



NEC OF HWY 291 & OLDHAM PKWY
LEE'S SUMMIT, MO 64081



LEE'S SUMMIT, MO
NEW WAREHOUSE
NEC OF HWY 291 & OLDHAM PKWY
LEE'S SUMMIT, MO 64081

COSTCO
WHOLESALE
CORPORATION

730 LAKE DRIVE
ISSAQUAH, WA
98027
T: 425.313.8100
www.costco.com

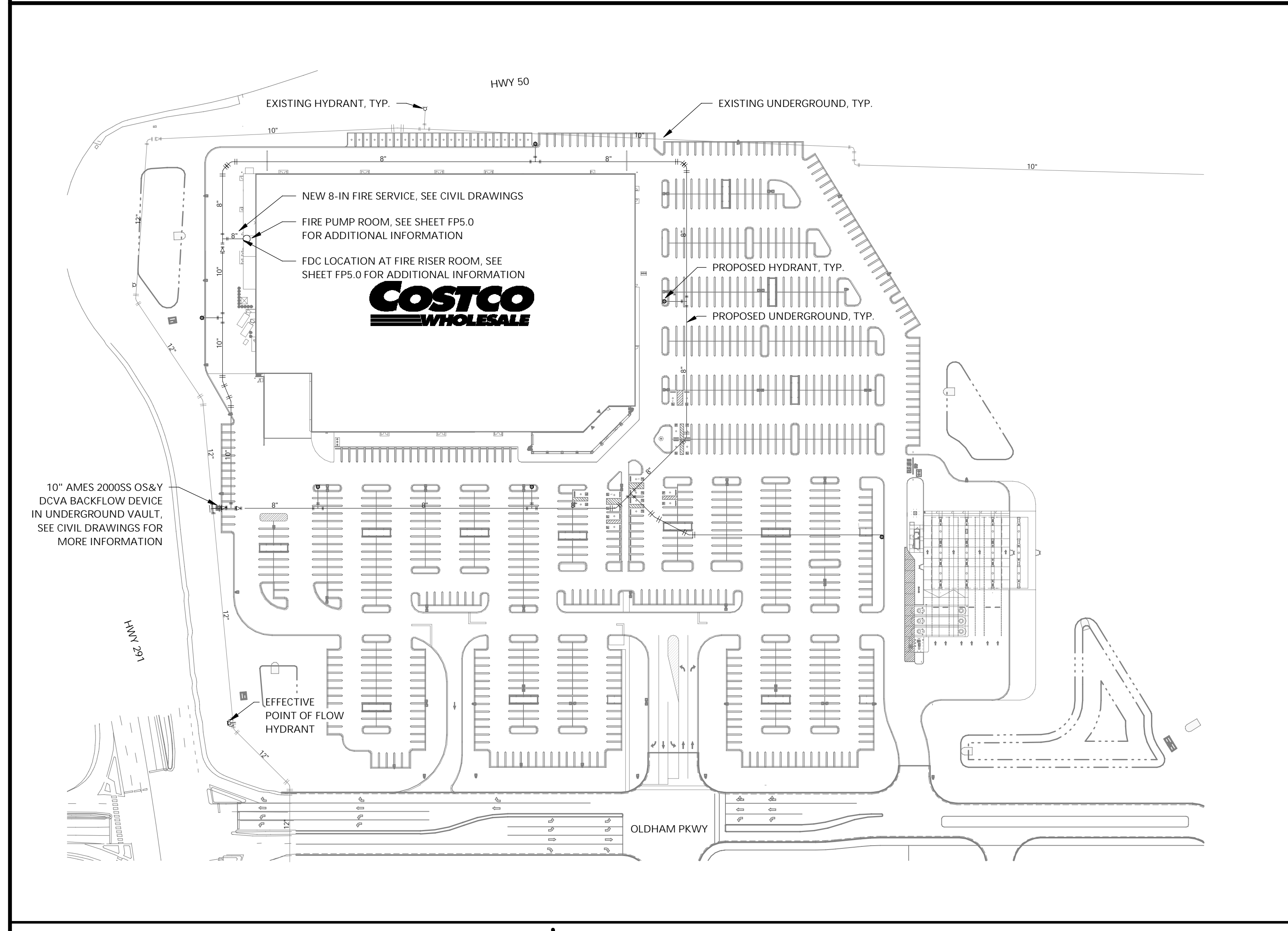


7511 Greenwood Avenue, #600
Seattle, WA 98103
(206) 789-0165

nrgrfireconsulting.com

PERMIT SET

FOR REFERENCE ONLY

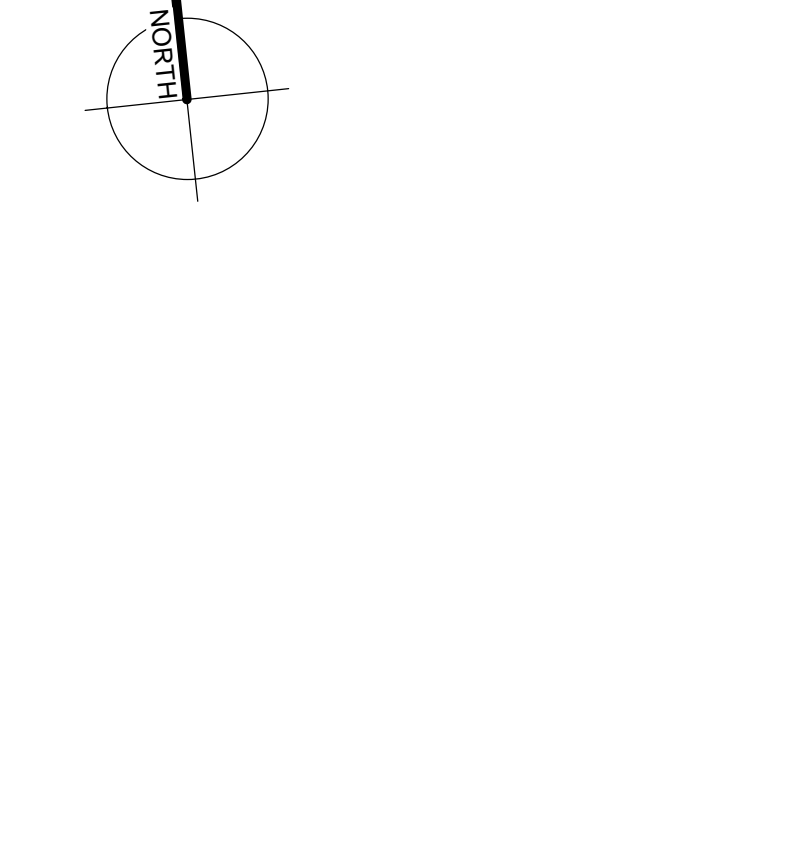


1 FIRE SERVICE SITE PLAN
1" = 100'-0"

- NOTES:
1. ALL UNDERGROUND PIPING IS SHOWN FOR REFERENCE ONLY. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.
2. ALL SYSTEM CONTROL VALVES TO BE MONITORED.
3. EFFECTIVE POINT OF TEST DATA SHALL BE UTILIZED. NO OTHER LOCATIONS WILL BE ACCEPTABLE PER OWNER REQUIREMENTS.

WATER SUPPLY INFORMATION

Test taken @ 10:30 am on June 24, 2025.
039-179
Static PSI: 66
Residual PSI: 52
Flow GPM: 1925
039-177
Static PSI: 70
Residual PSI: 65
Please let me know if you have any more questions.
Thanks, Amanda
Amanda Bagwell, Engineering Manager
1200 SE Hamblen Road | Lee's Summit, MO 64081
816.969.1918 | lswater.net | Amanda.Bagwell@cityofls.net
WATER UTILITIES
LEE'S SUMMIT



FDC NOTES

- 1. THE FIRE DEPARTMENT CONNECTION SHALL BE LOCATED AT THE FIRE PUMP ROOM AND WITHIN 100-FT OF THE NEAREST FIRE HYDRANT. SEE CIVIL DRAWINGS
2. THE FIRE DEPARTMENT CONNECTION SHALL BE INSTALLED APPROXIMATELY 36-IN. ABOVE THE SURROUNDING GRADE. BOLLARDS TO BE PROVIDED BY OTHERS. BOLLARDS SHALL BE INSTALLED WITH SUFFICIENT OPERATIONAL CLEARANCES.
3. THE FIRE DEPARTMENT CONNECTION SHALL CONSIST OF A 4" STOR AND SUPPLIED BY 6-IN. AS SHOWN ON THE CONTRACT BID DOCUMENTS.
4. INSTALLATION SHALL BE PER LOCAL AHJ REQUIREMENTS. CONTRACTOR SHALL CONFIRM WITH LOCAL FIRE DEPARTMENT AND COMPLY WITH THEIR REQUIREMENTS.
5. PROVIDE SIGNAGE AT THE FIRE DEPARTMENT CONNECTION PER NFPA 13 REQUIREMENTS. THE SIGN SHALL BE METAL AND INSTALLED ABOVE THE FDC WITH A MINIMUM OF 1-IN. LETTERING WITH WORDING "FIRE DEPARTMENT CONNECTION".
6. LOCKING KNOX BOX FDC CAPS MAY BE REQUIRED ON FDC CONNECTIONS. CONTRACTOR SHALL COMPLY WITH LOCAL FIRE DEPARTMENT REQUIREMENTS.
7. PROVIDE AND INSTALL A WEATHERPROOF HORN/STROBE ON THE EXTERIOR WALL OF THE FIRE PUMP ROOM AND WITHIN VIEW OF THE FDC. DEVICE SHALL BE MOUNTED 8-FT. TO 10-FT ABOVE FINISHED EXTERIOR GRADE. DEVICE SHALL ACTIVATE UPON WATER FLOW ONLY.

PIPE DIMENSION TABLES

Table with columns: NOMINAL SIZE, SCHEDULE 40 I.D., SCHEDULE 10 I.D.

PIPE DIMENSION TABLES

Table with columns: NOMINAL SIZE, SCHEDULE 40 I.D., SCHEDULE 10 I.D.

AUTOMATIC FIRE SPRINKLER LEGEND

Table with columns: SYMBOL, STYLE, FINISH, ESC, TEMP, K-FAC, QUANT.

DESIGN CRITERIA

- WAREHOUSE/RECEIVING/LIQUOR SALES/AREAS OPEN TO ROOF STRUCTURE.
FIRE PUMP ROOM.
OFFICES/PHARMACY/RESTROOMS/MEAT/DELI/ROTISSERIE/BAKERY/
FRESHLINE.
FREEZERS/COOLERS WITH LOW RACKS.
PRODUCE/DAIRY COOLER WITH HIGH RACKS.
FREEZERS/COOLERS (POS. TALL BAKERY, ETC) WITH HIGH RACKS.
POS. COOLER (WITH MARGARINE) WITH HIGH RACKS.
ENTRANCE CANOPY/CART STORAGE.
TIRE CENTER SALES.
INTERSTITIAL SPACE ABOVE CEILINGS.

GENERAL NOTES

- 1. SPRINKLER PLANS ARE SCHEMATIC AND SHALL NOT BE MEANT TO CONVEY OR ALLOW DISCREPANCY BETWEEN THE WORK ILLUSTRATED HEREIN AND ALL APPLICABLE CODES, PLANS AND ORDINANCES.
2. ALL INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF NFPA 13.
3. ALL MATERIALS USED SHALL BE UL LISTED AND APPROVED.
4. SYSTEMS SHALL BE MONITORED BY AN OFF SITE CENTRAL STATION.
5. INSTALLATION AND FABRICATION SHALL NOT COMMENCE UNTIL PLANS AND CALCULATIONS ARE APPROVED BY ALL AUTHORITIES MENTIONED ABOVE OR WORK WILL BE DONE "AT RISK" AND WILL BE THE RESPONSIBILITY ON THE SPRINKLER CONTRACTOR TO RECTIFY AT NO COST TO THE OWNER.

GENERAL UNDERGROUND NOTES

- 1. ALL INSTALLATION AND MATERIAL TO BE PER NFPA 24.
2. MINIMUM BURY TO BE PER LOCAL CODES.
3. ALL UNDERGROUND PIPING TO BE HYDROSTATICALLY TESTED AT 200 PSI FOR TWO HOURS OR 50 PSI IN EXCESS OF THE SYSTEM WORKING PRESSURE, WHICHEVER IS GREATER.
4. ALL UNDERGROUND PIPE TO BE FLUSHED PRIOR TO CONNECTION TO OVERHEAD SPRINKLER PIPING. THE SPRINKLER CONTRACTOR TO ENSURE THAT FLUSHING OF THE UNDERGROUND PIPING HAS OCCURRED PRIOR TO CONNECTION.
5. THE FIRE DEPARTMENT HAS REQUESTED AND SHALL WITNESS THE FLUSHING OF THE LEAD-IN, HYDROSTATIC TEST, AND ALL OTHER ACCEPTANCE TESTING.
6. PROVIDE CONCRETE THRUST BLOCKING, AND THRUST RODS AS REQUIRED.
7. PIPE UNDER FOOTINGS TO BE DUCTILE IRON.
8. FIRE SPRINKLER CONTRACTOR START POINT TO BE AT 6-IN ABOVE FINISHED FLOOR WITHIN THE FIRE PUMP ROOM.

APPLICABLE CODES

- BUILDING CODE:
2018 INTERNATIONAL BUILDING CODE
FIRE CODE:
2018 INTERNATIONAL FIRE CODE
NFPA STANDARD:
NFPA 13, 2016 EDITION
NFPA 20, 2016 EDITION

BIDDING NOTE

THESE DRAWINGS ARE FOR COORDINATION AND BID PURPOSES ONLY. THEY ARE NOT FOR SUBMITTAL. CONTRACTOR TO PROVIDE COMPLETE SUBMITTAL DRAWINGS FOR APPROVAL. CONTRACTOR SHALL BE RESPONSIBLE FOR FABRICATION, MATERIALS LIST, INSTALLATION, ETC. AS REQUIRED TO COMPLETE THIS PROJECT. SUBMITTAL DRAWINGS TO BE UNDER SEAL BY AN ENGINEER LICENSED TO PRACTICE LOCALLY.

SHEET INDEX

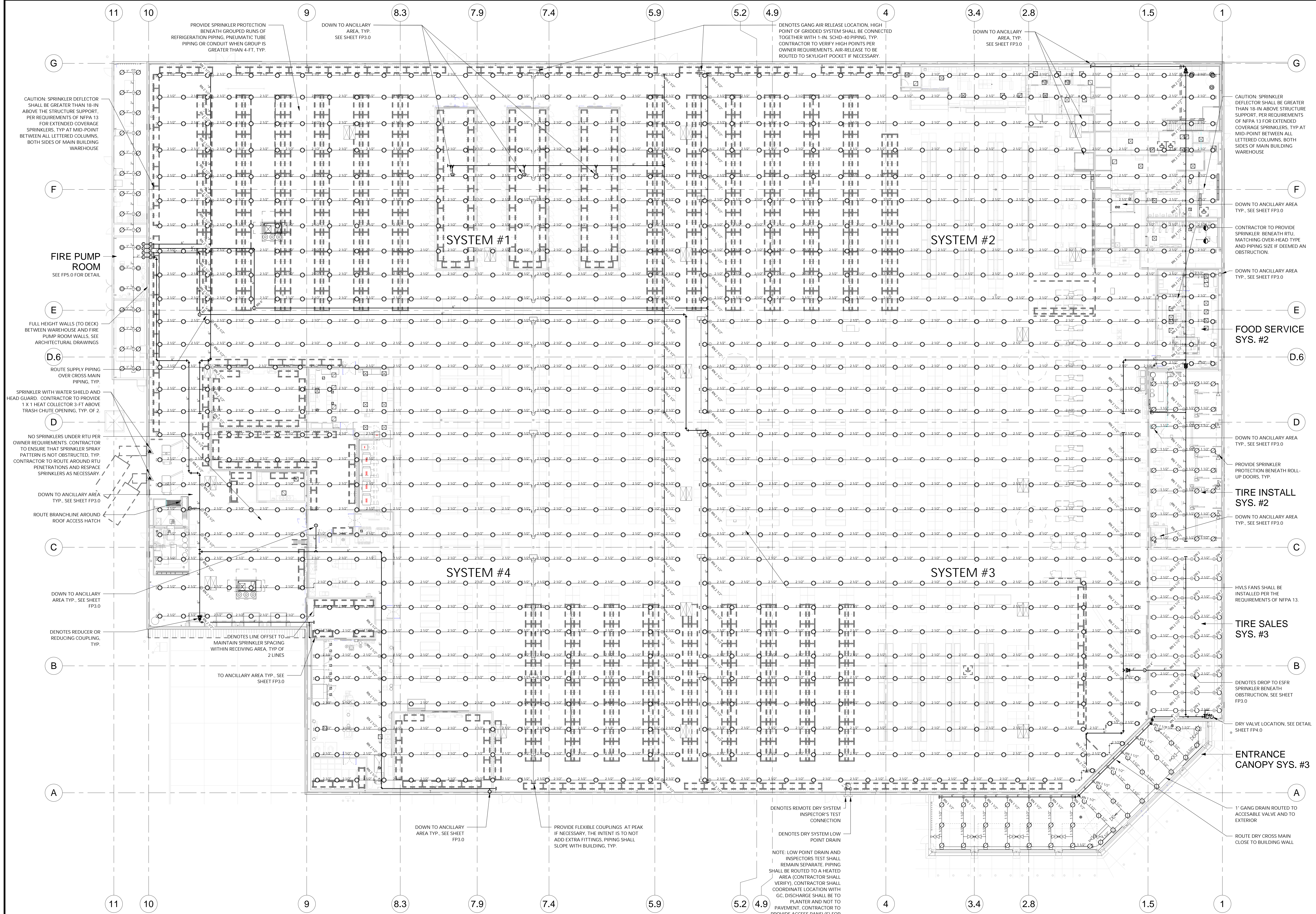
Table with columns: NUMBER, SHEET NAME

Table with columns: DATE, DESCRIPTION

25-5563-01
CHECKED BY: R. ANDERSON
DRAWN BY: J. BYERLY
11.19.2025

FIRE SERVICE SITE PLAN AND NOTES

FP1.0



1 FIRE SPRINKLER PIPING PLAN

1/16" = 1'-0"

- NOTES
- ALL DESIGN CRITERIA FOR PROJECT IS REFERENCED ON SHEET FP1.0.
 - CONTRACTOR PLANS SHALL PROVIDE OVERHEAD SPRINKLER MAINS, SPRINKLER LOCATIONS, BRANCH-LINES, RISER NIPPLES, AUXILIARY DRAIN LOCATIONS, SMALL HOSE STATIONS (WHERE APPLICABLE), INCLUDING ALL PIPING SIZES THAT ARE SHOWN ON THE CONTRACT BID DOCUMENTS HAVE BEEN COORDINATED WITH THE OTHER TRADES (ARCHITECT, STRUCTURAL, MEP, AND CIVIL) WITH THE INFORMATION PROVIDED AT THE TIME OF ARCHITECTURAL/DESIGN PERMITTING PROCESS IN ORDER TO AID THE CONTRACTOR AND THEIR CONSTRUCTION PROCESS. IT IS NOT RECOMMENDED TO DEVIATE FROM THE PRE-COORDINATION INFORMATION PRESENTED ON THE CONTRACT BID DOCUMENTS. HOWEVER FINAL TRADE DRAWINGS MAY NOT HAVE BEEN PROVIDED FOR ABSOLUTE COORDINATION DURING THE ARCHITECTURAL/DESIGN PERMITTING PROCESS. REGARDLESS OF THEIR PRE-COORDINATION DURING THE REFERENCED PROCESS, IT IS THE CONTRACTOR'S RESPONSIBILITY FOR ALL FINAL COORDINATION WITH ALL TRADES IN THE FIELD. NRG DRAWINGS ARE TO BE FOLLOWED UNLESS WRITTEN APPROVAL IS PROVIDED TO ADDRESS ANY FIELD IMPACT ITEMS THAT MAY WARRANT ADDITIONAL DIRECTION TO THE CONTRACTOR.
 - ALL LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE COORDINATED AROUND THE WORK OF ALL TRADES BY THE FIRE SPRINKLER CONTRACTOR AND SHALL BE RESPONSIBLE FOR EXACT LOCATIONS OF SPRINKLERS PER NFPA 13 AND OWNERS REQUIREMENTS PRIOR TO BID, FABRICATION OR INSTALLATION.

BIDDING NOTE

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DATE	DESCRIPTION
11.19.25	DESIGN DEVELOPMENT SET
11.26.25	QA SET
12.09.25	QA BACKCHECK SET
12.22.25	PERMIT SET

25-5563-01
CHECKED BY: R. ANDERSON
DRAWN BY: J. BYERLY
11.19.2025

FIRE SPRINKLER PIPING PLAN

FP2.0

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1 FIRE SPRINKLER OVERHEAD REMOTE AREAS

1/16" = 1'-0"

- NOTES:**
1. ALL DESIGN CRITERIA FOR PROJECT IS REFERENCED ON SHEET FP1.0.
 2. CONTRACTOR PLANS SHALL PROVIDE OVERHEAD SPRINKLER MAINS, SPRINKLER LOCATIONS, BRANCH LINES, RISER, NIPPLES, AUXILIARY DRAIN LOCATIONS, SMALL HOSE STATIONS (WHERE APPLICABLE), INCLUDING ALL PIPING SIZES THAT ARE SHOWN ON THE CONTRACT BID DOCUMENTS HAVE BEEN COORDINATED WITH THE OTHER TRADES (ARCHITECT, STRUCTURAL, MEP, AND CIVIL) WITH THE INFORMATION PROVIDED AT THE TIME OF ARCHITECTURAL/DESIGN PERMITTING PROCESS IN ORDER TO AID THE CONTRACTOR AND THEIR CONSTRUCTION PROCESS. IT IS NOT RECOMMENDED TO DEVIATE FROM THE PRE-COORDINATION INFORMATION PRESENTED ON THE CONTRACT BID DOCUMENTS, HOWEVER FINAL TRADE DRAWINGS MAY NOT HAVE BEEN PROVIDED FOR ABSOLUTE COORDINATION DURING THE ARCHITECTURAL/DESIGN PERMITTING PROCESS. REGARDLESS OF THEIR PRE-COORDINATION DURING THE REFERENCED PROCESS, IT IS THE CONTRACTOR'S RESPONSIBILITY FOR ALL FINAL COORDINATION WITH ALL TRADES IN THE FIELD. NRG DRAWINGS ARE TO BE FOLLOWED UNLESS WRITTEN APPROVAL IS PROVIDED TO ADDRESS ANY FIELD IMPACT ITEMS THAT MAY WARRANT ADDITIONAL DIRECTION TO THE CONTRACTOR.
 3. ALL LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE COORDINATED AROUND THE WORK OF ALL TRADES BY THE FIRE SPRINKLER CONTRACTOR AND SHALL BE RESPONSIBLE FOR EXACT LOCATIONS OF SPRINKLERS PER NFPA 13 AND OWNERS REQUIREMENTS PRIOR TO BID, FABRICATION OR INSTALLATION.

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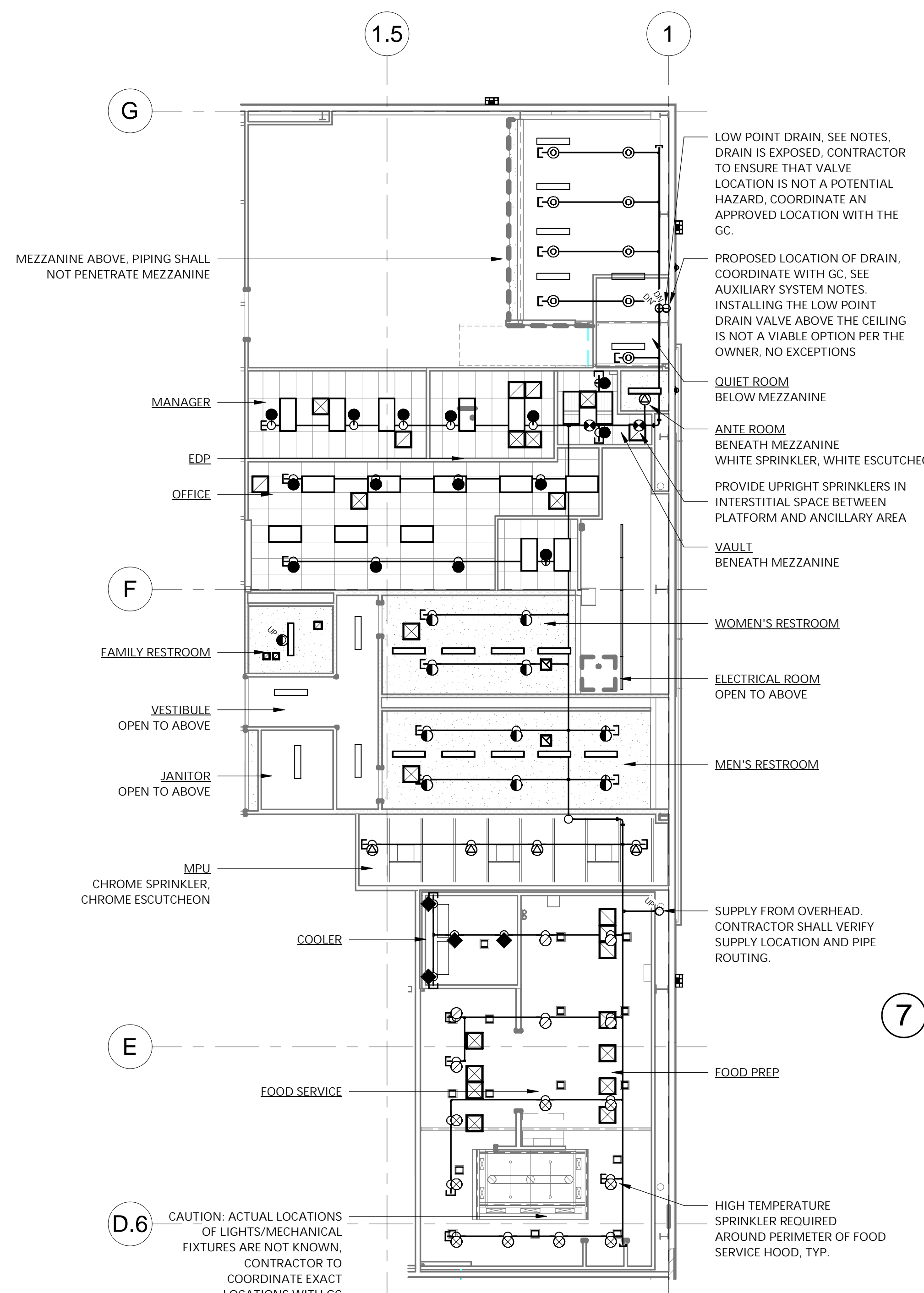
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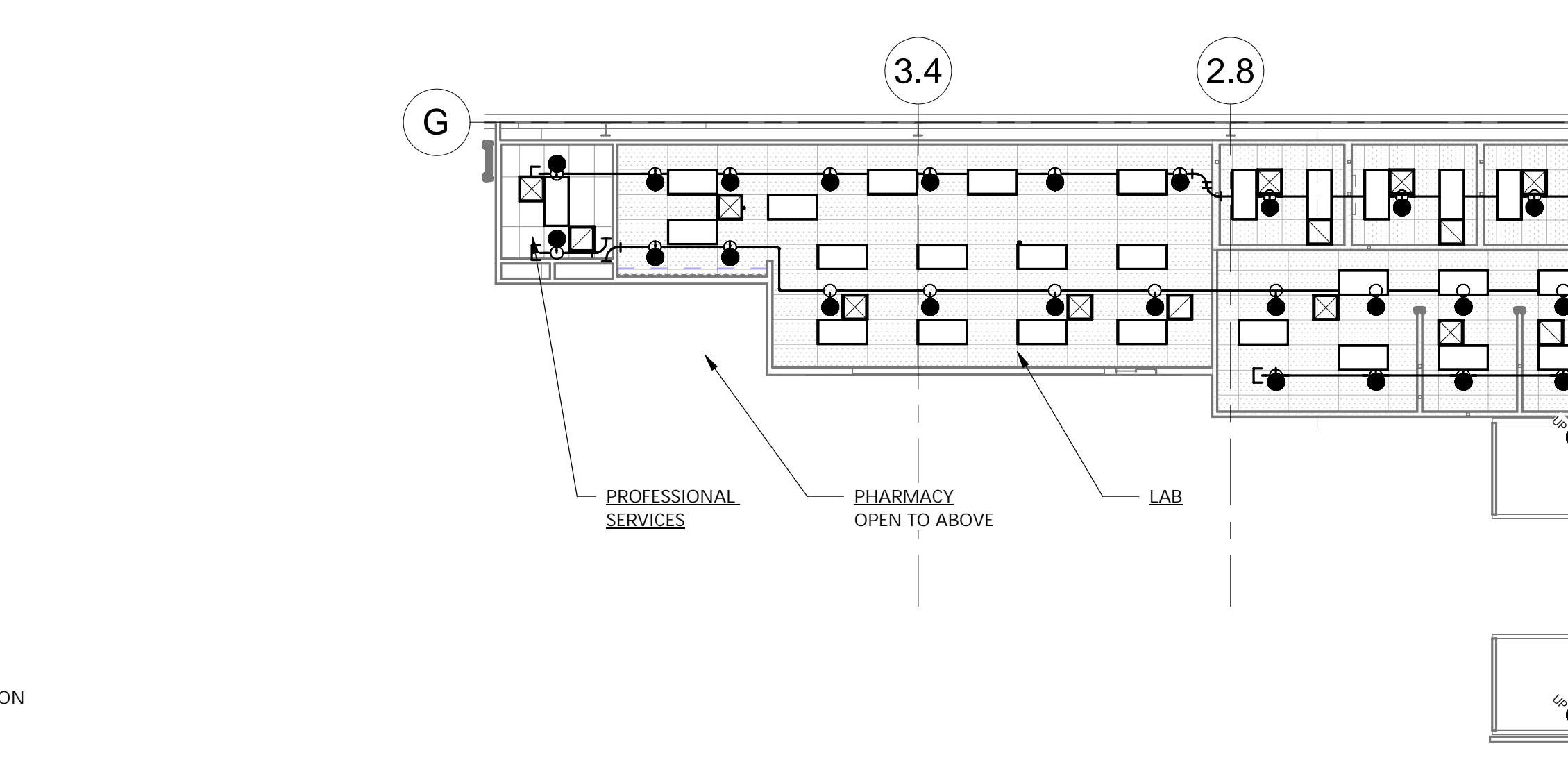
**FIRE SPRINKLER
OVERHEAD
REMOTE AREAS**

FP2.1

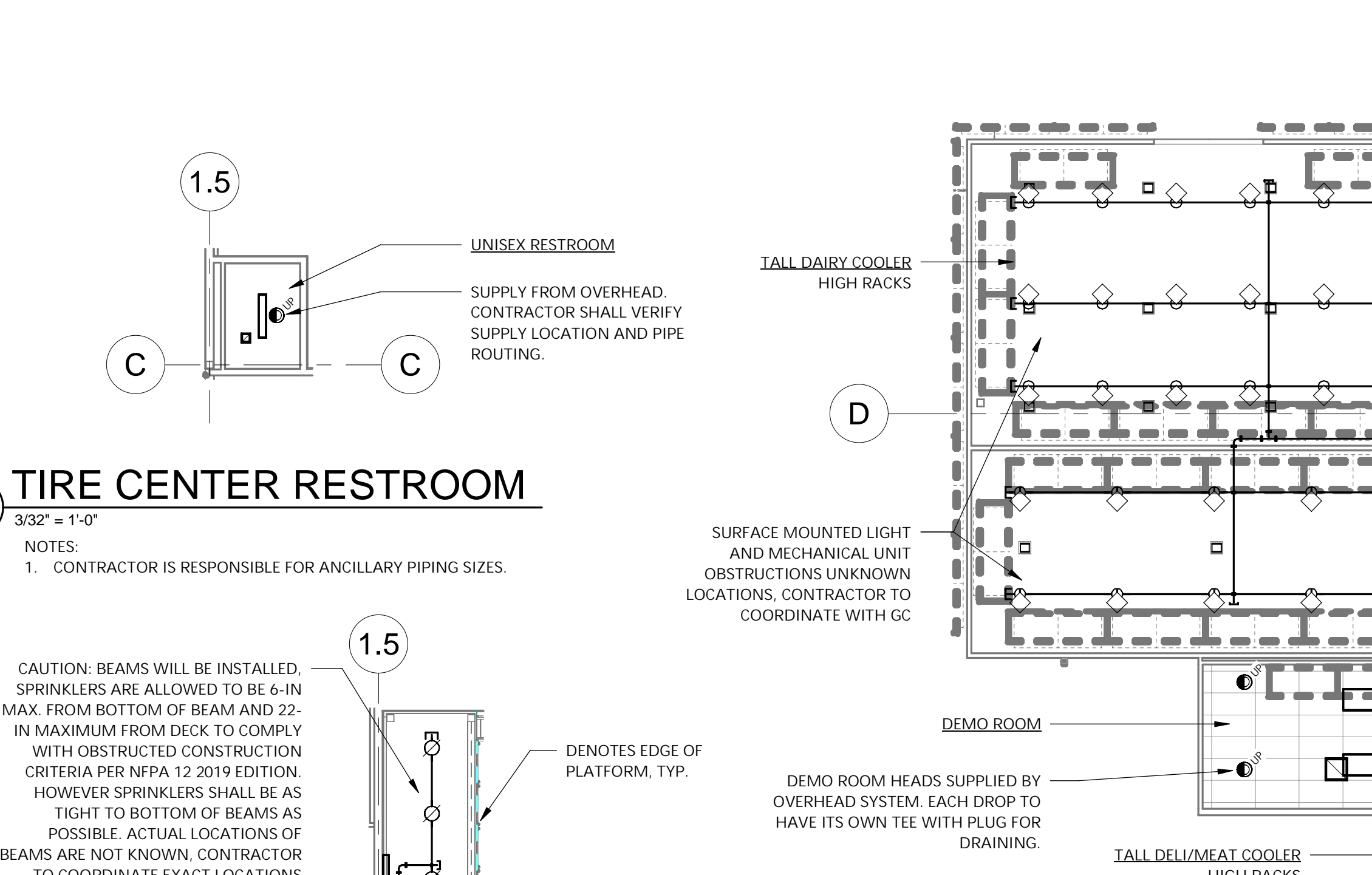
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1 OFFICE AREA AND FOOD SERVICE SPRINKLER PLAN
3/32" = 1'-0"
NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR ANCILLARY PIPING SIZES.

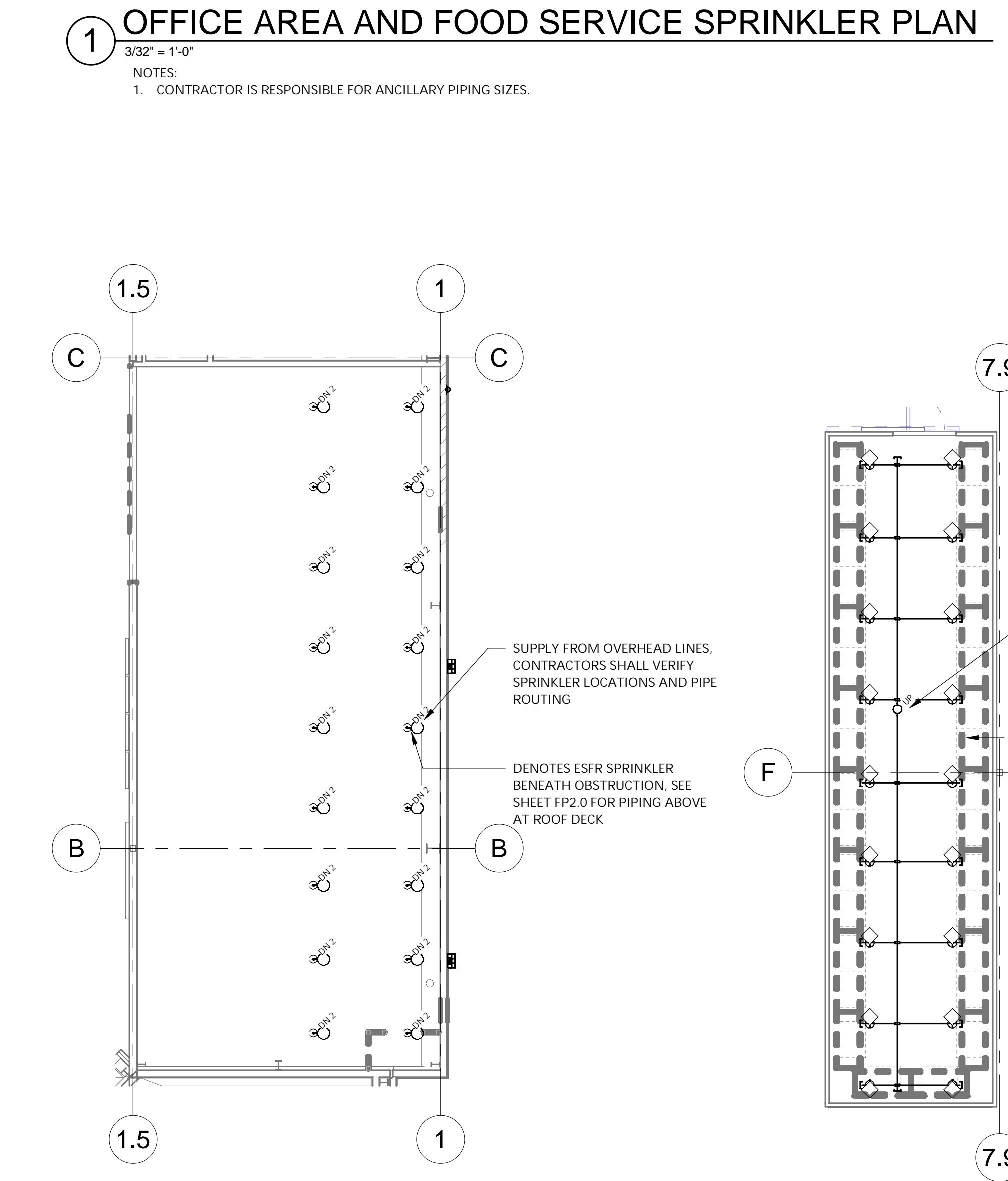


2 OPTICAL/HEARING/PHARMACY SPRINKLER PLAN
3/32" = 1'-0"
NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR ANCILLARY PIPING SIZES.

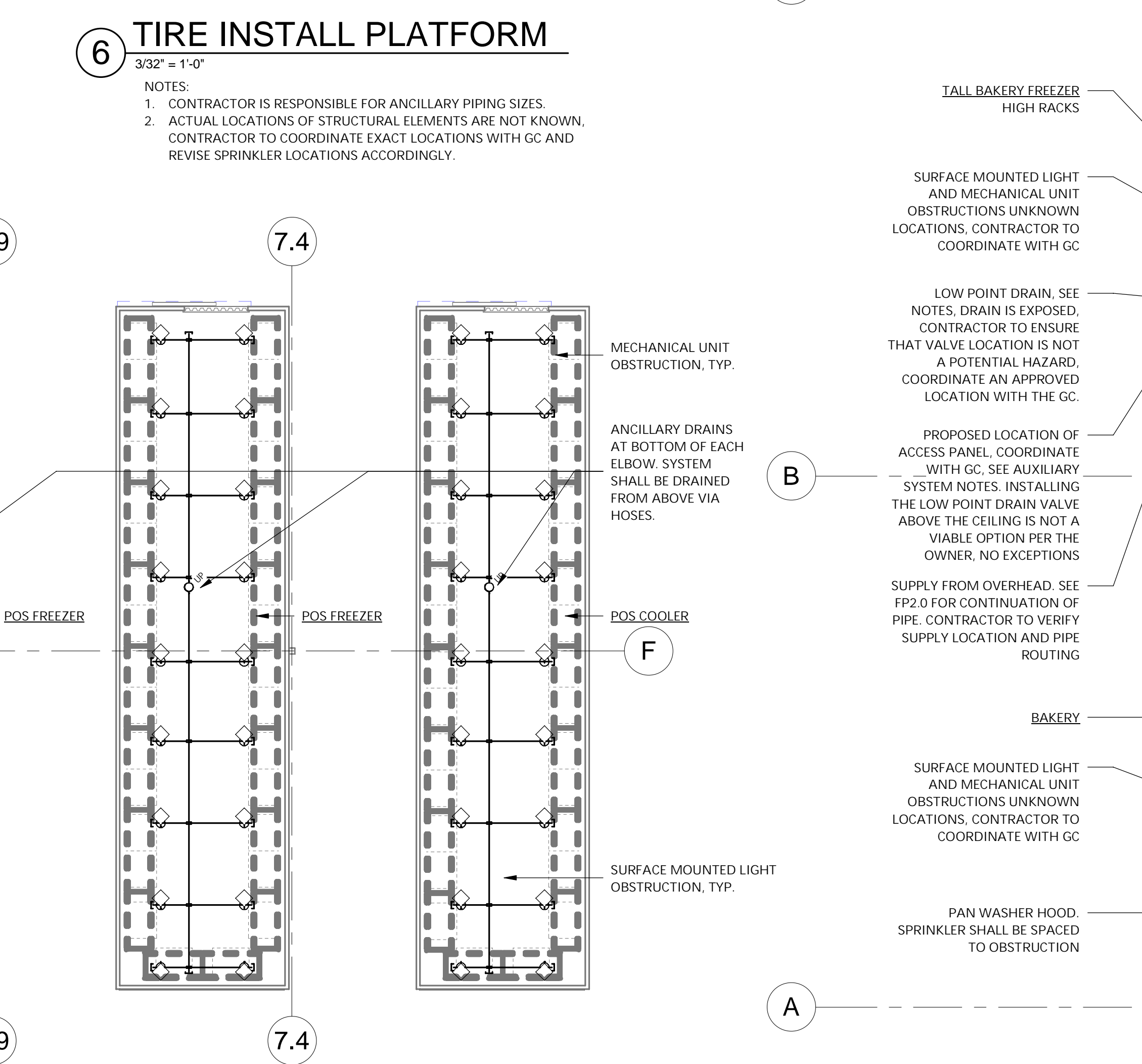


7 TIRE CENTER RESTROOM
3/32" = 1'-0"
NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR ANCILLARY PIPING SIZES.

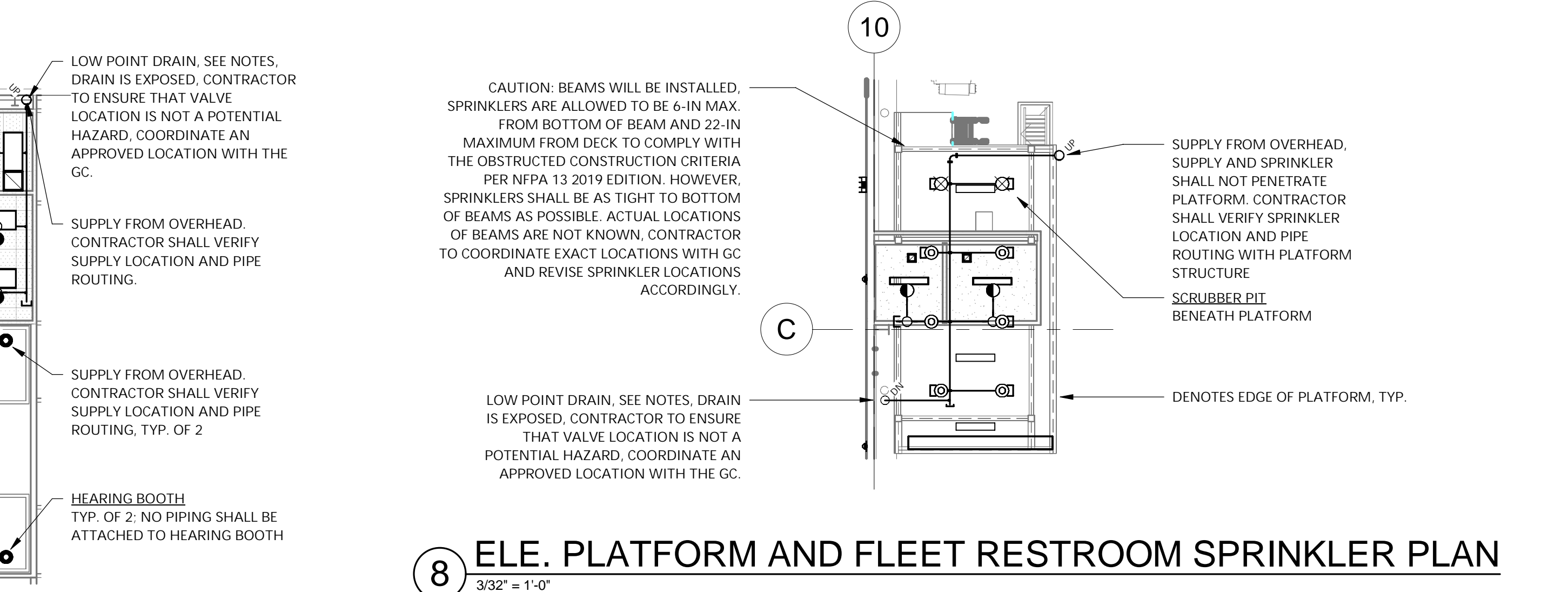
6 TIRE INSTALL PLATFORM
3/32" = 1'-0"
NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR ANCILLARY PIPING SIZES.
2. ACTUAL LOCATIONS OF STRUCTURAL ELEMENTS ARE NOT KNOWN. CONTRACTOR TO COORDINATE EXACT LOCATIONS WITH GC AND REVISE SPRINKLER LOCATIONS ACCORDINGLY.



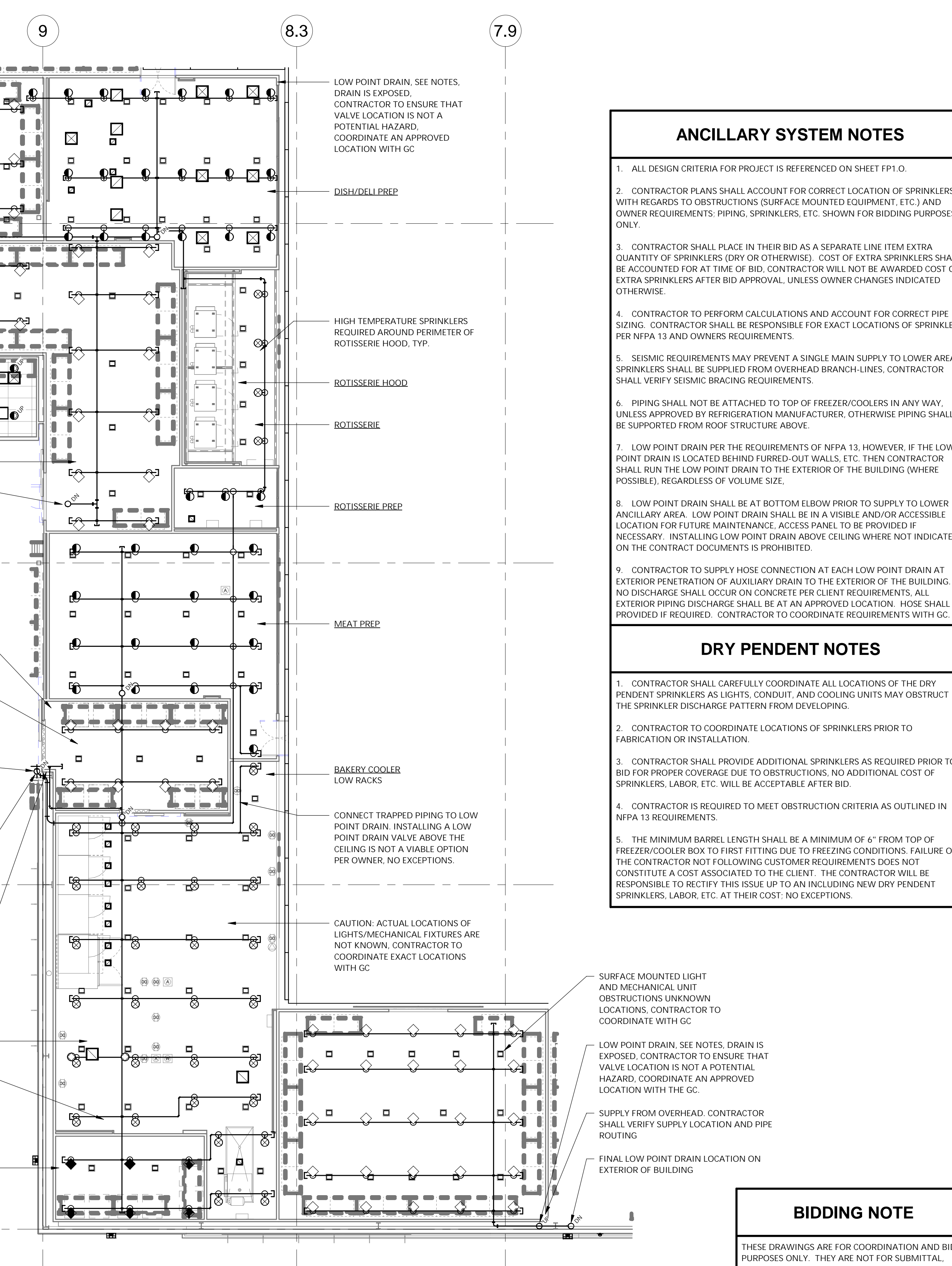
5 TIRE SALES PIPING PLAN
3/32" = 1'-0"
NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR ANCILLARY PIPING SIZES.



3 POS SPRINKLER PLAN
3/32" = 1'-0"
NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR ANCILLARY PIPING SIZES.



8 ELE. PLATFORM AND FLEET RESTROOM SPRINKLER PLAN
3/32" = 1'-0"
NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR ANCILLARY PIPING SIZES.



9 FRESHLINE SPRINKLER PLAN
3/32" = 1'-0"
NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR ANCILLARY PIPING SIZES.

ANCILLARY SYSTEM NOTES

- ALL DESIGN CRITERIA FOR PROJECT IS REFERENCED ON SHEET FP1.0.
- CONTRACTOR PLANS SHALL ACCOUNT FOR CORRECT LOCATION OF SPRINKLERS WITH REGARDS TO OBSTRUCTIONS (SURFACE MOUNTED EQUIPMENT, ETC.) AND OWNER REQUIREMENTS: PIPING, SPRINKLERS, ETC. SHOWN FOR BIDDING PURPOSES ONLY.
- CONTRACTOR SHALL PLACE IN THEIR BID AS A SEPARATE LINE ITEM EXTRA QUANTITY OF SPRINKLERS (DRY OR OTHERWISE). COST OF EXTRA SPRINKLERS SHALL BE ACCOUNTED FOR AT TIME OF BID. CONTRACTOR WILL NOT BE AWARDED COST OF EXTRA SPRINKLERS AFTER BID APPROVAL, UNLESS OWNER CHANGES INDICATED OTHERWISE.
- CONTRACTOR TO PERFORM CALCULATIONS AND ACCOUNT FOR CORRECT PIPE SIZING. CONTRACTOR SHALL BE RESPONSIBLE FOR EXACT LOCATIONS OF SPRINKLERS PER NFPA 13 AND OWNERS REQUIREMENTS.
- SEISMIC REQUIREMENTS MAY PREVENT A SINGLE MAIN SUPPLY TO LOWER AREAS. SPRINKLERS SHALL BE SUPPLIED FROM OVERHEAD BRANCH-LINES. CONTRACTOR SHALL VERIFY SEISMIC BRACING REQUIREMENTS.
- PIPING SHALL NOT BE ATTACHED TO TOP OF FREEZER/COOLERS IN ANY WAY, UNLESS APPROVED BY REFRIGERATION MANUFACTURER. OTHERWISE PIPING SHALL BE SUPPORTED FROM ROOF STRUCTURE ABOVE.
- LOW POINT DRAIN PER THE REQUIREMENTS OF NFPA 13. HOWEVER, IF THE LOW POINT DRAIN IS LOCATED BEHIND FURRED-OUT WALLS, ETC. THEN CONTRACTOR SHALL RUN THE LOW POINT DRAIN TO THE EXTERIOR OF THE BUILDING (WHERE POSSIBLE), REGARDLESS OF VOLUME SIZE.
- LOW POINT DRAIN SHALL BE AT BOTTOM ELBOW PRIOR TO SUPPLY TO LOWER ANCILLARY AREA. LOW POINT DRAIN SHALL BE IN A VISIBLE AND/OR ACCESSIBLE LOCATION FOR FUTURE MAINTENANCE. ACCESS PANEL TO BE PROVIDED IF NECESSARY. INSTALLING LOW POINT DRAIN ABOVE CEILING WHERE NOT INDICATED ON THE CONTRACT DOCUMENTS IS PROHIBITED.
- CONTRACTOR TO SUPPLY HOSE CONNECTION AT EACH LOW POINT DRAIN AT EXTERIOR PENETRATION OF AUXILIARY DRAIN TO THE EXTERIOR OF THE BUILDING. NO DISCHARGE SHALL OCCUR ON CONCRETE PER CLIENT REQUIREMENTS. ALL EXTERIOR PIPING DISCHARGE SHALL BE AT AN APPROVED LOCATION. HOSE SHALL BE PROVIDED IF REQUIRED. CONTRACTOR TO COORDINATE REQUIREMENTS WITH GC.

DRY PENDENT NOTES

- CONTRACTOR SHALL CAREFULLY COORDINATE ALL LOCATIONS OF THE DRY PENDENT SPRINKLERS AS LIGHTS, CONDUIT, AND COOLING UNITS MAY OBSTRUCT THE SPRINKLER DISCHARGE PATTERN FROM DEVELOPING.
- CONTRACTOR TO COORDINATE LOCATIONS OF SPRINKLERS PRIOR TO FABRICATION OR INSTALLATION.
- CONTRACTOR SHALL PROVIDE ADDITIONAL SPRINKLERS AS REQUIRED PRIOR TO BID FOR PROPER COVERAGE DUE TO OBSTRUCTIONS. NO ADDITIONAL COST OF SPRINKLERS, LABOR, ETC. WILL BE ACCEPTABLE AFTER BID.
- CONTRACTOR IS REQUIRED TO MEET OBSTRUCTION CRITERIA AS OUTLINED IN NFPA 13 REQUIREMENTS.
- THE MINIMUM BARREL LENGTH SHALL BE A MINIMUM OF 6' FROM TOP OF FREEZER/COOLER BOX TO FIRST FITTING DUE TO FREEZING CONDITIONS. FAILURE OF THE CONTRACTOR NOT FOLLOWING CUSTOMER REQUIREMENTS DOES NOT CONSTITUTE A COST ASSOCIATED TO THE CLIENT. THE CONTRACTOR WILL BE RESPONSIBLE TO RECTIFY THIS ISSUE UP TO AN INCLUDING NEW DRY PENDENT SPRINKLERS, LABOR, ETC. AT THEIR COST. NO EXCEPTIONS.

BIDDING NOTE

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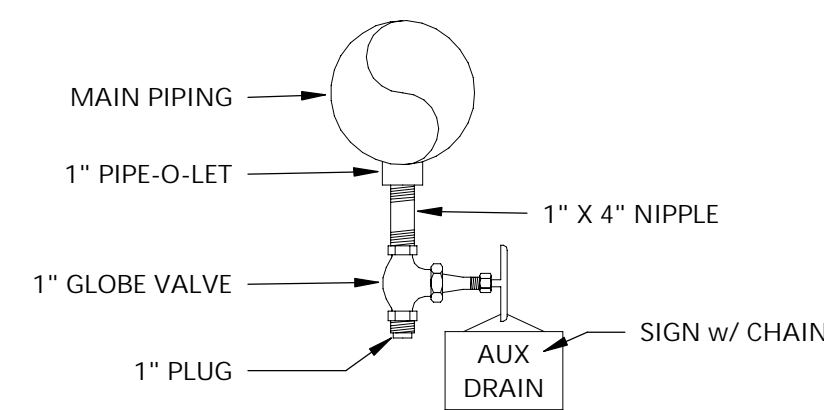
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FIRE SPRINKLER PIPING PLAN ANCILLARY AREAS

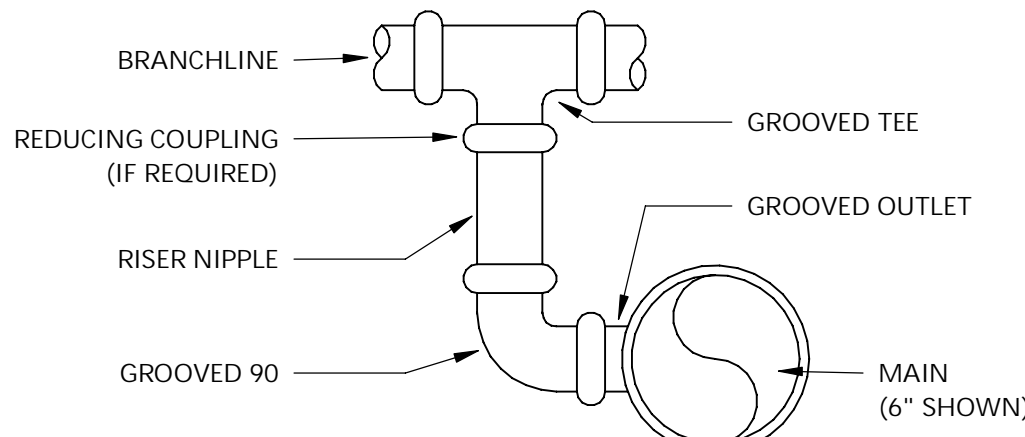
FP3.0

NOTE: PROVIDE ON END OF EACH CROSS MAIN, DRAINS SHALL BE PROVIDED W/ PLUGS AT LOW LEVEL PIPING AND DROPS.

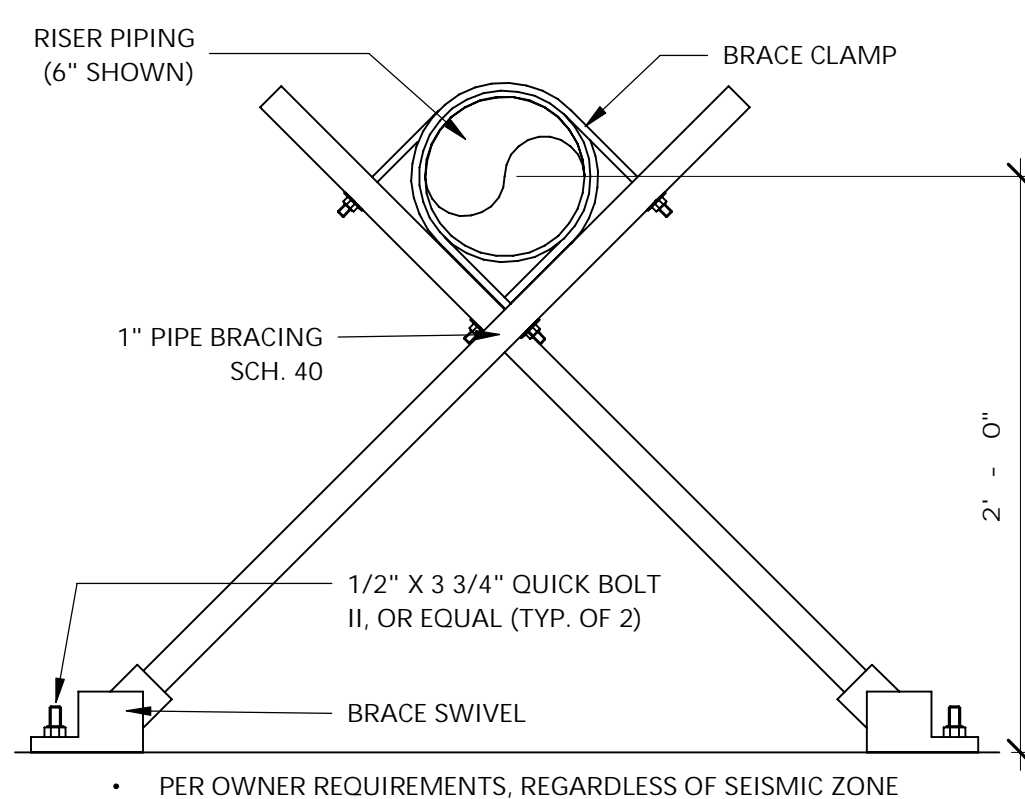


AUX DRAIN DETAIL
NOT TO SCALE

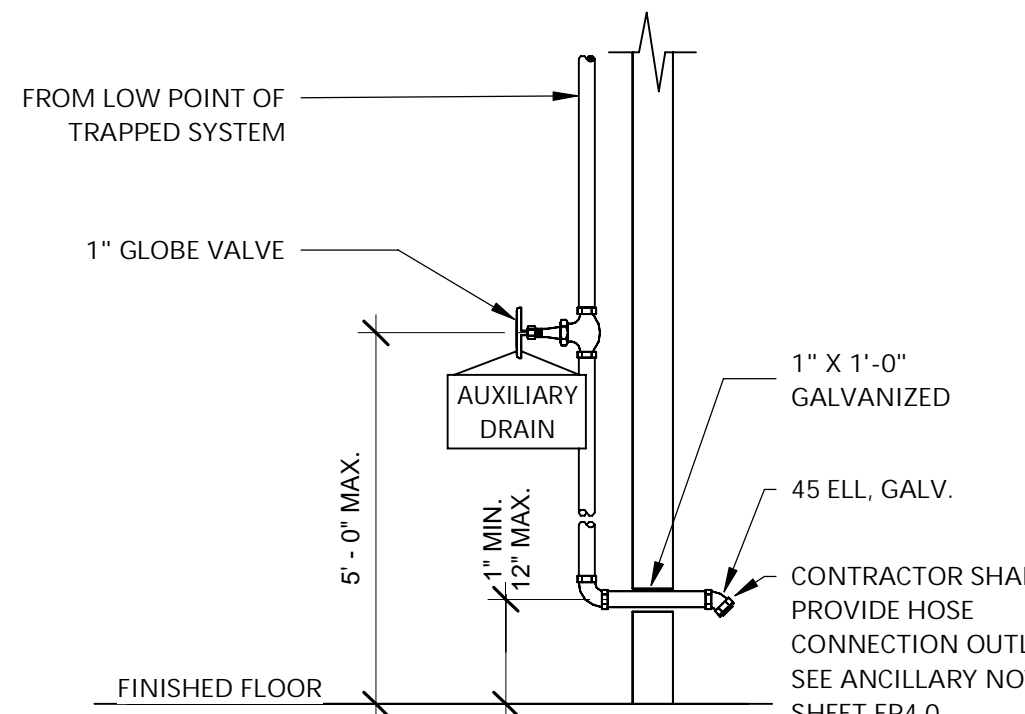
NOTE: RISER NIPPLE TO SWING MINIMUM NECESSARY TO MISS STRUCTURAL MEMBERS, INCLUDING TRUSS WEBS AND CHORDS. SPRINKLER CONTRACTOR TO ENSURE DEFLECTOR IS A MINIMUM OF 4 TIMES THE MAXIMUM WIDTH OF WEB MEMBER (FOR EC TYPE SPRINKLERS OR A MINIMUM OF 3 TIMES THE MAXIMUM WIDTH FOR STANDARD SPRINKLERS) PER NFPA 13.



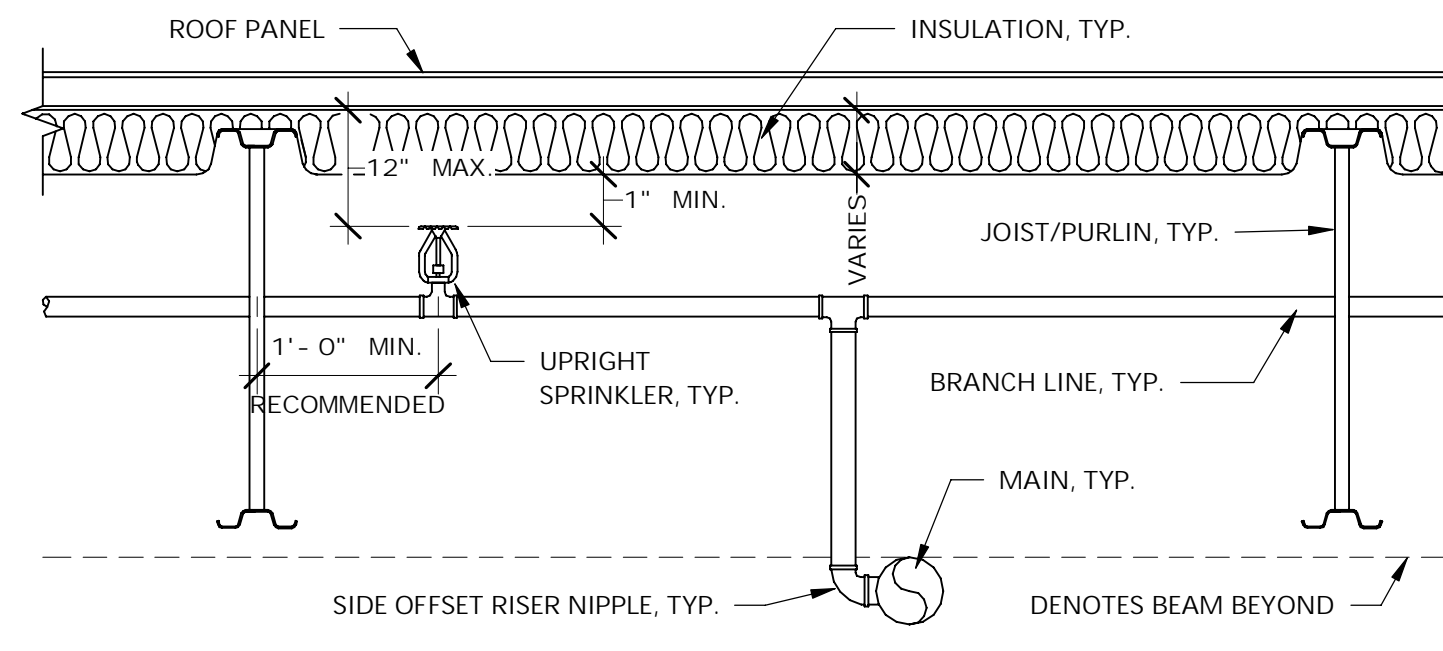
TYPICAL RISER NIPPLE
NOT TO SCALE



RISER/DROP BRACE CONNECTION
NOT TO SCALE

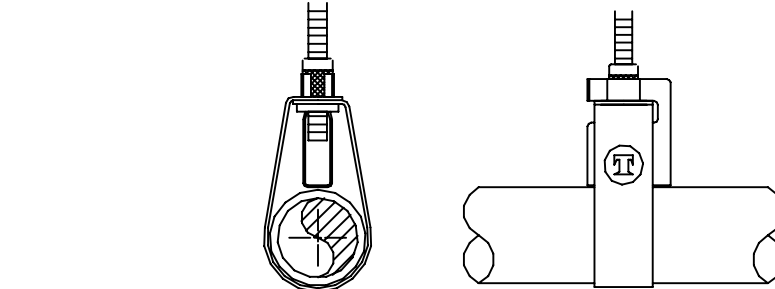


AUX DRAIN FOR TRAPPED WATER
NOT TO SCALE



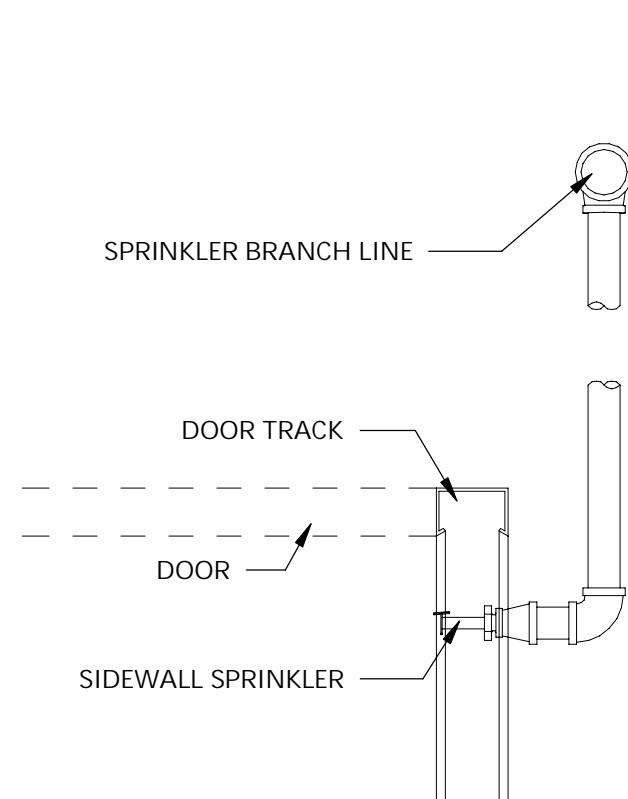
TYPICAL PIPING DETAIL FOR UPRIGHT SPRINKLERS
NOT TO SCALE

TOLCO FIG. 25 OR LISTED EQUAL SURGE RESTRAINER TYPE 1 - FOR 1" AND 1-1/2" PIPE AND HANGER TYPE 2 - FOR 1-1/2" AND 2" PIPE AND HANGER

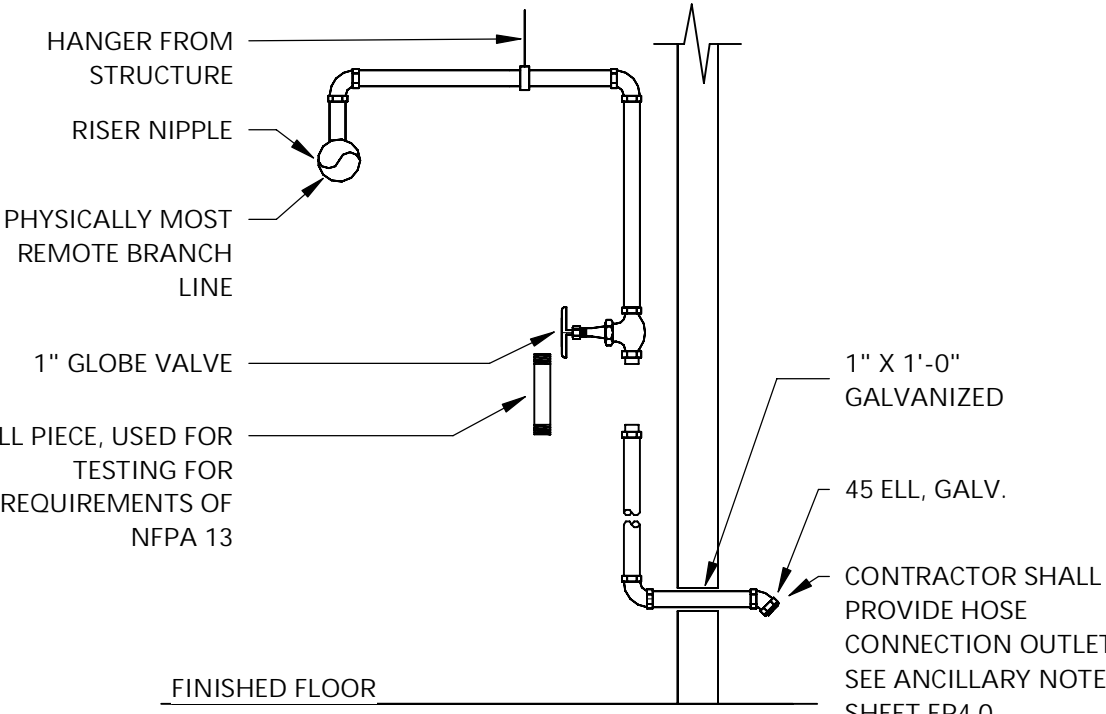


DESIGNED TO BE USED TO RESTRAIN THE UPWARD MOVEMENT OF PIPE AS IT OCCURS DURING SPRINKLER HEAD ACTIVATION OR SEISMIC ACTIVITY

SURGE RESTRAINER FOR STEEL PIPE
NOT TO SCALE



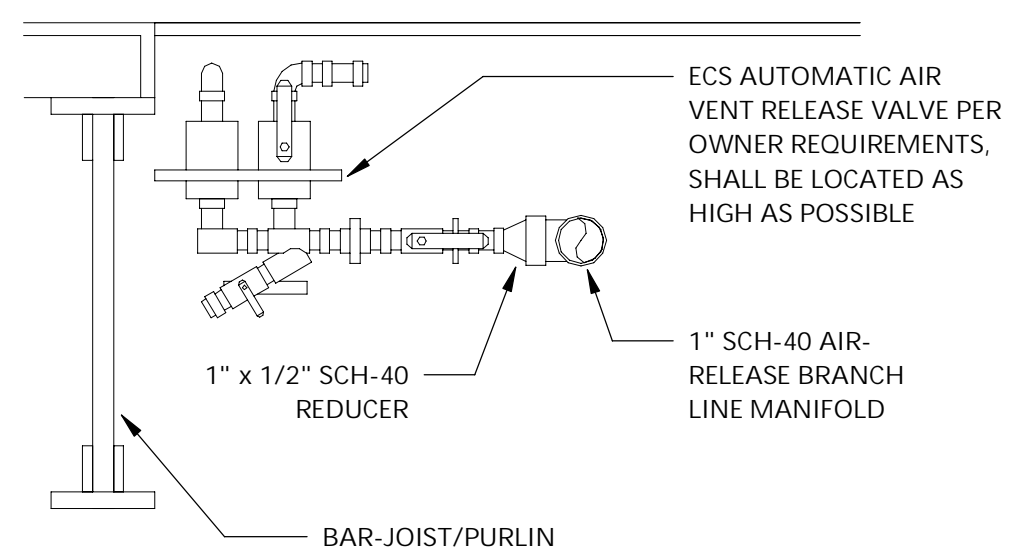
SPRINKLER AT ROLL-UP DOORS
NOT TO SCALE



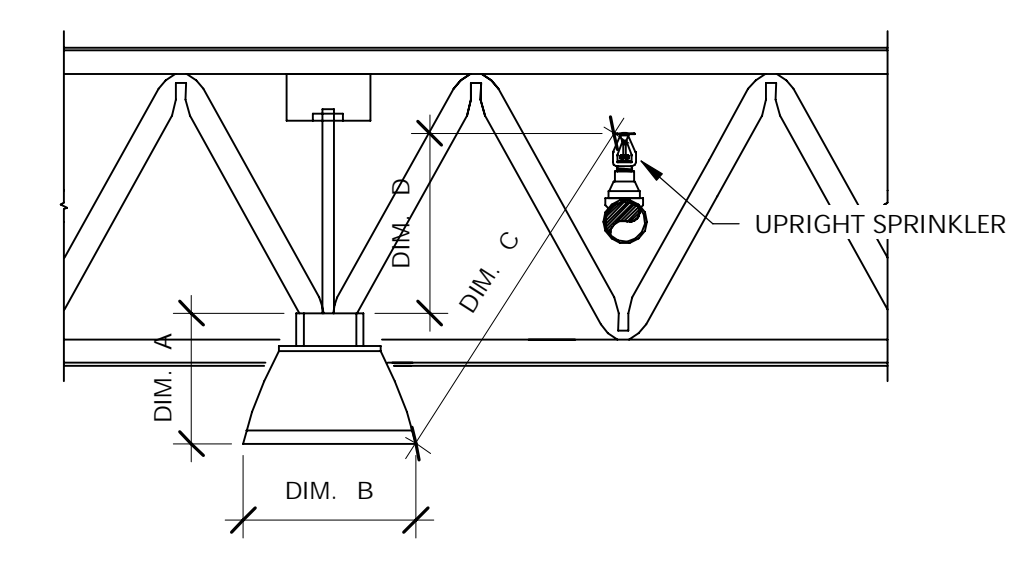
DRY TEST CONNECTION
NOT TO SCALE

NOTES:

1. MAIN PIPING SHALL BE INSTALLED TIGHT TO BOTTOM OF BEAM, UNLESS NOTED OTHERWISE. AUXILIARY DRAINS SHALL BE INSTALLED AT ALL TRAPPED PIPING.
2. MAIN PIPING 4-IN AND LARGER SHALL BE INSTALLED 4-IN FROM CENTER BETWEEN 2 JOIST/PURLIN, NO EXCEPTIONS.
3. SPRINKLERS SHALL BE INSTALLED PER NFPA 13 STANDARDS, TYPICAL.
4. INSULATION DEPTH IS NOT CONSISTENT. SPRINKLER DEFLECTOR SHALL NOT EXCEED 12-IN FROM THE HIGHEST POINT OF THE INSULATION AND NOT FROM THE BOTTOM OF INSULATION. SPRINKLER BENEATH THE INSULATION SHALL BE A MINIMUM OF 1-IN BELOW THE INSULATION DIRECTLY ABOVE THE SPRINKLER. THE SPRINKLER DEFLECTOR SHALL BE AT LEAST LEVEL OR BELOW THE LOWEST POINT OF INSULATION SAG. CONTRACTOR SHALL VERIFY AND INSTALL AS DIRECTED.



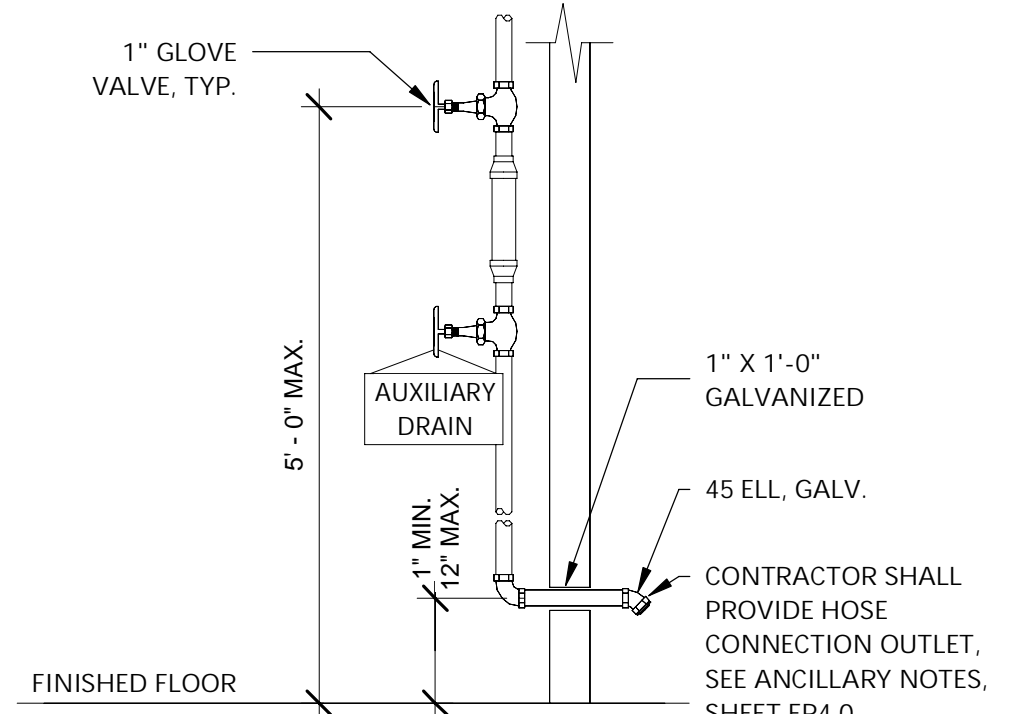
AUTOMATIC ECS INSTALLATION DETAIL
NOT TO SCALE



NOTE: THE SPRINKLER CONTRACTOR SHALL COORDINATE AND INFORM THE ELECTRICAL CONTRACTOR OF THE SPACING RESTRICTIONS WITH RESPECT TO LIGHTS.

NOTE: "DIM 'A'" ≥ 48 OR 4C, BUT NOT GREATER THAN 36" (USE DIMENSION B, OR C WHICHEVER IS GREATER); IF "DIM 'D'" IS GREATER THAN 18" THE RULE DOES NOT APPLY PER NFPA 13.

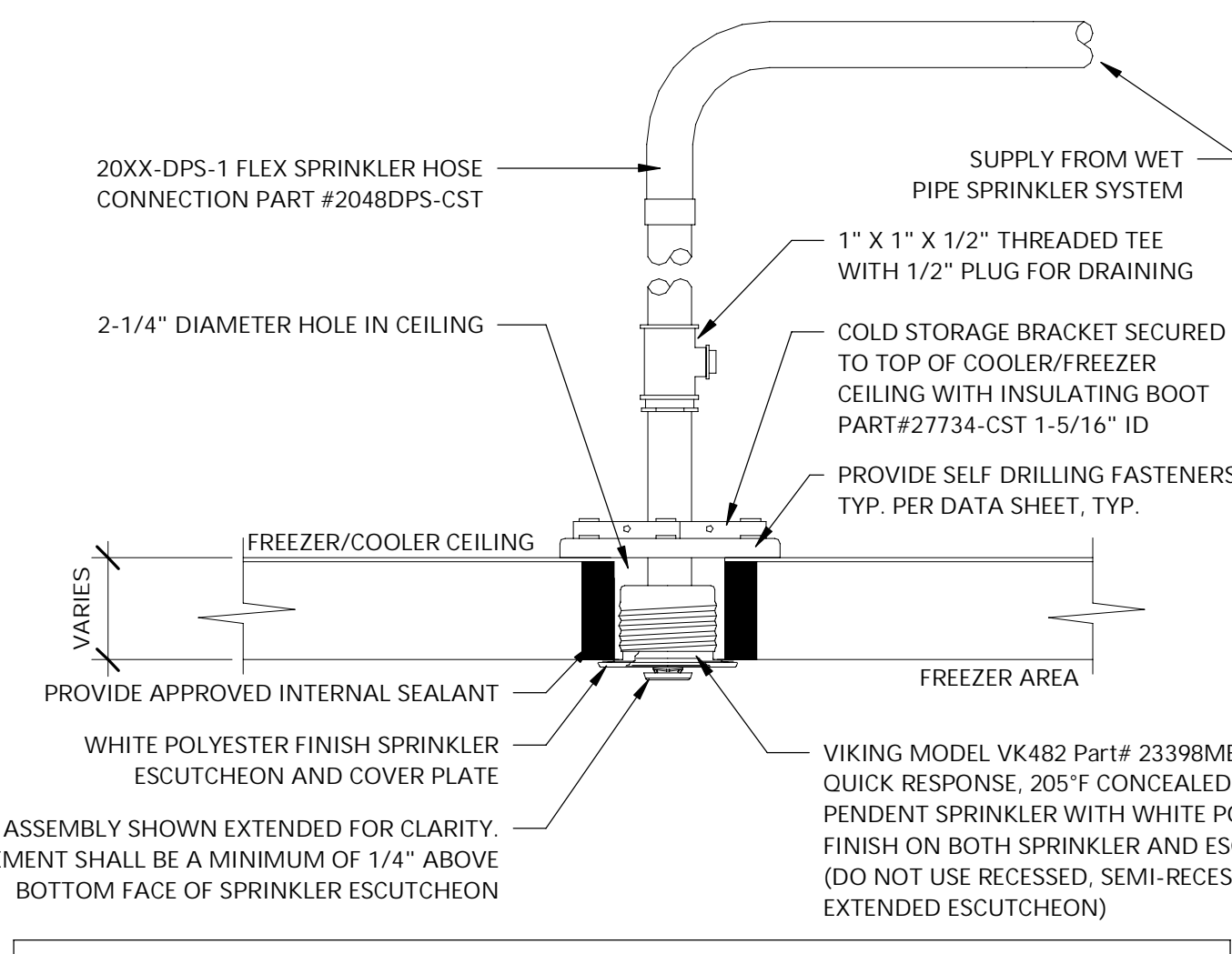
EC SPRINKLER/LIGHT DETAIL
NOT TO SCALE



DRUM DRIP DRAIN
NOT TO SCALE

INSTALLATION PROCEDURE

1. CORE DRILL HOLE IN THE KPS INSULATED CEILING PANEL FROM BELOW. LOCATE HOLE AND REQUIRED SPRINKLER PROTECTION IN ACCORDANCE WITH NFPA 13 OBSTRUCTION CRITERIA (SSP TYPE SPRINKLERS). MAINTAIN 6" CENTER TO CENTER CLEARANCE FROM COOLER SEAMS.
2. INSTALL DRY PENDENT SPRINKLER PER MANUFACTURERS INSTALLATION REQUIREMENTS.
3. INJECT TOUCH 'N SEAL QUICK CURE HY POLYURETHANE (OR APPROVED EQUAL PER KPS) SEALANT INTO AND AROUND THE TOP OF THE FREEZER/COOLER CEILING CORE OPENING IN ACCORDANCE WITH SEALANT MANUFACTURERS INSTRUCTIONS.
4. COMPLETELY SEAL INTERFACE BETWEEN BOOT FLANGE AND TOP OF KPS INSULATED PANEL IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
5. APPLY SELF DRILLING FASTENERS ON BOOT AROUND DRY SPRINKLER BARREL PER MANUFACTURERS INSTRUCTIONS.



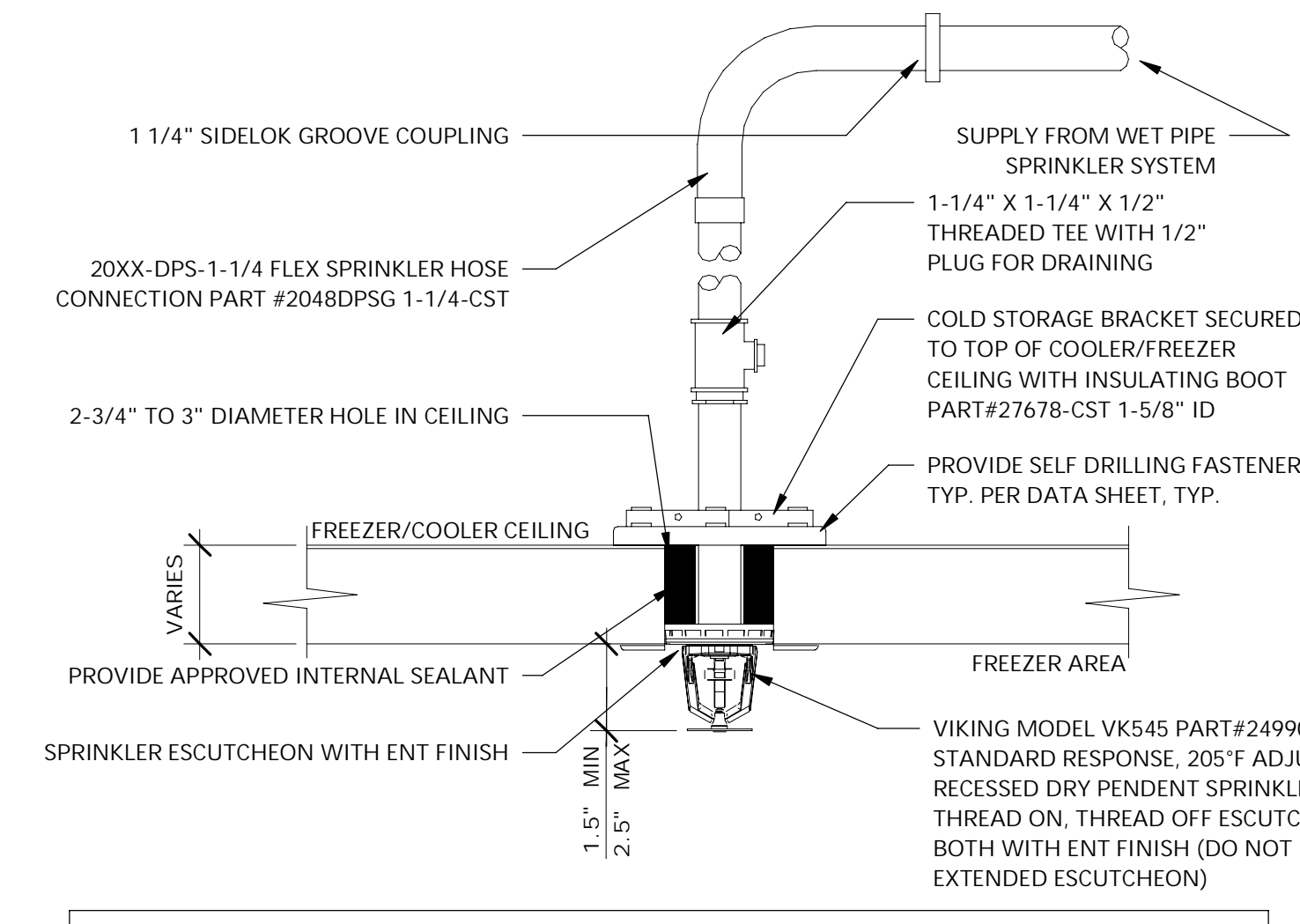
NOTE: THE USE OF 401 STYLE (OR EQUIVALENT EXTENDED ESCUTCHEONS) ARE PROHIBITED FOR USE WITH THE DRY PENDENT SPRINKLER INSTALLATION PER OWNER REQUIREMENTS, NO EXCEPTIONS.

SEE CONTRACT BID DOCUMENTS (DRAWINGS AND SPECIFICATIONS) FOR ADDITIONAL INFORMATION.

LOW STOCK COOLER FLEXHEAD DETAIL
NOT TO SCALE

INSTALLATION PROCEDURE

1. CORE DRILL HOLE IN THE KPS INSULATED CEILING PANEL FROM BELOW. LOCATE HOLE AND REQUIRED SPRINKLER PROTECTION IN ACCORDANCE WITH NFPA 13 OBSTRUCTION CRITERIA (SSP TYPE SPRINKLERS). MAINTAIN 6" CENTER TO CENTER CLEARANCE FROM COOLER SEAMS.
2. INSTALL DRY PENDENT SPRINKLER PER MANUFACTURERS INSTALLATION REQUIREMENTS.
3. INJECT TOUCH 'N SEAL QUICK CURE HY POLYURETHANE (OR APPROVED EQUAL PER KPS) SEALANT INTO AND AROUND THE TOP OF THE FREEZER/COOLER CEILING CORE OPENING IN ACCORDANCE WITH SEALANT MANUFACTURERS INSTRUCTIONS.
4. COMPLETELY SEAL INTERFACE BETWEEN BOOT FLANGE AND TOP OF KPS INSULATED PANEL IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
5. APPLY SELF DRILLING FASTENERS ON BOOT AROUND DRY SPRINKLER BARREL PER MANUFACTURERS INSTRUCTIONS.



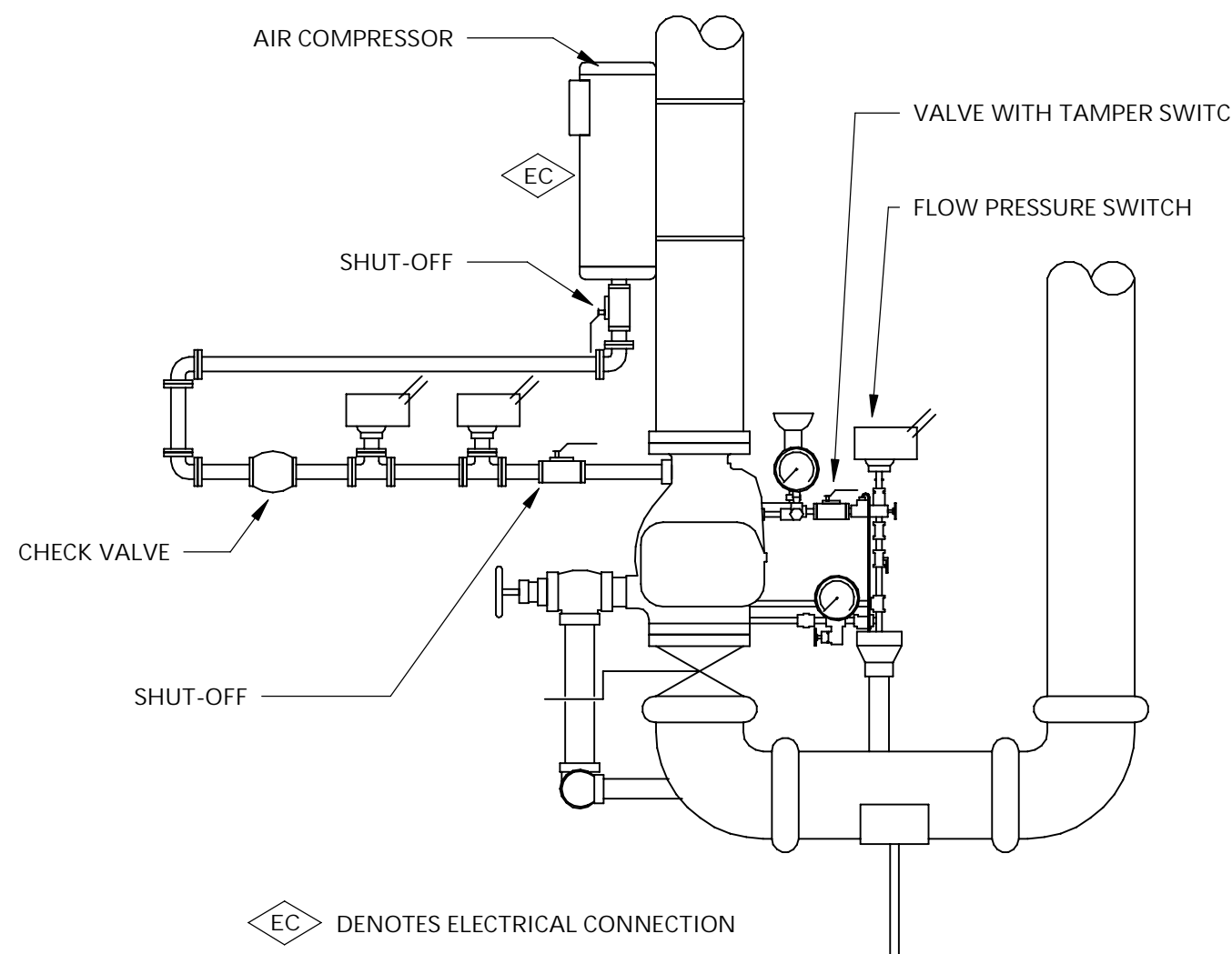
NOTE: THE USE OF 401 STYLE (OR EQUIVALENT EXTENDED ESCUTCHEONS) ARE PROHIBITED FOR USE WITH THE DRY PENDENT SPRINKLER INSTALLATION PER OWNER REQUIREMENTS, NO EXCEPTIONS.

SEE CONTRACT BID DOCUMENTS (DRAWINGS AND SPECIFICATIONS) FOR ADDITIONAL INFORMATION.

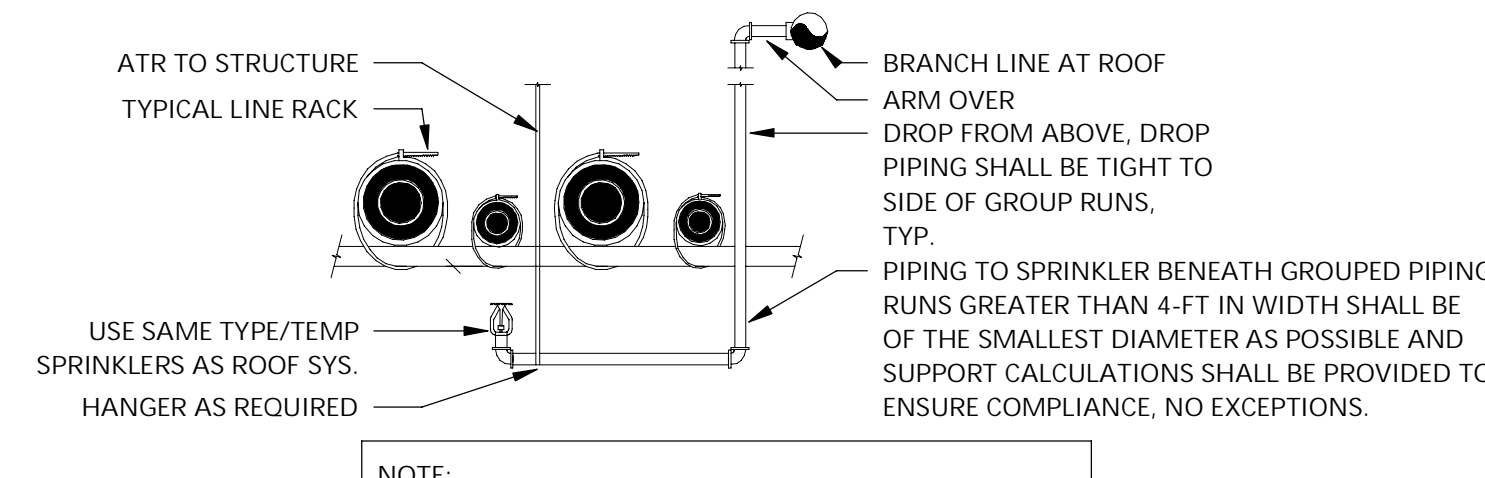
HIGH STOCK COOLER FLEXHEAD DETAIL
NOT TO SCALE

DRY PIPE SYSTEM NOTES

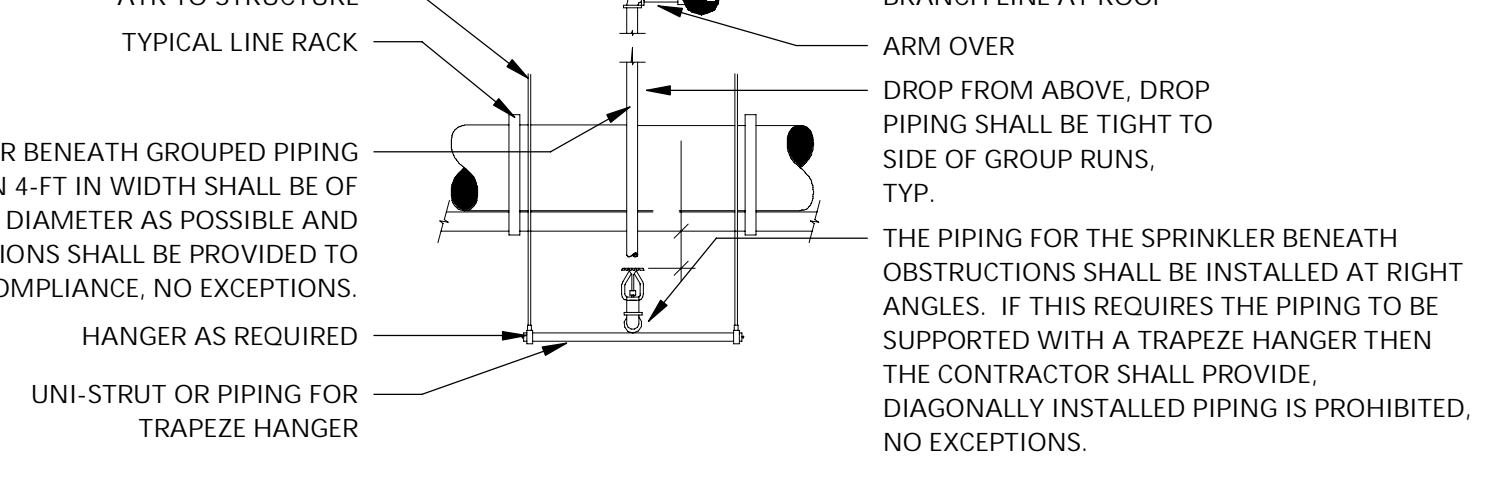
- PROVIDE DRY SYSTEM AUXILIARY DRAINS AND INSPECTOR'S TESTS PER NFPA 13 AT DRY PIPE AREAS.
- PIPING TO BE PITCHED FOR DRAINAGE PER NFPA 13.
- THRUST BRACING SHALL BE PROVIDED ON EACH CHANGE OF DIRECTION ON DRY SYSTEM PIPING TO PREVENT POTENTIAL WATER HAMMER, REGARDLESS OF SEISMIC REGION, PER OWNER REQUIREMENTS, NO EXCEPTIONS.
- CONTRACTOR TO COORDINATE WITH COSTCO PROJECT MANAGER TO PROVIDE ADEQUATE ACCESSIBILITY TO DRY PIPE VALVE.
- PROVIDE ALL NECESSARY PIPE STANDS AND DRAINS.
- POSITION PIPING TO PROVIDE A MINIMUM OF 3'-0" CLEAR BELOW ASSEMBLY.
- DRY PIPE VALVE SHALL NOT BE MORE THAN 1'-4" CENTER LINE OFF WALL.
- CONTRACTOR TO PROVIDE RISER MOUNTED AIR COMPRESSOR; TANK OR FLOOR MOUNTED AIR COMPRESSOR IS NOT ACCEPTABLE.
- COMPRESSOR SHALL BE HARD WIRED. AIR-COMPRESSOR SIZE SHALL BE COORDINATED WITH ELECTRICAL ENGINEER BY SPRINKLER CONTRACTOR.
- LOCATION OF DRY RISER SHALL BE WITHIN CHAIN-LINK ENCLOSURE AS INDICATED WITHIN THE ARCHITECTURAL PLANS.



DRY VALVE DETAIL
NOT TO SCALE



NOTE: DO NOT ATTACH SPRINKLER PIPE TO REFRIGERATION RACK OR PNEUMATIC TUBE.



NOTE: LOCATION OF REFRIGERATION LINE AND PNEUMATIC PIPING SUBJECT IN FIELD. CONTRACTOR SHALL PLACE IN THEIR BID AS A SEPARATE LINE ITEM EXTRA QUANTITY OF SPRINKLERS FOR SPRINKLERS BENEATH GROUPED RUNS OF PIPING. COST OF EXTRA SPRINKLERS SHALL BE ACCOUNTED FOR AT TIME OF BID. CONTRACTOR WILL NOT BE AWARDED COST OF EXTRA SPRINKLERS AFTER BID APPROVAL. NO EXCEPTIONS.

REFR LINE/PNEUMATIC TUBE PIPE HANGER DETAIL
NOT TO SCALE

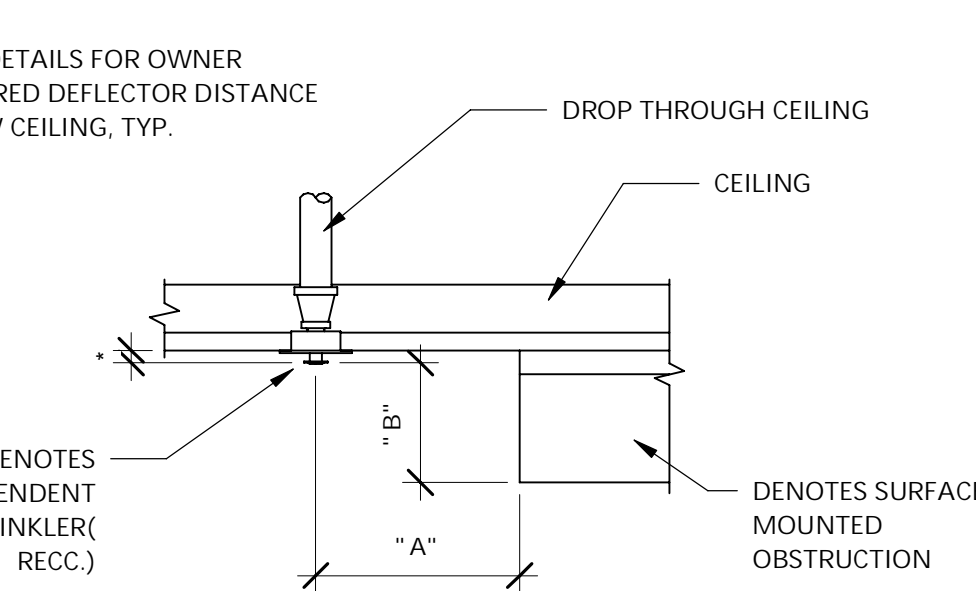


FIGURE A

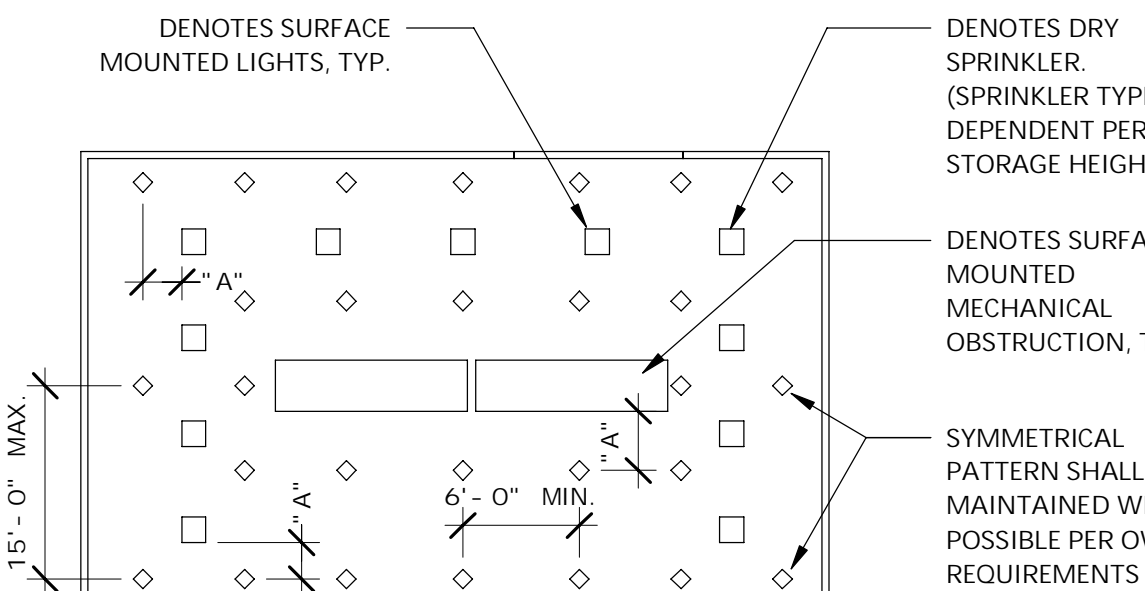
DISTANCE FROM SPRINKLERS TO SIDE OF OBSTRUCTION "A"	MAX. ALLOWABLE DISTANCE OF DEFLECTOR ABOVE BOTTOM OF OBSTRUCTION "B"
LESS THAN 1'-0"	(ZERO) 0"
1'-0" TO LESS THAN 1'-6"	2.5"
1'-6" TO LESS THAN 2'-0"	3.5"
2'-0" TO LESS THAN 2'-6"	5.5"
2'-6" TO LESS THAN 3'-0"	7.5"
3'-0" TO LESS THAN 3'-6"	9.5"
3'-6" TO LESS THAN 4'-0"	12"
4'-0" TO LESS THAN 4'-6"	14"
4'-6" TO LESS THAN 5'-0"	16.5"
5'-0" TO LESS THAN 5'-6"	18"
5'-6" TO LESS THAN 6'-0"	20"
6'-0" TO LESS THAN 6'-6"	24"
6'-6" TO LESS THAN 7'-0"	30"
7'-0" TO LESS THAN 7'-6"	35"

NFPA 13, 2016 EDITION, TABLE 8.6.5.1.2 AND FIGURE 8.6.5.1.2(a)

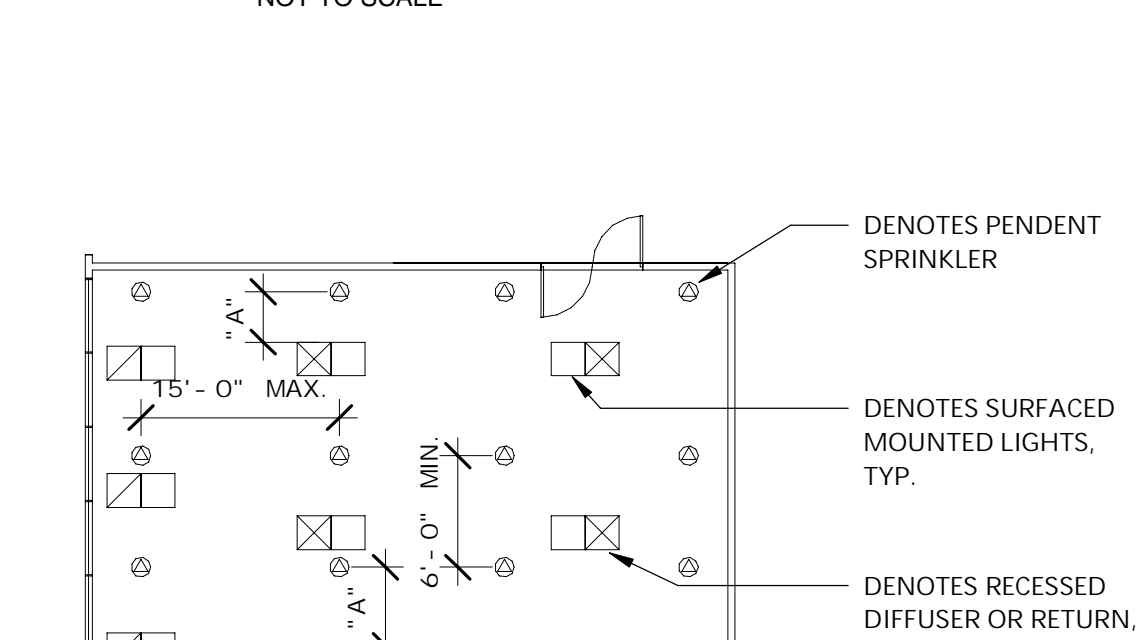
SPRINKLER SPACING CRITERIA WITH SURFACE MOUNTED OBSTRUCTIONS
NOT TO SCALE

NOTES:

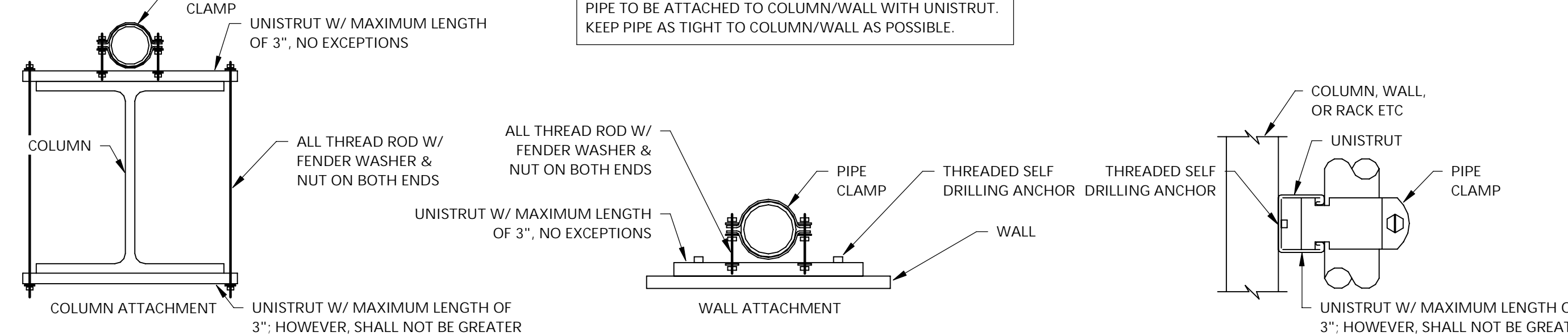
- MAXIMUM SPRINKLER COVERAGE OF 100 SQ.-FT. INCLUDING SPACING WITH REGARDS TO OBSTRUCTIONS FOR HIGH RACK FREEZERS/COOLERS.
- MAXIMUM SPACING OF 12-FT BETWEEN SPRINKLERS, INCLUDING SPACING WITH REGARDS TO OBSTRUCTIONS FOR HIGH RACK FREEZERS/COOLERS.
- MAXIMUM SPRINKLER COVERAGE OF 130 SQ.-FT. INCLUDING SPACING WITH REGARDS TO OBSTRUCTIONS FOR LOW RACK FREEZERS/COOLERS AND PREP AREAS.
- MAXIMUM SPACING OF 15-FT BETWEEN SPRINKLERS, INCLUDING SPACING WITH REGARDS TO OBSTRUCTIONS FOR LOW RACK FREEZERS/COOLERS AND PREP AREAS.
- MINIMUM OF 6-FT BETWEEN SPRINKLERS, UNLESS SPRINKLERS ARE OBSTRUCTED. SEE POSITIONING OF SPRINKLERS TO AVOID OBSTRUCTION DISCHARGE (SSU/SSP), TYP.
- SPACING OF SPRINKLERS SHALL BE TO EDGE OF SURFACE MOUNTED FIXTURES PER NFPA 13. SEE POSITIONING OF SPRINKLERS TO AVOID OBSTRUCTION DISCHARGE (SSU/SSP), TYP.
- ACTUAL AREA, ROOM SIZE AND SPRINKLER LOCATIONS MAY VARY. IT IS THE SPRINKLER CONTRACTORS RESPONSIBILITY TO VERIFY AND COORDINATE ACTUAL SURFACE MOUNTED EQUIPMENT LOCATIONS AND SIZES WITH GC AND OTHER TRADES IN REGARDS TO SPRINKLER LOCATIONS PRIOR TO FABRICATION OR INSTALLATION.
- FINAL LOCATION OF SPRINKLERS WITH REGARDS TO OBSTRUCTIONS WILL BE VERIFIED AT A FUTURE PROJECT SITE VISIT BY THE OWNER OR THEIR REPRESENTATIVE PRIOR TO PROJECT OPENING.
- THE USE OF EXTENDED ESCUTCHEONS FOR DRY PENDENT SPRINKLERS IS PROHIBITED FROM USE PER THE OWNER. NO EXCEPTIONS. CONTRACTOR TO REVIEW ALL PLANS AND FAMILIARIZE THEMSELVES WITH OWNER'S CRITERIA, INCLUDING DRY PENDENT NOTES AND DETAILS.
- CONTRACTOR IS RESPONSIBLE FOR CORRECT SPRINKLER LOCATIONS, PIPE SIZES, ETC AS ACTUAL SITE CONDITIONS MAY VARY FROM DETAILS INDICATED WITHIN THE CONTRACT BID DOCUMENTS.



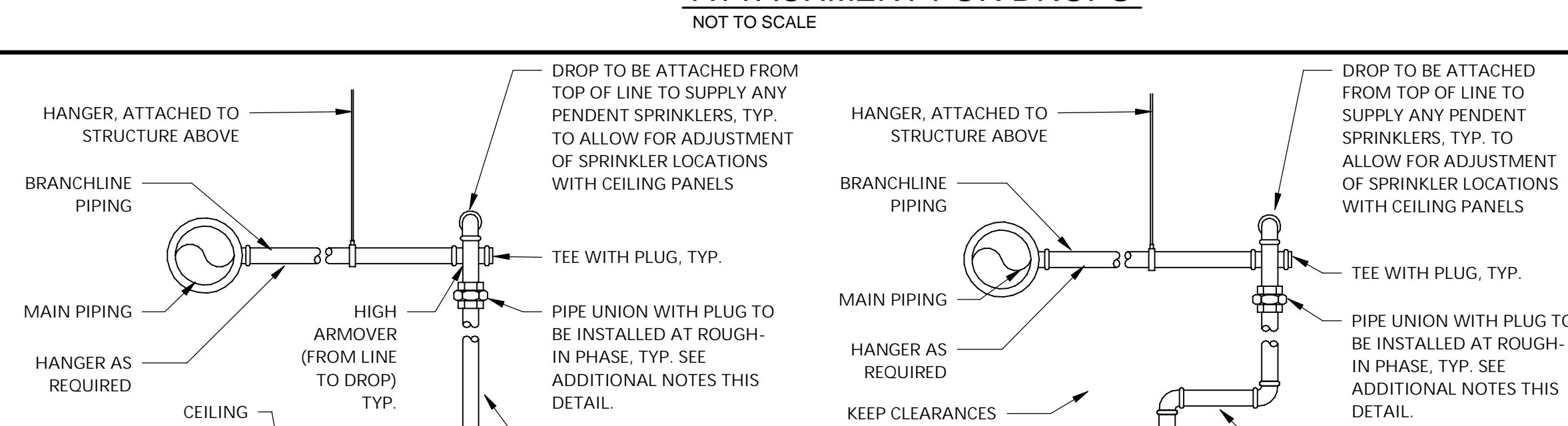
FREEZER/COOLER EXAMPLE
NOT TO SCALE



PREP AREA EXAMPLE
NOT TO SCALE



ATTACHMENT FOR DROPS
NOT TO SCALE



TYPICAL PENDENT SPRINKLER SUPPLY
NOT TO SCALE

BIDDING NOTE

THESE DRAWINGS ARE FOR COORDINATION AND BID PURPOSES ONLY. THEY ARE NOT FOR SUBMITTAL, FABRICATION OR INSTALLATION PURPOSES. SPRINKLER CONTRACTOR TO PROVIDE COMPLETE SUBMITTAL DRAWINGS FOR APPROVAL. CONTRACTOR SHALL BE RESPONSIBLE FOR FABRICATION, MATERIALS LIST, INSTALLATION, ETC. AS REQUIRED TO COMPLETE THIS PROJECT. SUBMITTAL DRAWINGS TO BE UNDER SEAL BY AN ENGINEER LICENSED TO PRACTICE LOCALLY.

COSTCO WHOLESALE

LEE'S SUMMIT, MO NEW WAREHOUSE
NEC OF HWY 291 & OLDHAM PKWY
LEE'S SUMMIT, MO 64081

COSTCO WHOLESALE CORPORATION
730 LAKE DRIVE
ISSAQUAH, WA 98027
T: 425.313.8100
www.costco.com

NRG FIRE CONSULTING

7511 Greenwood Avenue, #600
Seattle, WA 98103
(206) 789-0165
nrgfireconsulting.com

PERMIT SET

FOR REFERENCE ONLY

DATE	DESCRIPTION
11.19.25	DESIGN DEVELOPMENT SET
11.26.25	QA SET
12.09.25	QA BACKCHECK SET
12.22.25	PERMIT SET

25-5563-01
CHECKED BY: R. ANDERSON
DRAWN BY: J. BYERLY
11.19.2025

FIRE SPRINKLER DETAILS

FP4.0

DATE	DESCRIPTION
11.19.25	DESIGN DEVELOPMENT SET
11.26.25	QA SET
12.09.25	QA BACKCHECK SET
12.22.25	PERMIT SET

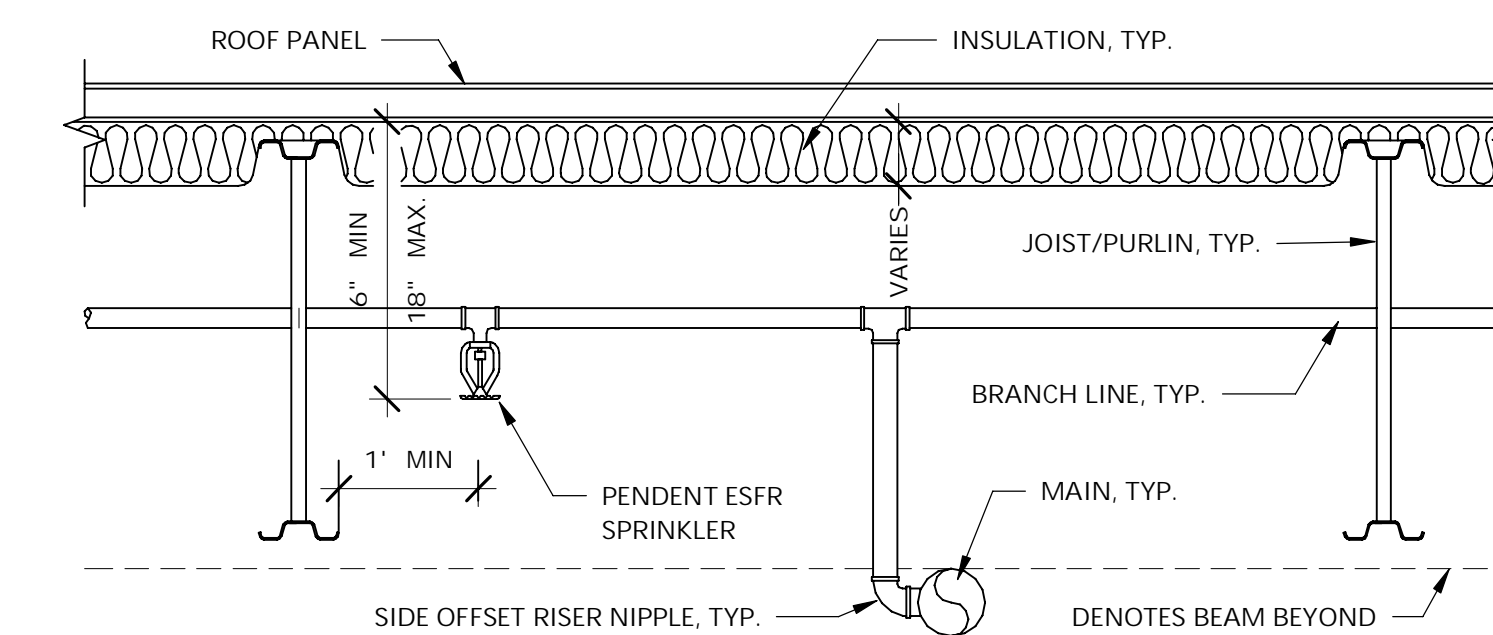
25-5563-01
CHECKED BY: R. ANDERSON
DRAWN BY: J. BYERLY
11.19.2025

FIRE SPRINKLER DETAILS

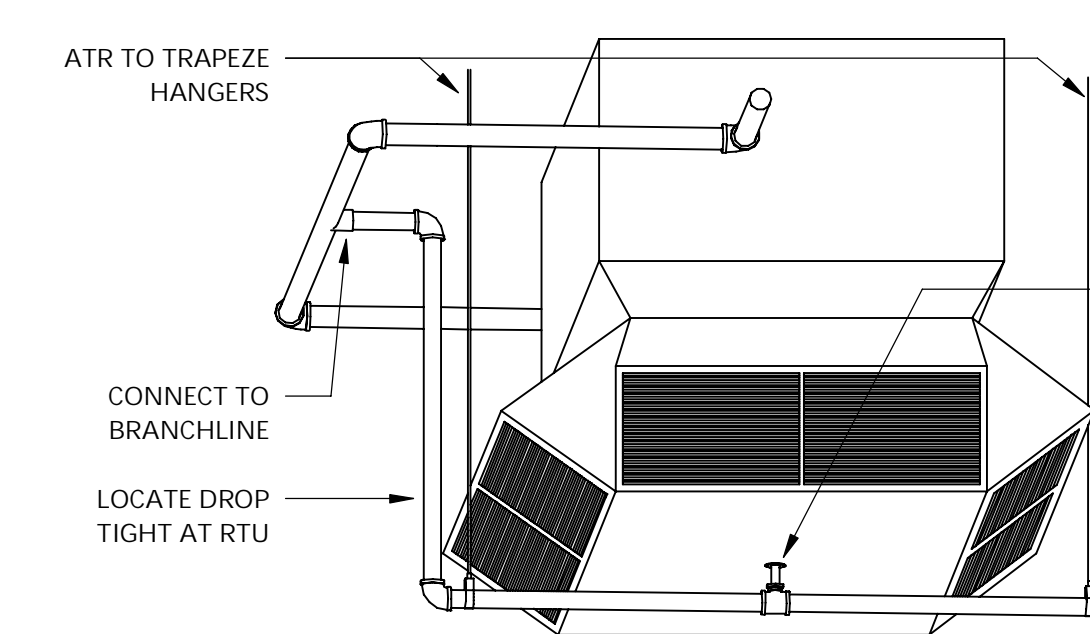
FP4.1

NOTES:

1. MAIN PIPING SHALL BE INSTALLED TIGHT TO BOTTOM OF BEAM. NO EXCEPTIONS. AUXILIARY DRAINS SHALL BE INSTALLED AT ALL TRAPPED PIPING.
2. MAIN PIPING 4-IN AND LARGER SHALL BE INSTALLED ±6-IN FROM CENTER BETWEEN 2 JOIST/PURLIN. NO EXCEPTIONS.
3. ESFR SPRINKLERS SHALL BE INSTALLED PER NFPA 13, TYPICAL.
4. INSULATION DEPTH IS NOT CONSISTENT. ESFR SPRINKLER DEFLECTOR SHALL NOT EXCEED 18-IN FROM THE HIGHEST POINT OF THE INSULATION AND NOT FROM THE BOTTOM OF INSULATION. SPRINKLER BENEATH THE INSULATION SHALL BE A MINIMUM OF 6-IN BELOW THE INSULATION DIRECTLY ABOVE THE ESFR SPRINKLER. THE SPRINKLER DEFLECTOR SHALL BE AT LEAST LEVEL OR BELOW THE LOWEST POINT OF INSULATION. SAG. CONTRACTOR SHALL VERIFY AND INSTALL AS DIRECTED.



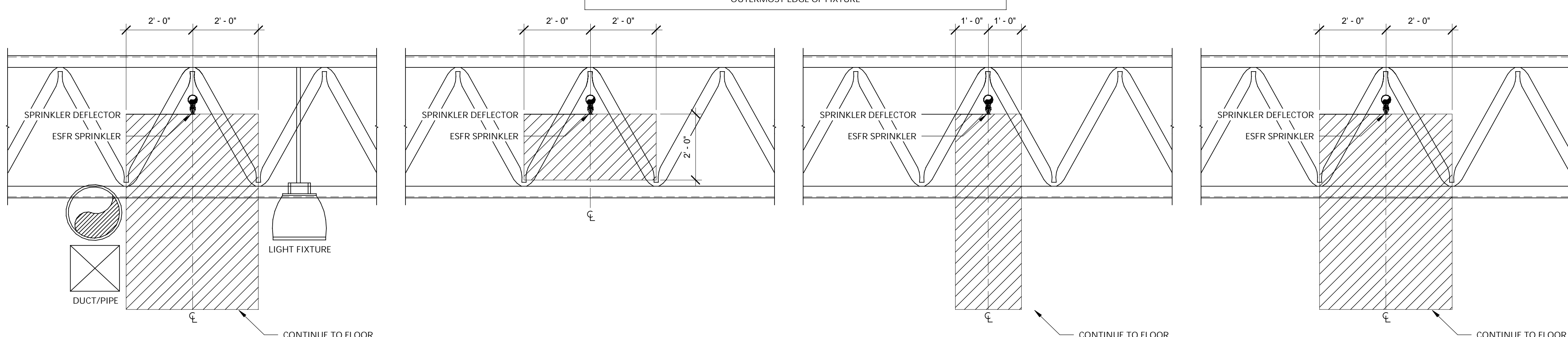
TYPICAL PIPING DETAIL FOR ESFR SPRINKLERS
NOT TO SCALE



SPRINKLER UNDER MECHANICAL UNIT DETAIL
NOT TO SCALE

- NOTES:**
- ONLY REQUIRED IF DUCTWORK IS AN OBSTRUCTION TO THE SPRINKLER SPRAY PATTERN. PIPING SHALL RUN AT ROOF LEVEL TO RTU (PRIOR TO DROP), THEN DOWN ON SIDE OF NEAREST RACK. DROP SHALL BE TIGHT TO DUCTWORK, PIPING SHALL NOT OBSTRUCT MERCHANDISE STOCKING PER OWNER REQUIREMENTS.

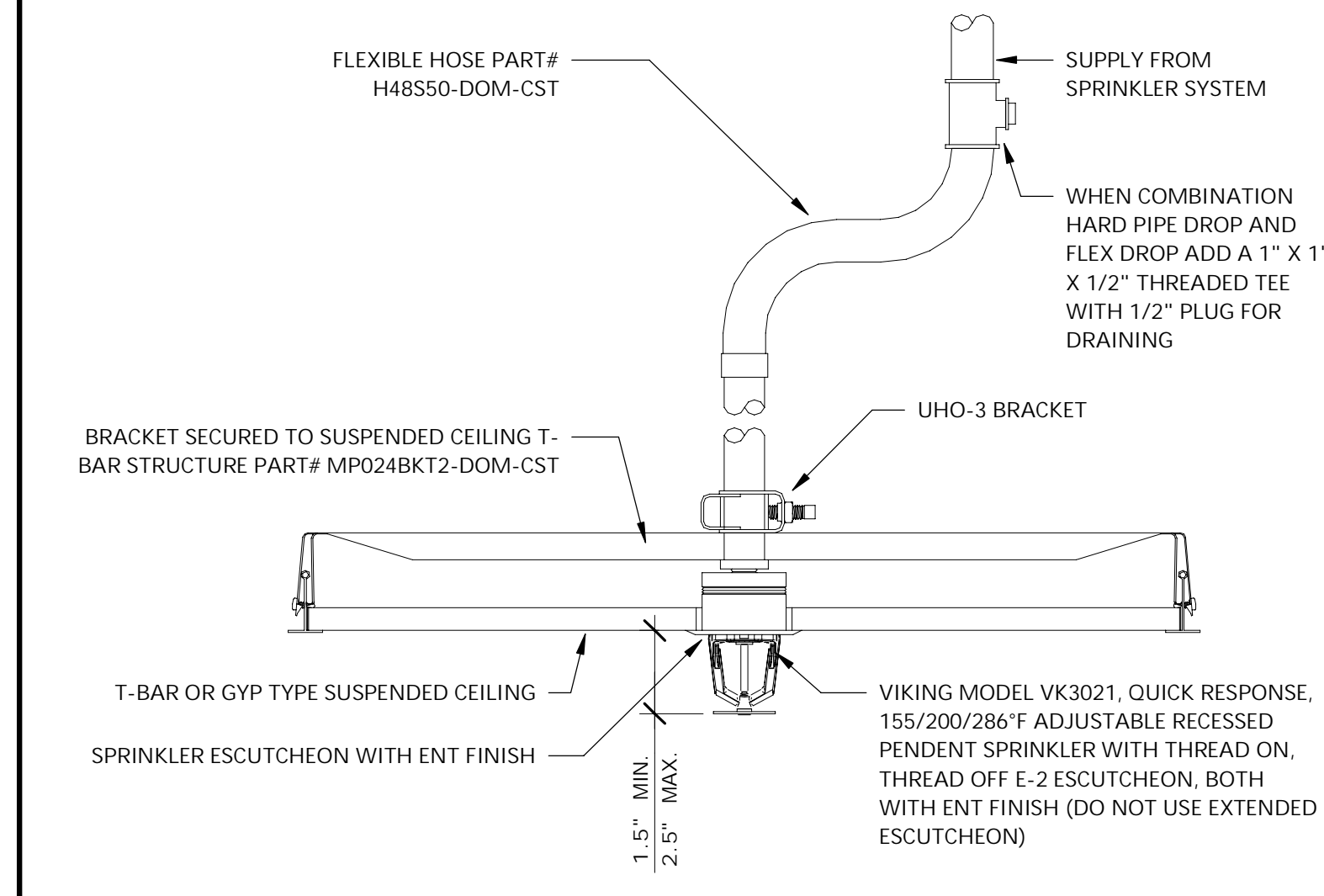
ESFR SPRINKLERS REQUIRE SPECIAL CONSIDERATION REGARDING PLACEMENT OF LIGHTING, DUCTWORK, PROCESS PIPING ELECTRICAL CONDUIT RUNS ETC. NO FIXTURE SHALL BE LOCATED WITHIN 24" OF A SPRINKLER HEAD AS MEASURED HORIZONTALLY FROM ESFR HEAD TO OUTERMOST EDGE OF FIXTURE



PENDENT ESFR OBSTRUCTION RULES
NOT TO SCALE

INSTALLATION PROCEDURE

1. LOCATE AS REQUIRED FOR SPRINKLER PROTECTION IN ACCORDANCE WITH NFPA 13 OBSTRUCTION CRITERIA (SSP TYPE SPRINKLERS).
2. INSTALL PENDENT SPRINKLER PER MANUFACTURERS INSTALLATION REQUIREMENTS.

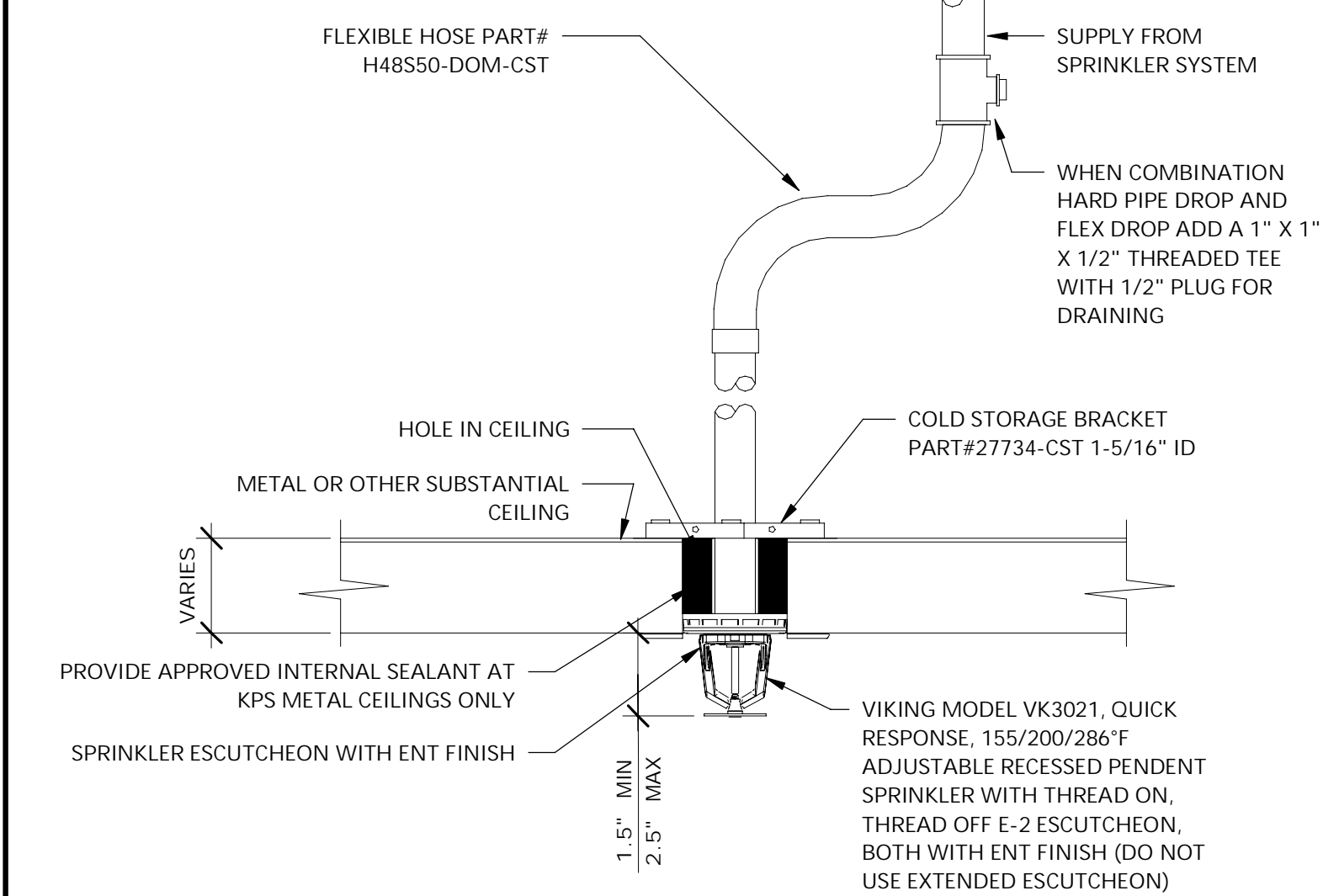


- NOTES:**
- THE USE OF 401 STYLE (OR EQUIVALENT EXTENDED ESCUTCHEONS) ARE PROHIBITED FOR USE WITH THE PENDENT SPRINKLER INSTALLATION PER OWNER REQUIREMENTS. NO EXCEPTIONS.
 - SEE CONTRACT BID DOCUMENTS (DRAWINGS AND SPECIFICATIONS) FOR ADDITIONAL INFORMATION.

SUSPENDED CEILING FLEXHEAD DETAIL
NOT TO SCALE

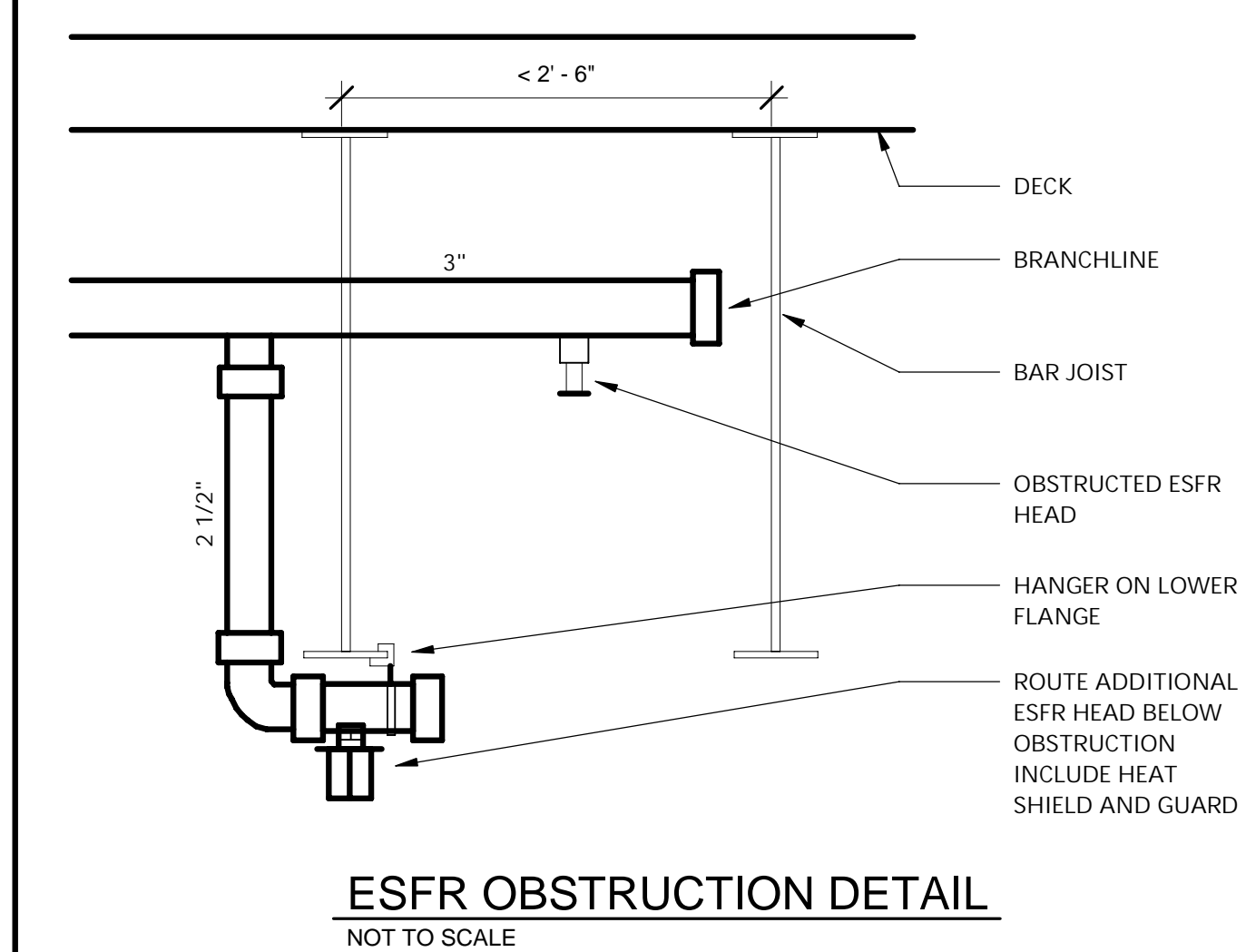
INSTALLATION PROCEDURE

1. CORE DRILL HOLE IN THE KPS INSULATED CEILING PANEL FROM BELOW. LOCATE HOLE AND REQUIRED SPRINKLER PROTECTION IN ACCORDANCE WITH NFPA 13 OBSTRUCTION CRITERIA (SSP TYPE SPRINKLERS). MAINTAIN 6" CENTER TO CENTER CLEARANCE FROM COOLER SEAMS.
2. INSTALL PENDENT SPRINKLER PER MANUFACTURERS INSTALLATION REQUIREMENTS.
3. INJECT TOUCH 'N SEAL QUICK CURE HY POLYURETHANE (OR APPROVED EQUAL PER KPS) SEALANT INTO AND AROUND THE TOP OF THE KPS INSULATED CEILING CORE OPENING IN ACCORDANCE WITH SEALANT MANUFACTURERS INSTRUCTIONS.
4. COMPLETELY SEAL INTERFACE BETWEEN UHO-3 BRACKET AND TOP OF KPS INSULATED PANEL IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.



- NOTES:**
- THE USE OF 401 STYLE (OR EQUIVALENT EXTENDED ESCUTCHEONS) ARE PROHIBITED FOR USE WITH THE DRY PENDENT SPRINKLER INSTALLATION PER OWNER REQUIREMENTS. NO EXCEPTIONS.
 - SEE CONTRACT BID DOCUMENTS (DRAWINGS AND SPECIFICATIONS) FOR ADDITIONAL INFORMATION.

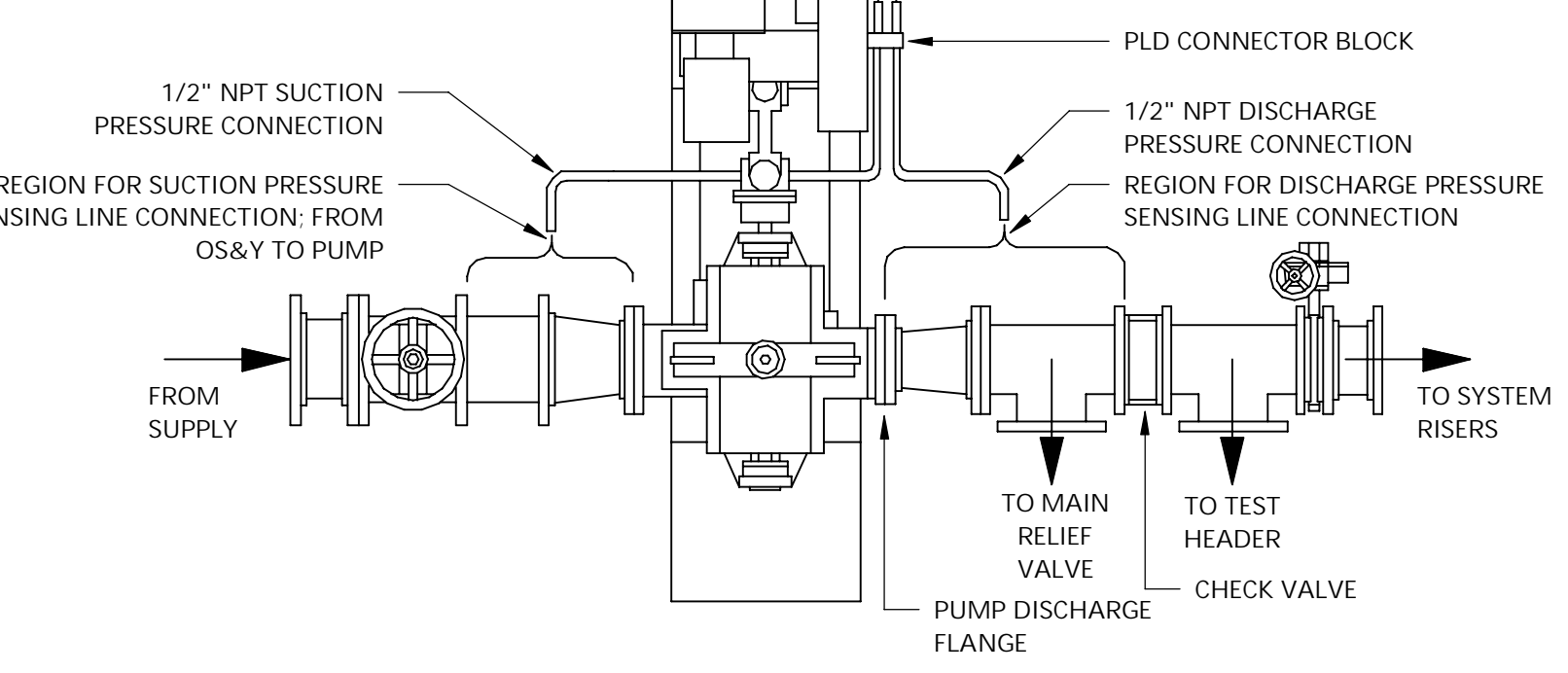
SOLID CEILING FLEXHEAD DETAIL
NOT TO SCALE



ESFR OBSTRUCTION DETAIL
NOT TO SCALE

NOTES:

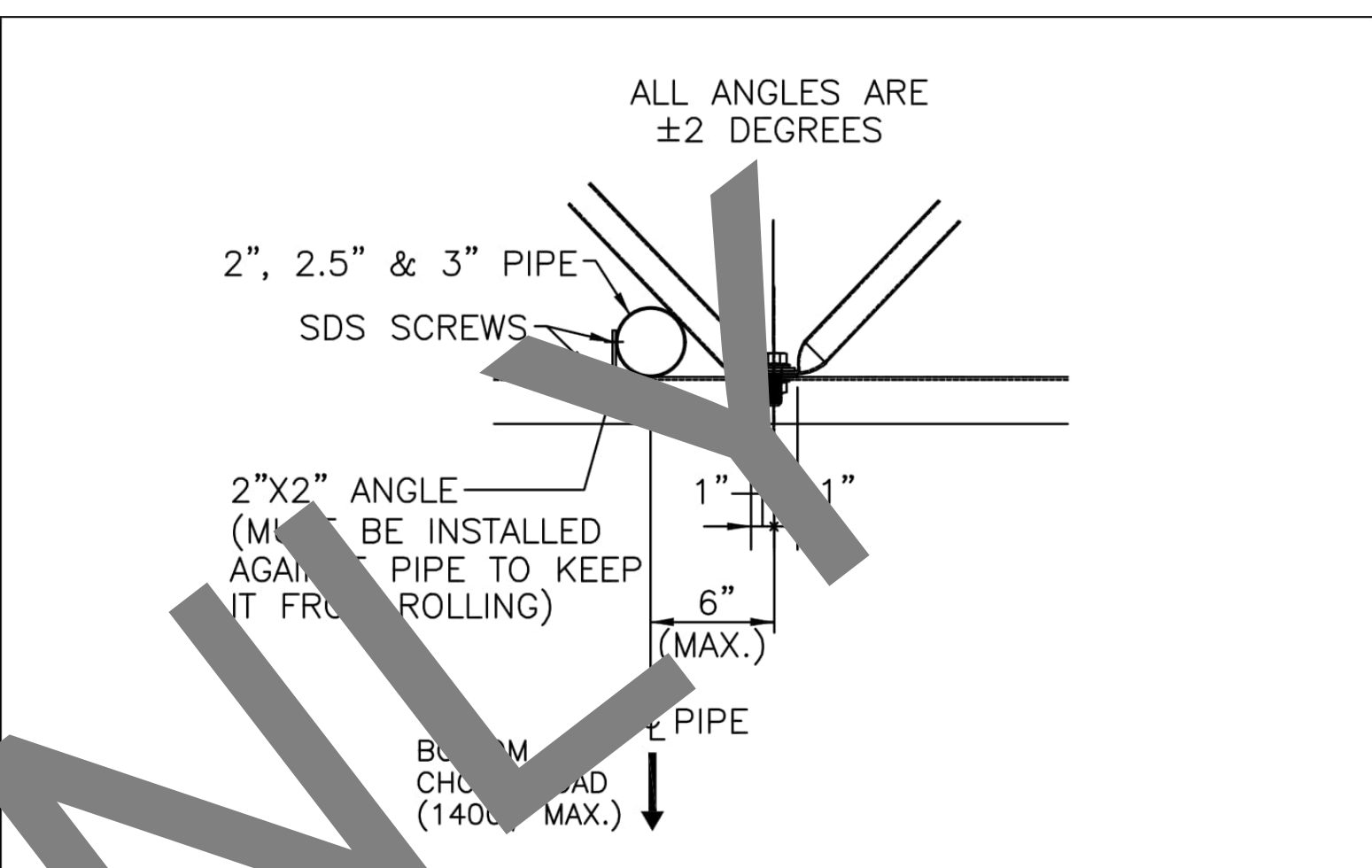
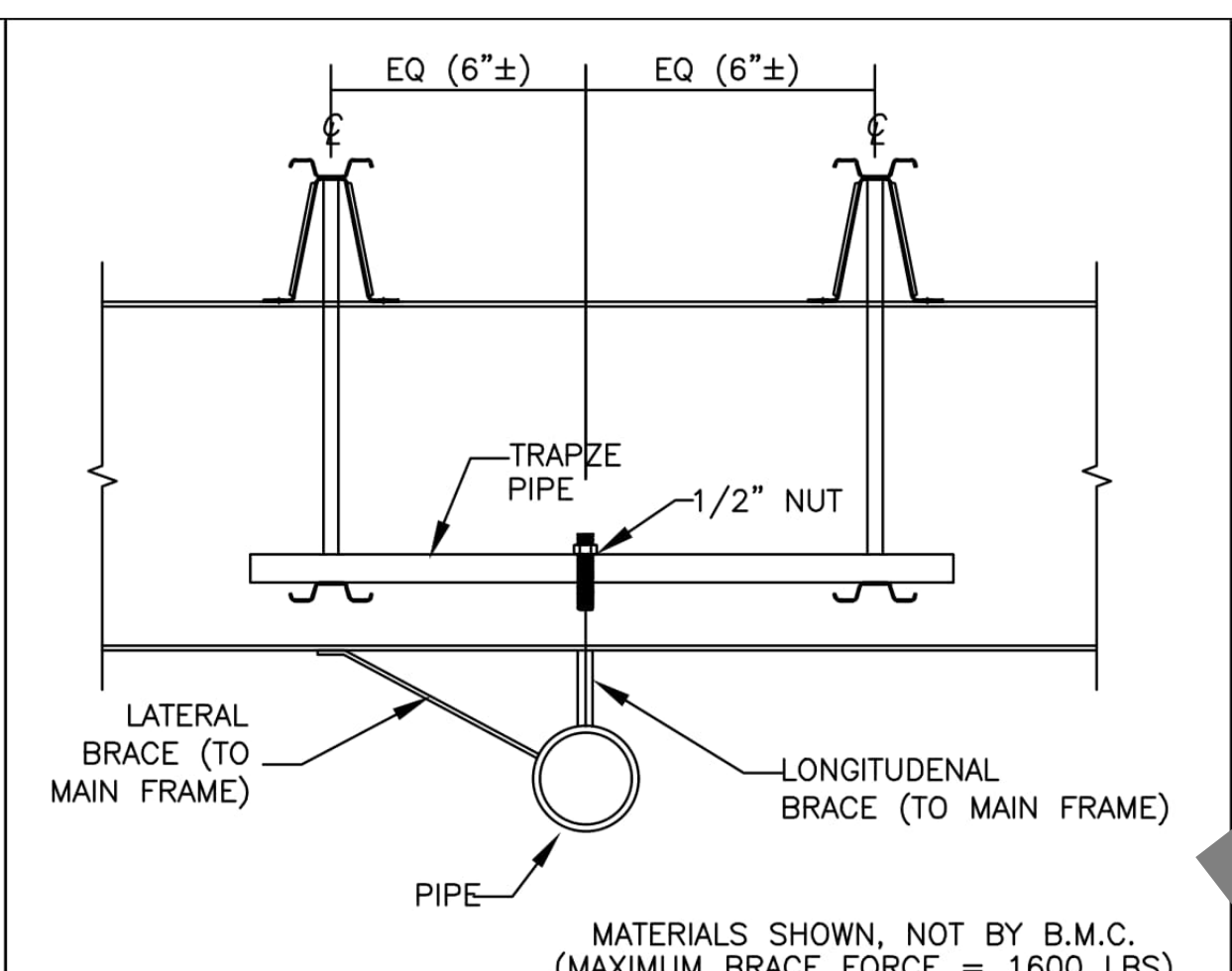
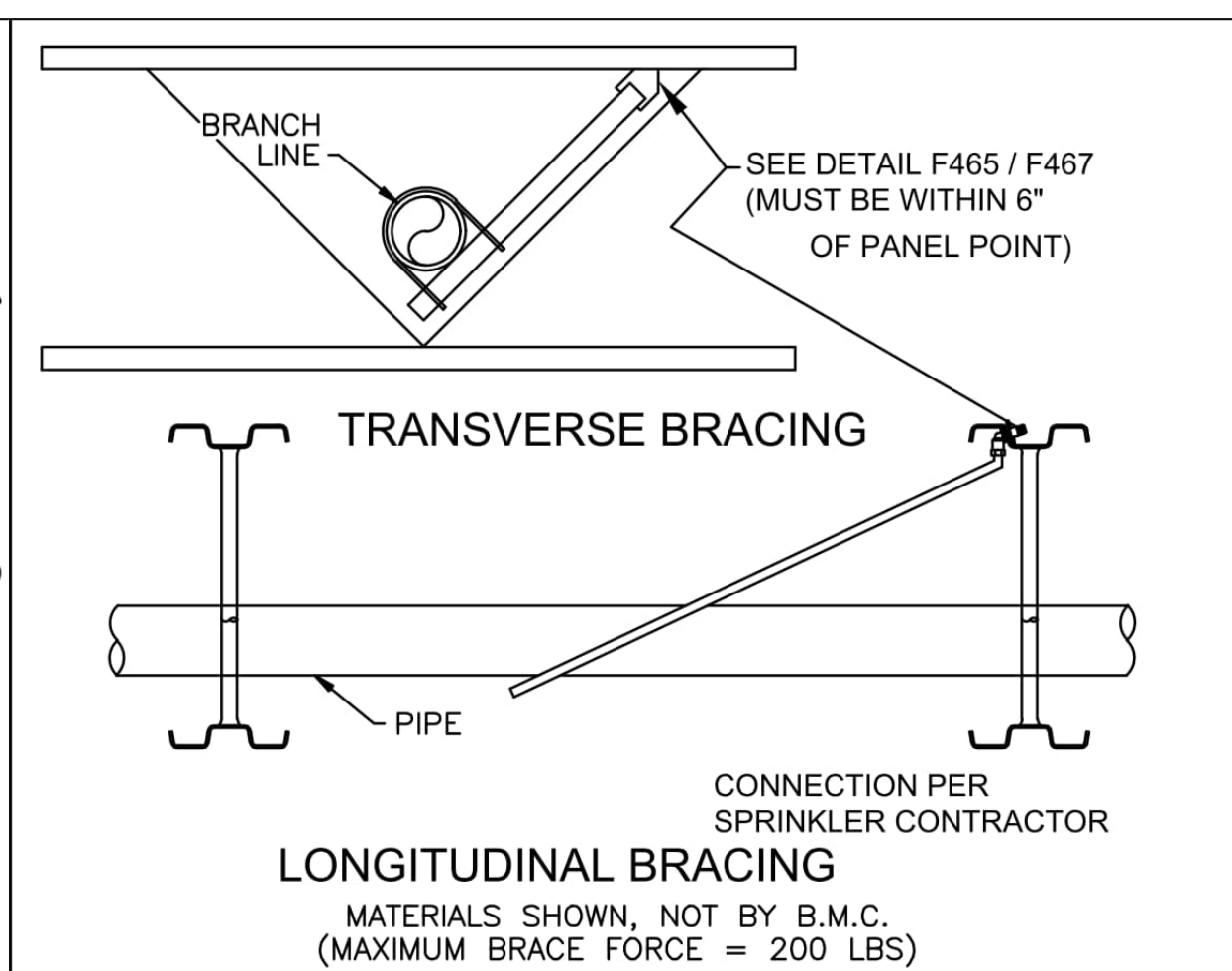
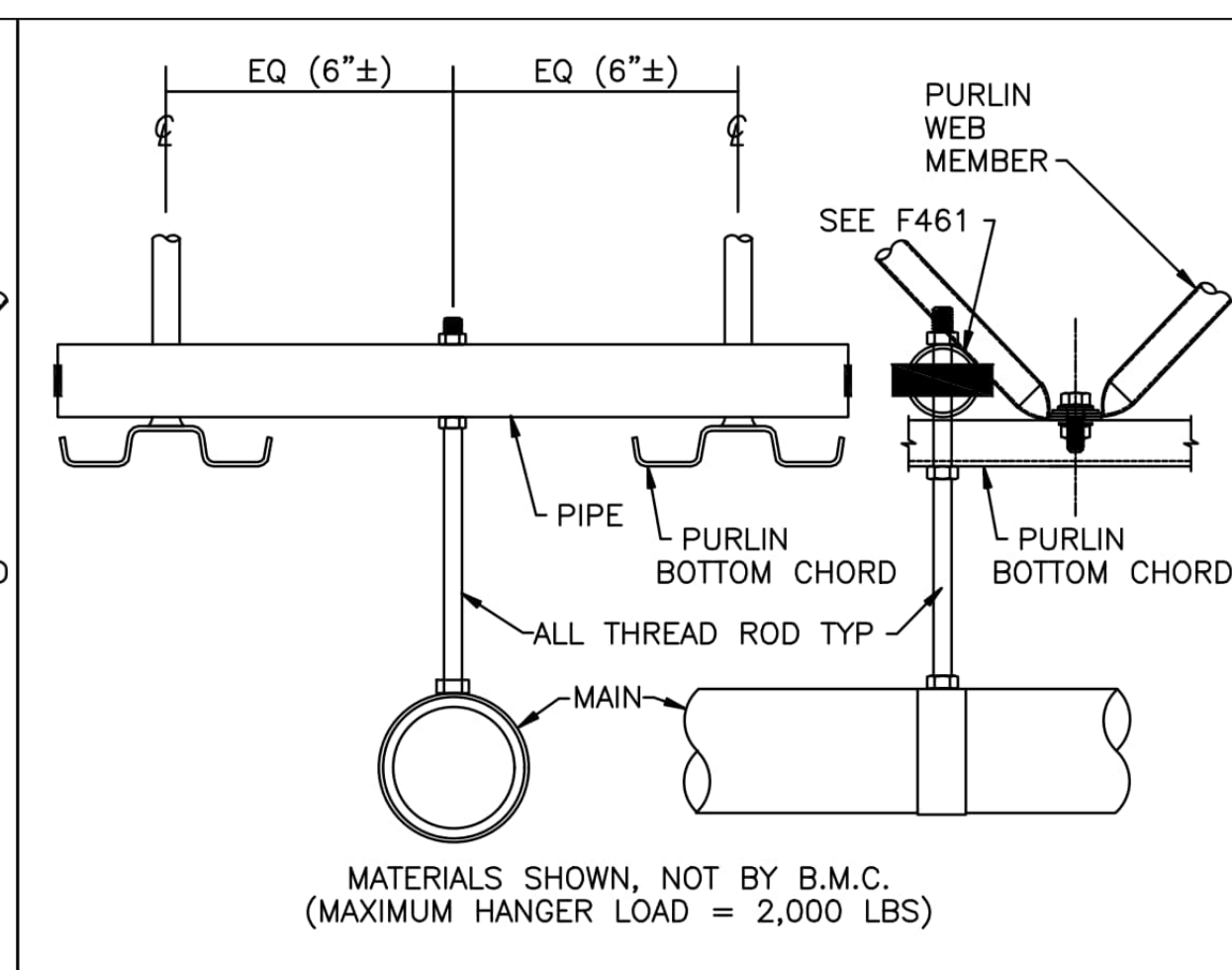
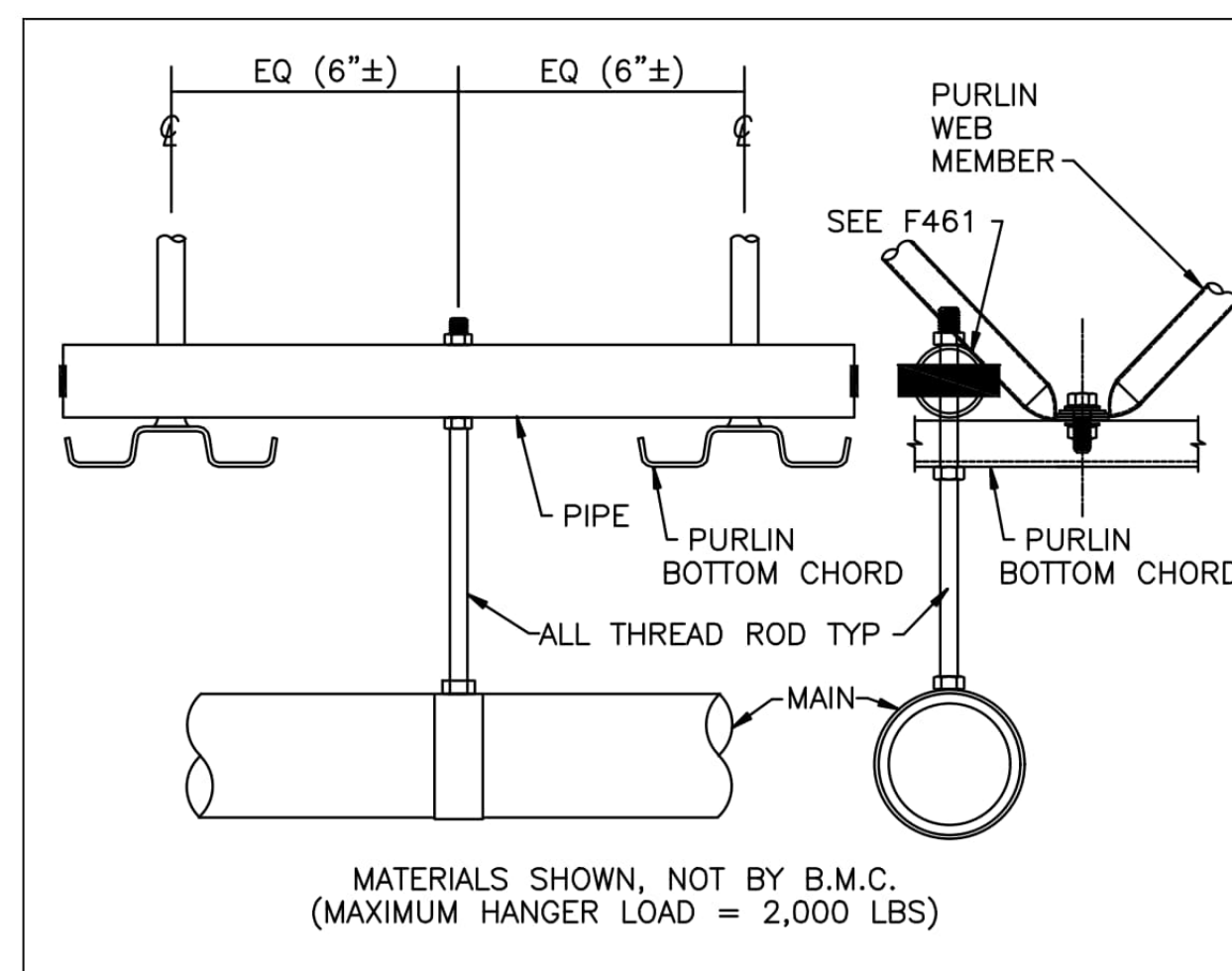
1. SUCTION PRESSURE LIMITING CONTROL SENSING LINE CONNECTION THE SINGLE SUCTION PRESSURE LIMITING CONTROL SENSING LINE SHALL BE CONNECTED IN THE IMMEDIATE REGION UPSTREAM OF THE PUMP INLET.
2. DISCHARGE PRESSURE LIMITING CONTROL SENSING LINE CONNECTION THE SINGLE DISCHARGE PRESSURE CONTROL SENSING LINE SHALL BE CONNECTED IN THE REGION BETWEEN THE PUMP DISCHARGE FLANGE & THE CHECK VALVE.



PLD DETAIL
NOT TO SCALE

BIDDING NOTE

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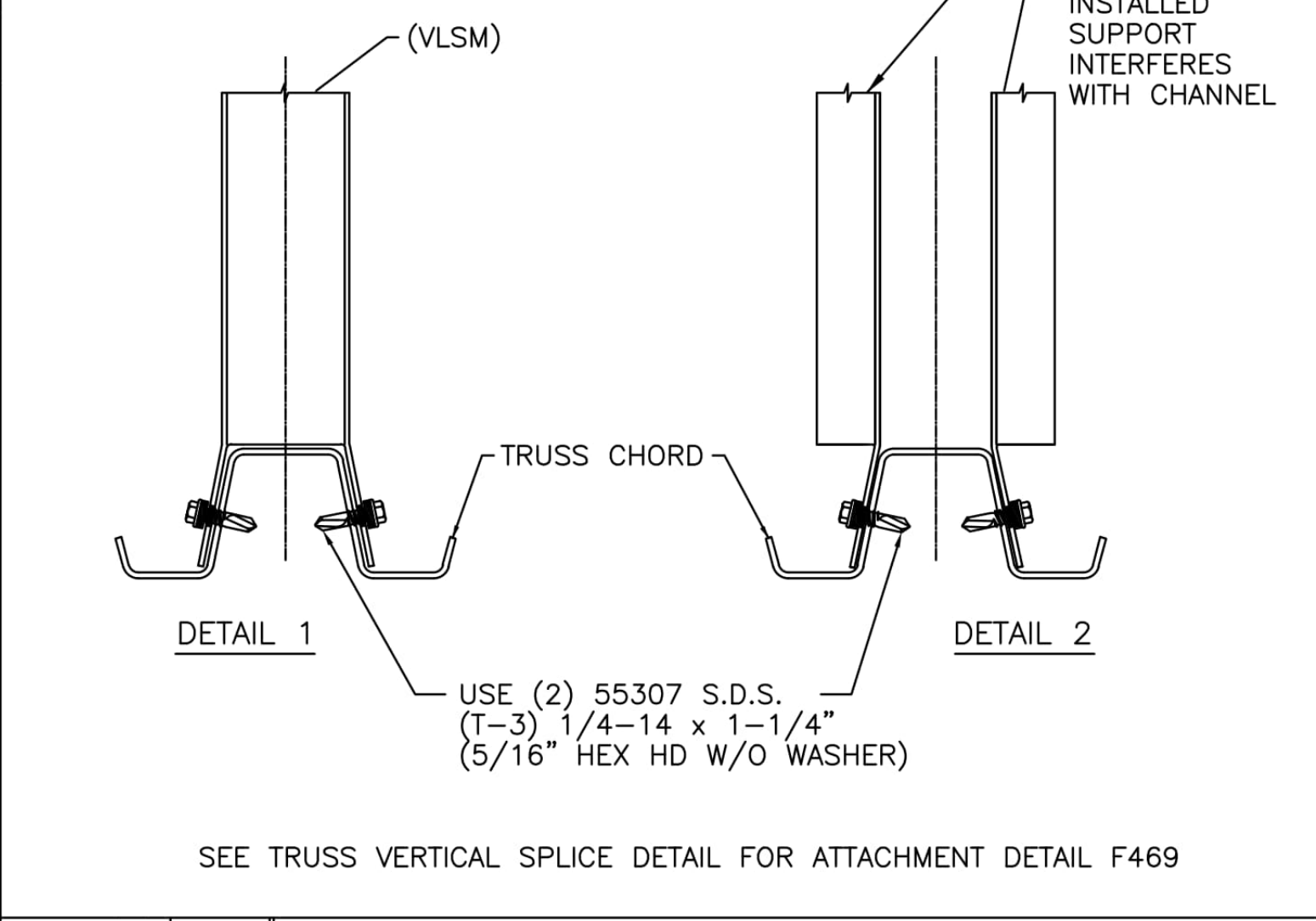
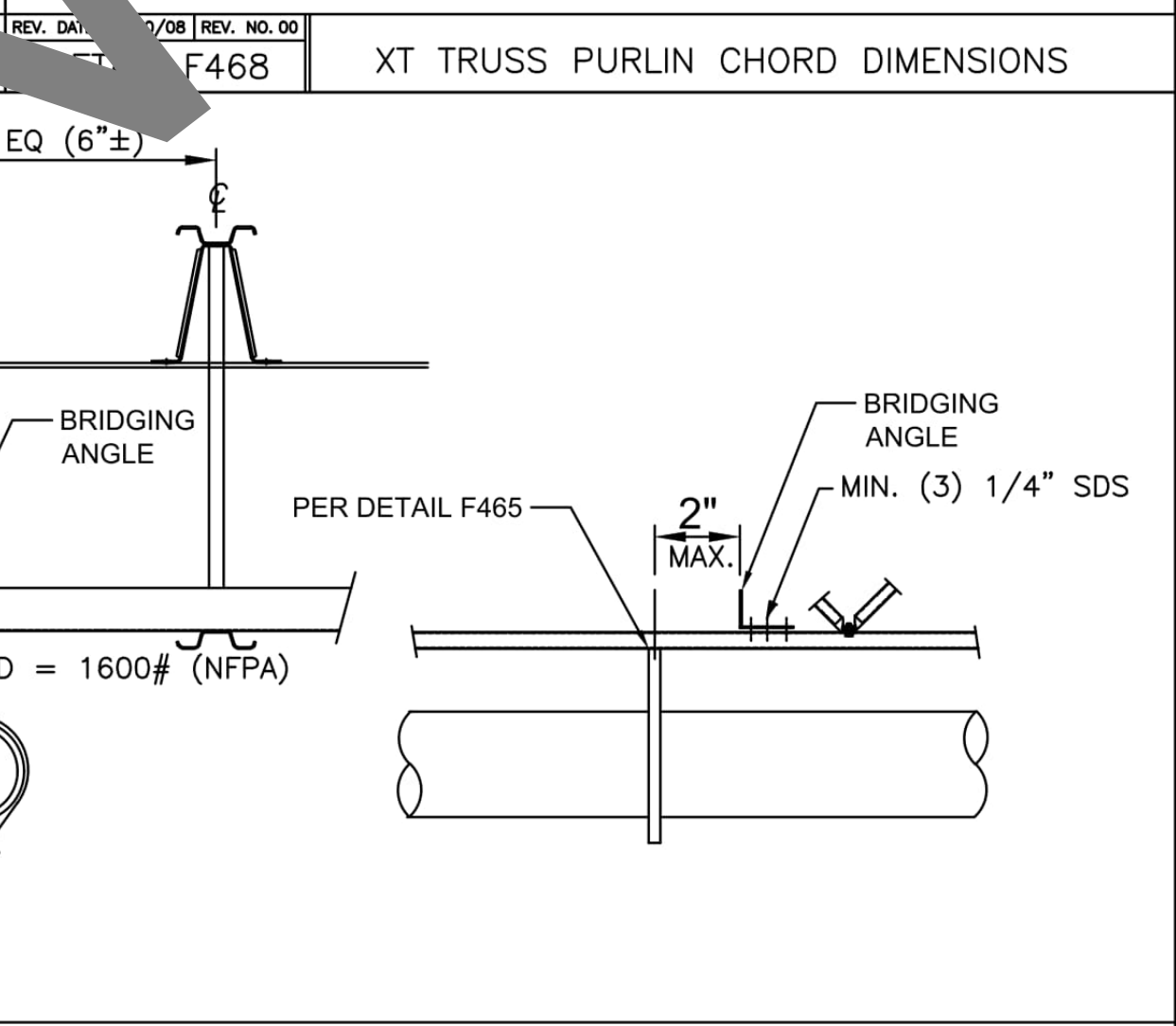
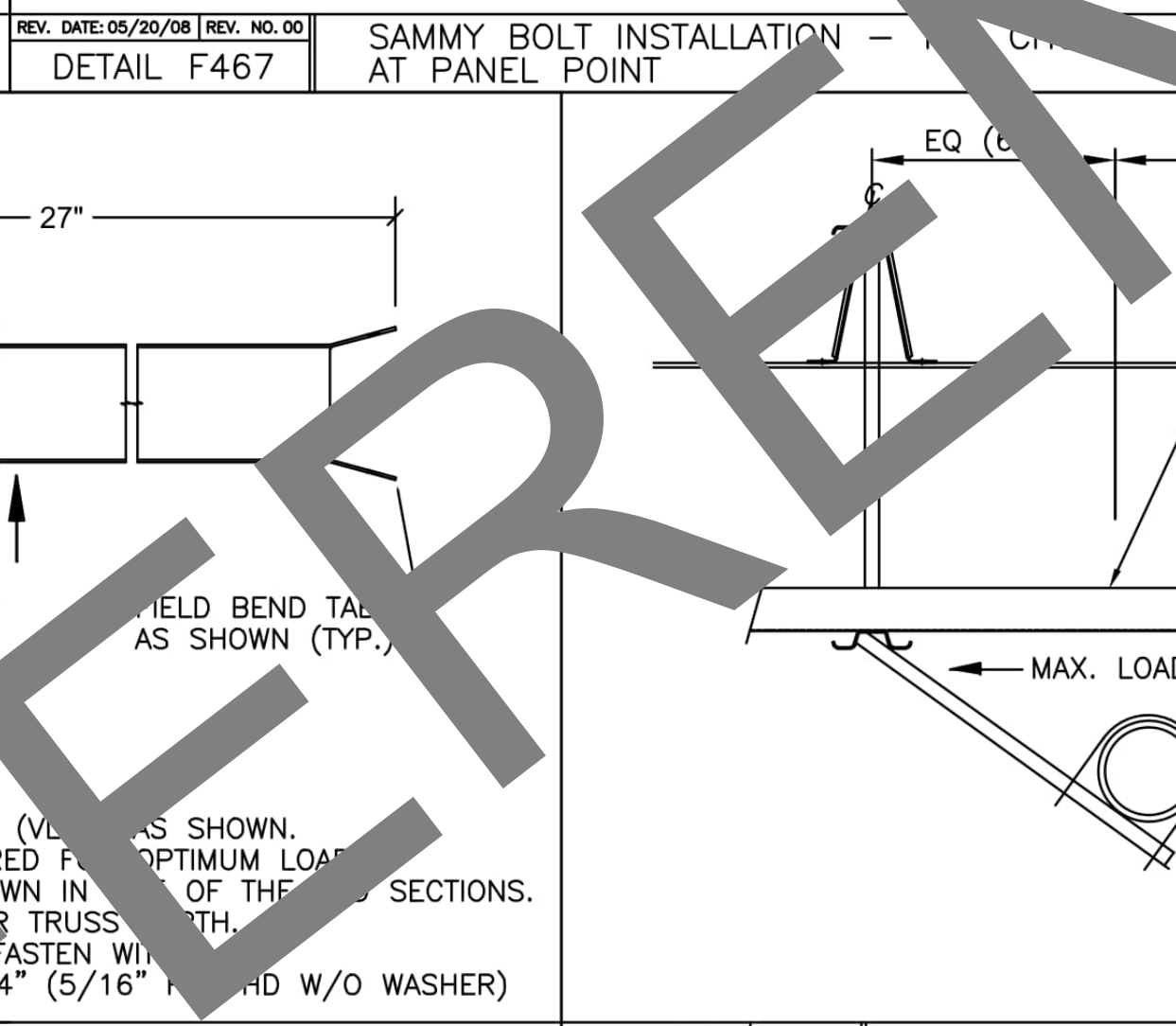
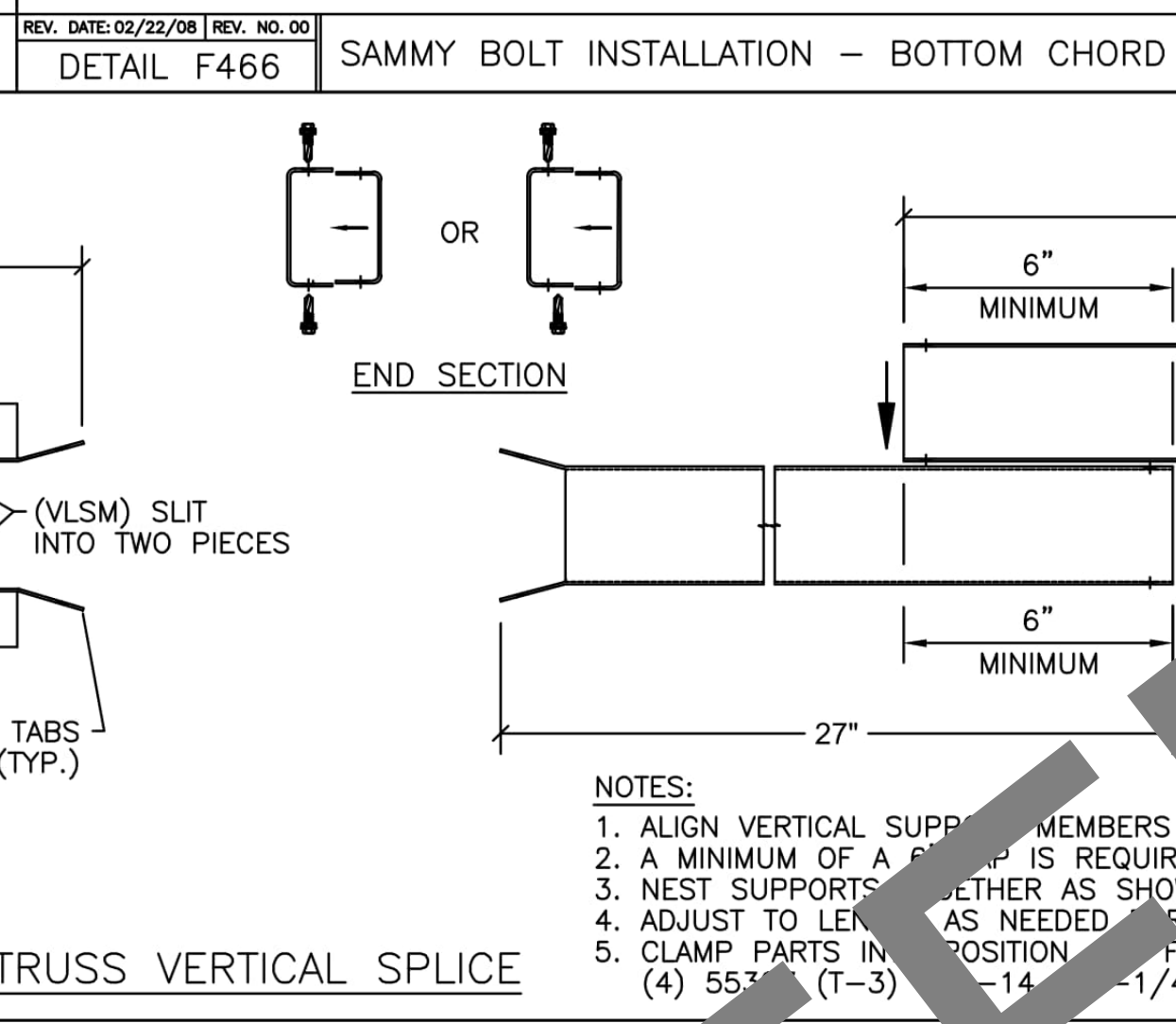
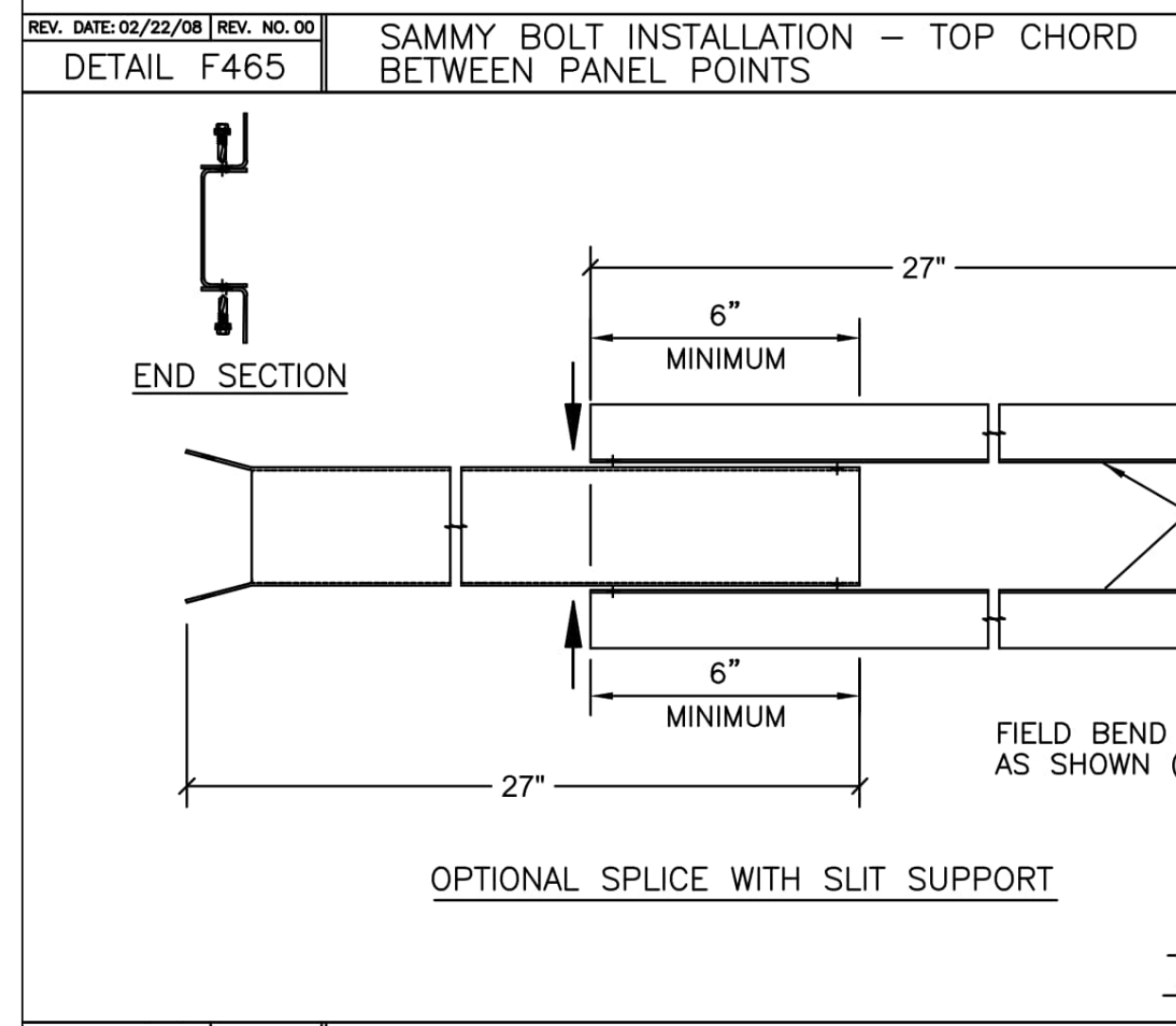
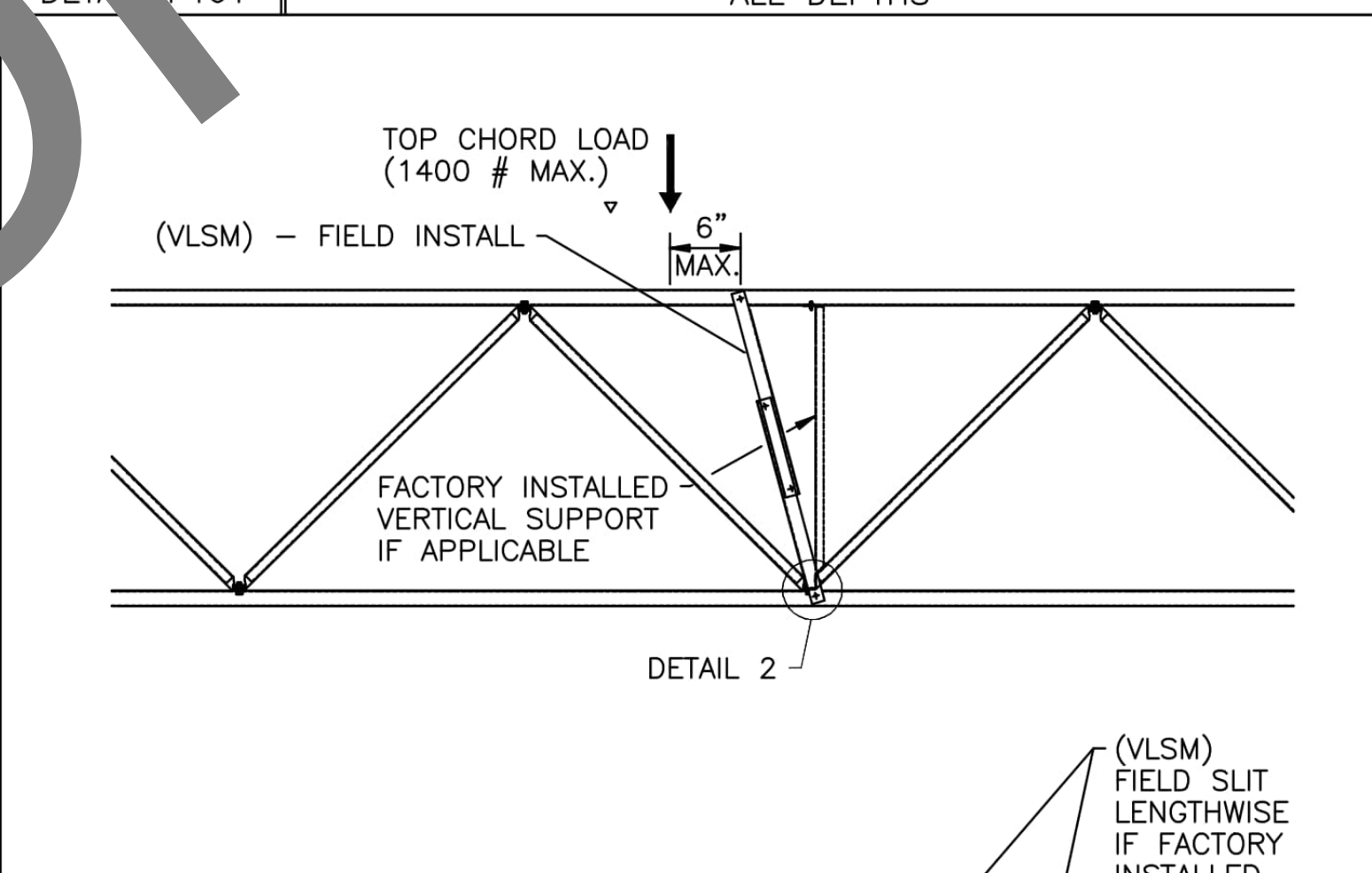
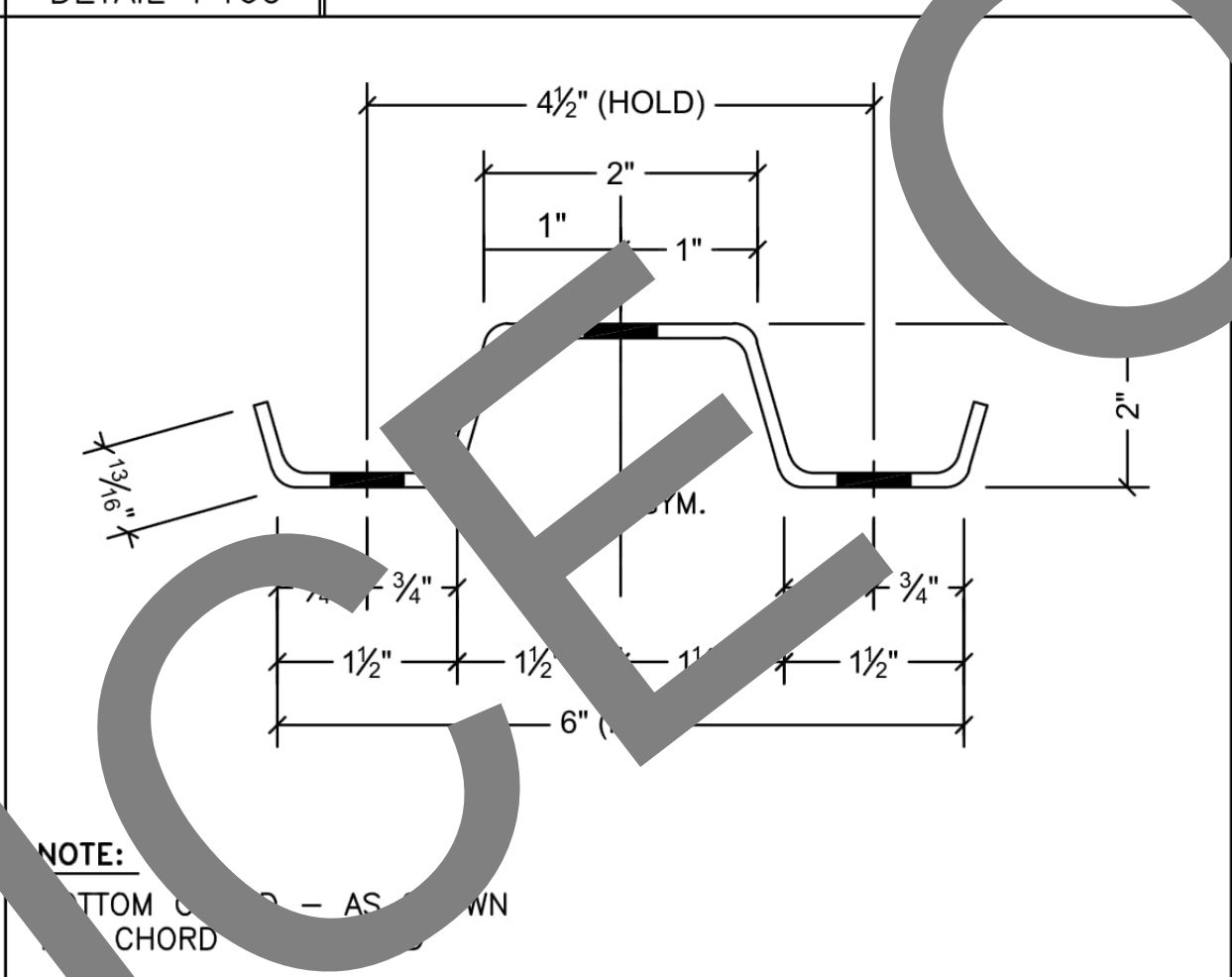
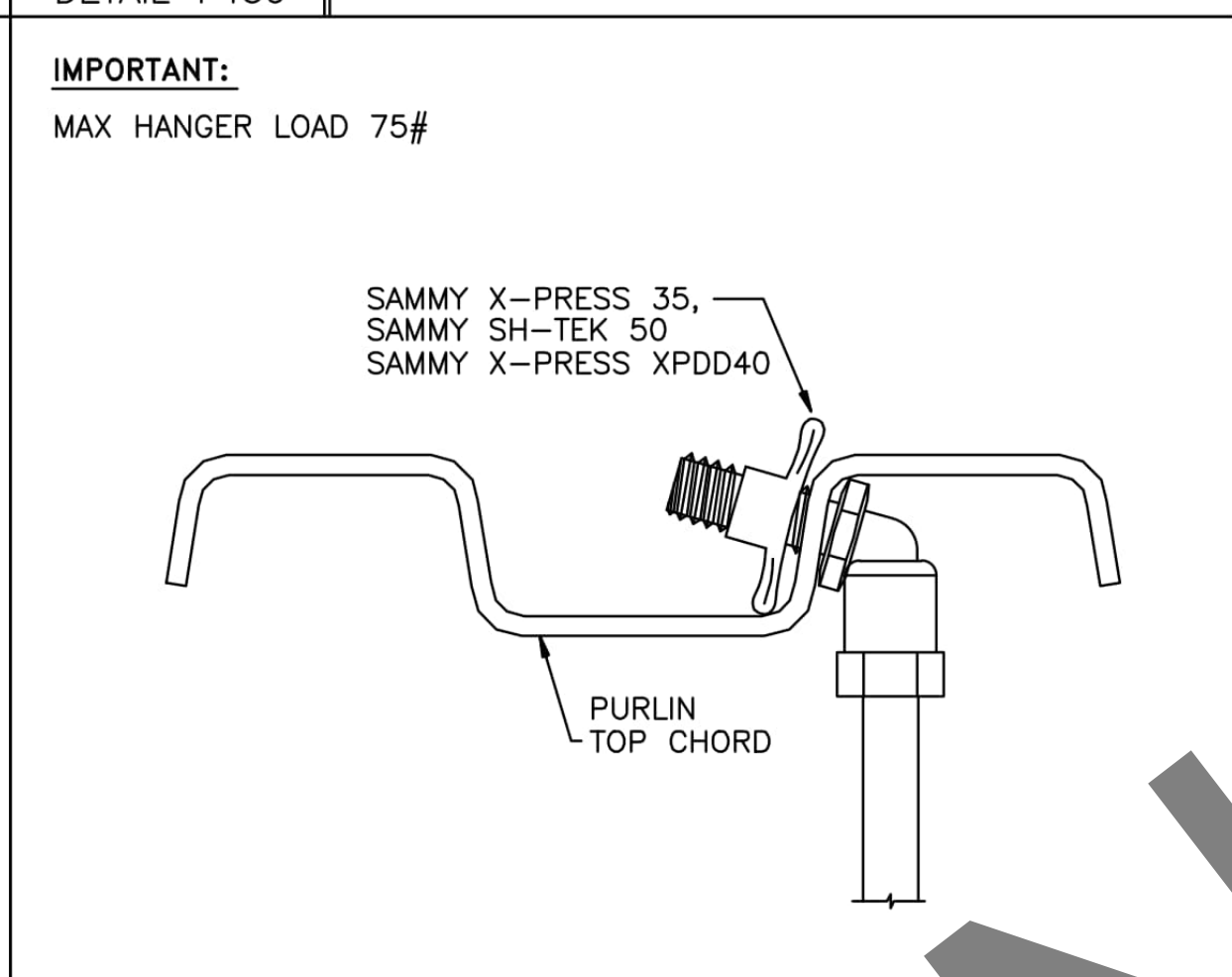
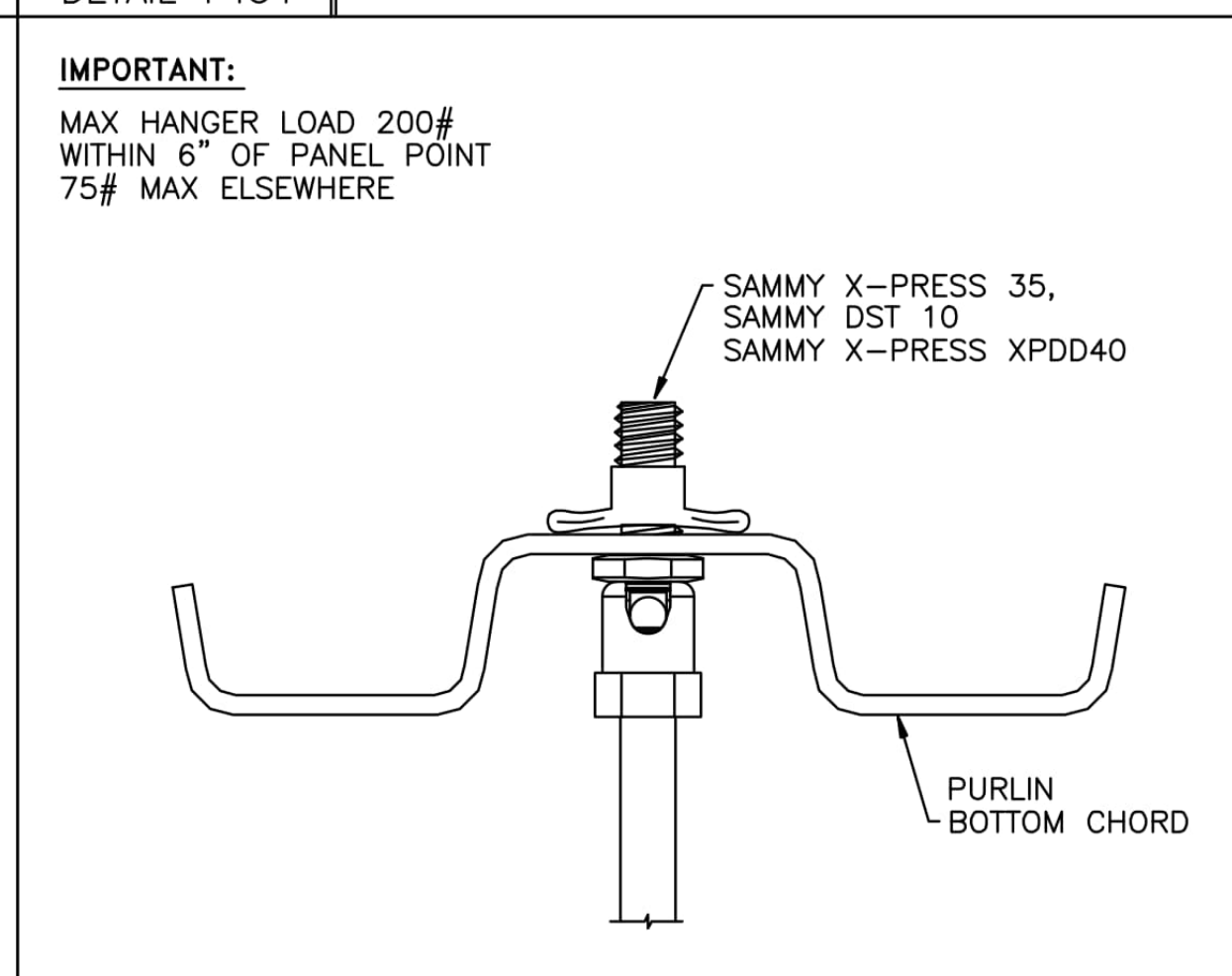
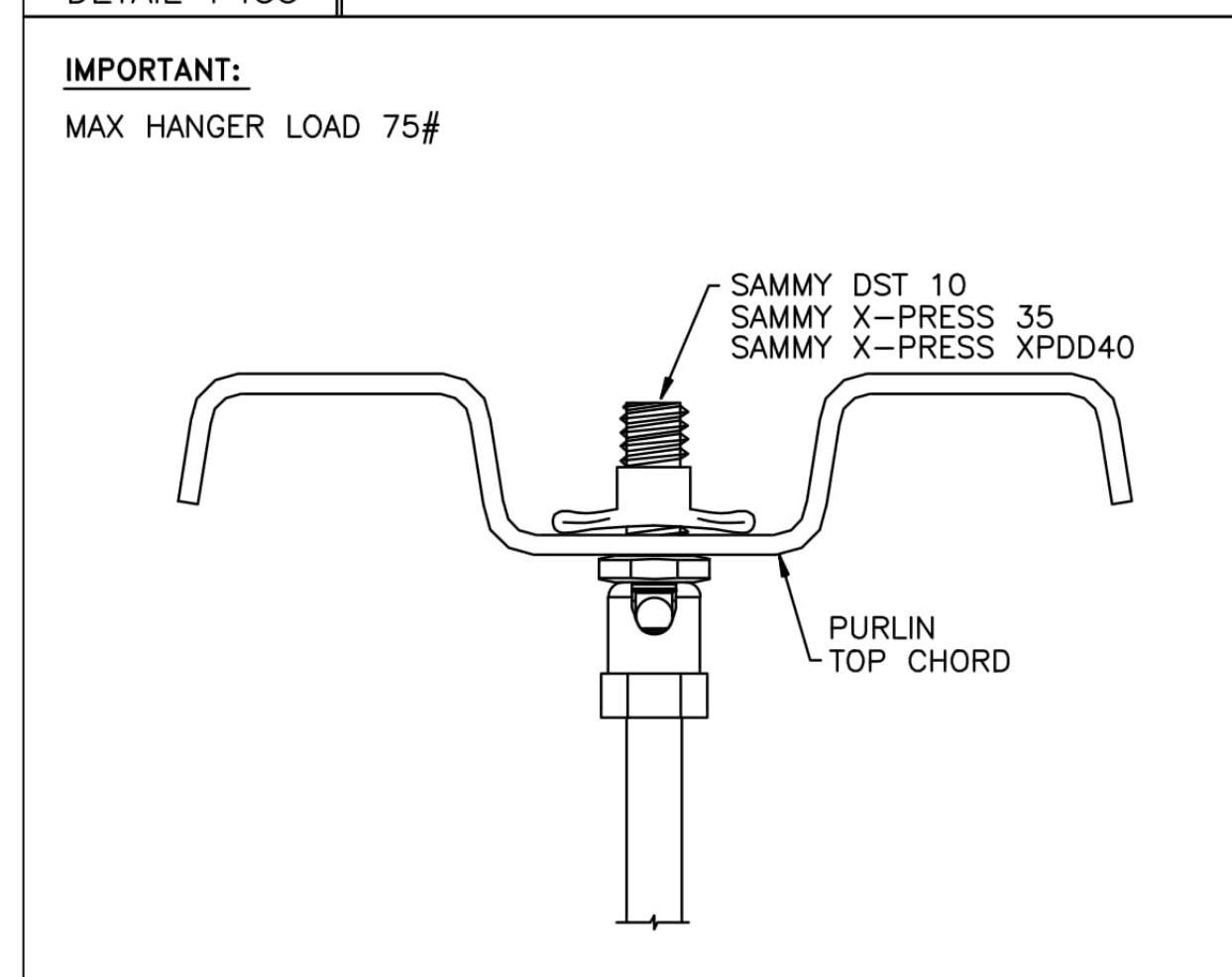
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DETAIL F453 BOTTOM CHORD SUGGESTED TRAPEZE HANGER

REV. DATE: 06/02/14 REV. NO. 01
DETAIL F454 BOTTOM CHORD SUGGESTED HANGER

REV. DATE: 05/20/08 REV. NO. 01
DETAIL F459 BRANCH LINE BRACING

REV. DATE: 5/20/08 REV. NO. 01
DETAIL F460 SPRINKLER MAIN BRACING

REV. DATE: 05/20/08 REV. NO. 00
DETAIL F461 INTERMEDIATE WEB CONNECTION ALL DEPTHS



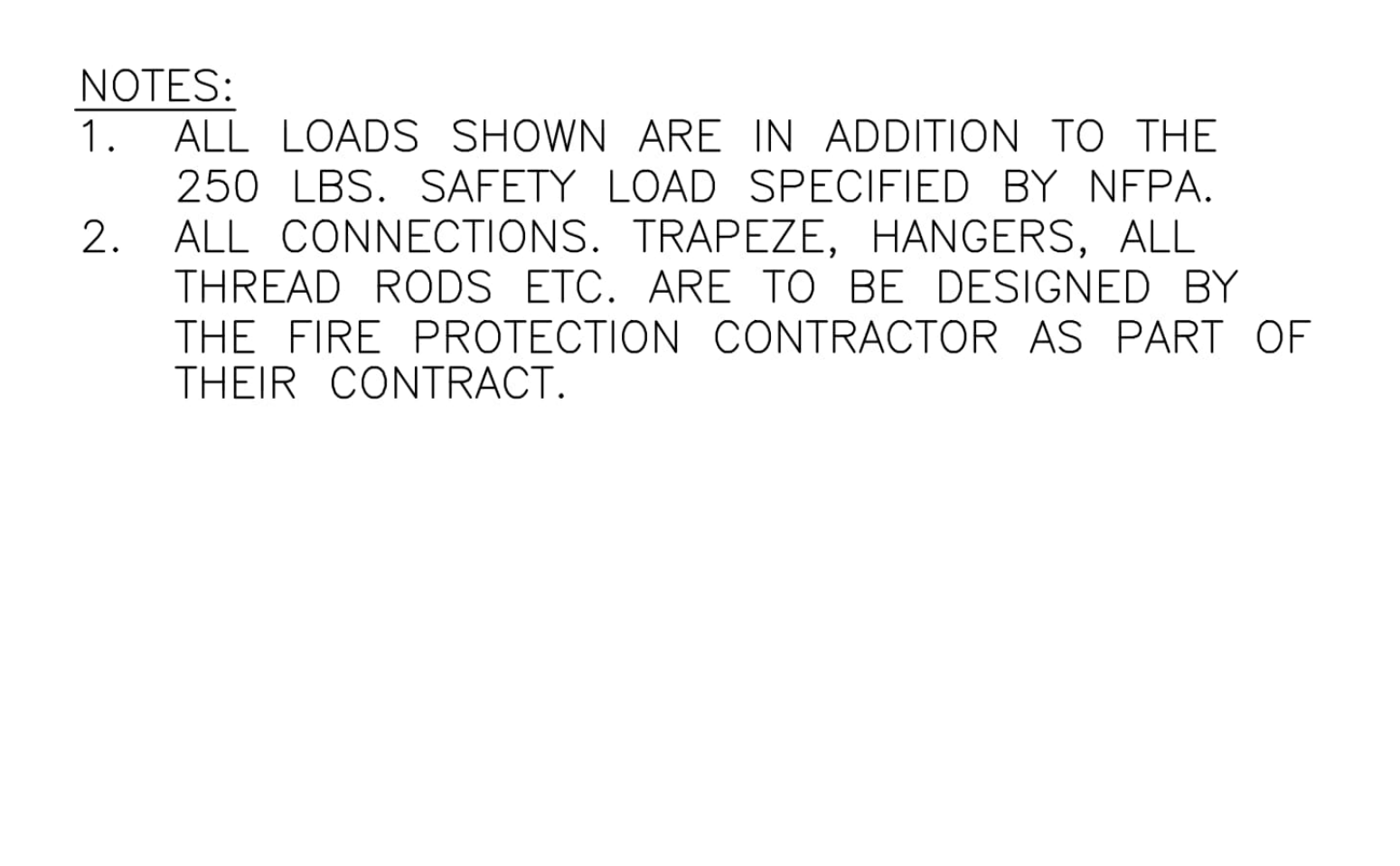
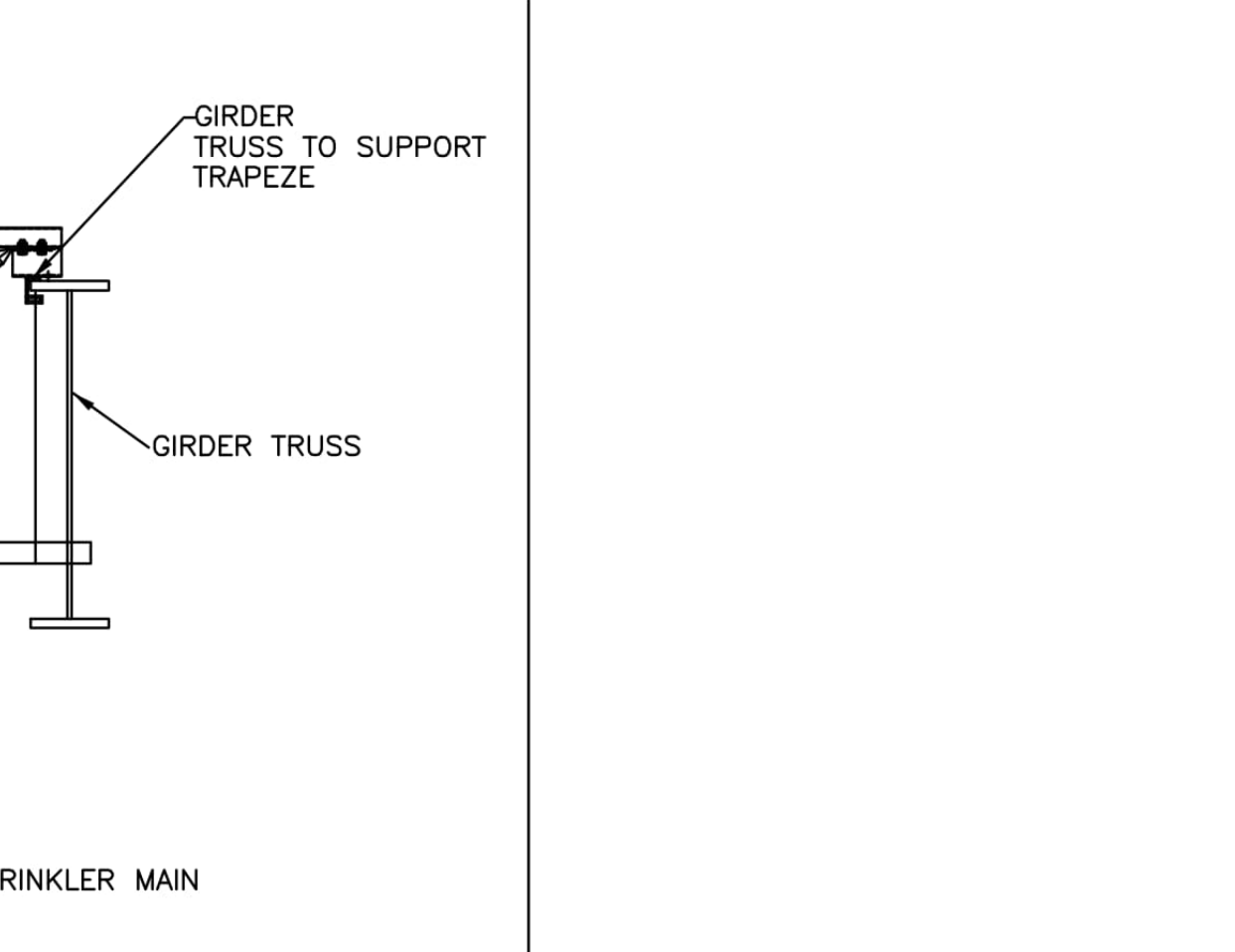
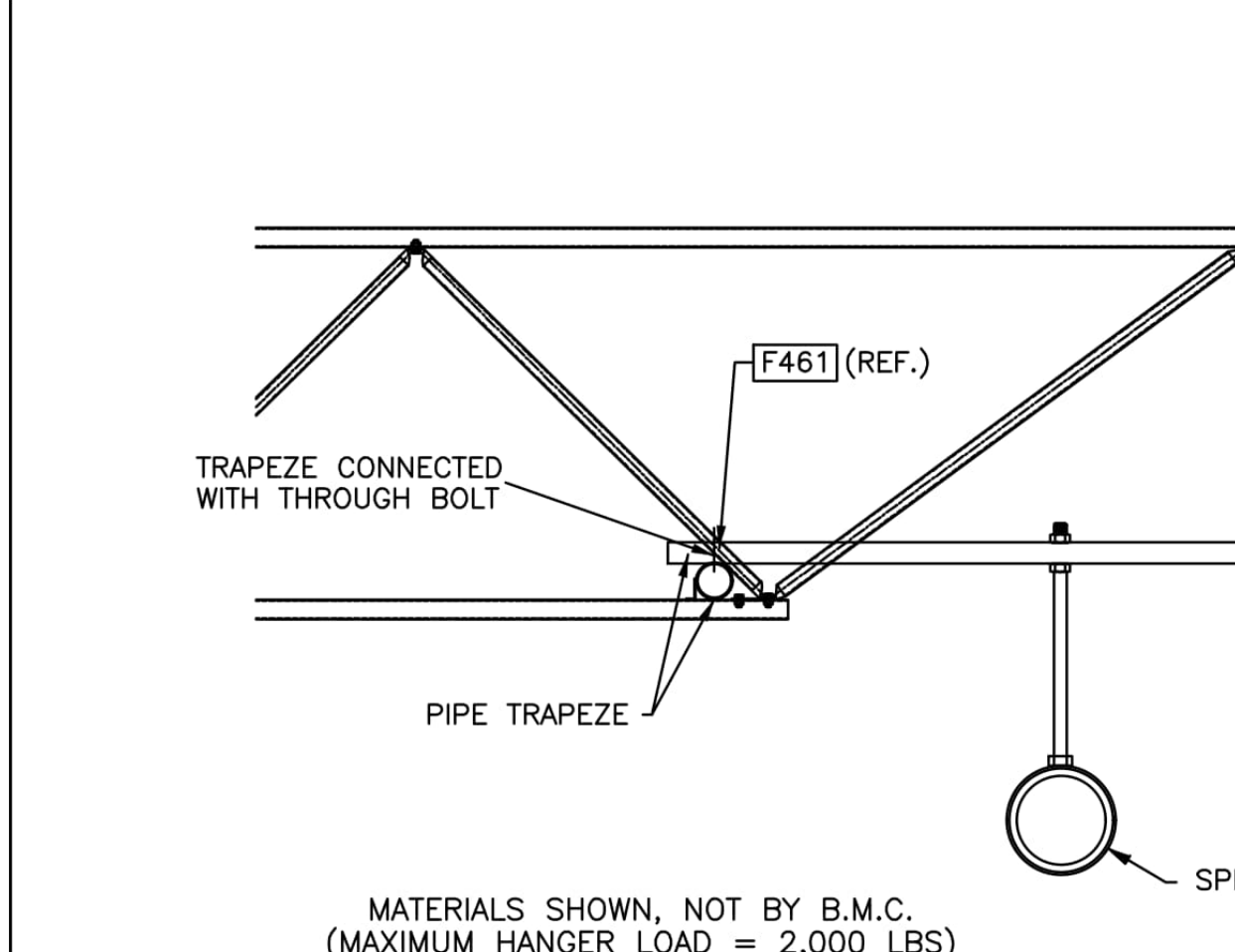
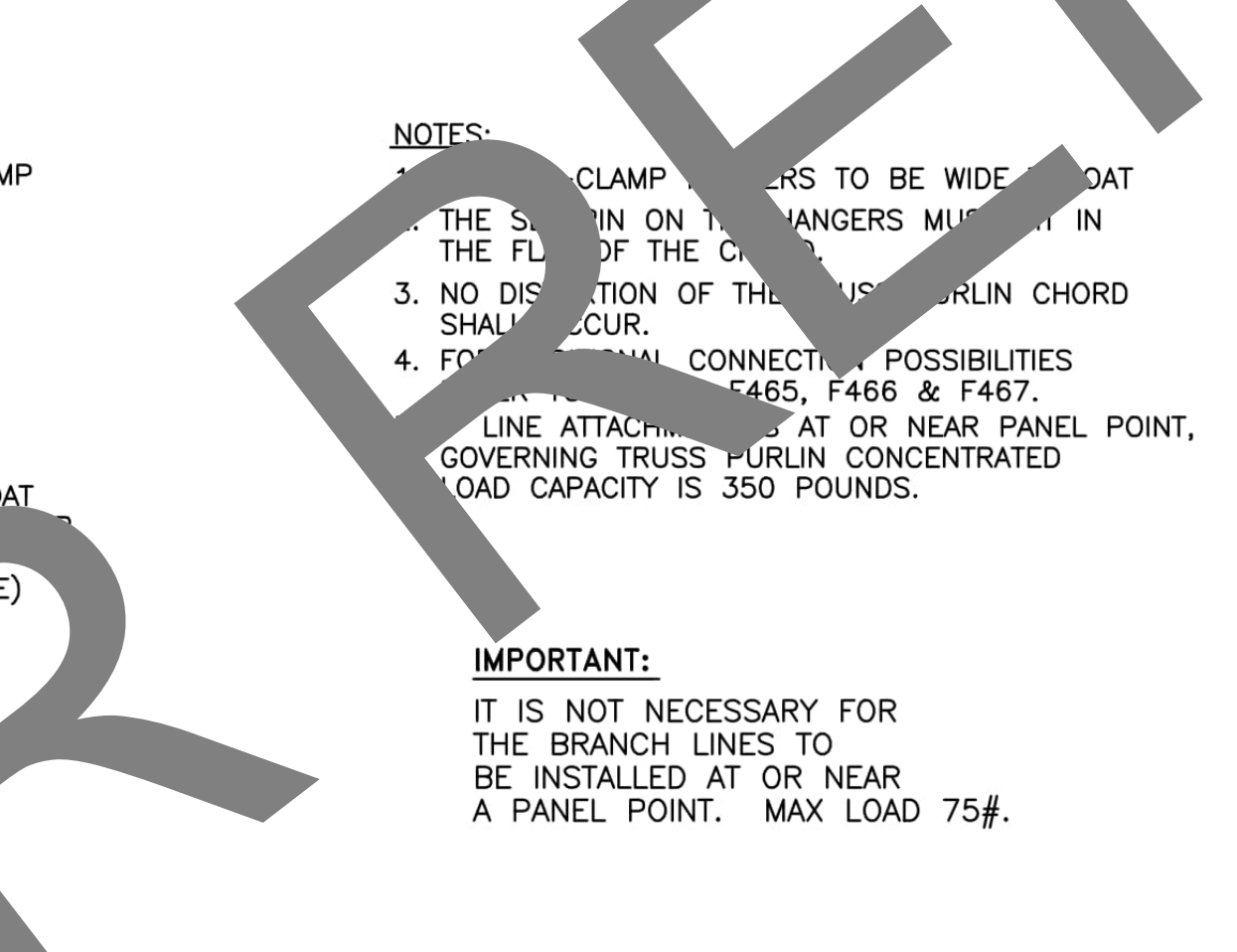
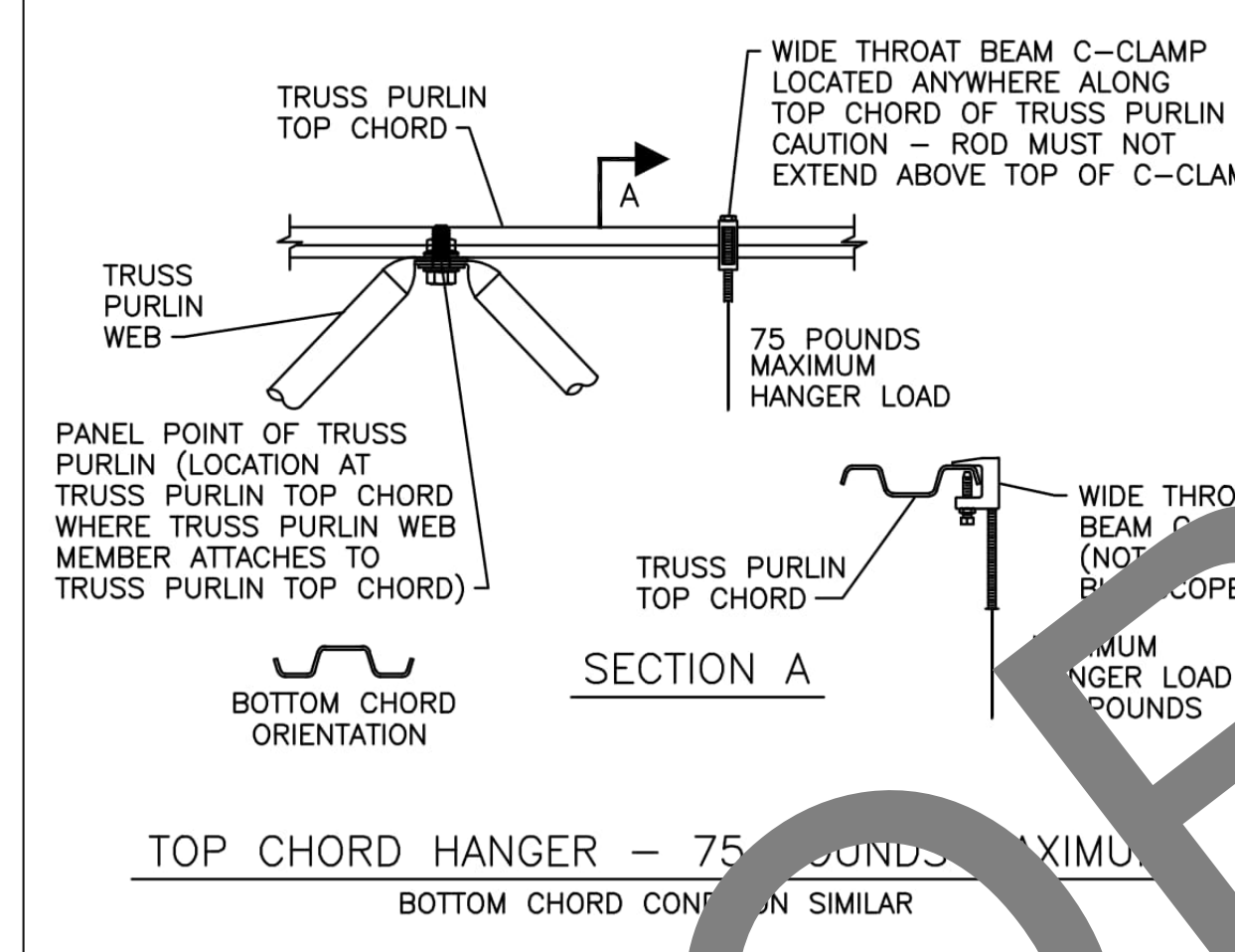
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DETAIL F469 TRUSS PURLIN CHORD HANGER DETAIL

REV. DATE: 05/20/08 REV. NO. 01
DETAIL F470 SEISMIC CONNECTION AT BRIDGING LOCATIONS

REV. DATE: 05/20/08 REV. NO. 00
DETAIL F471 FIELD INSTALLED VERTICAL SUPPORT - 1400# MAX. SUPPORT INSTALLED AT AN ANGLE

REV. DATE: 05/20/08 REV. NO. 00
DETAIL F472 TRUSS PURLIN CHORD HANGER DETAIL

REV. DATE: 05/20/08 REV. NO. 00
DETAIL F473 TRUSS PURLIN CHORD HANGER DETAIL



REV. DATE: 05/20/08 REV. NO. 00
DETAIL F472 TRUSS PURLIN CHORD HANGER DETAIL

REV. DATE: 05/20/08 REV. NO. 01
DETAIL F473 TRUSS PURLIN CHORD HANGER DETAIL

1. USE 1/2 X 1 1/2 A325 SLOTTED BOLTS FOR ALL SECONDARY CONNECTIONS, SECONDARY CLIP CONNECTIONS, AND FLANGE BRACE CONNECTIONS, UNLESS NOTED OTHERWISE.
2. SLOT REINFORCEMENT PLATES NEED NOT BE LOCATED ON THE SAME SIDE OF THE WEB AS THE HILLSIDE WASHER.

THE BUTLER MFG. ENGINEER'S SEAL APPLIES ONLY TO THE WORK PRODUCT OF BUTLER MFG. AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY BUTLER. THE BUTLER MFG. ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED BY BUTLER EXCEPT TO ANY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF TEMPORARY BRACING.

THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF BUTLER MFG. IT IS PROVIDED SOLELY FOR ERECTING THE BUILDING DESCRIBED IN THE APPLICABLE PURCHASE ORDER AND SHALL NOT BE MODIFIED, REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF BUTLER MFG.
THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING, DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE BUTLER MFG. ERECTION GUIDES, AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF TEMPORARY BRACING.

BUTLER MANUFACTURING 1540 GENESSEE ST. KANSAS CITY, MO 64102				SPRINKLER HANGER DETAILS	
REV	DATE	BY	DESCRIPTION	BUILDER	Span Construction & Engineering
				CUSTOMER	Costco Wholesale Club
				LOCATION	
				PROJECT	
				BUILDERS PO#	
NTS				JOB #	
				DATE	
				5/30/2025	
				DRAWN/CHECK	
				GKH /	
				PAGE	

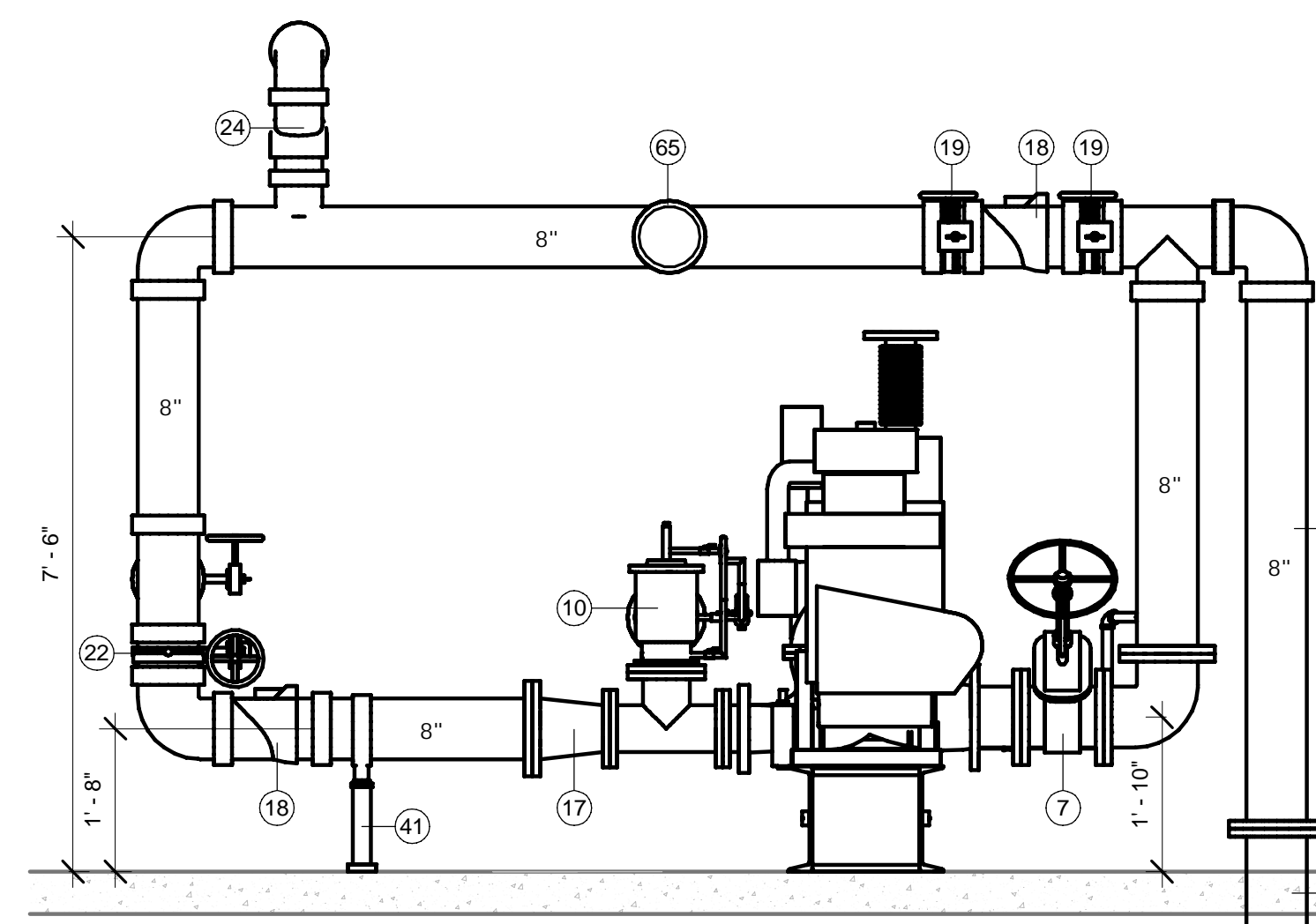
HANGER DETAIL NOTE		BIDDING NOTE	
<p>DETAILS INDICATED ON THIS SHEET (FP4.2) ARE THE PROPERTY OF BUTLER MANUFACTURING. THESE DETAILS HAVE BEEN PROVIDED TO NRG FOR USE ON THIS COSTCO PROJECT PER OWNER DIRECTION AND ARE FOR REFERENCE ONLY. CONTRACTOR SHALL COORDINATE ALL HANGING REQUIREMENTS WITH SPAN CONSTRUCTION AND ENGINEERING, INC.</p>		<p>THESE DRAWINGS ARE FOR COORDINATION AND BID PURPOSES ONLY. THEY ARE NOT FOR SUBMITTAL FABRICATION OR INSTALLATION PURPOSES. SPRINKLER CONTRACTOR TO PROVIDE COMPLETE SUBMITTAL DRAWINGS FOR APPROVAL. CONTRACTOR SHALL BE RESPONSIBLE FOR FABRICATION, MATERIALS LIST, INSTALLATION, ETC. AS REQUIRED TO COMPLETE THIS PROJECT. SUBMITTAL DRAWINGS TO BE UNDER SEAL BY AN ENGINEER LICENSED TO PRACTICE LOCALLY.</p>	

DATE	DESCRIPTION
11.19.25	DESIGN DEVELOPMENT SET
11.26.25	QA SET
12.09.25	QA BACKCHECK SET
12.22.25	PERMIT SET

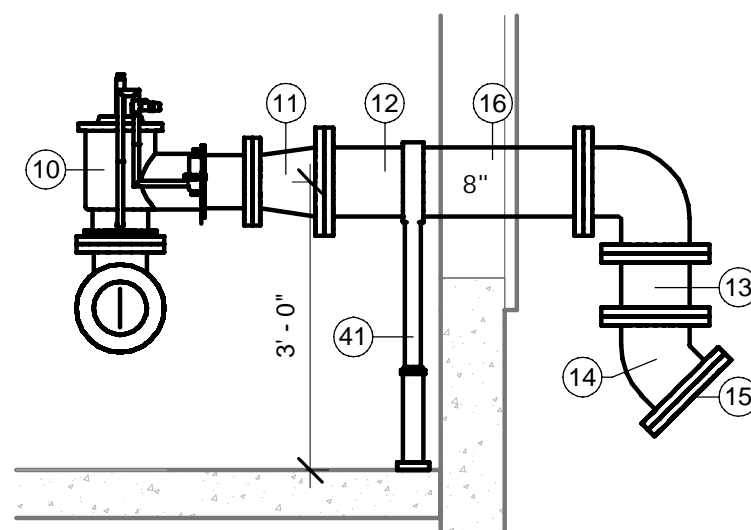
25-5563-01
CHECKED BY: R. ANDERSON
DRAWN BY: J. BYERLY
11.19.2025

FIRE SPRINKLER DETAILS

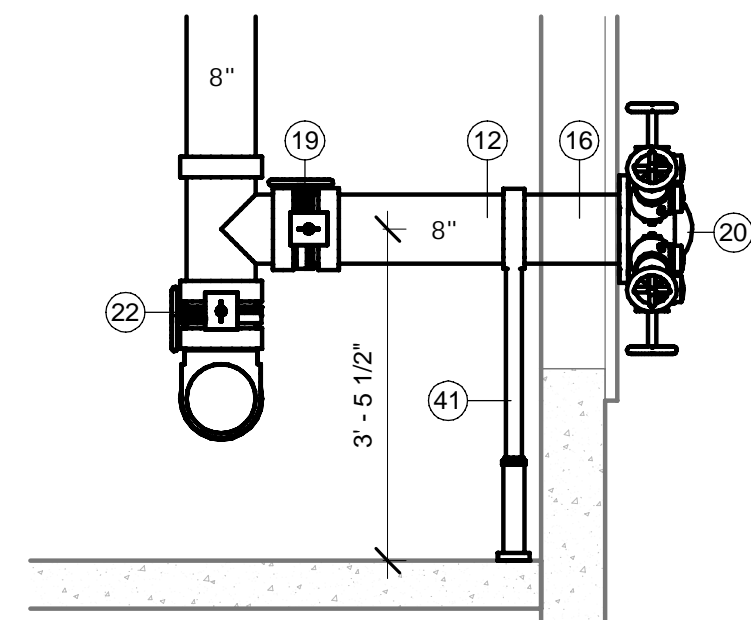
FP4.2



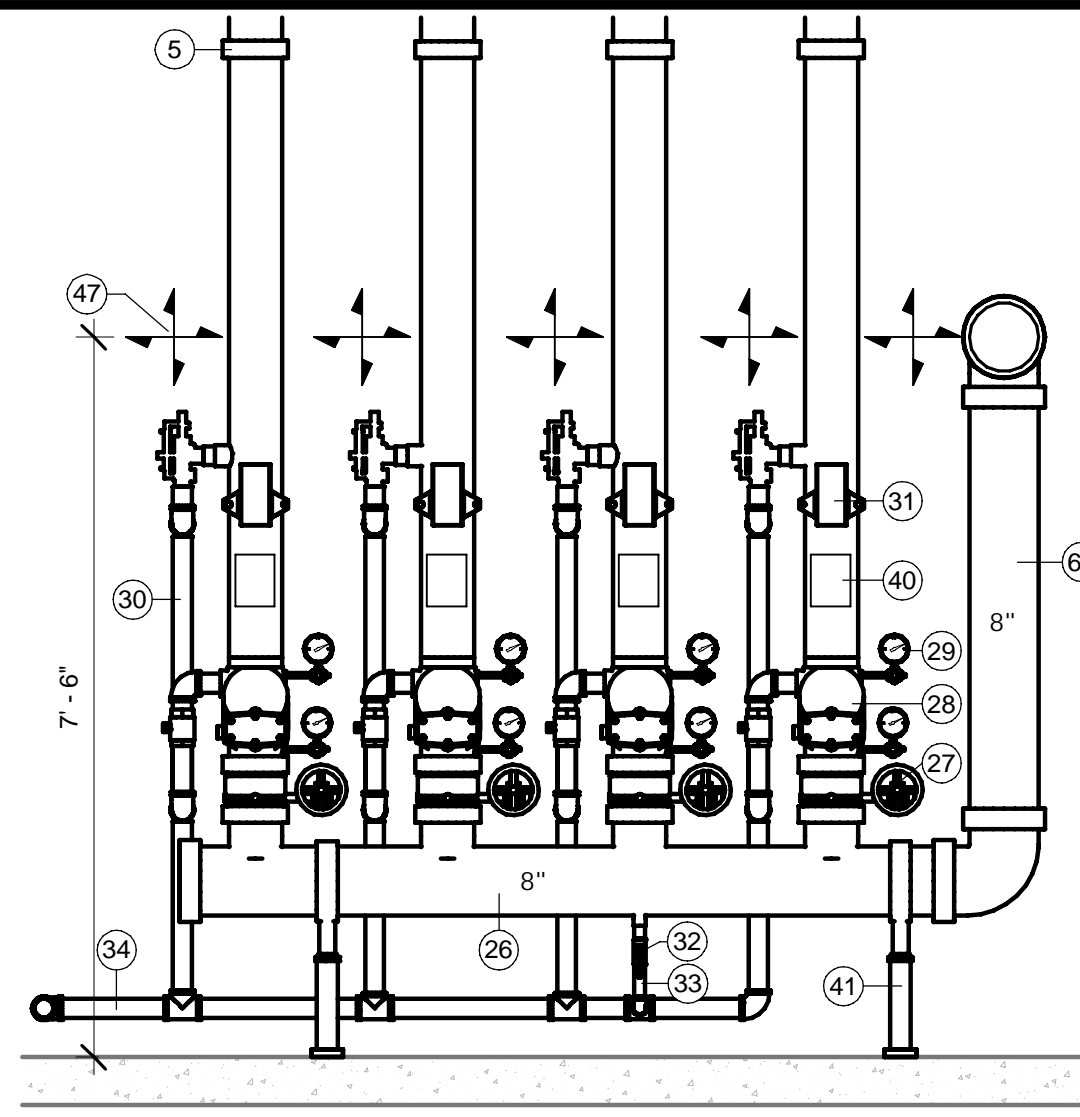
A FIRE PUMP ELEVATION
1/2" = 1'-0"



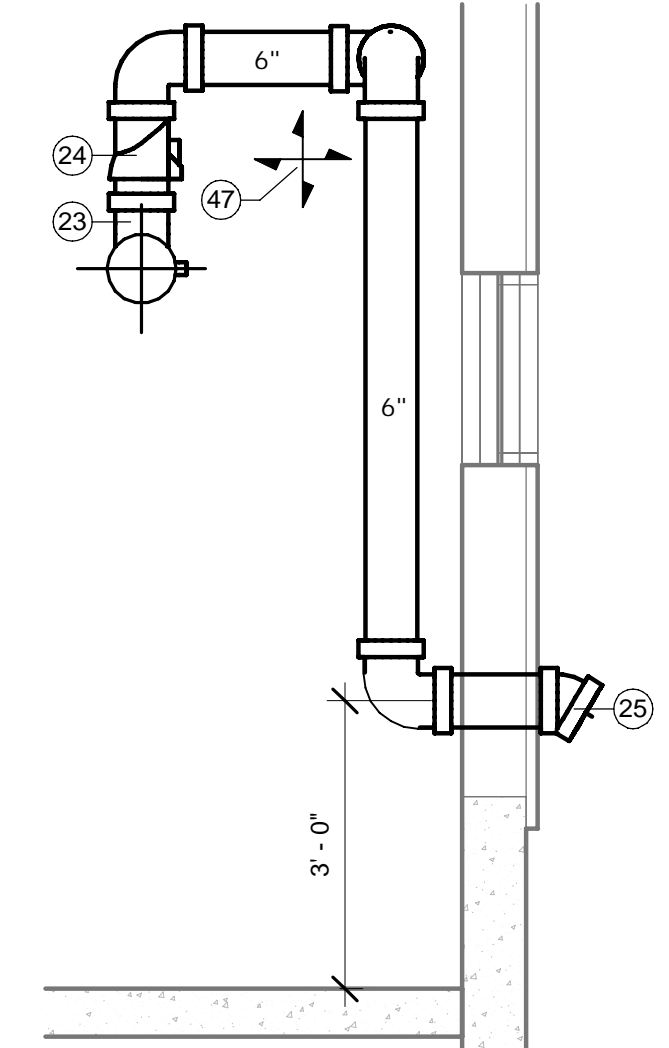
B RELIEF DISCHARGE ELEVATION
1/2" = 1'-0"



C TEST HEADER ELEVATION
1/2" = 1'-0"



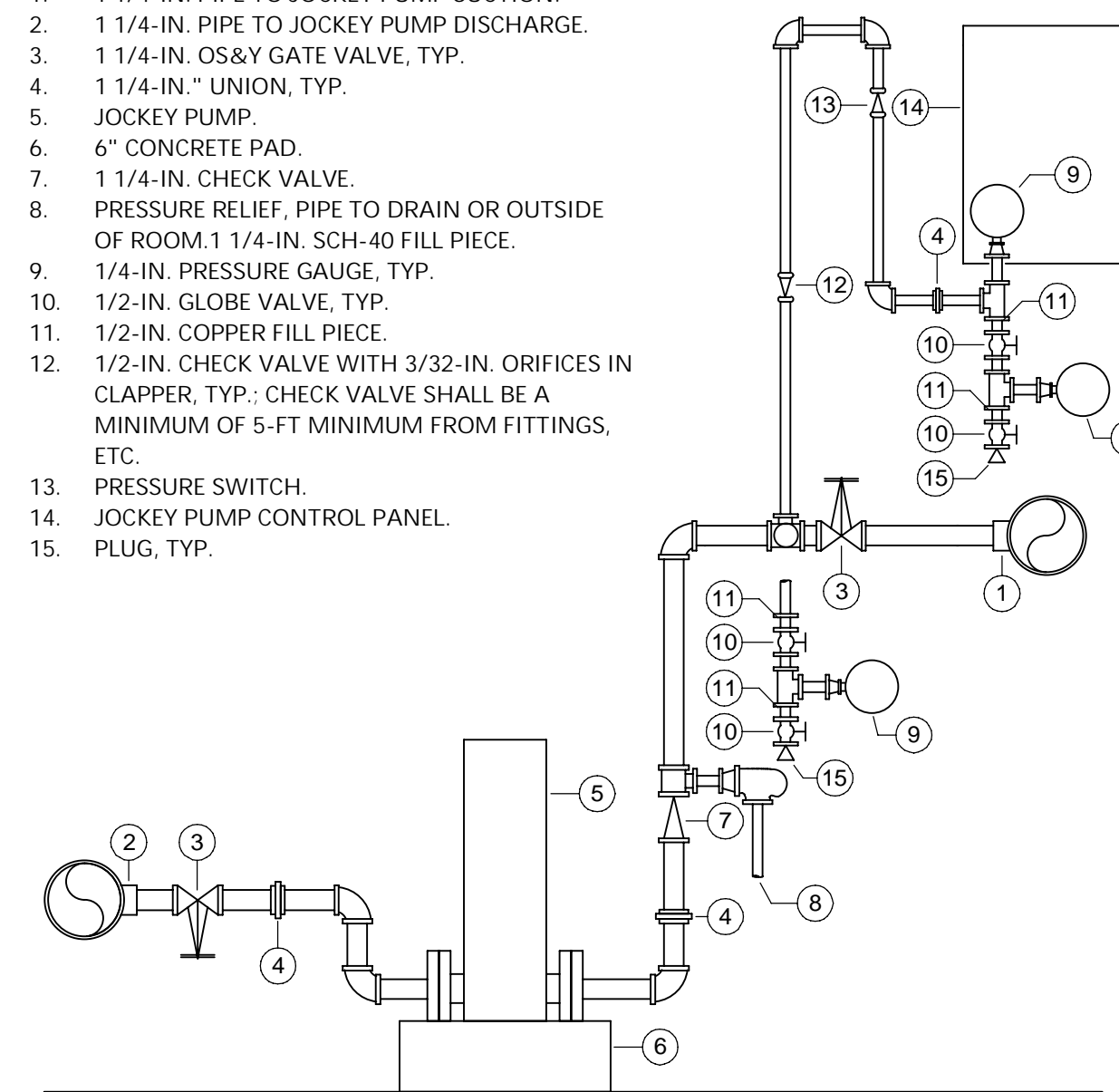
D FIRE RISER ELEVATION
1/2" = 1'-0"



E FDC ELEVATION
1/2" = 1'-0"

LEGEND:

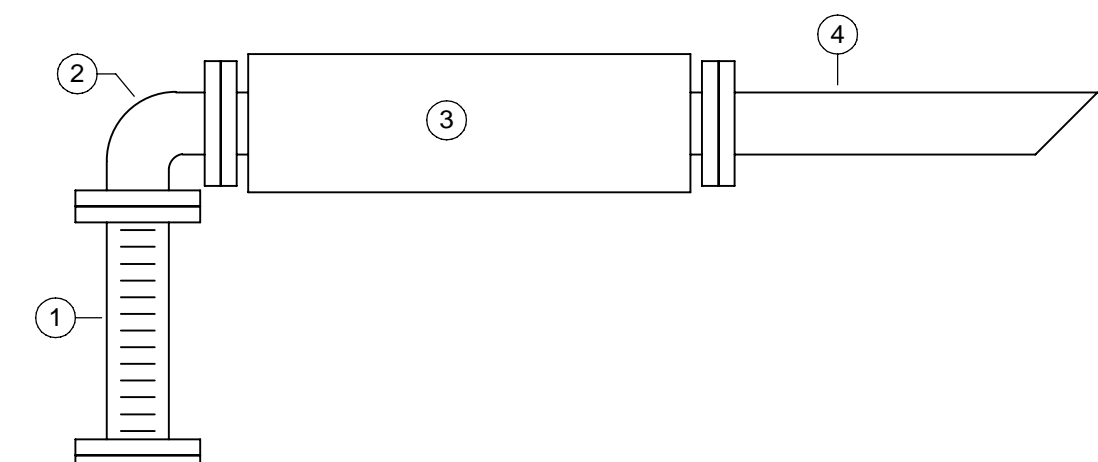
- 1 1/4-IN. PIPE TO JOCKEY PUMP SUCTION.
- 1 1/4-IN. PIPE TO JOCKEY PUMP DISCHARGE.
- 1 1/4-IN. OS&Y GATE VALVE, TYP.
- 1 1/4-IN. UNION, TYP.
- 1 1/4-IN. JOCKEY PUMP.
- 6" CONCRETE PAD.
- 1 1/4-IN. CHECK VALVE.
- PRESSURE RELIEF PIPE TO DRAIN OR OUTSIDE OF ROOM. 1/4-IN. SCH-40 FILL PIECE.
- 1/4-IN. PRESSURE GAUGE, TYP.
- 1/2-IN. GLOBE VALVE, TYP.
- 1/2-IN. COPPER FILL PIECE.
- 1/2-IN. CHECK VALVE WITH 3/32-IN. ORIFICES IN CLAPPER, TYP. CHECK VALVE SHALL BE A MINIMUM OF 5-FT. MINIMUM FROM FITTINGS, ETC.
- PRESSURE SWITCH.
- JOCKEY PUMP CONTROL PANEL.
- PLUG, TYP.



JOCKEY PUMP SCHEMATIC

SCALE: NOT TO SCALE

- INSTALLATION SHALL CONFORM TO NFPA 20 REQUIREMENTS AND MANUFACTURER DATA SHEET.



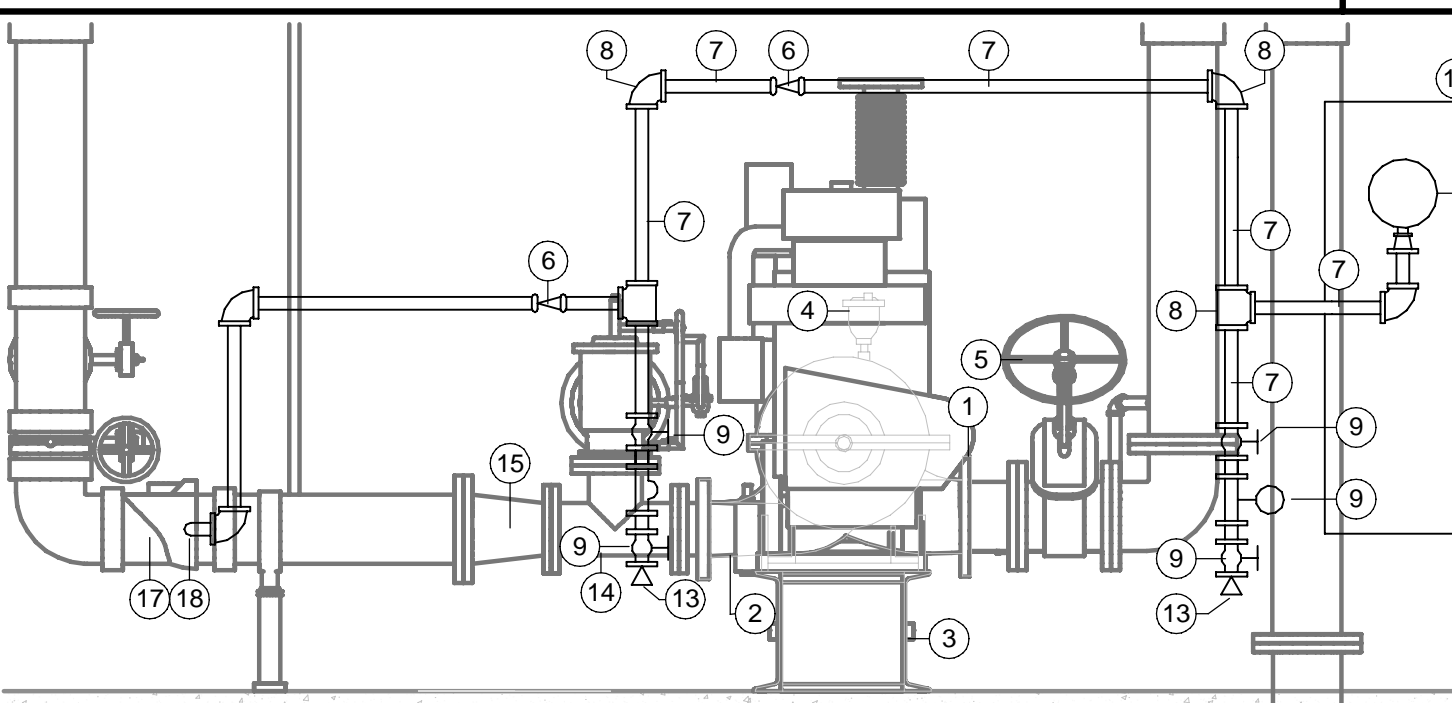
LEGEND:

- 1 4" FLEX CONNECTOR WITH 3-IN. FLANGE ON BOTTOM.
- 4" 90 ELBOW.
- 4" MUFFLER.
- 3" EXHAUST PIPE, OPEN ON ONE END.

EXHAUST DETAIL

SCALE: NOT TO SCALE

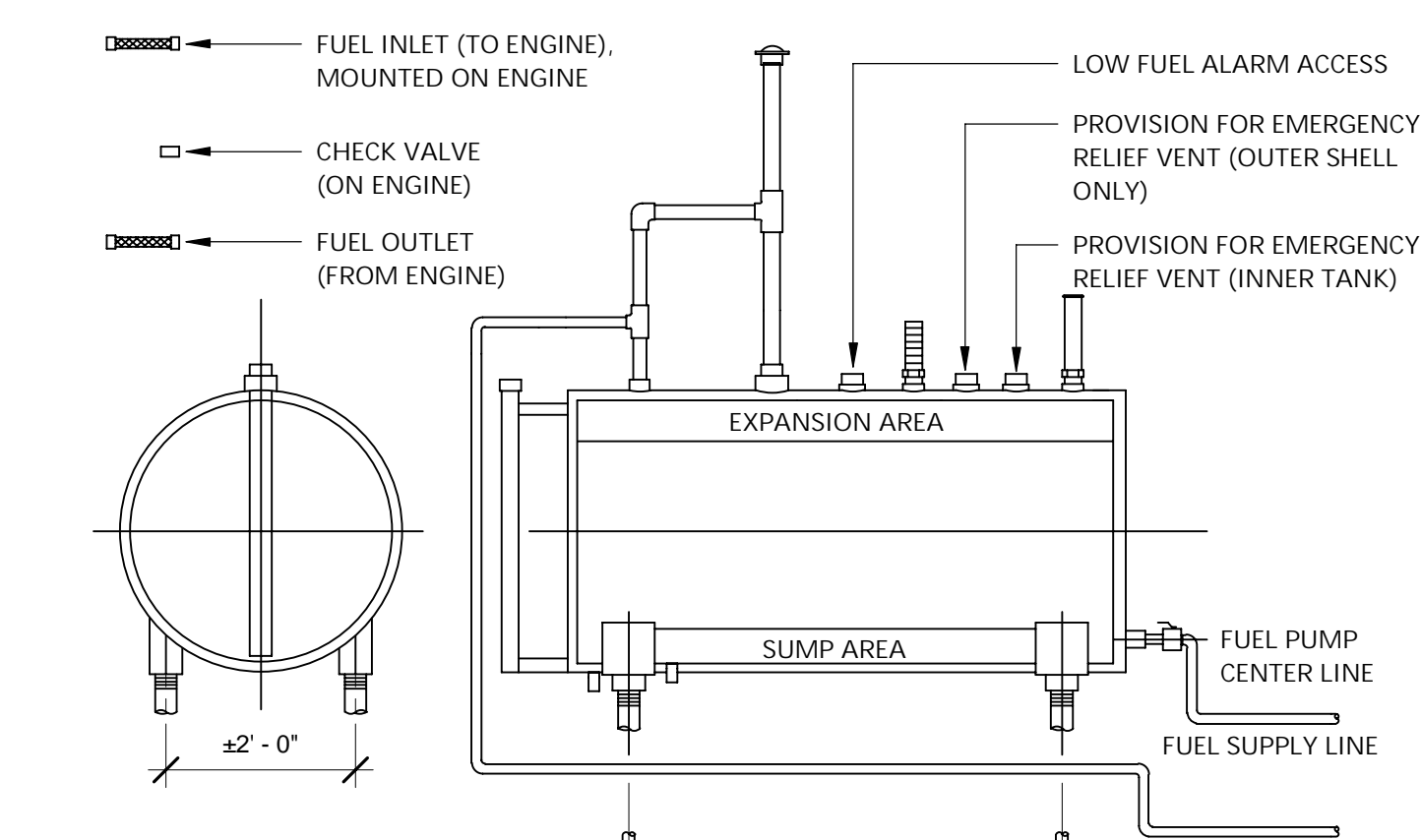
- NOTE: EXHAUST DISCHARGE SHALL BE A MINIMUM OF 10-FT. AWAY FROM ANY FRESH AIR INTAKE TO EITHER THE BUILDING OR THE PUMP ENCLOSURE.



SENSING LINE CONNECTION SCHEMATIC

1/2" = 1'-0"

- INSTALLATION SHALL CONFORM TO NFPA 20 REQUIREMENTS AND MANUFACTURER DATA SHEET.
- ACTUAL FIRE PUMP CONFIGURATION SHOWN FOR REFERENCE ONLY.



DOUBLE WALL FUEL TANK

SCALE: NOT TO SCALE

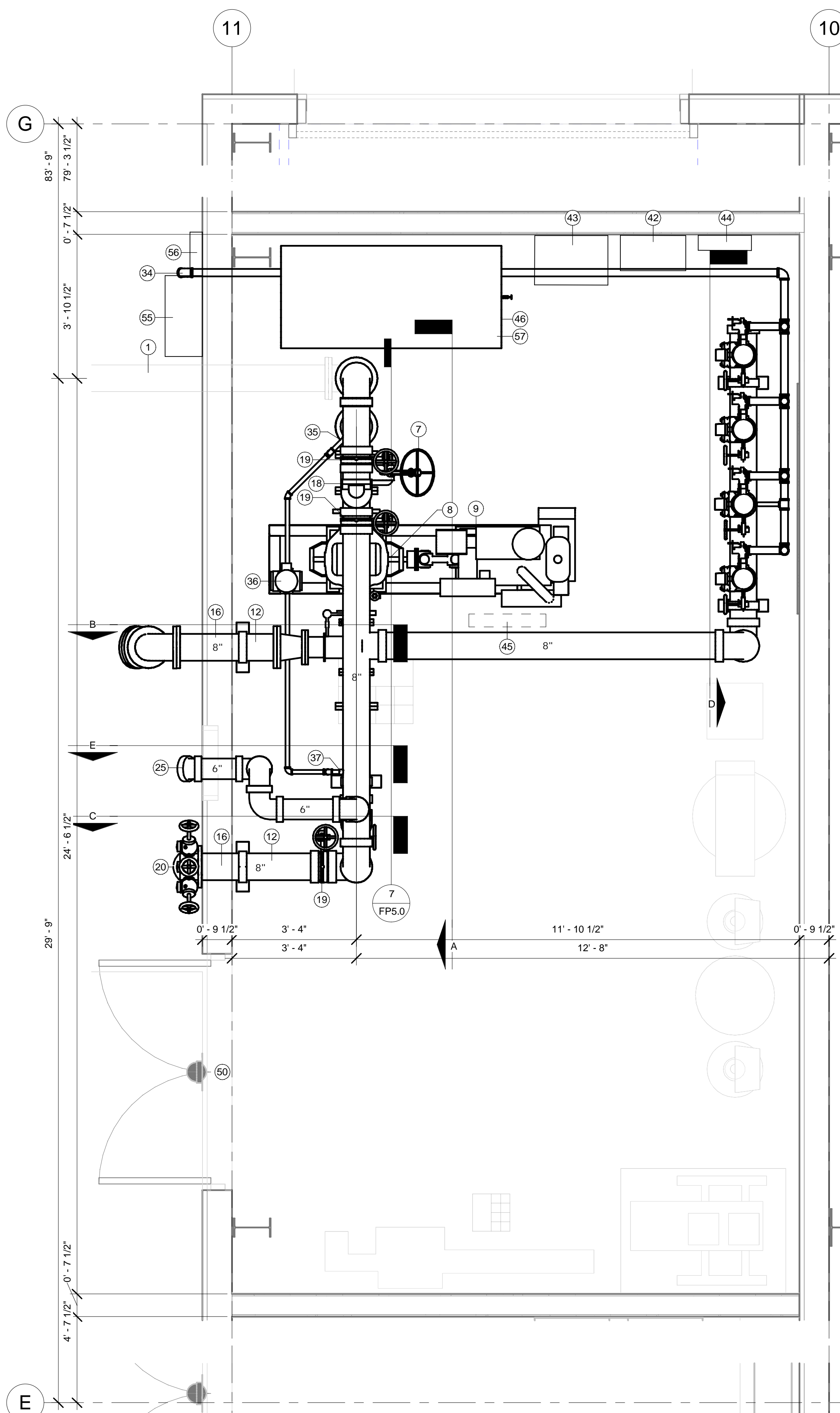
- INSTALLATION SHALL CONFORM TO NFPA 20 REQUIREMENTS AND MANUFACTURER DATA SHEET.

DIESEL TANK LEGEND

ITEM QTY	DESCRIPTION
1	2-IN. FILL CAP WITH PROVISIONS FOR PADLOCK, COMBINED WITH REMOVABLE STRAINER (MAX. 60 MESH)
1	DOUBLE TAP BUSHING
3	1 VENT CAP, 1 1/2-IN. NPT.
1	2-IN. NPT DIRECT READING TANK GAUGE
2	1-IN. NPT PLUG FOR DRAIN (FOR INNER AND OUTER TANKS)
6	1 1/2-IN. X 1 1/2-IN. X 1 1/2-IN. TEE
2	3-IN. NPT PLUG FOR 150 AND 300 GALLON TANKS ONLY

DIESEL TANK PIPING NOTES:

- TANK VENT LINE - PIPE THROUGH ROOF TO OUTSIDE OF PUMP ROOM, 20-FT. OF 3-IN. PIPE REQUIRED.
- FUEL TANK - SHIM TANK TO PROVIDE 1/4-IN. OF SLOPE TOWARD THE DRAIN PLUG.
- FUEL LINES TO AND FROM DIESEL ENGINE. SEE MANUFACTURER'S LITERATURE FOR EQUIPMENT FURNISHED WITH TANK AND THE PROPER PLACEMENT OF TANK TRIM. INSTALL SUPPLY AND RETURN LINES FROM FUEL TANK TO DIESEL ENGINE IN A SINGLE PIECE OF 1/2-IN. PIPE - ANCHORED DOWN TO THE FLOOR AT BOTH ENDS WITH A CLAMP. PITCH TOWARD DRAIN AT 1/4-IN. PER FOOT.
 - 30-FT. OF 1/2-IN. SCH-40 BLACK PIPE
 - 20-FT. OF 3/4-IN. SCH-40 BLACK PIPE
 - (2) PIPE CLAMPS
 - (2) OF 1/4" KWIK BOLTS AND NUTS
- INSTALL FUEL GAUGE IN 1-1/2-IN. I.P.T. OPENING BETWEEN FILL AND VENT LINES.
- BALL VALVE ON FUEL LINE HAS PROVISIONS TO BE LOCKED OPEN.
- FUEL TANK LEGS TO BE 2-IN. SCH-40 PIPE CUT IN FIELD TO ALIGN OUTPUT FROM FUEL TANK WITH CENTERLINE OF ENGINE FUEL PUMP. ANCHOR EACH LEG TO FLOOR WITH FOUR 1/2-IN. KWIK BOLTS II.
- INSTALL TANK IN ACCORDANCE WITH REQUIREMENTS OF LOCAL AUTHORITIES.
- ARRANGE TANK AS CLOSE TO ENGINE AS POSSIBLE AND LOCATE TANK OUTLET ABOVE WITH FUEL PUMP CENTERLINE.
- FUEL LINES AND VENT PIPE PIPING MUST BE FURNISHED BY OTHERS TO CONFORM TO INDIVIDUAL JOB REQUIREMENTS.
- ALL DIMENSIONS IN FEET/INCHES. DETAIL NOT TO SCALE.
- 2-IN. PIPE LEGS, FILL/RETURN PIPING (IN TANK) AND CONNECTION FROM FUEL LINES TO FLEXIBLE HOSE ON ENGINE FURNISHED BY OTHERS.
- THE ABOVE TANKS CARRY THE UNDERWRITERS LABEL.
- TANK TO HAVE EXTERIOR FILL LINE.
- LOCKING CAP SHALL BE PROVIDED ON FILL LINE IF REQUIRED BY AHJ.



1 FIRE PUMP ROOM PLAN VIEW
1/2" = 1'-0"

FIRE PUMP LEGEND

◊ DENOTES ELECTRICAL CONNECTION

- 10" UNDERGROUND MAIN. SEE CIVIL DRAWINGS. NOTE DI PIPING SHALL BE INSTALLED PRIOR TO BUILDING PAD PENETRATION PER REQUIREMENTS OF NFPA 24.
- 8" FLANGE AT 0'-6" AFF. CONTRACTOR SHALL PROVIDE A MINIMUM OF 2" CLEARANCE AROUND UNDERGROUND PIPE RISE UP THROUGH CONCRETE SLAB. PROVIDE APPROVED NON-COMBUSTIBLE MASTIC AT VOID SPACE, REGARDLESS OF SEISMIC ZONE PER OWNER REQUIREMENTS.
- FILL PIECE, SIZE AS NOTED.
- 8" OS&Y GATE VALVE WITH TAMPER SWITCH (◊).
- FLEXIBLE COUPLING, PER OWNER REQUIREMENTS, AT THE TOP AND BOTTOM OF ALL SYSTEM RISERS AND AT WALL PENETRATIONS, TYP.
- 8" OS&Y GATE VALVE WITH TAMPER SWITCH (◊).
- 8" X 6" FIRE PUMP RATED 1500 GPM AT 70-PSI WITH PLD-S FUNCTION SET TO 20-PSI AND PLD-D FUNCTION SET TO 170-PSI. CHURN PRESSURE PLUS FLOW TEST STATIC, PLUS POTENTIAL HIGH HYDRAULIC GRADIENT AND ELEVATION DIFFERENCE SHALL NOT EXCEED 175-PSI, UNLESS INDICATED OTHERWISE. SEE FP SPECIFICATIONS OR ACCEPTABLE PUMP MANUFACTURERS PER OWNER.
- CLARKE (UL/FM APPROVED) TIER-3 DIESEL ENGINE WITH INTEGRAL HEATER.
- 6" PRESSURE RELIEF VALVE.
- 6" X 8" WASTE CONE WITH SIGHT GLASS.
- 8" GALVANIZED FILL PIECE. CONTRACTOR TO REVIEW ARCHITECTURAL PLANS IN REGARDS TO HEIGHT OF STEM WALL PRIOR TO ANY WALL PENETRATIONS, TYP.
- 8" GALVANIZED DISCHARGE PIPING, SECURED TO WALL WITH GALVANIZED ATTACHMENTS.
- 8" GALVANIZED FLANGED DISCHARGE ELBOW. NOTE: 45 ELL SHOWN IN ORDER TO MINIMIZE DAMAGE TO SURROUNDING GRADE.
- GALVANIZED STEEL SCREEN (WELDED ON END) FOR VERMIN CONTROL, PER OWNER REQUIREMENTS. DISCHARGE FLANGE SHALL BE A MAXIMUM OF 1'-0" ABOVE FINISHED EXTERIOR GRADE.
- CONTRACTOR SHALL PROVIDE A MINIMUM OF 2" CLEARANCE AROUND PIPE THROUGH EXTERIOR WALL(S) FOR PIPING 3-IN. AND LARGER AND PROVIDE A MINIMUM OF 1" CLEARANCE AROUND PIPE THROUGH WALL(S) FOR PIPING LESS THAN 3-IN. PROVIDE APPROVED NON-COMBUSTIBLE MASTIC AT VOID SPACE WITH COVER PLATE, REGARDLESS OF SEISMIC ZONE PER OWNER REQUIREMENTS.
- 8" X 6" INVERTED CONCENTRIC REDUCER.
- 8" GROOVED CHECK VALVE.
- 8" GROOVED BUTTERFLY VALVE WITH TAMPER SWITCH (◊). VALVE NORMALLY CLOSED. VALVE SHALL BE 5-FT. IN PIPE LENGTH FROM EXTERIOR WALL PER NFPA 13 REQUIREMENTS.
- DAISY STYLE TEST HEADER WITH (6) 2-1/2" HOSE VALVES WITH BALL DRIP. THREAD TYPE TO BE NST. PIPE THROUGH WALL SHALL BE GALVANIZED, NO EXCEPTIONS.
- 8" GROOVED BUTTERFLY VALVE WITH TAMPER SWITCH (◊).
- 6" OUTLET FOR FIRE DEPARTMENT CONNECTION.
- 6" GROOVED CHECK VALVE FOR FDC. VALVE SHALL BE 5-FT. IN PIPE LENGTH FROM EXTERIOR WALL PER NFPA 13 REQUIREMENTS. CONTRACTOR SHALL VERIFY IF A CHECK VALVE WILL BE INSTALLED IN THE UNDERGROUND PIPING AND REMOVE THIS CHECK VALVE IF REQUIRED.
- 4" STORZ WITH 30-DEGREE DOWNTURN WALL MOUNTED FIRE DEPARTMENT CONNECTION. HEIGHT OF INLET(S) SHALL BE 36" TO 42" ABOVE FINISHED EXTERIOR GRADE.
- 8" WELDED RISER MANIFOLD.
- GROOVED RISER BUTTERFLY VALVE WITH TAMPER SWITCH, TYP. SIZED PER CALCULATIONS.
- GROOVED RISER WET CHECK VALVE (◊) SIZED PER CALCULATIONS.
- 250-PSI PRESSURE GAUGE, TYP.
- 2" "TEST AND DRAIN" ASSEMBLY, TYP. VALVE SHALL NOT BE ABOVE 7'-6" A.F.F.
- WATER FLOW SWITCH (◊) JOB APPROVED EQUAL. NOTE: CLEARANCES OF VALVES FROM DEVICE SHALL BE STRICTLY ENFORCED.
- 1" BALL VALVE.
- 1" MANIFOLD DRAIN LINE TO BE TIED INTO RISER DRAIN PIPING LINE.
- 2" MAIN DRAIN PIPING TO TERMINATE AT 6" AFF AT EXTERIOR OF BUILDING. PIPE THROUGH WALL SHALL BE GALVANIZED.
- CONNECTION TO JOCKEY PUMP SUCTION (TRIM NOT SHOWN FOR CLARITY).
- JOCKEY PUMP (208 VOLT, 3PH, 2HP MAX) (◊) WITH JOCKEY PUMP PAD.
- CONNECTION TO JOCKEY PUMP DISCHARGE (TRIM NOT SHOWN FOR CLARITY).
- RISER PLACARDS, TYP. - PLACARDS SHALL BE METAL AND CHAIN HUNG PER OWNER REQUIREMENTS.
- PIPE STAND, BOLTED TO FLOOR. PROVIDE WRAP AROUND PIPE RING PER SEISMIC REQUIREMENTS, TYP.
- WALL MOUNTED JOCKEY PUMP CONTROLLER MEETING NFPA 70 REQUIREMENTS (◊).
- FLOOR MOUNTED FIRE PUMP CONTROLLER (◊).
- SPARE SPRINKLER BOXES: QUANTITY PER OWNER REQUIREMENTS (FP SPECIFICATIONS), CONTRACTOR SHALL PROVIDE ALL ASSOCIATED WRENCHES, MOUNT @ 5'-0" A.F.F.
- BATTERY BOX 12 VOLT (◊) BOX SHALL BE MOUNTED OFF FLOOR ON ITS OWN RACKING.
- 150 NOMINAL GALLON, DOUBLE WALL DIESEL TANK. FUEL TANK SHALL MEET TSSA STANDARD.
- 4-WAY SWAY BRACING SHALL BE INSTALLED AT THE TOP OF ALL VERTICAL RUNS OF PIPING IN FIRE PUMP ROOM/RISER AREA REGARDLESS OF SEISMIC ZONE, TYP.
- 3'-0" MINIMUM WIDTH DOORS, TYP. OF 2. SEE ARCHITECTURAL DRAWINGS. DOORS SHALL BE OPERABLE WITH FIRE DEPARTMENT KEY.
- FLOOR SPILL CONTAINER (SHOWN FOR CLARITY). SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- EXTERIOR VISUAL ALARM (SHOWN FOR CLARITY), FOR FUEL FILL LINE, ALARM NOT TO BE IDENTIFIED ON FA PANEL. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- THE INTERSTITIAL SPACE BETWEEN THE WALLS OF THE DIESEL FUEL STORAGE TANK SHALL BE MONITORED FOR LEAKAGE AND ANNUNCIATED BY THE ENGINE DRIVE CONTROLLER PER NFPA 20, 2013 EDITION SECTION 11.4.3.5. THE MEANS OF MONITORING SHALL BE VISUAL ONLY. ACTUAL INSTALLATION SHALL BE COORDINATED BY CONTRACTOR WITH MANUFACTURER'S GUIDANCE.
- 8" WELDED RISER MANIFOLD.
- 8" FROM FIRE PUMP.

NOTE: KEYNOTE NUMBERS NOT SHOWN ARE UNUSED

FIRE PUMP GENERAL NOTES:

- OWNER TO MAINTAIN 40 DEGREE MINIMUM IN PUMP ROOM OR MINIMUM REQUIRED BY MANUFACTURER. CONTRACTOR SHALL VERIFY AND PROVIDE IF NECESSARY.
- THE FIRE PUMP IS DESIGNED TO USE WATER FOR SEALING, LUBRICATION AND COOLING. THE SEALS SHOULD BE ADJUSTED TO HAVE A SMALL WATER LEAK WHEN PUMP IS IN OPERATION AND WILL USUALLY NOT BE DRIP TIGHT IN A STATIC CONDITION.
- AIR RELEASE VALVE FURNISHED WITH PUMP DOES NOT REQUIRE DRAIN PIPING.
- GASE MUST BE GROUTED WITH 2% EXPANSION GROUT.
- PUMP CONTROLLERS TO BE LOCATED IN THE PUMP ROOM WITHIN SIGHT OF PUMP AND 1M (@3'-6") CLEAR (IN FRONT) FROM OBSTRUCTIONS.
- LOCATIONS SHOWN MUST BE FIELD COORDINATED AROUND OTHER TRADES BY THE FIRE SPRINKLER CONTRACTORS.
- OWNER SHALL PROVIDE VERMIN PROTECTION FOR FIRE PUMP ROOM, LOUVERS, ETC. CONTRACTOR SHALL VERIFY AND PROVIDE IF NECESSARY.
- OWNER TO PROVIDE ARTIFICIAL LIGHT & EMERGENCY LIGHTING IN PUMP ROOM PER NFPA 20.
- FIRE PUMP CASING RELIEF AND PACKING DISCHARGE SHALL BE PIPED SEPARATELY TO THE FLOOR DRAIN, NO EXCEPTIONS.
- PROVIDE A CALCULATION INFORMATION CARD SHOWING GALLONAGE AND PRESSURE. REQUIRED AT THE BASE OF RISER. DESIGN DENSITY AND AREA CALCULATED, AS WELL AS INFORMATION ABOUT THE INSTALLING CONTRACTOR. CARD IS TO BE METAL, AND TO BE AFFIXED TO EACH RISER WITH A CHAIN. STICKER TYPE CARDS OR CARD NOT AFFIXED WITH CHAIN WILL NOT BE ACCEPTABLE.
- ALL VALVES TO BE INDICATING WITH A TAMPER SWITCH AND MONITORED TO CENTRAL STATION. IF REQUIRED, CONTRACTOR SHALL PROVIDE HEAVY DUTY RATED FLANGES ON DISCHARGE SIDE OF FIRE PUMP, INCLUDING FIRE PUMP DISCHARGE FLANGE, CONTRACTOR SHALL VERIFY WITH CIVIL ENGINEER AND GC FOR POTENTIAL CITY IMPROVEMENTS, NO EXCEPTIONS.
- THE FIRE PUMP CONTROLLERS SHALL BE GROUNDED IN ACCORDANCE WITH NFPA 70, NATIONAL ELECTRICAL CODE.
- NOTE: THE TERM "OR APPROVED EQUAL" INDICATES ISSUANCE OF MATERIAL DATA FOR REVIEW THROUGH THE RFI/SUBSTITUTION REQUEST PROCESS PRIOR TO PURCHASE OR INCLUSION IN THE CONTRACTORS DOCUMENTS, OTHERWISE SUBSTITUTIONS WILL NOT BE GRANTED PER COSTCO REQUIREMENTS.

BIDDING NOTE

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LEE'S SUMMIT, MO
NEW WAREHOUSE
NEC OF HWY 291 & OLDHAM PKWY
LEE'S SUMMIT, MO 64081

COSTCO
WHOLESALE
CORPORATION

730 LAKE DRIVE
ISSAQUAH, WA
98027
T: 425.313.8100
www.costco.com



7511 Greenwood Avenue, #600
Seattle, WA 98103
(206) 789-0165

nrgrfireconsulting.com

PERMIT SET

FOR REFERENCE ONLY

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**FIRE PUMP
DETAILS**

FP5.0