

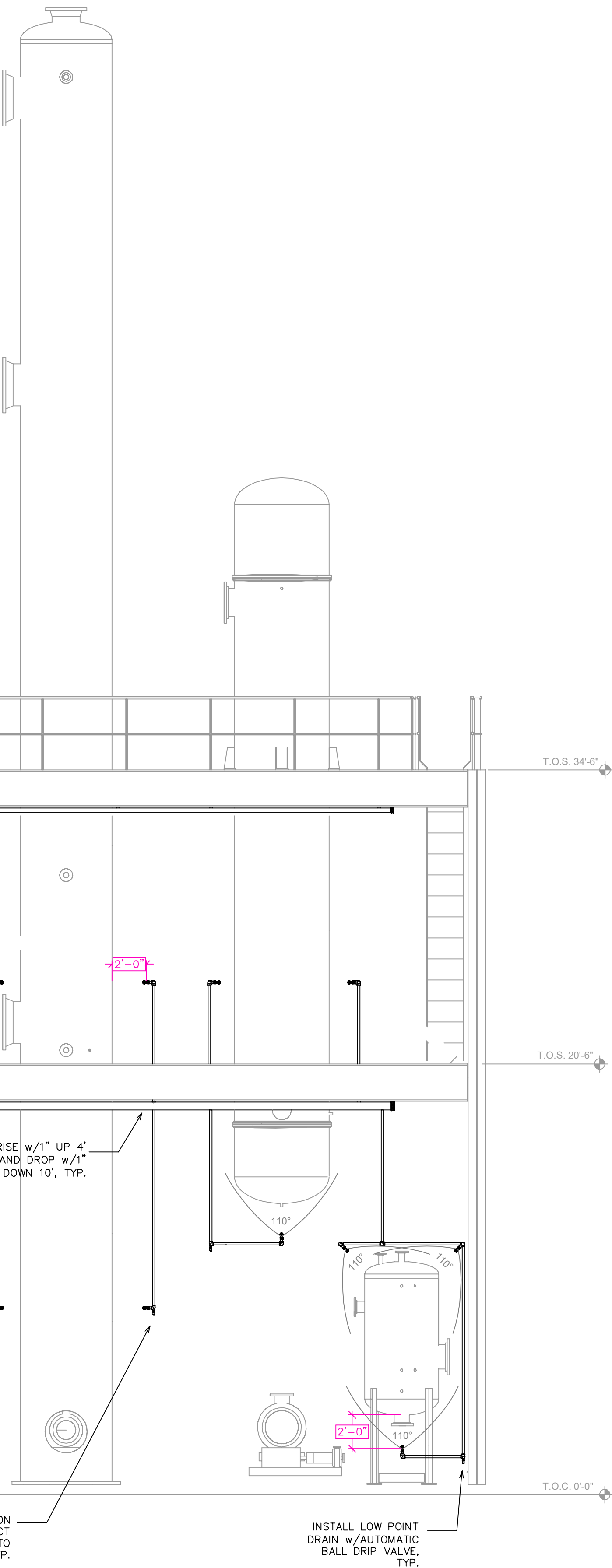
MAXIMUM DISTANCE BETWEEN HANGERS (FT.-IN.)		NOMINAL PIPE SIZE (IN.)									
		3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
STEEL PIPE EXCEPT THREADED LIGHTWALL	NA	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0

NFPA 13 HANGER SPACING

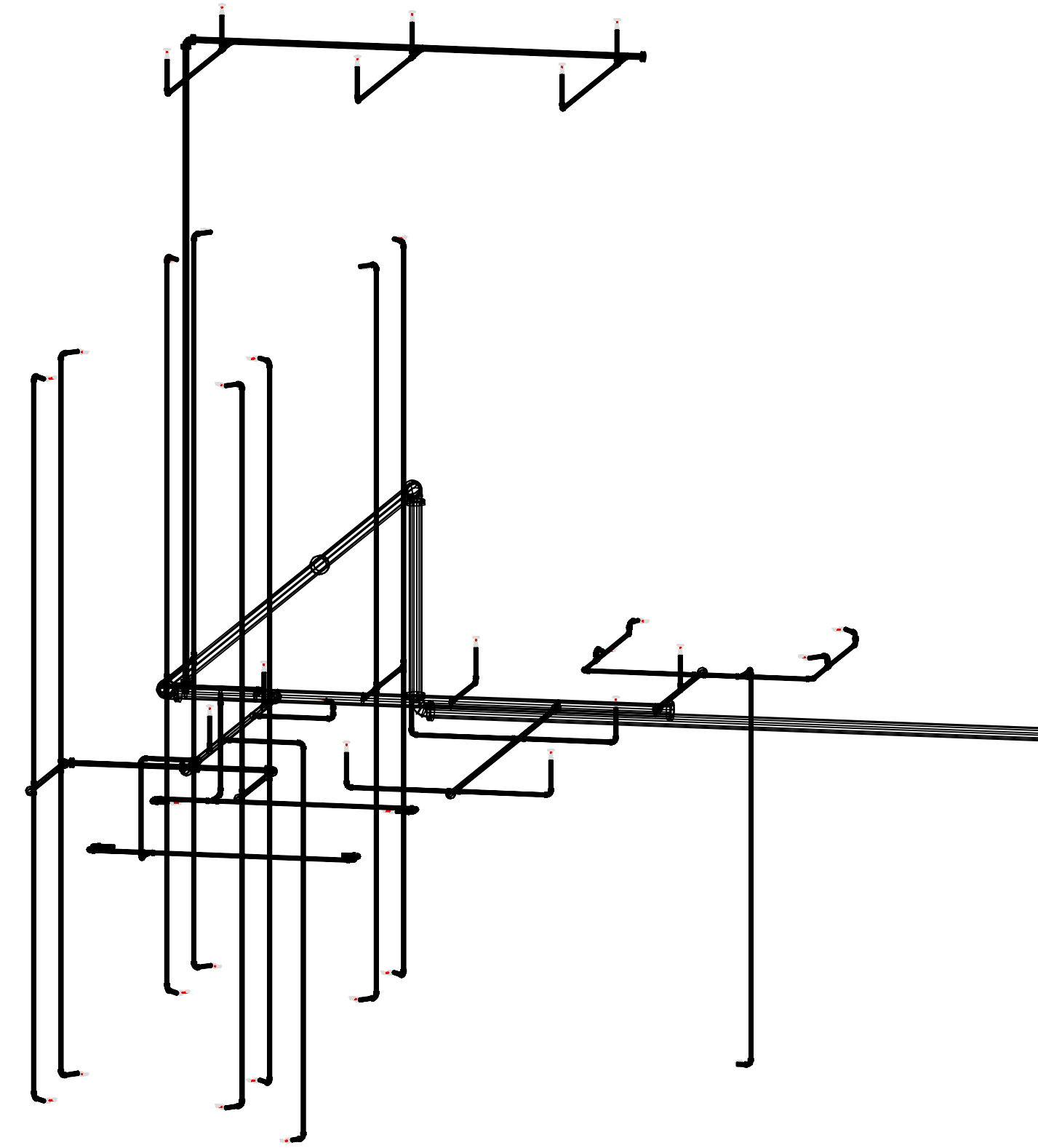
IG1										
SYM	CNT	POSITION	FINISH	TEMP	K	INPT	SN	MFG.	MODEL#	NOTES
<	27	SIDEWALL	BRASS	OPEN	4.10	1/2"	Noz2#4	TYCO	D3	110° NOZZLE FOR VESSELS
⊙	14	SPRIG	BRASS	OPEN	4.20	1/2"	TY2131	TYCO	TY-FRB	SS UPRIGHT
○	41	UPRIGHT	BRASS	200	5.60	1/2"	TY315	TYCO	TY-B	DRY PILOT LINES
TOTAL 82 HEADS										

IG2										
SYM	CNT	POSITION	FINISH	TEMP	K	INPT	SN	MFG.	MODEL#	NOTES
<	31	SIDEWALL	BRASS	OPEN	4.10	1/2"	Noz2#4	TYCO	D3	110° NOZZLE FOR VESSELS
⊙	32	SPRIG	BRASS	OPEN	4.20	1/2"	TY2131	TYCO	TY-FRB	SS UPRIGHT
○	63	UPRIGHT	BRASS	200	5.60	1/2"	TY315	TYCO	TY-B	DRY PILOT LINES
TOTAL 126 HEADS										

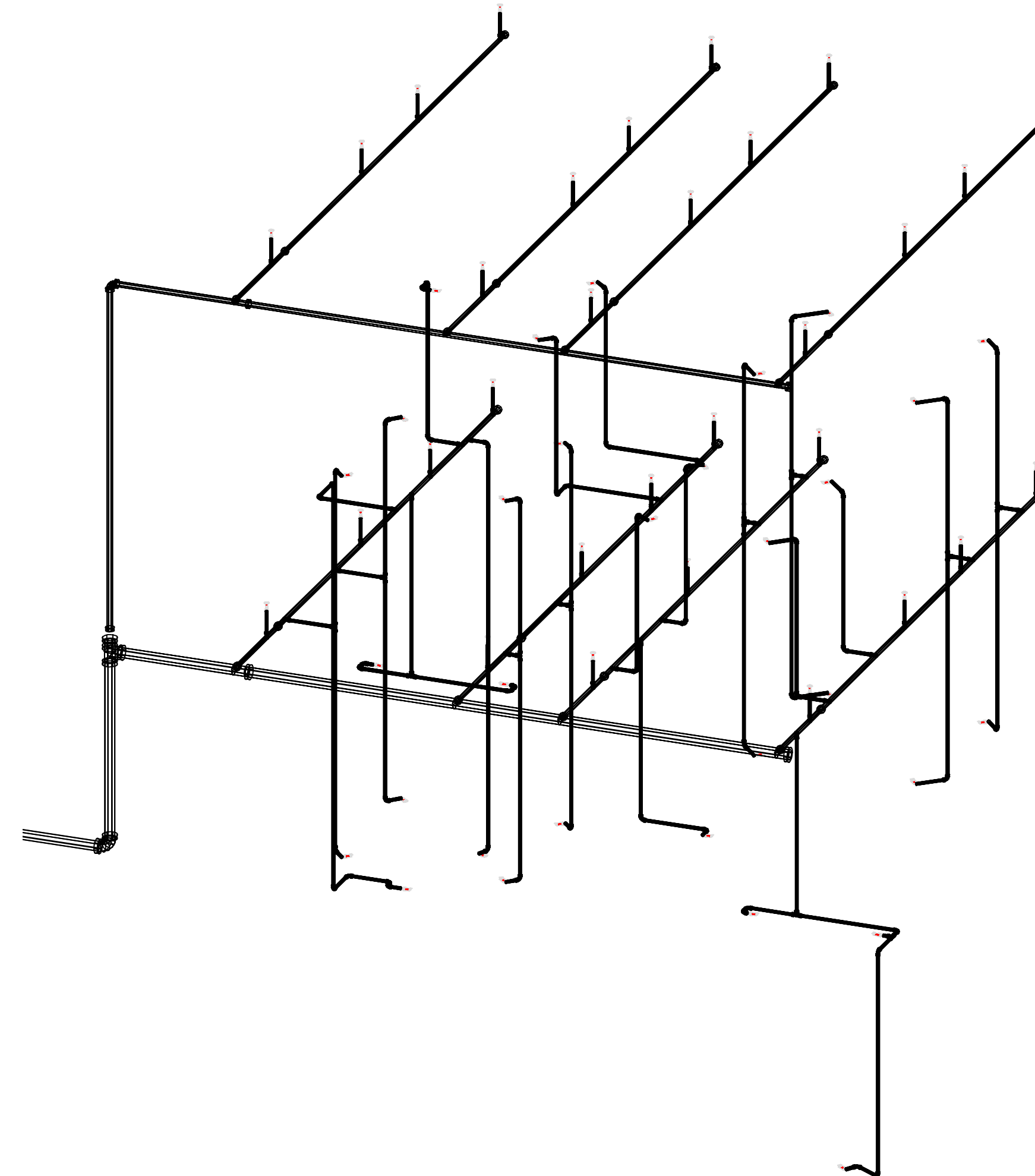
SPRINKLER HEAD LEGEND



SECTION -A-A
SCALE= 1/4" : 1'-0"



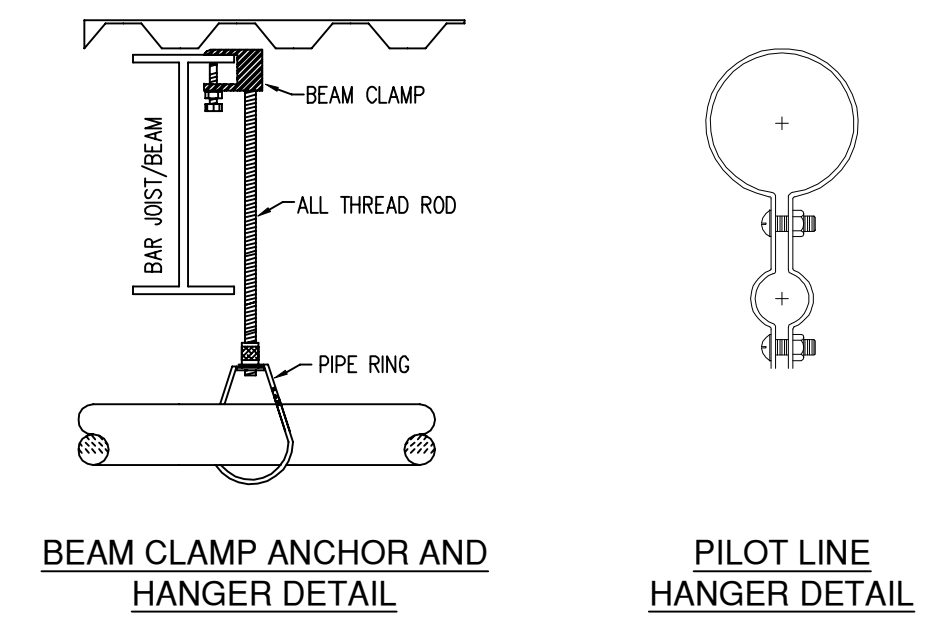
IG1 3D-VIEW
N.T.S.



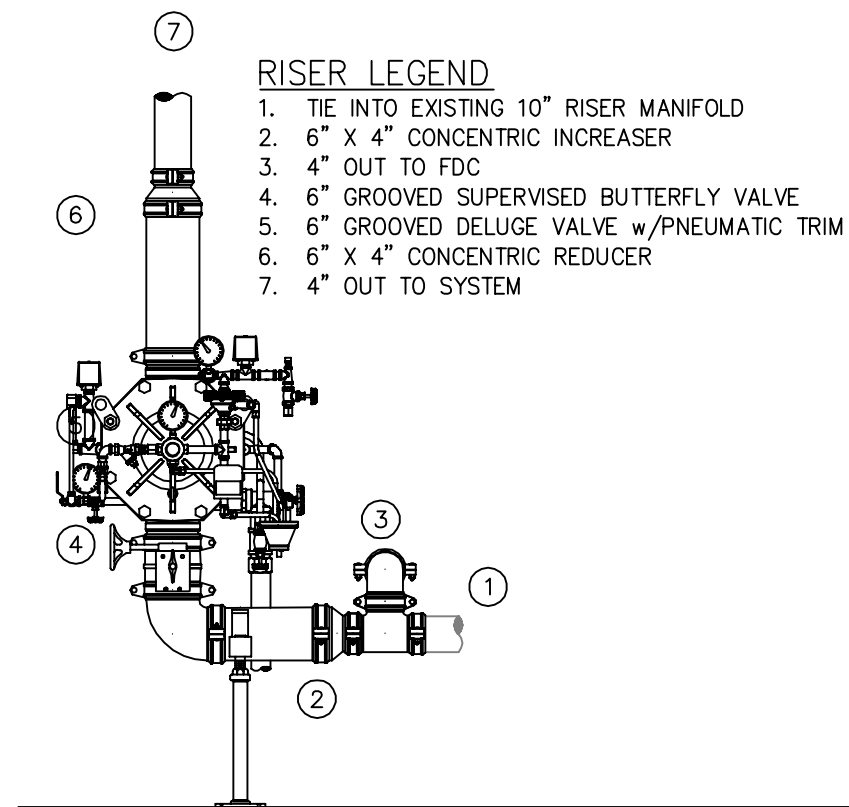
IG2 3D-VIEW
N.T.S.

GENERAL NOTES

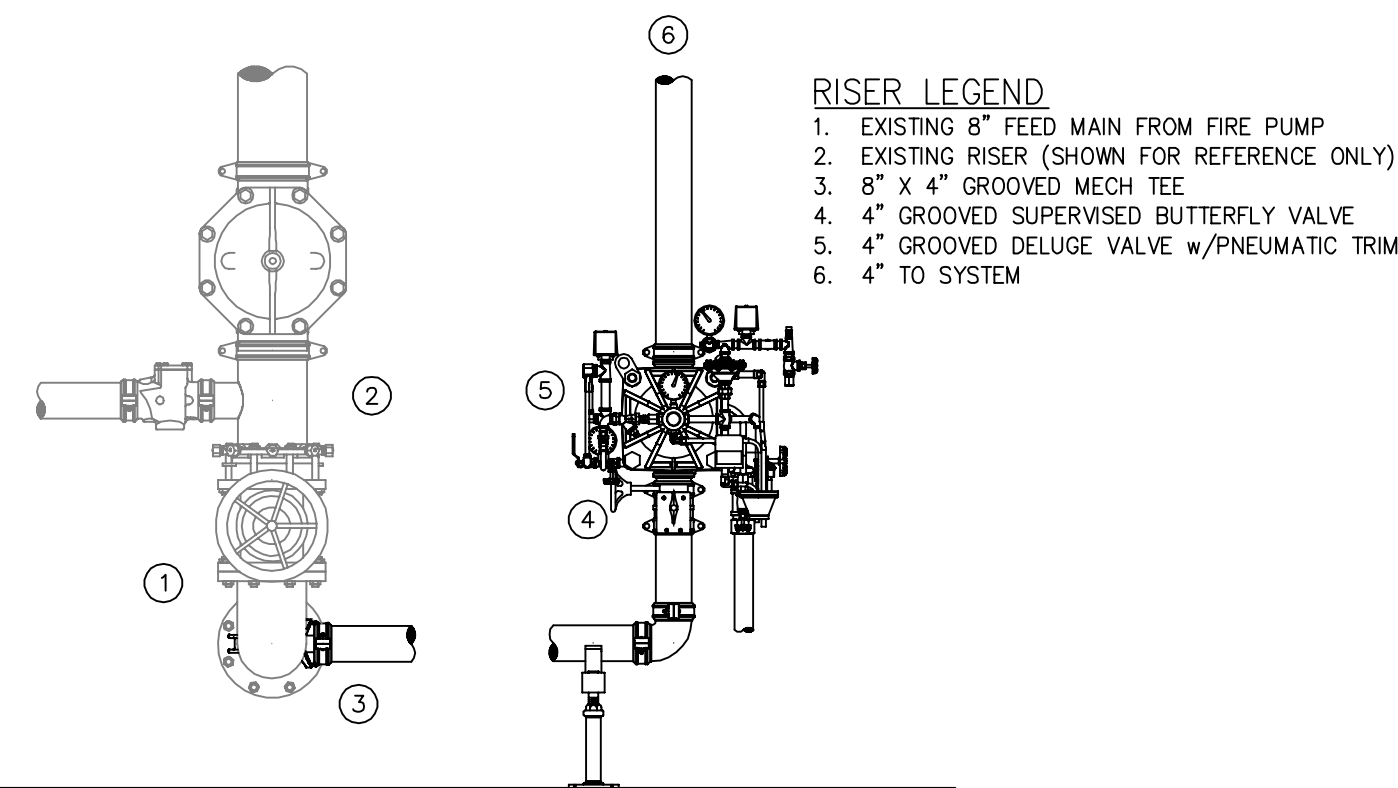
- PIPE TYPES
1" BRANCH LINES TO BE THREADED GALV SCHEDULE 40 WITH GALV THREADED FITTINGS
1-1/4" THROUGH 6" MAIN AND BRANCH LINES TO BE GROOVED GALV SCHEDULE 10 WITH GALV GROOVED FITTINGS
- DESIGN CRITERIA
SYSTEM CALCULATED TO PROVIDE 0.30 GPM/SQ.FT OVER THE ENTIRE AREA
- NOTES
ALL MATERIAL TO BE NEW AND MEET U.L. STANDARDS
HANGERS TO BE INSTALLED IN ACCORDANCE WITH NFPA 13
SEE PLAN FOR HANGING REQUIREMENTS
- SYMBOLS USED ON DRAWINGS:
-ELEV PIPE ELEVATION A.F.F.
HYDRAULIC CALCULATION JUNCTION POINT
- SCOPE OF WORK
TO PROVIDE DELUGE PROTECTION OF THE NEW IG1 AND IG2 EXPANSION PLATFORMS.
PNEUMATIC DETECTION LINES TO BE RUN PARALLEL TO THE FIRE PROTECTION LINES.
TWO NEW DELUGE VALVE ASSEMBLYS WILL BE BUILT ON TO THE EXISTING RISERS.



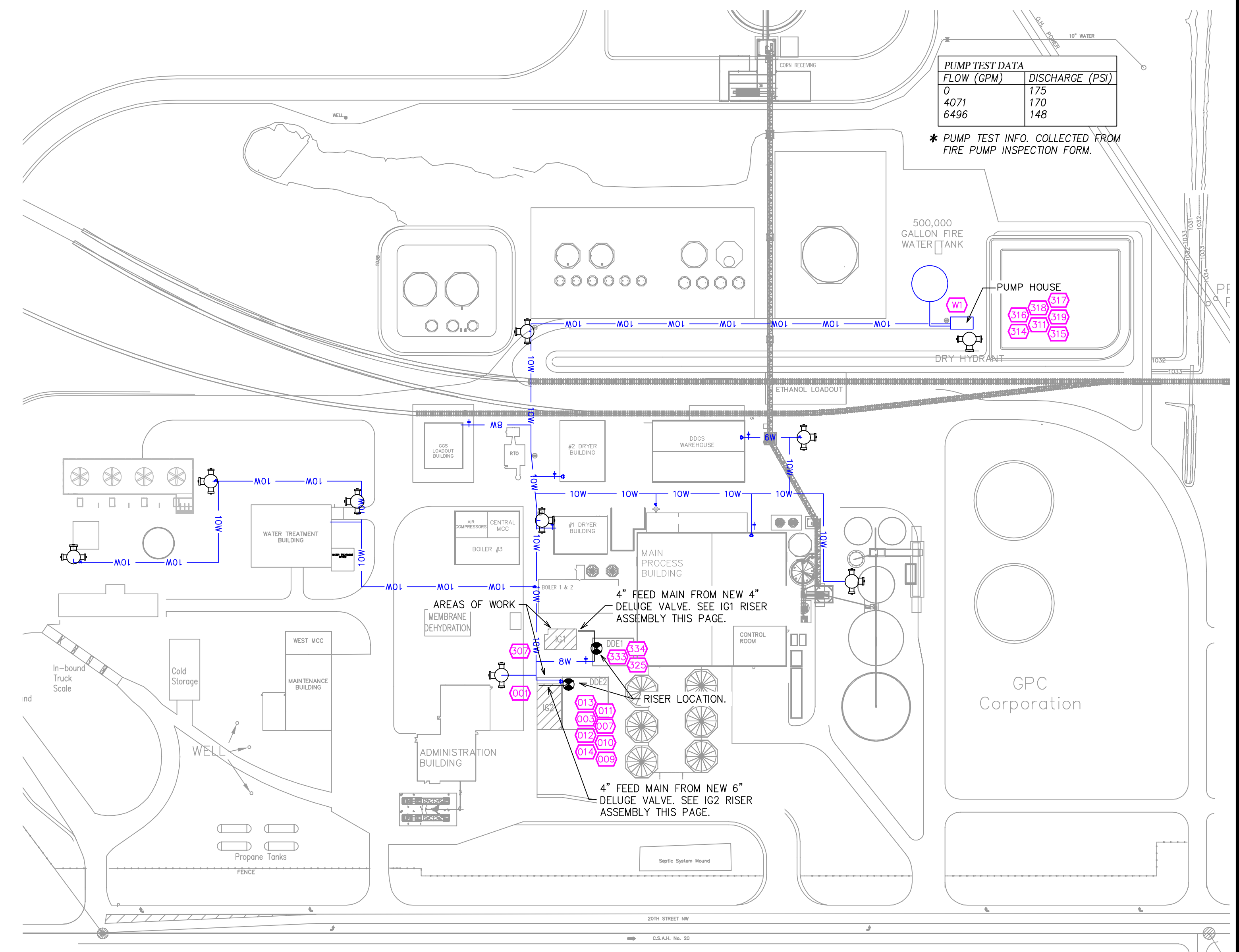
HANGER DETAIL
N.T.S.



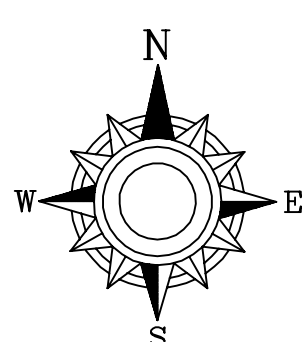
IG2 RISER DETAIL
SCALE= 1/2" : 1'-0"



IG1 RISER DETAIL
SCALE= 1/2" : 1'-0"



SITE PLAN
SCALE= 1" : 100'-0"



2 4 6 8 10 12 14 16 18

General Notes

- System installed per NFPA-13 (2016 Edition) and State Fire Marshal.
- All equipment for this system shall be U.L. listed.
- Minimum pipe size shall be 1 nominal pipe.
- All Sch-10 & Eddy Flow piping has welded outlets & grooved fittings all welding per NFPA-13 (3-82).
- No installation or fabrication to begin without approved shop dwgs.
- All Pipe Locations are to be Field Measured Prior to Fabrication and Installation by Sprinkler Contractor.
- All Dimensions Shown are Center to Center.
- High Temperature Heads are to be Field Located Where Required.
- Provide one spare head cabinet w/ 8 hds. & one hd wrench.
- Hangers are to be U.L. Listed and P.M. Approved.
- Electrical wiring, alarm, detection and supervisory by owner.
- Owner's responsibility to provide adequate heating to prevent wet system piping from freezing.

SPRINKLER LEGEND

SEE PLAN

APPROVAL STAMPS

Contract No. **C21-69**

Drawing Date: **08/13/2021**

Scale: **1/8" = 1'-0"**

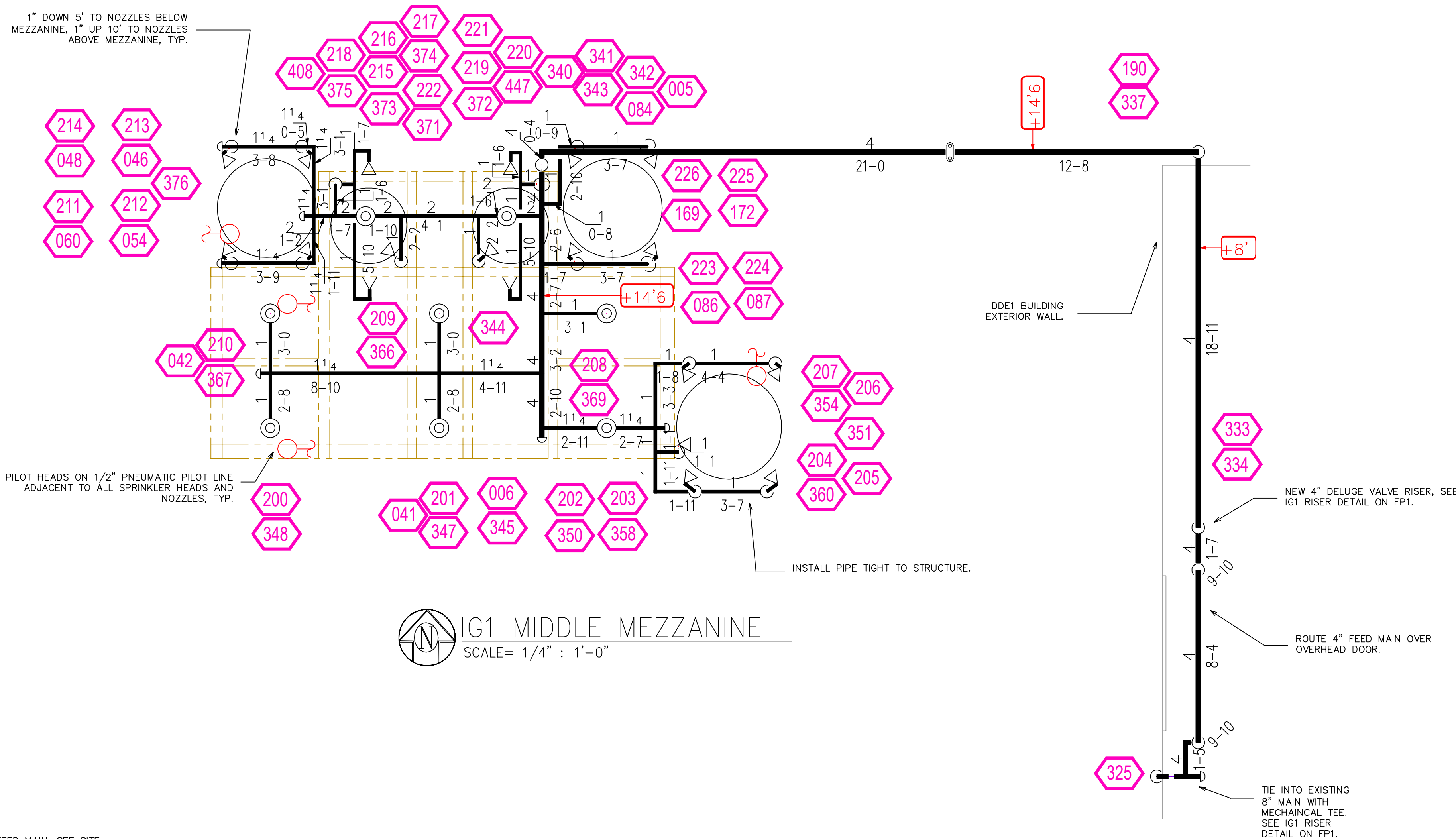
Drawn By: **JH**

Approval By: **STATE FIRE MARSHAL DIV.**

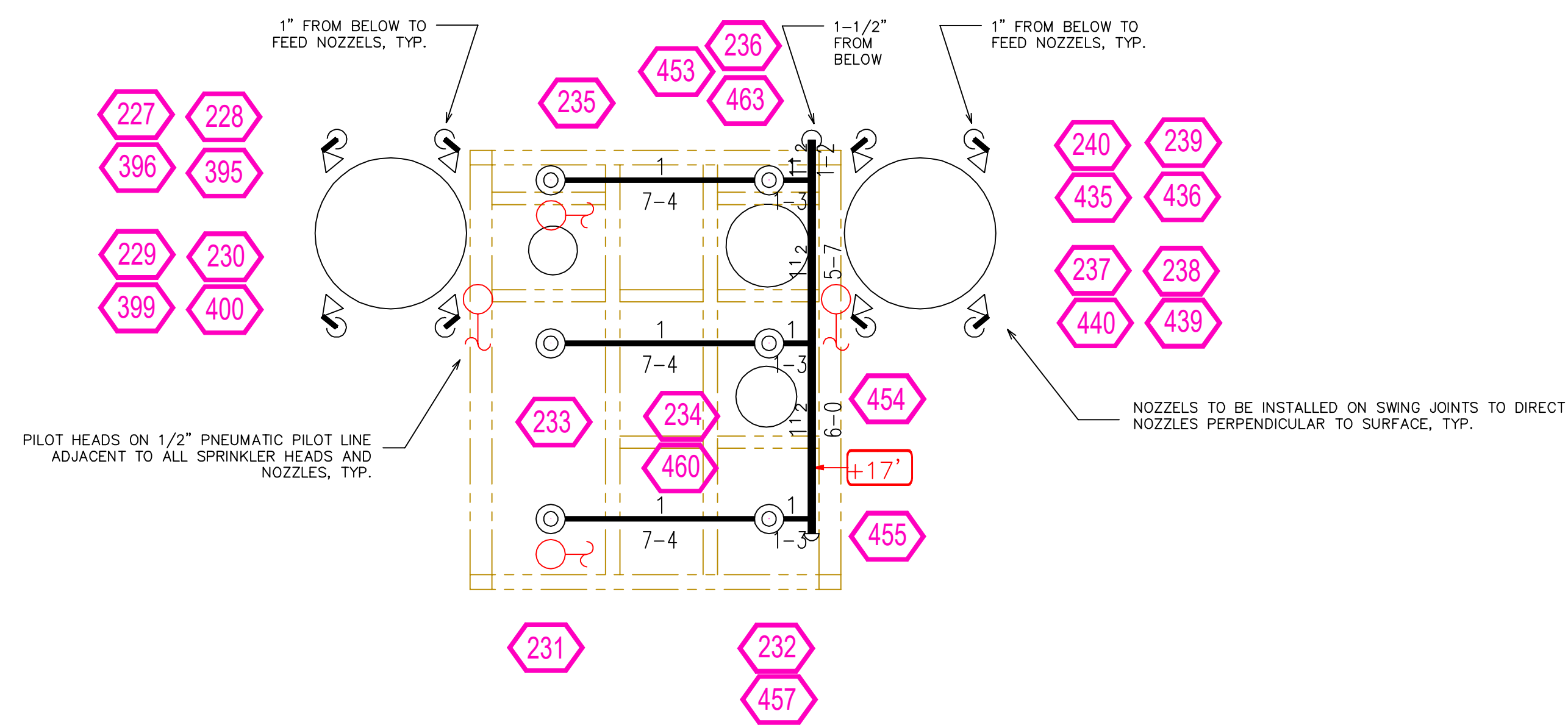
SHEET NO. **1 of 2**

CHIPPEWA VALLEY ETHANOL
270 20TH STREET NW
BENSON, MN 56215

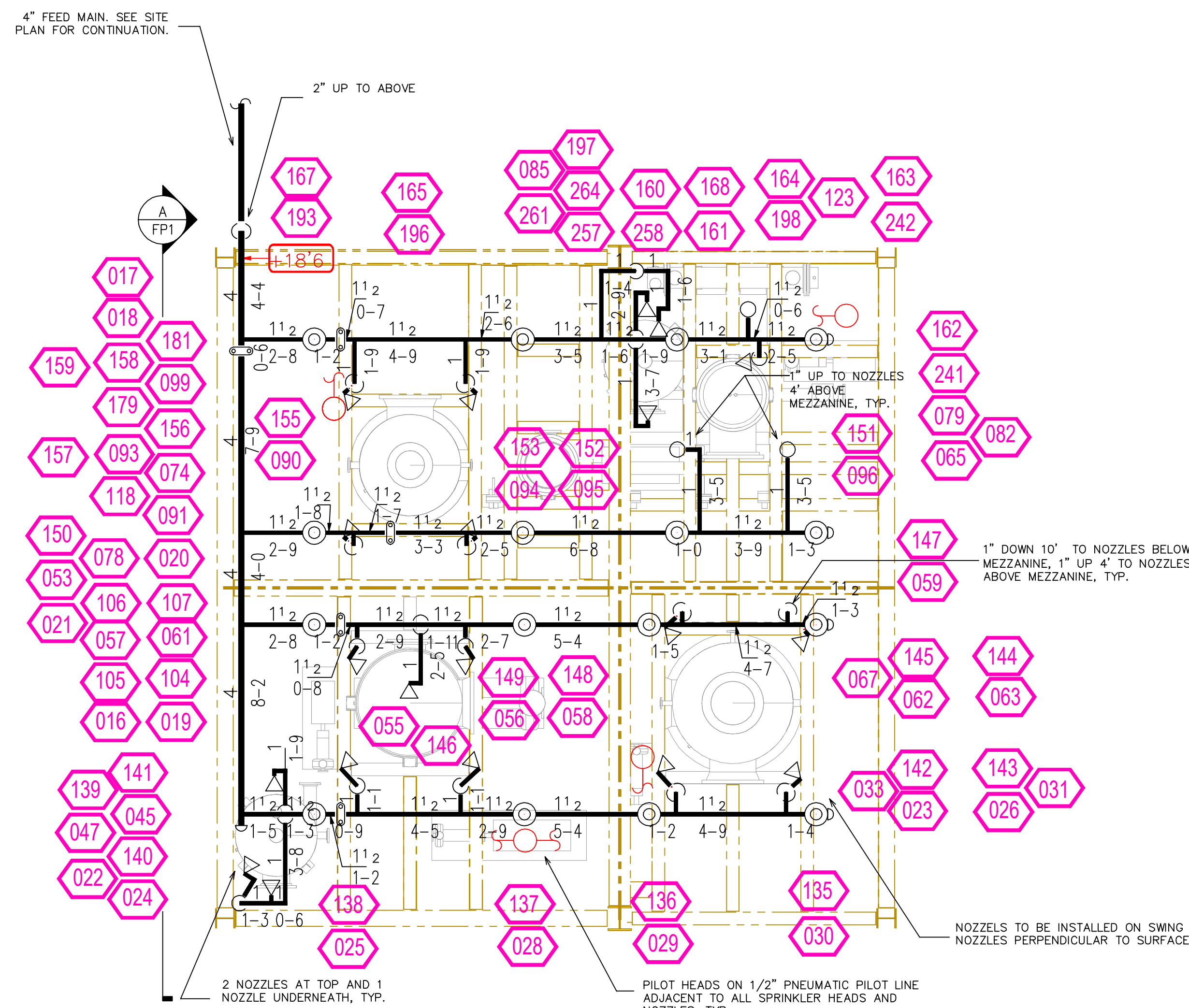
1" DOWN 5' TO NOZZLES BELOW MEZZANINE, 1" UP 10' TO NOZZLES ABOVE MEZZANINE, TYP.



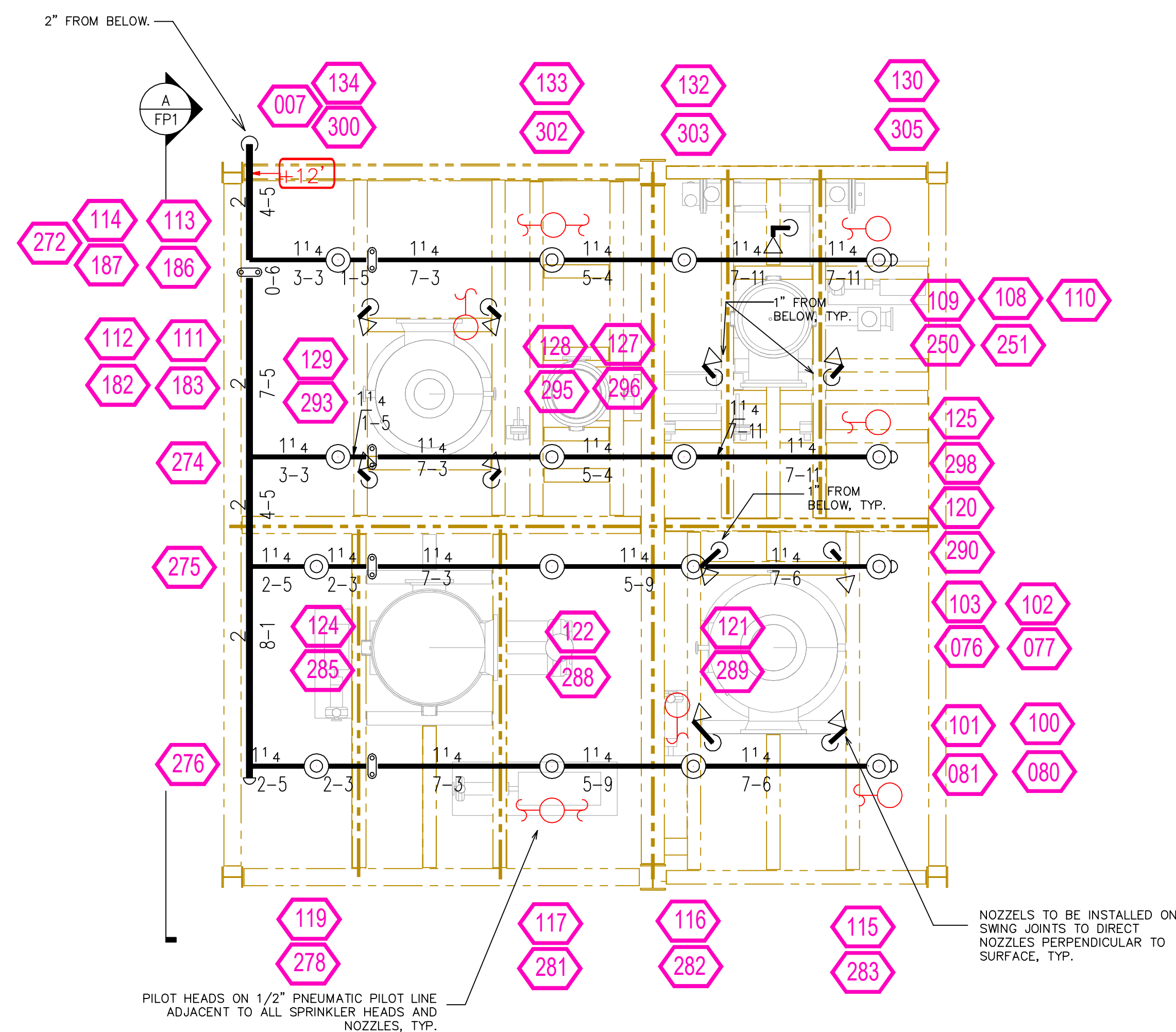
IG1 MIDDLE MEZZANINE
SCALE= 1/4" : 1'-0"



IG1 UPPER MEZZANINE
SCALE= 1/4" : 1'-0"



IG2 MIDDLE MEZZANINE
SCALE= 1/4" : 1'-0"



IG2 UPPER MEZZANINE
SCALE= 1/4" : 1'-0"

CALC PLACARD

Design Area #: 2 HAZARD: FM HC3
Zone: IG1 System Type: DELUGE
Location: ENTIRE SYSTEM

Flowing Outlets: 41
Density: 0.30 Remote Area: ENTIRE
Flow 1154.6 gpm @ -22.7 psi
Calculation Safety: 23.7 psi
Includes 0 gpm Hose allowance

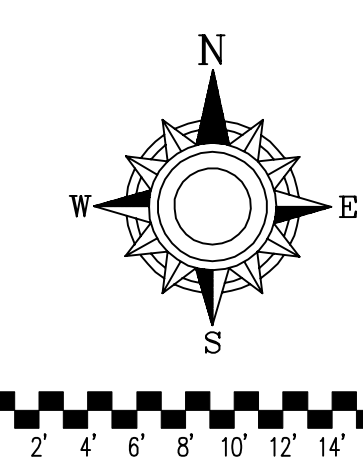
CALC PLACARD

Design Area #: 1 HAZARD: FM HC3
Zone: IG2 System Type: DELUGE
Location: ENTIRE SYSTEM

Flowing Outlets: 63
Density: 0.30 Remote Area: ENTIRE
Flow 1650 gpm @ -25.8 psi
Calculation Safety: 26.7 psi
Includes 0 gpm Hose allowance

IG1										
SYM	QTY	POSITION	FINISH	TEMP	K	RPY	SN	MFG.	MODEL#	NOTES
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@	14	SPRNG	BRASS	OPEN	4.20	1/2"	TY2131	TYCO	TY-FRB	SS UPRIGHT
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TOTAL 82 HEADS										
IG2										
SYM	QTY	POSITION	FINISH	TEMP	K	RPY	SN	MFG.	MODEL#	NOTES
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SPRINKLER HEAD LEGEND



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SPRINKLER LEGEND

SEE PLAN

APPROVAL STAMPS

FIRE PROTECTION PLAN

**CHIPPEWA VALLEY
ETHANOL**
270 20TH STREET NW
BENSON, MN 56215

Contract No.
C21-69
Drawing Date: 08/13/2021
Scale: 1/8" = 1'-0"
Drawn By: JH
Approval By: STATE FIRE MARSHAL DIV.
SHEET NO. **2 of 2**