSABLE	SD560-MIM	SD560-MIM
	DOOR HOLDER, FLUSH WALL, STANDARD ARMATURE, 24VDC	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	STROBE, M-C, RED, WALL	GES3-24WR	GES3-24WR
75	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
110	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
RM	RELAY MODULE, ADDRESSABLE	SD500-ARM	SD500-ARM
110	HORN/STROBE, 2 WIRE, 110CD, RED, WALL	GEC24-110WR	GEC24-110WR
TS	GATE VALVE OSY/SIA2	EXISTING	EXISTING
PS	DRY FLOW SWITCH	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, 30CD, RED, WALL	GEC24-30WR	GEC24-30WR
PS	INTELLIGENT POWER EXPANDER,	5866 XL	5866 XL
30	HORN/STROBE, 2 WIRE, M-C, RED, PLAIN, WALL	GEC3-24PWR	GEC3-24PWR
FS	WATERFLOW SWITCH	EXISTING	EXISTING
FACP	INTELLINIGHT, FACP, 8-FLEXPUT, I/O CIRCUITS, 1-I LOOP	5820 XL	5820

SECOND FLOOR PLAN - EAST WING

1/8"=1'-0"

EXISTING FIRE ALARM FOR REFERENCE ONLY

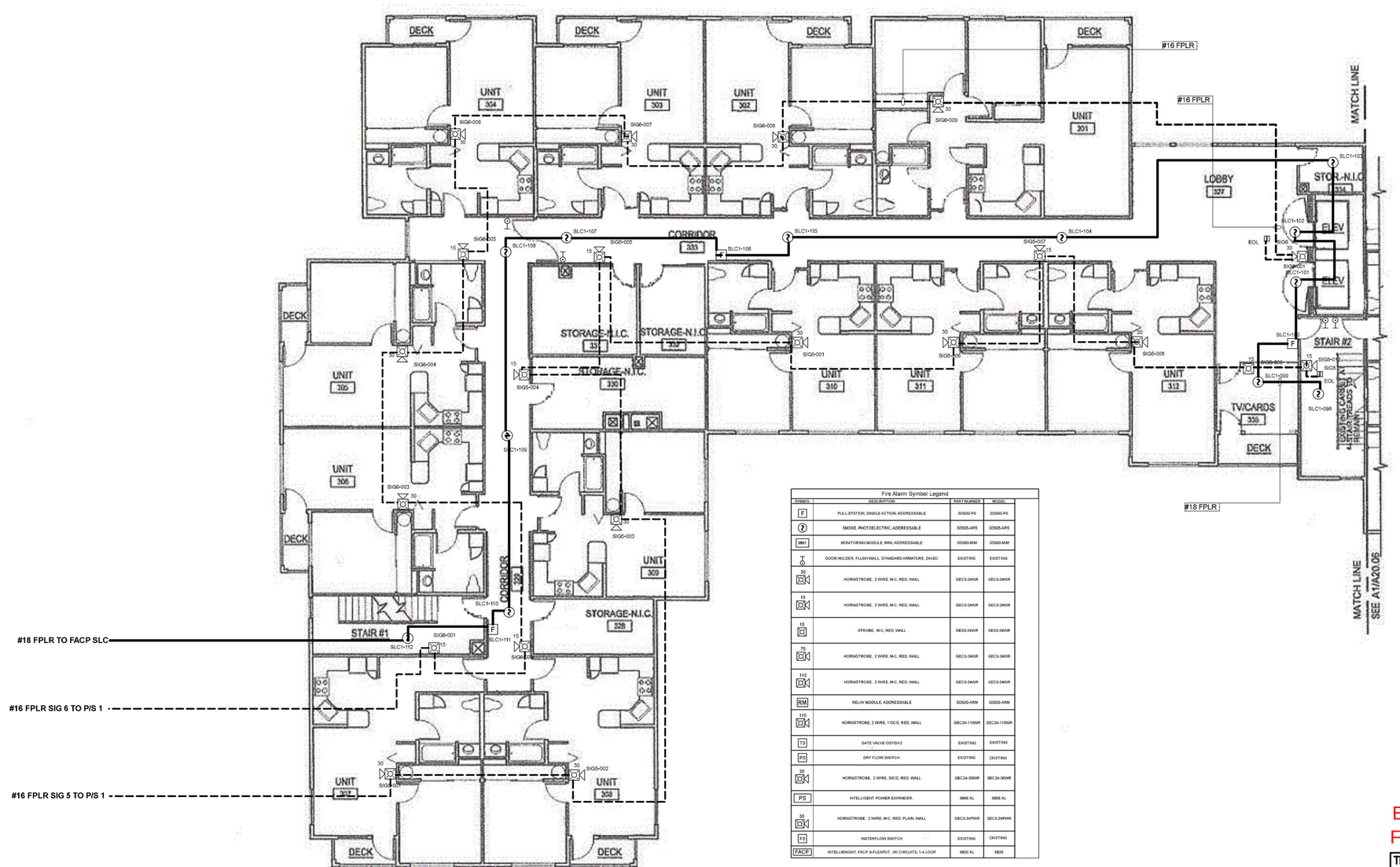
THIS DRAWING WAS PRODUCED FROM ORIGINAL AS-BUILT DRAWINGS AND FIELD OBSERVATIONS, AND MAY NOT REPRESENT AN ACCURATE AS-BUILT CONDITION. DISCREPANCIES MAY BE ENCOUNTERED, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL CONDITIONS.

FIRE ALARM 2ND FLOOR EAST WING

HARRISON HOUSE
615 W. Harrison St.
Kent, WA 98032

SIZE	FSCM NO.	DWG NO.	REV
		FA 5.0	1

SCALE 1/8" = 1' 0" SHEET



Fire Alarm Symbol Legend

SYMBOL	DESCRIPTION	PART NUMBER	MODEL
F	PULL-STATION, SINGLE ACTION, ADDRESSABLE	SD560-PS	SD560-PS
?	SMOKE, PHOTOELECTRIC, ADDRESSABLE	SD505-APS	SD505-APS
MM1	MONITORING MODULE, MINI, ADDRESSABLE	SD560-MIM	SD560-MIM
	DOOR HOLDER, FLUSH WALL, STANDARD ARMATURE, 24VDC	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	STROBE, M-C, RED, WALL	GES3-24WR	GES3-24WR
75	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
110	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
RM	RELAY MODULE, ADDRESSABLE	SD500-ARM	SD500-ARM
110	HORN/STROBE, 2 WIRE, 110CD, RED, WALL	GEC24-110WR	GEC24-110WR
TS	GATE VALVE OSY/SU-2	EXISTING	EXISTING
PS	DRY FLOW SWITCH	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, 30CD, RED, WALL	GEC24-30WR	GEC24-30WR
PS	INTELLIGENT POWER EXPANDER,	5865 XL	5865 XL
30	HORN/STROBE, 2 WIRE, M-C, RED, PLAIN, WALL	GEC3-24PWR	GEC3-24PWR
FS	WATERFLOW SWITCH	EXISTING	EXISTING
FACP	INTELLINIGHT, FACP, 6-FLEXPUT, I/O CIRCUITS, 1-4 LOOP	5820 XL	5820

THIRD FLOOR PLAN - WEST WING

1/8"=1'-0"

EXISTING FIRE ALARM
FOR REFERENCE ONLY

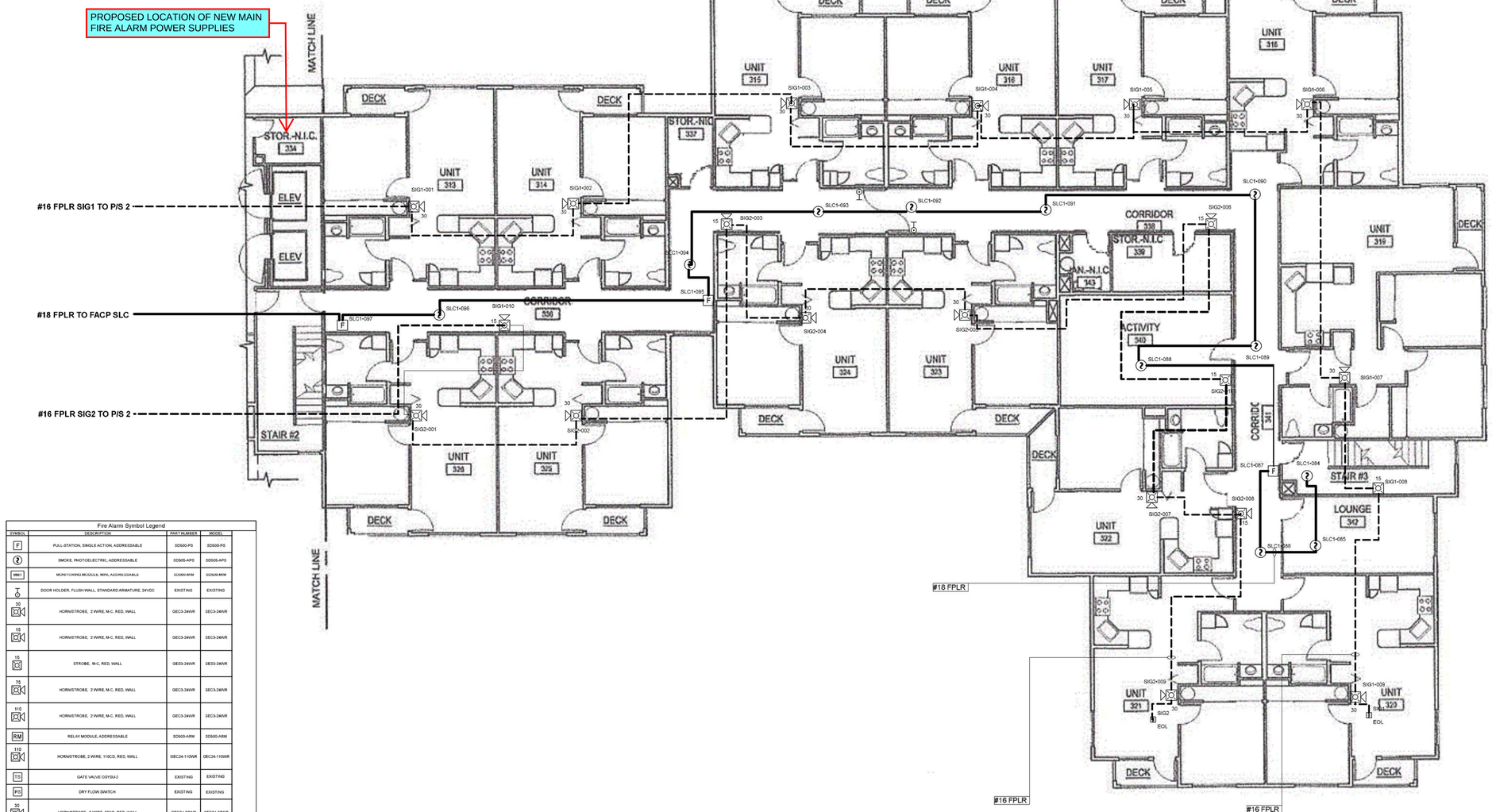
THIS DRAWING WAS PRODUCED FROM ORIGINAL AS-BUILT DRAWINGS AND FIELD OBSERVATIONS, AND MAY NOT REPRESENT AN ACCURATE AS-BUILT CONDITION. DISCREPANCIES MAY BE ENCOUNTERED, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL CONDITIONS.

FIRE ALARM 3RD FLOOR WEST WING

HARRISON HOUSE
615 W. Harrison St.
Kent, WA 98032

SIZE	FSCM NO.	DWG NO.	REV
		FA 6.0	1

SCALE 1/8" = 1' 0" SHEET



Fire Alarm Symbol Legend			
SYMBOL	DESCRIPTION	PART NUMBER	MODEL
F	PULL-STATION, SINGLE ACTION, ADDRESSABLE	SD560-PS	SD560-PS
?	SMOKE, PHOTOELECTRIC, ADDRESSABLE	SD505-APS	SD505-APS
MM1	MONITORING MODULE, MINI, ADDRESSABLE	SU560-MINI	SU560-MINI
	DOOR HOLDER, FLUSH WALL, STANDARD ARMATURE, 24VDC	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	STROBE, M-C, RED, WALL	GES3-24WR	GES3-24WR
75	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
110	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
RM	RELAY MODULE, ADDRESSABLE	SD560-ARM	SD560-ARM
110	HORN/STROBE, 2 WIRE, 110CD, RED, WALL	GEC24-110WR	GEC24-110WR
TS	GATE VALVE OSY/SU-2	EXISTING	EXISTING
PS	DRY FLOW SWITCH	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, 30CD, RED, WALL	GEC24-30WR	GEC24-30WR
PS	INTELLIGENT POWER EXPANDER,	5895 XL	5895 XL
30	HORN/STROBE, 2 WIRE, M-C, RED, PLAIN, WALL	GEC3-24PWR	GEC3-24PWR
FS	WATERFLOW SWITCH	EXISTING	EXISTING
FACP	INTELLIKNIGHT, FACP, 8-FLEXPUT, 10 CIRCUITS, 1-4 LOOP	5820 XL	5820

THIRD FLOOR PLAN - EAST WING

1/8"=1'-0"

EXISTING FIRE ALARM
FOR REFERENCE ONLY

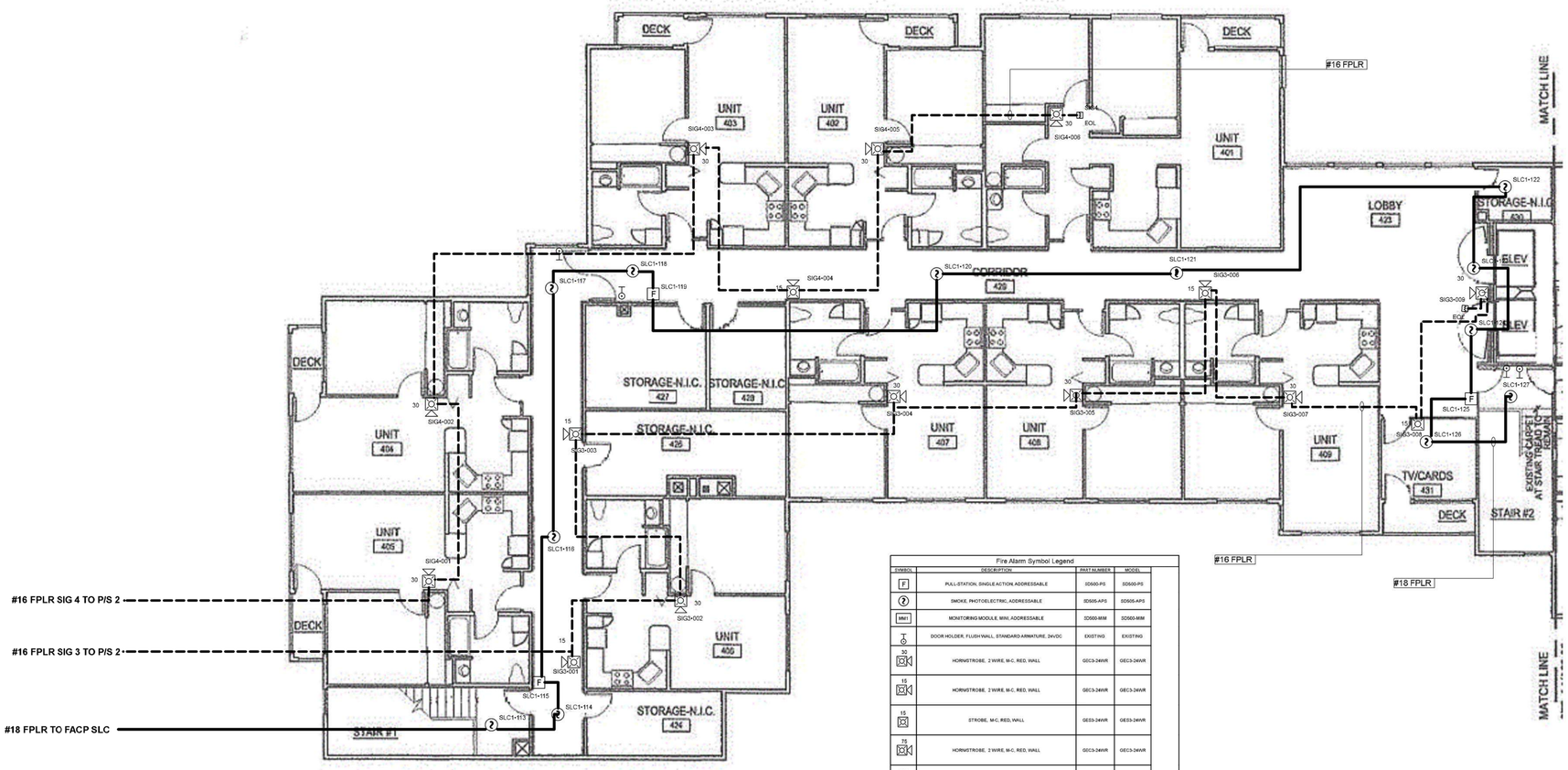
THIS DRAWING WAS PRODUCED FROM ORIGINAL AS–BUILT DRAWINGS AND FIELD OBSERVATIONS, AND MAY NOT REPRESENT AN ACCURATE AS–BUILT CONDITION. DISCREPANCIES MAY BE ENCOUNTERED, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL CONDITIONS.

FIRE ALARM 3RD FLOOR EAST WING

HARRISON HOUSE
615 W. Harrison St.
Kent, WA 98032

SIZE	FSCM NO.	DWG NO.	REV
		FA 7.0	1

SCALE 1/8" = 1' 0" SHEET



Fire Alarm Symbol Legend

SYMBOL	DESCRIPTION	PART NUMBER	MODEL
F	PULL-STATION, SINGLE ACTION, ADDRESSABLE	SD500-PS	SD500-PS
?	SMOKE, PHOTOELECTRIC, ADDRESSABLE	SD505-APS	SD505-APS
MM1	MONITORING MODULE, MINI, ADDRESSABLE	SD500-MIM	SD500-MIM
	DOOR HOLDER, FLUSH WALL, STANDARD ARMATURE, 24VDC	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	STROBE, M-C, RED, WALL	GES3-24WR	GES3-24WR
75	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
110	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
RM	RELAY MODULE, ADDRESSABLE	SD500-ARM	SD500-ARM
110	HORN/STROBE, 2 WIRE, 110CD, RED, WALL	GEC24-110WR	GEC24-110WR
TS	GATE VALVE ODYSU-2	EXISTING	EXISTING
PS	DRY FLOW SWITCH	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, 30CD, RED, WALL	GEC24-30WR	GEC24-30WR
PS	INTELLIGENT POWER EXPANDER,	5895 XL	5895 XL
30	HORN/STROBE, 2 WIRE, M-C, RED, PLAIN, WALL	GEC3-24PWR	GEC3-24PWR
FS	WATERFLOW SWITCH	EXISTING	EXISTING
FACP	INTELLINIGHT, FACP, 6-FLEXPUT, I/O CIRCUITS, 1-4 LOOP	5820 XL	5820

FOURTH FLOOR PLAN - WEST WING

1/8"=1'-0"

EXISTING FIRE ALARM
FOR REFERENCE ONLY

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FIRE ALARM 4TH FLOOR WEST WING

HARRISON HOUSE
615 W. Harrison St.
Kent, WA 98032

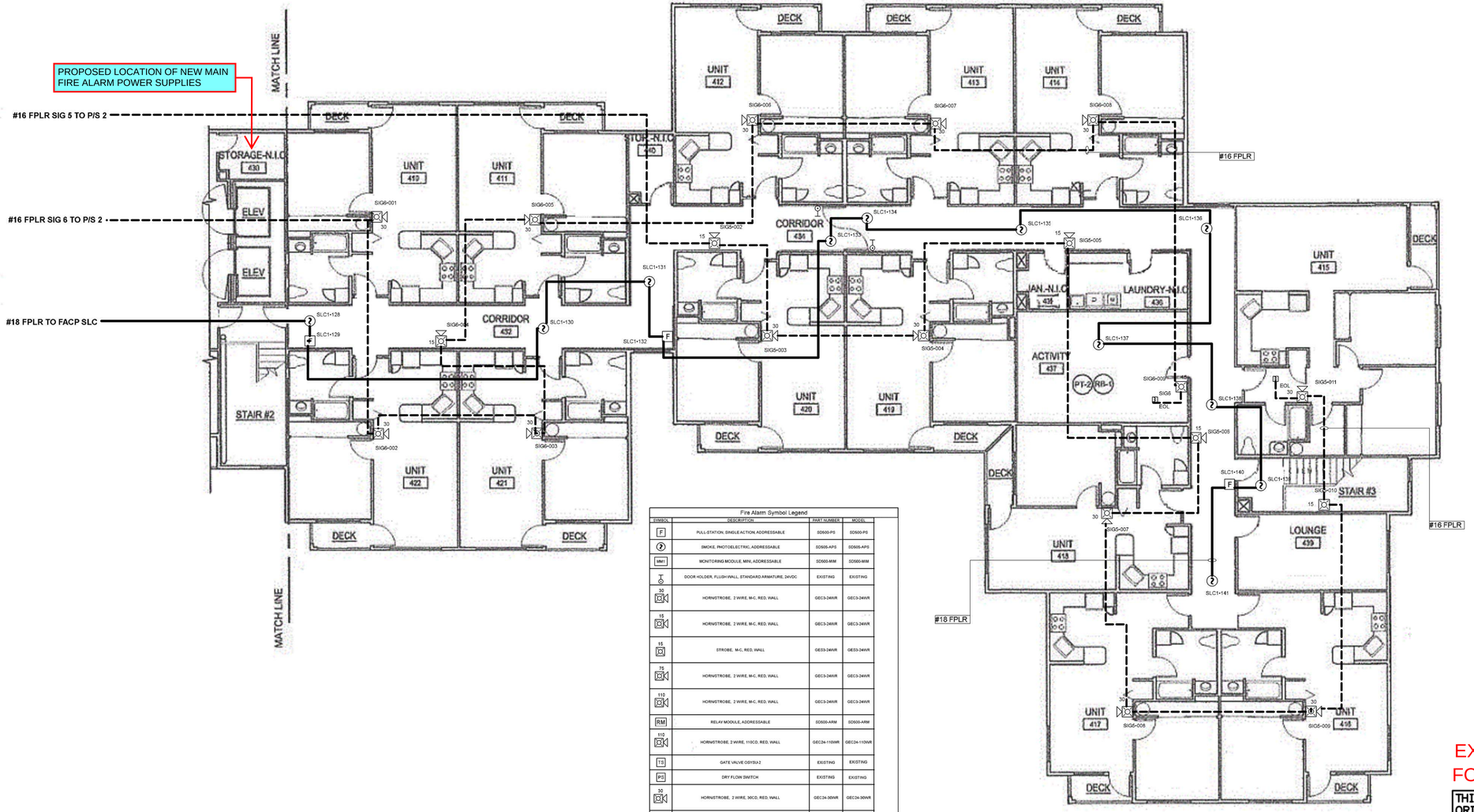
SIZE	FSCM NO.	DWG NO.	REV
		FA 8.0	1
SCALE 1/8" = 1' 0"			SHEET

PROPOSED LOCATION OF NEW MAIN FIRE ALARM POWER SUPPLIES

#16 FPLR SIG 5 TO P/S 2

#16 FPLR SIG 6 TO P/S 2

#18 FPLR TO FACP SLC



Fire Alarm Symbol Legend

SYMBOL	DESCRIPTION	PART NUMBER	MODEL
F	PULL-STATION, SINGLE ACTION, ADDRESSABLE	SD500-PS	SD500-PS
②	SMOKE, PHOTOELECTRIC, ADDRESSABLE	SD505-APS	SD505-APS
MM1	MONITORING MODULE, MINI, ADDRESSABLE	SD500-MIM	SD500-MIM
D	DOOR HOLDER, FLUSH WALL, STANDARD ARMATURE, 24VDC	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
15	STROBE, M-C, RED, WALL	GES3-24WR	GES3-24WR
75	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
110	HORN/STROBE, 2 WIRE, M-C, RED, WALL	GEC3-24WR	GEC3-24WR
RM	RELAY MODULE, ADDRESSABLE	SD500-ARM	SD500-ARM
110	HORN/STROBE, 2 WIRE, 110CD, RED, WALL	GEC24-110WR	GEC24-110WR
TS	GATE VALVE OSYSU-2	EXISTING	EXISTING
PS	DRY FLOW SWITCH	EXISTING	EXISTING
30	HORN/STROBE, 2 WIRE, 30CD, RED, WALL	GEC24-30WR	GEC24-30WR
PS	INTELLIGENT POWER EXPANDER,	5895 XL	5895 XL
30	HORN/STROBE, 2 WIRE, M-C, RED, PLAIN, WALL	GEC3-24PWR	GEC3-24PWR
FS	WATERFLOW SWITCH	EXISTING	EXISTING
FACP	INTELLIKNIGHT, FACP, 8-FLEXPUT, I/O CIRCUITS, 1-4 LOOP	5820 XL	5820

FOURTH FLOOR PLAN - EAST WING

1/8" = 1'-0"

EXISTING FIRE ALARM FOR REFERENCE ONLY

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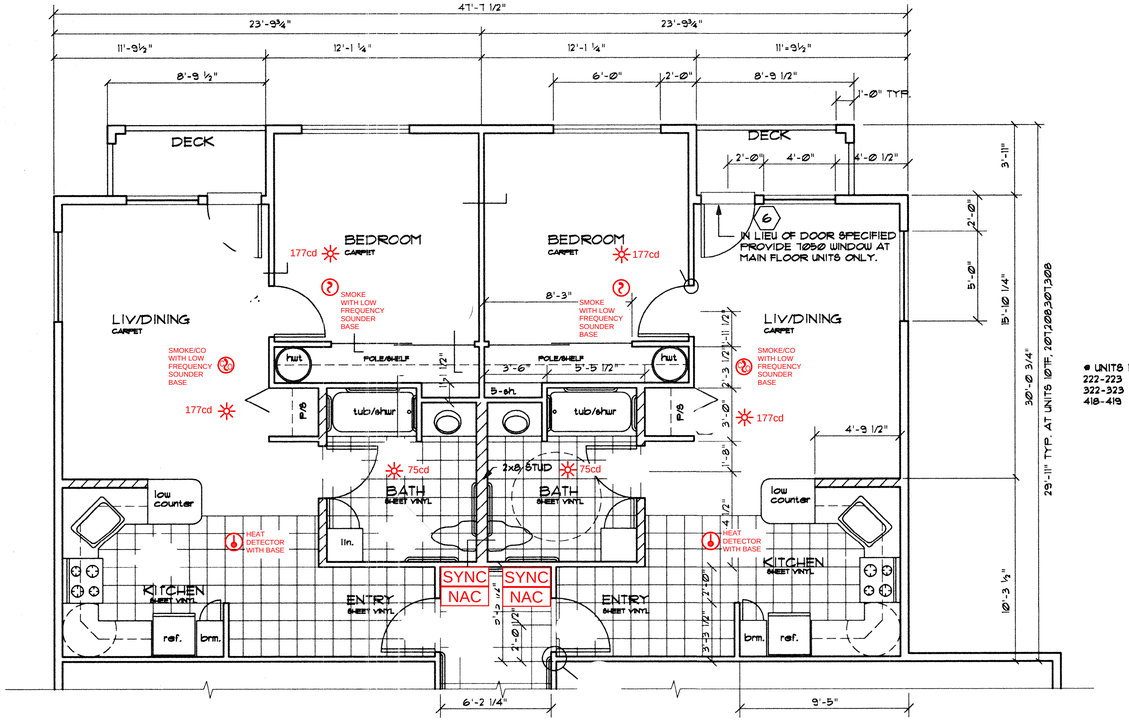
FIRE ALARM 4TH FLOOR EAST WING

HARRISON HOUSE
615 W. Harrison St.
Kent, WA 98032

SIZE	FSCM NO.	DWG NO.	REV
		FA 9.0	1

SCALE 1/8" = 1' 0" SHEET

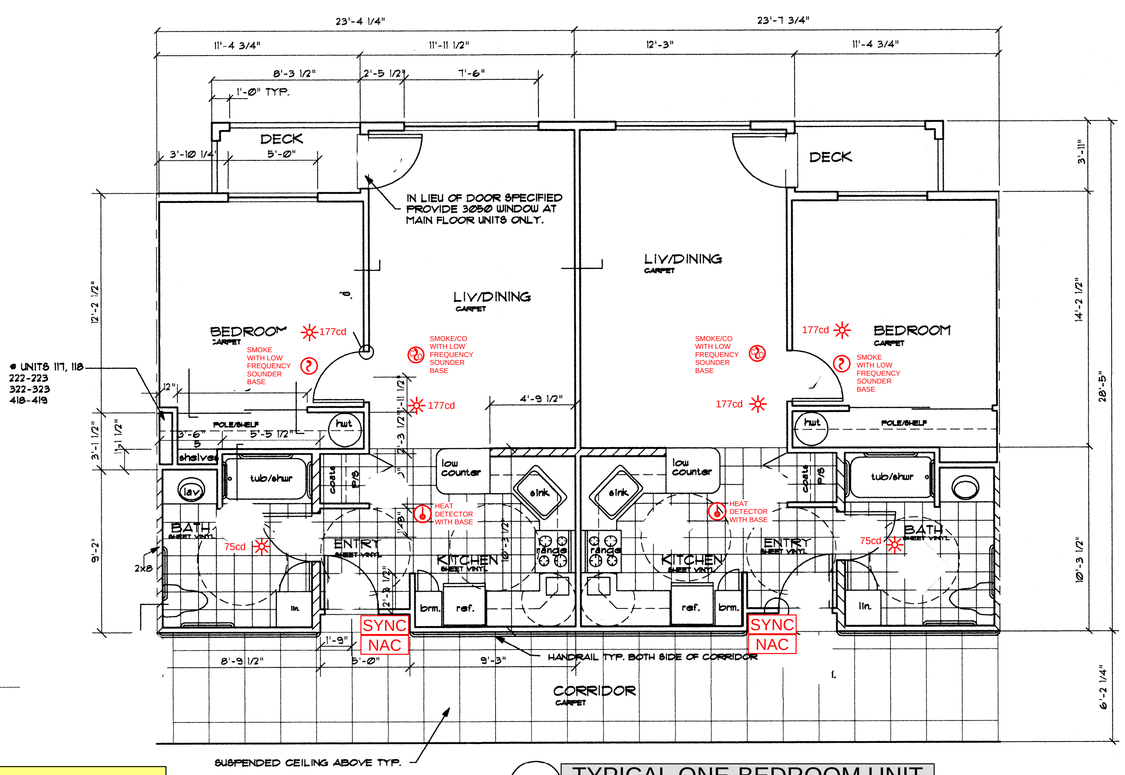
TYPICAL DWELLING UNIT FIRE ALARM PLAN(s) UNIT TYPES A, B, C & D



A TYPICAL ONE-BEDROOM UNIT

AREA (A1): 653.86 SF. GROSS
616.94 SF. NET
AREA (A2): 646.14 SF. GROSS
607.94 SF. NET

SCALE 1/4"=1'-Ø"

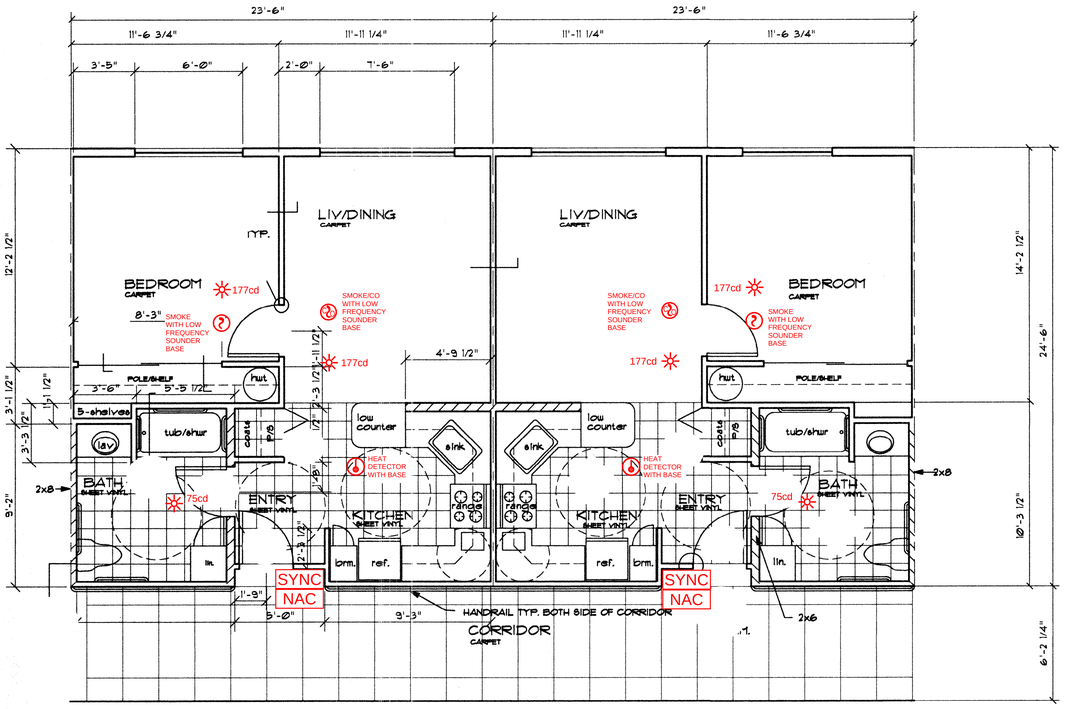


B TYPICAL ONE-BEDROOM UNIT

AREA: 623.16 SF. GROSS
588.96 SF. NET

SCALE 1/4"=1'-Ø"

SEE FA-COVER FOR LEGEND OF DEVICE TYPES



C TYPICAL ONE-BEDROOM UNIT WITHOUT DECK

AREA: 570.77 SF. GROSS
543.47 SF. NET

SCALE 1/4"=1'-Ø"

GENERAL REQUIREMENT NOTES

1.ALL WORK SHALL COMPLY WITH LATEST N.E.C., LOCAL CODES, AND WERE CALLED OUT BY KCHA PLANS AND SPECIFICATION.

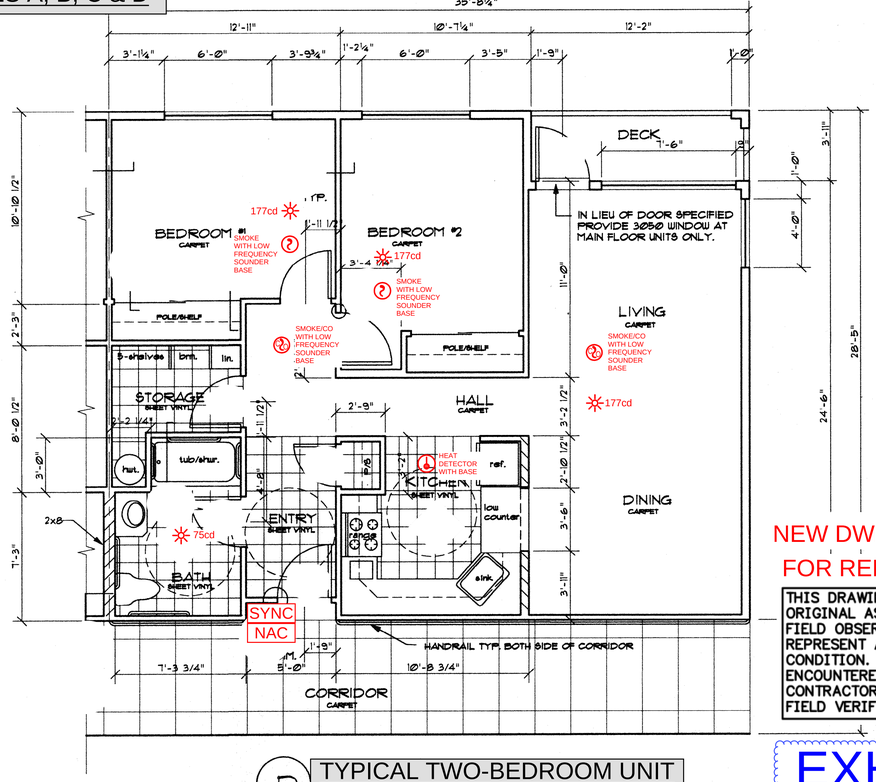
2.ALL EMPTY CONDUITS SHALL INCLUDE PULL STRING.

3.UNLESS NOTED OTHERWISE ALL WIRING SHALL BE IN GALVANIZED RIGID STEEL OR EMT CONDUIT WITH MINIMUM TRADE SIZE OF 3/4-INCH.

4.COORDINATE ALL WORK WITH OWNER REPRESENTATIVE FOR WORK SCHEDULES DETAILS PRIOR TO DECOMMISSIONED, DEMOLITION, RELOCATION, SHUT DOWN OF FIRE ALARM PANELS AND PANELBOARDS & ETC.

5.PROVIDE PATCH AND PAINT AS REQUIRED FOR ALL NEW EQUIPMENT, DEVICES, AND DEMO AREAS.

6.PROVIDE ELECTRICAL AND FIRE ALARM WORK ACCORDING TO CONSTRUCTION PHASING SCHEDULES AT THE END OF EACH AREA OF CONSTRUCTION PER PHASING PLANNING SCHEDULE, PROVIDE ELECTRICAL AND FIRE ALARM TESTING TO INSURE COMPLETION OF WORK IS SATISFACTORY FOR ACCEPTANCE.



D TYPICAL TWO-BEDROOM UNIT

AREA: 966.47 SF. GROSS
921.18 SF. NET

SCALE 1/4"=1'-Ø"

NEW DWELLING LAYOUT FOR REFERENCE ONLY

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EXHIBIT 1

HARRISON HOUSE APARTMENTS EXISTING FIRE ALARM SYSTEM POINT LIST

NOTES: FIRE ALARM MANUFACTURER IS SILENT KNIGHT 6820 SERIES

SK-6820 - 97

Address	Location	Type	Zone
97:P001	1st Floor South Lobby	Photo	Z2
97:P002	PIV	Supervisory	Z4
97:P003	4th Floor By Storage	Photo	Z3
97:P004	Hall By 420	Photo	Z3
97:P005	4th Floor By 413	Photo	Z3
97:P006	4th Floor By Janitor	Photo	Z3
97:P007	4th Floor By 415	Photo	Z3
97:P008	4th Floor Activity Rm	Photo	Z3
97:P009	4th Floor By Activity Room	Photo	Z3
97:P010	Access Relay	Relay	G999
97:P011	4th Floor By Stair 3	Photo	Z3
97:P015	4th Floor By Stair 2	Manual Pull	Z2
97:P016	4th Floor By 421	Manual Pull	Z2
97:P017	4th Floor By Stair 3	Manual Pull	Z2
97:P018	4th Floor Top of Stair 3	Photo	Z3
97:P033	1st Floor By Stair 2	Manual Pull	Z2
97:P034	1st Floor By 108	Photo	Z3
97:P035	1st Floor Crafts Room	Photo	Z3
97:P036	1st Floor Electrical Room	Photo	Z3
97:P037	1st Floor By 109	Photo	Z3
97:P038	Tamper	Supervisory	Z4
97:P039	Tamper	Supervisory	Z4
97:P040	Wet Waterflow	Waterflow	Z1
97:P041	Hi/Low Air	Supervisory	Z4
97:P042	Smoke By 119	Photo	Z3
97:P043	1st Floor Exit By 120	Manual Pull	Z2
97:P044	1st Floor By 110	Photo	Z2
97:P045	1st Floor By 118	Photo	Z3
97:P046	1st Floor By 112	Photo	Z3
97:P047	1st Floor By 113	Photo	Z3
97:P048	1st Floor Activity Room	Photo	Z3
97:P049	Smoke By 114	Photo	Z3
97:P050	1st Floor Corridor Stair 3	Manual Pull	Z2

Address	Location	Type	Zone
97:P051	1st Floor By 117	Photo	Z3
97:P052	1st Floor Stair 3	Photo	Z3
97:P053	1st Floor Stairwell 3	Manual Pull	Z2
97:P055	2nd Floor Stairwell 1	Photo	Z3
97:P056	2nd Floor By Stair 1	Manual Pull	Z2
97:P057	2nd Floor By 207	Photo	Z3
97:P058	2nd Floor By 205	Photo	Z3
97:P059	2nd Floor By 204	Photo	Z3
97:P060	2nd Floor By 203	Photo	Z3
97:P061	Pullstation By 203	Manual Pull	Z2
97:P062	2nd Floor By 202	Photo	Z3
97:P063	2nd Floor By 201	Photo	Z3
97:P064	2nd Floor Storage	Photo	Z3
97:P065	2nd Floor Elevator Lobby	Photo	Z5
97:P066	2nd Floor Elevator Lobby	Photo	Z5
97:P067	2nd Floor Elevator Lobby	Manual Pull	Z2
97:P068	2nd Floor Stairwell 2	Photo	Z3
97:P069	2nd Floor By Stair 2	Manual Pull	Z2
97:P070	2nd Floor By 213	Photo	Z3
97:P071	2nd Floor By 214	Photo	Z3
97:P072	2nd Floor By 224	Manual Pull	Z2
97:P073	2nd Floor By 224	Photo	Z3
97:P074	2nd Floor By 215	Photo	Z3
97:P075	2nd Floor By 216	Photo	Z3
97:P076	2nd Floor By 217	Photo	Z3
97:P077	2nd Floor By 219	Photo	Z3
97:P078	2nd Floor Activity Room	Photo	Z3
97:P079	2nd Floor By 219	Photo	Z3
97:P080	2nd Floor By Stair 3	Manual Pull	Z2
97:P081	2nd Floor Stairwell 3	Photo	Z3
97:P082	2nd Floor Lounge	Photo	Z3
97:P083	2nd Floor By 221	Photo	Z3
97:P084	3rd Floor Stairwell 3	Photo	Z3

Address	Location	Type	Zone
97:P085	3rd Floor Lounge	Photo	Z3
97:P086	3rd Floor By 321	Photo	Z3
97:P087	3rd Floor By Stair 3	Manual Pull	Z2
97:P088	3rd Floor Activity Room	Photo	Z3
97:P089	3rd Floor By 319	Photo	Z3
97:P090	3rd Floor By 319	Photo	Z3
97:P091	3rd Floor By 316	Photo	Z3
97:P092	3rd Floor By 316	Photo	Z3
97:P093	3rd Floor By 315	Photo	Z3
97:P094	3rd Floor By 324	Photo	Z3
97:P095	3rd Floor By 324	Manual Pull	Z2
97:P096	3rd Floor By 313	Photo	Z3
97:P097	3rd Floor By Stair 2	Manual Pull	Z2
97:P098	3rd Floor By 325	Photo	Z3
97:P100	Waterflow	Relay	G3
97:P101	Fire Relay	Relay	G5
97:P102	Trouble Relay	Relay	G2
97:P103	Supervisory Relay	Relay	G4
97:P104	4th Floor By Stair 2	Photo	Z3
97:P105	4th Floor By 411	Photo	Z3
97:P106	Dry Waterflow	Waterflow	Z1
97:P107	Dry Bell Relay	Relay	G3
97:P108	Wet Bell Relay	Relay	G3
97:P126	4th Floor Card/Lounge	Photo	Z3
97:P127	1st Floor East Garbage Rm	Manual Pull	Z2
98:001	24V Output	Aux-Const	G1000
98:002	Door Hold Power	Aux-Door	G1002
98:003	MODULE_98 CKT_3	NAC:Output	G1
98:004	MODULE_98 CKT_4	NAC:Output	G1
98:005	MODULE_98 CKT_5	NAC:Output	G1
98:006	MODULE_98 CKT_6	NAC:Output	G1
98:007	MODULE_98 RELAY_1	NAC:Output	G998
98:008	MODULE_98 RELAY_2	NAC:Output	G999

HARRISON HOUSE APARTMENTS EXISTING FIRE ALARM SYSTEM POINT LIST

NOTES: FIRE ALARM MANUFACTURER IS SILENT KNIGHT 6820 SERIES

SK-6815 - 02

Address	Location	Type	Zone
02:P002	1st Floor North Lobby	Manual Pull	Z2
02:P003	1st Floor Stairwell 2	Photo	Z3
02:P004	1st Floor Elevator Lobby	Photo	Z6
02:P005	1st Floor Elevator Lobby	Photo	Z6
02:P006	Elevator Machine Room	Photo	Z6
02:P007	1st Floor Entry Lobby	Manual Pull	Z2
02:P008	1st Floor North Vestibule	Photo	Z3
02:P009	Sitting/TV Room	Photo	Z3
02:P010	1st Floor Salon	Photo	Z3
02:P011	1st Floor Stairwell 1	Photo	Z3
02:P012	1st Floor By 103	Photo	Z3
02:P014	1st Floor By 104	Manual Pull	Z2
02:P016	1st Floor Stairwell 1	Manual Pull	Z2
02:P017	1st Floor By Stair 1	Manual Pull	Z2
02:P018	1st Floor By Trashroom	Photo	Z3
02:P019	1st Floor Maint. Room	Manual Pull	Z2
02:P020	1st Floor Staff Room	Manual Pull	Z2
02:P021	Main Dining Room	Manual Pull	Z2
02:P022	1st Floor Main Office	Photo	Z3
02:P023	1st Floor Main Office	Photo	Z3
02:P024	1st Floor Exam Room 131	Photo	Z3
02:P025	Main Dinning Room	Photo	Z3
02:P026	Main Dinning Room	Photo	Z3
02:P027	Main Dinning Room	Manual Pull	Z2
02:P028	Main Dinning Room	Photo	Z3
02:P029	Main Dinning Room	Photo	Z3
02:P030	Kitchen Ansul	Manual Pull	Z8
02:P031	FACP Smoke	Photo	Z3
02:P032	1st Floor Stairwell 2	Manual Pull	Z2

Address	Location	Type	Zone
02:P033	1st Floor By Salon	Photo	Z3
02:P034	1st Floor Mail/Waiting Room	Photo	Z3
02:P035	Main Dining Room Exit	Photo	Z3
02:P036	Ansul Shutdown Relay	Relay	G8
02:P037	Elevator Primary Recall	Relay	G6
02:P038	Elevator Alternate Recall	Relay	G7
02:P039	Shunt Trip	Manual Pull	Z5
02:P040	Trash Room Pull	Manual Pull	Z2
02:P050	1st Floor By 105	Photo	Z3
02:P051	1st Floor By 104	Photo	Z3
02:P052	1st Floor By 102	Photo	Z3
02:P080	Kitchen	Manual Pull	Z2
02:P081	Kitchen	Manual Pull	Z2
02:P096	4th Floor Elevator Tamper	Supervisory	Z4
02:P098	3rd Floor Stairwell 2	Photo	Z3
02:P099	3rd Floor Card/Lounge	Photo	Z3
02:P100	3rd Floor Elevator Lobby	Manual Pull	Z2
02:P101	3rd Floor Elevator Lobby	Photo	Z5
02:P102	3rd Floor Elevator Lobby	Photo	Z5
02:P103	3rd Floor Storage	Photo	Z3
02:P104	3rd Floor By 301	Photo	Z3
02:P105	3rd Floor By 302	Photo	Z3
02:P106	3rd Floor By 302	Manual Pull	Z2
02:P107	3rd Floor By 303	Photo	Z3
02:P108	3rd Floor By 304	Photo	Z3
02:P109	3rd Floor By 305	Photo	Z3
02:P110	3rd Floor By Stair 1	Photo	Z3
02:P111	3rd Floor By Stair 1	Manual Pull	Z2
02:P112	3rd Floor Stairwell 1	Photo	Z3

Address	Location	Type	Zone
02:P113	4th Floor Stairwell 1	Photo	Z3
02:P114	4th Floor By Stair 1	Photo	Z3
02:P115	4th Floor By Stair 1	Manual Pull	Z2
02:P116	4th Floor By 405	Photo	Z3
02:P117	4th Floor By 403	Photo	Z3
02:P118	4th Floor By 403	Photo	Z3
02:P119	4th Floor By 403	Manual Pull	Z2
02:P120	4th Floor By 402	Photo	Z3
02:P121	4th Floor By 401	Photo	Z3
02:P122	4th Floor Storage	Photo	Z3
02:P123	4th Floor Elevator Lobby	Photo	Z5
02:P124	4th Floor Elevator Lobby	Photo	Z5
02:P125	4th Floor Elevator Lobby	Manual Pull	Z2
02:P126	4th Floor Card/Lounge	Photo	Z3
02:P127	4th Floor Stairwell 2	Photo	Z3

HARRISON HOUSE

FIRST FLOOR

615 W. Harrison St.
Kent, WA 98032

LOW POINT DRAINS
-UNIT 304
-UNIT 308
-UNIT 318

-1ST FLR MIDDLE STAIR
-1ST FLR - ACCESS PANEL IN CEILING IN ENTRY WAY

UNIT ENTRY = YES
UNIT QUANTITY = 94
ACCOUNT # LAC-AES17386
COMPANY= THE ALARM CENTER, INC.

N