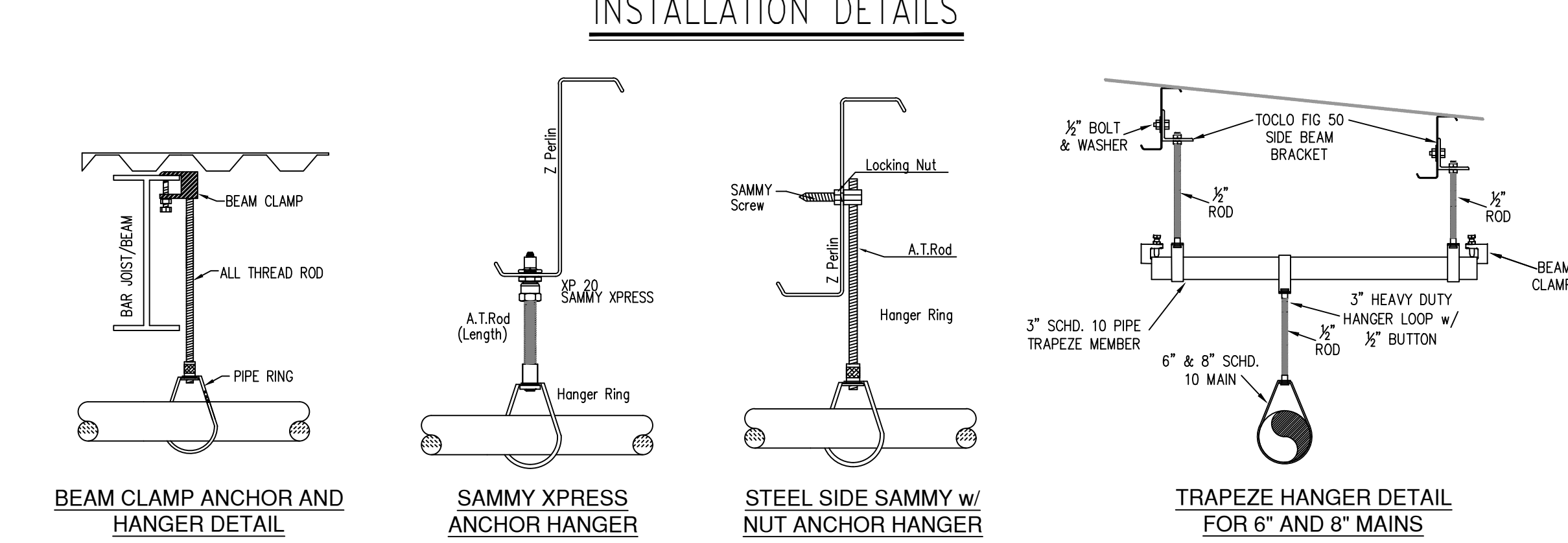
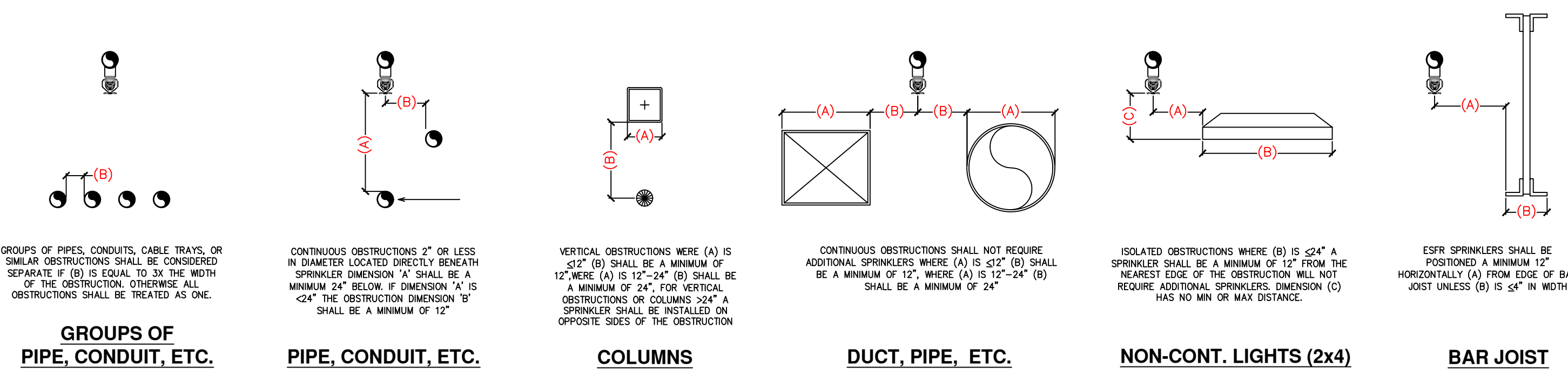


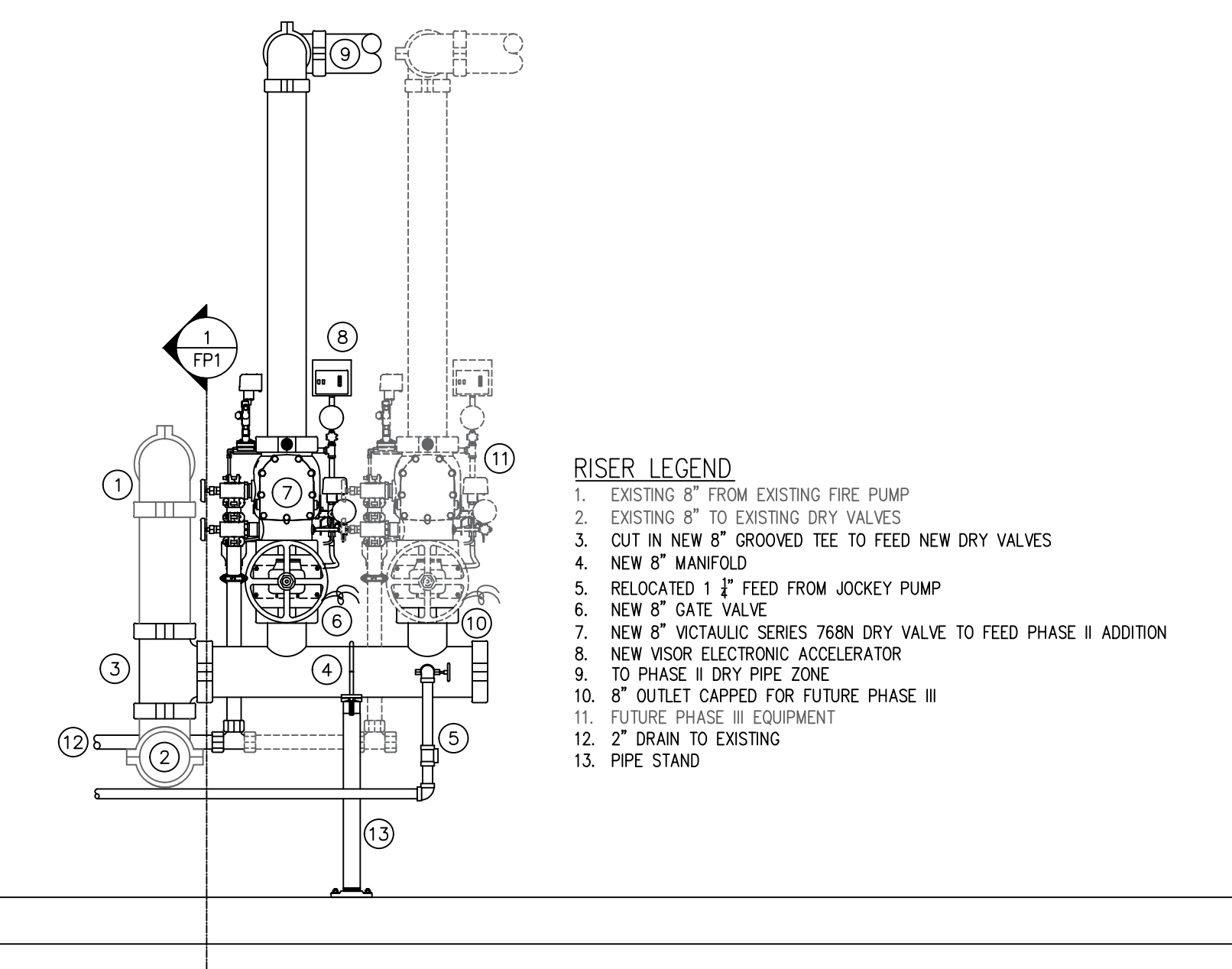
**GENERAL NOTES**

- MINNESOTA STATE BUILDING CODE (2015)
  - OCCUPANCY: S-2 - STORAGE
  - TYPE OF CONSTRUCTION: II-B
  - SPRINKLER AREAS (APPROXIMATE - SEE ARCHITECTURAL PLANS FOR ACTUAL)
    - EXISTING = 61,770 S.F.
    - ADDITION = 34,004 S.F.
    - TOTAL = 95,774 S.F.
- INSTALLATION STANDARDS: SPRINKLER SYSTEM DESIGNED AND INSTALLED PER NFPA-13 (2016)
- SPRINKLER PIPE TYPES:
  - DRY PIPE
- DESIGN CRITERIA
  - ALL AREAS OF THE ADDITION WILL BE DESIGNED AS A DRY PIPE SYSTEM AND WILL UTILIZE THE LP-46 SPECIFIC APPLICATION SPRINKLER. DESIGN WILL BE PER THE SPRINKLER LISTING, NFPA 13 AND FM GLOBAL DATA SHEET 2.0. HIGH TEMP SPRINKLERS WILL BE UTILIZED THROUGHOUT THE ADDITION AS REQUIRED
  - ALL AREAS OF THE ADDITION ARE DESIGNED FOR THE STORAGE OF CLASS I - III COMMODITIES ON OPEN FRAME RACKING. THE DESIGN CRITERIA IS SPLIT INTO TWO AREAS AS FOLLOWS:
    - ALL AREAS WITH A ROOF HEIGHT OF OVER 30' WILL BE HYDRAULICALLY CALCULATED TO MAINTAIN A MINIMUM END HEAD PRESSURE OF 15PSI WITH 24 HEADS FLOWING. MAXIMUM HEAD SPACING FOR AREAS WITH A ROOF HEIGHT OVER 30' WILL BE 10'-0"
    - ALL AREAS WITH A ROOF HEIGHT LOWER THAN 30' WILL BE HYDRAULICALLY CALCULATED TO MAINTAIN A MINIMUM END HEAD PRESSURE OF 10PSI WITH 25 HEADS FLOWING. MAXIMUM HEAD SPACING FOR AREAS WITH A ROOF HEIGHT UNDER 30' WILL BE 12'-0"
  - WATER DELIVERY CALCULATIONS WILL BE PROVIDED BUT PER LOCAL A.H.J. MINIMUM WATER DELIVERY TIMES OF 25 SECONDS OR LESS FOR AREAS WITH A ROOF HEIGHT OVER 30' CAN BE IGNORED.
- NOTES:
  - ALL MATERIAL TO BE NEW AND MEET U.L. STANDARDS
  - HANGERS TO BE INSTALLED IN ACCORDANCE WITH NFPA 13 (2016) - SEE PLAN FOR HANGING REQUIREMENTS
  - DRY SYSTEM PIPE SIZE INSTALLATION:
    - SPRINKLER MAINS TO BE 1/2" PER 10 FEET
    - SPRINKLER BRANCH LINES TO BE 3/4" PER 10 FEET
    - 4.4.1. DRY SYSTEM CAPACITY
    - 4.4.1. 3.578 GAL.
- SYMBOLS USED ON DRAWINGS:
  - (ELEV) PIPE ELEVATION A.F.F.
  - (-ELEV) PIPE ELEVATION BELOW B.O.D.
  - (RHM) ROOM HAZARD CLASSIFICATION (ALL ROOMS ARE CONSIDERED LIGHT HAZARD UNLESS NOTED)
  - (H) HYDRAULIC CALCULATION JUNCTION POINT
- SCOPE OF WORK:
  - INSTALL ONE DRY PIPE SYSTEM TO PROTECT ALL AREAS OF THE ADDITION. DRY PIPE SYSTEM WILL HAVE AN ELECTRONIC ACCELERATOR AND BE WIRED (BY OTHERS) TO PRE-START THE FIRE PUMP PRIOR TO DRY VALVE ACTIVATION
  - ALL AREAS OF THE BUILDING TO BE INSTALLED AND COVERED IN ACCORDANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PER NFPA 13 (2016)

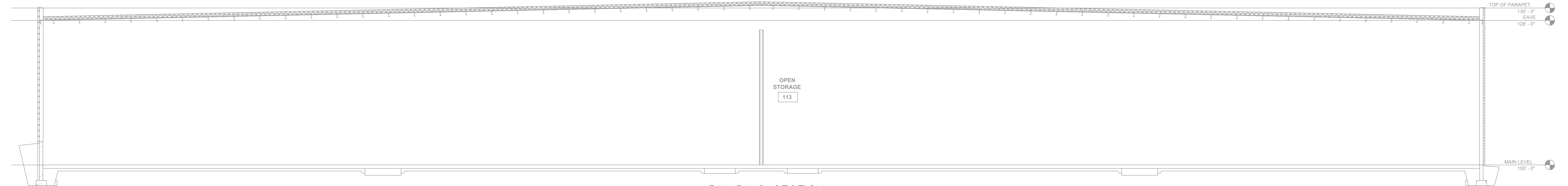


SYM	CNT	POSITION	FINISH	TEMP	K	INPT	SIN	MFG	MODEL#
○	390	UPRR	BRASS	286	25.20	1"		v48603	vic

**HEAD LEGEND**

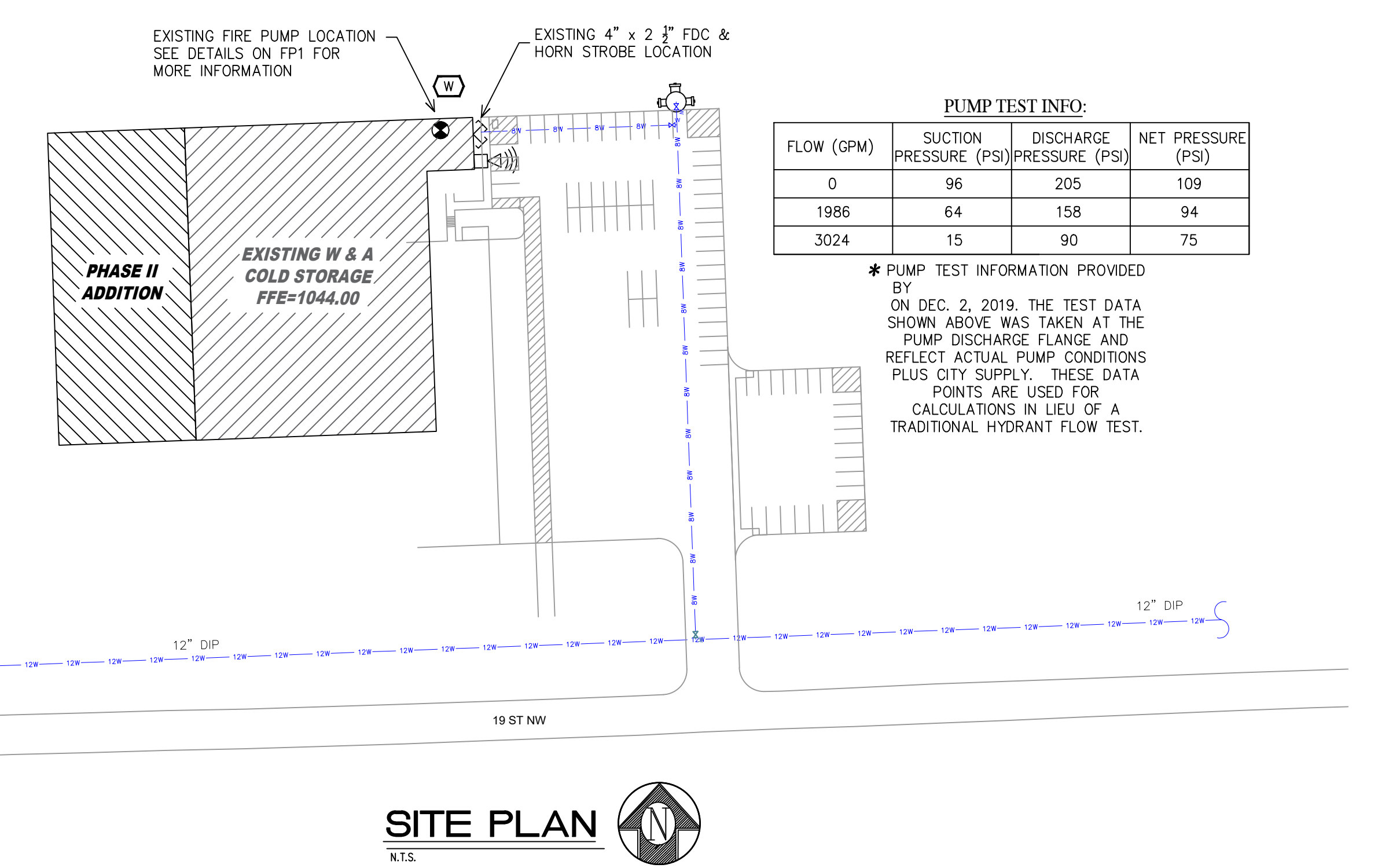


**2 NEW RISER DETAILS**  
SCALE: 1/2" = 1'-0"



- 8" FLANGED UNDERGROUND (BY OTHERS)
- 8"x8"x8" FLANGED TEE
- 13-1/2"x2" THREADED REDUCING COMPANION FLANGE (BY OTHERS)
- 8" GROOVED OS&Y GATE VALVE (N.O.)
- POTTER OS&YU-2 TAMPER SWITCH (WIRED BY OTHERS)
- 8" AMES DOUBLE CHECK DETECTOR ASSEMBLY WITH BY-PASS WATER METER
- 8" SCHEDULE 10 PIPE GALVANIZED FOR
- 8" GROOVED VICTALIC STANDARD TURN 90 ELL
- 8" GROOVED VICTALIC FIRELOCK TEE
- 8" GROOVED VICTALIC VC-FLANGE ADAPTER STYLE 741 (CLASS 150)
- CONCRETE PAD (BY OTHERS)
- NEW AURORA ELECTRIC FIRE PUMP (RATED 90 PSI @ 2,000 GPM)
- AIR RELIEF VALVE (PIPED TO FLOOR DRAIN)
- 8" GROOVED VICTALIC FIRELOCK 717 CHECK VALVE
- 1/2" NPT OUTLET FOR FIRE PUMP CONTROLLER SENSING LINE
- 8" GROOVED VICTALIC FIRELOCK SERIES 707C BUTTERFLY VALVE (N.C.) WITH TAMPER SWITCH (WIRED BY OTHERS)
- 8" GROOVED VICTALIC STANDARD TURN 90 ELL
- 8" GROOVED VICTALIC FIRELOCK SERIES 705 BUTTERFLY VALVE (N.O.) WITH TAMPER SWITCH (WIRED BY OTHERS)
- 1-1/4" THREADED BALL VALVE (N.O.)
- 1-1/4" SCHEDULE 40 PIPE
- 4-5/8"x1-1/4" THREADED COMPANION FLANGE
- 1-1/4" FLANGED AURORA PWM-11 JOCKEY PUMP (RATED 105 PS @ 110 GPM)
- 1-1/4" THREADED CHECK VALVE
- 1/2" NPT OUTLET FOR JOCKEY PUMP CONTROLLER SENSING LINE
- 4" SCHEDULE 10 PIPE
- 4" GROOVED VICTALIC FIRELOCK 90 ELL
- 4" GROOVED VICTALIC FIRELOCK 717 CHECK VALVE
- 4" GROOVED VICTALIC NO.10-DR ELL
- 1/2" THREADED BALL DRIP VALVE WITH 1/2" THRD MI 90 ELL, 1/2" X CLOSE THRD NIPPLE
- 4" PLASTIC FDC PLATE "AUTO SPKR"
- 4" 1/2"x2" 1/2" BRASS SINGLE CLAPPER FIRE DEPARTMENT CONNECTION WITH PLASTIC CAPS
- 120 VAC EXTERIOR HORN STROBE WITH BACK BOX
- 8" GROOVED VICTALIC FIRELOCK CAP
- 8" GROOVED VICTALIC SERIES 788N DRY VALVE
- WIZOR ELECTRONIC ACCELERATOR
- 2" GROOVED VICTALIC SERIES 705 BUTTERFLY VALVE (N.O.) WITH TAMPER SWITCH (WIRED BY OTHERS)
- 2" GROOVED VICTALIC SERIES 747M RISER CONTROL MODULE WITH 1-1/4" TEST & MAIN DRAIN WITH PRESSURE RELIEF VALVE (SET AT 175 PSI) (PIPED OUTSIDE), PRESSURE GAUGE & FLOW SWITCH (WIRED BY OTHERS)
- 2" SCHEDULE 10 PIPE
- 2" GROOVED VICTALIC FIRELOCK CAP
- 2" GROOVED VICTALIC CHECK VALVE
- 2" GROOVED VICTALIC FIRELOCK TEE
- 2" GROOVED VICTALIC FIRELOCK 90 ELL
- 2"x1-1/4" GROOVED VICTALIC REDUCING COUPLING
- 8"x6" FLANGED CONCENTRIC REDUCER
- FIRE PUMP CONTROLLER
- JOCKEY PUMP CONTROLLER
- 2" PIPE STAND
- 8" PIPE STAND
- AIR COMPRESSOR - CASTAIR

**1 EXISTING FIRE PUMP DETAILS**  
SCALE: 1/2" = 1'-0"



**PUMP TEST INFO:**

FLOW (GPM)	SUCTION PRESSURE (PSI)	DISCHARGE PRESSURE (PSI)	NET PRESSURE (PSI)
0	96	205	109
1986	64	158	94
3024	15	90	75

\* PUMP TEST INFORMATION PROVIDED BY ON DEC. 2, 2019. THE TEST DATA SHOWN ABOVE WAS TAKEN AT THE PUMP DISCHARGE FLANGE AND REFLECT ACTUAL PUMP CONDITIONS PLUS CITY SUPPLY. THESE DATA POINTS ARE USED FOR CALCULATIONS IN LIEU OF A TRADITIONAL HYDRANT FLOW TEST.

**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 & Bddy 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/ 6 hds. & one hd wrench.
- Heads 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.

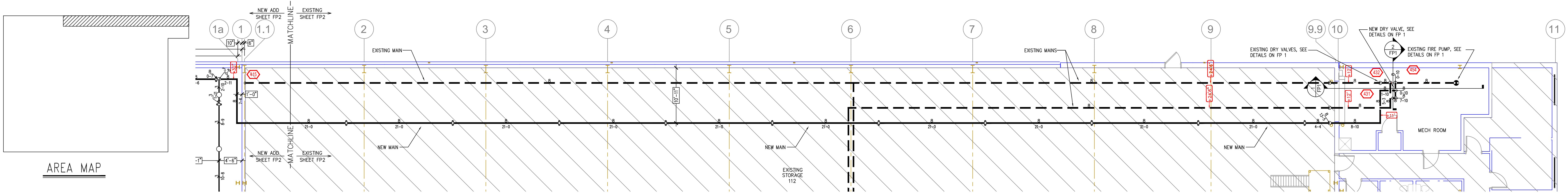
APPROVAL STAMPS

**DRIVEN**  
FIRE CONSULTANTS

910 N. SYCAMORE AVENUE; SIOUX FALLS, SD 57110 PHONE: (605)-444-9290

Drawing Title: <b>FIRE PROTECTION PLAN</b>	<p><b>W &amp; A</b> <b>COLD STORAGE</b> 19TH ST NW ROCHESTER, MN 55904</p>	Contract No.: <b>C-20-51</b> Drawing Date: 10/02/2020 Scale: 1/8" = 1'-0" Drawn By: JARED V Approval By: SHEET NO. <b>1 of 2</b>
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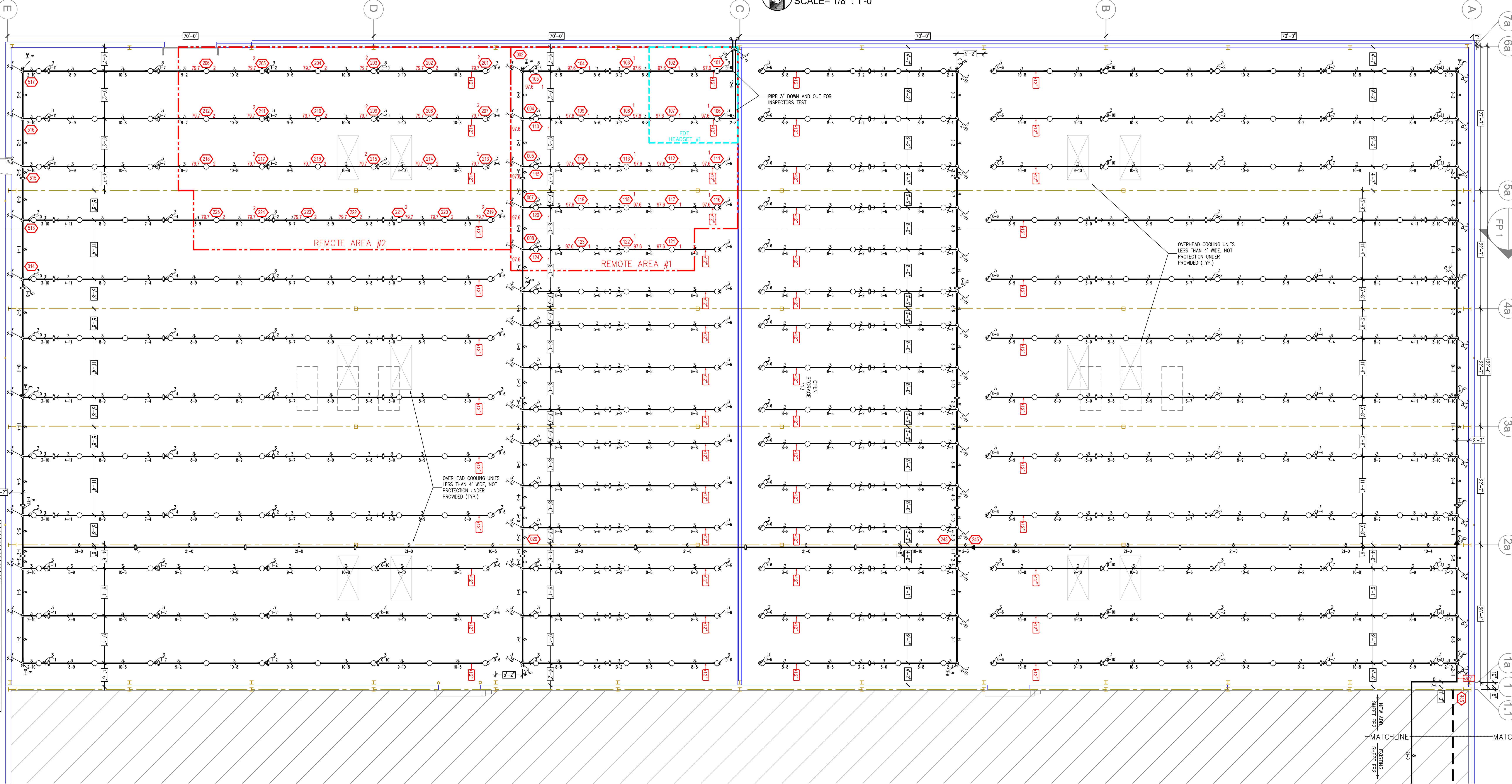


**EXISTING FEED MAIN PLAN**  
SCALE= 1/8" = 1'-0"

**Design Area #1 HAZARD: ESFR**  
Zone: 1 System Type: DRY  
Location: WAREHOUSE  
Flowing Outlets: 24  
Head PSI: 15 Remote Area: 1788  
Req. @ Pump Discharge (BOR):  
Flow: 2468 gpm @ 10.3 psi  
Calculation Safety: 7.7 psi  
Includes 500 gpm Hose allowance

**Design Area #2 HAZARD: ESFR**  
Zone: 1 System Type: DRY  
Location: WAREHOUSE  
Flowing Outlets: 25  
Head PSI: 10 Remote Area: 2426  
Req. @ Pump Discharge (BOR):  
Flow: 2283 gpm @ 19.6 psi  
Calculation Safety: 8.1 psi  
Includes 500 gpm Hose allowance

**FLUID DELIVERY TIME CALCULATION**  
Headset #1:  
System Type: Dry  
Flowing Outlets: 4  
Req'd Delivery Time per AHU  
Actual Fluid Delivery Time to remote  
sprinkler = 33.3 sec  
System Air Pressure = 40 psi



SYM	CNT	POSITION	FINISH	TEMP	K	NPT	SN	MFG.	MODEL#
○	390	LUPR	BRASS	286	25.20	1"	V46603	Vic	LP-46

**HEAD LEGEND**

**PHASE II FIRE SPRINKLER PLAN**  
SCALE= 1/8" = 1'-0"

**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 (3-6.2).
- 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/ 6 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.

**APPROVAL STAMPS**



Drawing Title: <b>FIRE PROTECTION PLAN</b>  <b>W &amp; A COLD STORAGE</b> 19TH ST NW ROCHESTER, MN 55904	Contract No. <b>C-20-51</b>
	Drawing Date: 10/02/2020
	Scale: 1/8" = 1'-0"
	Drawn By: JARED V
	Approval By:
SHEET NO. <b>2 of 2</b>	