



818 S. FLORES ST. SAN ANTONIO, TEXAS 78204 www.saha.org

Procurement Department

## ADDENDUM # 1

To: File 1901-910-23-4878

QQ for: Villa Tranchese Fire Protection Improvements

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### **Please note the following change:**

The FA and FS drawings in the solicitation package did not copy correctly. Please replace with the attached drawings.

By: Charles R Bode  
Charles Bode Asst. Director of Procurement

Date: February 12, 2019



Fire Protection Consulting Group, LLC  
Texas PE Firm # 15865

**REVISIONS:**

No.	DATE	DESCRIPTION
A	5-22-2018	100% Design Review

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**PROJECT No.:** ASR17-019-00  
**ISSUE DATE:** 05-22-18  
**DRAWN BY:** CC/KR  
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**FA 100**

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**ABBREVIATIONS**

A	AMBER COLORED STROBE	IBC	INTERNATIONAL BUILDING CODE
ADS	ACOUSTICALLY DISTINGUISHABLE SPACE	IDC	INITIATING DEVICE CIRCUIT
AS	AUTOMATIC SPRINKLER COVERAGE	IFC	INTERNATIONAL FIRE CODE
AHJ	AUTHORITY HAVING JURISDICTION	LF	LINEAR FEET
AMP	AMPLIFIER	NA	NOT APPLICABLE
BFP	BACKFLOW PREVENTER	NAC	NOTIFICATION APPLIANCE CIRCUIT
CA	CLEAN AGENT	NACX	NOTIFICATION APPLIANCE CIRCUIT EXPANDER
CMR	CODE MODIFICATION REQUEST	NC	NO SPRINKLER COVERAGE
CP	CONTROL PANEL	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CU	CONTROL UNIT		
dba	DECIBEL LEVEL	NRS	NON-RISING STEM
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY	OS&Y	OUTSIDE SCREW & YOKE VALVE
DL	DELUGE SYSTEM	PIV	POST INDICATOR VALVE
DS	DRY SYSTEM	PRE	PRE-ACTION SYSTEM
E	ELEVATOR RECALL	PS	PRESSURE SWITCH
EX	EXISTING	R	RELEASING; SUPPRESSION SYS
F2	SQUARE FEET	RTS	REMOTE ALARM TEST SWITCH
F3	CUBIC FEET	RTI	RESPONSE TIME INDEX
FA	FIRE ALARM	RUJ	REMOTE UNIT INTERFACE
FCVA	FLOOR CONTROL VALVE ASSEMBLY	S	SHUNT TRIP
FDC	FIRE DEPARTMENT CONNECTION	SC	STROBE CIRCUIT
FH	FIRE HYDRANT	SF	SQUARE FEET
FO	FOAM SYSTEM	SLC	SIGNAL LINE CIRCUIT
FP	FIRE PROTECTION (SPRINKLERS) GROUP	VS	VALVE SUPERVISORY SWITCH (TAMPER)
FPCG	FIRE PROTECTION CONSULTING	W	WALL MOUNTED
HA	HALON	WC	WET CHEMICAL
HC	HORN CIRCUIT	WF	WATER FLOW
		WP	WEATHER PROOF
		WS	WET SYSTEM

**APPLICABLE CODES**

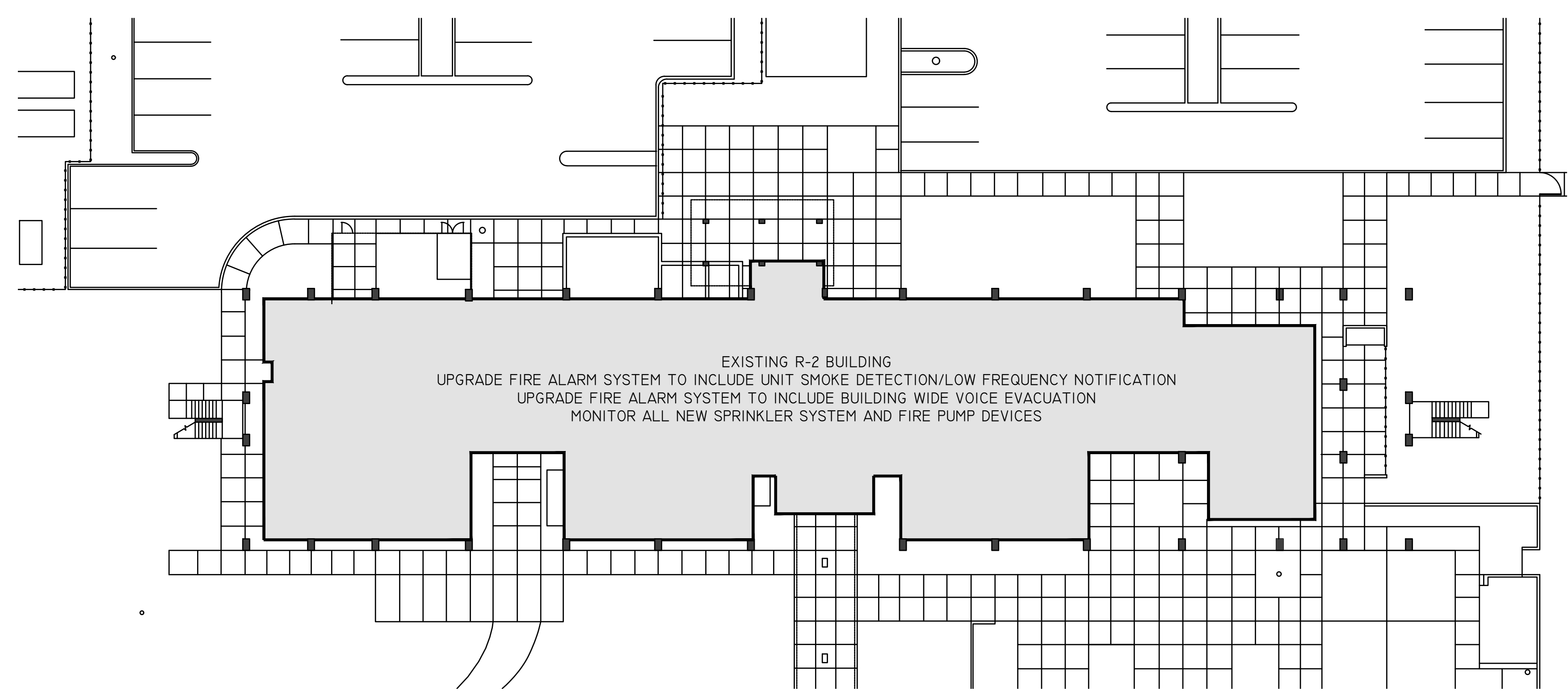
- 2015 INTERNATIONAL EXISTING BUILDING CODE
- 2015 INTERNATIONAL BUILDING CODE
- 2015 INTERNATIONAL FIRE CODE
- 2015 INTERNATIONAL PLUMBING CODE
- 2015 INTERNATIONAL MECHANICAL CODE
- 2014 NATIONAL ELECTRIC CODE
- 2013 NFPA 13
- 2013 NFPA 72
- CITY OF SAN ANTONIO (COSA) AMENDMENTS

**SCOPE OF WORK**

- PROVIDE COMPLETE NEW ADDRESSABLE FIRE ALARM/NOTIFICATION COMMUNICATIONS SYSTEM FOR THE FACILITY AS DEPICTED IN THE DOCUMENTS.
- FIRE ALARM COMMUNICATION SYSTEM SHALL BE OF ONLY NEW EQUIPMENT AND SHALL CONNECT TO THE EXISTING BUILDING'S FIRE ALARM COMMUNICATION SYSTEM.
- SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS WHICH CAUSE MAJOR DEVIATIONS IN THE WORK SHOWN, THE CONTRACTOR SHALL CONTACT FIRE PROTECTION CONSULTING GROUP, LLC IN A TIMELY MANNER SO AS NOT TO IMPAIR THE CONSTRUCTION SCHEDULE.
- DEVICE LOCATION SHOWN ON THIS DRAWING ARE SCHEMATIC IN NATURE. NOT ALL APPURTENANCES ARE EXPECTED TO BE SHOWN ON THESE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING FINAL DEVICES AND EQUIPMENT SIZES, DIMENSIONS, LOCATIONS, AND ELEVATIONS.
- THE CONTRACTOR SHALL PROVIDE ALL DRAWINGS, CALCULATIONS, AND SUBMITTALS FOR REVIEW BY THE OWNER AND ARCHITECT PRIOR TO SUBMITTAL FOR PERMITTING. SUBMITTALS NOT APPROVED BY THE ARCHITECT SHALL NOT BE SUBMITTED FOR PERMITTING BY THE AHJ. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMIT FEES AND SHALL PROVIDE ALL MATERIALS AND EFFORT REQUIRED FOR SUBMITTAL OF ANY AND ALL REQUIRED PERMITS.
- ONCE APPROVED BY THE ARCHITECT, THE CONTRACTOR SHALL PROVIDE ALL DOCUMENTS AND INFORMATION REQUIRED TO OBTAIN A PERMIT FOR THE INSTALLATION OF THIS WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMIT FEES AND SHALL PROVIDE ALL MATERIALS AND EFFORT REQUIRED FOR SUBMITTAL OF ANY AND ALL REQUIRED PERMITS.
- THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MAINTAIN THE INTEGRITY OF THE AESTHETICS OF THE SITE AND BUILDING ELEMENTS AFFECTED BY THIS WORK. SHOULD ANY DAMAGE TO SITE OR BUILDING FEATURES BE CAUSED BY THE CONTRACTOR AS PART OF THIS WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ALL DAMAGED MATERIALS OR OTHER ITEMS TO THE SATISFACTION OF THE ARCHITECT AND OWNER.
- THE CONTRACTOR SHALL COORDINATE TESTING AND INSPECTIONS WITH THE OWNER AND ARCHITECT AND IS RESPONSIBLE FOR ALL INSPECTION FEES.
- THROUGHOUT CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN ON-SITE A SET OF THE MOST CURRENT WORKING DRAWINGS THAT BEAR THE APPROVAL MARK OF THE AHJ. WHERE FIELD MODIFICATIONS ARE MADE TO THE SYSTEM, THEY SHALL BE RECORDED ON THE WORKING DRAWINGS FOR INCORPORATION INTO THE PROJECT AS-BUILT DRAWINGS. THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS AS PART OF THE PROJECT CLOSE-OUT DOCUMENTS AND TRAINING.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE OWNERS MONITORING COMPANY.

**GENERAL NOTES:**

- THESE DRAWINGS DEPICT GENERAL LOCATIONS OF LIFE SAFETY EQUIPMENT & FIELD DEVICES. EXACT ROUTING OF CONDUITS AND WIRE TO BE DETERMINED IN THE FIELD BY THE INSTALLING CONTRACTOR TO SUIT CONDITIONS. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
- SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS WHICH CAUSE MAJOR DEVIATIONS IN THE WORK SHOWN, THE CONTRACTOR SHALL CONTACT FIRE PROTECTION CONSULTING GROUP, LLC AND RABA KISTNER CONSULTANTS, INC. IN A TIMELY MANNER SO AS NOT TO IMPAIR THE CONSTRUCTION SCHEDULE.
- CONTRACTOR IS RESPONSIBLE FOR MAKING AND OBTAINING APPROVAL FOR ALL NECESSARY ADJUSTMENTS IN CIRCUITING AS REQUIRED TO ACCOMMODATE THE RELOCATION OF EQUIPMENT AND/OR DEVICES WHICH ARE AFFECTED BY ANY AUTHORIZED CHANGE. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
- A STAMPED SET OF APPROVED FIRE ALARM DRAWINGS SHALL BE AT THE JOB SITE AND SHALL BE USED FOR INSTALLATION.
- BUILDING INFORMATION:
  - BUILDING USE: RESIDENTIAL HOUSING
  - OCCUPANCY: R-2 HIGH RISE
  - SQFT: 310,860
- EXISTING FIRE ALARM INFORMATION:
  - FIRE PUMP MONITORING
  - SPRINKLER SYSTEM MONITORING
- PROPOSED FIRE PROTECTION INFORMATION:
  - DWELLING UNIT SMOKE DETECTION NOTIFICATION
  - DWELLING UNIT AUDIO VISUAL OCCUPANT NOTIFICATION SYSTEM
  - BUILDING EMERGENCY EVACUATION SYSTEM
  - BUILDING SMOKE DETECTION SYSTEM
- ELECTRICAL CONTRACTOR SHALL PROVIDE DEDICATED POWER FOR THE NEW FIRE ALARM PANEL AT THE NEW LOCATION.
- SEE ARCHITECTURAL PLANS FOR FIRE-RESISTANCE RATED WALL AND FLOOR/CEILING LOCATIONS. PENETRATIONS THROUGH RATED WALLS AND FLOOR/CEILINGS SHALL BE SEALED WITH A LISTED PENETRATION ASSEMBLY SYSTEM PER ARCHITECTURAL DRAWINGS.
- PROVIDE SUPERVISION OF EACH LEVELS FLOOR CONTROL VALVE ASSEMBLIES.
- REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- NOTIFICATION, SUPERVISORY AND MODULES SHOWN ON THIS DOCUMENT ARE SUGGESTED LOCATIONS INTENDED TO SHOW SCOPE OF WORK. IT IS THE SELECTED SPRINKLER CONTRACTORS RESPONSIBILITY TO COORDINATE WITH MECHANICAL, STRUCTURAL AND OTHER TRADES DURING CREATION OF SHOP DRAWINGS. QUANTITY OF DEVICES SHOWN ON THIS DOCUMENT NOT INTENDED TO ENCOMPASS ALL REQUIRED TO ACCOMPLISH CODE COMPLIANT NOTIFICATION.
- THE POWER CIRCUIT TO THE FACP AND TO THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DEDICATED 120V, 20A BRANCH CIRCUIT BREAKER, AND SHALL HAVE A RED MARKING, LOCK-ON PROVISION AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL." THE LOCATION OF THE CIRCUIT DISCONNECT MEANS (CIRCUIT BREAKER) SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
- THE CONTRACTOR WILL MAINTAIN ALL AREAS OF THE BUILDING IN A NEAT AND WORKMAN LIKE MANNER.
- DO NOT APPLY POWER EXCEPT IN THE PRESENCE OF A FACTORY TRAINED TECHNICAL REPRESENTATIVE.
- ANY SMOKE DETECTOR HEAD INSTALLED BEFORE THE BUILDING IS CLEANED AND ACCEPTED SHALL BE COVERED TO PROTECT FROM DUST. ANY FALSE ALARMS DUE TO DIRT CONTAMINATED HEADS SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM INSTALLER.
- THE FIRE ALARM INSTALLER WILL MAINTAIN THE FIRE RESISTANCE INTEGRITY OF ALL WALL, CEILING, AND ROOF ASSEMBLIES ANY TIME THAT WORK IS NOT ACTIVELY BEING PERFORMED.
- INSTALLATION OF DEVICES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. POWER LIMITED AND NON-POWER LIMITED FIELD WIRING MUST BE INSTALLED WITHIN THE FACP ENCLOSURE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NEC.
- ALL WIRING SHALL BE INSTALLED ACCORDING TO NFPA 70 (NEC).
  - FIRE ALARM CIRCUITS SHALL BE IDENTIFIED IN ACCORDANCE WITH APPROPRIATE SECTION OF NEC 760. MARK ALL FIRE ALARM WIRES IN ACCORDANCE WITH NEC 760 SECTIONS FOR POWER LIMITED AND NON-POWER LIMITED WIRE.
  - FIRE ALARM CABLE INSTALLED IN DUCTS, PLENUM, AND OTHER SPACES USED FOR ENVIRONMENTAL AIR SHALL BE TYPE FPLP.
  - FIRE ALARM CABLE INSTALLED IN THE VERTICAL RUNS AND PENETRATE MORE THAN ONE FLOOR OR CABLES INSTALLED IN VERTICAL RUNS IN SHAFTS SHALL BE TYPE FPLR.
  - FIRE ALARM CABLE INSTALLED IN UNDERGROUND CONDUIT OR OTHER WET LOCATIONS SHALL BE UL LISTED FOR WET LOCATIONS.
  - FIRE ALARM CIRCUITS EXTENDING BEYOND ONE BUILDING AND RUN OUTDOOR, OR UNDERGROUND, SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70 ARTICLES 760, 770, 725 AND 800 WHERE APPLICABLE.
  - ALL WIRING, INCLUDING SHIELDS MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
  - ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY AT FULL LENGTH OF THE WIRE.
  - ONLY SYSTEM WIRING CAN BE RUN IN THE SAME CONDUIT.
  - 120VAC IS NOT PERMITTED IN THE SAME CONDUIT WITH LOW VOLTAGE WIRING.
  - MAINTAIN 40 PERCENT CONDUIT FILL RATIO AS PER NEC REQUIREMENTS.
- EXISTING CONDUITS MAY BE USED BY THE INSTALLATION CONTRACTOR AS DEEMED NECESSARY, HOWEVER, ANY EXISTING CONDUIT WILL BE USED ONLY IF CONDUITS MEET CURRENT STANDARDS AND CODES. FIRE PROTECTION CONSULTING GROUP, LLC MAKES NO STATEMENTS WRITTEN OR VERBAL AS TO THE CONDITION OF EXISTING CONDUITS.
- DUCT DETECTORS AND REMOTE INDICATORS TO BE PROVIDED BY FIRE ALARM CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR. DUCT DETECTORS MUST BE INSTALLED IN AN ACCESSIBLE LOCATION FOR SERVICING AND TESTING.
- VISUAL OR AUDIBLE/VISUAL MOUNTING TO BE 80° TO 96° FROM THE FINISHED FLOOR TO THE BOTTOM OF THE DEVICE PER NFPA 72.
- AUDIBLE DEVICE MOUNTING TO BE A MINIMUM OF 90° FROM THE FINISHED FLOOR TO THE TOP OF DEVICE AND NO MORE THAN 6" FROM TOP OF DEVICE TO CEILING PER N.F.P.A. 72.
- MANUAL PULL STATION SHALL BE NOT LESS THAN 3-1/2 FT. (1.1M) AND NOT MORE THAN 4-1/2 FT (1.37M) FROM OPERABLE PART OF DEVICE TO FLOOR LEVEL PER N.F.P.A. 72.



**1 SITE PLAN**

Scale: 1" = 20'



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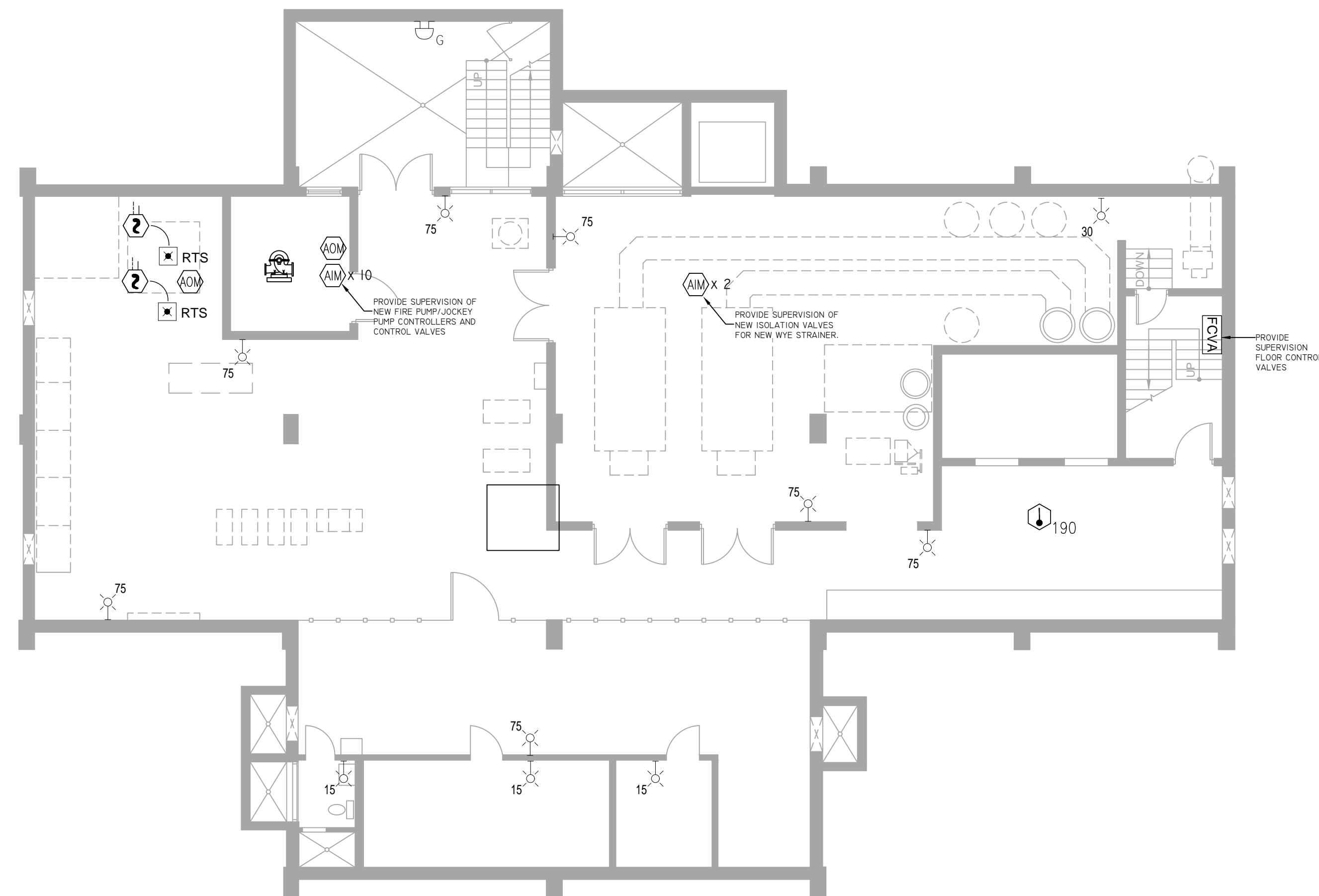
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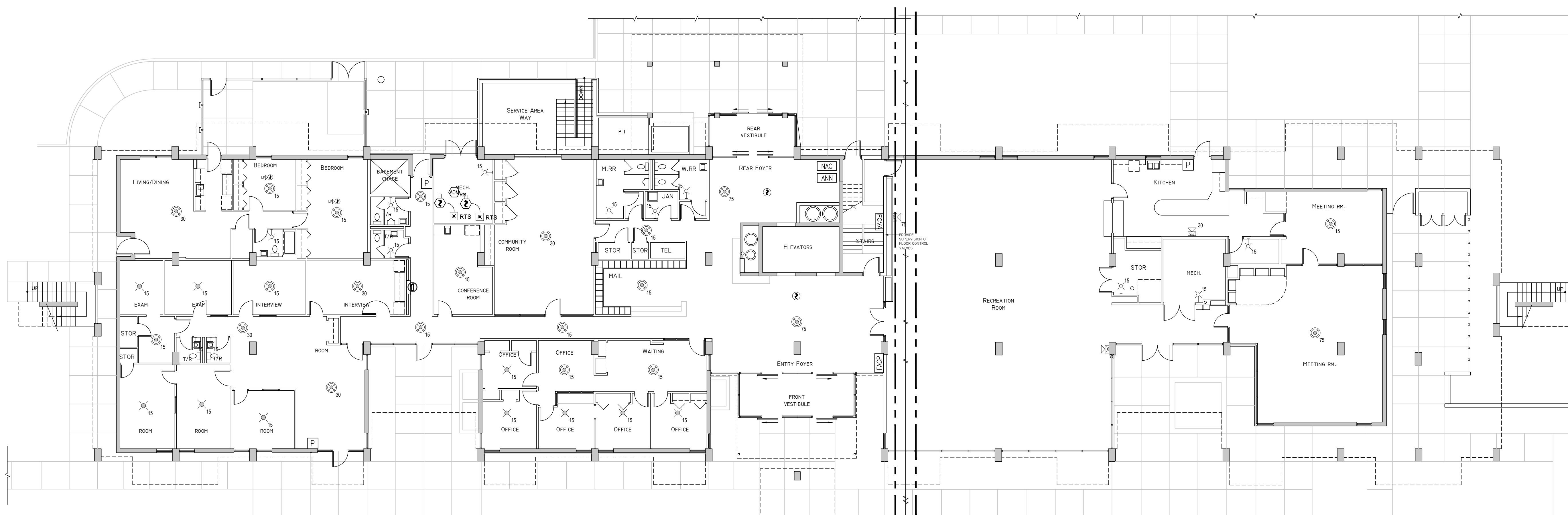
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**INSTALLATION NOTES:**

- ALL WIRING SHALL BE INSTALLED IN CONDUIT OR IN RACEWAYS IN BUILDING, NO EXPOSED WIRING IN PUBLICLY ACCESSIBLE SPACES.
- ALL EQUIPMENT SHALL BE HELD FIRMLY IN PLACE (E.G., DETECTORS SHALL NOT BE SUPPORTED SOLELY BY SUSPENDED CEILING TILES) WITH APPROVED FASTENING SYSTEMS OR METHODS.
- WIRING:
  - INITIATING DEVICE CIRCUITS SHALL BE CLASS B.
  - SIGNALING LINE CIRCUITS SHALL BE CLASS A.
  - NOTIFICATION APPLIANCE CIRCUITS SHALL BE CLASS B.
- INSTALL CEILING MOUNTED NOTIFICATION APPLIANCES CENTER OF TILES UNLESS NOTED OTHERWISE. INSTALL VISIBLE APPLIANCES AS SHOWN ON THESE DRAWINGS AND IN ACCORDANCE WITH NFPA 72, TABLE 18.5.4.3.1 (B) AND PARAGRAPH 18.5.4.4, AND IN ACCORDANCE WITH IFC, SECTION 907.10.1. STROBE CANDELA RATINGS SHALL BE AS INDICATED AND AS PRESCRIBED PER TABLES 18.5.4.3.1 (A) AND 18.5.4.3.1 (B).
- PROVIDE SUPERVISION OF ALL TAMPER AND WATERFLOW SWITCHES IN ACCORDANCE WITH NFPA 72, PARAGRAPHS 17.12 AND 17.16.1. WHETHER SHOWN ON THESE DRAWINGS OR NOT.
- VERIFY THAT DUCT DETECTORS INSTALLED IN PHASE A ARE COMPATIBLE WITH NEW FIRE PANEL AND REPLACE IF NECESSARY. ADDRESSABLE SYSTEM DUCT DETECTORS SHALL BE PROVIDED. DUCT SMOKE DETECTION SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72, PARAGRAPHS 17.7.5.4.2 AND 17.7.5.5. DUCT WORK IS TO BE PROPERLY IDENTIFIED AT THE LOCATION OF THE DETECTOR.
- SPOT TYPE SMOKE DETECTION IS REQUIRED AT THE FACP AND EACH POWER SUPPLY PANEL LOCATION, ELEVATOR LOBBIES AND ELEVATOR EQUIPMENT ROOM. ADDITIONAL SPOT TYPE SMOKE DETECTORS ARE REQUIRED IN THE LOCATION OF ANY FIRE CONTROL ENCLOSURE WHICH SERVES THE FIRE ALARM SYSTEM.
- ANY SMOKE DETECTOR HEAD INSTALLED BEFORE THE BUILDING IS CLEANED AND ACCEPTED SHALL BE COVERED TO PROTECT FROM DUST. ANY FALSE ALARMS DUE TO DIRT CONTAMINATED HEADS SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM INSTALLER.
- 190 ° HEAT DETECTOR WILL SERVE AS REQUIRED DETECTION AT ELEVATOR LOBBIES IN OPEN CORRIDORS.
- ALL MANUAL FIRE ALARM BOXES, SMOKE DETECTORS, AND NOTIFICATION APPLIANCES SHALL BE FLUSH MOUNT ON RECESSED BACK BOXES WHERE IN PUBLIC SPACES WHERE BUILDING COMPONENTS ALLOW IT.
- CONTROL PANELS AND POWER SUPPLY UNITS SHALL BE INSTALLED AS INDICATED OR IN NON-PUBLIC AREAS AND MAY BE SURFACE MOUNTED. DEVICES SUCH AS WALL MOUNTED VISUAL APPLIANCES, WALL MOUNTED COMBINATION AUDIBLE/VISUAL APPLIANCES, ETC. SHOULD BE FLUSH MOUNTED WHERE POSSIBLE.
- THE POWER CIRCUIT TO THE FACP AND TO THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DEDICATED 120V, 20A BRANCH CIRCUIT BREAKER, AND SHALL HAVE A RED MARKING, LOCK-ON PROVISION AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL." THE LOCATION OF THE CIRCUIT DISCONNECT MEANS (CIRCUIT BREAKER) SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
- INSTALLATION OF DEVICES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. POWER LIMITED AND NON-POWER LIMITED FIELD WIRING MUST BE INSTALLED WITHIN THE FACP ENCLOSURE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NEC.
- AVERAGE AMBIENT SOUND LEVEL DESIGNATION OF 55DBA PER NFPA 72 SECTION 18.4.3, TABLE A.18.4.3. FOR BUSINESS OCCUPANCY. ALL SPEAKERS SHOWN ON PLANS A TO PRODUCE A REVERBERANT DBA OF 75 U.N.O. SPEAKERS ARE TO PROVIDE INTELLIGIBILITY PER NFPA 72.
- SYSTEM SHALL TRANSMIT EACH OF THE FOLLOWING SIGNALS SEPARATELY.  
ALARM  
WATERFLOW  
SUPERVISORY  
TROUBLE
- PROVIDE ALL NECESSARY MONITOR AND CONTROL MODULES FOR SMOKE DAMPERS, FIRE SMOKE DAMPERS, FIRE PUMP, SPRINKLER SYSTEM AND ELEVATOR RECALL WHETHER SHOWN ON THESE DOCUMENTS OR NOT.
- PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE SEALED WITH APPROVED FIRE RESISTIVE MATERIALS AND/OR ASSEMBLIES. MATERIAL AND ASSEMBLIES SHALL BE SUITABLE FOR THE HOURLY RATING OF THE PENETRATED CONSTRUCTION ELEMENT. THE FIRE ALARM INSTALLER WILL MAINTAIN THE FIRE RESISTANCE INTEGRITY OF ALL WALL, CEILING, AND ROOF ASSEMBLIES ANY TIME THAT WORK IS NOT ACTIVELY BEING PERFORMED.



**2 BASEMENT PLAN**  
SCALE: 1/8" = 1'-0"



**1 FIRST FLOOR PLAN**  
SCALE: 3/32" = 1'-0"

- NOTIFICATION DEVICES**
- 15 CEILING STROBE ONLY
  - 15 CEILING SPEAKER/STROBE VOICE/ HI / LOW FREQUENCY
  - 15 WALL STROBE ONLY
  - 15 WALL SPEAKER/STROBE VOICE/ HI / LOW FREQUENCY
  - W LF WALL SMOKE DETECTOR WITH LOW FREQUENCY SOUNDER BASE
  - WEATHER PROOF HEAT DETECTOR

- MANUAL DEVICES**
- P ADDRESSABLE MANUAL PULL STATION

- CONTROL DEVICES**
- ADM ADDRESSABLE OUTPUT MODULE
  - AIM ADDRESSABLE INPUT MODULE

- DETECTORS**
- 135 ADDRESSABLE HEAT DETECTOR 135 DEG FIXED
  - 190 ADDRESSABLE HEAT DETECTOR 190 DEG FIXED
  - 2p ADDRESSABLE SMOKE SENSOR SPOT-TYPE PHOTOELECTRIC
  - 2 ADDRESSABLE DUCT SMOKE SENSOR WITH REMOTE INDICATOR
  - RTS SMOKE DETECTOR

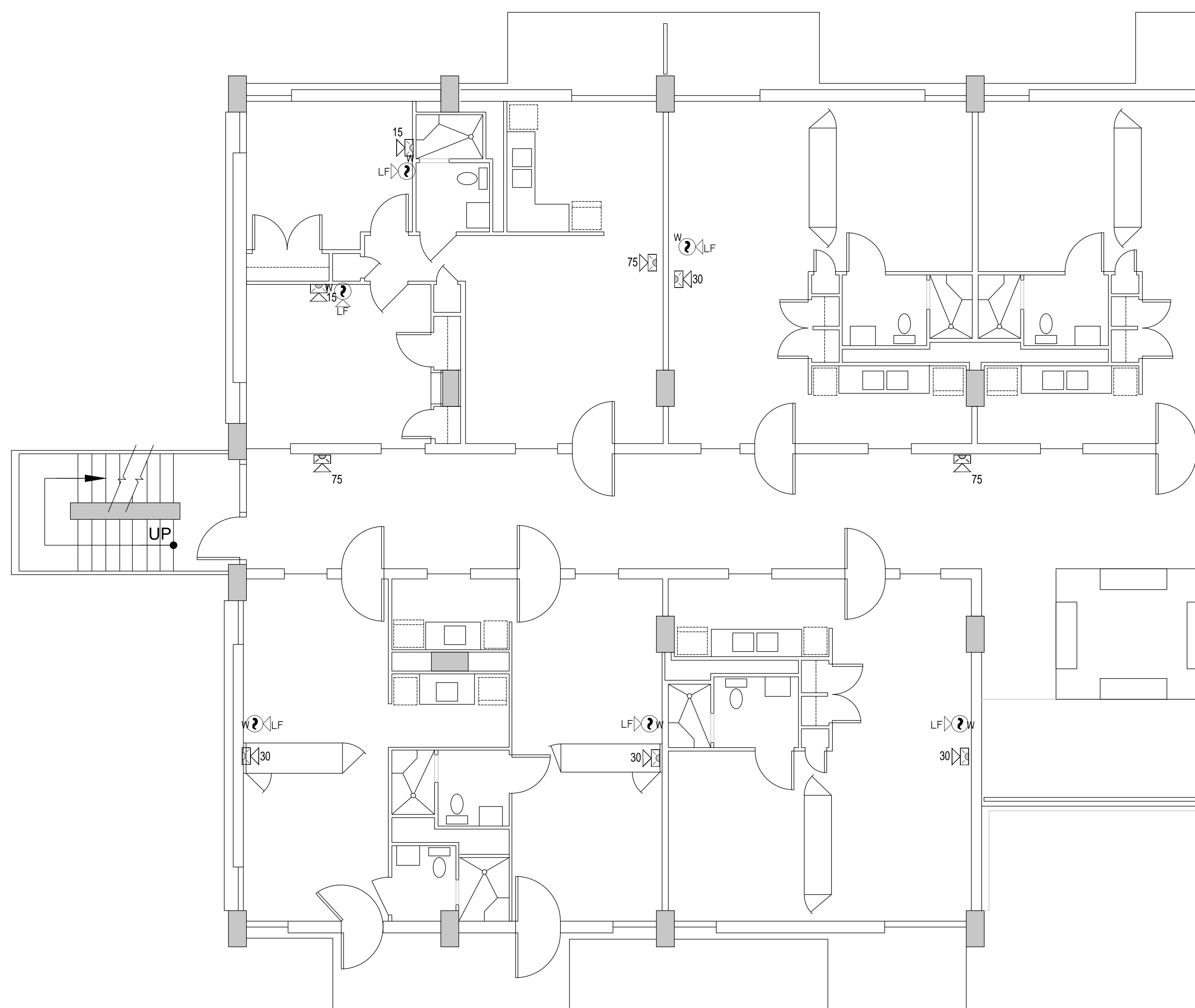
- CONTROL PANELS**
- FACP FIRE ALARM EMERGENCY VOICE EVACUATION CONTROL PANEL
  - NAC# NAC POWER SUPPLY
  - TVSS TRANSIENT VOLTAGE SURGE SUPPRESSION MODULE



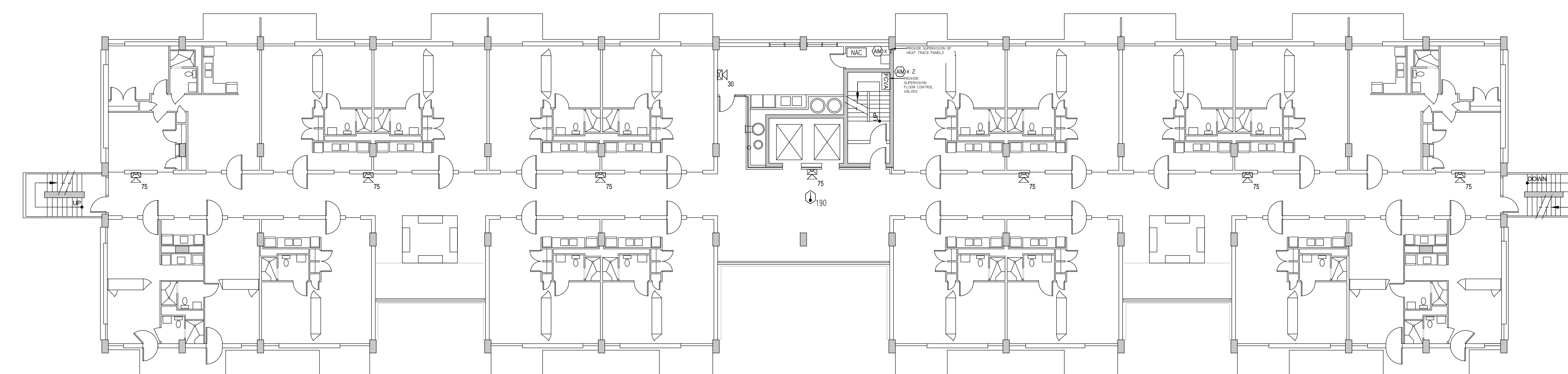


**INSTALLATION NOTES:**

1. ALL WIRING SHALL BE INSTALLED IN CONDUIT OR IN RACEWAYS IN BUILDING, NO EXPOSED WIRING IN PUBLICLY ACCESSIBLE SPACES.
2. ALL EQUIPMENT SHALL BE HELD FIRMLY IN PLACE (E.G., DETECTORS SHALL NOT BE SUPPORTED SOLELY BY SUSPENDED CEILING TILES) WITH APPROVED FASTENING SYSTEMS OR METHODS.
3. WIRING:
  - 3.1. INITIATING DEVICE CIRCUITS SHALL BE CLASS B.
  - 3.2. SIGNALING LINE CIRCUITS SHALL BE CLASS A.
  - 3.3. NOTIFICATION APPLIANCE CIRCUITS SHALL BE CLASS B.
4. INSTALL CEILING MOUNTED NOTIFICATION APPLIANCES CENTER OF TILES UNLESS NOTED OTHERWISE. INSTALL VISIBLE APPLIANCES AS SHOWN ON THESE DRAWINGS AND IN ACCORDANCE WITH NFPA 72, TABLE 18.5.4.3.1 (B) AND PARAGRAPH 18.5.4, AND IN ACCORDANCE WITH IFC, SECTION 907.10.1. STROBE CANDELA RATINGS SHALL BE AS INDICATED AND AS PRESCRIBED PER TABLES 18.5.4.3.1 (A) AND 18.5.4.3.1 (B).
5. PROVIDE SUPERVISION OF ALL TAMPER AND WATERFLOW SWITCHES IN ACCORDANCE WITH NFPA 72, PARAGRAPHS 17.12 AND 17.16.1. WHETHER SHOWN ON THESE DRAWINGS OR NOT.
6. VERIFY THAT DUCT DETECTORS INSTALLED IN PHASE A ARE COMPATIBLE WITH NEW FIRE PANEL AND REPLACE IF NECESSARY. ADDRESSABLE SYSTEM DUCT DETECTORS SHALL BE PROVIDED. DUCT SMOKE DETECTION SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72, PARAGRAPHS 17.7.5.4.2 AND 17.7.5.5. DUCT WORK IS TO BE PROPERLY IDENTIFIED AT THE LOCATION OF THE DETECTOR.
7. SPOT TYPE SMOKE DETECTION IS REQUIRED AT THE FACP AND EACH POWER SUPPLY PANEL LOCATION, ELEVATOR LOBBIES AND ELEVATOR EQUIPMENT ROOM. ADDITIONAL SPOT TYPE SMOKE DETECTORS ARE REQUIRED IN THE LOCATION OF ANY FIRE CONTROL ENCLOSURE WHICH SERVES THE FIRE ALARM SYSTEM.
8. ANY SMOKE DETECTOR HEAD INSTALLED BEFORE THE BUILDING IS CLEANED AND ACCEPTED SHALL BE COVERED TO PROTECT FROM DUST. ANY FALSE ALARMS DUE TO DIRT CONTAMINATED HEADS SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM INSTALLER.
9. 190 ° HEAT DETECTOR WILL SERVE AS REQUIRED DETECTION AT ELEVATOR LOBBIES IN OPEN CORRIDORS.
10. ALL MANUAL FIRE ALARM BOXES, SMOKE DETECTORS, AND NOTIFICATION APPLIANCES SHALL BE FLUSH MOUNT ON RECESSED BACK BOXES WHERE IN PUBLIC SPACES WHERE BUILDING COMPONENTS ALLOW IT.
11. CONTROL PANELS AND POWER SUPPLY UNITS SHALL BE INSTALLED AS INDICATED OR IN NON-PUBLIC AREAS AND MAY BE SURFACE MOUNTED. DEVICES SUCH AS WALL MOUNTED VISUAL APPLIANCES, WALL MOUNTED COMBINATION AUDIBLE/VISUAL APPLIANCES, ETC. SHOULD BE FLUSH MOUNTED WHERE POSSIBLE.
12. THE POWER CIRCUIT TO THE FACP AND TO THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DEDICATED 120V, 20A BRANCH CIRCUIT BREAKER, AND SHALL HAVE A RED MARKING, LOCK-ON PROVISION AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL." THE LOCATION OF THE CIRCUIT DISCONNECT MEANS (CIRCUIT BREAKER) SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
13. INSTALLATION OF DEVICES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. POWER LIMITED AND NON-POWER LIMITED FIELD WIRING MUST BE INSTALLED WITHIN THE FACP ENCLOSURE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NEC.
14. AVERAGE AMBIENT SOUND LEVEL DESIGNATION OF 55DBA PER NFPA 72 SECTION 18.4.3, TABLE A.18.4.3. FOR BUSINESS OCCUPANCY. ALL SPEAKERS SHOWN ON PLANS A TO PRODUCE A REVERBERANT DBA OF 75 U.N.O. SPEAKERS ARE TO PROVIDE INTELLIGIBILITY PER NFPA 72.
15. SYSTEM SHALL TRANSMIT EACH OF THE FOLLOWING SIGNALS SEPARATELY.  
ALARM  
WATERFLOW  
SUPERVISORY  
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16. PROVIDE ALL NECESSARY MONITOR AND CONTROL MODULES FOR SMOKE DAMPERS, FIRE SMOKE DAMPERS, FIRE PUMP, SPRINKLER SYSTEM AND ELEVATOR RECALL WHETHER SHOWN ON THESE DOCUMENTS OR NOT.
17. PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE SEALED WITH APPROVED FIRE RESISTIVE MATERIALS AND/OR ASSEMBLIES. MATERIAL AND ASSEMBLIES SHALL BE SUITABLE FOR THE HOURLY RATING OF THE PENETRATED CONSTRUCTION ELEMENT. THE FIRE ALARM INSTALLER WILL MAINTAIN THE FIRE RESISTANCE INTEGRITY OF ALL WALL, CEILING, AND ROOF ASSEMBLIES ANY TIME THAT WORK IS NOT ACTIVELY BEING PERFORMED.



**2 ENLARGED UNIT PLAN VIEW**  
SCALE: 3/16" = 1'-0"



**1 PLAN LEVEL 2 THRU II**  
SCALE: 3/32" = 1'-0"

**NOTIFICATION DEVICES**

- CEILING STROBE ONLY
- CEILING SPEAKER/STROBE VOICE/ HI / LOW FREQUENCY
- WALL STROBE ONLY
- WALL SPEAKER/STROBE VOICE/ HI / LOW FREQUENCY
- WALL SMOKE DETECTOR WITH LOW FREQUENCY SOUNDER BASE
- WEATHER PROOF HEAT DETECTOR

**MANUAL DEVICES**

- ADDRESSABLE MANUAL PULL STATION

**CONTROL DEVICES**

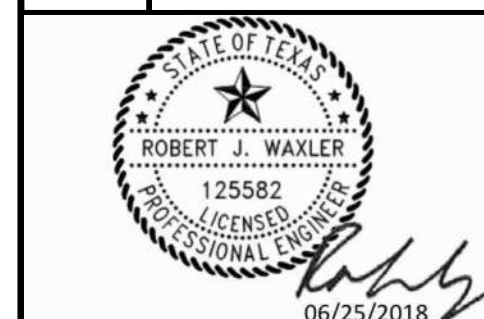
- ADDRESSABLE OUTPUT MODULE
- ADDRESSABLE INPUT MODULE

**DETECTORS**

- ADDRESSABLE HEAT DETECTOR 155 DEG FIXED
- ADDRESSABLE HEAT DETECTOR 190 DEG FIXED
- ADDRESSABLE SMOKE SENSOR SPOT-TYPE PHOTOELECTRIC
- ADDRESSABLE DUCT SMOKE SENSOR WITH REMOTE INDICATOR
- SMOKE DETECTOR

**CONTROL PANELS**

- FIRE ALARM EMERGENCY VOICE EVACUATION CONTROL PANEL
- NAC POWER SUPPLY
- TRANSIENT VOLTAGE SURGE SUPPRESSION MODULE



Fire Protection Consulting Group, LLC  
Texas PE Firm# 15865

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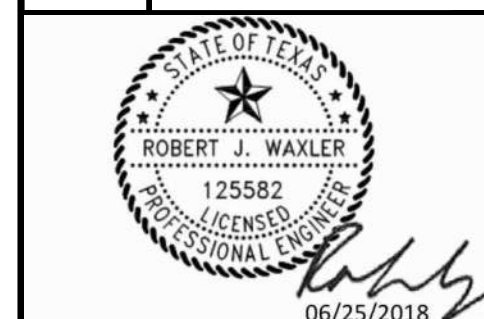
REVIEWED BY: RW

SHEET NO.

**FA 201**



**Sequence of Operations**  
**San Antonio Housing Authority**  
**Fire Protection Systems & Life Safety Renovations**  
**Villa Tranchese Apartments**  
 307 Marshall Street  
 San Antonio, Texas



Fire Protection Consulting Group, LLC  
Texas PE Firm # 15865

REVISIONS:

No.	DATE	DESCRIPTION
A	5-22-2018	100% Design Review

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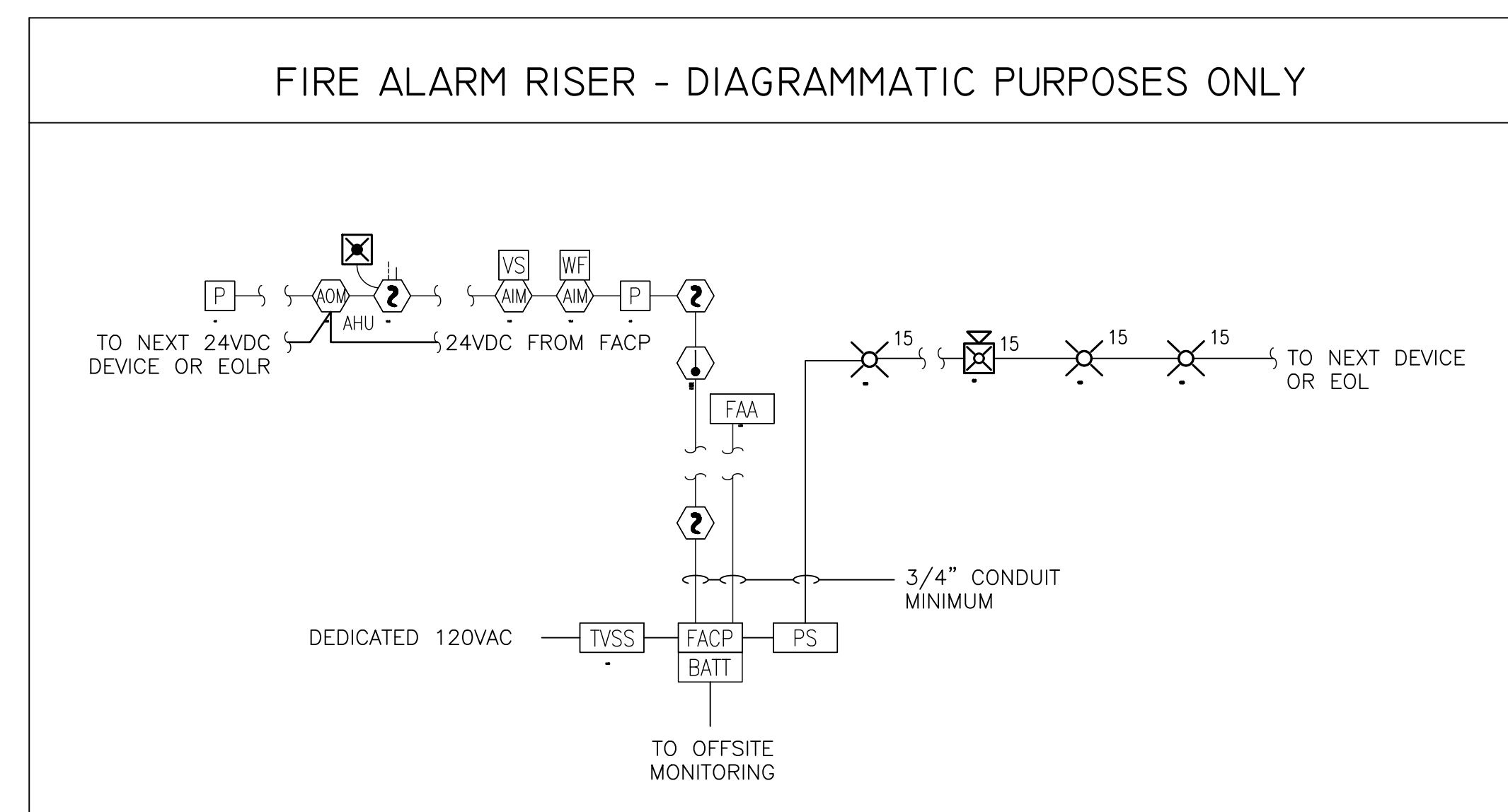
**SHEET NO.**  
**FA 300**

**FIRE ALARM PANEL SEQUENCE OF OPERATION**

	CONTROL UNIT ANNUNCIATION				NOTIFICATION				LIFE SAFETY INTERFACE				COMMENTS			
	ACTIVATE COMMON ALARM SIGNAL	ACTIVATE AUDIBLE ALARM SIGNAL	ACTIVATE COMMON SUPERVISORY SIGNAL	ACTIVATE AUDIBLE SUPERVISORY SIGNAL	ACTIVATE COMMON TROUBLE SIGNAL	ACTIVATE AUDIBLE TROUBLE SIGNAL	ACTIVATE SLEEPING UNIT TROUBLE SIGNAL	ACTIVATE BUILDING ALARM EXACUATION**	ACTIVATE BUILDING VISIBLE EYAC DEVICES**	ACTIVATE ALL AUDIBLE DEVICES TEMPORAL 4	ACTIVATE SLEEPING UNIT AUDIBLE LOW FREQUENCY	TRANSMIT ALARM TO RECEIVING STATION		TRANSMIT SUPERVISORY TO RECEIVING STATION	TRANSMIT TROUBLE TO RECEIVING STATION	ASSOCIATED AIR HANDLER SHUTDOWN
ADDRESSABLE PULL STATION	●	●			●	●					●					
ADDRESSABLE SMOKE DETECTOR	●	●			●	●					●					
ADDRESSABLE HEAT DETECTOR	●	●			●	●					●				●	
ADDRESSABLE DUCT DETECTOR			●	●	●						●				●	
SMOKE DETECTOR SOUNDER BASE	●	●			●						●					
SPRINKLER WATERFLOW	●	●			●	●	●				●					
SPRINKLER TAMPER			●	●	●						●					
KITCHEN HOOD	●	●			●	●					●					
AC LOSS TO FACP OR NAC					●	●	●									●
24VDC LOSS TO SOUNDER BASES					●	●	●									●
OPEN/SHORT CIRCUIT OR GROUND FLT					●	●	●									●
DISABLED DEVICES					●	●	●									●
BATTERY FAULT					●	●	●									●
FIRE PUMP PHASE REVERSAL					●	●	●									●
FIRE PUMP POWER LOSS					●	●	●									●
PUMP RUN ON					●	●	●									●
EMERGENCY GENERATOR ON					●	●	●									●
PUMP CONTROLLER BATTERY FAULT					●	●	●									●
HEAT TRACE POWER LOSS					●	●	●									
HEAT TRACE GROUND FAULT			●	●			●									

**2 SEQUENCE OF OPERATIONS**  
SCALE: NTS

**FIRE ALARM RISER - DIAGRAMMATIC PURPOSES ONLY**



**1 ONE - LINE DIAGRAM**  
SCALE: NTS



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**FS 100**

**ABBREVIATIONS**

A	AMBER COLORED STROBE	IBC	INTERNATIONAL BUILDING CODE
ADS	ACOUSTICALLY DISTINGUISHABLE SPACE	IDC	INITIATING DEVICE CIRCUIT
AS	AUTOMATIC SPRINKLER COVERAGE	IFC	INTERNATIONAL FIRE CODE
AHJ	AUTHORITY HAVING JURISDICTION	LF	LINEAR FEET
AMP	AMPLIFIER	NA	NOT APPLICABLE
BFP	BACKFLOW PREVENTER	NAC	NOTIFICATION APPLIANCE CIRCUIT
CA	CLEAN AGENT	NACX	NOTIFICATION APPLIANCE CIRCUIT EXPANDER
CMR	CODE MODIFICATION REQUEST	NC	NO SPRINKLER COVERAGE
CP	CONTROL PANEL	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CJ	CONTROL UNIT		
dba	DECIBEL LEVEL	NRS	NON-RISING STEM
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY	OS&Y	OUTSIDE SCREW & YOKE VALVE
		PIV	POST INDICATOR VALVE
DL	DELUGE SYSTEM	PRE	PRE-ACTION SYSTEM
DS	DRY SYSTEM	PS	PRESSURE SWITCH
E	ELEVATOR RECALL	R	RELEASING; SUPPRESSION SYS
EX	EXISTING	RTS	REMOTE ALARM TEST SWITCH
F2	SQUARE FEET	RTI	RESPONSE TIME INDEX
F3	CUBIC FEET	RUI	REMOTE UNIT INTERFACE
FA	FIRE ALARM	S	SHUNT TRIP
FCVA	FLOOR CONTROL VALVE ASSEMBLY	SC	STROBE CIRCUIT
		SF	SQUARE FEET
FDC	FIRE DEPARTMENT CONNECTION	SLC	SIGNAL LINE CIRCUIT
FH	FIRE HYDRANT	VS	VALVE SUPERVISORY SWITCH (TAMPER)
FO	FOAM SYSTEM		
FP	FIRE PROTECTION (SPRINKLERS)	W	WALL MOUNTED
FPCG	FIRE PROTECTION CONSULTING GROUP	WC	WET CHEMICAL
		WF	WATER FLOW
HA	HALON	WP	WEATHER PROOF
HC	HORN CIRCUIT	WS	WET SYSTEM

**APPLICABLE CODES**

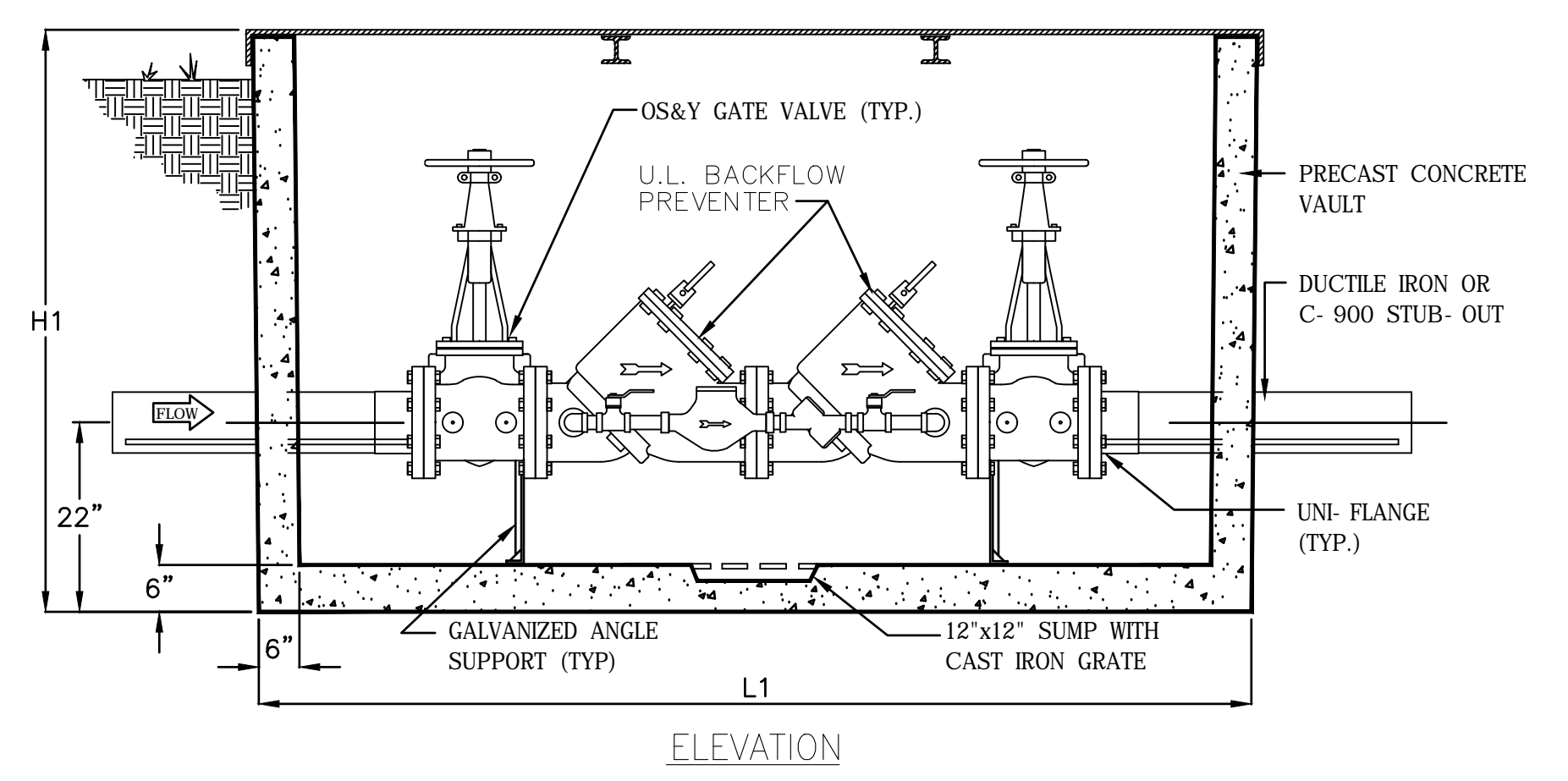
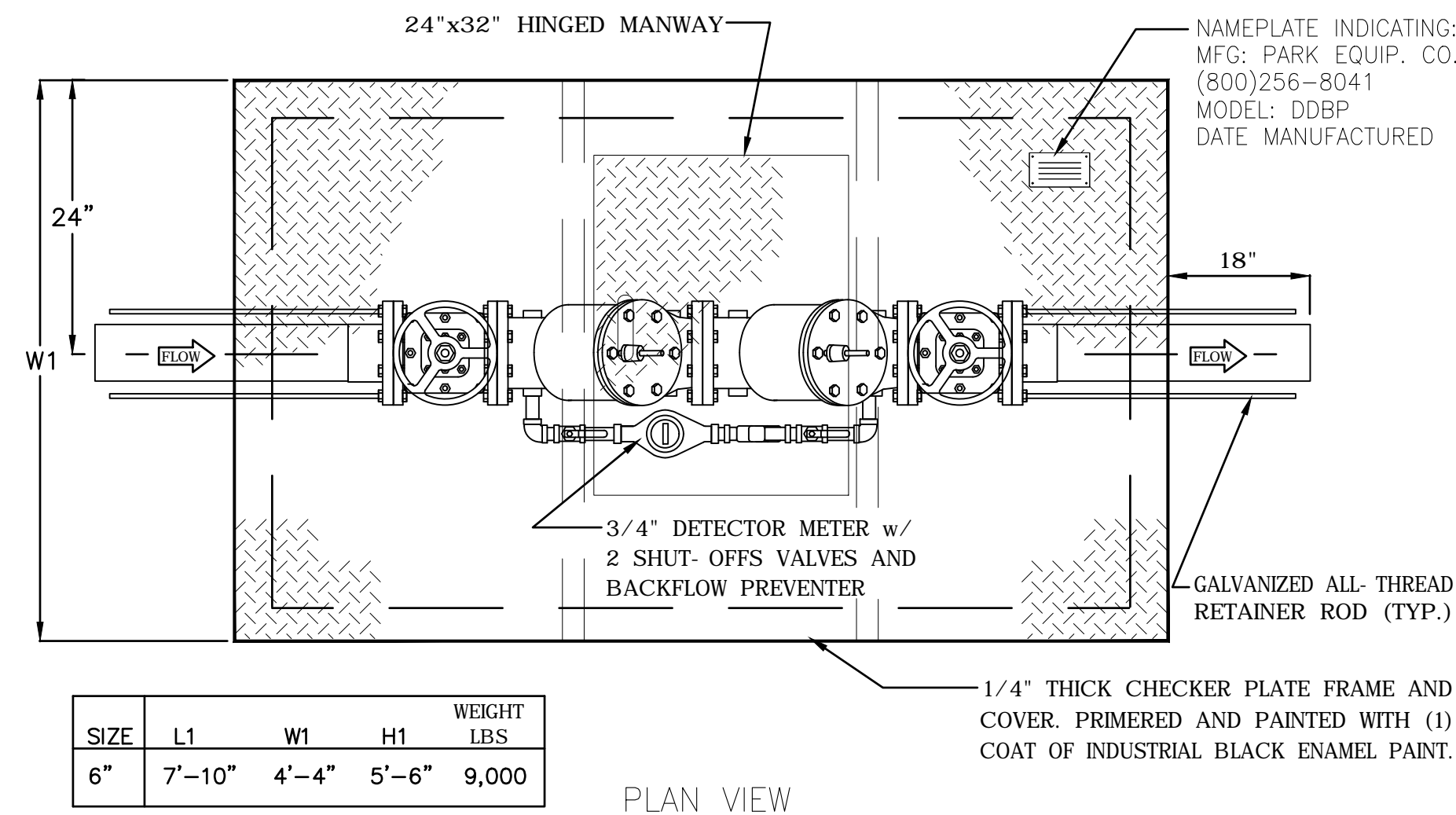
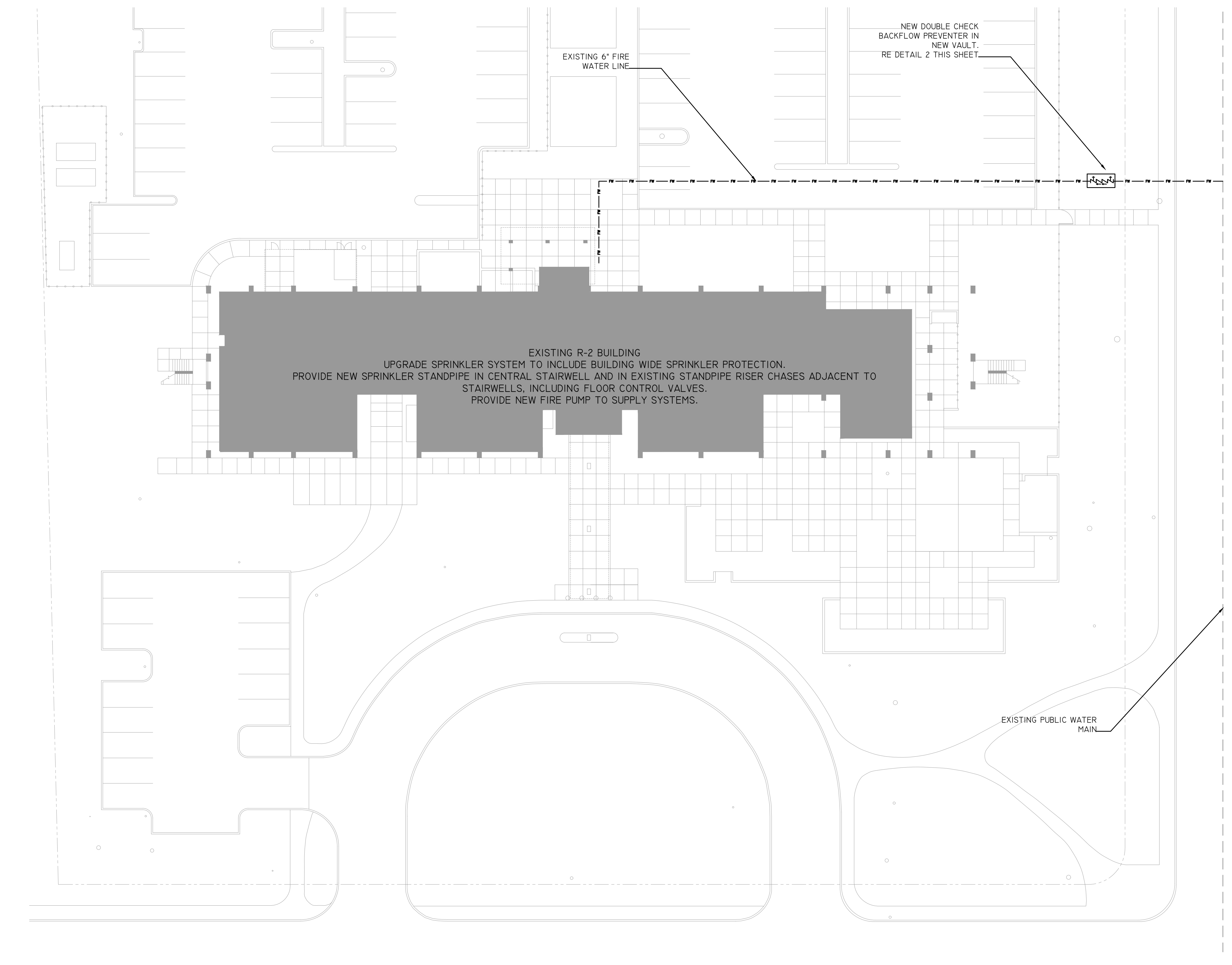
- 2015 INTERNATIONAL EXISTING BUILDING CODE
- 2015 INTERNATIONAL BUILDING CODE
- 2015 INTERNATIONAL FIRE CODE
- 2015 INTERNATIONAL PLUMBING CODE
- 2015 INTERNATIONAL MECHANICAL CODE
- 2014 NATIONAL ELECTRIC CODE
- 2013 NFPA 13
- 2013 NFPA 72
- CITY OF SAN ANTONIO (COSA) AMENDMENTS

**GENERAL NOTES:**

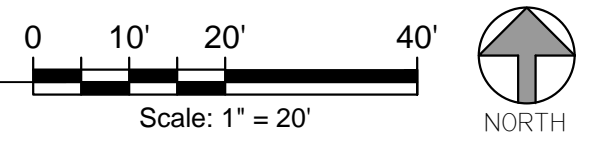
- PROVIDE COMPLETE NEW WET-PIPE AUTOMATIC SPRINKLER AND STANDPIPE SYSTEM TO FULLY PROTECT THE EXISTING BUILDING AS DEPICTED IN THESE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.
- ALL DESIGN, FABRICATION, MATERIAL, AND INSTALLATION SHALL CONFORM TO NFPA 13, NFPA 14, NFPA 24, NFPA 72 AND ALL STATE AND LOCAL CODES PER THE 2015 EDITIONS OF THE IBC AND IFC INCLUDING CITY OF SAN ANTONIO ADOPTED AMENDMENTS.
- BUILDING INFORMATION:
  - BUILDING USE: RESIDENTIAL HOUSING
  - OCCUPANCY: R-2 HIGH RISE
  - SQFT: 310,860
- EXISTING FIRE PROTECTION INFORMATION:
  - CLASS II STANDPIPE SYSTEM
  - SPRINKLERED BASEMENT
  - STANDPIPE FIRE PUMP
  - REMAINING OCCUPIED SPACES NOT SPRINKLERED
- PROPOSED FIRE PROTECTION INFORMATION:
  - NEW WET SPRINKLER STANDPIPE WITH INDIVIDUAL FLOOR CONTROL VALVES LOCATED IN CENTRAL STAIR.
  - NEW FIRE PUMP TO SERVE BOTH THE STANDPIPE AND BUILDING SPRINKLER SYSTEM.
  - NEW CLASS I STANDPIPE SYSTEM REPLACING THE EXISTING STANDPIPE AND THEIR EXISTING HOSE LINES AND CONNECTIONS.
  - PROVIDE A FULLY SPRINKLERED BUILDING.
- THE OWNER SHALL BE RESPONSIBLE FOR MAINTAINING HEAT IN THE AREAS SHOWN ON PLANS TO INCLUDE CENTRAL STAIRWELL, OCCUPIED AND UNOCCUPIED UNITS, BASEMENT AND ENTIRE FIRST FLOOR. MAINTAIN A MINIMUM TEMPERATURE OF 40 DEGREES F AT ALL TIMES. REFER TO ME SHEETS FOR AREA HEATER LOCATIONS.
- WET SPRINKLER MAIN PIPE CROSSING EXTERIOR CORRIDORS SHALL BE PROTECTED BY A LISTED HEAT TRACE SYSTEM AND MONITORED BY THE FIRE ALARM SYSTEM. ALL SPRINKLER PIPE INCLUDING CONCEALMENT SOFFITS AND HANGERS SHALL MAINTAIN A CLEAR HEAD SPACE OF 7'-6" MINIMUM.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE DEDICATED POWER FOR THE NEW FIRE PUMP AT NEW LOCATION. REFER TO ME DRAWINGS.
- STORAGE IN SPRINKLERED AREAS SHALL BE MAINTAINED A MINIMUM OF 18 INCHES BELOW THE SPRINKLER DEFLECTORS AND A MAXIMUM OF 8 FEET AFF.
- NO HAZARDOUS MATERIALS STORAGE WILL BE PERMITTED IN THIS BUILDING.
- SEE ARCHITECTURAL PLANS FOR FIRE-RESISTANCE RATED WALL AND FLOOR/CEILING LOCATIONS. PENETRATIONS THROUGH RATED WALLS AND FLOOR/CEILINGS SHALL BE SEALED WITH A LISTED PENETRATION ASSEMBLY SYSTEM PER ARCHITECTURAL DRAWINGS.
- PROVIDE EACH LEVEL WITH FLOOR CONTROL VALVE ASSEMBLIES. CONNECTION TO FIRE ALARM CONTROL PANEL BY-OTHER.
- REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- SPRINKLER PIPE AND HEAD LOCATIONS SHOWN ON THIS DOCUMENT ARE SUGGESTED LOCATIONS INTENDED TO SHOW SCOPE OF WORK. IT IS THE SELECTED SPRINKLER CONTRACTORS RESPONSIBILITY TO COORDINATE WITH MECHANICAL, STRUCTURAL AND OTHER TRADES DURING CREATION OF SHOP DRAWINGS. QUANTITY OF HEADS SHOWN ON THIS DOCUMENT NOT INTENDED TO ENCOMPASS ALL HEADS REQUIRED TO ACCOMPLISH CODE COMPLIANT COVERAGE.

**SCOPE OF WORK**

- PROVIDE COMPLETE NEW WET-PIPE AUTOMATIC SPRINKLER SYSTEM TO FULLY PROTECT THE BUILDING AS DEPICTED IN THESE DOCUMENTS.
- PROVIDE EACH LEVEL WITH FLOOR CONTROL VALVE ASSEMBLIES. CONNECTION TO FIRE ALARM CONTROL PANEL BY-OTHER.
- THE CONTRACTOR SHALL PROVIDE ALL DRAWINGS, CALCULATIONS, AND SUBMITTALS FOR REVIEW BY THE OWNER AND ARCHITECT PRIOR TO SUBMITTAL FOR PERMITTING. SUBMITTALS NOT APPROVED BY THE ARCHITECT SHALL NOT BE SUBMITTED FOR PERMITTING BY THE AHJ. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMIT FEES AND SHALL PROVIDE ALL MATERIALS AND EFFORT REQUIRED FOR SUBMITTAL OF ANY AND ALL REQUIRED PERMITS.
- IF A CURRENT FIRE FLOW TEST IS NOT OTHERWISE PROVIDED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE A FIRE FLOW TEST TO SUPPORT DESIGN OF THE SPRINKLER SYSTEM WORK. IF THE ENGINEER'S FLOW TEST HAS BEEN CONDUCTED MORE THAN ONE YEAR PRIOR TO THE DATE OF SUBMITTAL FOR SPRINKLER PERMIT, THE CONTRACTOR SHALL CONDUCT A NEW TEST TO BE INCLUDED WITH THE SUBMITTAL TO THE ARCHITECT AND TO THE AHJ FOR PERMITTING.
- THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MAINTAIN THE INTEGRITY OF THE AESTHETICS OF THE SITE AND BUILDING ELEMENTS AFFECTED BY THIS WORK. SHOULD ANY DAMAGE TO SITE OR BUILDING FEATURES BE CAUSED BY THE CONTRACTOR AS PART OF THIS WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ALL DAMAGED MATERIALS, LANDSCAPING, OR OTHER ITEMS TO THE SATISFACTION OF THE ARCHITECT AND OWNER.
- THE CONTRACTOR SHALL COORDINATE TESTING AND INSPECTIONS WITH THE OWNER AND ARCHITECT AND IS RESPONSIBLE FOR ALL INSPECTION FEES.
- THROUGHOUT CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN ON-SITE A SET OF THE MOST CURRENT WORKING DRAWINGS THAT BEAR THE APPROVAL MARK OF THE AHJ. WHERE FIELD MODIFICATIONS ARE MADE TO THE SYSTEM, THEY SHALL BE RECORDED ON THE WORKING DRAWINGS FOR INCORPORATION INTO THE PROJECT AS-BUILT DRAWINGS. THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS AS PART OF THE PROJECT CLOSE-OUT DOCUMENTS AND TRAINING.



1 OVERALL SITE PLAN



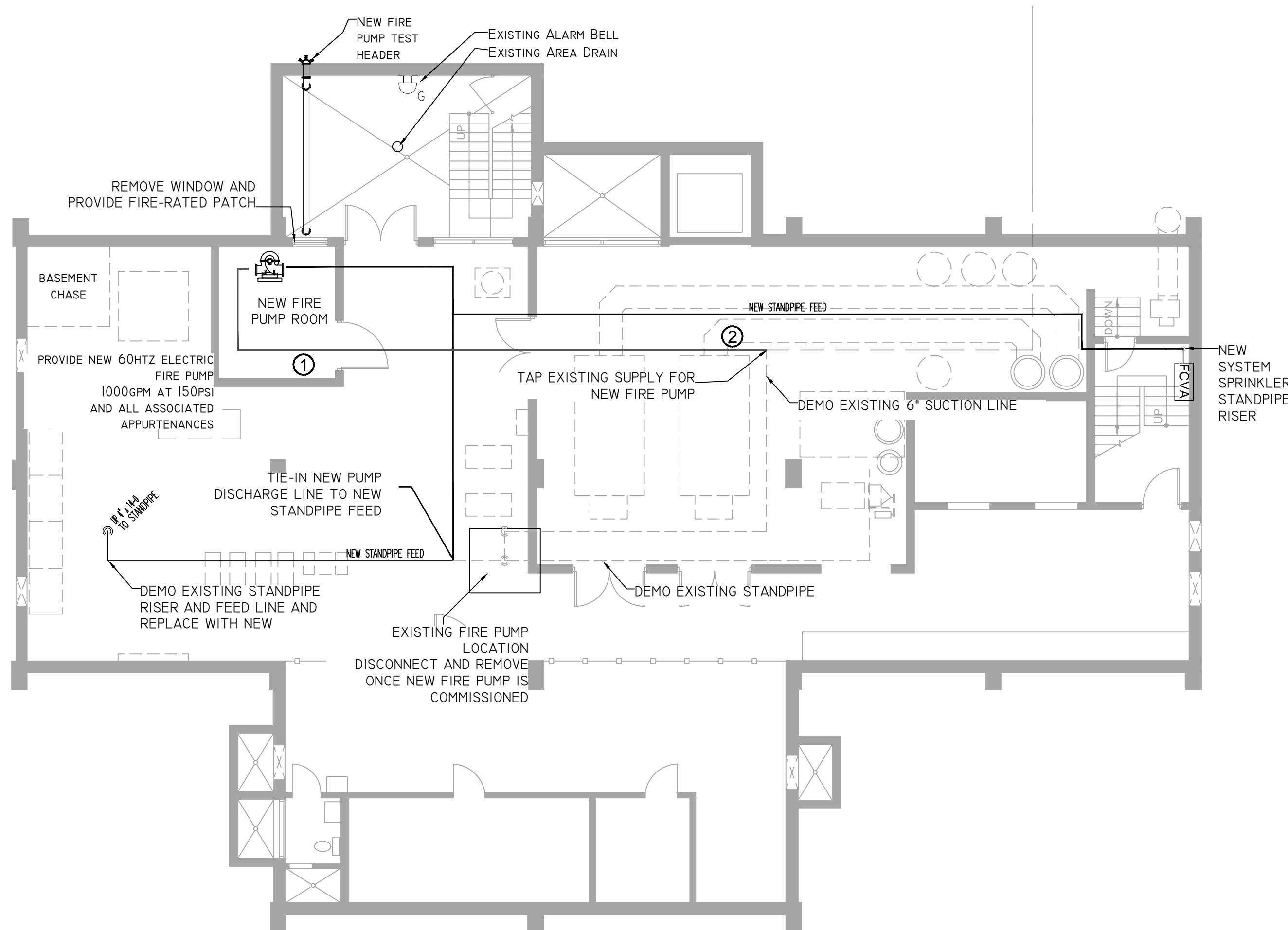
2 PROPOSED NEW BACKFLOW PREVENTER  
SCALE: 3/16" = 1'-0"



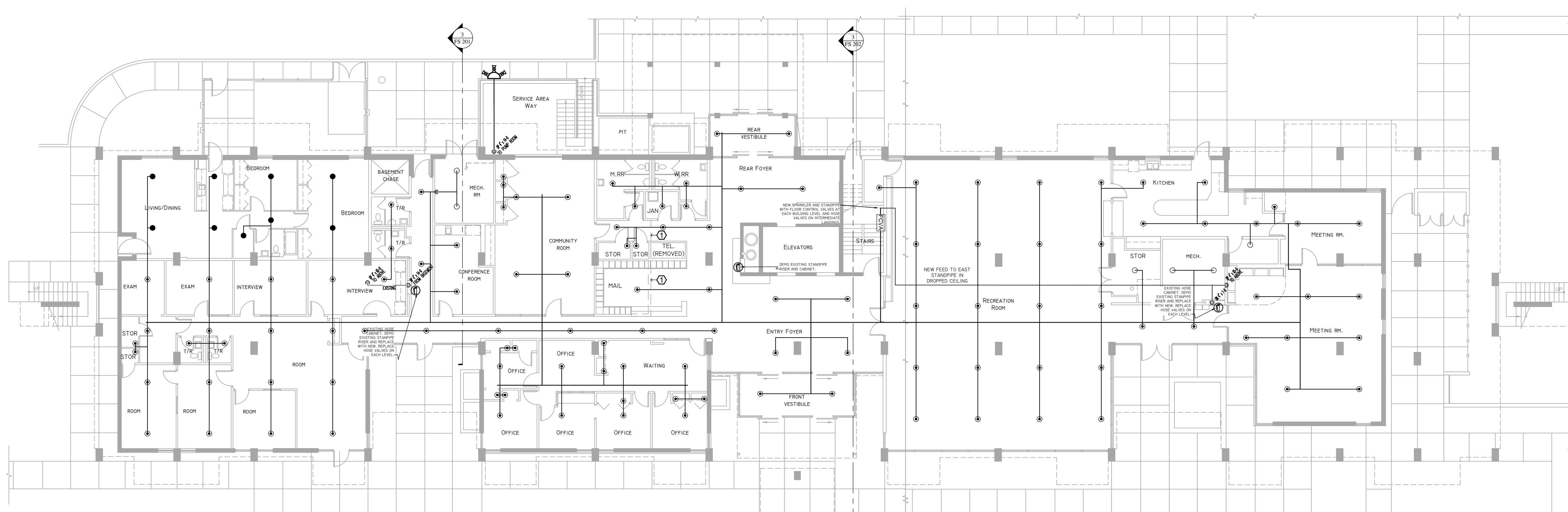
**KEY NOTES:**

®

1. ADD NEW MULTIPOINT HEAT TRACING MAIN CONTROL PANEL TO CONTROL SUB PANELS FOR HEAT TRACING CIRCUITS ON EACH FLOOR. RAYCHEM ACS-30 OR EQUIVALENT.
2. PROVIDE NEW 6 INCH WYE STRAINER WITH TWO ISOLATION VALVES ON NEW PUMP SUCTION LINE AT CONNECTION TO EXISTING WATER MAIN. ISOLATION VALVES SHALL BE EQUIPPED WITH TAMPER SWITCHES.

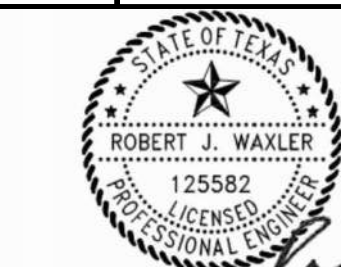


**2 BASEMENT PLAN**  
SCALE: 1/8" = 1'-0"



**1 FIRST FLOOR PLAN**  
SCALE: 3/32" = 1'-0"

**Basement and First Level Plans**  
**San Antonio Housing Authority**  
**Fire Protection Systems & Life Safety Renovations**  
**Villa Tranchese Apartments**  
307 Marshall Street  
San Antonio, Texas



Fire Protection Consulting Group, LLC  
Texas PE Firm # 15865

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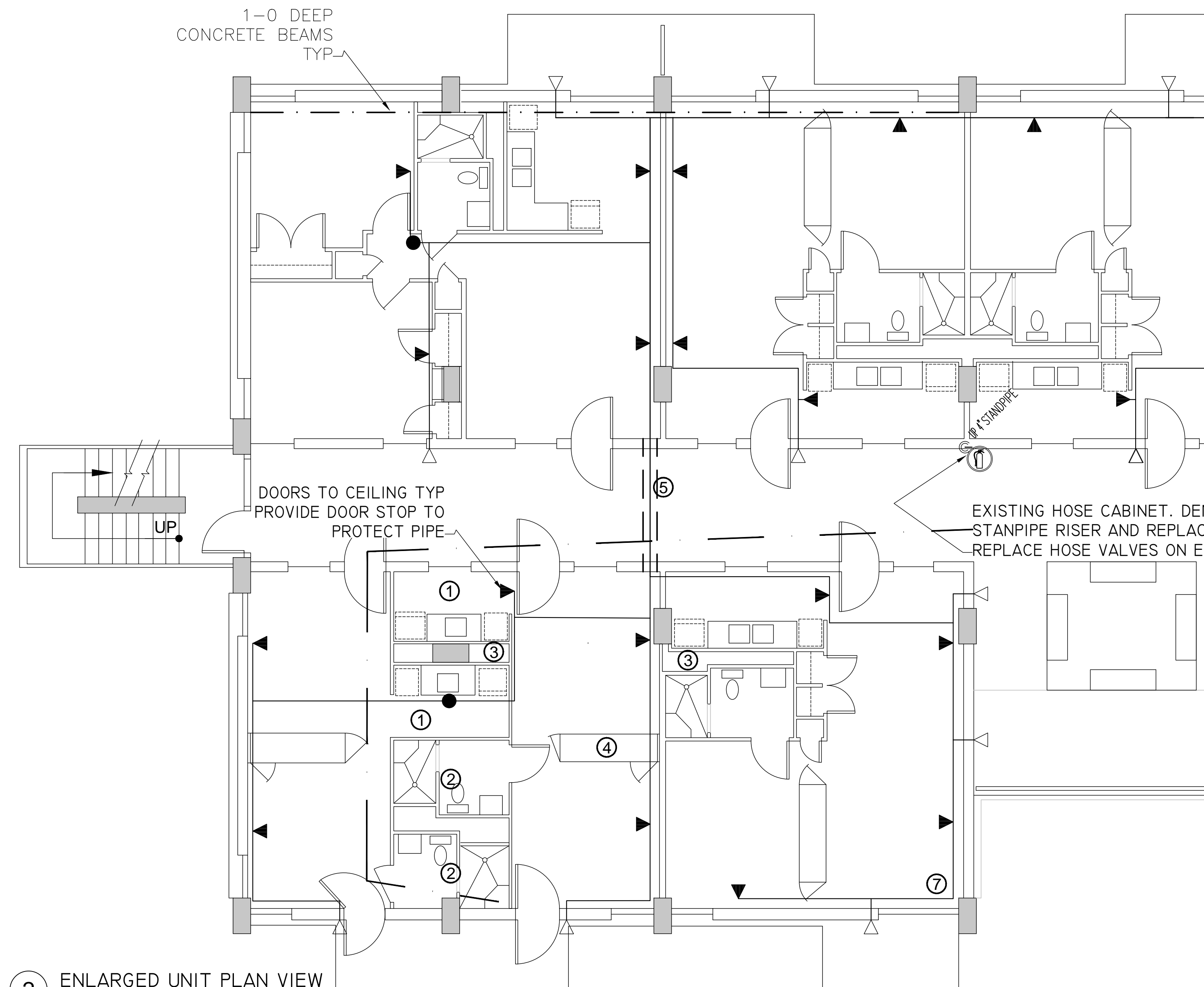
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**FS 200**

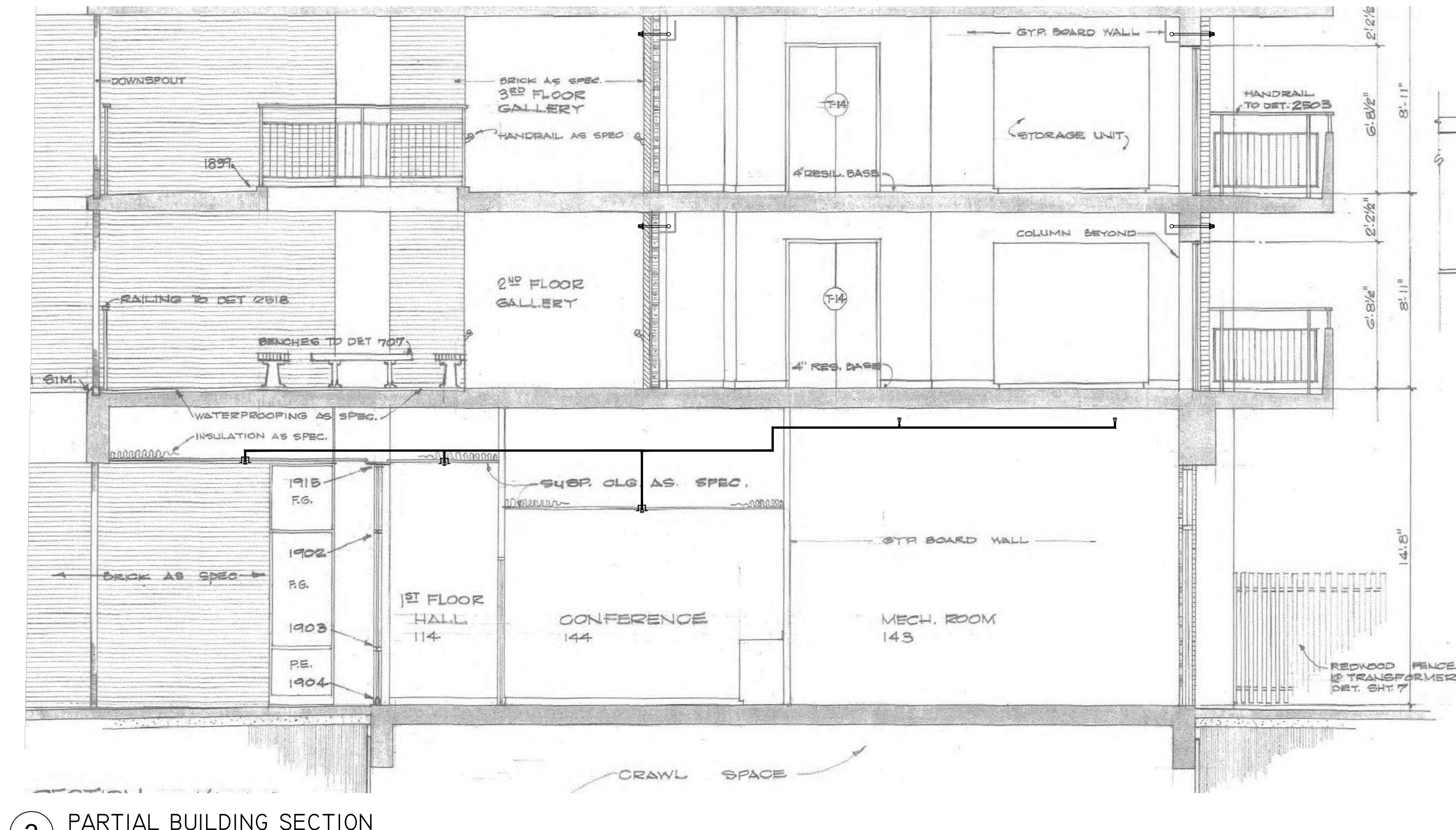


**KEY NOTES:**

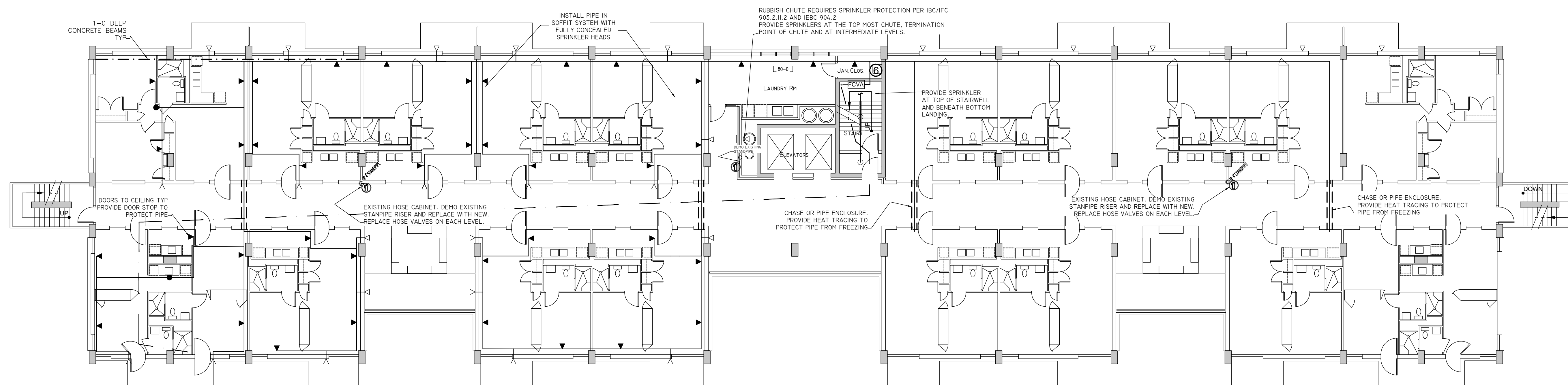
1. COORDINATE PIPE AND SPRINKLER LOCATION WITH EXISTING MECHANICAL.
2. RESTROOM NOT REQUIRING SPRINKLER PROTECTION
3. NON ACCESSIBLE CONCEALED SPACE
4. FREE STANDING CLOSET
5. PIPE AND INSULATION MUST BE WITHIN 6 INCHES OF CEILING. USE LOW PROFILE HANGER TO BRING INSULATED PIPE AS CLOSE TO CEILING AS POSSIBLE.
6. ADD NEW HEAT TRACING CONTROL PANEL FOR HEAT TRACING CIRCUITS ON EACH FLOOR. RAYCHEM ACS-PCM-5 OR EQUIVALENT.
7. LOCATE PIPING IN UNITS AS CLOSE TO WALLS AS POSSIBLE. USE LOW PROFILE HANGER TO BRING PIPE AS CLOSE TO CEILING AS POSSIBLE.



**2 ENLARGED UNIT PLAN VIEW**  
SCALE: 3/16" = 1'-0"

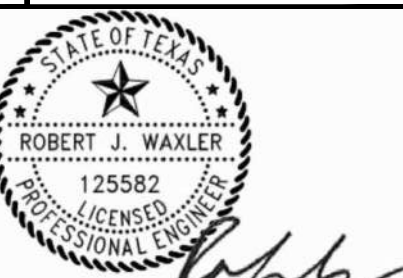


**3 PARTIAL BUILDING SECTION**  
SCALE: 1/4" = 1'-0"



**1 PLAN LEVEL 2 THRU II**  
SCALE: 3/32" = 1'-0"

**Upper Level and Enlarged Unit Plan**  
**San Antonio Housing Authority**  
**Fire Protection Systems & Life Safety Renovations**  
**Villa Tranche Apartments**  
307 Marshall Street  
San Antonio, Texas



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Texas PE Firm # 15865

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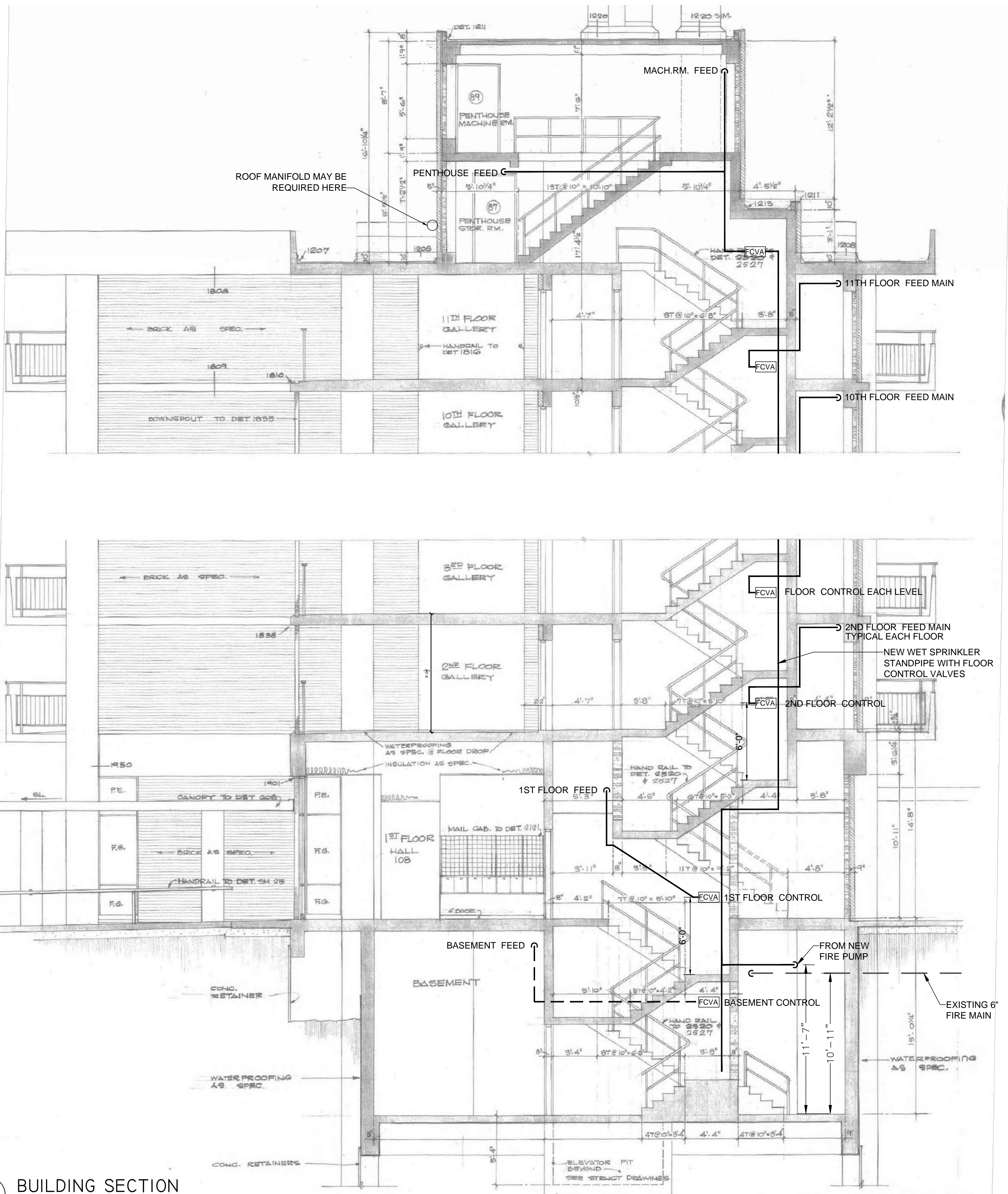
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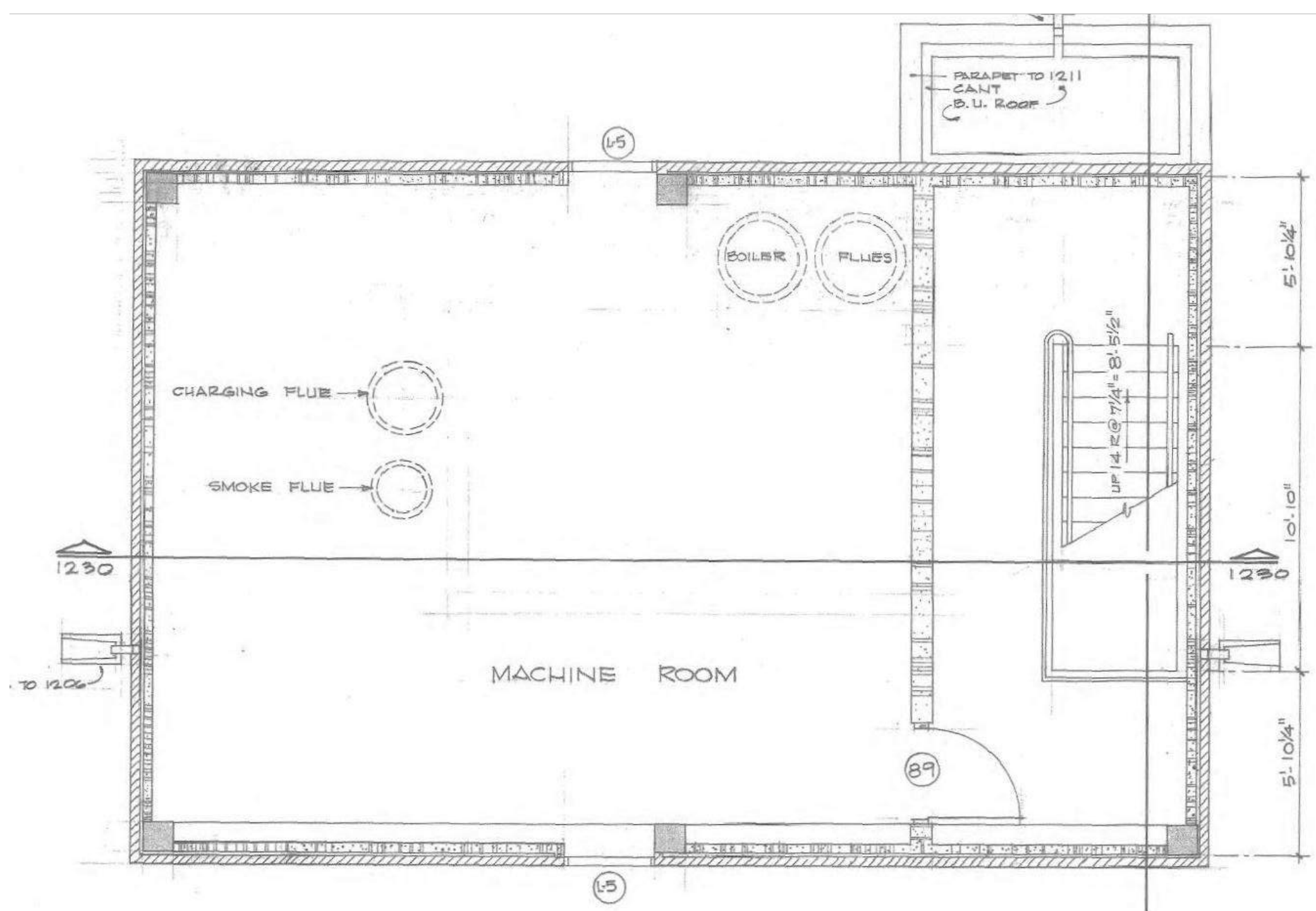
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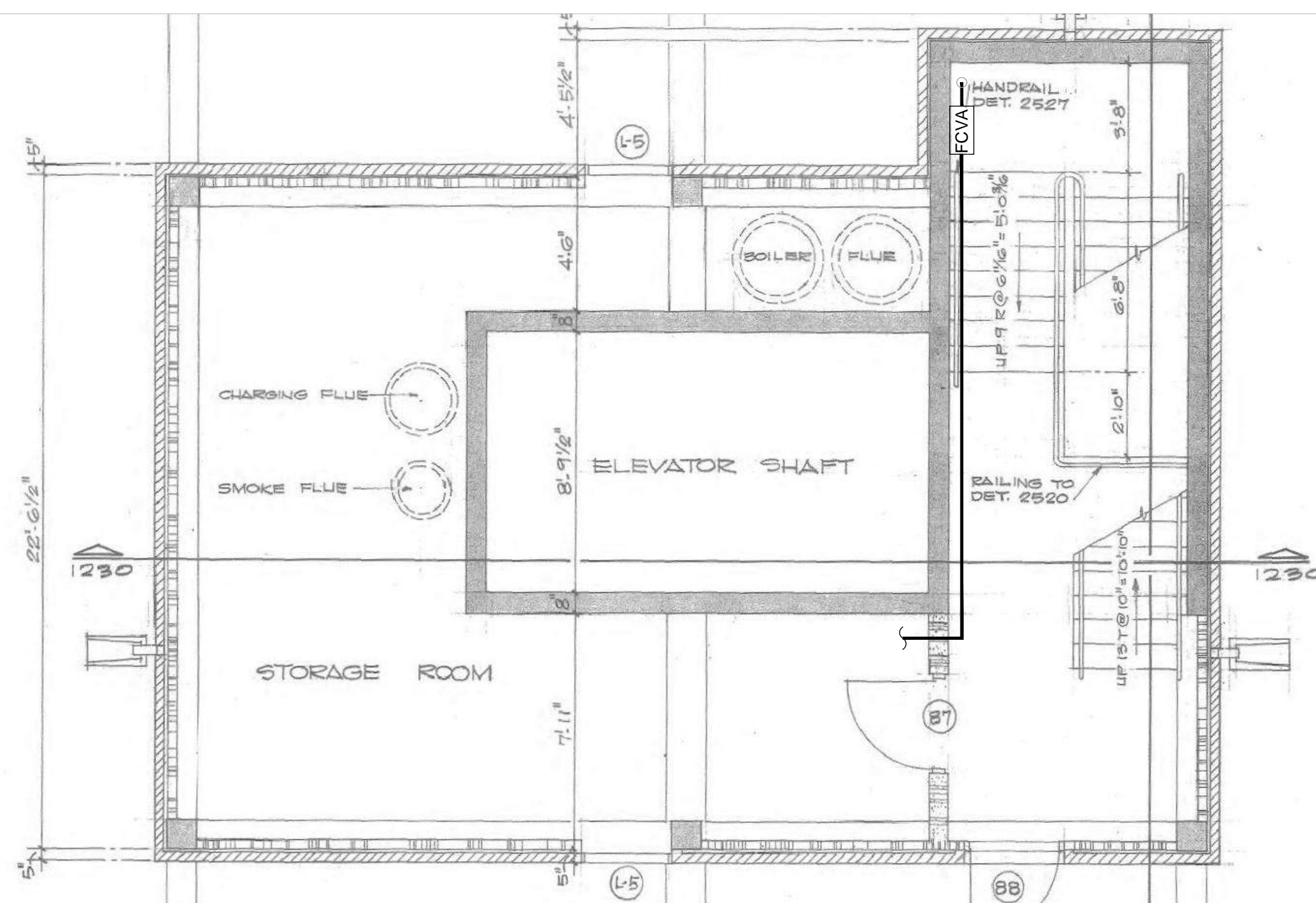
**Penthouse Plan and Building Section**  
**San Antonio Housing Authority**  
**PHASE B - Fire Protection Systems & Life Safety Renovations**  
**Villa Tranchese Apartments**  
 307 Marshall Street  
 San Antonio, Texas



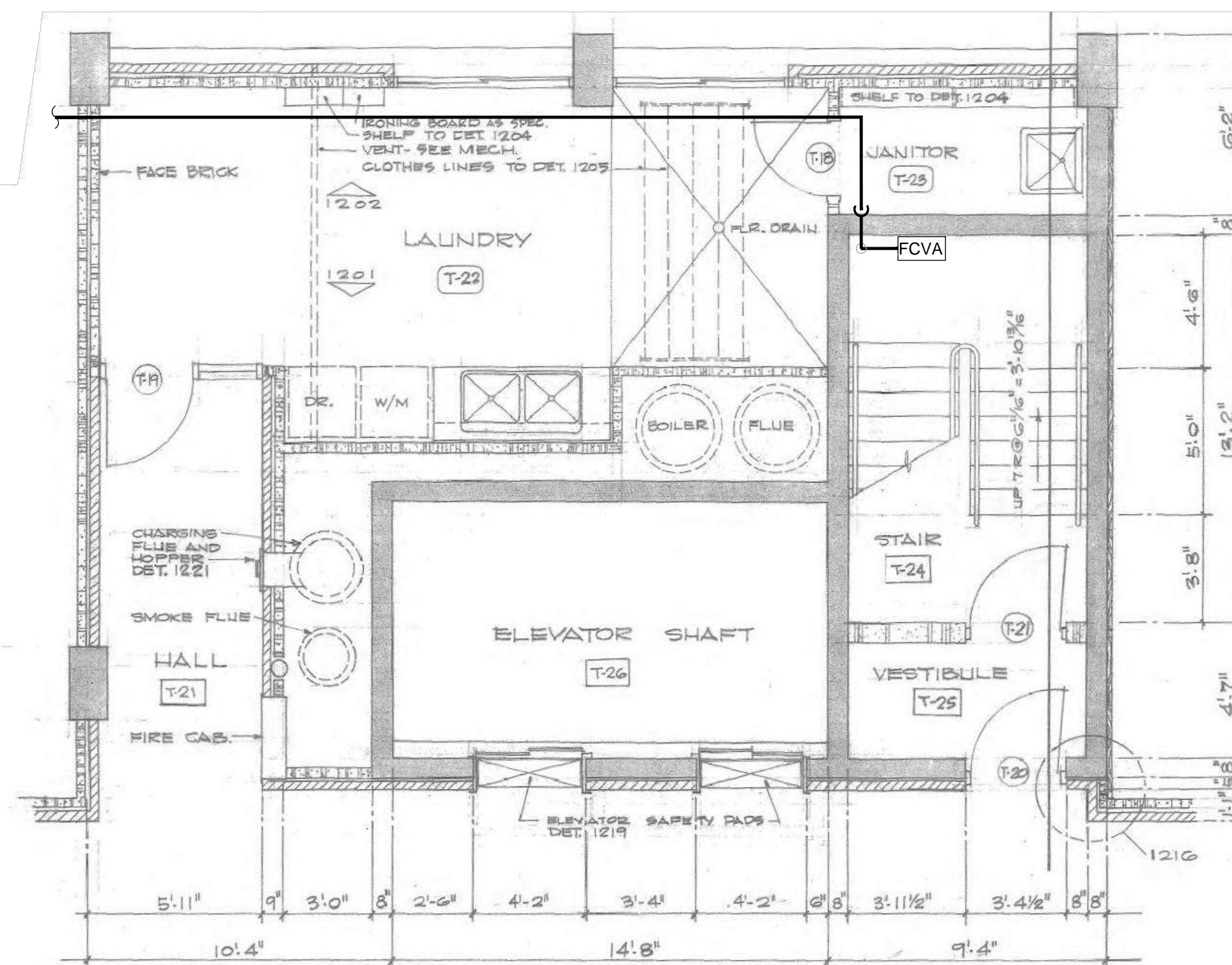
**3 BUILDING SECTION**  
SCALE: 3/16" = 1'-0"



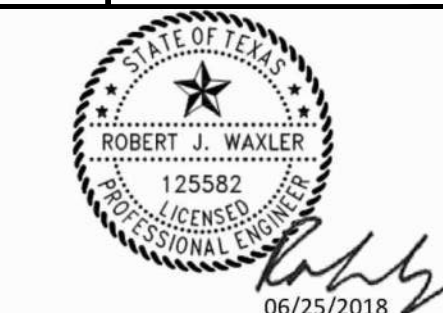
**1 PENTHOUSE PLANS**  
SCALE: 1/4" = 1'-0"



**FLOOR PLAN - PENTHOUSE**  
SCALE: 1/4" = 1'-0"



**2 PENTHOUSE PLANS**  
SCALE: 1/4" = 1'-0"



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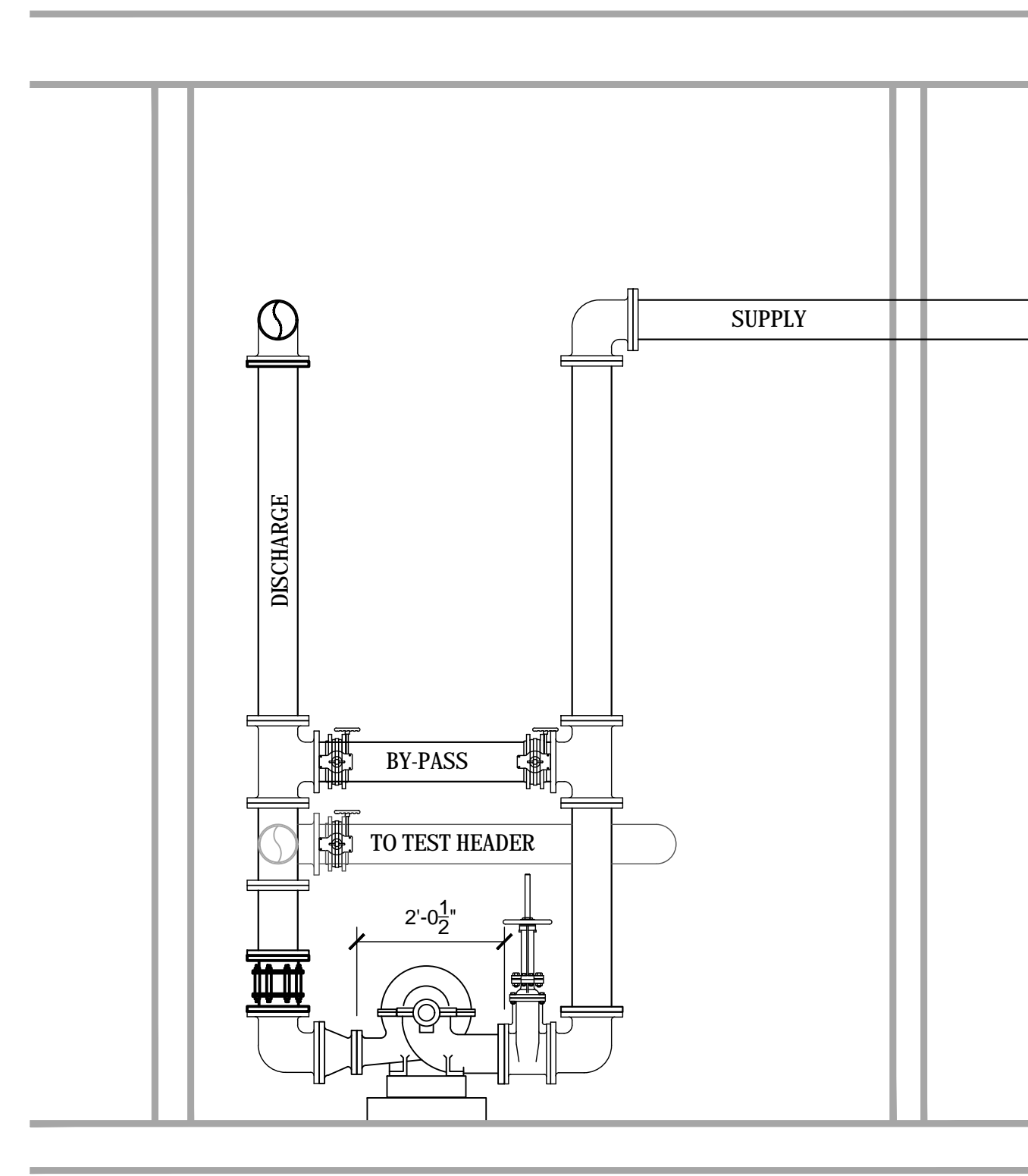
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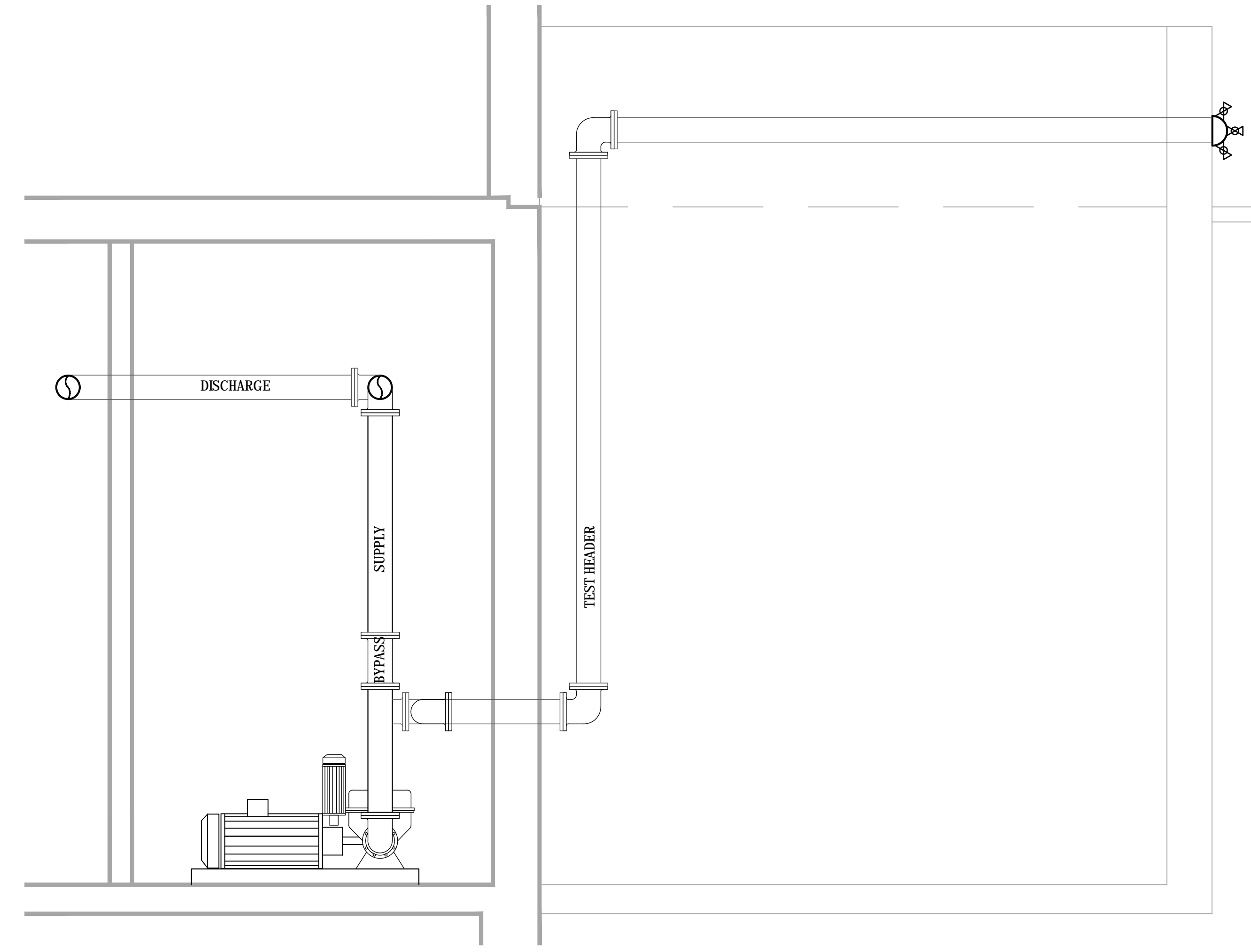
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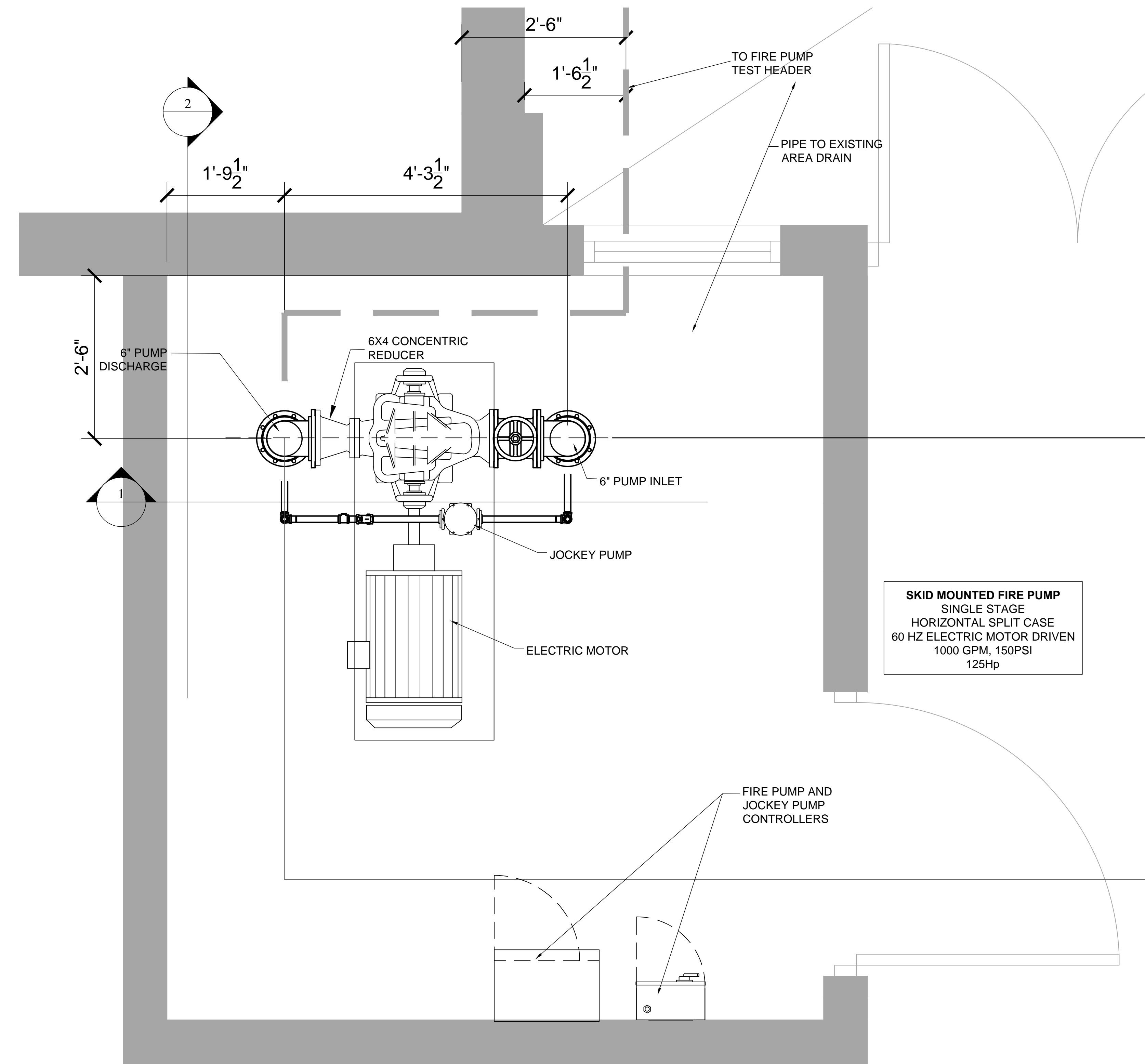
**Pump Room and Sprinkler Details**  
**San Antonio Housing Authority**  
**PHASE B - Fire Protection Systems & Life Safety Renovations**  
**Villa Tranchese Apartments**  
307 Marshall Street  
San Antonio, Texas



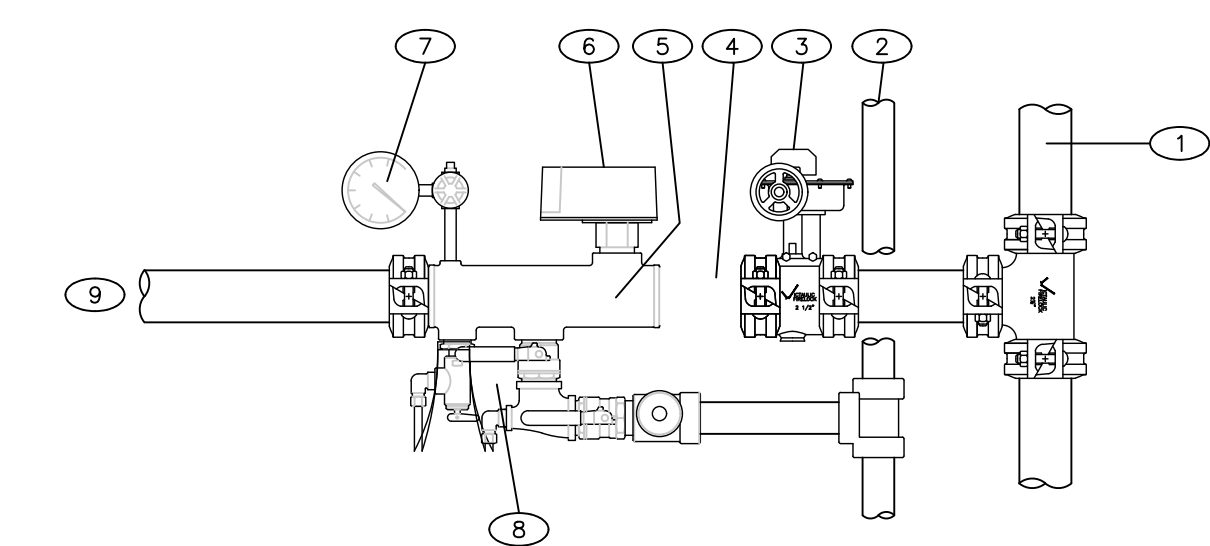
2 PUMP ROOM SECTION  
SCALE: 1/2" = 1'-0"



1 PUMP ROOM SECTION  
SCALE: 1/2" = 1'-0"



2 ENLARGED PUMP ROOM PLAN  
SCALE: 1/4" = 1'-0"



1 TYPICAL FLOOR CONTROL VALVE ASSEMBLY  
NTS

- FLOOR CONTROL VALVE ASSEMBLY**
- 1 SPRINKLER RISER, PROVIDE PRESSURE GAUGE AT TOP
  - 2 2" DRAIN RISER
  - 3 GROOVED BUTTERFLY VALVE
  - 4 GROOVED CHECK VALVE
  - 5 RISER MANIFOLD
  - 6 FLOW SWITCH
  - 7 WATER GAUGE
  - 8 COMBINATION INSPECTORS TEST AND DRAIN VALVE
  - 9 TO SPRINKLERS

STATE OF TEXAS  
ROBERT J. WAXLER  
125582  
LICENSED PROFESSIONAL ENGINEER  
06/25/2018  
Fire Protection Consulting Group, LLC  
Texas PE Firm# 15865

REVISIONS:

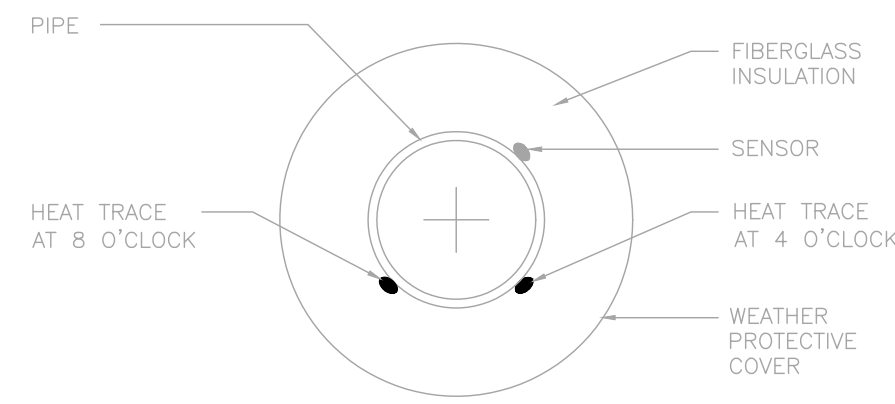
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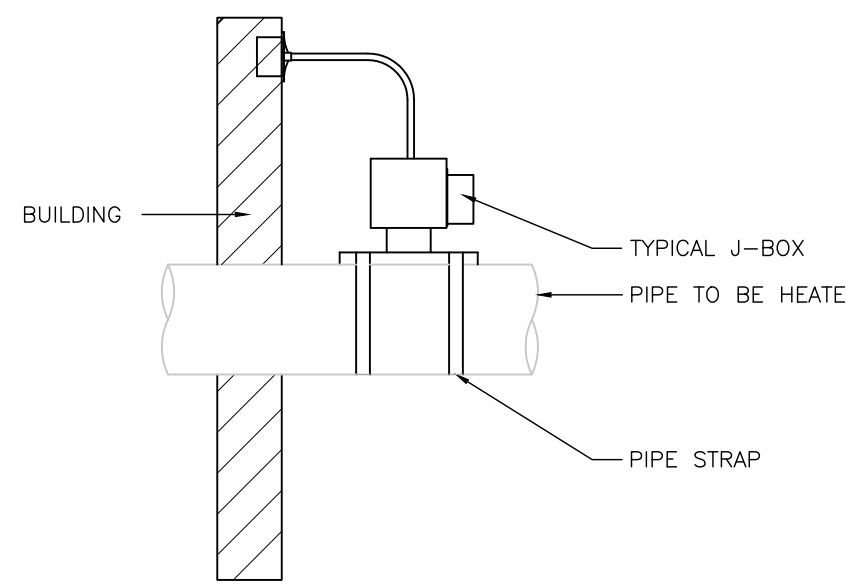
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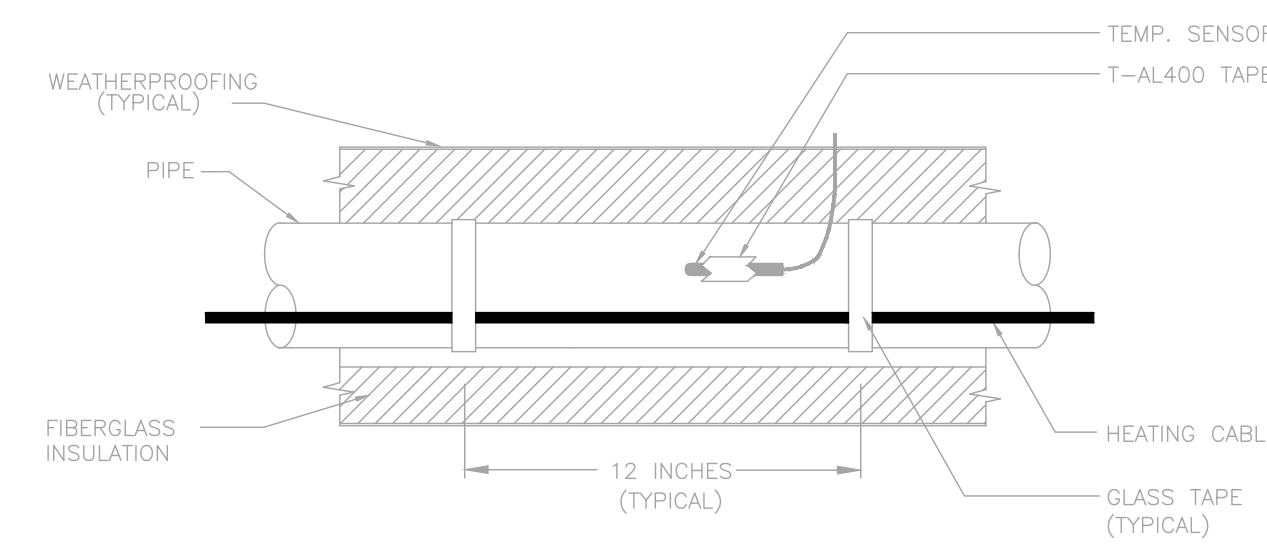


TYPICAL DETAILS:  
INSULATE OVER ENTIRE PIPE AREA.  
ALL INSULATION TO BE PROTECTED FROM WEATHER USING APPROVED METHODS.

10 HEAT TRACE PIPE SECTION  
NTS

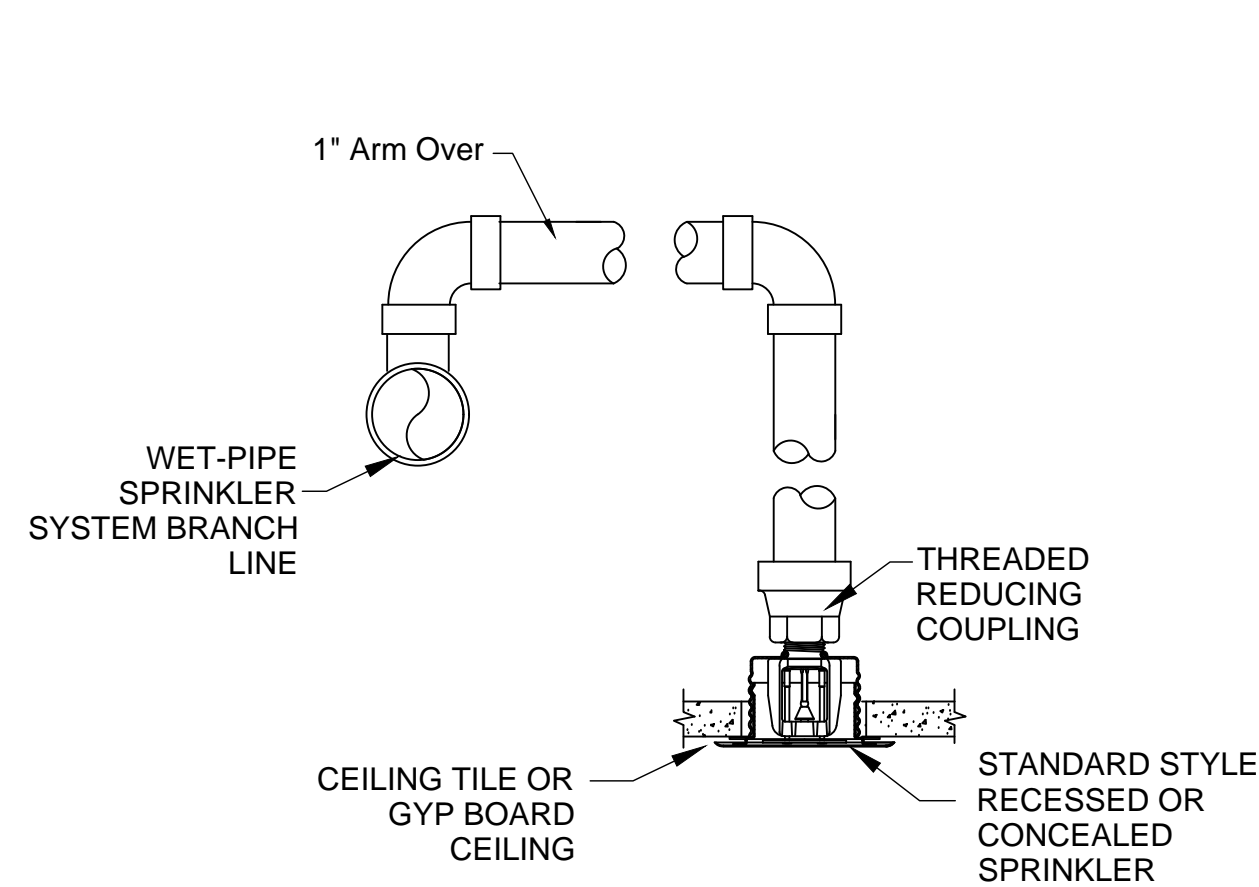


10 HEAT TRACE POWER CONNECTION  
NTS

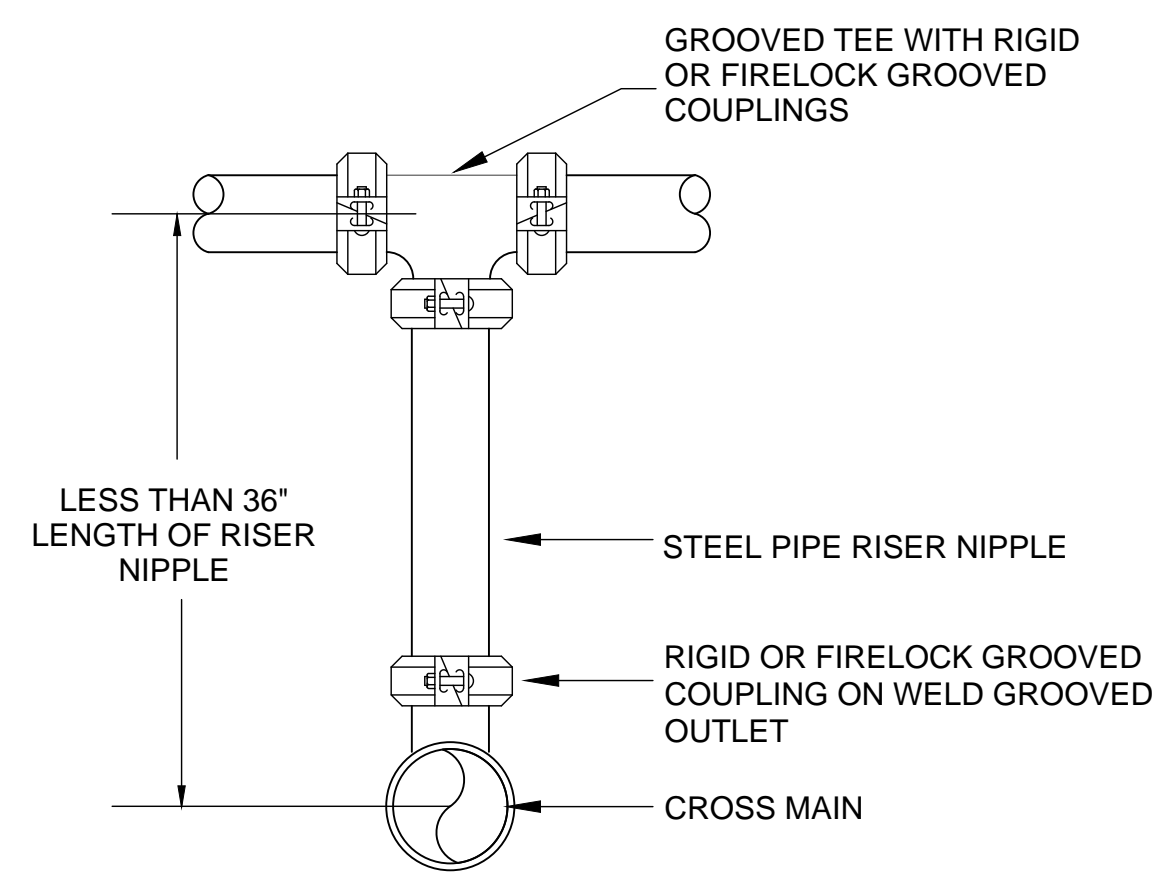


NOTE:  
A STRIP OF ALUMINUM TAPE SHOULD BE APPLIED OVER THE THERMOSTAT BLADES TO IMPROVE HEAT TRANSFER.

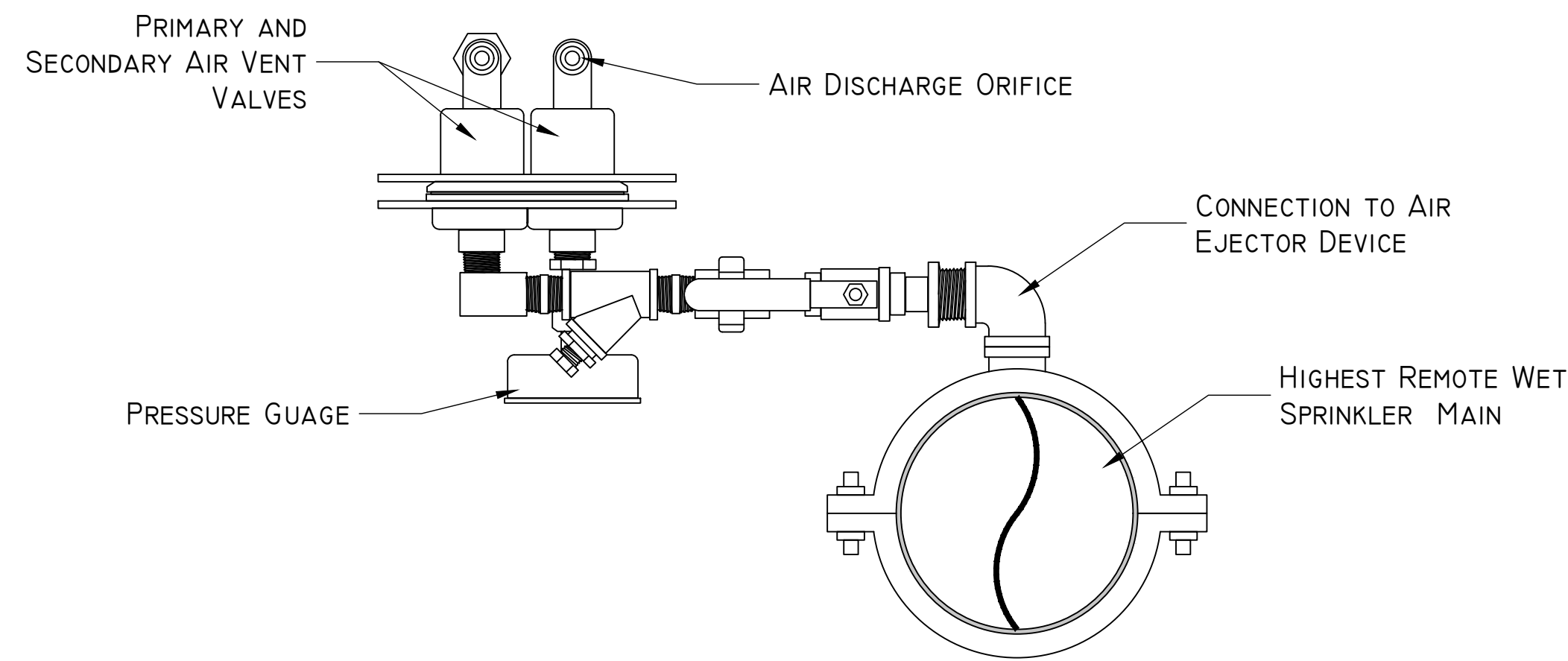
10 HEAT TRACE DETAIL  
NTS



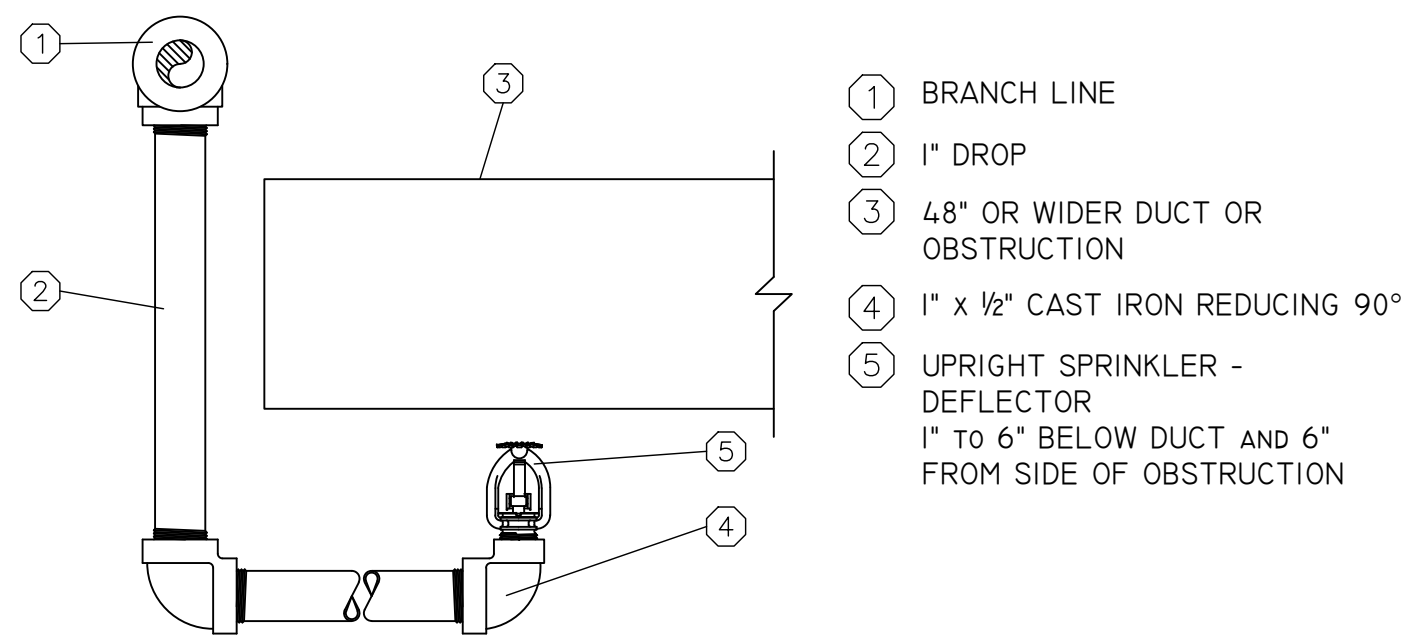
10 ARMOVER DETAIL  
NTS



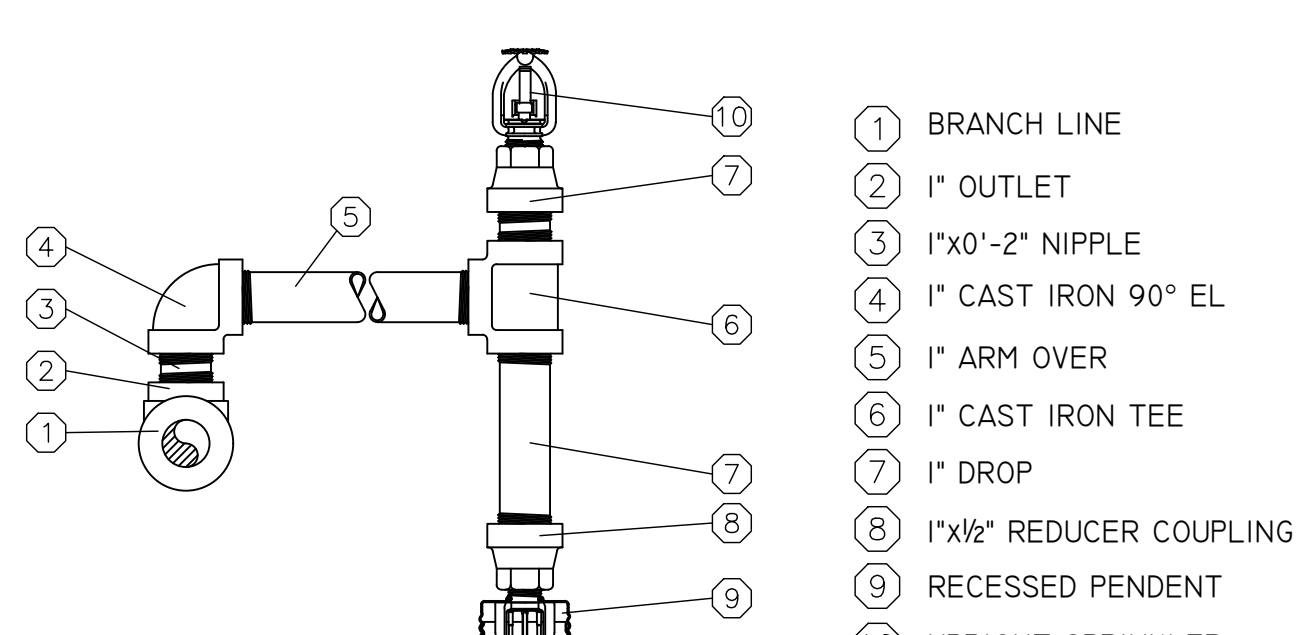
11 RISER DETAIL  
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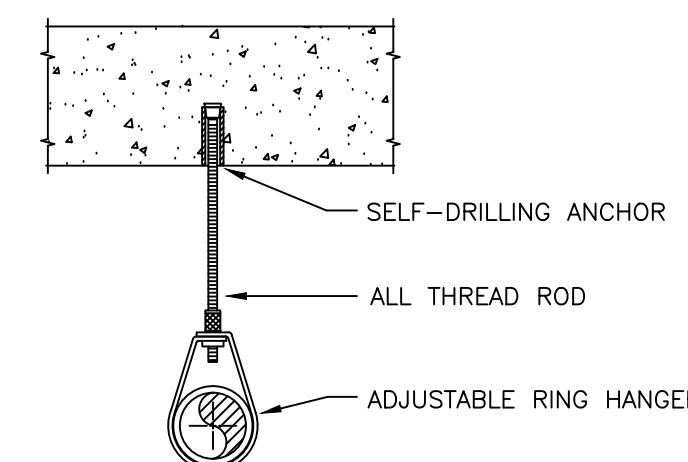
12 AIR EJECTOR DETAIL  
NTS



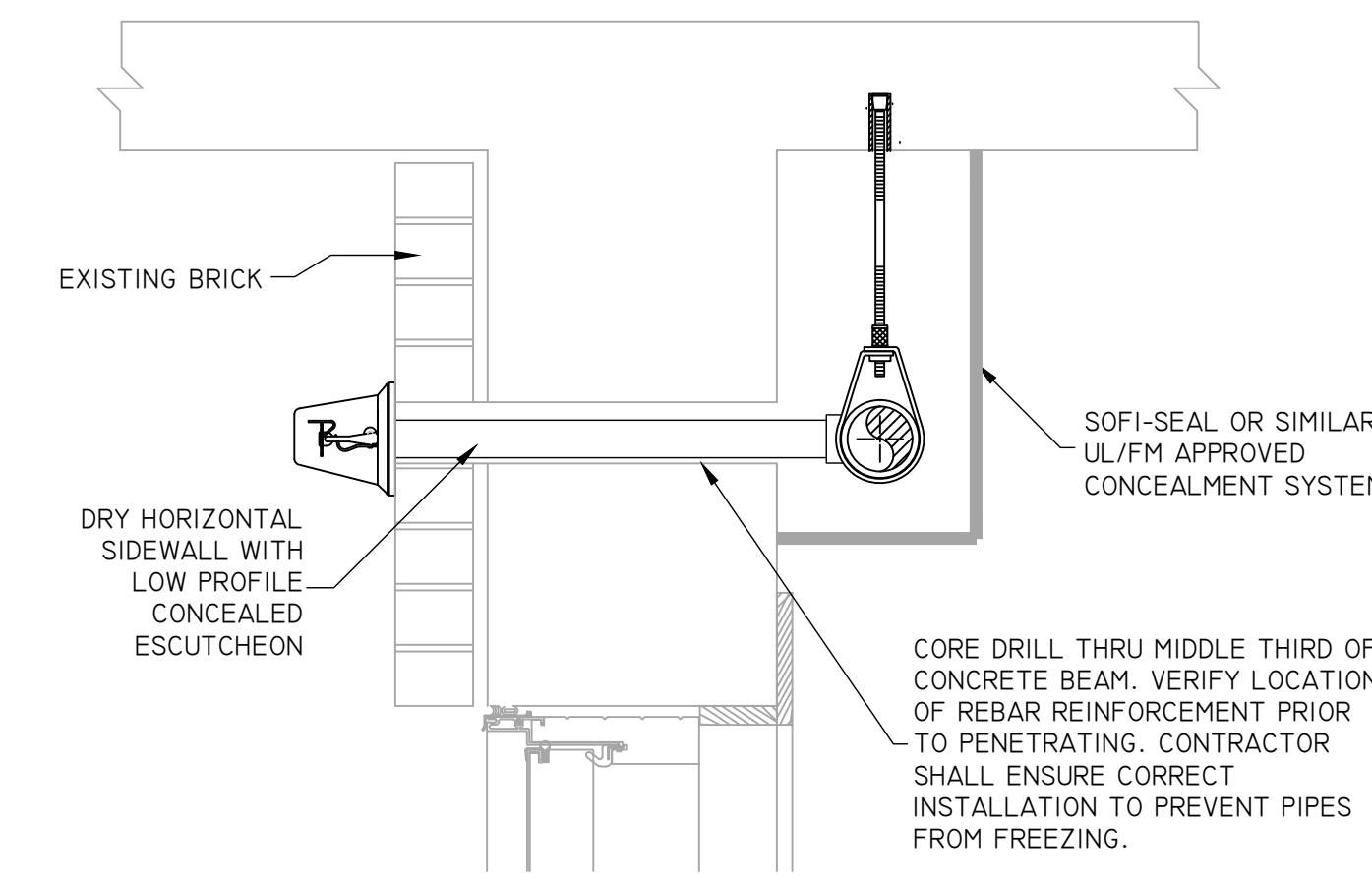
7 ARMOVER DETAIL  
NTS



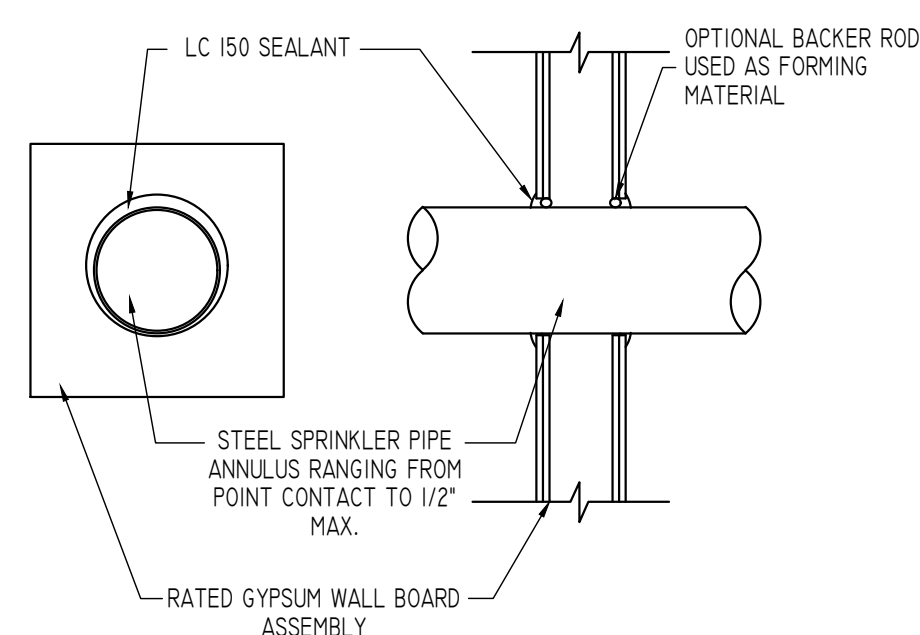
8 ARMOVER DETAIL  
NTS



8 HANGER DETAIL  
NTS

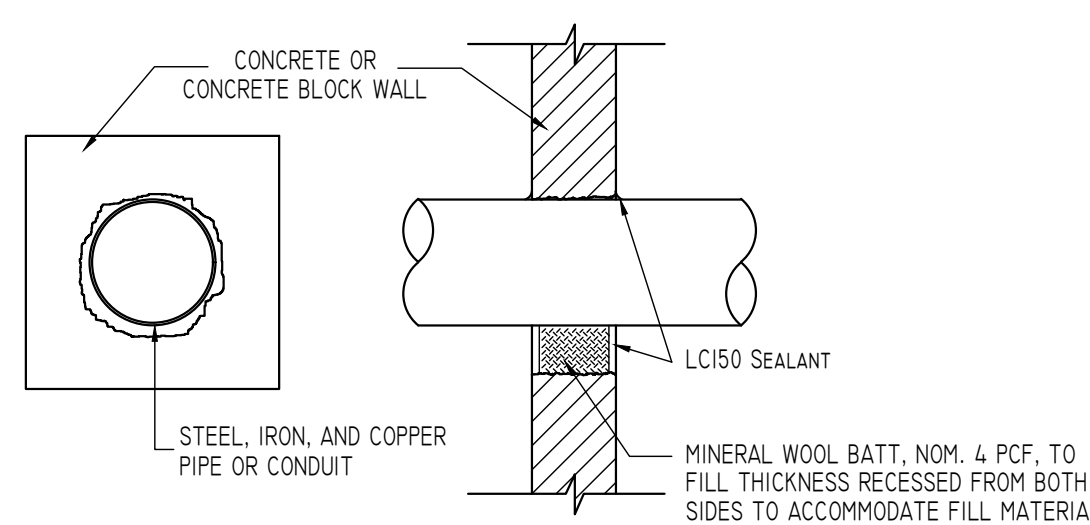


8 DRY SIDEWALL INSTALLATION DETAIL  
NTS



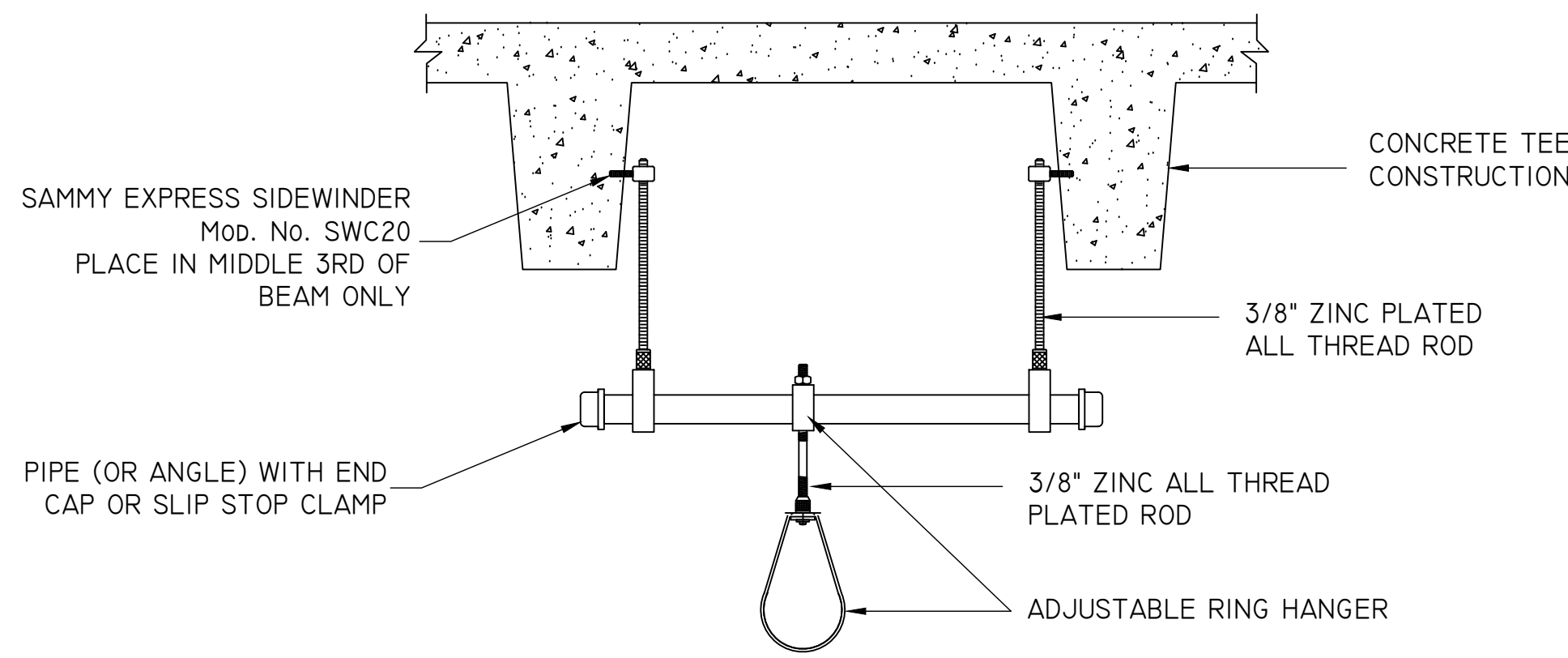
1 OR 2 HOUR RATED FIRESTOP FOR METALLIC PIPING THROUGH GYPSUM BOARD WALLS USING LC150 SEALANT SYSTEM: WL-1090 OR APPROVED EQUAL.

14 FIRE STOP DETAILS  
NTS

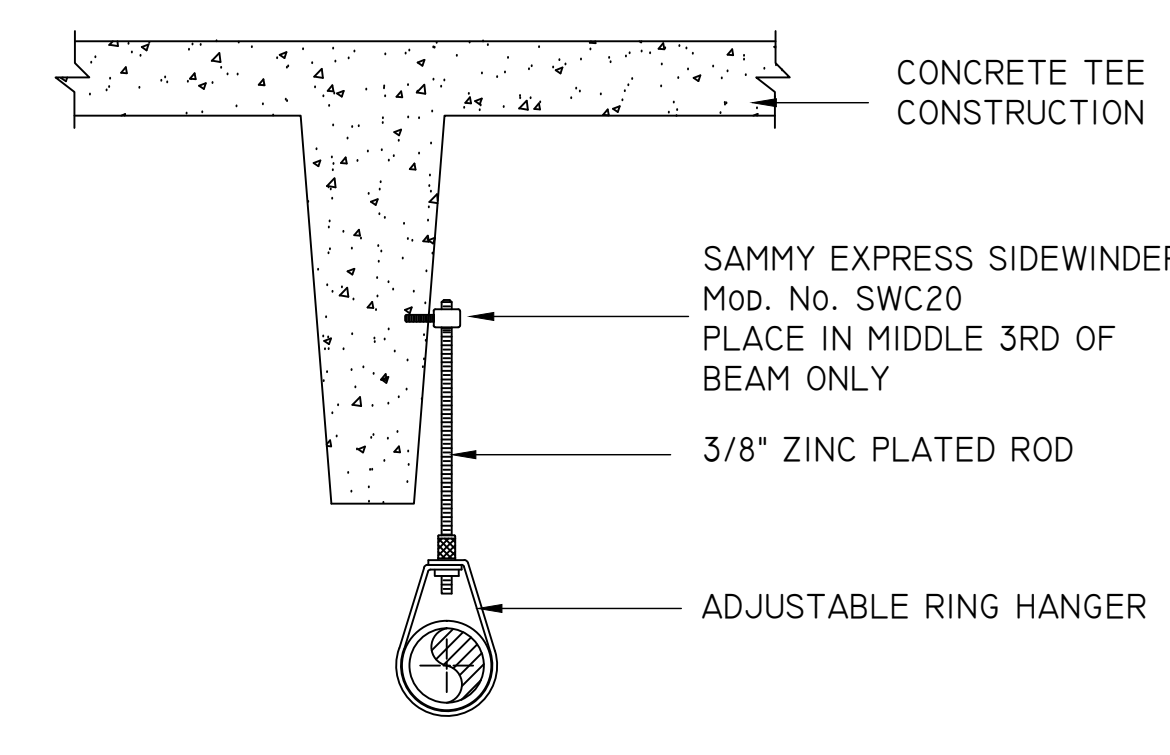


3 HOUR RATED FIRESTOP FOR METALLIC PIPING THROUGH CONCRETE WALLS USING LC150 SEALANT SYSTEM: C-AL4E10 OR APPROVED EQUAL.

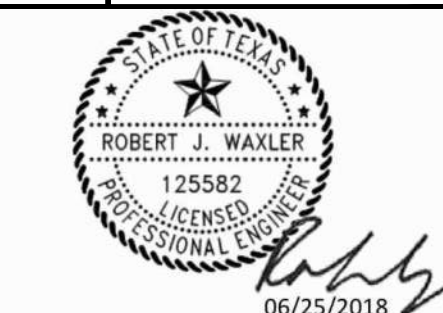
PENETRANT	MAXIMUM TRADE SIZE	SEALANT DEPTH	MINERAL WOOL	ANNULUS	
				MINIMUM	MAXIMUM
STEEL OR IRON	24"	1/2"	3"	POINT CONTACT	2"
STEEL OR IRON	4"	1"	N/A	POINT CONTACT	1-1/2"
COPPER	4"	1/2"	3"	POINT CONTACT	2"



6 HANGER DETAIL IN BASEMENT  
NTS



5 HANGER DETAIL IN BASEMENT  
NTS



Fire Protection Consulting Group, LLC  
Texas PE Firm# 15865

REVISIONS:

No.	DATE	DESCRIPTION
A	5-22-2018	100% Design Review

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