

Cover Sheet

Document Title:	Fire Sprinkler plans
Prepared By:	Pacific Fire Engineering
Date:	12/23/2024
Version:	Permitted Set FRNSS-2024-00201
Project Name:	PPHCSD Civic Center Phase 1
Client/Stakeholder:	PPHCSD
Confidentiality:	[Public/Internal/Confidential]

Document Overview

This specification document outlines the requirements, standards, and key details for the project or product described above. The cover sheet provides a summary of essential information to identify and track the document throughout its lifecycle.

Contact Information

- Preparer Pacific Fire Engineering, Steven P Bishop, R.P.E., 714-984-4346 pacificfire@me.com
- Steeno Design Studio Inc, 760-244-5001, Sophie Steeno sophie@steenodesign.com and Angie Allen angie@steenodesign.com

Revision History

Version	Date	Description	Author

Bid Set - PPHCSD Civic Center Phase 1
- Fire Sprinkler Plans

PACIFIC FIRE ENGINEERING
45410 CROW CIRCLE
INDIAN WELLS, CA. 92210
PHONE: 714-984-4346
EMAIL: PACIFICFIRE@ME.COM

REGISTERED PROFESSIONAL ENGINEER
NO. 55769 P. BISHIP
EXPIRATION DATE 06/30/2027
STATE OF CALIFORNIA
FIRE PROTECTION

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REVISIONS	NO.	DATE	DESCRIPTION	AUTHORITY HAVING JURISDICTION	PHONE
				DEPARTMENT	SAN BERNARDINO COUNTY FIRE DEPARTMENT

SYM	MAKE & MODEL	SPRINKLERS	K-FACTOR	TEMP	SIZE	FINISH	CANOPY	QTY	TOTAL SPRINKLERS THIS SHEET

FIRE FLOW FOR SYSTEM DESIGN

ELEVATION OF COMPUTER MODEL TEST HYDRANT LOCATED ABOVE BUILDING FINISHED FLOOR ELEVATION. TO BE CONSERVATIVE, A HEAD PRESSURE INCREASE WAS NOT INCLUDED IN THE HYDRAULIC CALCULATIONS.

AVAILABLE FIRE FLOW INFORMATION (SEE SHEET FP-0.1B)
STATIC PRESSURE: 81.0 PSI
RESIDUAL PRESSURE: 73.0 PSI
GPM FLOWING: 2,000 GPM

REDUCTION FOR AUTOMATIC FIRE SPRINKLER DESIGN (90%)
STATIC PRESSURE: 72.9 PSI
RESIDUAL PRESSURE: 65.7 PSI
GPM FLOWING: 2,000 GPM

HYDRAULIC REFERENCE PLAN LEGEND

- ⑥/⑧/12" = SIZE INDICATION OF UNDERGROUND PIPING
— = DR-14 C900 (CLASS 200) UNDERGROUND PIPE PER CIVIL DWGS.
x-x' = PIPE LENGTH SEGMENTS
⑥ = HYDRAULIC REFERENCE NODE
⊗ = GATE VALVE SIZED PER PLAN
⊗ = 6" AMES 3000SS DCDA WITH BY-PASS METER & TAMPER SWITCHES
⊗ = EXISTING PRIVATE OR PUBLIC FIRE HYDRANT PER PLAN
⊗ = PIV WITH TAMPER SWITCH
⊗ = 2-WAY FIRE DEPARTMENT CONNECTION
⊗ = 4" FIRE SPRINKLER RISER ASSEMBLY PER PLAN, SEE SHEET 3/FP-1.0

FIRE PROTECTION SHEET INDEX

DRAWING NO.	SHEET TITLE
FP-0.1A	HYDRAULIC REFERENCE PLAN
FP-0.1B	PROJECT FIRE FLOW INFORMATION
FP-0.1	FIRE SPRINKLER INSTALLATION DETAILS
FP-0.2	FIRE SPRINKLER INSTALLATION DETAILS
FP-0.3	FIRE SPRINKLER INSTALLATION DETAILS
FP-1.0	FIRE PROTECTION PIPING PLAN
FP-2.0	FIRE PROTECTION CEILING PLAN

FIRE HYD.

SHEEP CREEK ROAD

COMPUTER MODEL TEST HYDRANT
STATIC PRESSURE = 81 PSI
RESIDUAL PRESSURE = 73 PSI
GPM FLOWING = 2,000 PSI

PROPOSED
COMMUNITY BUILDING
14,034 SQ.FT.

4" FIRE SPRINKLER RISER
ASSEMBLY SEE DETAIL 3/FP-1.0

6" STAINLESS STEEL RISER SWEEP
ASSEMBLY - TOTAL LENGTH = 14'-7"

GATE VALVE TYP: 8" FIRELINE CONTINUES

HYDRAULIC REFERENCE PLAN

THIS PLAN IS FURNISHED FOR HYDRAULIC REFERENCE ONLY. UNDERGROUND PIPING/SIZING PER THE CIVIL ENGINEER OF RECORD. SCOPE OF WORK OF THIS SUBMITTAL STARTS AT FLANGE 12" AFF INSIDE THE RISER ROOM

1" = 16'-1"-0"

FINAL ACCEPTANCE
IS SUBJECT TO
FIELD INSPECTION

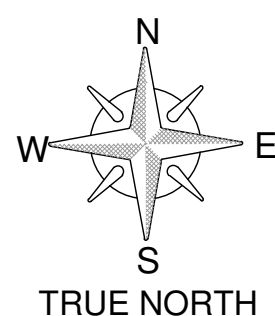
00003 - FIRE (Curtis Markloff)
Note to inspector, please see notes on
pages 6 and 7.

Flex heads are not approved to be used
on this job.

INSPECTION REQUESTS SHALL BE EMAILED TO
INSPECTIONS@SBCFIRE.ORG



12/23/2024, 3:10:38 PM
FNRS-2024-00001
Curtis Markloff



STEVEN P. BISHIP
CERTIFICATION NO. 3434

PROJECT: PHELAN CIVIC CENTER

ADDRESS: 9535 SHEEP CREEK ROAD
PHELAN, CA.

SHEET TITLE: HYDRAULIC REFERENCE PLAN

SCALE:

DATE: 10-10-24

DRAWN BY: SPB

PROJECT NO: P-2360

SHEET NO:

FP-0.1A

Bid Set - PPHCSD Civic Center Phase 1
- Fire Sprinkler Plans

PACIFIC FIRE ENGINEERING
45410 CROW CIRCLE
INDIAN WELLS, CA. 92210
PHONE: 714-984-4346
EMAIL: PACIFICFIRE@GME.COM



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REVISIONS	NO.	DATE	DESCRIPTION	AUTHORITY HAVING JURISDICTION	PHONE
				DEPARTMENT	
				SAN BERNARDINO COUNTY FIRE DEPARTMENT	

SPRINKLERS	MAKE & MODEL	K-FACTOR	TEMP	SIZE	FINISH	CANOPY	QTY	TOTAL SPRINKLERS THIS SHEET

PROJECT: PHELAN CIVIC CENTER	ADDRESS: 9535 SHEEP CREEK ROAD	SHEET TITLE: AVAILABLE FIRE FLOW INFORMATION
	PHELAN, CA.	

SCALE:	
DATE:	10-10-24
DRAWN BY:	SPB
PROJECT NO:	P-2360
SHEET NO:	FP-0.1B



Phelan Piñon Hills CSD
4176 Warbler Road
P.O. Box 294049
Phelan, CA 92329
(760) 868-1212
(760) 868-2323
www.pphcsd.org

FIRE FLOW TEST APPLICATION (Fee \$80)
Discounted \$25 Fee for each additional application if properties are adjacent & use the same hydrant for test.

PLEASE COMPLETE ENTIRE SECTION

Applicant: **Phelan Piñon Hills Community Services District**

Mailing Address: **PO Box 294049, Phelan CA 92329-4049**

Property Owner: **Phelan Piñon Hills CSD** Contact Phone #: **760-868-1212**

Property Address: **9535 Sheep Creek Rd, Phelan** Total Square Footage (see map and records): _____

Assessor's Parcel Number (APN): **3066-261-10** Parcel Size _____ acres

Intended Use of Property: ☐ Single Family Residential ☒ Other: **Civic Center Project**

Preferred Delivery Method (choose one): ☐ Pick-up ☐ Mail ☒ Email: **gcardenas@pphcsd.org**

Subsequent field investigations, by the CSD, may determine that other charges and/or actions will be required.

Received by **TD** Receipts **NC** Date Paid **NC**

Date Report Delivered **08/29/2024**

(For Engineering Use Only)

HYDRAULIC MODEL TEST RESULTS

Hydrant Location: **FacID 56016 / Sheep Creek Rd** Cross Street: **~440 Ft North of Warbler Rd**

Junction # Tested: **J-56076** Junction Distance to Nearest Hydrant: **Same Location**

Static PSI: **81** Residual PSI: **73**

Flow Calculated at 20 PSI Residual: **3,221** GPM

Junction Location—See Attached Map

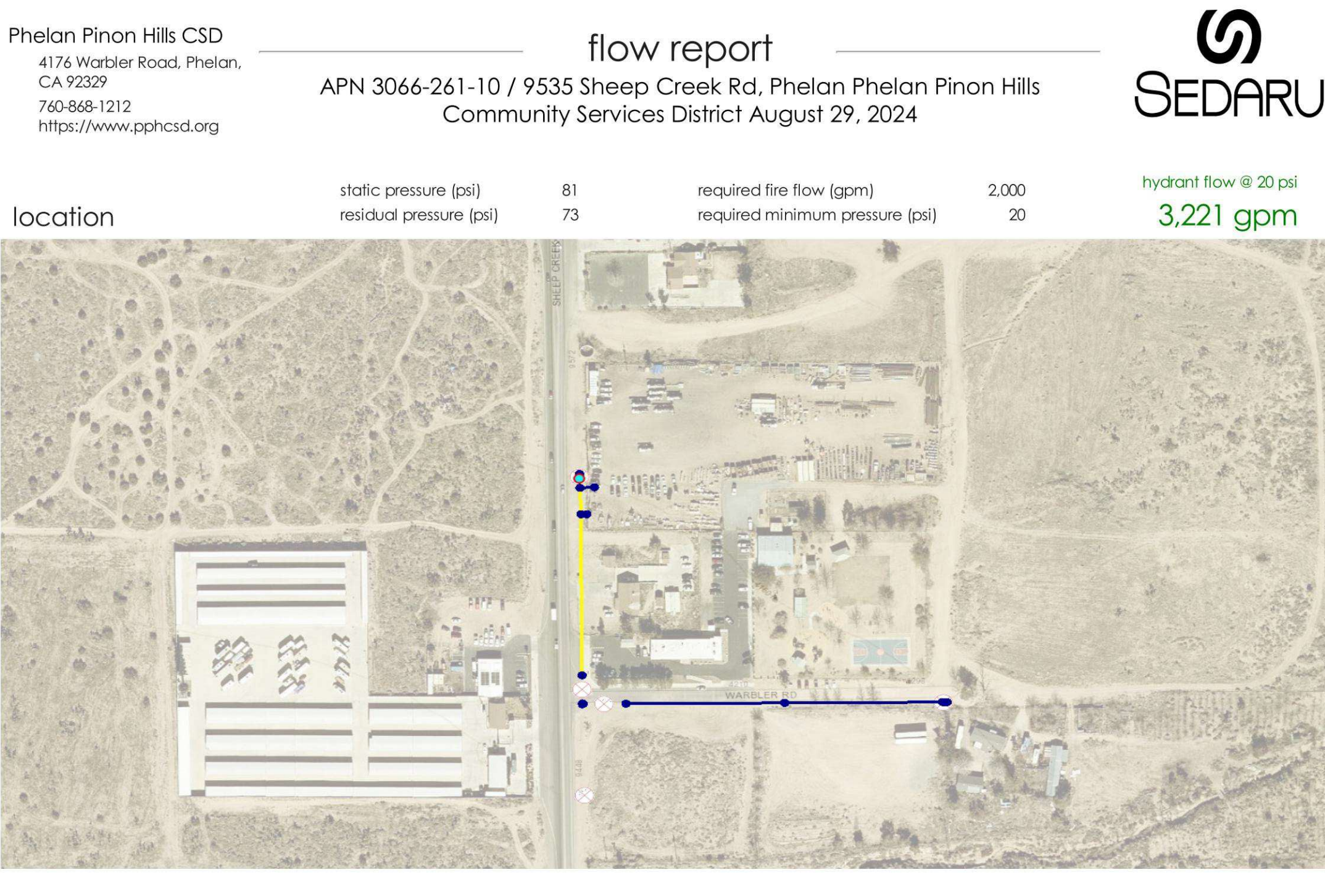
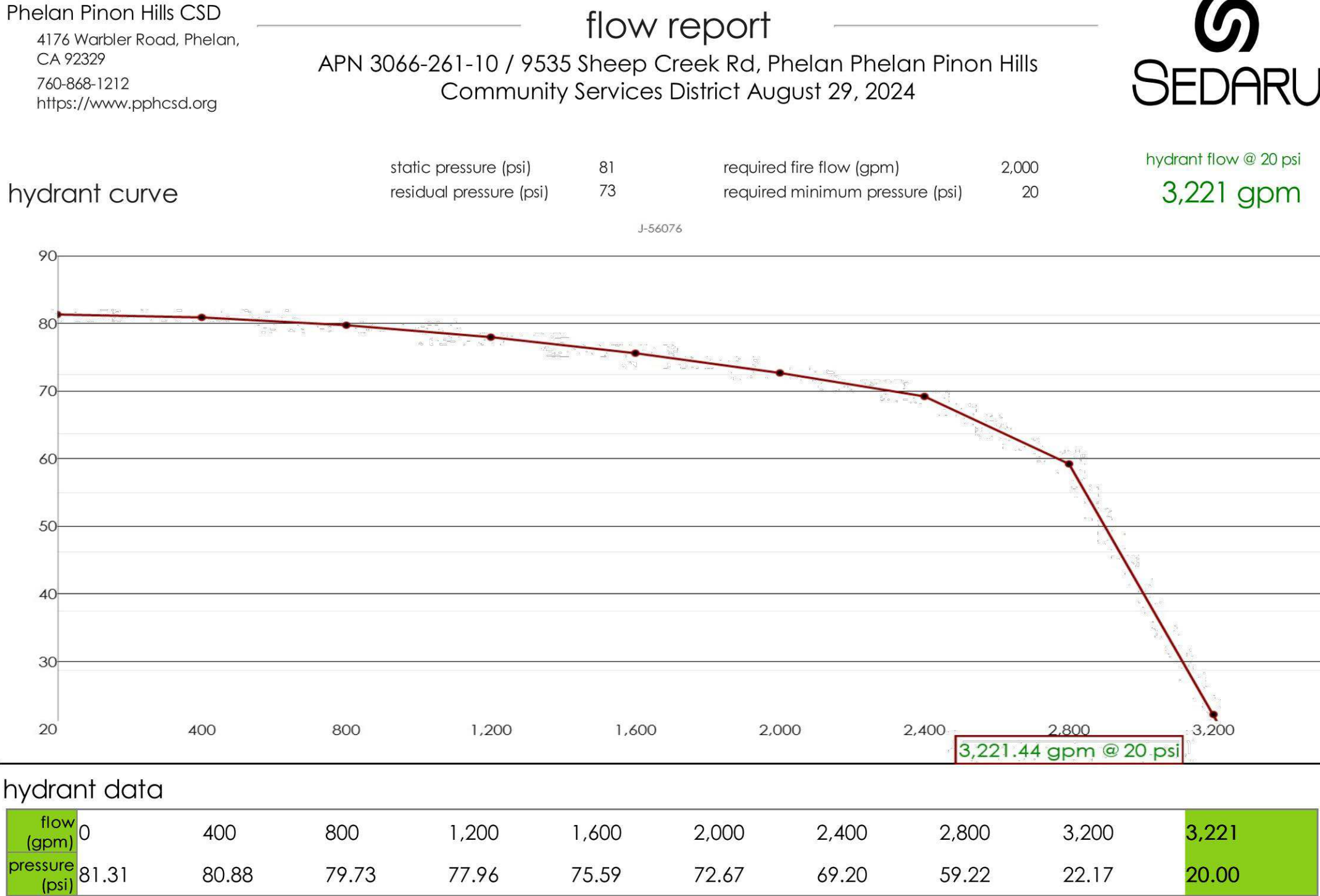
Comments: _____

Tested by: **T. De La Rosa** Date: **8/29/24**

Reviewed by: **G. Cardenas** Date: **8/29/24**

Per San Bernardino County Fire regulations - this report is valid for 6 months
(Report may be renewed at a discounted fee of \$25 (after District approval))

(Revised December 2023)



AVAILABLE FIRE FLOW INFORMATION

Engineering Specification ES-A-3000SS

Job Name _____ Contractor _____
Job Location _____ Approval _____
Engineer _____ Contractor's P.O. No. _____
Approval _____ Representative _____

Series 3000SS
Double Check Detector Assemblies

Sizes: 2 1/2" - 12"

Series 3000SS Double Check Detector Assemblies are designed for use in accordance with water utility non-health hazard containment requirements. It is mandatory to prevent the reverse flow of fire protection system substances, such as glycerin wetting agents, stagnant water, and water of non-potable quality from being pumped or siphoned into the potable water supply.

Features

- Cam-Check Assembly valve provides low head loss
- Short lay length is ideally suited for retrofit installations
- Stainless steel body is half the weight of competitive designs reducing installation and shipping cost
- Stainless steel construction provides long term corrosion protection and maximum strength
- Single top access cover with two-bolt grooved style coupling for ease of maintenance
- No special tools required for servicing
- Compact construction allows for smaller vaults and enclosures
- Furnished with 1/4" x 3/4" bronze meter (gpm or cfm)
- Detects underground leaks and unauthorized water use
- May be installed horizontal or vertical "flow up" position (ASSE Only)
- Includes an integrated supervisory tamper switch on each gate valve of the OSY model

Specification

A Double Check Detector Assembly shall be installed on the protection systems when connected to a drinking water supply. Degree of hazard present is determined by the local authority having jurisdiction. The main valve body shall be manufactured from 300 Series stainless steel to provide corrosion resistance, 100% lead free through the waterway. The double check detector assembly consists of two independently operating, spring loaded check valves, two UL FM, OSY resilient seated gate valves, and bypass assembly. The bypass assembly consists of a meter (cubic ft. or gallons), a double check including shutoff valves and required test cocks. Each cam-check shall be internally loaded and provide a positive stop tight closure against reverse flow. Cam-check includes a stainless steel cam arm and spring, rubber faced disc and a replaceable seat. There shall be no brass or bronze parts used within the cam-check valve assembly.

The check valve seats shall be of molded thermoplastic construction. The use of seat screws as a retention method is prohibited. All internal parts shall be accessible through a single cover on the valve assembly. The valve cover shall be held in

place through the use of a single grooved style two-bolt coupling. The bypass line shall be hydraulically sized to accurately measure low flow. The bypass line shall consist of a meter, a small diameter double check assembly with test cocks and isolation valves. The bypass line double check valve shall have two independently operating modular poppet check valves, and top mounted test cocks.

The integrated supervisory tamper switch on the OSY model shall have continuity with the valve fully open and activate within two (2) turns from open. The device consists of two SPDT switches and is designed to send a tamper signal when the valve is closed and when the switch is removed from the valve. In the neutral position, the switch indicates the valve is fully open. Closing the valve causes the switch rod to come out of the valve stem groove, activating the switch. Removing the tamper switch also activates the switch. The assembly shall be an Ames Fire & Waterworks 3000SS.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

WARNING

It is illegal to use this product in any plumbing system providing water for human consumption, such as drinking or dishwashing in the United States. Before installing standard material product, consult your local water authority, building and plumbing codes.

The wetted surfaces of this product contacted by consumable water contains less than 0.25% of lead by weight.

AMES
FIRE & WATERWORKS
A WATTS Brand

Materials

All internal metal parts: 300 Series stainless steel. Main valve body: 300 Series stainless steel. Check assembly: Noryl® Flange dimension in accordance with AWWA Class D.

Available Models

Suffix:

- LG - Less shutoff valves
- OSY-TS - UL/FM outside stem and yoke resilient seated gate valves with integrated tamper switch
- OSY FxG** - Flanged inlet gate connection and grooved outlet gate connection
- OSY FxG** - Flanged inlet gate connection and flanged outlet gate connection
- OSY GxG** - Grooved inlet gate connection and flanged outlet gate connection
- OSY GxG** - Grooved inlet gate connection and grooved outlet gate connection
- CFM - Cubic feet per minute
- GPM - Gallons per minute meter

* Consult factory for the following:

- Grooved NPS gate valves
- Post-indicator plate and operating nut
- Dimensions

Dimensions - Weights

The integrated supervisory tamper switch on the OSY model shall have continuity with the valve fully open and activate within two (2) turns from open. The device consists of two SPDT switches and is designed to send a tamper signal when the valve is closed and when the switch is removed from the valve. In the neutral position, the switch indicates the valve is fully open. Closing the valve causes the switch rod to come out of the valve stem groove, activating the switch. Removing the tamper switch also activates the switch. The assembly shall be an Ames Fire & Waterworks 3000SS.

Dimensions

NET WEIGHT

SIZE	A	H	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
2 1/2"	37	965	181	416	3 1/2	89	10	250	22	559	12 1/2	318	180	72	68	31											
3"	38	965	181	479	3 1/2	95	10	250	22	559	13	330	235	108	70	32											
4"	40	1014	221	578	4 1/2	114	10	250	22	559	14 1/2	369	245	111	73	33											
6"	48 1/2	1252	30 1/2	765	5 1/2	140	15	381	27 1/2	699	15 1/2	394	395	179	120	54											
8"	52 1/2	1354	37 1/2	859	6 1/2	171	15	381	29 1/2	749	16 1/2	464	577	261	180	82											
10"	59 1/2	1410	45 1/2	1162	8	200	15	381	31 1/2	749	19 1/2	495	779	353	190	86											
12"	57 1/2	1461	53 1/2	1349	9 1/2	241	15	381	29 1/2	749	21	533	1049	476	220	100											

Noryl® is a registered trademark of SHPP Global Technologies B.V.



ES-A-3000SS 2205

USA: Backflow T: (878) 883-0008 • F: (878) 875-8382 • AmesFireWater.com
USA: Control Valves T: (713) 943-0088 • F: (713) 944-6444 • AmesFireWater.com
Canada: T: (888) 208-2082 • F: (905) 481-2316 • AmesFireWater.com
Latin America: T: (52) 55-4122-0103 • AmesFireWater.com

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6" AMES DOUBLE DETECTOR CHECK ASSEMBLY MANUFACTURER'S DATA SHEET



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PNRS-2024-00201
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Bid Set - PPHCSD Civic Center Phase 1 - Fire Sprinkler Plans



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[illegible][illegible]

PROJECT: PHELAN CIVIC CENTER	ADDRESS: 9535 SHEEP CREEK ROAD PHELAN, CA.
SHEET TITLE: FIRE PROTECTION DETAILS	

SCALE:	
DATE:	10-10-24
DRAWN BY:	SPB
PROJECT NO:	P-2360
SHEET NO:	

FP-0.1

1. THE FIRE SPRINKLER CONTRACTOR'S SCOPE OF WORK FOR THIS PROJECT BEGINS 12' ABOVE THE FINISHED FLOOR IN THE PROPOSED BUILDING (AT THE FIRE SPRINKLER RISER ROOM AND CONSISTS OF INSTALLING A NEW AUTOMATIC FIRE SPRINKLER SYSTEM DESIGNED PER THE 2002 EDITION OF NFPA 13 AS ADOPTED BY THE STATE OF CALIFORNIA AND THE SAN BERNARDINO COUNTY FIRE DEPARTMENTS' ADOPTED GUIDELINES AND STANDARDS.
2. FIRE SPRINKLER PROTECTION OR PASSIVE FIRE PROTECTION SHALL BE PROVIDED THROUGHOUT THE BUILDING AS REQUIRED PER APPLICABLE CODES, STANDARDS AND SPECIFICATIONS. THE INSTALLING CONTRACTOR SHALL REVIEW ALL CONSTRUCTION DOCUMENTS AND PROJECT SPECIFICATIONS PRIOR TO BIDDING AND BE COMPLETELY FAMILIAR WITH THE PROJECT TO INCLUDE ALL AREAS THAT REQUIRE AUTOMATIC FIRE SPRINKLER PROTECTION.
3. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH THE BUILDING, BUILDING STRUCTURE AND UTILITIES, AND ARCHITECT, ENGINEER, PLUMBING, OFFSETS, LABOR AND DESIGN CHANGES THAT MAY BE REQUIRED SHALL BE PROVIDED TO NO ADDITIONAL COST TO THE OWNER.
4. PRIOR TO BID, THE CONTRACTOR SHALL VISIT THE JOB SITE AND TAKE MEASUREMENTS AND CONDUCT ANY OTHER REQUIRED SURVEYS TO COMPLETE THEIR SCOPE OF WORK. THIS INFORMATION SHALL BE COMPARED TO THE DRAWINGS AND SPECIFICATIONS AS TO THE CONDITIONS UNDER THE WORK WILL BE PERFORMED. NO ALLOWANCE SHALL BE SUBSEQUENTLY MADE FOR EXTRA EXPENSES DUE TO FAILURE OR NEGLECT TO PERFORM THE CONTRACTOR'S DUE DILIGENCE.
5. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR CREATING SHOP DRAWINGS FOR INSTALLATION PURPOSES THAT CLEARLY IDENTIFY ALL PIPING LOCATIONS, PIPE TYPE, METHODS OF ATTACHMENT TO STRUCTURE, SEISMIC BRACING, RISER ASSEMBLIES, ETC. AND SHALL BE ALL INCLUSIVE TO COMPLETELY ILLUSTRATE THEIR SCOPE OF WORK. THE INSTALLING CONTRACTOR SHALL COORDINATE FIRE SPRINKLER SHOP DRAWINGS WITH OTHER TRADES SHOP DRAWINGS, EQUIPMENT AND MATERIAL SUBMITTALS, AND/OR ADDITIONAL FITTINGS FOR SPRINKLERS, DESIGN, ETC. THAT MAY BE REQUIRED SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. UPON COMPLETION OF SHOP DRAWINGS AND COORDINATION, THE INSTALLING CONTRACTOR SHALL VERIFY THAT THE HYDRAULIC CALCULATIONS HAVE NOT BEEN ADVERSELY IMPACTED BY ANY DESIGN AND/OR COORDINATION CHANGES. IF IT IS FOUND THAT FURTHER MODIFICATIONS ARE REQUIRED BASED ON THE SUBSEQUENTLY PERFORMED HYDRAULIC CALCULATIONS, THESE MODIFICATIONS SHALL BE DONE TO NO ADDITIONAL COST TO THE OWNER.
6. ALL EQUIPMENT AND MATERIAL SHALL BE NEW AND U.L. LISTED FOR FIRE PROTECTION USE. EVERY COMPONENT OF THE FIRE SPRINKLER SYSTEM SHALL BE LISTED OR APPROVED AS A PRODUCT BY THE MANUFACTURER UNDER THE APPROPRIATE CATEGORY FOR THE INTENDED USE.
7. ALL PIPING AND COMPONENTS SHALL BE RATED FOR A MAXIMUM WORKING PRESSURE OF 175 PSI.
8. A DRAIN TO RECEIVE THE FIRE SPRINKLER MAIN DRAIN DISCHARGE SHALL BE INSTALLED ADJACENT TO THE FIRE SPRINKLER RISER ASSEMBLY PER PLUMBING CODES. THE LOCATION OF THE DRAIN SHALL BE COORDINATED WITH THE LOCATION OF THE MAIN DRAIN OF THE AUTOMATIC FIRE SPRINKLER RISER LOCATION.
9. AUXILIARY DRAINS SHALL BE PROVIDED TO DRAIN SECTIONS OF PIPING THAT CONTAIN TRAPPED WATER AND SIZE PER NFPA-13 DEPEND ON THE BEING RETAINED. ANY ADDED DRAINS INSTALLED SHALL BE INCLUDED IN THE CONTRACTORS AS BUILT SUBMITTAL AND SUBMITTED TO DSA IN THE PROJECT CLOSE OUT DOCUMENTS.
10. PROVIDE ALL SIGNAGE THAT CLEARLY INDICATES IT USE FOR CONTROL VALVES, AUXILIARY DRAINS, MAIN DRAIN, TEST CONNECTIONS, AIR RELEASE VALVES, ETC.
11. ALL PIPE LENGTHS INDICATED IN THIS SUBMITTAL ARE CENTER TO CENTER. ACTUAL CUT LENGTHS MAY VARY DEPENDING ON THE TYPE OF FITTINGS EMPLOYED IN THE AUTOMATIC FIRE SPRINKLER SYSTEM.
12. ALL PIPING SHALL BE SUPPORTED AND BRACED TO STRUCTURAL MEMBERS IN AN APPROVED MANNER. THE ROOF DECK/DIAPHRAGM SHALL NOT BE USED FOR SUPPORT OF ANY PIPING OR BRACING. THE STRUCTURAL ENGINEER SHALL BE CONTACTED IF ADDITIONAL, SUPPORT IS REQUIRED OR TO VERIFY THAT THE STRUCTURE IS CAPABLE TO SUPPORT THE STATIC AND SEISMIC DYNAMIC LOADING.
13. ALL GROOVED PIPING SHALL BE SCHEDULE 40 WHICH INCLUDES PIPE SIZES 2-1/2" AND LARGER. ALL GROOVED COUPLINGS SHALL BE OF THE RIDGE TYPE EXCEPT AS REQUIRED PER NFPA-13 FOR SEISMIC FLEXIBILITY (I.E. RISER ASSEMBLIES, CRITICAL PIPING, ETC.)
14. ALL THREADED PIPING SHALL BE SCHEDULE 40 WHICH INCLUDES PIPE SIZES 2" AND SMALLER. THREADED FITTINGS SHALL BE CLASS 125 CAST IRON CONFORMING TO ASME B16.4. MECHANICAL TEES ARE NOT PERMITTED TO BE USED.
15. ALL THREADED PIPE AND FITTINGS SHALL HAVE THREADS CUT TO ASME B1.20.1 STANDARDS.
16. ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF AWS B5.1.
17. ALL WELDING SHALL BE IN ACCORDANCE WITH THE 2002 EDITION OF NFPA-13 SECTION 7.5.2. A WELDING CERTIFICATE SHALL BE PRESENTED AND APPROVED TO THE PROJECT INSPECTOR.
18. ALL PIPING SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR A PERIOD OF NOT LESS THAN TWO HOURS. THIS TEST SHALL BE WITNESSED BY AND APPROVED BY THE PROJECT INSPECTOR.
19. ANY AUTOMATIC FIRE SPRINKLERS SUBJECT TO MECHANICAL DAMAGE SHALL BE INSTALLED WITH SPRINKLER GUARDS.
20. FINAL LOCATION AND FINISH OF THE AUTOMATIC FIRE SPRINKLERS PROVIDED IN SUSPENDED OR HARD LID CEILINGS SHALL BE APPROVED BY THE ARCHITECT OF RECORD.
21. ALL HYDRAULIC CALCULATIONS SHALL INCLUDE A 10% REDUCTION IN THE MINIMUM EXPECTED STATIC AND RESIDUAL PRESSURES AS A SAFETY FACTOR FOR POSSIBLE FUTURE WATER PRESSURE DEGRADATION.
22. ALL PIPING SHALL BE SEISMICALLY BRACED AND/OR RESTRAINED PER THE REQUIREMENTS OF NFPA-13 AND THE APPROPRIATE BUILDING CODES & STANDARDS.
23. PER THE STRUCTURAL ENGINEER OF RECORD, THE SDS VALUE FOR THIS PROJECT IS 1.229 CORRELATING TO A SEISMIC COEFFICIENT (Cp) VALUE OF 0.97 PER NFPA 13 (ROUNDED UP FOR WORST CASE DESIGN).
24. THE COMPONENTS OF HANGER ASSEMBLIES THAT DIRECTLY ATTACH TO THE BUILDING STRUCTURE SHALL BE U.L. 203 LISTED FOR FIRE PROTECTION USE.
25. CLEARANCE AROUND PIPING SHALL BE PROVIDED PER THE 2002 EDITION OF NFPA-13 SECTION 184.2. SEE DETAIL #25 ON SHEET 10 FOR MINIMUM CLEARANCES BASED ON PIPE SIZE.
26. ANY PENETRATIONS THROUGH STRUCTURAL ELEMENTS SHALL BE DETAILED AND APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. AT NO CIRCUMSTANCE SHALL THE INSTALLING CONTRACTOR NOTCH OR PROVIDE HOLES THROUGH STRUCTURAL FRAMING ELEMENTS WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER. ANY STRUCTURAL MEMBERS THAT HAVE HAD THEIR INTEGRITY COMPROMISED BY THE INSTALLING CONTRACTOR SHALL BE REPLACED AT THE EXPENSE OF THE INSTALLING CONTRACTOR.
27. ALL UNDERGROUND FIRE MAIN PIPING FOR THIS PROJECT IS NOT INCLUDED IN THE SCOPE OF WORK OF THE FIRE PROTECTION SUBMITTAL. ALL CIVIL DRAWINGS FOR NEW PIPING, PROPOSED DEVICES, THRUST BLOCKS AND INSTALLATION REQUIREMENTS.
28. IT IS THE RESPONSIBILITY OF THE AUTOMATIC FIRE SPRINKLER SYSTEM CONTRACTOR TO VERIFY THE UNDERGROUND FIRE MAIN HAS BEEN FLUSHED PRIOR TO THE CONNECTION OF THE OVERHEAD FIRE SPRINKLER SYSTEM. THE CONTRACTOR MUST HAVE A SIGNED CERTIFICATE BY THE PROJECT INSPECTOR VERIFYING HIS/HER ACCEPTANCE OF THE UNDERGROUND FIRE MAIN FLUSH PRIOR TO CONNECTION.
29. ALL PIPING SUBJECT TO FREEZING (WHERE TEMPERATURE CANNOT BE MAINTAINED ABOVE 40 DEGREES FAHRENHEIT) SHALL BE PROVIDED WITH APPROVED FREEZE PROTECTION PER NFPA-13 SECTION 184.1.
30. WHERE UNDERGROUND PIPING IS FLUSHED AND NOT IMMEDIATELY CONNECTED TO THE OVERHEAD PIPING, THE RISER SHALL BE CAPPED OR OTHERWISE PROTECTED TO PREVENT DEBRIS, DIRT OR ANIMALS FROM ENTERING INTO THE UNDERGROUND PIPING WITHIN THE PROJECT INSPECTOR.
31. PROVIDE SPARE SPRINKLER HEAD CABINET, LISTED SPRINKLER WRENCH, AND NO FEWER THAN 12 SPARE SPRINKLER HEADS MATCHING THE TYPES AND TEMPERATURE RATING IN EACH PROTECTED AREA FOR SYSTEMS WITH GREATER THAN 300 SPRINKLERS (WITH U.L. LISTED WRENCHES FOR THE SPRINKLERS INSTALLED).
32. THE SPRINKLER FLOW SWITCH SHALL BE TESTED TO CONFIRM THAT WHEN THE INSPECTOR'S TEST VALVE IS ACTIVATED AN ALARM WILL SOUND NO MORE THAN 90 SECONDS AFTER INITIAL FLOW (WITNESSED BY THE PROJECT INSPECTOR).
33. CONNECTIONS TO PROTECTED PREMISES AND SUPERVISING STATION FIRE ALARM SYSTEMS SHALL BE TESTED TO VERIFY PROPER IDENTIFICATION AND TRANSMISSION OF ALARMS FROM AUTOMATIC FIRE EXTINGUISHING SYSTEMS (WITNESSED BY PROJECT INSPECTOR).
34. ALL SIGNAGE SHALL BE PROVIDED AS REQUIRED, INCLUDING RISER ROOM IDENTIFICATION.
35. TITLE 19 (ARTICLE 996A) A LABEL OF THE SELF-ADHESIVE TEST VALVE SHALL BE PLACED ON THE FIRE DEPARTMENT CONNECTION OR ON THE RISER FOR THE FIRE SPRINKLER SYSTEM AND SHALL INCLUDE THE DATE OF INSTALLATION AND/OR DATE SERVICE WAS PERFORMED AND LICENSE NUMBER OF PERSON PERFORMING SERVICE WORK.
36. SPRINKLER CONTRACTOR SHALL COMPLETE AND SIGN THE CONTRACTOR'S MATERIAL & TEST CERTIFICATE FOR THE ABOVEGROUND PIPING. THIS FORM SHALL BE GIVEN TO THE PROJECT INSPECTOR WHO WILL FORWARD TO DSA FOR FILING IN PROJECT RECORDS.
37. ALL SPRINKLERS EXPOSED TO THE ATMOSPHERE SHALL BE CORROSION RESISTANT. SEE PIPING PLAN FOR REQUIRED LOCATIONS IF PRESENT.
38. CONTRACTOR TO PROVIDE A 1" MANUAL AIR RELEASE VALVE AT THE SYSTEM HIGH POINT PER NFPA-13 SECTION 16.7.

PROJECT SCOPE OF WORK AND GENERAL NOTES

MEP SYSTEM COMPONENTS ANCHORAGE NOTES

APPLICABLE CODE: 2022 CBC

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G., HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

1. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
2. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR TIME CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTED BY THE AUTHORITY HAVING JURISDICTION. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTIONS 1617A, 1.24, 1617A, 1.25 AND 1617A, 1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A REAPPROVED INSTALLATION GUIDE (E.G., HAI OPM FOR 2013 CBC OR LATER), THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E)

MP X MD PP E OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

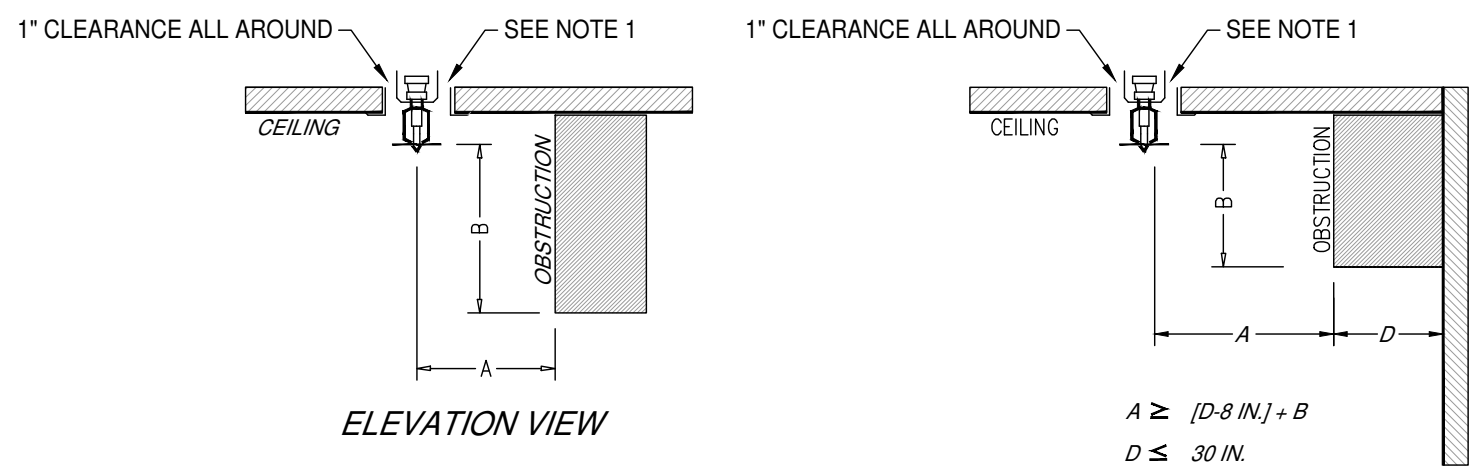
MP__MD__PP__E__ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PREAPPROVAL (OPM #)#

EQUIPMENT AND COMPONENT ANCHORAGE NOTES

NOTE 1

PENETRATIONS THROUGH THE CEILING FOR SPRINKLER HEADS THAT ARE NOT INTEGRALLY TIED TO THE CEILING SYSTEM IN THE LATERAL DIRECTION SHALL HAVE A TWO (2) INCH OVERSIZED RING, SLEEVE OR ADAPTER THROUGH THE CEILING TILE TO ALLOW FREE MOVEMENT OF ONE (1) INCH IN ALL HORIZONTAL DIRECTIONS. PER THIS SUBMITTAL, THE CONTRACTOR SHALL PROVIDE RELIABLE MODEL E-3 ESCUTCHEONS THAT COMPLY WITH CBC-ASCE/ SEI 7 CODES FOR COMPLIANCE.

NOTE: THIS DETAIL IS PROVIDED FOR REFERENCE FOR SPRINKLER INSTALLATION.



2022 NFPA 13, FIGURE 10.2.7.2(A)

2022 NFPA 13, FIGURE 10.2.7.2(B)

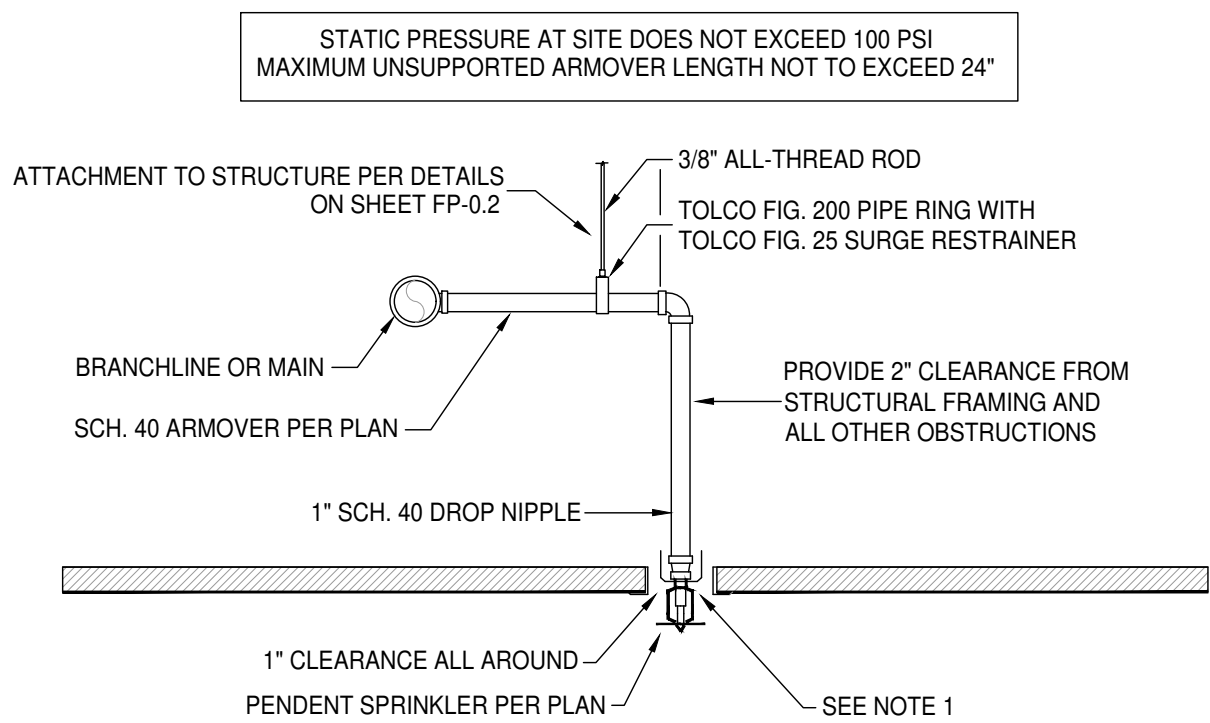
POSITIONING OF SPRINKLERS TO AVOID OBSTRUCTIONS TO DISCHARGE (ISSU/SSP)

POSITIONING OF SPRINKLERS TO AVOID OBSTRUCTIONS AGAINST WALLS (SSU/SSP)

2022 NFPA 13 TO TABLE 10.2.7.2(B) POSITIONING OF SPRINKLERS TO AVOID OBSTRUCTIONS TO DISCHARGE (SUSSSP)	
DISTANCE FROM SPRINKLERS TO SIDE OF OBSTRUCTION (A)	MAXIMUM ALLOWABLE DISTANCE OF DEFLECTOR TO ABOVE BOTTOM OF OBSTRUCTION (1)(B)
LESS THAN 1 FT.	0
1 FT. TO < 1 FT. 6 IN.	2 1/2"
1 FT. 6 IN. TO < 2 FT.	3 1/2"
2 FT. TO < 2 FT. 6 IN.	5 1/2"
2 FT. 6 IN. TO < 3 FT.	7 1/2"
3 FT. TO < 3 FT. 6 IN.	9 1/2"
3 FT. 6 IN. < 4 FT.	12"
4 FT. < 4 FT. 6 IN.	14"
4 FT. 6 IN. < 5 FT.	16 1/2"
5 FT. < 5 FT. 6 IN.	18"
5 FT. 6 IN. < 6 FT.	20"
6 FT. < 6 FT. 6 IN.	24"
6 FT. 6 IN. < 7 FT.	26"
7 FT. < 7 FT. 6 IN.	30"

NOTE 1

PENETRATIONS THROUGH THE CEILING FOR SPRINKLER HEADS THAT ARE NOT INTEGRALLY TIED TO THE CEILING SYSTEM IN THE LATERAL DIRECTION SHALL HAVE A TWO (2) INCH OVERSIZED RING, SLEEVE OR ADAPTER THROUGH THE CEILING TILE TO ALLOW FREE MOVEMENT OF ONE (1) INCH IN ALL HORIZONTAL DIRECTIONS. PER THIS SUBMITTAL, THE CONTRACTOR SHALL PROVIDE RELIABLE MODEL E-3 ESCUTCHEONS THAT COMPLY WITH CBC-ASCE/SEI 7 CODES FOR COMPLIANCE.



DETAIL #1: ARMOVER DETAIL

DETAIL #2: OBSTRUCTIONS TO DISCHARGE - STANDARD SPRINKLERS



12/23/2024, 3:10:38 PM
FNRS-2024-00201
Curtis Markloff



STEVEN P. BISHIP
CERTIFICATION NO: 3434

REVISIONS			AUTHORITY HAVING JURISDICTION	PHON
NO.	DATE	DESCRIPTION	DEPARTMENT	
			SAN BERNARDINO COUNTY FIRE DEPARTMENT	

SYM	MAKE & MODEL	K-FAC	SPI

SCALE:	
DATE:	10-10-24
DRAWN BY:	SPB
PROJECT NO:	P-2360
SHEET NO:	FP-0.2

STEVEN P. BISHIP
CERTIFICATION NO: 3434

Bid Set - PPHCSD Civic Center Phase 1
- Fire Sprinkler Plans

**PACIFIC
FIRE ENGINEERING**
45410 CROW CIRCLE
INDIAN WELLS, CA. 92210
PHONE: 714-984-4349
EMAIL: PACIFICFIRE@ME.COM



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REVISIONS		DESCRIPTION	DATE	NO.	QTY.	FINISH	ORIFICE	TEMP.	SIN	MAKE & MODEL	SYMBOL	TOTAL SPRINKLERS THIS SHEET:	JURISDICTION	FIRE DEPARTMENT	PHONE
REVISED	BY														
													SAN BERNARDINO COUNTY		

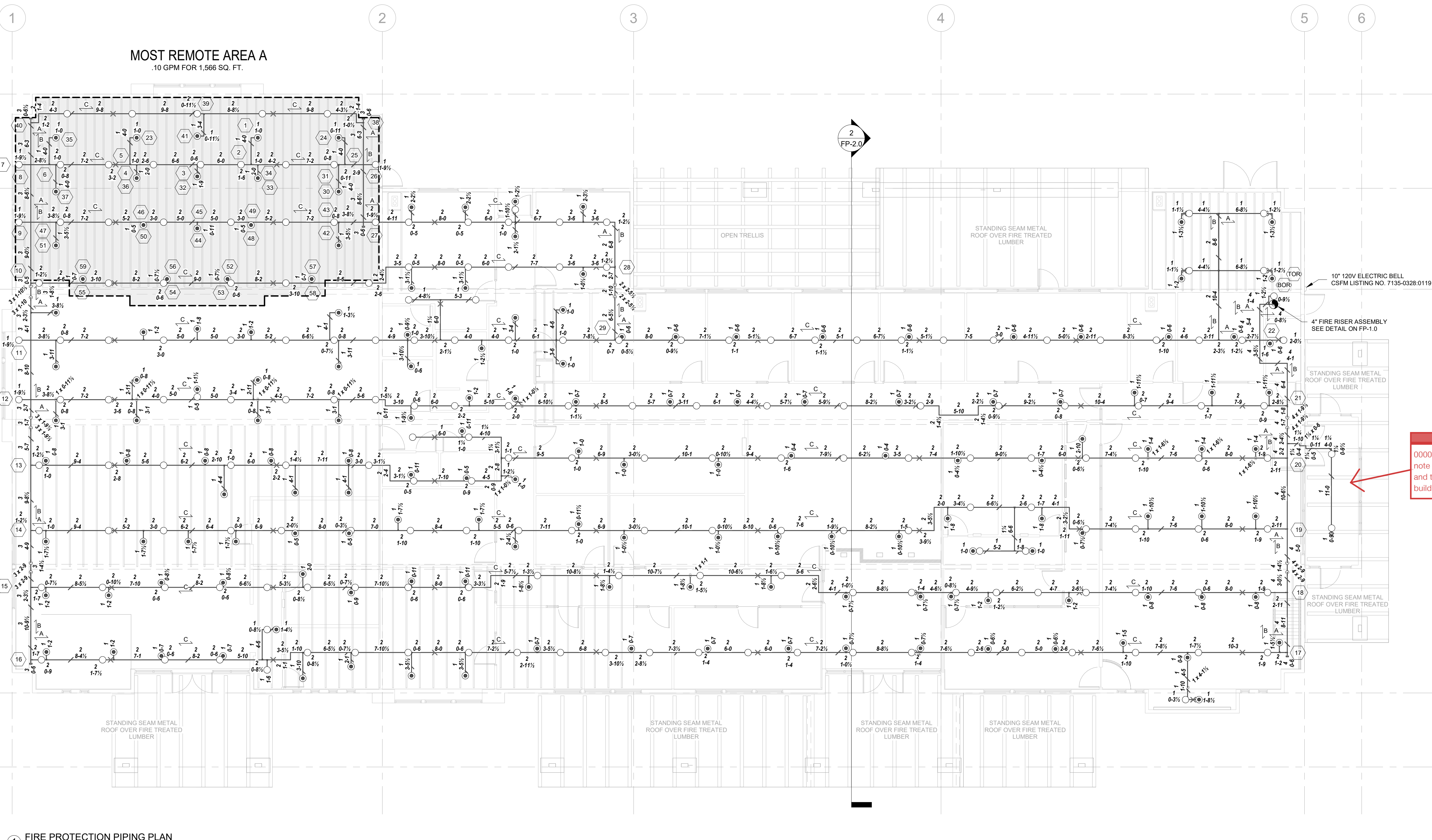
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SYMBOL	MAKE & MODEL	SIN	TEMP.	ORIFICE	FINISH	QTY.	DATE	NO.	DESCRIPTION

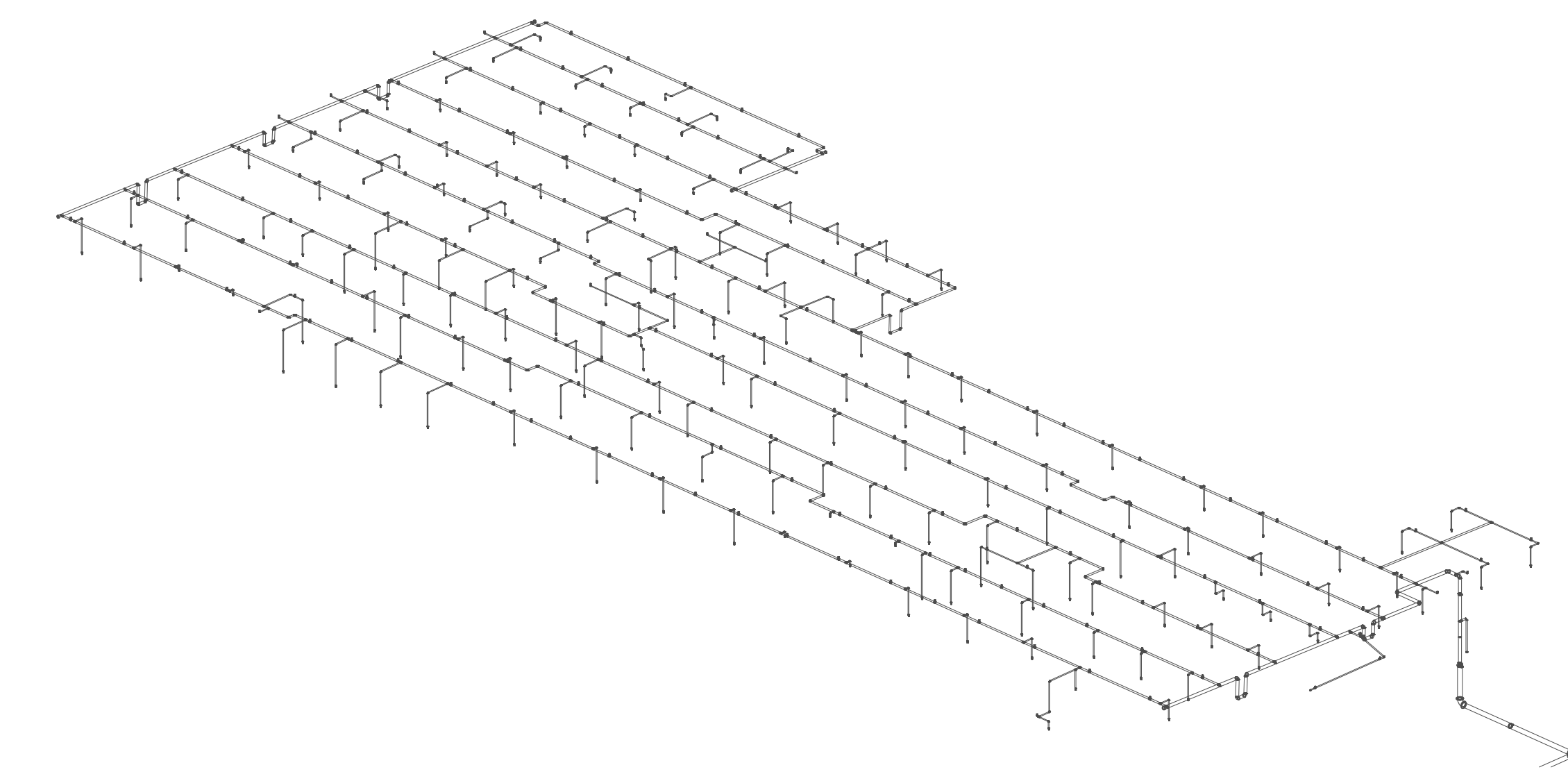
PROJECT: PHELAN CIVIC CENTER
ADDRESS: 9535 SHEEP CREEK ROAD
PHELAN, CA. 92329
SHEET TITLE:
FIRE PROTECTION PIPING PLAN

SCALE: AS NOTED
DATE: 10/10/24
DRAWN BY: SPB
PROJECT NO: P-2360
FP-1.0

PHELAN CIVIC CENTER

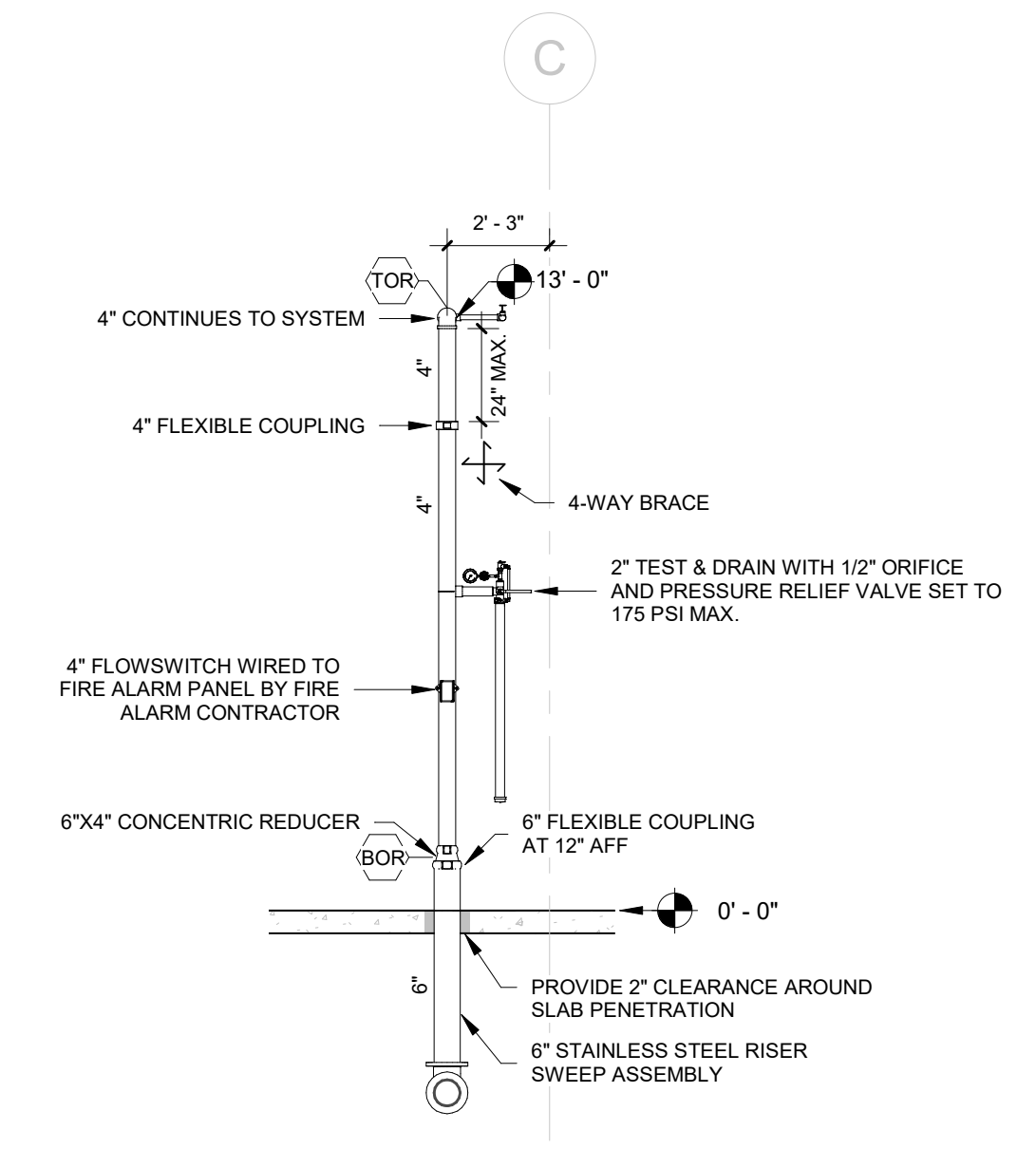


1 FIRE PROTECTION PIPING PLAN
1/8" = 1'-0"



2 FIRE PROTECTION ISOMETRIC VIEW

FIRE SPRINKLER SCHEDULE						
SYMBOL	QTY.	DESCRIPTION	SIN	K-FACTOR	ORIFICE	TEMP.
⊙	161	TYCO QUICK RESPONSE RECESSED PENDENT - WHITE	TY323	5.6	1/2"	200 °F
○	191	TYCO QUICK RESPONSE UPRIGHT - BRASS	TY313	5.6	1/2"	200 °F
Total No. of Sprinklers: 352						



3 FIRE PROTECTION RISER DETAIL
1/4" = 1'-0"

- ⊙ = AUTOMATIC FIRE SPRINKLER PER LEGEND
- = 4" FIRE SPRINKLER RISER ASSEMBLY (SEE DETAIL ON SHEET FP-1.0)
- X = SEISMIC BRACING, SEE SHEET FP-0.3 FOR BRACING CALCULATIONS AND DETAILS
- 1" = ARMORER DETAIL 1/FP-0.1 (NOTE: MAXIMUM STATIC PRESSURE DOES NOT EXCEED 100 PSI. MAXIMUM UNSUPPORTED ARMORER LENGTH SHALL NOT EXCEED 24')
- 1" = SCH. 40 PIPE WITH CENTER TO CENTER DIMENSIONS
- X = HANGER ASSEMBLY PER DETAILS ON FP-0.2 AND STRUCTURAL DOCUMENTS
- X = BRANCHLINE RESTRAINT- USE WRAP AROUND U-HOOK PER DETAILS FS08 & FS11FP-0.2 SEE DETAIL 26FP-0.3 FOR MAXIMUM ALLOWABLE BRANCHLINE RESTRAINT SPACING
- 4-WAY = 4 WAY SEISMIC BRACE
- = VERTICAL PIPE CHANGE, SEE REQUIREMENTS PER DETAIL 23FP-0.3
- 12 = HYDRAULIC REFERENCE NODE
- 1" = CROSS SECTION DETAIL

HYDRAULIC DESIGN INFORMATION SIGN								
Project: PHELAN CIVIC CENTER					Date: 10-30-24			
Work Site Location: 9535 SHEEP CREEK RD.					System: 1			
Contractor: TBD					Zone: N/A			
Contractor Address: TBD					Area: AREA A			
TBD								
SYSTEM DESIGN:								
Hazard/Area:		LH: X	OH-I: _____	OH-II: _____	EH-I: _____	EH-II: _____		
		1566 SF	0 SF	0 SF	0 SF	0 SF		
NFPA Standard:		NFPA-13	Edition Used:		2022			
Area/Sprinkler:		225	sq. ft. used:		225	sq. ft. allowed		
Manufacturer(s):		Tycos						
Model	SIN	SR/QR	K-FACTOR	Size	Type	Temp	Qty	
TY-FRB	TY313	QR	5.6	1/2"	PENDENT	200 °F	191	
TY-FRB	TY323	QR	5.6	1/2"	UPRIGHT	200 °F	161	
CALCULATION DATA:								
Density:		10	gpm/s.f. over		1,566	sq. ft. area		
End Sprinkler:		22.5	gpm @		16.1	psi		
No. of sprinklers flowing:		19						
Inside Hose Streams:		0	gpm					
Outside Hose Streams:		100	gpm					
Demand At Base of Riser:		449.1	gpm @		50.6	psi		
Demand At Source:		549.1	gpm @		58.0	psi		



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FNRS-2024-00001
Curtis Markloff

AUTHORITY APPROVAL STAMP AREA



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REVISIONS	DESCRIPTION	DATE	NO.	QTY.	FINISH	ORIFICE	TEMP.	SIN	MAKE & MODEL	SYMBOL	AUTHORITY HAVING JURISDICTION	PHONE

TOTAL SPRINKLERS THIS SHEET:											
------------------------------	--	--	--	--	--	--	--	--	--	--	--

PROJECT: PHELAN CIVIC CENTER
ADDRESS: 9535 SHEEP CREEK ROAD
PHELAN, CA - 92329
SHEET TITLE:
FIRE PROTECTION CEILING PLAN

SCALE: AS NOTED

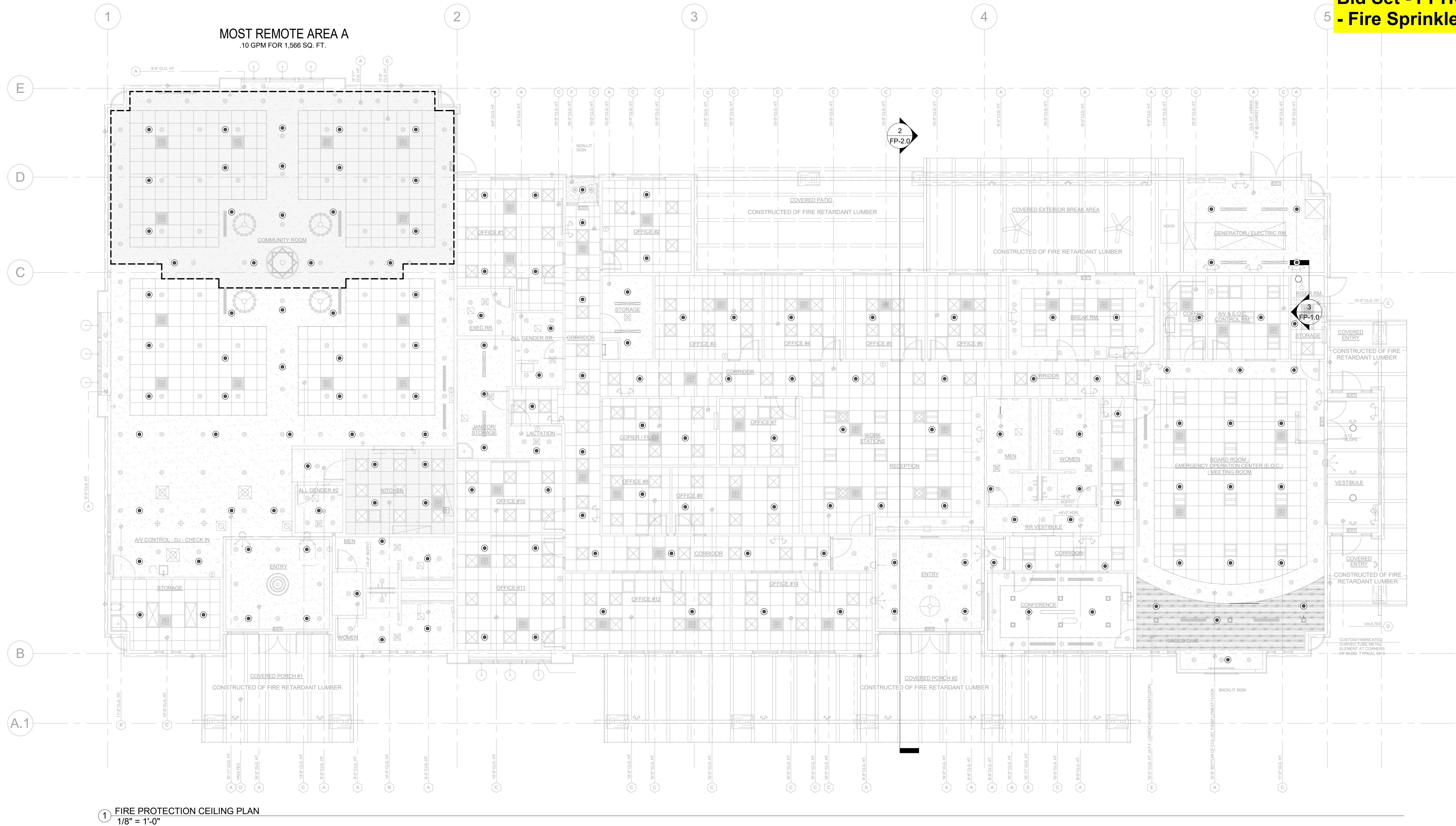
DATE: 10/10/24

DRAWN BY: SPB

PROJECT NO: P-2360

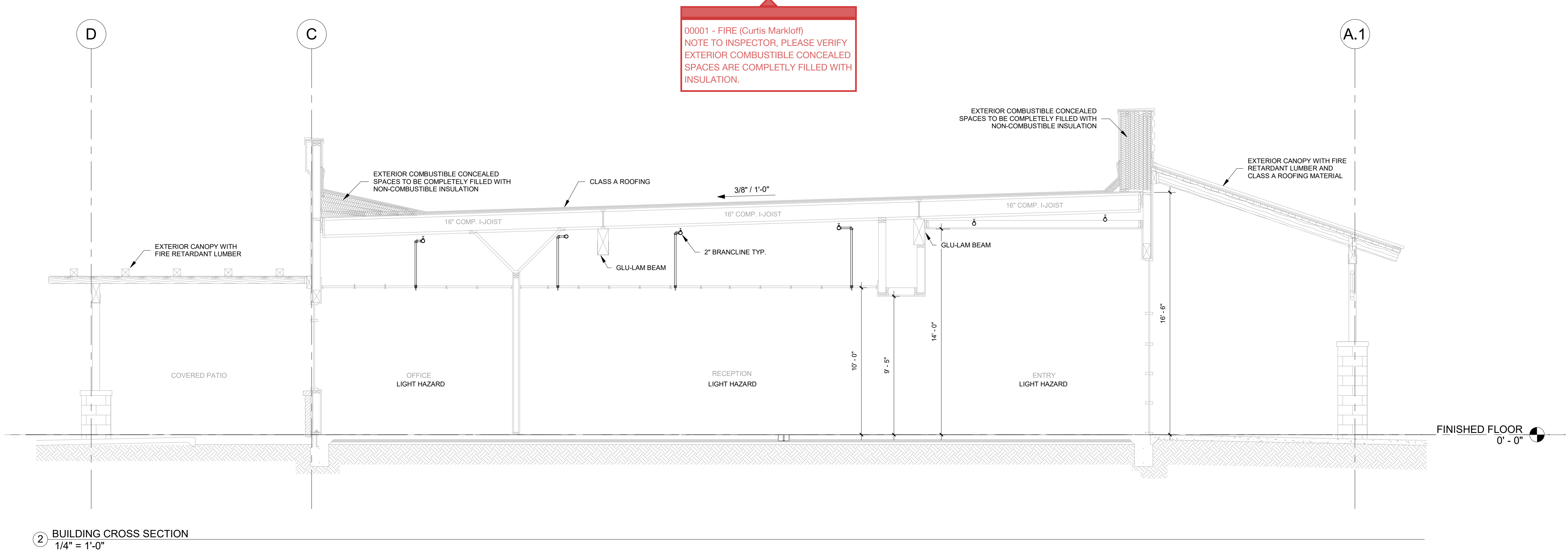
FP-2.0

AUTHORITY APPROVAL STAMP AREA



1 FIRE PROTECTION CEILING PLAN
1/8" = 1'-0"

FIRE SPRINKLER SCHEDULE						
SYMBOL	QTY.	DESCRIPTION	SIN	K-FACTOR	ORIFICE	TEMP.
○	163	TYCO QUICK RESPONSE RECESSED PENDENT - WHITE	TY323	5.6	1/2"	200 °F
○	191	TYCO QUICK RESPONSE UPRIGHT - BRASS	TY313	5.6	1/2"	200 °F
Total No. of Sprinklers: 354						



2 BUILDING CROSS SECTION
1/4" = 1'-0"

