Notes

OVERALL DESCRIPTION

THIS IS AN INTERSTATE REST AREA BUILDING BEING CONSTRUCTED ON INTERSTATE 75 IN RUSKIN, FLORIDA. THE FOLLOWING OUTLINES THE INTERIOR AUTOMATIC SPRINKLER SCOPE OF WORK FOR

• INSTALL 2 NEW WET PIPE SPRINKLER SYSTEMS: ONE TO PROTECT THE MEN'S RESTROOM AND ONE TO PROTECT THE WOMEN'S RESTROOM BUILDINGS.

POINT OF SERVICE

POINT OF SERVICE IS DEFINED AS THE POINT AT WHICH THE UNDERGROUND PIPING FOR A SPRINKLER SYSTEM USING WATER AS THE EXTINGUISHING AGENT BECOMES USED EXCLUSIVELY FOR THE SPRINKLER SYSTEM.

THE POINT OF SERVICE WILL BE AT THE BACKFLOW DISCHARGE WHEN LOCATION IS ESTABLISHED.

APPLICABLE STANDARDS

APPLICABLE STANDARDS ARE DETERMINED BY THE ADOPTED CODES BY THE STATE OF FLORIDA AND THE ENGINEER OF RECORD'S WRITTEN ENGINEERING REQUIREMENTS. THESE STANDARDS

- FLORIDA BUILDING CODE [6TH EDITION]
- FLORIDA FIRE PREVENTION CODE [6TH EDITION]
- NFPA 1 [2015 EDITION]
- NFPA 13 [2013 EDITION] NFPA 101 [2015 EDITION]

SYSTEM ACCEPTANCE CRITERIA

NOTIFY AND COORDINATE ALL SYSTEMS ACCEPTANCE DESCRIBED BELOW WITH OWNER'S REPRESENTATIVE AND THE AHJ.

WET PIPE SPRINKLER SYSTEM SHALL BE ACCEPTANCE TESTED IN ACCORDANCE WITH NFPA 13 REQUIREMENTS INCLUDING BUT NOT LIMITED TO:

- HYDROSTATICALLY TEST THE PIPING AND FITTINGS IN ACCORDANCE NFPA 13 SECTION 24.2.1.
- PERFORM SYSTEM OPERATIONAL TESTS IN ACCORDANCE WITH NFPA 13 SECTION 24.2.3 INCLUDING CONFIRMING THE OPERATION OF WATER-FLOW DEVICES, PERFORMING A MAIN DRAIN TEST, AND OPERATING ALL CONTROL VALVES.

CLASSIFICATION OF HAZARD OCCUPANCY

• THE BUILDING IS CLASSIFIED AS PRIMARILY AN LIGHT HAZARD OCCUPANCY PER NFPA 13. MECHANICAL AND ELECTRICAL ROOMS TO BE CLASSIFIED AS ORDINARY GROUP 1 PER NFPA

DESIGN APPROACH - WET PIPE SPRINKLER SYSTEM:

- THE AUTOMATIC WET PIPE SPRINKLER SYSTEM SHALL BE DESIGNED PRIMARILY AS AN LIGHT
- AND ORDINARY HAZARD GROUP 1 OCCUPANCY. MAXIMUM PROTECTION AREAS FOR STANDARD COVERAGE UPRIGHT SPRINKLERS IN
- ORDINARY HAZARD OCCUPANCIES SHALL BE 130 FT² IN ACCORDANCE WITH NFPA 13. MAXIMUM PROTECTION AREAS FOR SPRINKLERS IN LIGHT HAZARD OCCUPANCIES SHALL BE 225 FT² IN ACCORDANCE WITH NFPA 13.
- SPRINKLERS IN THE ELECTRICAL AND MECHANICAL ROOMS SHALL BE, AT MINIMUM, 175DEG TEMPERATURE RATING. SPRINKLERS IN THE CONDITIONED SPACES MAY BE ORDINARY TEMPERATURE RATED.
- PIPE HANGER MATERIALS SHALL BE ELECTROPLATED ZINC OR HOT DIPPED GALVANIZED. HYDRAULIC CALCULATIONS SHALL BE PROVIDED BY THE INSTALLING CONTRACTOR FOR THE REMOTE ORDINARY HAZARD GROUP 1 OCCUPANCY AREA INCLUDING PROVISIONS FOR A 250GPM OUTSIDE HOSE ALLOWANCE. LIGHT HAZARD OCCUPANCY SHALL INCLUDE PROVISION
- FOR A 100GPM OUTSIDE HOSE ALLOWANCE. HYDRAULIC CALCULATIONS SHALL INCLUDE A MINIMUM OF A 10% SAFETY MARGIN AT THE
- BASE OF RISER. • THE SPRINKLER SYSTEM SHALL HAVE A MANUAL HIGH POINT AIR RELEASE LOCATED NEAR THE
- HIGH POINT OF THE SYSTEM. THE SPRINKLER SYSTEM SHALL BE EQUIPPED WITH A PRESSURE RELIEF VALVE SET TO 175PSI. A DEDICATED FIRE DEPARTMENT CONNECTION IS PROVIDED FOR EACH SYSTEM DOWN
- STREAM OF THE BACKFLOW PREVENTER. HVAC AND MECH CHASE HAVE BEEN CONFIRMED TO BE ONE HOUR RATED ENCLOSURE ALLOWING FOR THE USAGE OF THE LARGE ROOM RULE AS DESCRIBED IN NFPA 13, 2013

MIC RISK EVALUATION

MIC IS NOT KNOWN TO BE A PROBLEM IN THIS AREA.

BACKFLOW PREVENTION DETAILS

BACKFLOW PROTECTION TO BE PROVIDED BY OTHERS. WGI THE UTILITIES ENGINEER HAS INCLUDED BACKFLOW DEVICES IN THEIR WATER SUPPLY MODELS.

ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS SHALL BE SEALED WITH THE UL LISTED METHOD TO MAINTAIN THE IDENTICAL FIRE RATING.

QUALITY AND PERFORMANCE SPECIFICATIONS

- ALL PIPING, VALVES, SWITCHES, AND OTHER COMPONENTS SHALL BE UL LISTED OR FM APPROVED MATERIALS FOR FIRE PROTECTION.
- ABOVEGROUND PIPING LESS THAN 21/2" SHALL BE SCHEDULE 40 CARBON STEEL PIPE.
- ABOVEGROUND PIPING 21/2" OR LARGER SHALL BE MINIMUM SCHEDULE 10 CARBON STEEL PIPE. SPARE SPRINKLERS, ALONG WITH APPROPRIATE WRENCHES SHALL BE PROVIDED IN SPARE SPRINKLER CABINET INSTALLED IN A LOCATION TO BE DETERMINED BY THE OWNER.

QUANTITIES OF SPARES TO BE PER NFPA-13. VALVING AND ALARM REQUIREMENTS

THE SPRINKLER SYSTEM SHALL BE EQUIPPED WITH WATER FLOW SWITCH, AND A TAMPER SWITCH TO BE MONITORED BY THE FACILITY FIRE ALARM SYSTEM BY OTHERS.

WATER SUPPLY

A FLOW TEST WAS SUPPLIED BY WGI SITE UTILITIES ENGINEERS, USING COMPUTERIZED

HYDRAULIC MODELING PROGRAMS. BASE OF RISER AT MEN'S ROOM

STATIC PRESSURE: 62 PSI RESIDUAL PRESSURE: 17.7 PSI 500 GPM

BASE OF RISER AT WOMEN'S ROOM

STATIC PRESSURE: 62 PSI RESIDUAL PRESSURE: 18.6 PSI

THIS WATER SUPPLY PRESSURE AND QUANTITY IS DEEMED CAPABLE OF PROVIDING THE FIRE FLOW DEMAND & THE SPRINKLER DEMAND REQUIRED FOR THE NEW BUILDING.

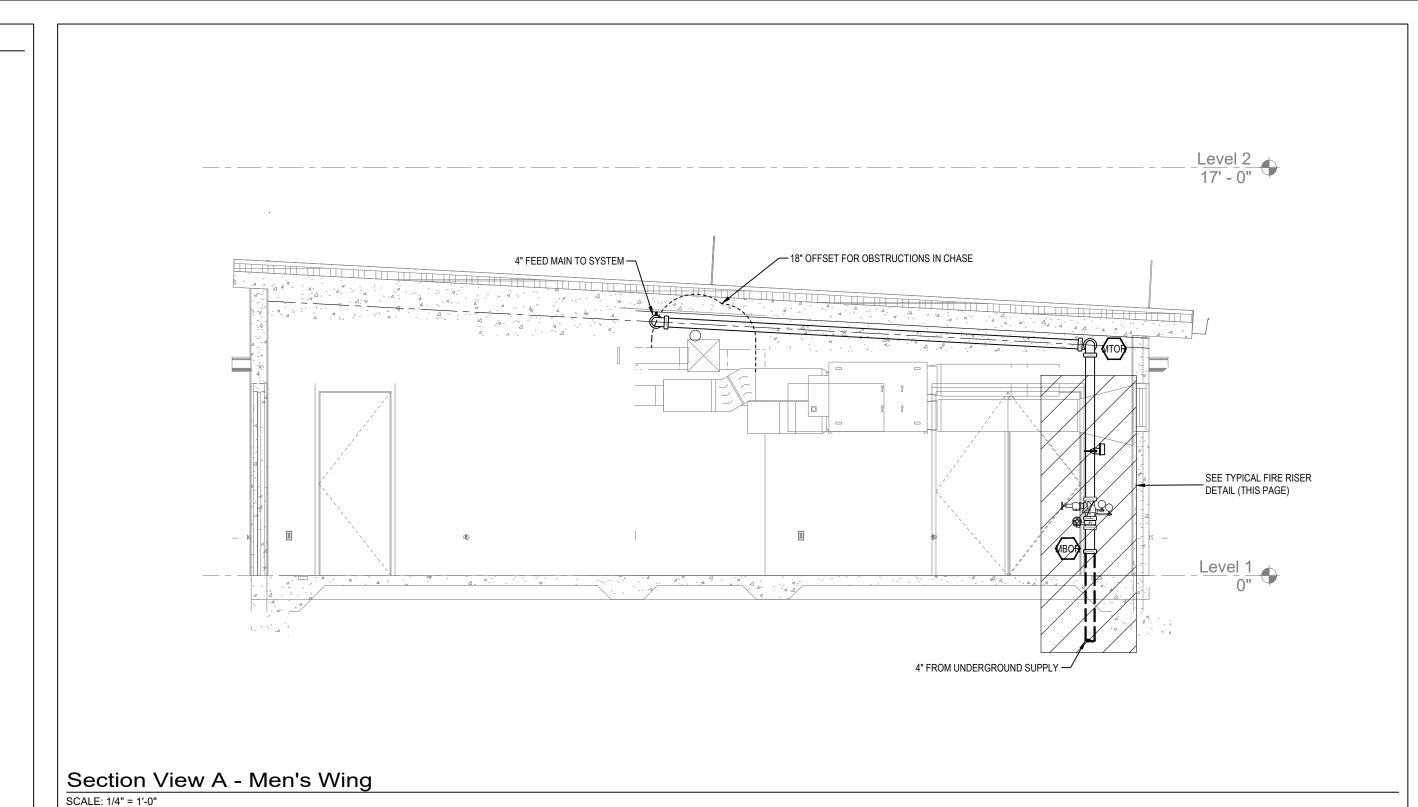
SIGNAGE

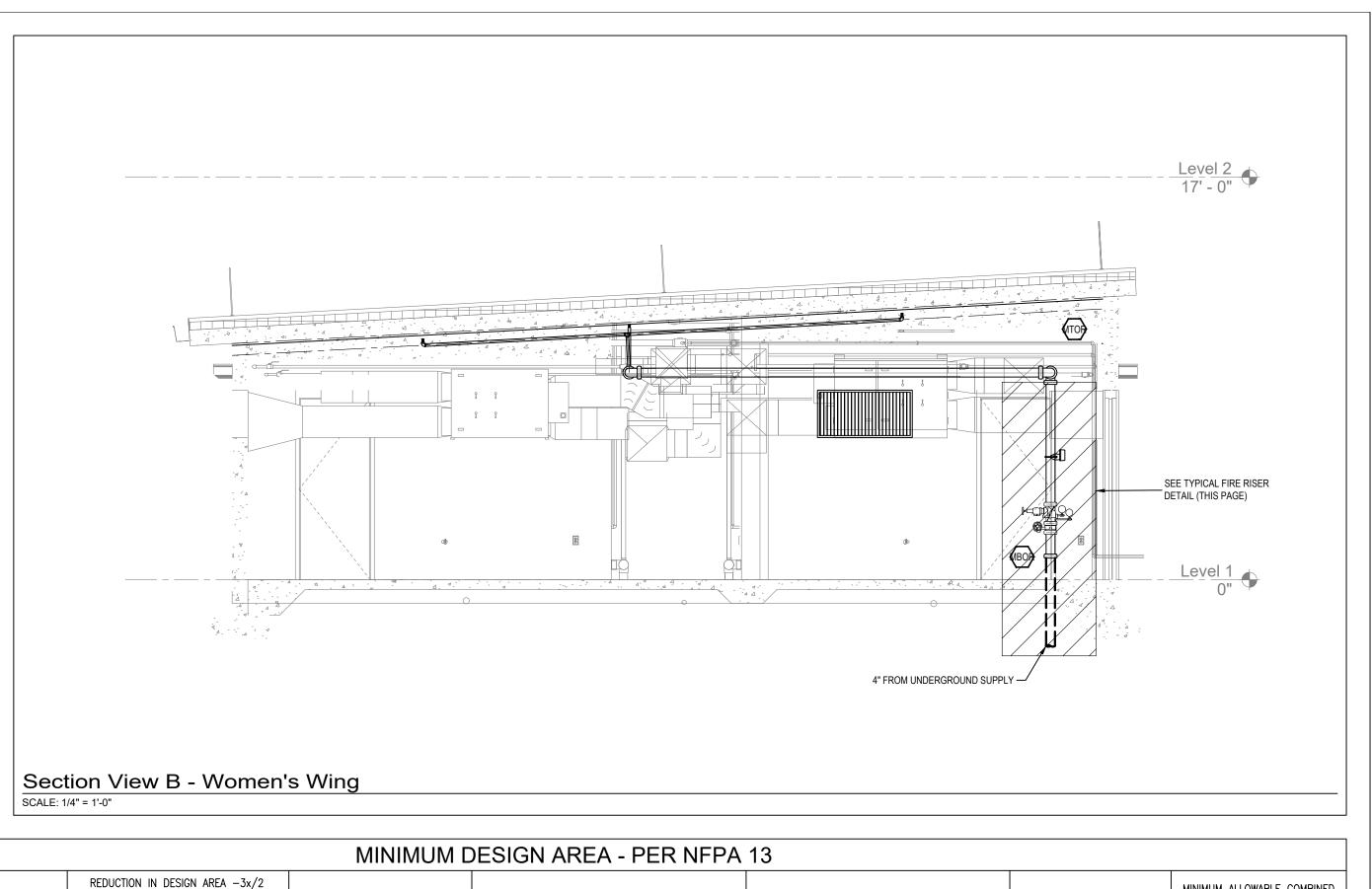
PROVIDE THE FOLLOWING SIGNAGE IN A CORROSION RESISTANT MATERIAL:

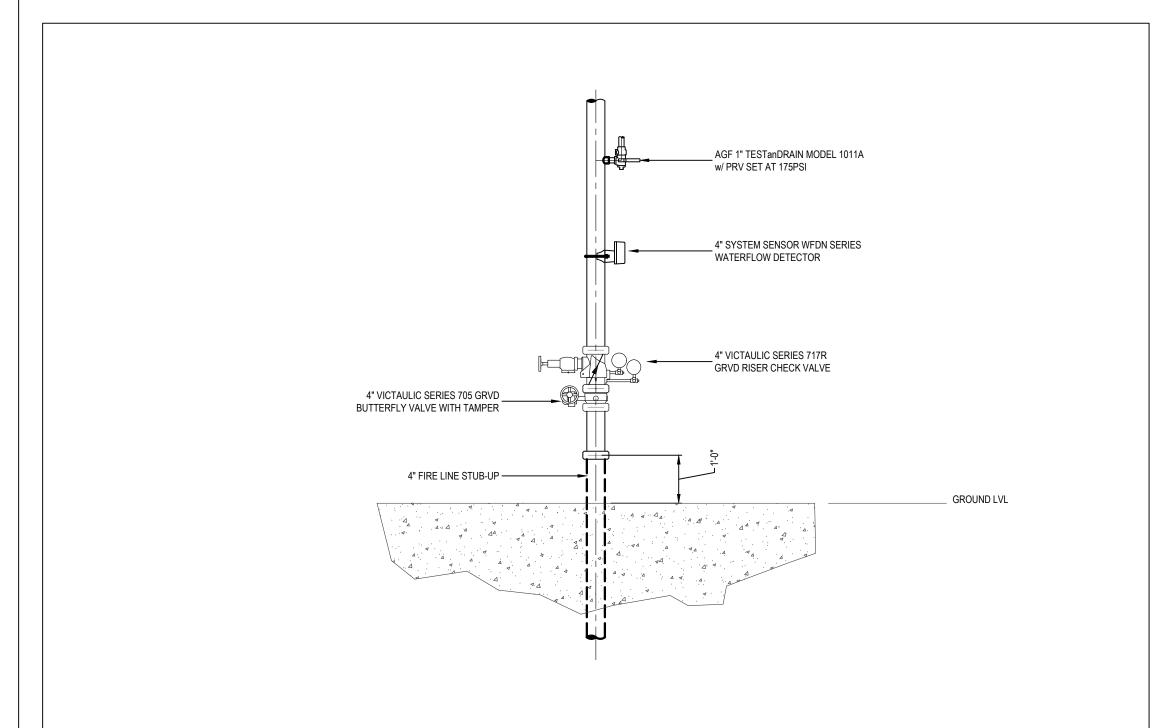
500 GPM

- HYDRAULIC DESIGN INFORMATION SIGNS FOR HYDRAULICALLY CALCULATED WET PIPE
- SYSTEM AREAS. METAL SIGNS FOR ALL CONTROL VALVES & DRAIN VALVES IN ACCORDANCE WITH NFPA 13
- SECTION 6.7.4. • GENERAL INFORMATION SIGN FOR WET-PIPE SYSTEMS IN ACCORDANCE WITH NFPA 13 SECTION 25.6.

OVERALL BATHROOM SPRINKLER HEAD SCHEDULE Thread 1/2" TYCO TYFRB CHROME 155DEG PENDENT TY323 QR ON DROP 1/2" TYCO TYFRB BRASS 155DEG UPRIGHT TY313 QR NO SPRIG NO SPRIG 34 1/2" 5.6 TYCO TYFRB BRASS 175DEG UPRIGHT TY313 QR 1/2" 5.6 TYCO DS-1 CHROME 155DEG SIDEWALL TY3355 QR GLOBE BRASS 155DEG PENDENT GL5601 QR **8** | 2 | 1/2" 5.6







Typical Fire Riser Detail SCALE: 1/2" = 1'-0"

BASIC PIPE AND FITTING MATERIAL REQUIREMENTS:

MINIMUM PIPE SCHEDULE FOR WELD/GROOVED/PLAIN END PIPING:

SHOP PAINTED

☐ CPVC

- BLACK STEEL PIPE SCH. 7 (DYNAFLOW, ETC.) SCH. 10 GALVANIZED PIPE ☐ "SEAMLESS" SCH. 40
- SCH. 80 ☐ CPVC

MINIMUM PIPE SCHEDULE FOR THREADED PIPING:

BLACK STEEL PIPE "THREADABLE" LIGHTWALL SCH. 40 GALVANIZED PIPE ☐ "SEAMLESS" ☐ SCH. 80 SHOP PAINTED

FITTINGS UTILIZED ON THIS PROJECT:

GROOVED (STANDARD TAKEOUT) C.I. SCREWED GROOVED (SHORT RADIUS) ☑ D.I. SCREWED GROOVED COUPLINGS (RIGID) M.I. SCREWED (BLK) GROOVED COUPLINGS (FLEXIBLE) M.I. SCREWED (GALV) ₩ELDED OUTLETS ☐ FLANGED 125# MECHANICAL TEES ☐ FLANGED 250#

MISCELLANEOUS MATERIAL REQUIREMENTS:

DOMESTIC MATERIAL ONLY DOMESTIC OR FOREIGN MATERIAL ACCEPTABLE

MATERIAL TO MEET THE MINIMUM REQUIREMENTS OF NFPA 13 MATERIAL TO BE UL LISTED AT A MINIMUM

☐ MATERIAL TO BE UL LISTED <u>&</u> FM APPROVED ☐ DRAIN PIPE & FITTINGS TO BE "GALVANIZED"

GALVANIZED PIPE & FITTINGS REQUIRED FOR EXTERIOR WALL PENETRATIONS & EXTERIOR PIPING RUNS.

HANGER MATERIAL

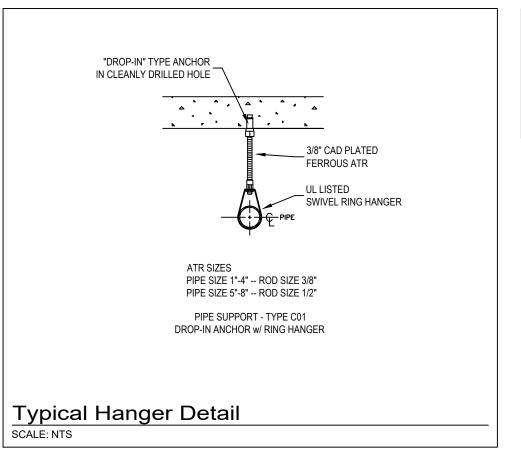
STANDARD LOOP HANGER RINGS CLEVIS HANGERS REQUIRED ☐ ALL THREAD ROD TO 'BLACK'

ALL THREAD ROD TO BE 'CAD PLATED' "STAINLESS" HANGER MATERIAL REQUIRED

X = CEILIINGDESIGN AREA REDUCTION INCREASE FOR SLOPES OVER 2:12 (PER MAXIMUM CEILING INITIAL DESIGN HEIGHT (PER FIGURE (SQ.FT.) SECTION 11.2.3.2.4)

INCREASE FOR DRY PIPE SYSTEMS (PER DESIGN AREA INCREASE DESIGN AREA (PER SECTION CALC ID (SQ.FT.) SECTION 11.2.3.2.5) 11.2.3.2.7) 11.2.3.2.3.1) AREA #1 1,500 SQ.FT. 570 SQ.FT. + 0% + 0 SQ.FT. 930 SQ.FT. - 38.0% + 0% LARGEST ROOM AREA #2 1,500 SQ.FT. N/A - 900 SQ.FT. + 0 SQ.FT. + 0% + 0% PER ROOM DESIGN METHOD LARGEST ROOM 1,500 SQ.FT. AREA #3 N/A - 600 SQ.FT. + 0 SQ.FT. + 0% + 0% PER ROOM DESIGN METHOD

| | | | | HY | DRAULIC | DESIGN DATA | | | | | |
|---------|-------------------------|-------------------------|--------------------------|----------------------------------|----------------------------------|-----------------------------|-----------------------------|---------------------|---|--|--------------------------|
| CALC ID | SPECIFIC AREA PROTECTED | DENSITY (GPM/SQ.FT.) | DESIGN AREA (SQ. FT.) | HOSE ALLOW. (GPM) INSIDE/OUTSIDE | NUMBER OF HEADS CALCULATED | OCCUPANCY CLASSIFICATION | COMMODITY CLASSIFICATION | MAX. STORAGE HEIGHT | WATER DEMAND AT BASE OF RISER (GPM @ PSI) | SYSTEM DEMAND + HOSE ALLOWANCE (GPM @ PSI) | SAFETY FACTOR (PSI) |
| AREA #1 | MOST REMOTE | 0.10 | 930 | 0 / 100 | 9 | LIGHT HAZARD | N/A | N/A | 197.2 GPM @ 36.1 PSI | 297.2 GPM @ 36.1 PSI | 9.3 PSI |
| AREA #2 | MEN'S MECHANICAL ROOM | 0.15 | LARGE ROOM RULE | 0 / 250 | 8 | ORDINARY GROUP 1 | N/A | N/A | 148.0 GPM @ 19.9 PSI | 398.0 GPM @ 19.9 PSI | 13.0 PSI |
| AREA #3 | WOMAN'S MECHANICAL ROOM | 0.15 | LARGE ROOM RULE | 0 / 250 | 11 | ORDINARY GROUP 1 | N/A | N/A | 204 GPM @ 17.4 PSI | 454 GPM @ 17.4 PSI | 8.3 PSI |



| HANGER SPACING TABLE | | | | | | | | | | | | | |
|---|--------|------------------|--------|--------|--------------|--------|--------|--------|--------|--|--|--|--|
| MAXIMUM DISTANCE BETWEEN HANGERS IN ACCORDANCE TO NFPA 13 TABLE 9.2.2.1 | | | | | | | | | | | | | |
| SIZE SCH. 10 - 40 | 1" | 1 1 " | 11/2" | 2" | 2 <u>1</u> " | 3" | 4" | 6" | 8" | | | | |
| | 12'-0" | 12'-0" | 15'-0" | 15'-0" | 15'-0" | 15'-0" | 15'-0" | 15'-0" | 15'-0" | | | | |

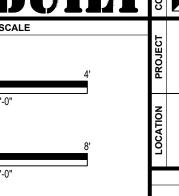
ADDED SPRINKLERS UNDER AHU'S AS BUILT C 03/08/2021 FOR PERMIT JR SB B 07/21/2020 REVISED PER GC COMMENTS JR SB A 04/20/2020 03/09/2020 FOR APPROVAL DW SB REVISION DESCRIPTION DRAWN CHECKED

MINIMUM ALLOWABLE COMBINED

DESIGN, INSTALLATION AND TESTING OF ALL COMPONENTS OF THIS FIRE PROTECTION SYSTEM, TO BE IN ACCORDANCE WITH THE APPLICABLE NFPA CODE

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HILLSBOROUGH COUNTY REST AREA HILLSBOROUGH COUNTY, FLORIDA STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

Fire Protection Notes and Details

SYSTEM NUMBER LF202016 FP001 D