

1 VICINITY MAP
NTS

UNDERGROUND PIPINGNOTES

- 1) INSTALLATION SHALL STRICTLY CONFORM TO NFPA 24 AND THE REQUIREMENTS OF LA COUNTY FIRE DEPARTMENT.
- 2) ALL MATERIALS INSTALLED SHALL BE UL LISTED AND/OR FM APPROVED FOR FIRE PROTECTION USE, WHERE SUCH LISTING IS APPLICABLE.
- 3) PIPE SHALL BE CLASS 200, C900 PVC OR AWWA C51, CLASS 350 DUCTILE IRON AS NOTED.
- 4) FITTINGS SHALL BE CLASS 250 DUCTILE IRON WITH FLANGED OR MECHANICAL JOINT ENDS, AS REQUIRED.
- 5) MINIMUM COVER SHALL BE 3'-0" IN TRAFFIC ZONES AND 2'-6" IN PEDESTRIAN ZONES.
- 6) THRUST RESTRAINT PER NFPA 24 SHALL BE PROVIDED AT ALL CHANGES OF DIRECTION AND/OR ELEVATION.
- 7) PIPE SHALL BE INSTALLED WITH SAND OR EQUIVALENT MATERIAL SURROUNDING THE ZONE, AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
- 8) ALL PIPE PENETRATING CONCRETE OR MASONRY BUILDING WALLS AND FLOOR SLABS SHALL BE PROVIDED WITH 2" CLEAR SPACE AROUND THE OUTSIDE DIAMETER OF PIPE. HOLES FOR PENETRATIONS SHALL BE SLEEVED OR CORED IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION.
- 9) ALL ABOVE GROUND VALVES CONTROLLING FIRE PROTECTION WATER SUPPLIES SHALL BE EQUIPPED WITH TAMPER SWITCHES AND CONNECTED TO AN APPROVED CENTRAL ALERT STATION.
- 10) ALL PIPES AND FITTINGS SHALL BE HYDROSTATICALLY TESTED FOR 2 HOURS AT 200 PSI. AFTER ACCEPTANCE OF PRESSURE TEST, ALL PIPE RUNS SHALL BE FLUSHED PER NFPA 24.
- 11) ALL VISUAL, HYDRO, AND FLUSHING OF UNDERGROUND PIPING SHALL BE INSPECTED BY THE AUTHORITIES HAVING JURISDICTION.

SCOPE OF WORK

PROVIDE AUTOMATIC FIRE SPRINKLER THROUGHOUT THE NEW MAIN STATION AND RESERVE APPARATUS BUILDING PER NFPA 13.

CODES AND STANDARDS

2022 CALIFORNIA BUILDING CODE
2022 CALIFORNIA FIRE CODE
2022 CALIFORNIA PLUMBING CODE
2022 NFPA 13 - STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS

DESIGN CRITERIA

DESIGN AND INSTALLATION OF THE FIRE SPRINKLER SYSTEM SHALL BE PER 2022 NFPA 13.

LIGHT HAZARD: 0.1 GPM OVER 1500 SF MOST REMOTE AREA FOR OFFICES, DORMS, RESTROOMS
CORRIDORS. PROVIDE WITH 100 GPM HOSE ALLOWANCE.

ORDINARY HAZARD GROUP 2:
0.2 GPM OVER 1950 SF MOST REMOTE AREA FOR APPARATUS ROOM. PROVIDE WITH 250 GPM HOSE ALLOWANCE.

BUILDING INFORMATION

PROJECT: LOS ANGELES COUNTY FIRE DEPARTMENT
FIRE STATION 46

ADDRESS: 26720 BOMBERO LANE, VALENCIA, CA 91381

TYPE OF CONSTRUCTION: VB

OCCUPANCY GROUPS: B, S1, S2, R-2

BUILDING AREA:
FIRE STATION: 13,428 SF
RESERVE APPARATUS: 2,449 SF

BUILDING HEIGHT: 31'-4"

NUMBER OF STY: 1-STORY

WATER SUPPLY INFORMATION

DATE OF TEST: 4/15/2025

SOURCE INFO: SANTA CLARITA WATER AGENCY

STATIC PRESSURE: 85.7 PSI - 10% = 77.1 PSI

RESIDUAL PRESSURE: 75.4 PSI - 10% = 67.9 PSI

FLOW: 4855 GPM

ELEVATION: 1363 FT

GENERAL NOTES

- PROVIDE SPARE SPRINKLER HEAD CABINET, SPRINKLER WRENCH, AND NO FEWER THAN 6 SPARE SPRINKLER HEADS MATCHING THE TYPES AND TEMPERATURE RATING IN EACH PROTECTED AREA FOR SYSTEM LESS THAN 300 SPRINKLERS. (12 SPRINKLER HEADS FOR SYSTEMS 300 TO 1,000 SPRINKLERS).
- THE END SPRINKLER ON EACH LINE SHALL BE RESTRAINED FROM EXCESSIVE LATERAL AND VERTICAL MOVEMENT.
- 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.
- 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.
- SIGNAGE SHALL BE PROVIDED AS REQUIRED BY NFPA 13 AND AHJ.
- THE MAIN FIRE ALARM PANEL VALVE MONITORING AND WATER FLOW ALARM AND TROUBLE SIGNALS SHALL BE DISTINCTLY DIFFERENT AND SHALL BE AUTOMATICALLY TRANSMITTED TO AN APPROVED CENTRAL STATION MONITORING COMPANY.
- FLOW SWITCH SHALL BE CONNECTED TO A 10 INCH OUTSIDE ALARM BELL PER PLAN. APPROVED IDENTIFICATION SIGNS SHALL BE PROVIDED TO OUTSIDE ALARM BELL "SPRINKLER FIRE ALARM - WHEN BELL RINGS CALL 911/FIRE DEPARTMENT".
- SPRINKLER CONTRACTOR SHALL COMPLETE AND SIGN CONTRACTOR'S MATERIAL TEST CERTIFICATE FOR THE ABOVE GROUND PIPING.
- ALL PIPE LOCATIONS ARE TO BE FIELD MEASURED PRIOR TO FABRICATION AND INSTALLATION BY SPRINKLER CONTRACTOR.
- COMBUSTIBLE CONCEALED SPACES SHALL BE ENTIRELY FILLED WITH BATT INSULATION OR LIMITED TO 160 CU.FT. TO OMIT SPRINKLER PROTECTION.
- ANY UNFORESEEN CONDITION WHICH MAY AFFECT THE SPRINKLER OPERATION SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER.
- FIRE PROTECTION PLANS SHALL BE APPROVED PRIOR TO THE INSTALLATION OF ANY PIPE. A SET OF APPROVED PLANS SHALL BE MAINTAINED AT ALL TIMES AT THE JOBSITE.
- ALL DIMENSIONS SHOWN ON THE DRAWINGS ARE CENTER TO CENTER.
- HANGERS ARE TO BE UL LISTED AND FM APPROVED AND TO BE INSTALLED PER NFPA 13.
- THE MAIN DRAIN VALVE SHALL BE OPENED AND REMAIN OPEN UNTIL THE SYSTEM PRESSURE STABILIZES. THE STATIC AND RESIDUAL PRESSURE SHALL BE RECORDED ON THE CONTRACTORS TEST CERTIFICATE.
- FIRE DEPARTMENT CONNECTIONS SHALL BE INSTALLED PER THE COUNTY OF LOS ANGELES REQUIREMENTS.
- SUBMIT PLANS TO LOS ANGELES COUNTY FOR REVIEW AND APPROVAL.
- PRIOR TO STARTING FABRICATION AND INSTALLATION, CONTRACTOR SHALL SUBMIT TO THE PROJECT ARCHITECT FOR APPROVAL, A COMPLETE SET OF SHOP DRAWINGS SHOWING ALL PIPING, HANGERS AND SUPPORTS, SPRINKLERS AND ALL COORDINATION WITH STRUCTURE, LIGHTS, DUCTS AND DIFFUSERS AND OTHER BUILDING COMPONENTS.
- THE INSTALLING CONTRACTOR SHALL BE A CALIFORNIA LICENSED C-16, 34, 36 OR GENERAL CONTRACTOR
- GENERAL CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS.
- GENERAL CONTRACTOR SHALL COORDINATE THE DESIGN WORK AND INSTALLATION OF THE FIRE SPRINKLER SYSTEM TO BE COMPATIBLE WITH OTHER BUILDING TRADES, AND SHALL ABSORB ANY COST RESULTING FROM COORDINATION OVERSIGHT.
- CONNECT ALL VALVE TAMPER AND FLOW SWITCH TO FIRE ALARM SYSTEM.
- INSTALL EXPOSED SPRINKLER HEADS IN THE CENTER OF CEILING TILES.
- CENTER EXPOSED SPRINKLER HEADS IN HALLWAYS AND ROOMS, EVENLY SPACED.
- INSTALL EXPOSED SPRINKLER HEADS IN LINEAR ALIGNMENT WITH OTHER SPRINKLER HEADS IN A GIVEN SPACE.

OVERHEAD PIPING NOTES

- 1" TO 2" PIPING SHALL BE BLACK STEEL, SCHEDULE 40 THREADED FOR NON RESIDENTIAL AREAS.
- ALL 2½"- 6" PIPING IS TO BE BLACK STEEL, SCHEDULE 10, ROLLED GROOVED FOR NON RESIDENTIAL AREAS
- ALL 2½"- 6" FITTINGS ARE TO BE VICTAULIC TYPE OR EQUAL WITH ROLLED GROOVED ENDS.
- ALL MATERIAL ARE TO BE U.L. LISTED, F.M. APPROVED.
- UNDERGROUND PIPING SHALL BE C900 PVC.

FIRE SPRINKLER LEGEND

SYMBOL	ABBREV.	DESCRIPTION
		PIPE-TURN DOWN
		PIPE-TURN UP
		FIRE SPRINKLER PIPING
	GV	GATE VALVE
		PRESSURE GAGE W/ GAGE COCK
	CV	CHECK VALVE
		INDICATES DIRECTION OF FLOW
		END OF LINE RESTRAINT
		PIPE HANGER. FOR 4" DIAMETER PIPE LINE, HANGER SPACING SHALL NOT EXCEED 8'-0" O.C.
		LONGITUDINAL SWAY BRACE
		LATERAL SWAY BRACE
		4-WAY SWAY BRACE
	POC	POINT OF CONNECTION
		NODE REFERENCE (FOR HYDRAULIC CALCULATIONS)
		POST INDICATING VALVE
		FIRE DEPARTMENT CONNECTION
		ALARM BELL

ABBREVIATIONS

	ABV	ABOVE
	ALV	ALARM VALVE
	AP	ACCESS PANEL
	BEL	BELOW
	BL	BRANCH LINE
	CLG	CEILING
	CONN	CONNECT OR CONNECTION
	CO2	CARBON DIOXIDE
	CM	CROSSMAIN
	CV	SWING CHECK VALVE
	DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
	DN	DOWN
	EXIST/(E)	EXISTING
	FDC	FIRE DEPARTMENT CONNECTION
	FM	FEEDMAIN
	FHC	FIRE HOSE CABINET
	FF	FINISH FLOOR
	FR	FROM
	FLR	FLOOR
	GRD	GRADE
	HDR	HEADER
	OS&Y	OUTSIDE SCREW & YOKE
	TYP	TYPICAL
	RN	RISE NIPPLE
	WCV	WAVER CHECK VALVE
	@	AT
	(N)	NEW
	(R)	REMOVE

SHEET INDEX

SHEET NO.	DESCRIPTION
F0.1	FIRE SPRINKLER GENERAL NOTES AND SHEET INDEX
F1.0	FIRE SPRINKLER SITE PLAN
F2.0	FIRE SPRINKLER FLOOR PLAN
F3.0	FIRE SPRINKLER ROOF PLAN
F4.0	RESERVE APPARATUS FIRE SPRINKLER PLAN
F5.0	BUILDING SECTION (FOR REFERENCE)
F5.1	FIRE SPRINKLER DETAILS

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FIRE SPRINKLER GEN NOTES
LEGEND & SHEET INDEX

FIRE STATION 46
COUNTY OF LOS ANGELES FIRE
DEPARTMENT 26720 BOMBERO LANE
VALENCIA, CALIFORNIA

Issue
LACoFD APPROVED 11.MAR.25
100% DD SET 17.APR.25
FIRE DEPARTMENT SUBMITTAL SET 20.MAY.25
FIRE DEPARTMENT RESUBMITTAL 18.DEC.25

Date
Drawn
Checked
Scale
Job. No.

F0.1

ADDENDUM 5

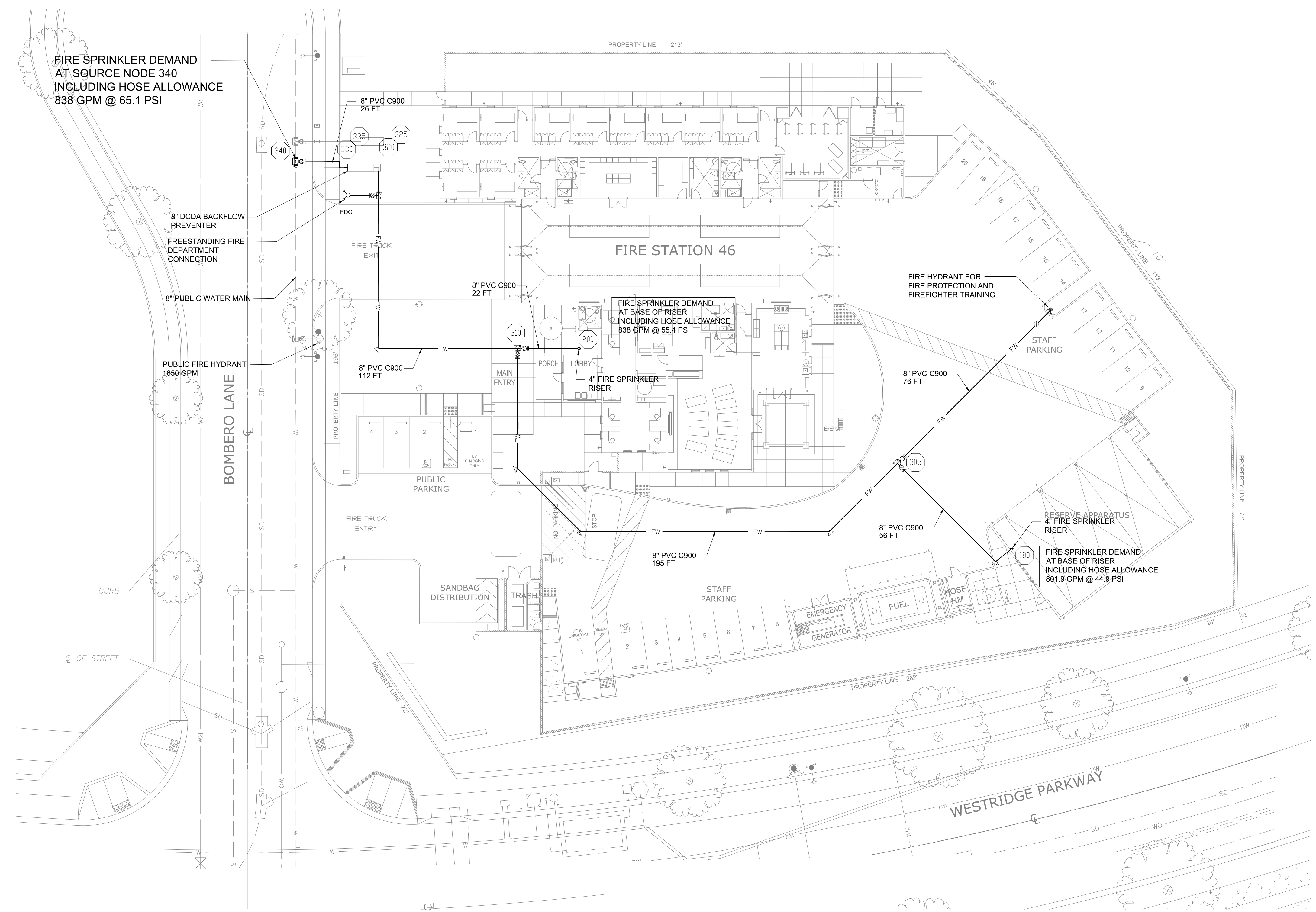
FIRE SPRINKLER SITE PLAN

FIRE STATION 46
COUNTY OF LOS ANGELES FIRE
DEPARTMENT 26720 BOMBERO LANE
VALENCIA, CALIFORNIA

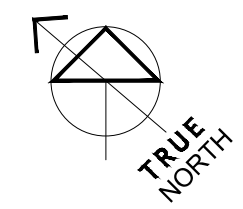
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100% DD SET	17.APR.25
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Date
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Scale
Job. No.

F1.0

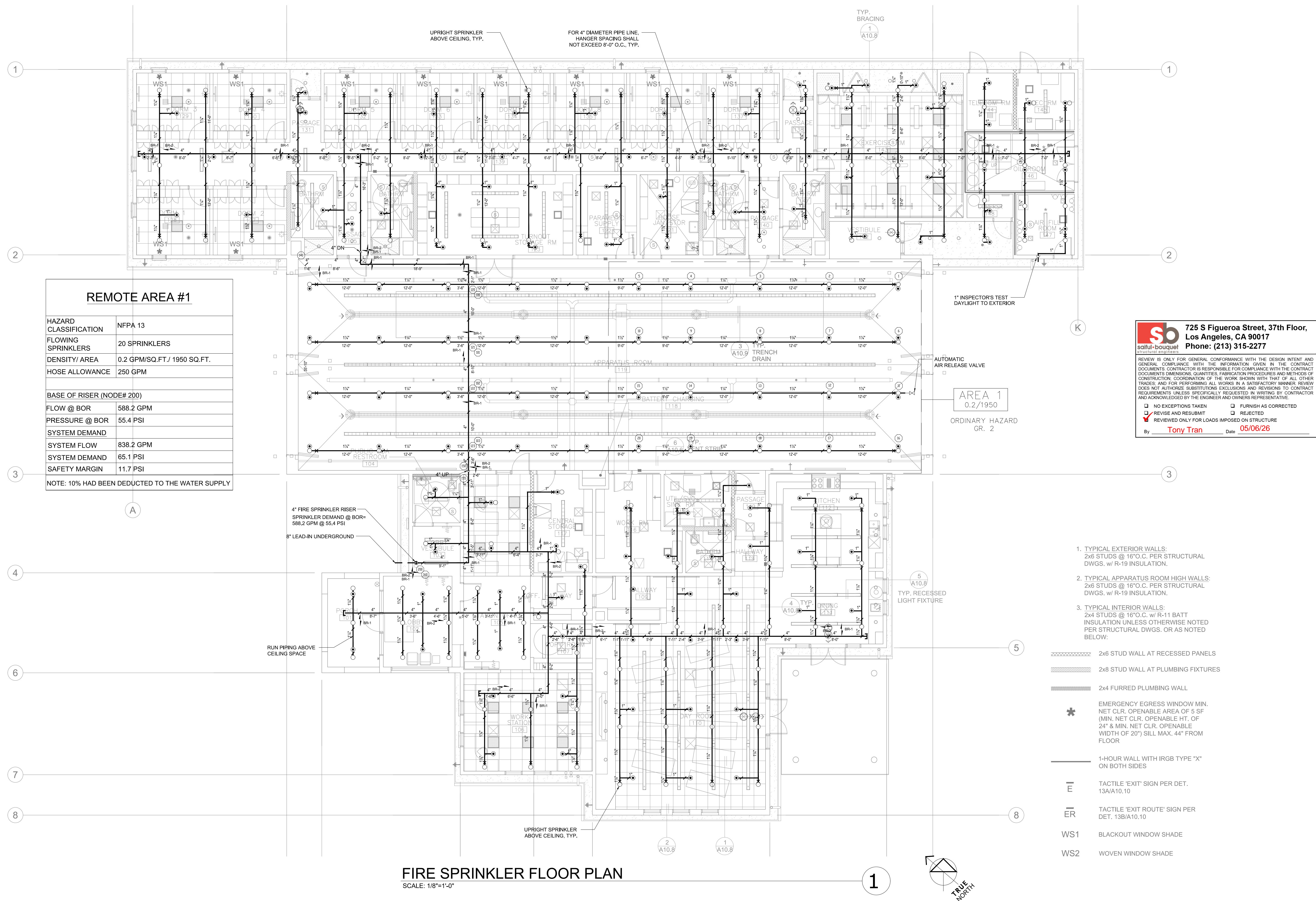


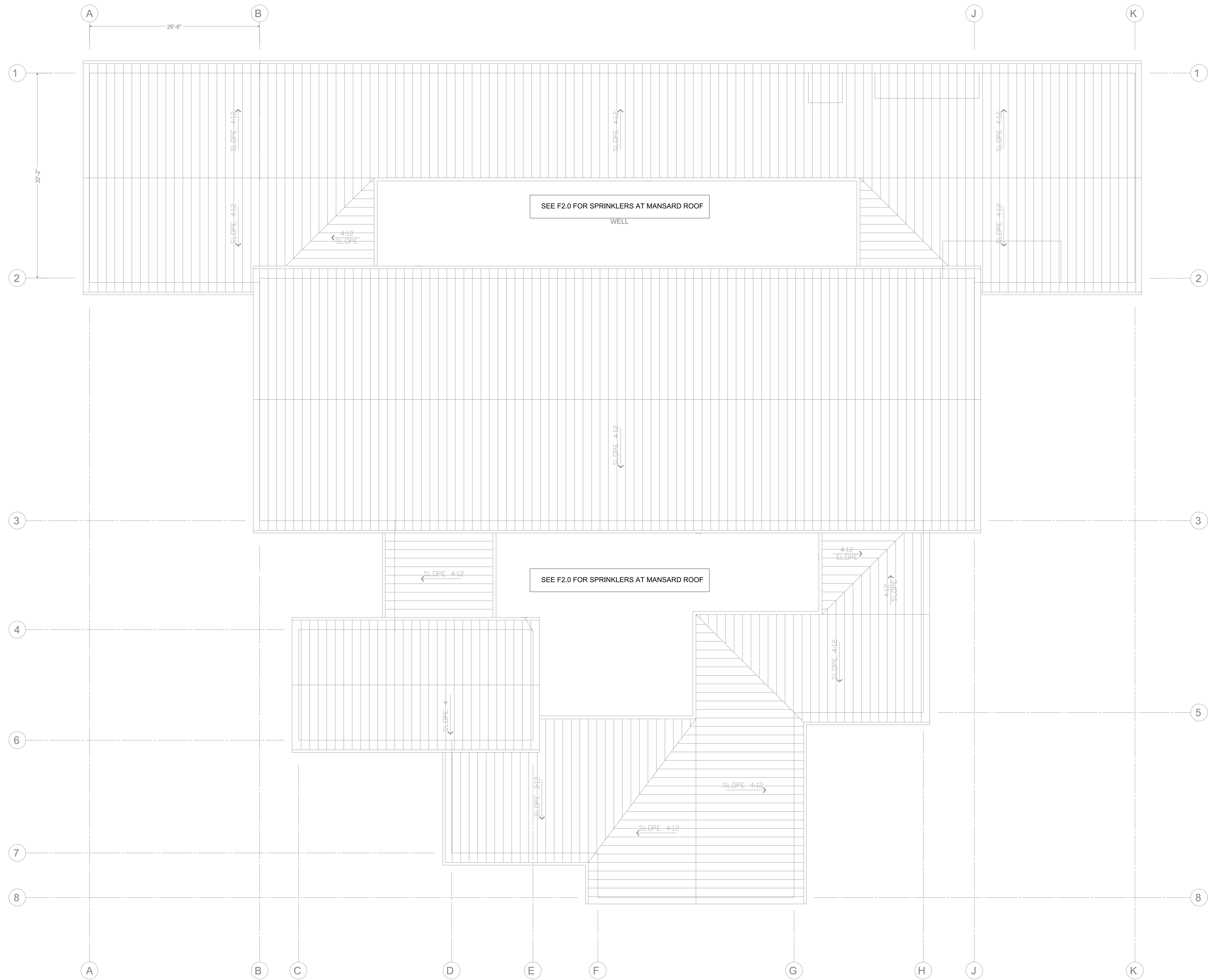
FIRE SPRINKLER SITE PLAN
SCALE: 1"=20'-0"



ADDENDUM 15

SYM	TYPE	MNF.	MODEL/SIN	ESCUTCHEON	TEMP	K- FACTOR	FINISH	QTY	NOTES
☉	PENDENT	VIKING	VK302	RECESSED	155°F	5.6	WHITE	213	QUICK RESPONSE
○	UPRIGHT	VIKING	VK300	NA	200°F	5.6	BRASS	90	QUICK RESPONSE
							TOTAL	303	





FIRE SPRINKLER ROOF PLAN
SCALE: 1/8"=1'-0"

1

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FIRE SPRINKLER ROOF PLAN

FIRE STATION 46

COUNTY OF LOS ANGELES FIRE
DEPARTMENT 26720 BOMBERO LANE
VALENCIA, CALIFORNIA

Issue	
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Date	
Drawn	
Checked	
Scale	
Job. No.	

F30
ADDENDUM 5

SPRINKLER SCHEDULE									
SYM	TYPE	MNF.	MODEL/SIN	ESCUTCHEON	TEMP	K-FACTOR	FINISH	QTY	NOTES
●	PENDENT	VIKING	VK302	RECESSED	155°F	5.6	WHITE	37	QUICK RESPONSE
○	UPRIGHT	VIKING	VK300	NA	200°F	5.6	BRASS	37	QUICK RESPONSE
							TOTAL	74	



scailuf-bouquet
structural engineers

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Phone: (213) 315-2277

REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN INTENT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, DIMENSIONS, QUANTITIES, FABRICATION PROCEDURES AND METHODS OF CONSTRUCTION. COORDINATION OF THE WORK SHOWN WITH THAT OF ALL OTHER TRADES, AND FOR PERFORMING ALL WORKS IN A SATISFACTORY MANNER. REVIEW DOES NOT AUTHORIZE SUBSTITUTIONS, EXCLUSIONS AND REVISIONS TO CONTRACT REQUIREMENTS UNLESS SPECIFICALLY REQUESTED IN WRITING BY CONTRACTOR AND ACKNOWLEDGED BY THE ENGINEER AND OWNER'S REPRESENTATIVE.

☐ NO EXCEPTIONS TAKEN

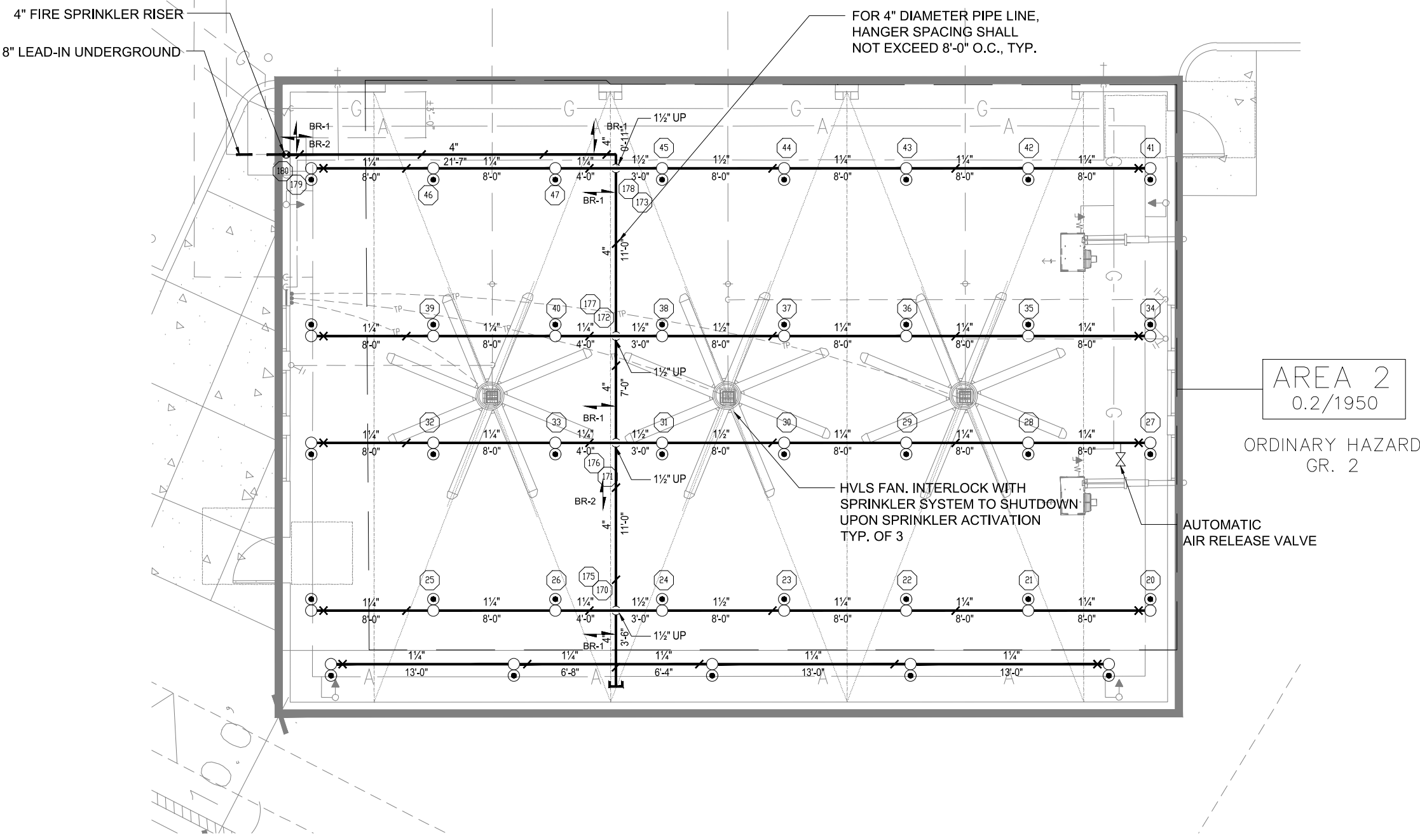
☐ FURNISH AS CORRECTED

☐ REVISE AND RESUBMIT

☐ REJECTED

☒ REVIEWED ONLY FOR LOADS IMPOSED ON STRUCTURE

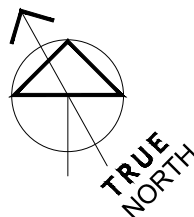
By Tony Tran Date 05/06/26




REMOTE AREA #2	
HAZARD CLASSIFICATION	NFPA 13
FLOWING SPRINKLERS	28 SPRINKLERS
DENSITY/ AREA	0.2 GPM/SQ.FT./ 1500 SQ.FT.
HOSE ALLOWANCE	250 GPM
BASE OF RISER (NODE# 180)	
FLOW @ BOR	551.9 GPM
PRESSURE @ BOR	44.9 PSI
SYSTEM DEMAND	
SYSTEM FLOW	801.9 GPM
SYSTEM DEMAND	54.9 PSI
SAFETY MARGIN	21.8 PSI
NOTE: 10% HAD BEEN DEDUCTED TO THE WATER SUPPLY	

RESERVE APPARATUS FIRE SPRINKLER PLAN
SCALE: 1/8"=1'-0"

1




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RESERVE APPARATUS
FIRE SPRINKLER PLAN

FIRE STATION 46

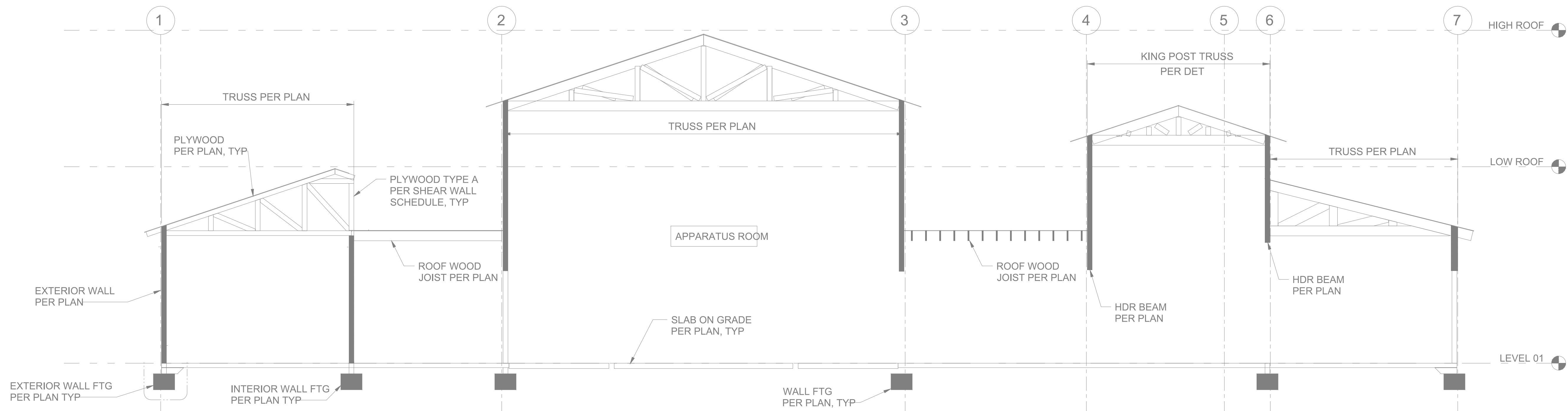
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DEPARTMENT 26720 BOMBERO LANE
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F40

ADDENDUM 5



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BUILDING SECTION
(FOR REFERENCE)

FIRE STATION 46

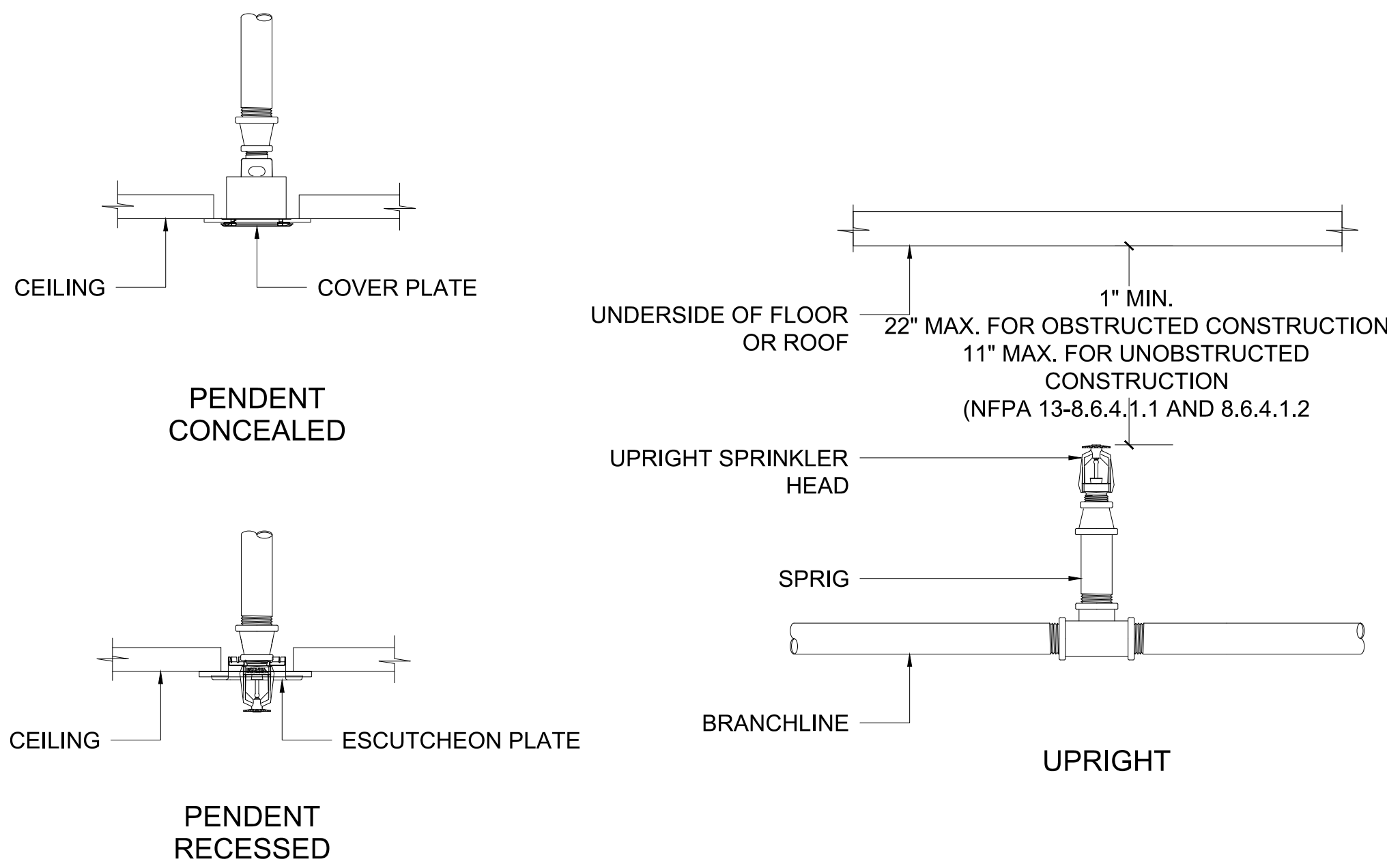
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DEPARTMENT 26720 BOMBERO LANE
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F50

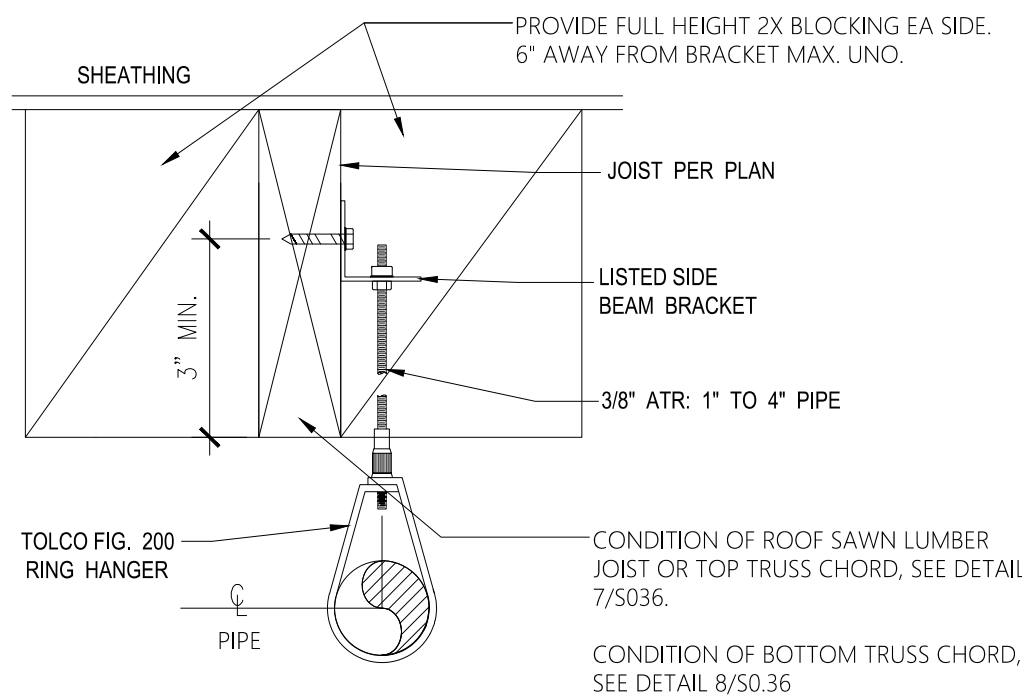
ADDENDUM 5



SPRINKLER HEADS DETAIL

SCALE: NTS

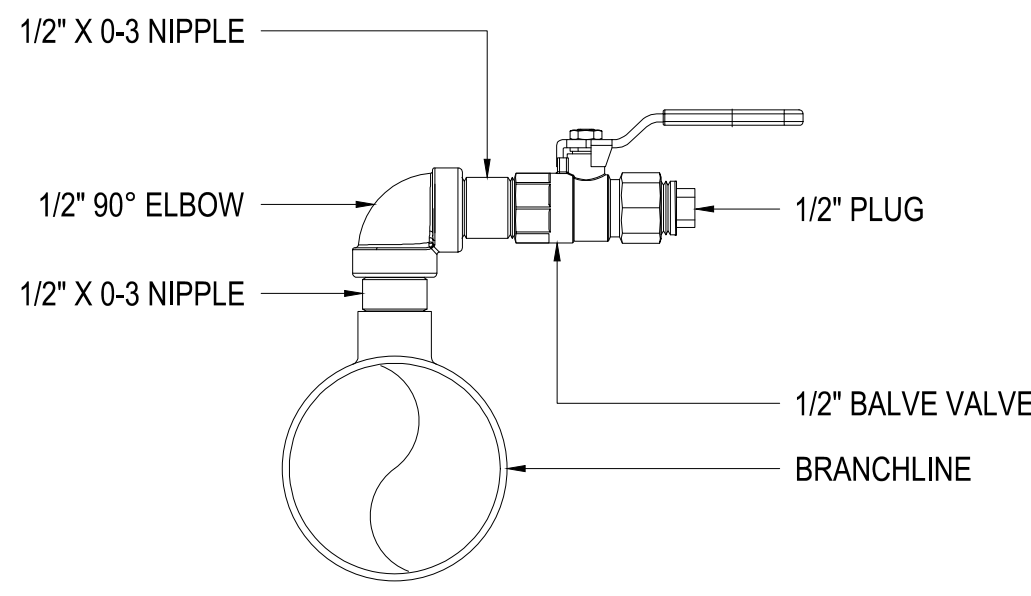
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PIPE HANGER DETAIL

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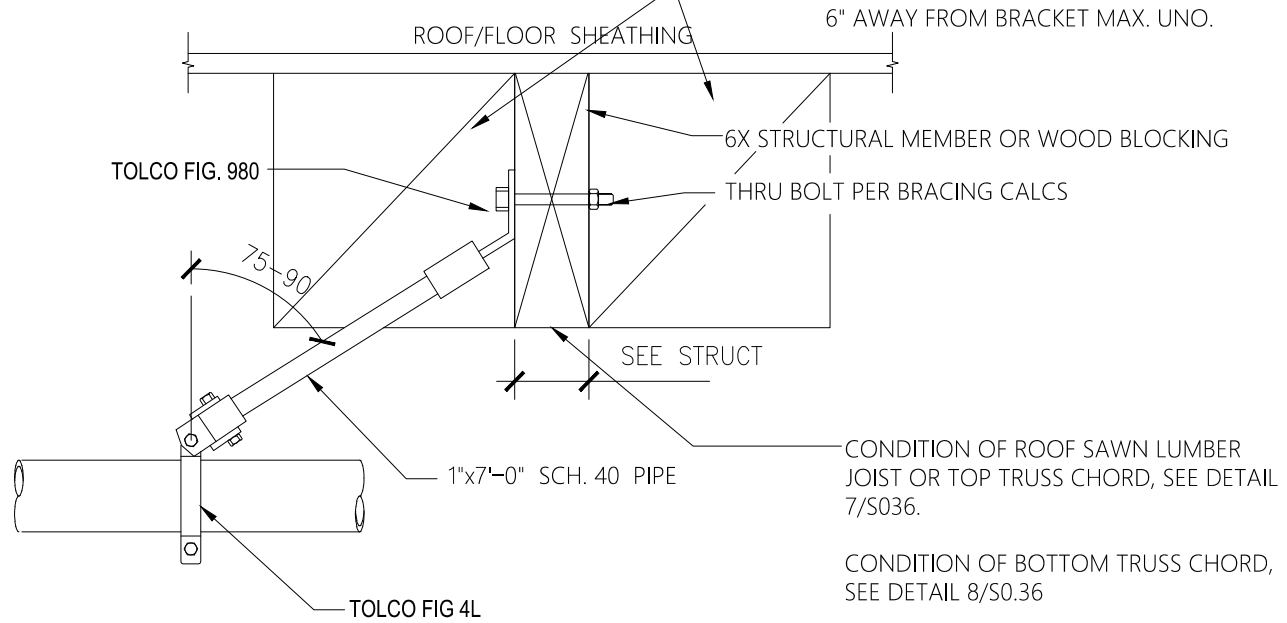
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WET SYSTEM AIR VENT DETAIL

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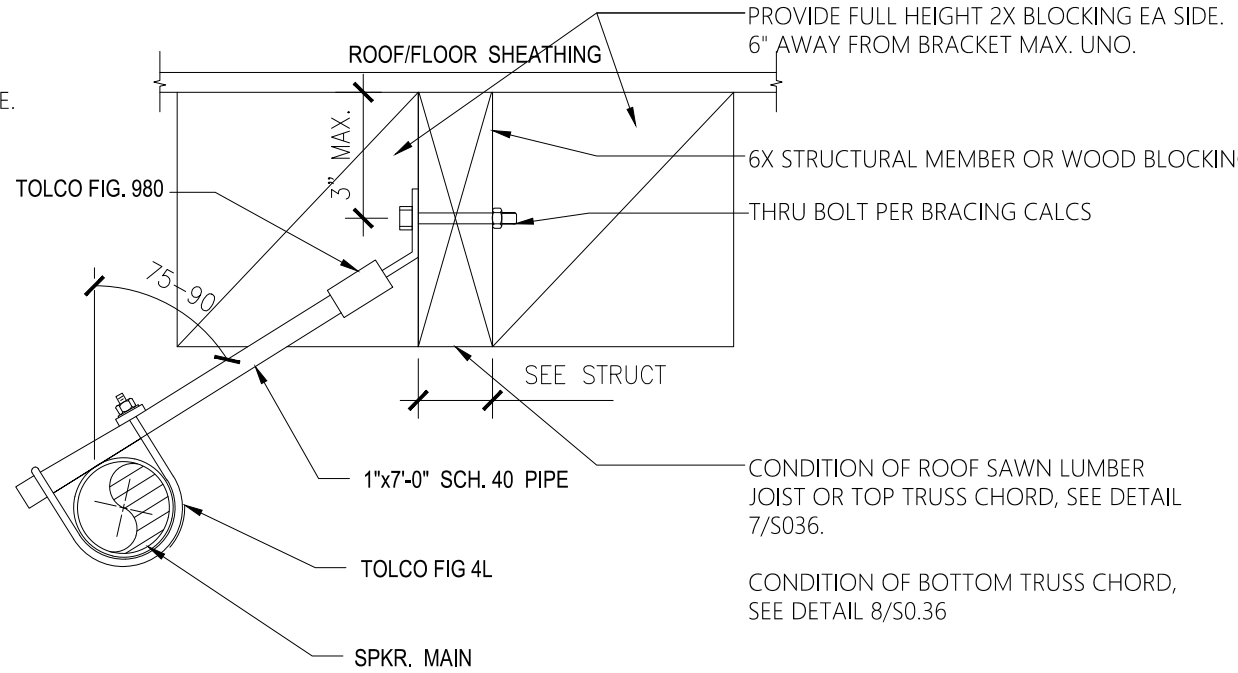
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LONGITUDINAL SWAY BRACING

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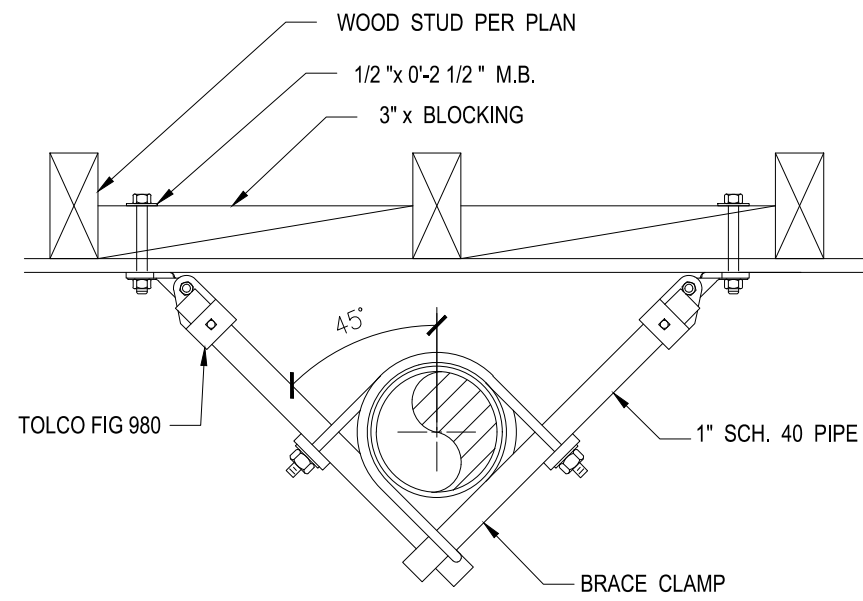
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LATERAL SWAY BRACING

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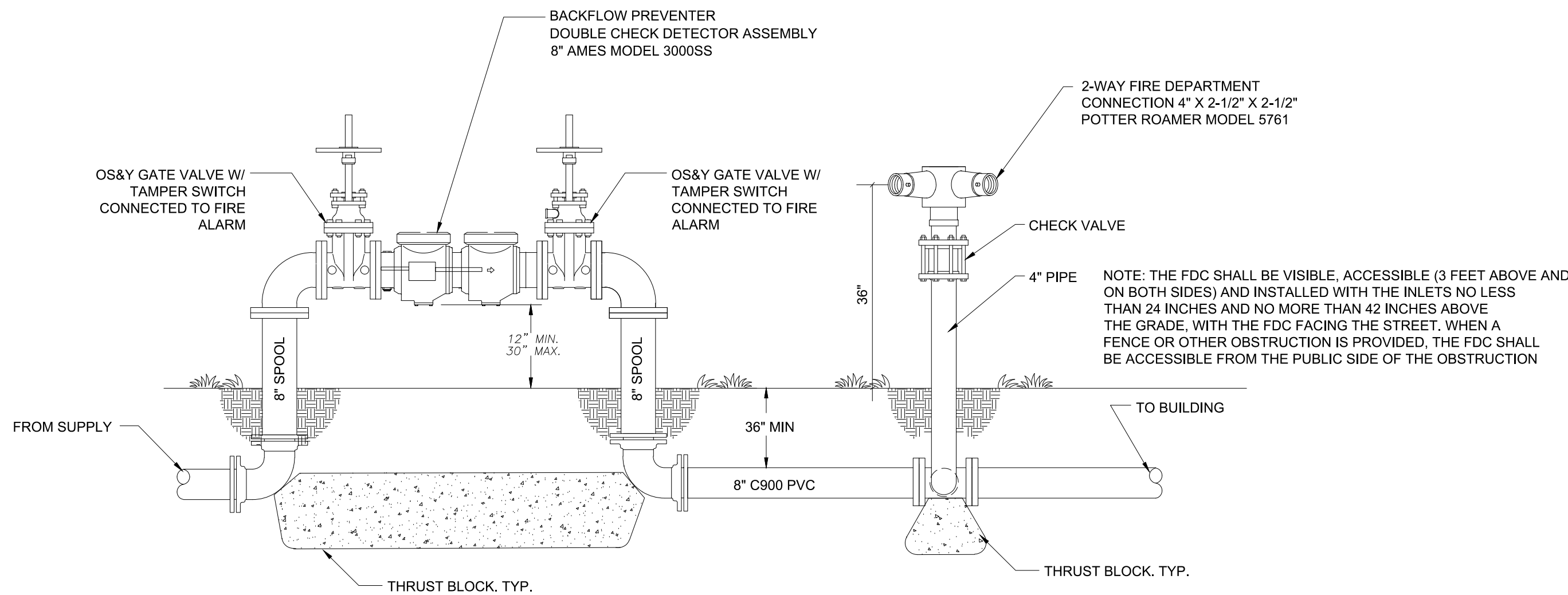
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4-WAY SEISMIC BRACING

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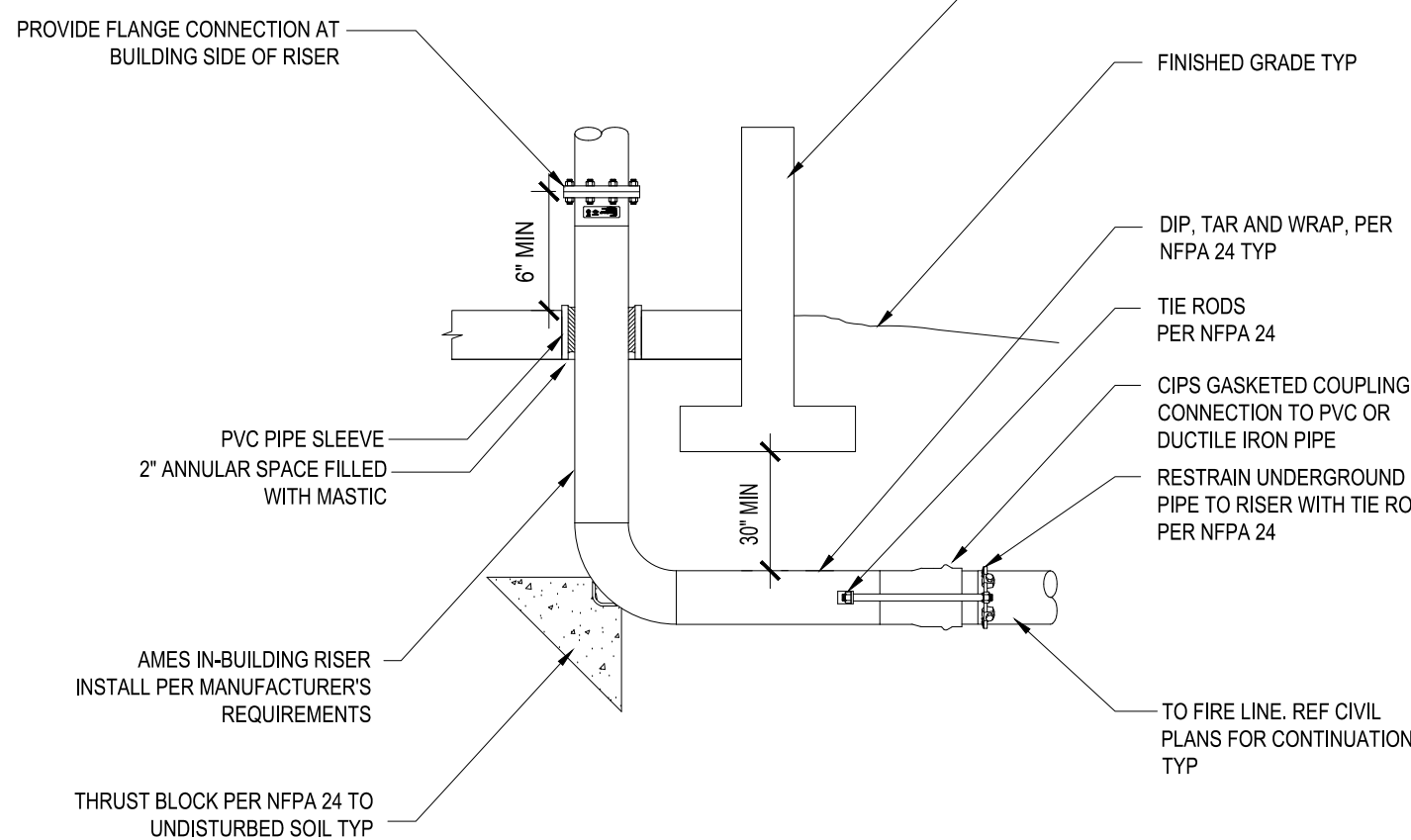
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BACKFLOW PREVENTER AND FDC

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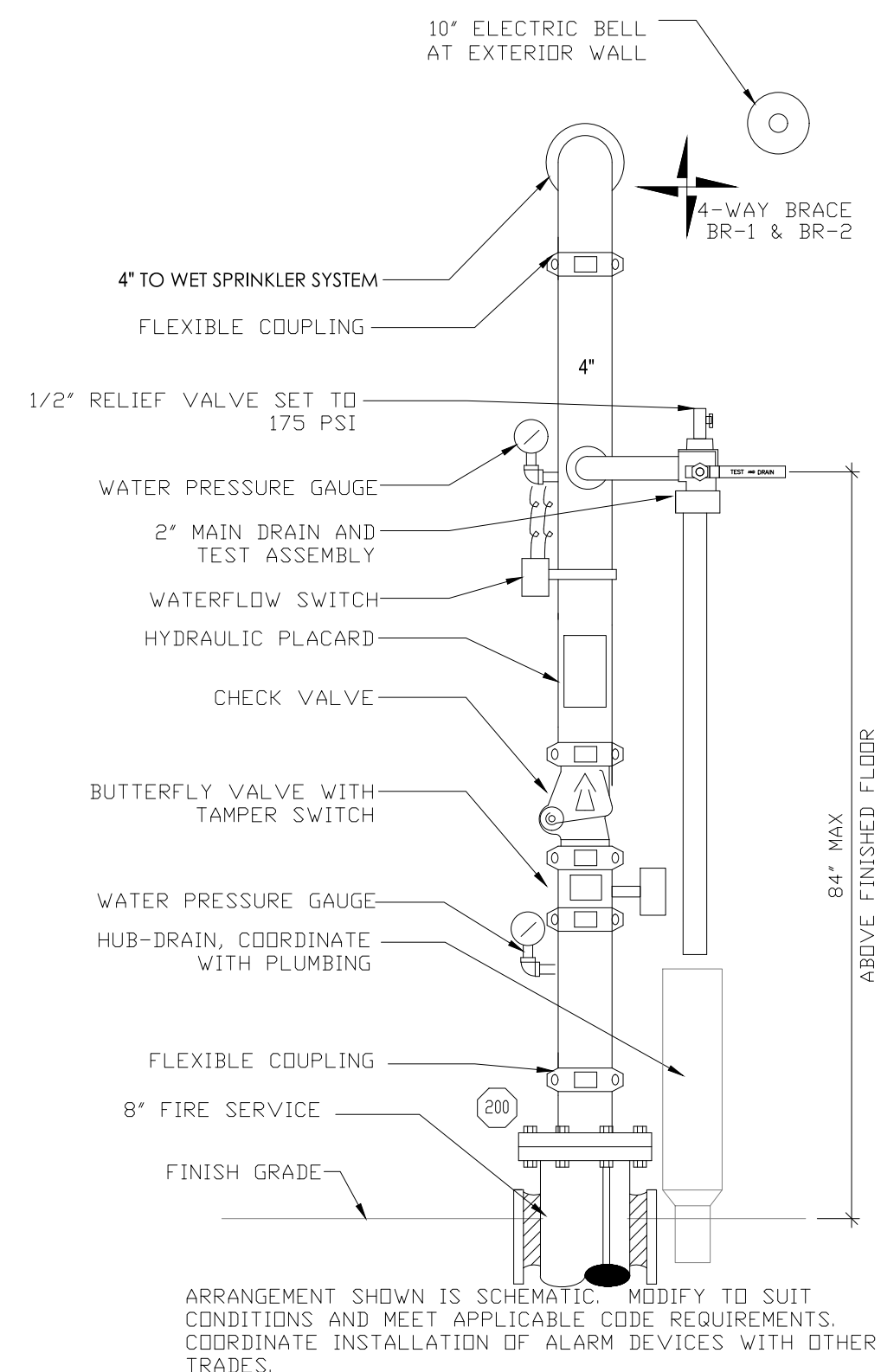
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FIRE LINE ENTRY

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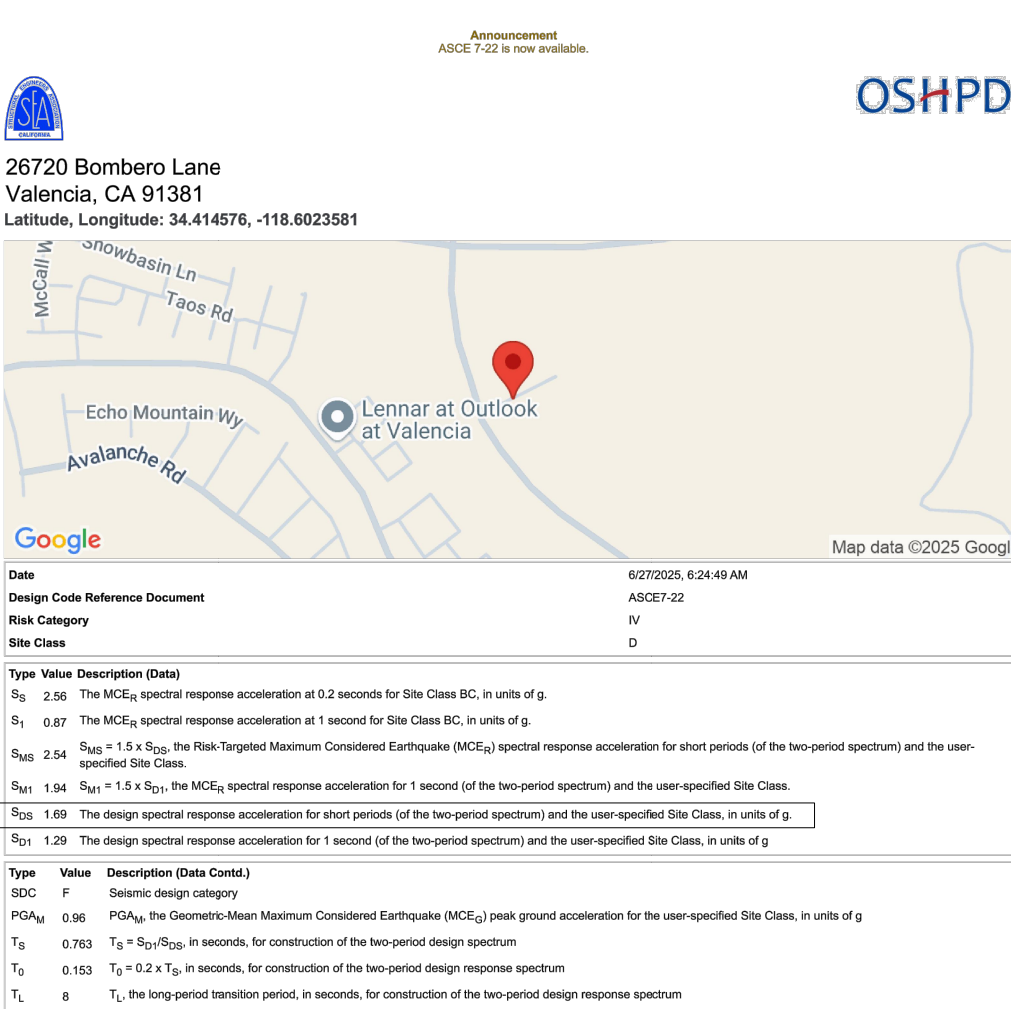
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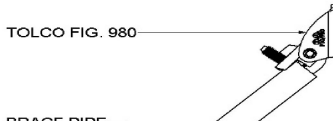
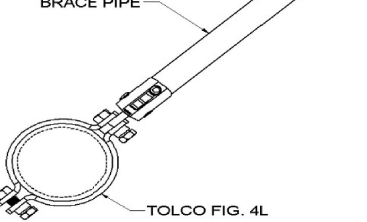


FIRE SPRINKLER RISER, TYPICAL

SCALE: NTS


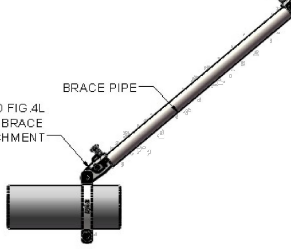
1



TOLBrace™ Seismic Bracing Calculations					VB.8.144
Project Address: FIRE STATION 46 26720 BOMBERO LANE VALENCIA, CA		Contractor:			 <i>Powering Business Worldwide</i>
		Address:			
License:					
Job #					
Calculations based on 2020 NFPA Pamphlet #13					
Brace Information		TOLCO™ Brace Components			
Maximum Brace Length	7' 0" (2.134 m)	TOLCO™ Component	Listed Load	Adjusted Load	
Diameter of Brace	1"	Fig. 4L Clamp	1000 lbs (454 kg)	960 lbs (438 kg)	
Type of Brace	Sch.40	Fig.980 - 50° Universal Swivel	2100 lbs (953 kg)	2028 lbs (920 kg)	
Angle of Brace	75° Min.	*Calculation Based on CONCENTRIC Loading			
Least Rad. of Gyration	0.42" (11 mm)	*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.			
L/R Value	200	Seismic Brace Assembly Detail			
Max Horizontal Load	1604 lbs (728 kg)				
Fastener Information		TOLCO FIG. 980			
Orientation to Connecting Surface	NFPA Type F	BRACE PIPE			
Fastener					
Type	5/8in. x 5 1/2in. Thru Bolt	TOLCO FIG. 4L			
Diameter	5/8in.	BRACE IDENTIFICATION ON PLANS			
Length	5 1/2in.	Brace Type			
Maximum Load	960 lbs (435 kg)	Lateral [X] Longitudinal [Y] 4-Way [Z]			
Prying Factor	N/A	Sprinkler System Load Calculation (Fpw = CpWp)			
		Cp = 1.27			
Diameter	Type	Length	Total Length	Total Weight	
4" (100 mm)	Sch.10	25 ft (7.6 m)	25 ft (7.6 m)	11.78 lbft (17.53 kg/m)	
1.25" (32 mm)	Sch.40	80 ft (24.4 m)	80 ft (24.4 m)	2.93 lbft (4.36 kg/m)	
				294 lbs (133 kg)	
				294 lbs (106 kg)	
		Subtotal Weight 528 lbs (240 kg)			
		Wp (incl. 15%) 607 lbs (275 kg)			
		Total (Fpw) 771 lbs (350 kg)			
		Maximum Type per 18.5.2.2 (if applicable) 771 lb (359 kg)			
		Use of TOLBrace™ is subject to terms and conditions per the end user license agreement			

TOLBrace™ Version 8.1

Use of TOLBrace™ is subject to terms and conditions per the end user license agreement

TOLBrace™ Seismic Bracing Calculations				VB.8.144
Project Address: FIRE STATION 46 26720 BOMBERO LANE VALENCIA, CA		Contractor:		 Powering Building Resilience
		Address:		
		Phone:		
JOB #		License:		
Calculations based on 2020 NFPA Pamphlet #13				
Brace Information		TOLCO™ Brace Components		
Maximum Brace Length	7' 0" (2.134 m)	TOLCO™ Component	Listed Load	Adjusted Load
Diameter of Brace	1"	Fig. 4L Clamp	2100 lbs (957 kg)	1932 lbs (876 kg)
Type of Brace	Sch.40	Fig.980 - 50° Universal Swivel	2100 lbs (957 kg)	2028 lbs (920 kg)
Angle of Brace	75° Min.	See Fastener Information		
Least Rad. of Gyration	0.42" (11 mm)	*Calculation Based on CONCENTRIC Loading		
L/R Value	200	*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the testing of the assembly.		
Max Horizontal Load	1604 lbs (728 kg)	Seismic Brace Assembly Detail		
Fastener Information				
Orientation to Connecting Surface	NFPA Type F	TOLCO FIG. 980 UNIVERSAL SWIVEL SWAY SWIVEL AT TRUSS/BEAM		
Fastener		TOLCO FIG. 4L SWIVEL BRACE AT ATTACHMENT		
Type	5/8in. x 5 1/2in. Thru Bolt	BRACE PIPE		
Diameter	5/8in.			
Length	5 1/2in.			
Maximum Load	960 lbs (435 kg)			
Prying Factor	N/A			
Brace Identification on Plans		4" BR.2		
Brace Type		Lateral [X]	Longitudinal [Y]	4-Way [Z]
Sprinkler System Load Calculation (Fpw = CpWp)				
Cp = 1.27				
Diameter	Type	Length	Total Length	Total Weight
4" (100 mm)	Sch. 10	40 R (12.2 m)	40 R (12.2 m)	17.8 lbs (8.1 kg)
				471 lbs (214 kg)
Subtotal Weight 471 lbs (214 kg)				
Wp (incl. 15%) 542 lbs (246 kg)				
Total (Fpw) 658 lbs (302 kg)				
Maximum Fpw per 18.5.2.2 (if applicable) N/A				
Use of TOLBrace™ is subject to terms and conditions per the end user license agreement				
TOLBrace™ Version B				

SEISMIC BRACING CALCULATIONS

SCALE: NTS

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ARCHITECT

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FIRE SPRINKLER DETAILS

FIRE STATION 46

COUNTY OF LOS ANGELES FIRE
DEPARTMENT 26720 BOMBERO LANE
VALENCIA, CALIFORNIA

Issue	
LACoFD APPROVED	11.MAR.25
100% DD SET	17.APR.25
FIRE DEPARTMENT SUBMITTAL SET	20.MAY.25
FIRE DEPARTMENT RESUBMITTAL	18.DEC.25

Date
Drawn
Checked
Scale
Job. No.

F5

ADDENDUM 5