

Sprinkler Design Data

Project Name:	GRAIN DEALERS BREWERY	System:	DRY
Project Street Address:	ERWIN NC 28339	Sys. Sq. Ft.:	31405 +/-
Suite:	-	Floor#:	1
Designed By:	J&D SPRINKLER CO., INC.	Phone:	919.553.2356
Occupancy:	BREWERY	Hazard:	LIGHT HAZARD / OH GRP II
		Ceiling Height:	VARIES
		Total Bldg. Hgt.:	30'-0" +/-

Design Summary

	System #1	System #2	System #3	System #4	System #5
Design Method	CALCULATED	CALCULATED	-	-	-
Design Area #	A	B	-	-	-
Location	BREW HOUSE	BELOW MEZZANINE	-	-	-
Type of System	DRY	DRY	-	-	-
Hazard Class	OH GRP II	LIGHT	-	-	-
Criteria From	NFPA 13 (2013)	NFPA 13 (2013)	-	-	-
Design Area	1950 SF	460 SF ENTIRE AREA	-	-	-
Sprinkler Spacing	130 MAX	225 MAX	-	-	-
Density	0.20	.10	-	-	-
K-factor	5.6	5.6	-	-	-
Hose Allowance	250	100	-	-	-
# Design Sprinklers	32	8	-	-	-
Special Application Spk.	-	-	-	-	-
Requirement @ TEST					
G.P.M. Req'd	1361.72	278.35	-	-	-
P.S.I. Req'd	127.669	121.406	-	-	-
Requirement @ BASE					
GPM Required	1111.72	178.35	-	-	-
PSI Required	108.869	122.447	-	-	-
Safety factor @ Test	5.193	18.212	-	-	-
Dry Sys. Volume (gal)	490.14	490.14	-	-	-

FIRE PUMP TEST

Tested by	J&D SPRINKLER CO	Date/Time	05.23.2024	Pressure Hydrant	-
Hydrant Elevation	-	Flow Hydrant #1	-	Flow Hydrant #2	-
Static (PSI)	140	Residual (PSI)	125	Flow @ 100% (gpm)	2025

Copy of Water Test Data Included with Calculation is required

HANGER INSTALLATION REQUIREMENTS

NOMINAL PIPE SIZE	MAXIMUM DISTANCE BETWEEN HANGERS									
	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 SPRING-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"	1-1/2"	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. 0 IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"
10 FT. 0 IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"	3"	4"

GENERAL NOTES:

- MATERIALS AND INSTALLATION SHALL COMPLY WITH APPLICABLE NFPA CODES (2013), STATE BUILDING CODE, LOCAL AUTHORITY HAVING JURISDICTION, AND INSURANCE UNDERWRITER'S REQUIREMENTS.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW, UL LISTED FOR THE INTENDED USE AND SHALL BE INSTALLED IN FULL COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ALL EXISTING SPRINKLER PIPE 6" AND SMALLER IS SCHEDULE-40 BLACK STEEL WITH THREADED ENDS AND FITTINGS. ALL NEW SPRINKLER PIPE 1 1/2" AND LARGER IS SCHEDULE-10 BLACK STEEL WITH GROOVED ENDS AND FITTINGS.
- SPRINKLER HEAD SPACING IN BREWING AREA IS BASED ON THE NFPA 13 2013 STANDARDS FOR ORDINARY HAZARD GRP II OCCUPANCIES ALLOWING A MAXIMUM HEAD SPACING OF 130 S.F. PER HEAD. SPRINKLER HEAD SPACING IN SEATING AND OFFICE AREA IS BASED ON NFPA 13 2013 STANDARDS FOR LIGHT HAZARD OCCUPANCIES ALLOWING FOR A MAXIMUM HEAD SPACING OF 225 S.F. PER HEAD.
- LOCATIONS OF PIPING AS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD.
- THE FIRE PUMP INFORMATION HAS BEEN PROVIDED BY J&D SPRINKLER CO. DATED 05.23.2024 INDICATES THE FOLLOWING...

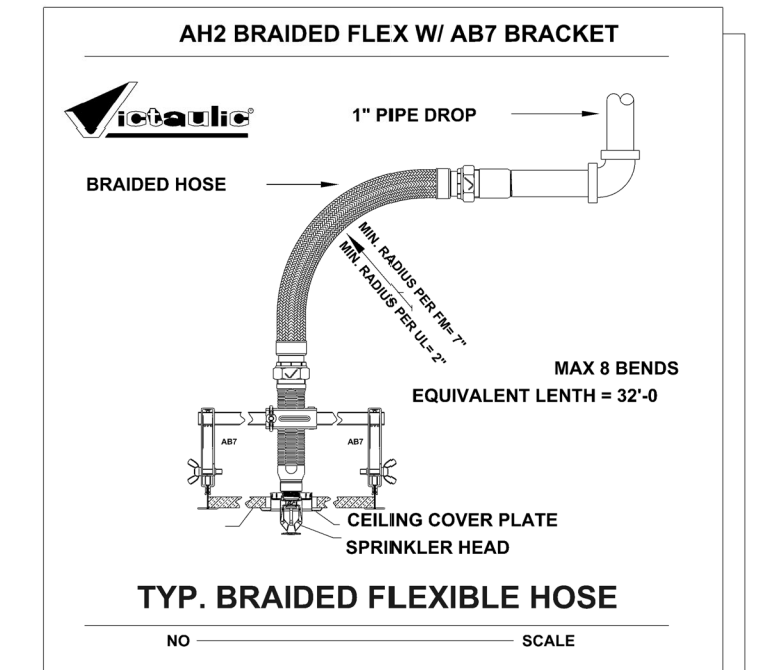
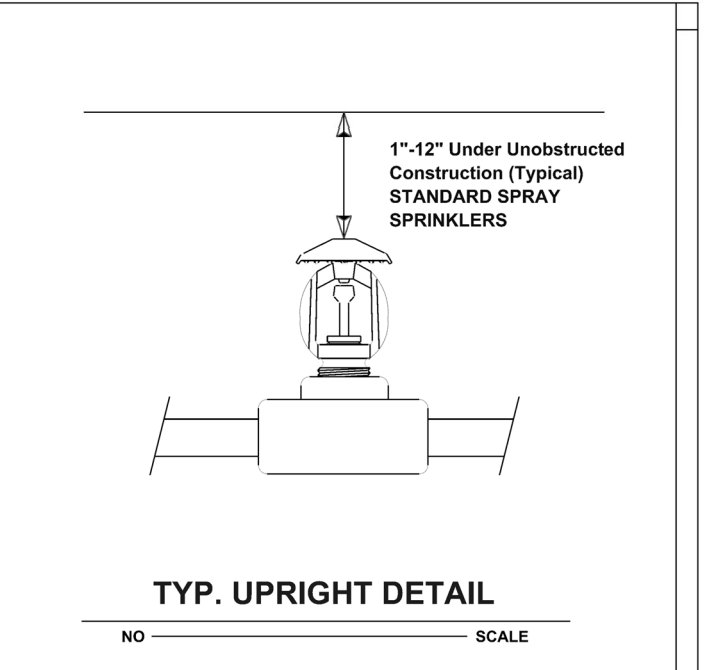
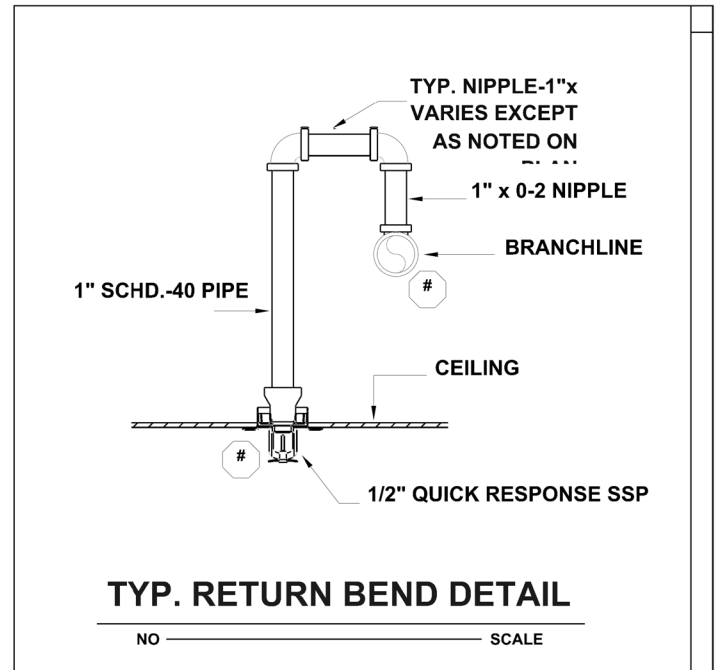
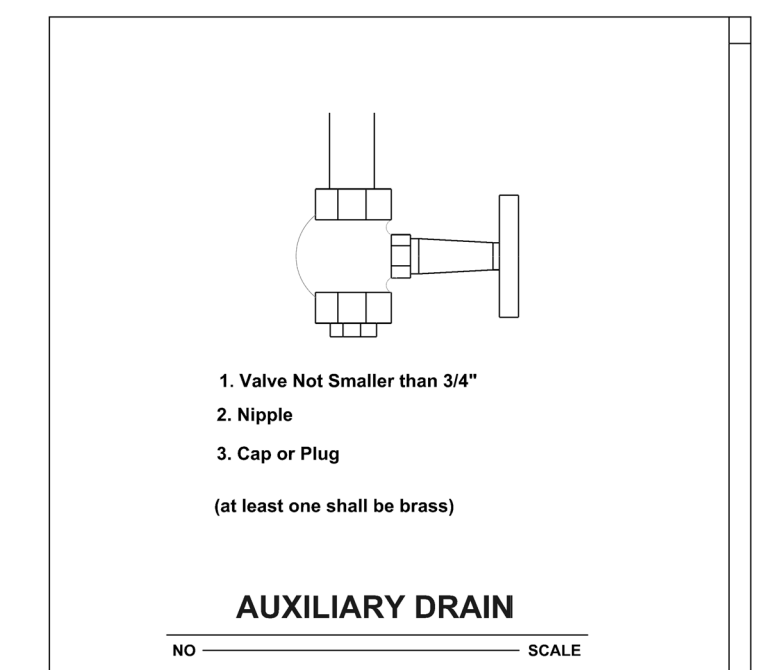
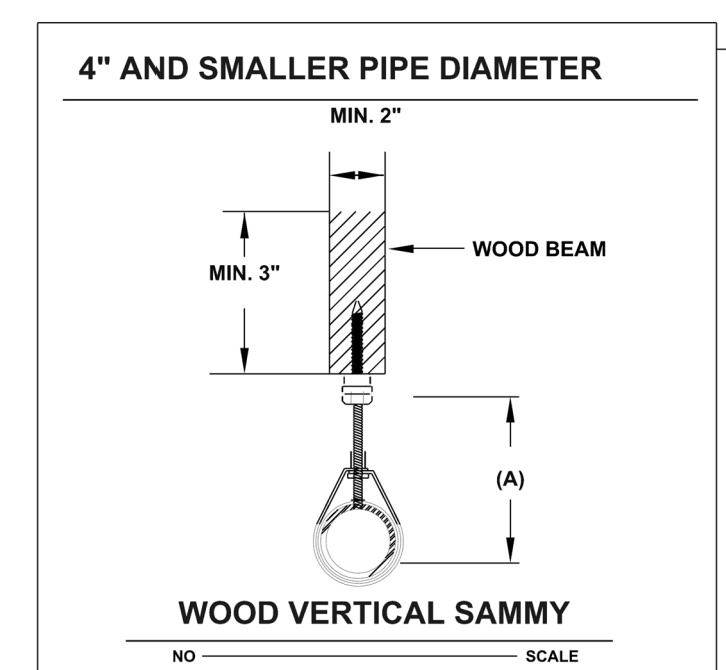
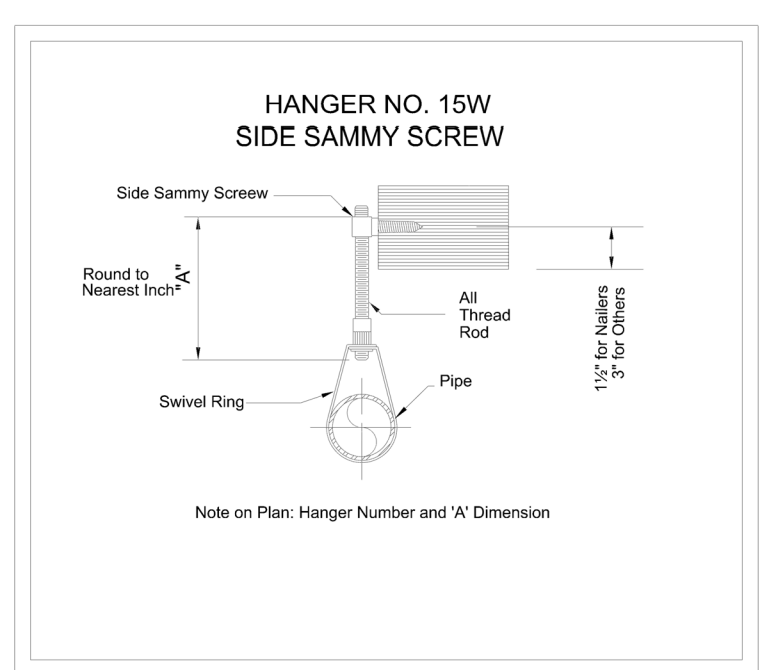
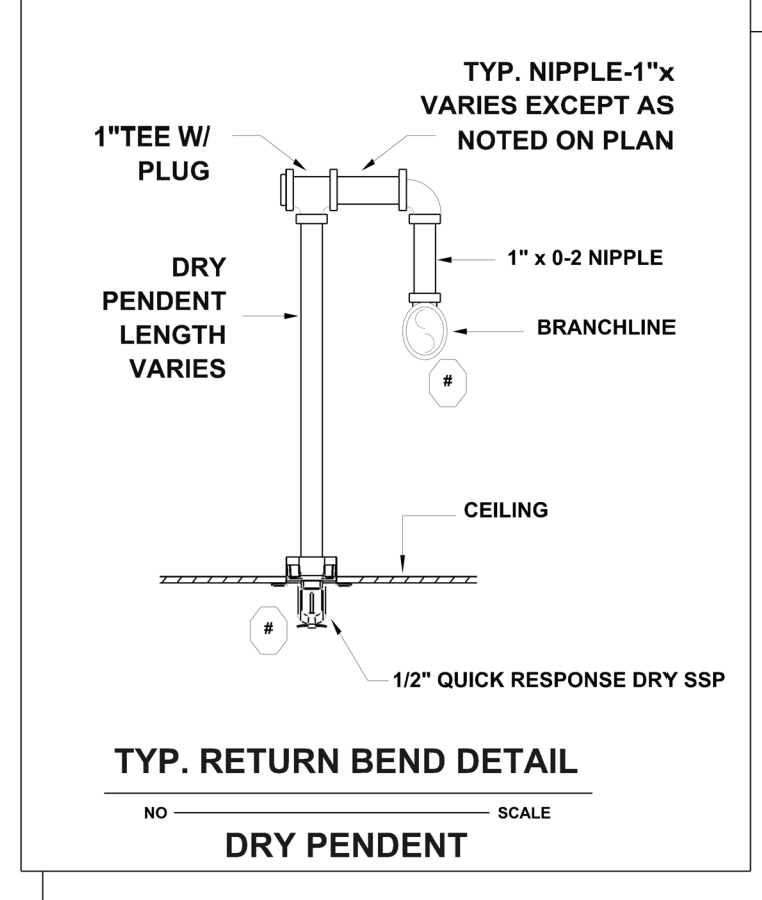
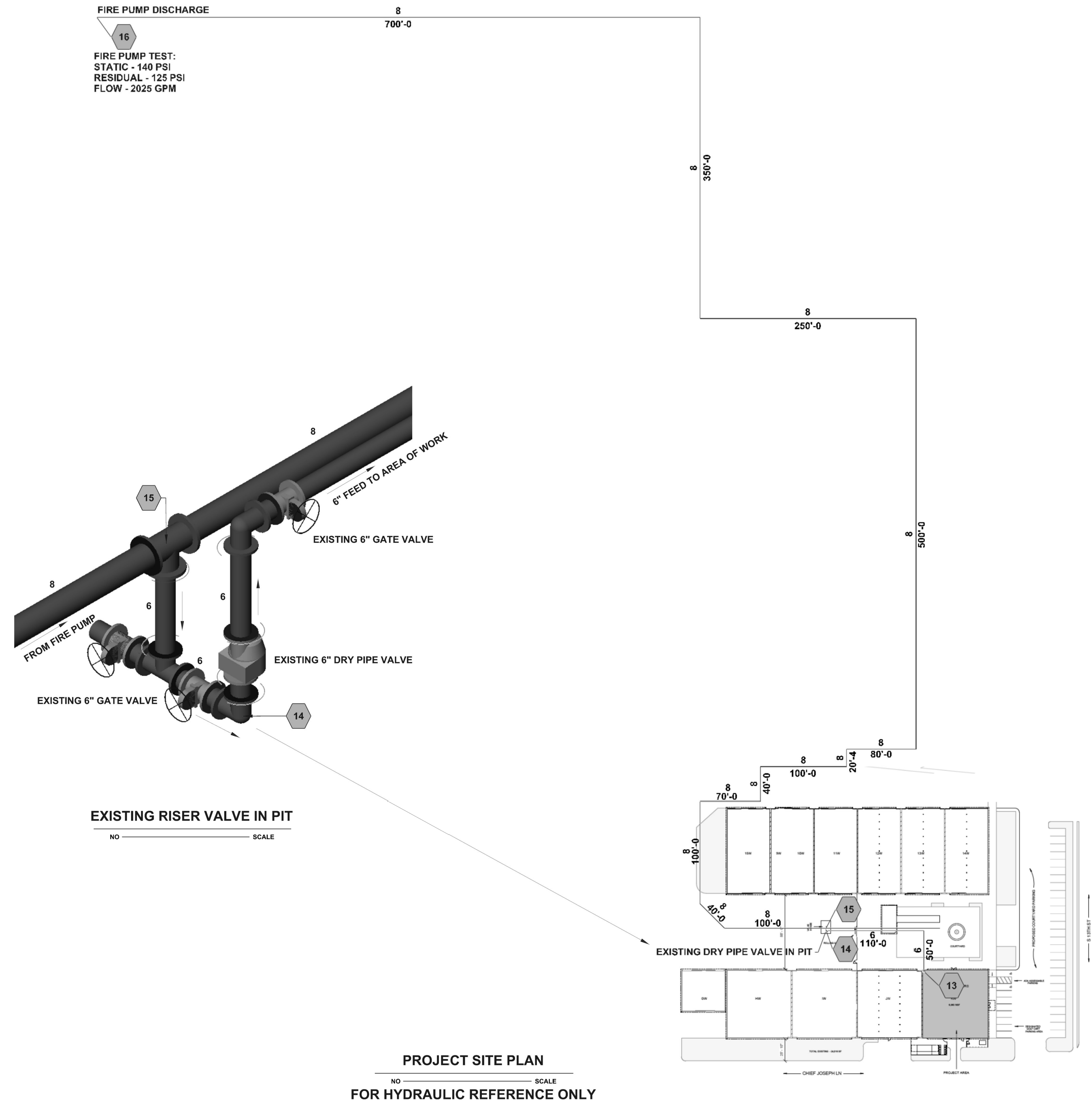
STATIC: 140 PSI
RESIDUAL: 125 PSI
FLOW: 2025 GPM

SECTION A-A

CLASSIFIED BY US	ANSI/UL 1479 (ASTM E814)	CANULC S115
F Rating - 1 and 2 Hr (See Items 1 and 3)	F Rating - 1 and 2 Hr (See Items 1 and 3)	F Rating - 1 and 2 Hr (See Items 1 and 3)
T Rating - 0 Hr	T Rating - 0 Hr	T Rating - 0 Hr
L Rating at Ambient - Less Than 1 CFMsq ft	L Rating at Ambient - Less Than 1 CFMsq ft	L Rating at Ambient - Less Than 1 CFMsq ft
L Rating at 400 F - Less Than 1 CFMsq ft	L Rating at 400 F - Less Than 1 CFMsq ft	L Rating at 400 F - Less Than 1 CFMsq ft

System No. W-L-1054

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GRAIN DEALERS BREWERY
100 N. 13TH ST.
BAY K
ERWIN, NC 28339

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

SHEET TITLE:
NOTES & DETAILS

This fire sprinkler planning and design drawing has been prepared by J & D Sprinkler Co. as a licensed fire sprinkler contractor under Article 2 of Chapter 87 of the General Statutes of the State of North Carolina. The design of this system is the responsibility of J & D Sprinkler Co. and no other work performed in reliance on this drawing pursuant to G.S. § 55B-15(a)(2). Installation work or any other work performed by any other person or entity in reliance on this drawing or any copy thereof is strictly prohibited.

c. 2024 J & D Sprinkler Co., Inc.

J&D SPRINKLER CO., INC.
DANA GRAHAM

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

NC # 16269FS CERT # 12184Z
NICET LEVEL III

NO.	TITLE	DATE

Date: 12.04.2024

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

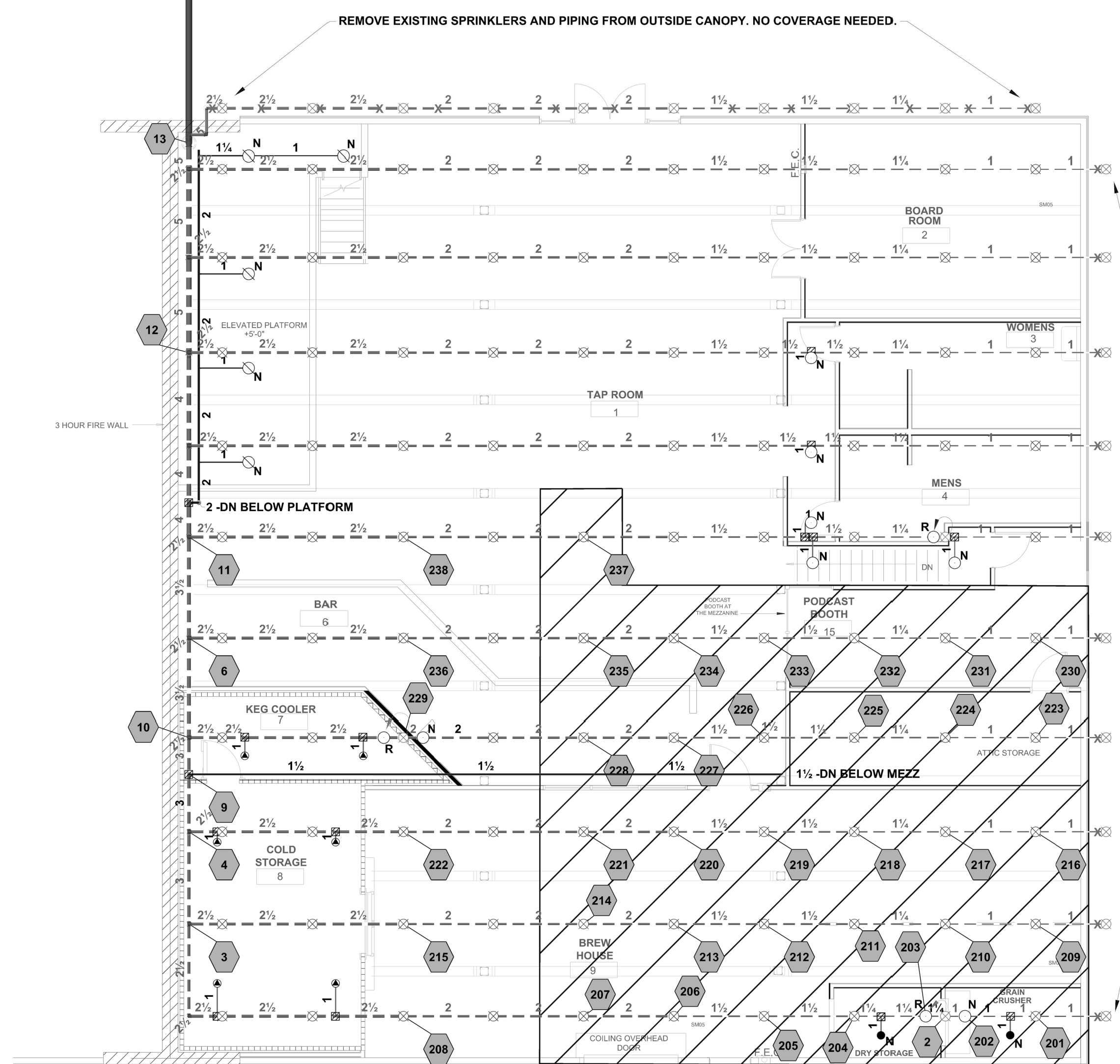
Job Number: BW24247

Drawn By: BKB

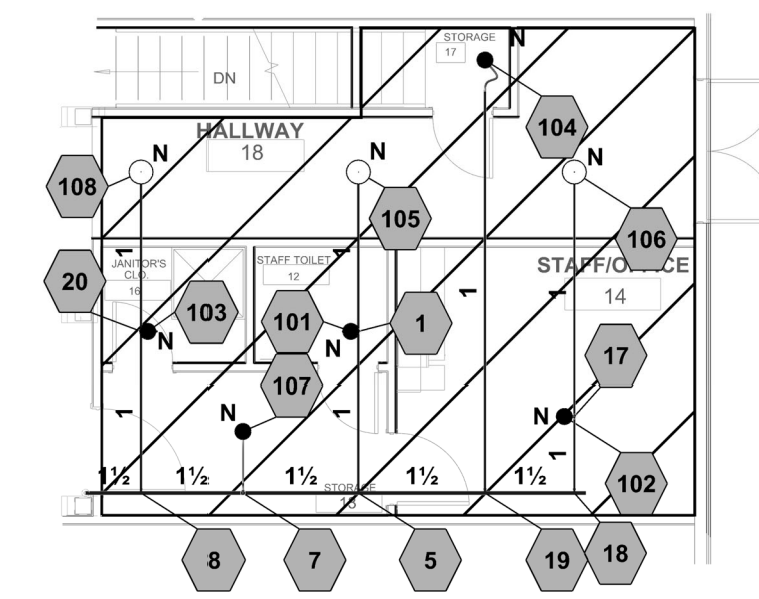
Sheet Number: FP1 OF 3

Symbol	Manufacturer	SIN	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
●	Victaulic	V5606	7	5.6	Concealed Pendent	1/2	Quick	Brass	155°F	
▲	Victaulic	V3606	6	5.6	Pendent	1	Quick	Chrome	200°F	DRY PENDENT FOR COOLERS
○	Victaulic	V2703	5	5.6	Upright	1/2	Standard	Brass	155°F	HEADS UNDER PLATFORM
○	Victaulic	V2703	3	5.6	Upright	1/2	Standard	Brass	155°F	
○	Victaulic	V2703	10	5.6	Upright	1/2	Standard	Brass	155°F	
⊗	Existing		120	5.6	Upright	1/2	Standard	Brass	155°F	EXISTING
			Total = 151							

PIPING LEGEND	
EXISTING PIPE	---
NEW PIPE	—
RELOCATED UPRIGHT SPRINKLER	○
NEW UPRIGHT SPRINKLER	○
NEW CONCEALED PENDENT	●
EXISTING UPRIGHT SPRINKLER	⊗
PLUG OUTLET	PLUG X
MECHANICAL TEE	⊕



REMOVE EXISTING SPRINKLERS AND PIPING FROM OUTSIDE CANOPY. NO COVERAGE NEEDED.



Hydraulic Information	
Remote Area B	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft ²)	0.10 for 1500ft ² (Actual 460ft ²)
TOTAL HOSE STREAMS	100.00
DRY CAPACITY	490.14gal
TOTAL HEADS FLOWING	8
K-FACTOR	5.6
TOTAL WATER REQUIRED	278.35
TOTAL PRESSURE REQUIRED	121.406
BASE OF RISER (gpm)	178.35
BASE OF RISER (psi)	122.447
SAFETY MARGIN (psi)	+18.212 (13.0%)

Light Hazard-0.10gpm/ft² for 460ft²

Hydraulic Information	
Remote Area A	
OCCUPANCY CLASSIFICATION	Ordinary Group II
DENSITY (gpm/ft ²)	0.20 for 1500ft ² (Actual 1951ft ²)
TOTAL HOSE STREAMS	250.00
DRY CAPACITY	490.14gal
TOTAL HEADS FLOWING	32
K-FACTOR	5.6
TOTAL WATER REQUIRED	1361.72
TOTAL PRESSURE REQUIRED	127.609
BASE OF RISER (gpm)	1111.72
BASE OF RISER (psi)	108.869
SAFETY MARGIN (psi)	+5.193 (3.9%)

Ordinary Group II-0.20gpm/ft² for 1951ft²

Plan North **BELOW MEZZANINE PIPING PLAN**
1/8"=1'-0"

Plan North **PIPING PLAN**
1/8"=1'-0"

GRAIN DEALERS BREWERY
100 N. 13TH ST.
BAY K
ERWIN, NC 28839

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

SHEET TITLE:
PIPING PLAN

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DANA GRAHAM

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

NC # 16269FS CERT # 121842
NICET LEVEL III

REVISION:		
NO.	TITLE	DATE

Date:
12.04.2024

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

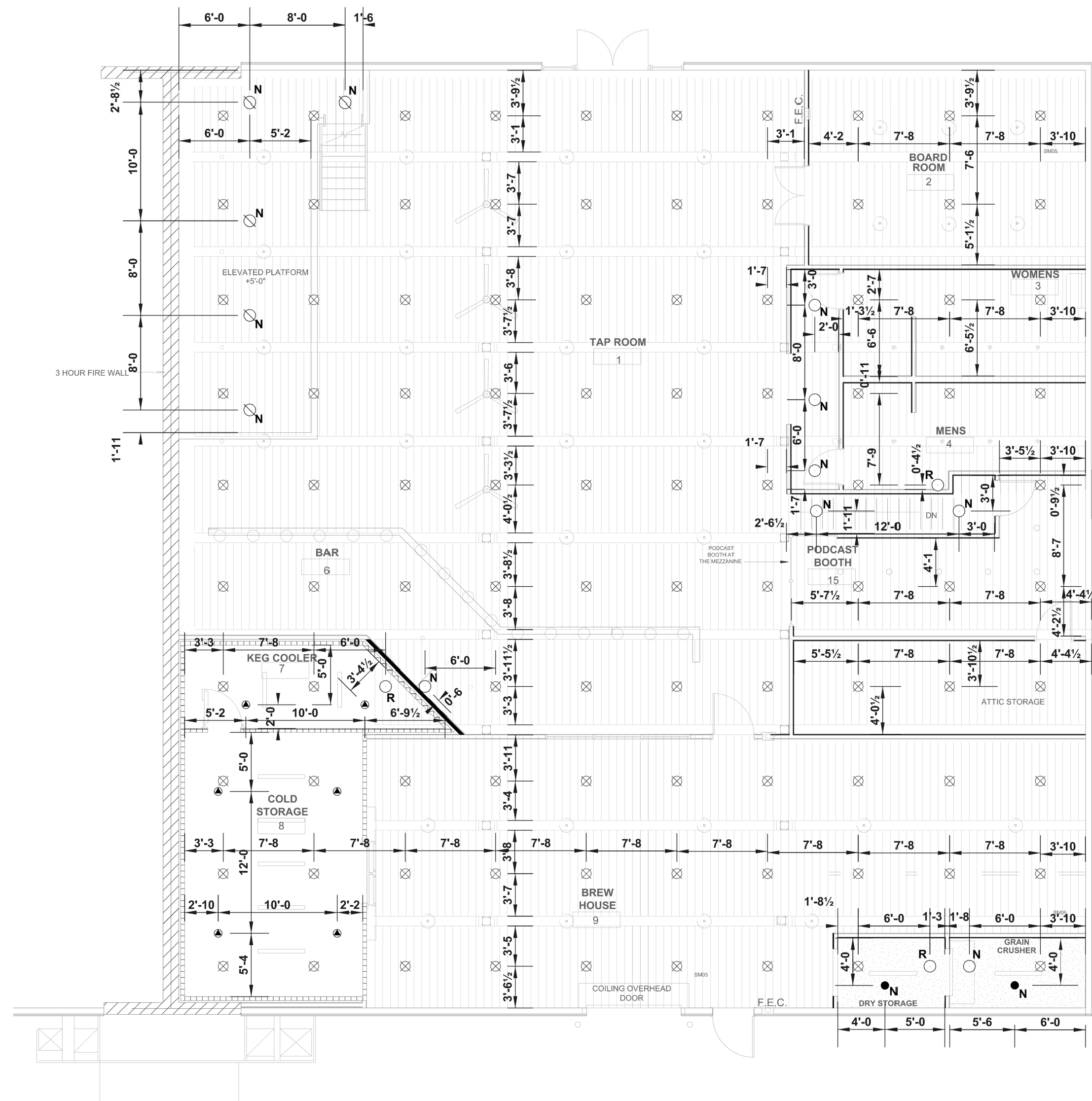
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BW24247

Drawn By:
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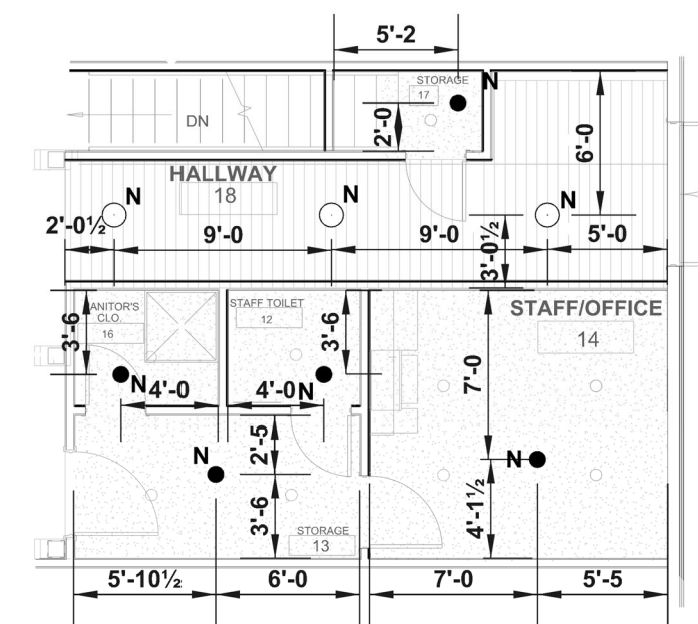
Sheet Number
FP2 OF 3

Sprinkler Legend										
Symbol	Manufacturer	SIN	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
●	Victaulic	V5606	7	5.6	Concealed Pendent	1/2	Quick	Brass	155°F	
▲	Victaulic	V3606	6	5.6	Pendent	1	Quick	Chrome	200°F	DRY PENDENT FOR COOLERS
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			Total = 151							

PIPING LEGEND	
EXISTING PIPE	---
NEW PIPE	—
RELOCATED UPRIGHT SPRINKLER	○
NEW UPRIGHT SPRINKLER	○
NEW CONCEALED PENDENT	●
EXISTING UPRIGHT SPRINKLER	⊗
PLUG OUTLET	PLUG X
MECHANICAL TEE	⊕



Plan North
CEILING PLAN
1/8"=1'-0"



Plan North
BELOW MEZZANINE CEILING PLAN
1/8"=1'-0"

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SHEET TITLE:
CEILING PLAN

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J&D SPRINKLER CO., INC.
Fire Protection, L.L.C. 2018
DANA GRAHAM

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

NC # 16269FS CERT # 121842
NICET LEVEL III

REVISION:

NO.	TITLE	DATE

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FP3 OF 3