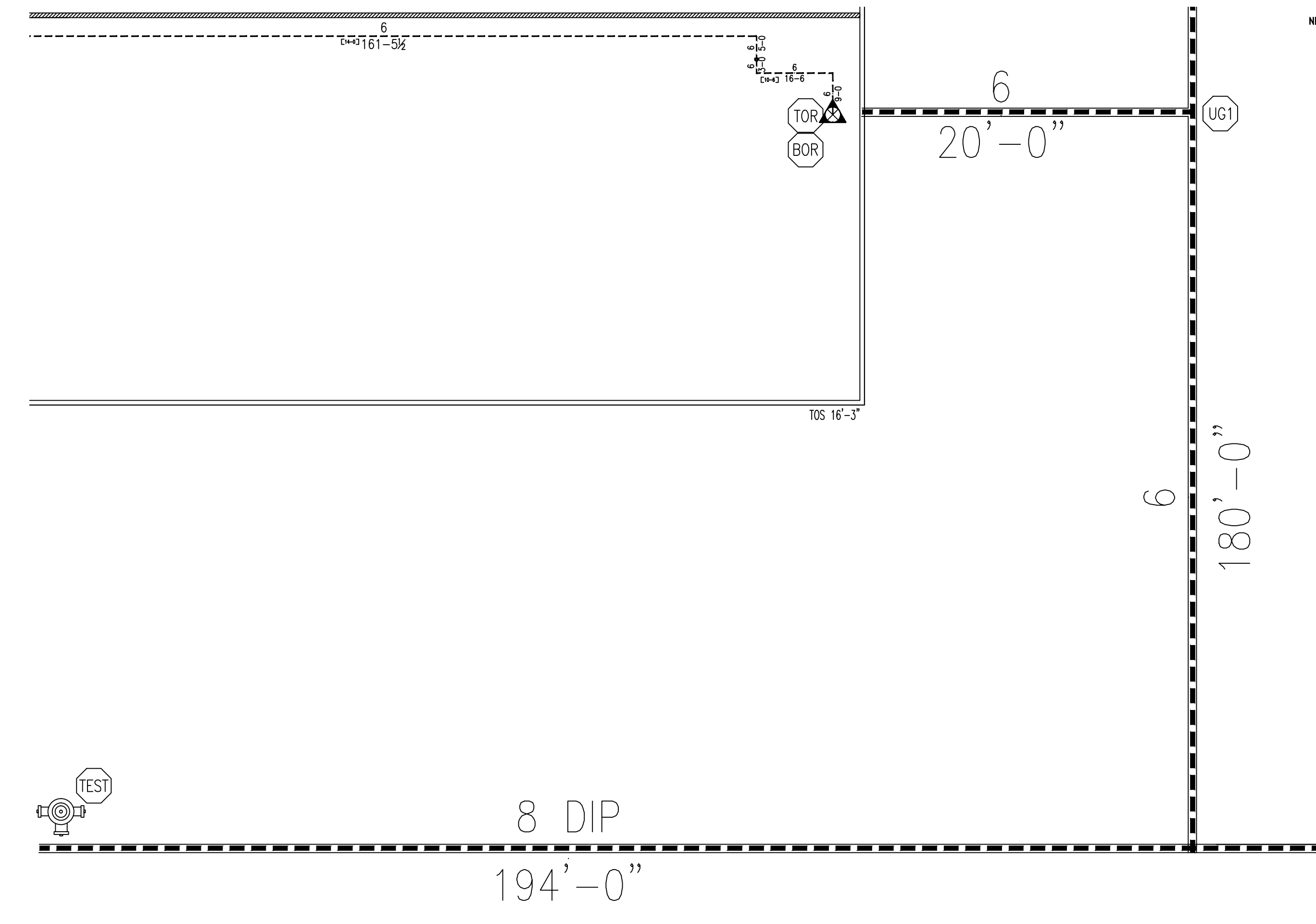


# GENERAL NOTES:

- MATERIALS AND INSTALLATION SHALL COMPLY WITH APPLICABLE NFPA CODES, STATE BUILDING CODE, AND LOCAL AUTHORITY HAVING JURISDICTION.
- 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 NEW AND EXISTING SPRINKLER PIPE 1" AND SMALLER IS SCHEDULE-40 BLACK STEEL WITH THREADED ENDS AND FITTINGS. ALL NEW AND EXISTING SPRINKLER PIPE 1 1/4" AND LARGER IS SCHEDULE-40 BLACK STEEL WITH THREADED ENDS AND FITTINGS.
- LOCATIONS OF PIPING AS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD.
- THE TENANT SHALL REMOVE ANY COMBUSTIBLE MATERIALS LOCATED ABOVE THE EXISTING CEILINGS.
- THE SPRINKLER CONTRACTOR SHALL NOT BE RESPONSIBLE FOR ANY PRE-EXISTING CODE VIOLATIONS PERTAINING TO THE EXISTING SPRINKLER SYSTEM.
- THE WATER TEST INFORMATION HAS BEEN PROVIDED BY CSCO DATED 4/2/20 INDICATES THE FOLLOWING...  
 STATIC: 68 PSI  
 RESIDUAL: 36 PSI  
 FLOW: 1504 GPM
- SCOPE OF WORK: PROJECT SCOPE OF WORK IS TO DEMO THE EXISTING OSY AND PIPE TO ADD NEW 6" DERRINGER 50X RPDA BACKFLOW PREVENTER AT RISER, EXISTING ALARM VALVE AND FLOW SWITCH TO REMAIN.

STATIC: 68 PSI  
 RESIDUAL: 36 PSI  
 FLOW: 1504 GPM

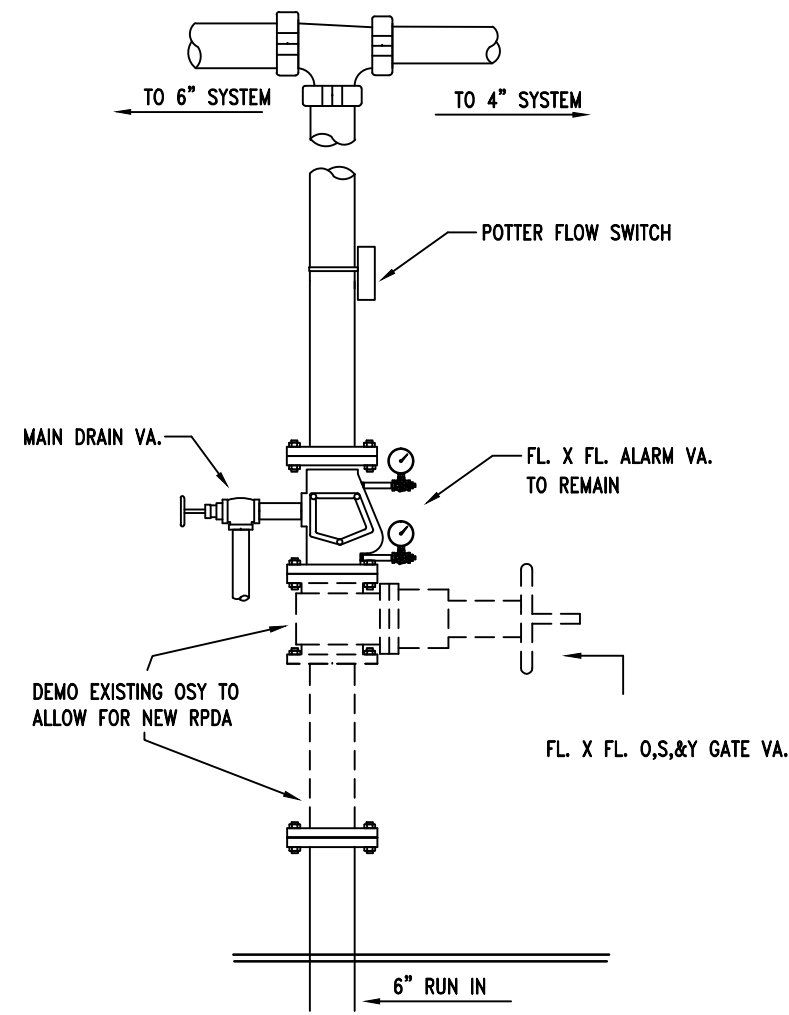
8. SCOPE OF WORK: PROJECT SCOPE OF WORK IS TO DEMO THE EXISTING OSY AND PIPE TO ADD NEW 6" DERRINGER 50X RPDA BACKFLOW PREVENTER AT RISER, EXISTING ALARM VALVE AND FLOW SWITCH TO REMAIN.



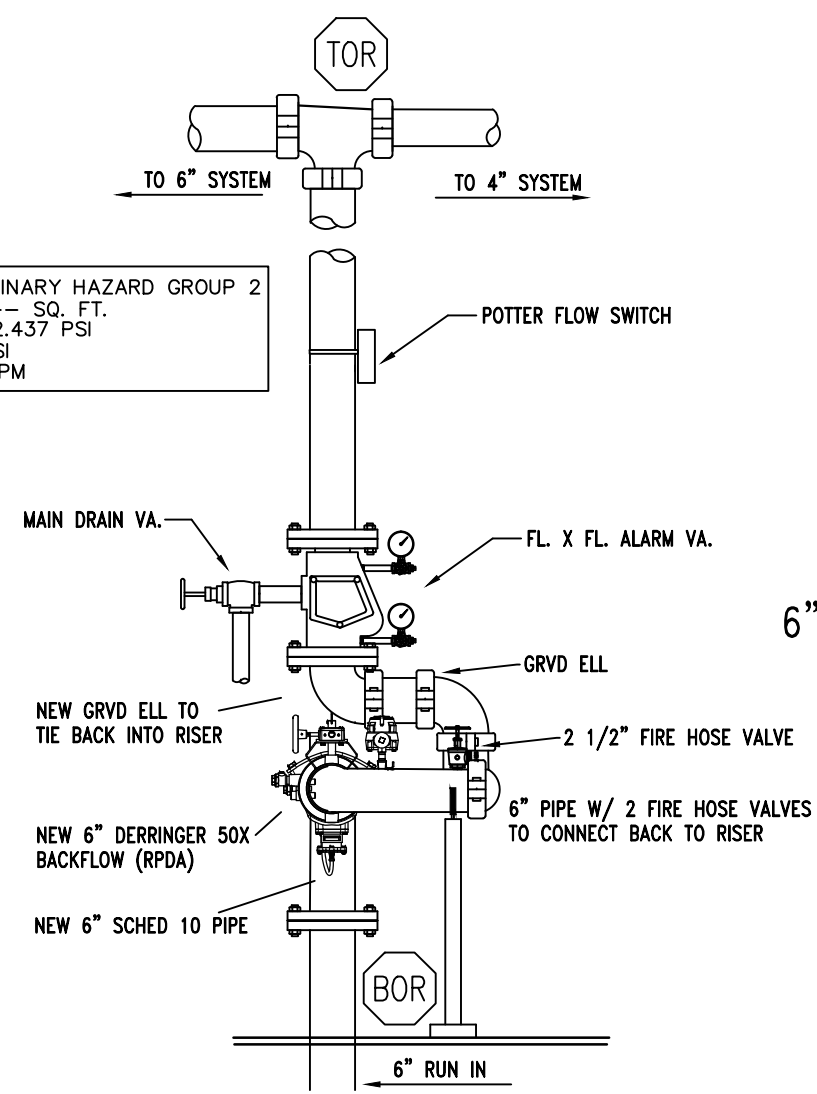
## SYMBOLS:

- (XXX) DENOTES A HYDRAULIC CALCULATION POINT OF REFERENCE
- DENOTES A HYDRAULIC REMOTE AREA
- DENOTES EXISTING SPRINKLER PIPE
- DENOTES NEW SPRINKLER PIPE
- DENOTES UNDERGROUND PIPE
- ▲ DENOTES THE RISER LOCATION
- ⊗ DENOTES THE STANDPIPE LOCATION
- ⊕ DENOTES A 2 1/2" FIRE HOSE VA.
- N DENOTES A NEW SPRINKLER
- R DENOTES A RELOCATED SPRINKLER
- ⊞ DENOTES A NEW JAC/MECH TEE
- PLUG ⊗ DENOTES A PLUGGED SPRINKLER
- ⊞ DENOTES AN EXISTING PLUGGED OUTLET
- [ X-X ] DENOTES PIPE CENTERLINE ELEVATION AFF
- ⊕ DENOTES A FIRE HYDRANT

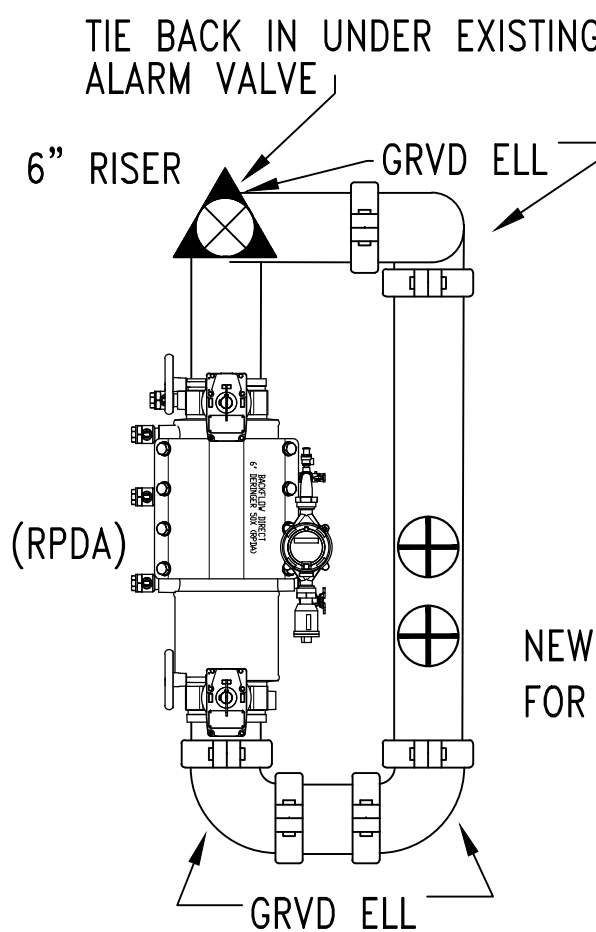
1 EXIST. RISER DEMO DETAIL  
 1/8" = 1'-0"



REMOTE AREA # 1 - ORDINARY HAZARD GROUP 2  
 DENSITY: .20  
 AREA: -- SQ. FT.  
 FLOW: 850/000 GPM @ 42.437 PSI  
 SAFETY MARGIN: 14.43 PSI  
 HOSE ALLOWANCE: 850 GPM



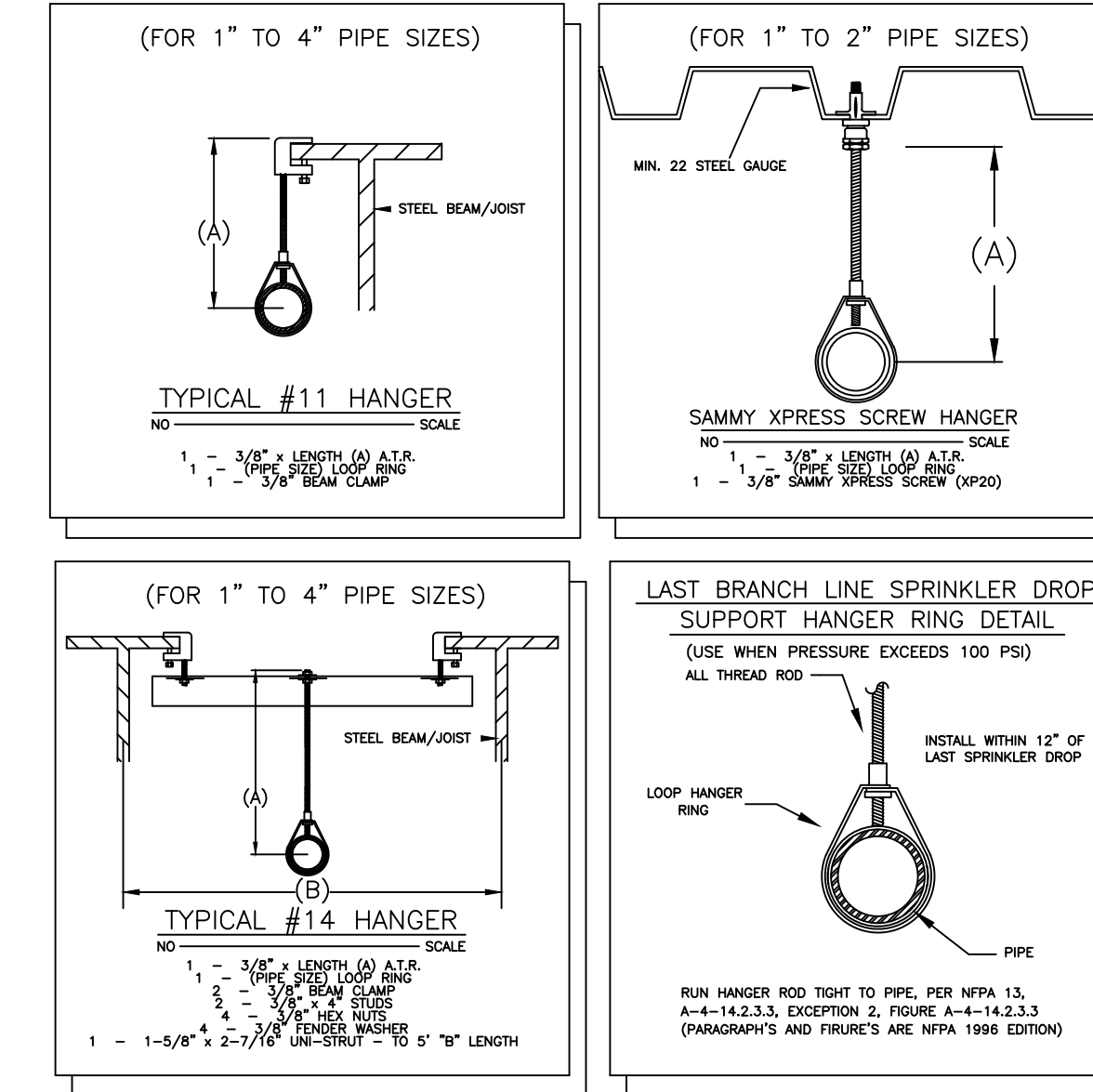
2 NEW RISER DETAIL  
 1/8" = 1'-0"



3 NEW RISER DETAIL (TOP)  
 1/4" = 1'-0"

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-LEFT 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"



## Sprinkler Design Data

Project Name: LANGLEY GYM BACKFLOW REPLACEMENT	System: 1
Project Street Address: 174 WEST SMITHFIELD RD	Sys. Sq. Ft.: --
Suite: --	Floor #: 1
Designed By: CRAWFORD SPRINKLER	Phone: 919-828-9346
Occupancy: WAREHOUSE	Hazard: OH2
	Total Bldg. Hgt.: --

## Design Summary

Design Method	PIPE SCHEDULE	System #	System #	System #	System #	System #
Design Area #	--	--	--	--	--	--
Location	RISER	--	--	--	--	--
Type of System	WET	--	--	--	--	--
Hazard Class	OH2	--	--	--	--	--
Criteria From	NFPA 13 (2016)	--	--	--	--	--
Design Area	--	--	--	--	--	--
Sprinkler Spacing	--	--	--	--	--	--
Density	.20	--	--	--	--	--
K-factor	850 @ 20 PSI	--	--	--	--	--
Hose Allowance	--	--	--	--	--	--
# Design Sprinklers	--	--	--	--	--	--
Special Application Spk.	--	--	--	--	--	--
Requirement @ BOR						
G.P.M. Req'd	849,999	--	--	--	--	--
P.S.I. Req'd	38.678	--	--	--	--	--
Requirement @ TEST						
GPM Required	850,000	--	--	--	--	--
PSI Required	42.437	--	--	--	--	--
Safety factor @ TEST	14.43	--	--	--	--	--
Dry Sys. Volume (gal)	--	--	--	--	--	--

## Water Supply Information

Tested by	CSCO	Date/Time	4/2/20	Pressure Hydrant	--
Hydrant Elevation	--	Flow Hydrant # 1	--	Flow Hydrant # 2	--
Static (PSI)	68	Residual (PSI)	36	Flow (gpm)	1504

Copy of Water Test Data included with Calculation is required

## Fire Pump Data

Rated G.P.M.	--	Rated Pressure	--	Horsepower	--
Diesel/Electric	--	Churn Pressure	--	Style of pump	--
Combined Discharge	--	150% Flow (suction)	--	150% Flow (gpm)	--

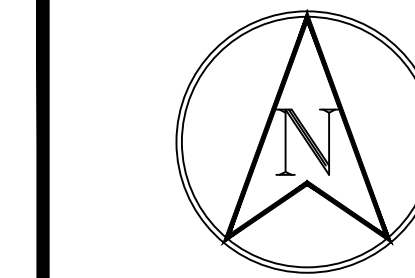
Certified pump curve required

If Storage is Greater than 12 Feet Complete Commodity Storage Design Information									
Commodity Description	Storage Height	Storage Type (Rack, Bin, Pile)	Clearance	Wet/Dry System	Minimum Design	Final Design	Design	Minimum Design	Final Design
Stable/Unstable	Open/Close	Array	Clearance	Wet/Dry System	Minimum Design	Final Design	Design	Minimum Design	Final Design
Figure #	Curve #	Density Area	Height Factor	Clear Factor	Array Factor	Dry Penalty	Design	Minimum Design	Final Design
		Initial							
		Sec'd							
		-dary							
Is system compliant with Chapter 23 (FPC) -- Is storage area layout, rack, and pile plan included? --									

1 SITE PLAN  
 1" = 20'-0"

## HEAD LEGEND

SYM	CNT	NAME	METAL	TEMP	K	NPT	MFG.	MODEL#	MIN SPACING	MAX SPACING	RESPONSE	ESCU
⊙	--	EXIST UPRIGHT	BRASS	155	5.60	1/2"	--	--	6'-0"	15'-0"	STD RESP	FUS. LINK



Important: In locations subject to freezing conditions, it is the owner's responsibility to provide adequate heat throughout wet pipe sprinkler system areas and enclosures for dry-pipe, deluge and other types of valves controlling water supplies to sprinkler systems

By Others	By CSCO	Item
X		City Water Connection
X		Valve House or Pit
N/A		Connection to Plant Air
N/A		Air Compressor
N/A		Air Moisture Separator
X		Electric Alarm
X		Electric Wire
X		Hose Cabinet and Equipment
X		Painting
X		Sleeves
X		Cutting Hole and Patch
X		Trench and Backfill
N/A		Regrading
X		Underground Piping

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 PHONE: 919-828-9346 • FAX: 919-828-9346

LANGLEY GYM BACKFLOW REPLACEMENT  
 174 WEST SMITHFIELD STREET  
 ANGLIER, NORTH CAROLINA

UNDERWRITERS:  
 INDEX NO.  
 REVISIONS:

DESIGN CRITERIA	
SYSTEM TYPE	WET
SYSTEM DESIGN	PIPE SCHEDULED
DESIGN DENSITY	--
MAX HEAD CVRG	150ft
HOSE ALLOWANCE	--
DRAWN BY: MFC	DATE: 4/19/20
CHECK BY:	DATE:
SCALE: AS NOTED	
CONTRACT NO: 52019002	
FILE NO:	
OWG NO: FPI01	
N.C. License No. 29772 FS Cls	