GENERAL NOTES:

1. MATERIALS AND INSTALLATION SHALL COMPLY WITH APPLICABLE NFPA CODES (NFPA 13 2013 EDITION), STATE BUILDING CODE, LOCAL AUTHORITY HAVING JURISDICTION, AND INSURANCE UNDERWRITER'S REQUIREMENTS.

2. ALL MATERIALS AND EQUIPMENT SHALL BE NEW, UL LISTED FOR THE INTENDED USE AND SHALL BE INSTALLED IN FULL COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.

3. ALL NEW SPRINKLER PIPE 1" AND SMALLER IS SCHEDULE-40 BLACK STEEL WITH THREADED ENDS AND FITTINGS. ALL NEW SPRINKLER PIPE 1¼" AND LARGER IS SCHEDULE-10 BLACK STEEL WITH GROOVED ENDS AND FITTINGS.

4. SPRINKLER HEAD SPACING IS BASED ON THE NFPA STANDARDS FOR ORDINARY HAZARD OCCUPANCIES ALLOWING A MAXIMUM HEAD SPACING OF 130 S.F. PER HEAD.

5. LOCATIONS OF PIPING AS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD.

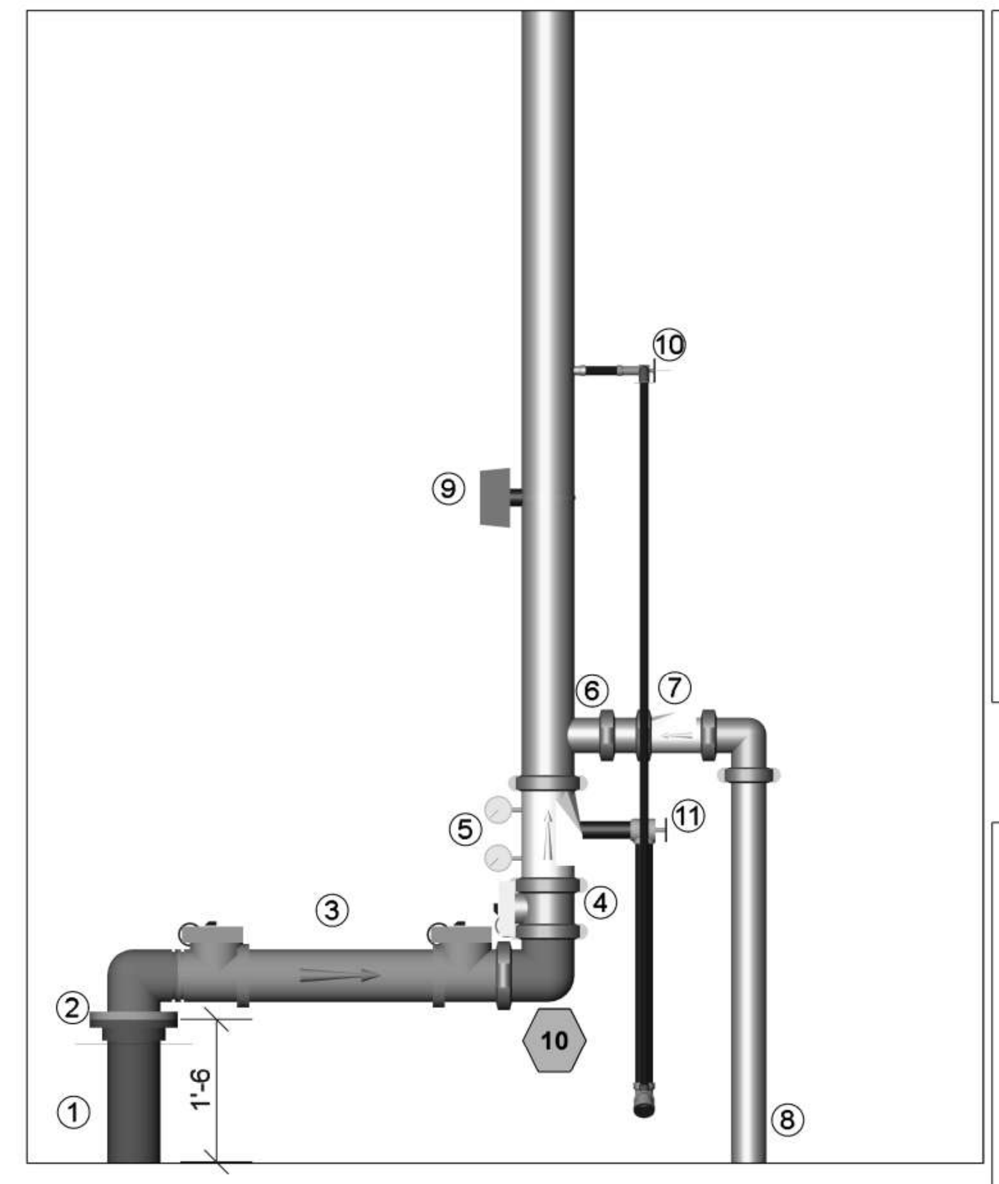
6. SCOPE OF WORK IS TO INSTALL A NEW ONE RISER SPRINKLER SYSTEM FOR NEW SHELL BUILDING.

7. THE WATER TEST INFORMATION HAS BEEN PROVIDED BY J&D SPRINKLER DATED 2/6/2024 INDICATES THE FOLLOWING...

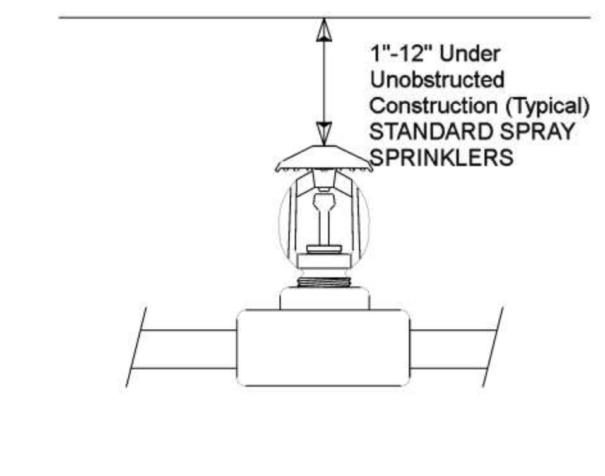
STATIC: 52 PSI
RESIDUAL: 36 PSI
FLOW: 840 GPM

SYMBOLS:

XX	DENOTES A HYDRAULIC CALCULATION POINT OF REFERENCE
	DENOTES A HYDRAULIC REMOTE AREA
	DENOTES NEW SPRINKLER PIPE
	DENOTES UNDERGROUND PIPE
-0'-0 FF	DENOTES PIPE CENTERLINE ELEVATION AFF
-0'-0 TS	DENOTES PIPE CENTERLINE BELOW TOP OF STEEL



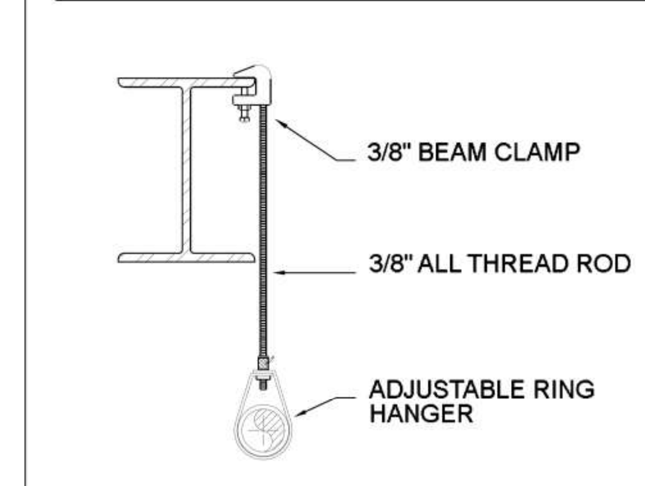
A RISER DETAIL
0½" = 1 Foot



TYP. UPRIGHT DETAIL
NO——SCALE

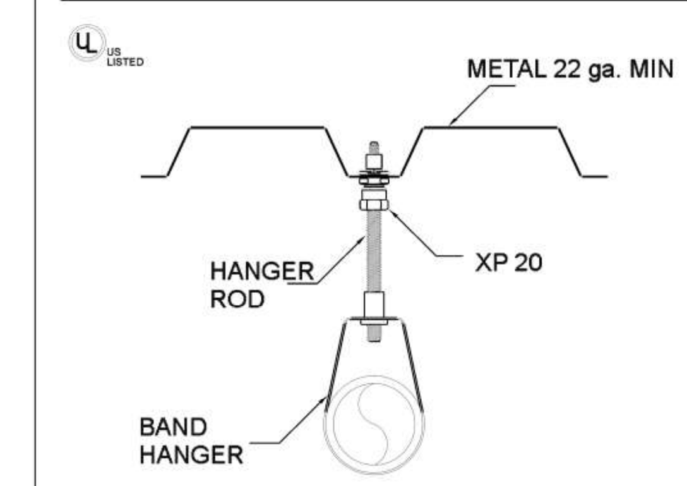
RISER LEGEND
1. 6" RUN-IN BY OTHERS
2. 6" GRV-SPLIT FLANGE
3. 6" WILKINS 375ASTDA BACKFLOW
4. 6" BUTTERFLY CONTROL VALVE W/TAMPER
5. 6" VIKING EZ RISER CHECK VALVE
6. 4" GRV OUTLET
7. 4" SWING CHECK VALVE
8. OUT TO YARD FDC
9. FLOW SWITCH
10. TEST & DRAIN ASSMBLY
11. 2" MAIN DRAIN

4" AND SMALLER PIPE DIAMETER



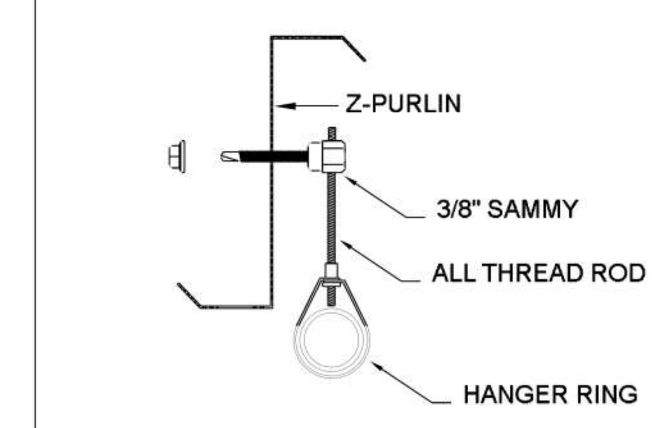
TOP BEAM CLAMP,ROD AND RING
NO——SCALE

2-1/2" & SMALLER PIPE DIAMETER



METAL DECK XP20 PIPE HANGER
NO——SCALE

4" AND SMALLER PIPE DIAMETER



METAL SAMMY SIDEWINDER
NO——SCALE

HANGER INSTALLATION REQUIREMENTS

MAXIMUM DISTANCE BETWEEN HANGERS

NOMINAL PIPE SIZE	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"
BLAZEMASTER CPVC	5' 6"	6' 0"	6' 6"	7' 0"	8' 0"	9' 0"	10' 0"	N/A	N/A
THREADABLE LIGHTWALL	N/A	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	N/A	N/A
STEEL PIPE (10/ 40)	N/A	12' 0"	12' 0"	15' 0"	15' 0"	15' 0"	15' 0"	15' 0"	15' 0"

100 PSI STATIC PRESSURE ON SYSTEM REQUIRES UP-LIFT RESTRAINT WITHIN 12 INCHES HORIZONTALLY OF HEAD FOR ARM-OVERS AND END OF BRANCH LINE

THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER ON THE LINE SHALL NOT EXCEED 36" FOR 1" PIPE, 48" FOR 1 1/4" PIPE AND 60" FOR 1 1/2" PIPE OR LARGER

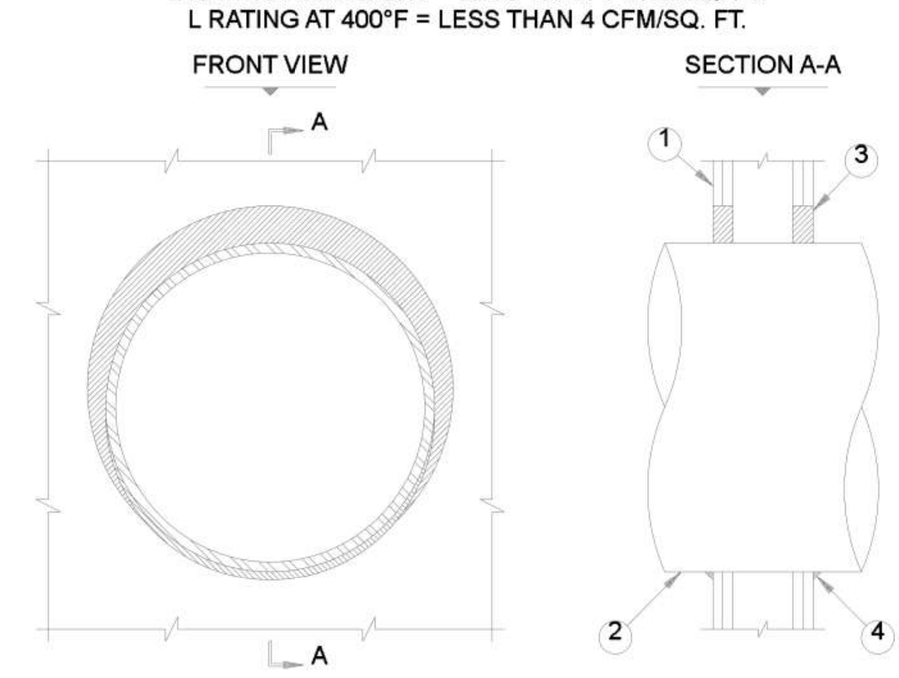
THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARMOVER TO A SPRINKLER, SPRINKLER DROP, OR SPRIG-UP SHALL NOT EXCEED 24"

TRAPEZE INSTALLATION REQUIREMENTS

SPAN OF TRAPEZE (Schedule 10)	NOMINAL PIPE SIZE SUPPORTED							
	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"
1 FT. 6 IN.	1"	1"	1"	1"	1"	1"	1-1/4"	1-1/4"
2 FT. 0 IN.	1"	1"	1"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/2"
2 FT. 6 IN.	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/2"	2"
3 FT. 0 IN.	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/2"	1-1/2"	1-1/2"	2"
4 FT. 0 IN.	1-1/2"	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2-1/2"
5 FT. 0 IN.	2"	2"	2"	2"	2"	2"	2-1/2"	2-1/2"
6 FT. 0 IN.	2"	2"	2"	2"	2"	2-1/2"	2-1/2"	3"
7 FT. 0 IN.	2"	2"	2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"
8 FT. 0 IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"
9 FT. O IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"	4"
10 FT. 0 IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"	3"	4"

U.L. SYSTEM NO. WL1054
METAL PIPE THROUGH GYPSUM WALL ASSEMBLY
F RATING = 1-HR. OR 2-HR.
T RATING = 0-HR.
L RATING AT AMBIENT = LESS THAN 1 CFM/SQ. FT.
L RATING AT 400°F = LESS THAN 4 CFM/SQ. FT.

WL1054G.050397



1. GYPSUM WALL ASSEMBLY (1-HR. OR 2-HR. FIRE-RATING)(2-HR. SHOWN).
2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :
   A. MAXIMUM 30" DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
   B. MAXIMUM 6" DIAMETER COPPER PIPE.
   C. MAXIMUM 6" DIAMETER STEEL CONDUIT.
   D. MAXIMUM 4" DIAMETER STEEL EMT.
3. HILTI FS-ONE HIGH PERFORMANCE INTUMESCENT FIRESTOP SEALANT :
   A. MINIMUM 5/8" DEPTH OF SEALANT FOR A 1-HR. FIRE-RATING.
   B. MINIMUM 1-1/4" DEPTH OF SEALANT FOR A 2-HR. FIRE-RATING.
4. MINIMUM 1/2" BEAD HILTI FS-ONE HIGH PERFORMANCE INTUMESCENT FIRESTOP SEALANT AT POINT OF CONTACT.

NOTES : 1. MAXIMUM DIAMETER OF OPENING = 32-1/4".
2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 2-1/4".

SEE HILTI FIRESTOP INSTALLATION MANUAL FOR ADDITIONAL INSTRUCTIONS
HILTI, INC. TULSA, OK 1-800-879-8000

Sprinkler Design Data

Project Name: HARBOR FREIGHT TOOLS		System: WET
Project Street Address: 46 SHRIJI LN, ERWIN NC		Sys. Sq. Ft.: 15,632
Suite: -	Floor#: -	Ceiling Height: VARIES
Designed By: J&D SPRINKLER CO	Phone: 919-553-2356	Total Bldg. Hgt.: 22'-0
Occupancy: MERCHANTILE	Hazard: ORDINARY GRP II	

Design Summary

	-	-	-	-	-
Design Method	CALCULATED	-	-	-	-
Design Area #	1	-	-	-	-
Location	-	-	-	-	-
Type of System	WET	-	-	-	-
Hazard Class	ORDINARY GRP II	-	-	-	-
Criteria From	NFPA13 2013 ED	-	-	-	-
Design Area	1500 S.F.	-	-	-	-
Sprinkler Spacing	130 S.F. MAX	-	-	-	-
Density	.20	-	-	-	-
K-factor	5.6	-	-	-	-
Hose Allowance	250 GPM	-	-	-	-
# Design Sprinklers	13	-	-	-	-
Special Application Spk.	-	-	-	-	-
Requirement @ BASE					
G.P.M. Req'd	329.08	-	-	-	-
P.S.I. Req'd	30.630	-	-	-	-
Requirement @ TEST					
GPM Required	579.08	-	-	-	-
PSI Required	41.467	-	-	-	-
Safety factor @ Test	2.493	-	-	-	-
Dry Sys. Volume (gal)	-	-	-	-	-

Water Supply Information

Tested by	J&D SPRINKLER CO	Date/Time	2/6/2024 @ 1:45PM	Pressure Hydrant	-
Hydrant Elevation	-	Flow Hydrant # 1	-	Flow Hydrant #2	-
Static (PSI)	52	Residual (PSI)	36	Flow (gpm)	840

Copy of Water Test Data Included with Calculation is required

HARBOR FREIGHT TOOLS
46 SHRIJI LN
ERWIN, NC

J & D SPRINKLER CO. INC.
315 W. MAIN ST., CLAYTON, NC 27520
PHONE: (919)553-2356 FAX: (919) 359-0622

SHEET TITLE: NOTES/DETAILS

DANA GRAHAM
NC # 16269FS CERT # 71075 NICET LEVEL III
JASON GRAHAM
NC # 16269FS CERT # 121842 NICET LEVEL III

REVISION:

NO.	DATE

Date: 4/24/2024

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

Job Number: F24084

Drawn By: MWL

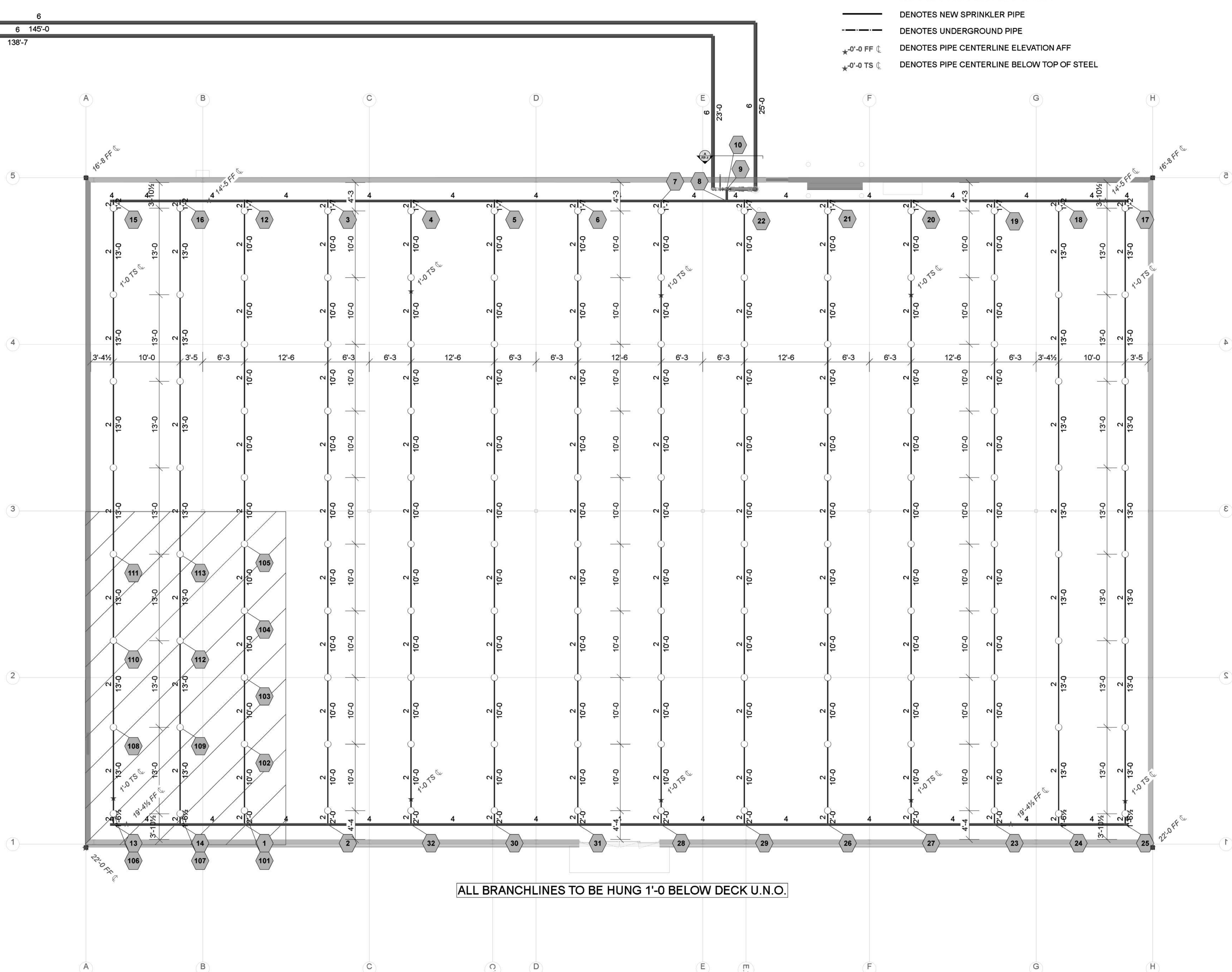
Sheet Number FP-1

Supply Flow Test Data	
Test Conducted By	J&D SPRINKLER CO
Test Witnessed By	FARRIN DUNN/TRAVIS CURRY
Date of Test	2/6/2024
Time of Test	1:45PM
Location	46 SHRIJI LN
Static Pressure	52.000
Residual Pressure:	36.000
Flow	840.00

Reviewed for Fire Code Compliance
Harnett County
Leslie Jackson
05/21/2024 10:46:33 AM

SYMBOLS:

- XX — DENOTES A HYDRAULIC CALCULATION POINT OF REFERENCE
- DENOTES A HYDRAULIC REMOTE AREA
- DENOTES NEW SPRINKLER PIPE
- DENOTES UNDERGROUND PIPE
- -0'-0 FF ℄ — DENOTES PIPE CENTERLINE ELEVATION AFF
- -0'-0 TS ℄ — DENOTES PIPE CENTERLINE BELOW TOP OF STEEL



Hydraulic Information	
Remote Area 1	
OCCUPANCY CLASSIFICATION	Ordinary Group II
DENSITY (gpm/ft²)	0.20 for 1500ft² (Actual 1502ft²)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	13
K-FACTOR	5.6
TOTAL WATER REQUIRED	579.08
TOTAL PRESSURE REQUIRED	41.467
BASE of RISER (gpm)	329.08
BASE of RISER (psi)	30.630
SAFETY MARGIN (psi)	+2.493 (5.7%)

Ordinary Group II•0.20gpm/ft² for 1502ft²

Sprinkler Legend

Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
○	Victaulic	V2704	FL-QR	132	5.6	Upright	½	Quick	Brass	200°F	
				Total = 132							

Plan North — PIPING PLAN 1/8"=1'-0

HARBOR FREIGHT TOOLS
46 SHRIJI LN
ERWIN, NC

J & D SPRINKLER CO. INC.
315 W. MAIN ST., CLAYTON, NC 27520
PHONE: (919)553-2356 FAX: (919) 359-0622

SHEET TITLE: PIPING PLAN

DANA GRAHAM
NC # 16269FS CERT # 71075 NICET LEVEL III
JASON GRAHAM
NC # 16269FS CERT # 121842 NICET LEVEL III

REVISION:

NO.	DATE

Date: 4/24/2024

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

Job Number: F24084

Drawn By: MWL

Sheet Number: FP-2