

# Sprinkler Design Data

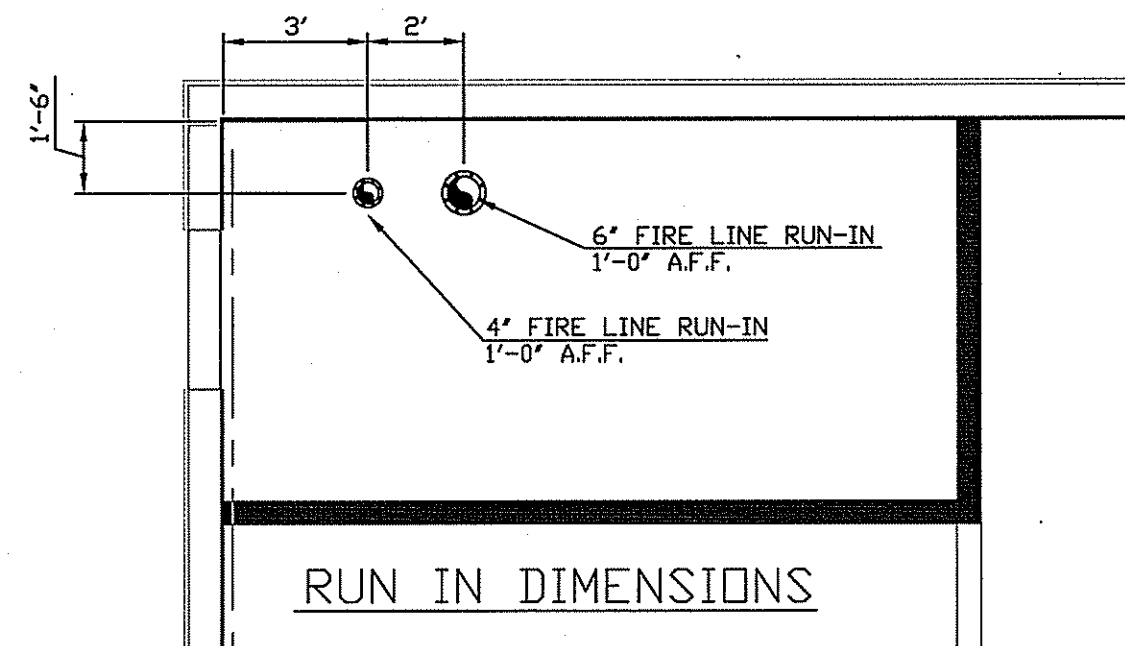
Project Name: Good Hope Hospital	System: Wet
Project Street Address: 410 Denim Drive	Sys. Sq. Ft.: n/a
Suite: 2020 addition	Floor#:
Designed By: Carolina Fire Protection	Phone: (910)-892-1700
Occupancy: Hospital / Mechanical mezzanine	Hazard: Light Hazard / Ordinary Hazard Group 1
	Ceiling Height: Varies
	Total Bldg. Hgt.: 26'-6"

## Design Summary

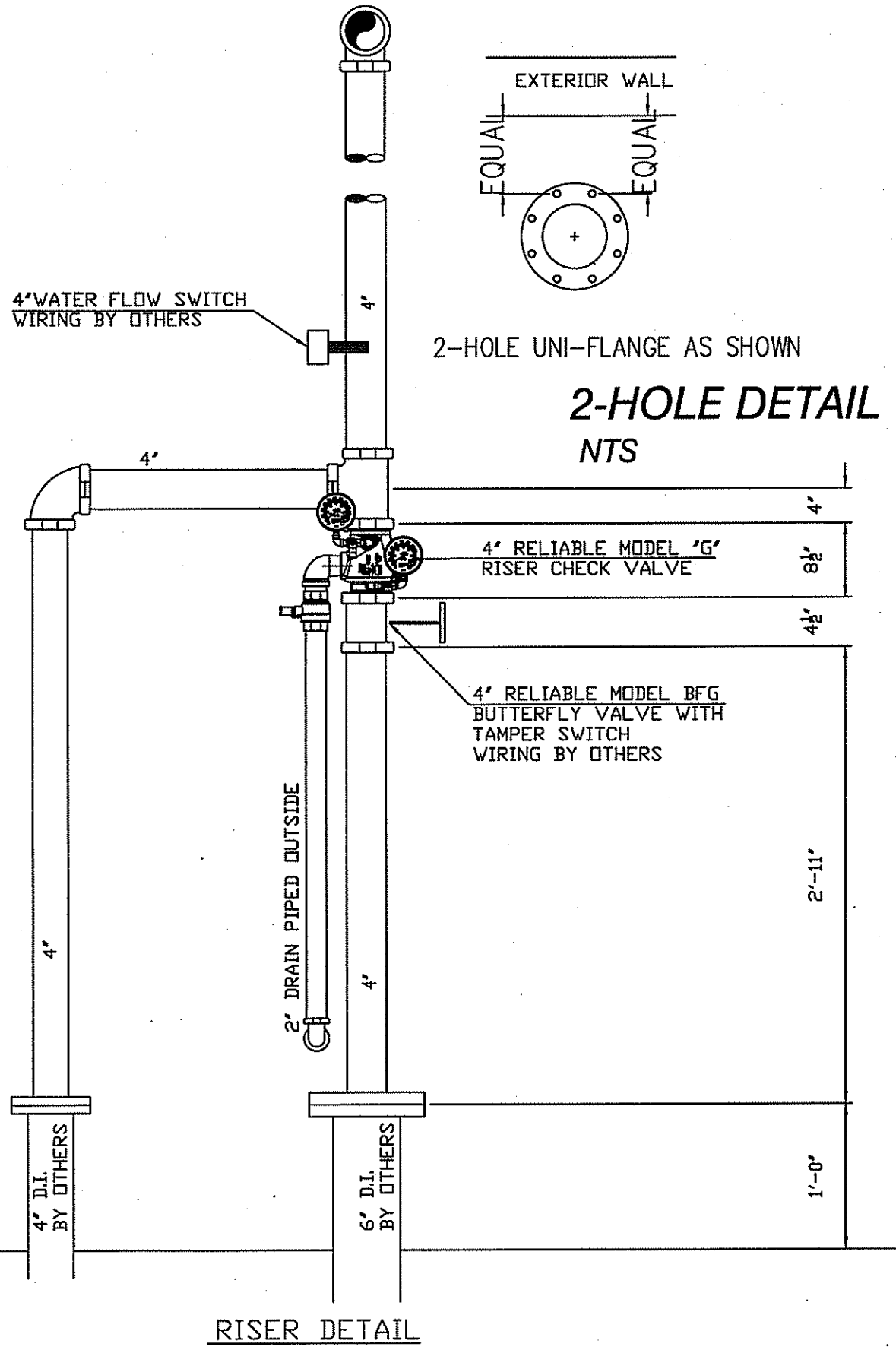
Design Method	Hospital Area	Mechanical Mezzanine
Design Area #	1	2
Location	Remote Area #1	Remote Area #2
Type of System	Wet System	Wet System
Hazard Class	Light	Ordinary Hazard Group 1
Criteria From	NFPA 13	NFPA 13
Design Area	913 Sq.Ft.	Entire Area
Sprinkler Spacing	225 sqft	100 sqft
Density	.10	.15
K-factor	5.6	5.6
Hose Allowance	100	250
# Design Sprinklers	12	10
Special App. Spk.	N/A	N/A
Requirement @	TEST	TEST
G.P.M. Req'd	371.037	416.905
P.S.I. Req'd	39.818	35.939
Safety Factor @	TEST	TEST
Safety Factor (psi)	12.591	16.09
System Sq Ft	12,745	12,745
Dry Sys. Vol. (gal)	n/a	n/a

## Water Supply Information

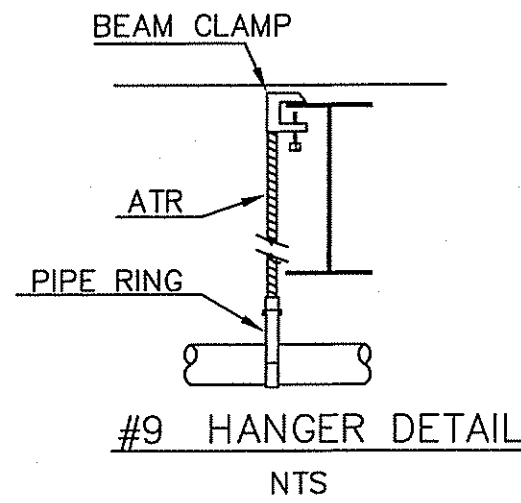
Tested by	Erwin Fire Department	Date/Time	10-19-2020	Pressure Hydrant	
Hydrant Elevation					
Static (PSI)	54 psi	Residual (PSI)	46 psi	Flow (gpm)	888



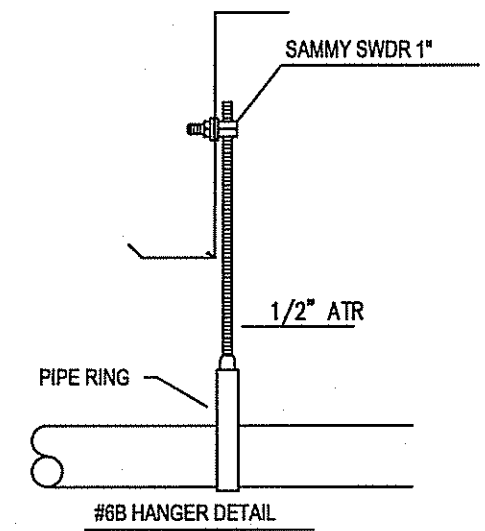
RUN IN DIMENSIONS



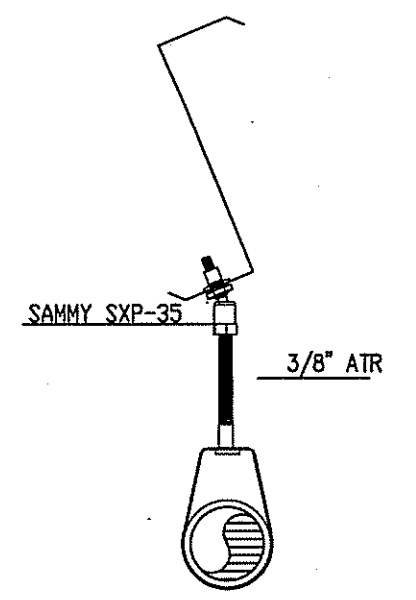
RISER DETAIL



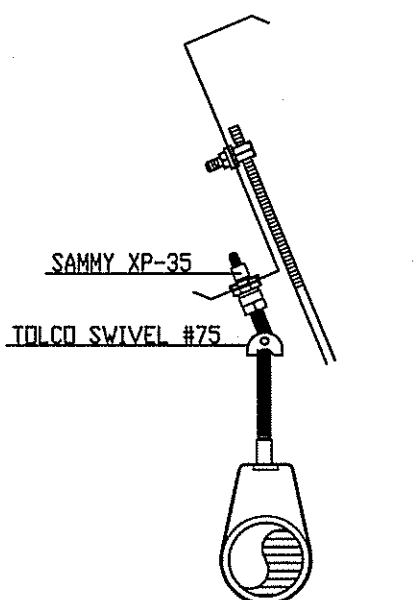
#9 HANGER DETAIL  
NTS



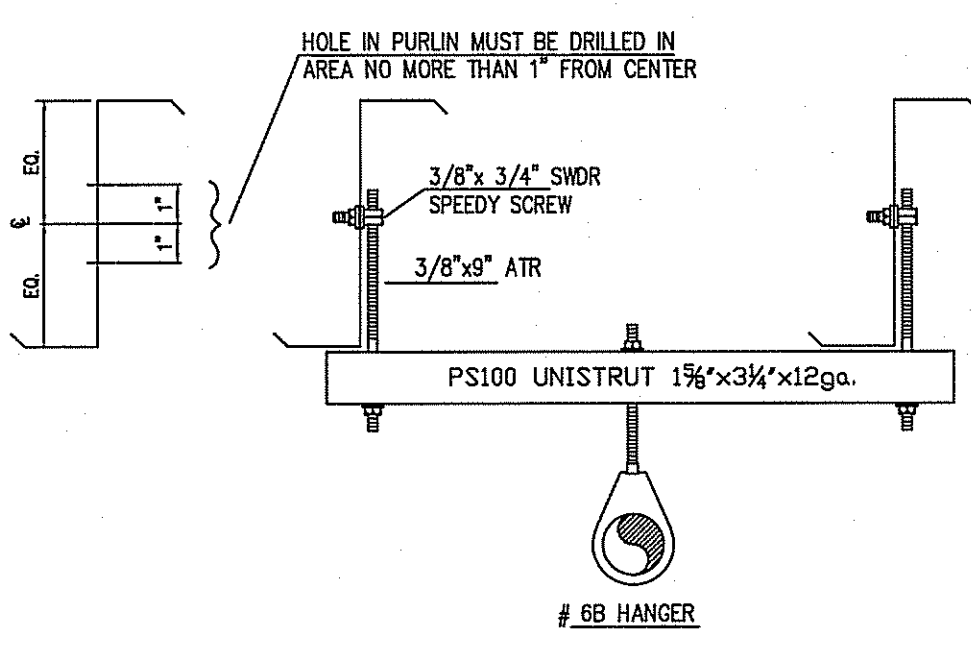
#8B HANGER DETAIL



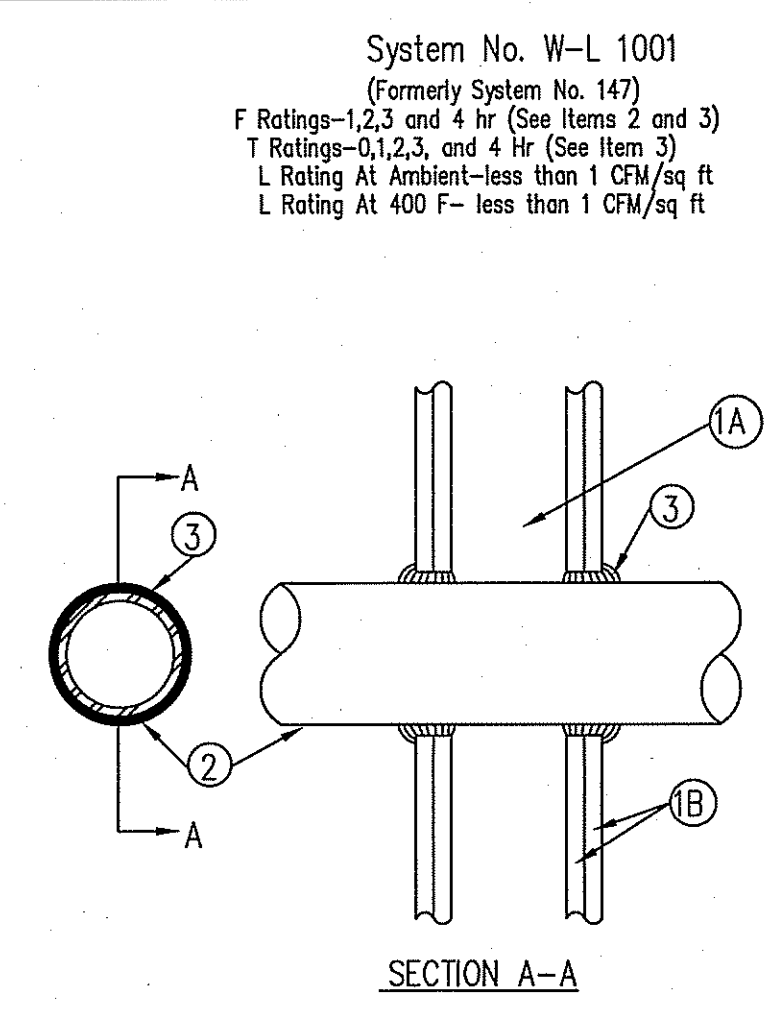
#6A Z-PURLIN HANGER DETAILS  
FOR UP TO 3" PIPE  
NTS



#6B Z-PURLIN HANGER DETAILS  
FOR 4" PIPE  
NTS



Z-PURLIN HANGER DETAILS  
NTS #6B



SECTION A-A

### HANGER INSTALLATION REQUIREMENTS

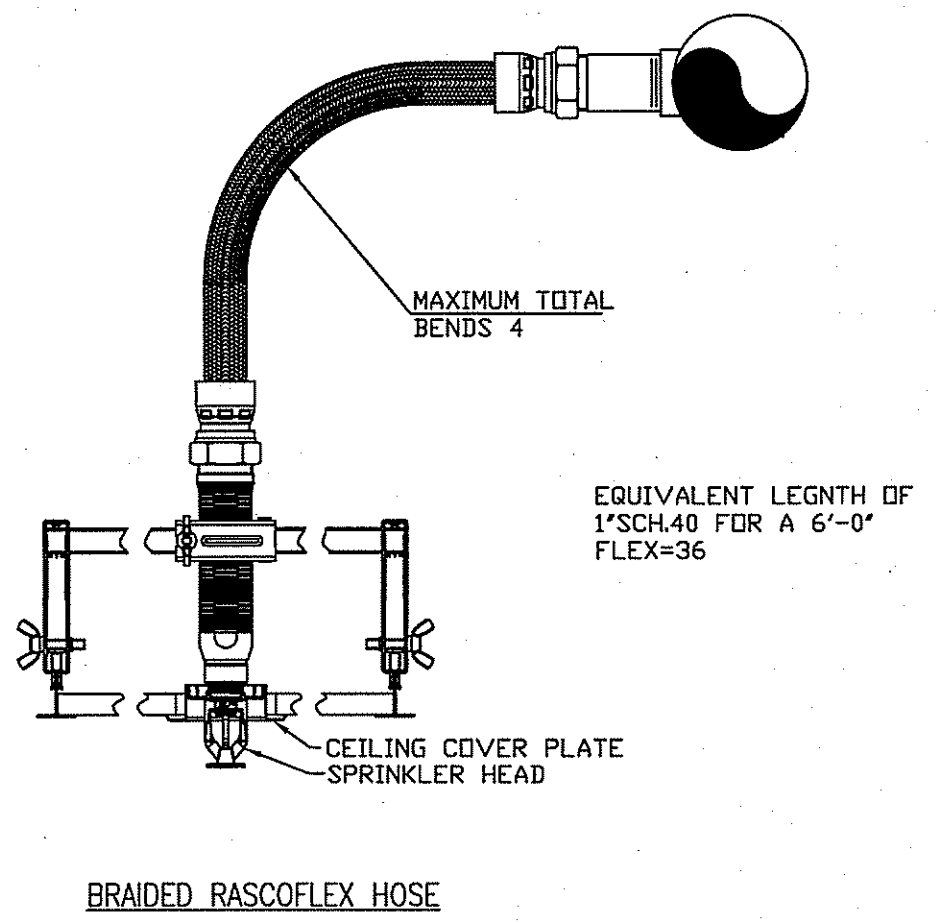
NOMINAL PIPE SIZE	MAXIMUM DISTANCE BETWEEN HANGERS								
	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	
BLAZEMASTER CPVC	5' 6"	6' 0"	6' 6"	7' 0"	8' 0"	9' 0"	10' 0"	N/A	N/A
THREADABLE LIGHTWALL	N/A	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	N/A	N/A
STEEL PIPE (10/40)	N/A	12' 0"	12' 0"	15' 0"	15' 0"	15' 0"	15'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

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

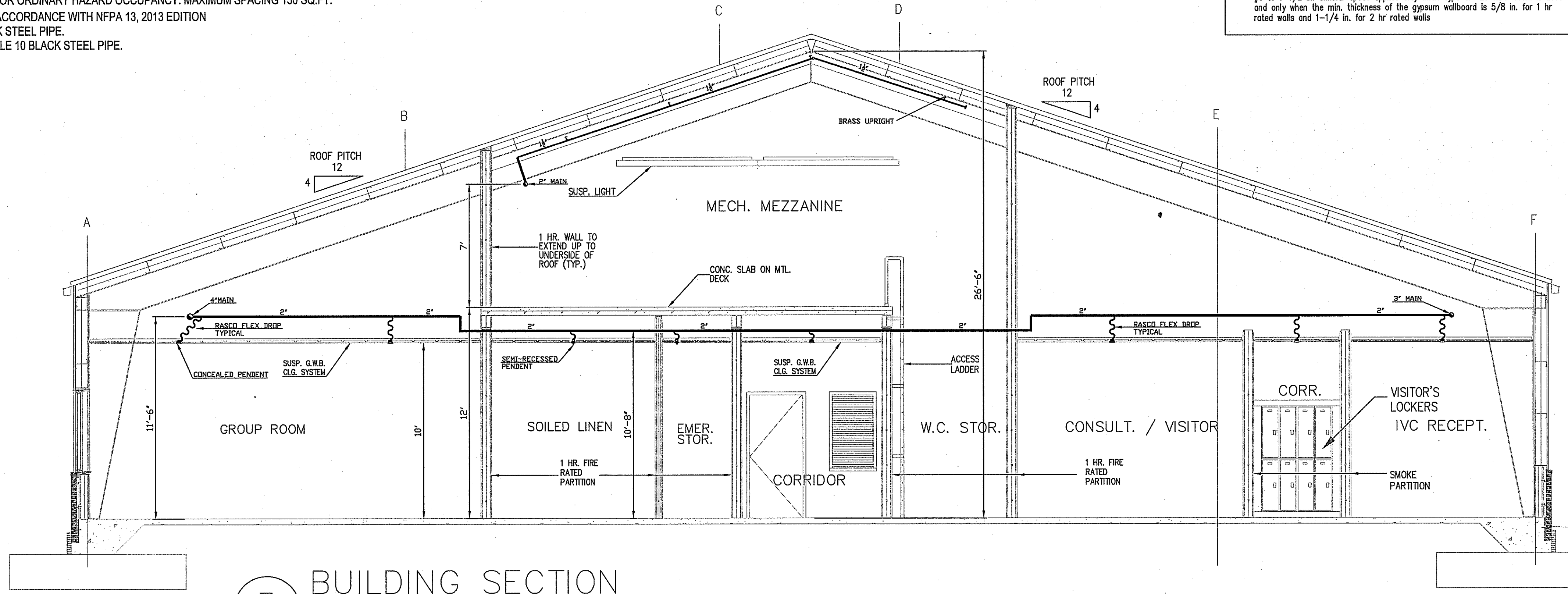
THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARMOVER TO A SPRINKLER, SPRINKLER DROP, OR SPRIG-UP SHALL NOT EXCEED 24"

### SYSTEM NOTES

- SCOPE OF WORK BEGINNING AT 6" FLANGED CONNECTION 1'-0" A.F.F. INSTALLING NEW A WET RISER ALONG WITH ASSOCIATED PIPE, VALVES, SPRINKLERS AND FITTINGS THROUGHOUT THE BUILDING AS SHOWN.
- DESIGN FOR THE HOSPITAL AREA -A .10 GPM DENSITY OVER 913 SQ.FT. AREA PLUS 100 GPM FOR HOSE ALLOWANCE FOR LIGHT HAZARD OCCUPANCY. MAXIMUM SPACING 225 SQ. FT.
- DESIGN FOR THE MECHANICAL MEZZANINE -A DENSITY OF .15 OVER THE ENTIRE AREA PLUS 250 GPM FOR HOSE ALLOWANCE FOR ORDINARY HAZARD OCCUPANCY. MAXIMUM SPACING 130 SQ.FT.
- ALL WORK WILL BE INSTALLED IN ACCORDANCE WITH NFPA 13, 2013 EDITION
- 1" PIPE TO BE SCHEDULE 40 BLACK STEEL PIPE.
- 1 1/2" THRU 6" PIPE TO BE SCHEDULE 10 BLACK STEEL PIPE.



MAXIMUM TOTAL BENDS 4  
EQUIVALENT LENGTH OF 1" SCH 40 FOR A 6"-0" FLEX-36



3 BUILDING SECTION  
SCALE: 1/4"=1'-0"

**IMPORTANT**  
In locations that are subject to freezing conditions, it is the owner's responsibility to provide heat throughout areas protected by wet pipe sprinkler systems and in enclosures for dry pipe, deluge or other types of valves controlling water supplies to sprinkler systems.

### CONTRACT RESPONSIBILITIES

ITEM	C.F.P. OTHERS
STREET WATER CONNECTION	N/A
UNDERGROUND WATER MAINS	N/A
EXCAVATIONS	N/A
BACKFILL	N/A
WIRING	N/A
PAINTING	N/A

### SYMBOLS

CEILING HT. ABOVE REF. CL. OF PIPE BELOW BOB	CEILING HT. ABOVE REF. CL. OF PIPE ABOVE REF.
HYDRAULIC REF. POINT	LINE DESIGNATION
HANGER	UNION
GROOVED COUPLING (GC)	SCREWED CAP
GROOVED CAP	SCREWED PLUG
FLANGED CONNECTION	

### ABBREVIATIONS

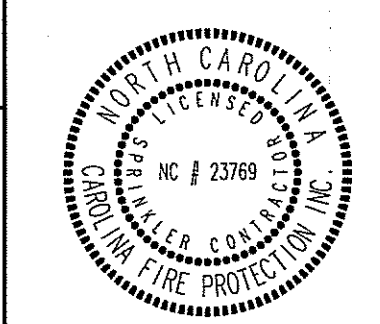
BOB	Bottom of Beam
BOD	Bottom of Deck
DO	Drain
HV	Hose Valve
N & C	Nipple and Cap
NIC	Not in Contract
NTS	Not to Scale
OB	Open Bar, Joid
PRV	Pressure Red. Valve
RM	Roof Manifold
SP	Standpipe
TOB	Top of Beam
TOP	Top of Pipe
TOS	Top of Steel
UNO	Unless Noted Otherwise

### SYSTEM TYPE

WET	<input checked="" type="checkbox"/>	DELUGE	<input type="checkbox"/>
DRY	<input type="checkbox"/>	PREACTION	<input type="checkbox"/>

### APPROVALS

ISO	OUT	IN
IRI	OUT	IN
FM	OUT	IN
	OUT	IN



### SPRINKLER SYMBOL DESCRIPTION

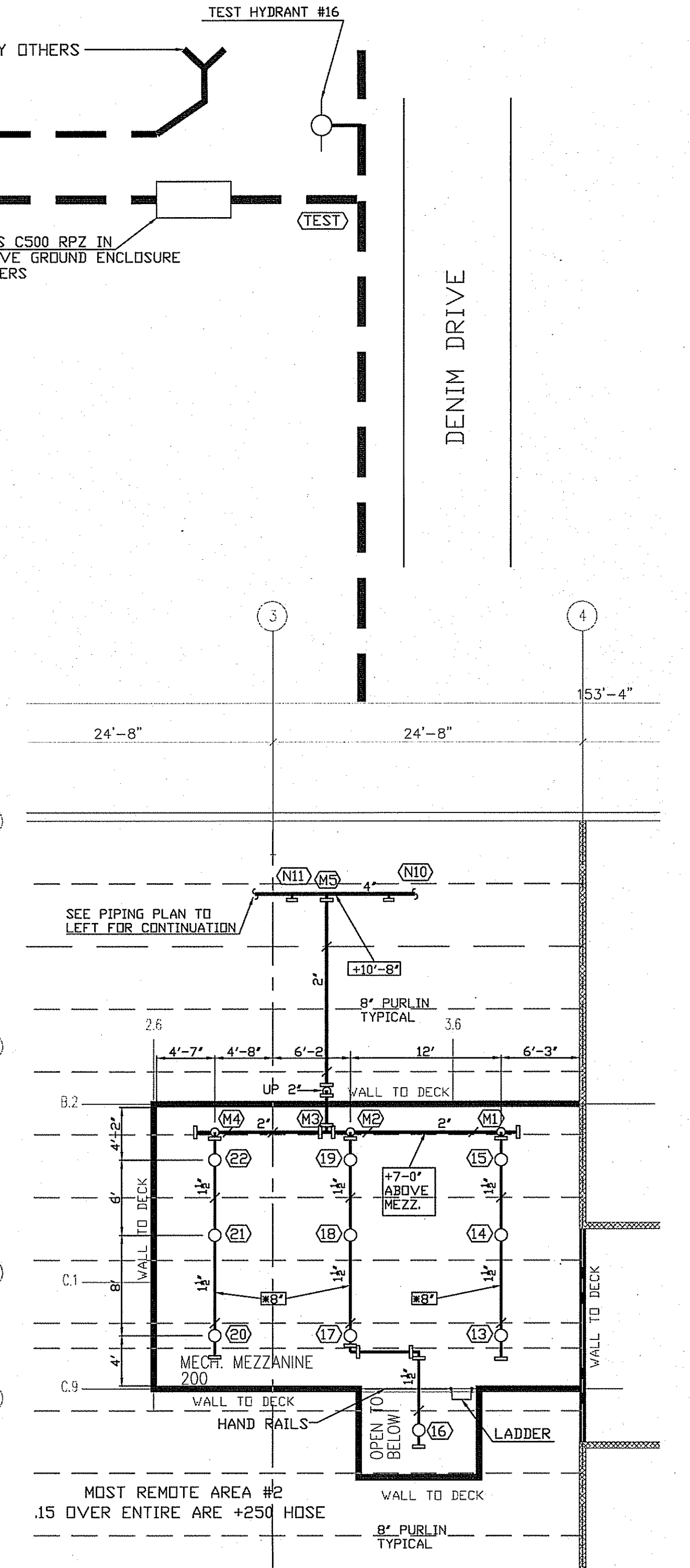
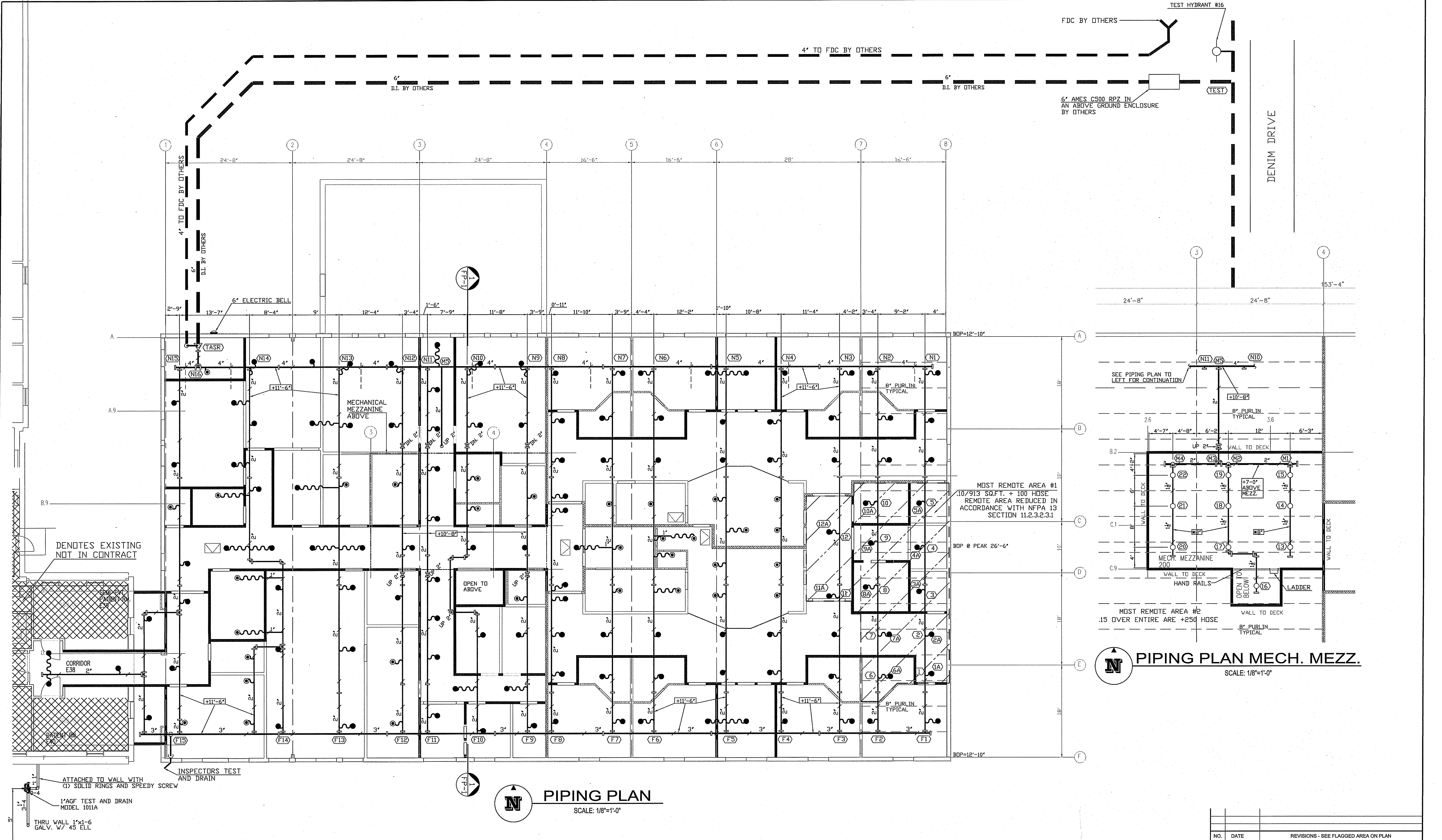
SYMBOL	SIZE	MODEL	MAKE	SIN	FINISH	STYLE	TEMP	K-FACTOR	TOTAL
●	1/2	QR	RELIABLE	RA1414	WHITE	RECESSED PENDENT	155°	5.6	31
●	1/2	QR	GLOBE	GL5606	WHITE	CONCEALED PENDENT	155°	5.6	118
○	1/2	SR	RELIABLE	RA1325	BRASS	UPRIGHT	286°	5.6	10
TOTAL SPRINKLERS SHOWN ON THIS SHEET									0
TOTAL SPRINKLERS REQUIRED ON THIS CONTRACT									159

CONTRACT NAME:	GOOD HOPE HOSPITAL
CONTRACT WITH:	STE GENERAL CONTRACTORS
DESCRIPTION:	INFORMATION
SYSTEM DESIGN DATA	
CONTRACT NO.:	20K533
DRAWN BY:	M.FORD
DRAWING NO.:	FP 1 of 3

CHECKED BY:	K.WILDER
DATE:	12/4/2020
SCALE:	AS SHOWN
CONTRACT NO.:	20K533
DRAWN BY:	M.FORD
DRAWING NO.:	FP 1 of 3

SEE SHEET FP-1 FOR DESIGN CRITERIA





**PIPING PLAN MECH. MEZZ.**  
SCALE: 1/8"=1'-0"

**PIPING PLAN**  
SCALE: 1/8"=1'-0"

**IMPORTANT**  
In locations that are subject to freezing conditions, it is the owner's responsibility to provide heat throughout areas protected by wet pipe sprinkler systems and in enclosures for dry pipe, deluge or other types of valves controlling water supplies to sprinkler systems.

This drawing including all information and design concept herein contained is the property of Carolina Fire Protection Company, Inc. and is loaned upon express conditions that the same be returned to CFP, Inc. upon request; all information contained herein shall be treated as secret, and confidential; no reproduction of this drawing or any part thereof shall be made without written consent of CFP, Inc.

CONTRACT RESPONSIBILITIES	
ITEM	C.F.P./OTHERS
STREET WATER CONNECTION	N/A
UNDERGROUND WATER MAINS	N/A
EXCAVATIONS	N/A
BACKFILL	N/A
WIRING	N/A
PAINTING	N/A

SYMBOLS	
(-)-	CEILING HT. ABOVE REF. CL. OF PIPE BELOW BOD
(-)-	CL. OF PIPE ABOVE REF.
(H)	HYDRAULIC REF. POINT
(M)	LINE DESIGNATION
(A1)	MAIN DESIGNATION
(-)-	HANGER
(-)-	UNION
(-)-	GROOVED COUPLING (GC)
(-)-	SCREWED CAP
(-)-	GROOVED CAP
(-)-	SCREWED PLUG
(-)-	FLANGED CONNECTION

SYMBOLS	
(-)-	GATE VALVE (SEE NOTES)
(-)-	FIRE HOSE ASSEMBLY
(-)-	FLOW SWITCH (FS)
(-)-	MONITOR SWITCH
(-)-	BUTTERFLY VALVE
(-)-	ALARM VALVE (ALV)
(-)-	DRY PIPE VALVE
(-)-	WATER CHECK VALVE
(-)-	SWING CHECK VALVE
(-)-	SYSTEM RISER
(-)-	INSPECTOR'S TEST
(-)-	GLOBE VALVE
(-)-	ANGLE VALVE

ABBREVIATIONS	
BOD	Bottom of Beam
BOD	Bottom of Deck
BOP	Bottom of Pipe
DO	Ditto
HV	Hose Valve
N & C	Nipple and Cap
NIC	Not in Contract
NTS	Not to Scale
OSJ	Open Bar Joliet
PRV	Pressure Red. Valve
RM	Roof Manifold
SP	Standpipe
TOB	Top of Beam
TOP	Top of Pipe
TOS	Top of Slab
UNO	Unless Noted Otherwise

SYSTEM TYPE	
WET- <input checked="" type="checkbox"/>	DELUGE- <input type="checkbox"/>
DRY- <input type="checkbox"/>	PREACTION- <input type="checkbox"/>

**APPROVALS**

<input type="checkbox"/> ISO	OUT	IN
<input type="checkbox"/> IRI	OUT	IN
<input type="checkbox"/> FM	OUT	IN
<input type="checkbox"/>	OUT	IN

SPRINKLER SYMBOL DESCRIPTION									
SYMBOL	SIZE	MODEL	MAKE	SIN	FINISH	STYLE	TEMP	K-FACTOR	TOTAL
⊙	1/2	QR	RELIABLE	RA1414	WHITE	RECESSED PENDENT	155°	5.6	31
●	1/2	QR	GLOBE	GL5606	WHITE	CONCEALED PENDENT	155°	5.6	118
○	1/2	SR	RELIABLE	RA1325	BRASS	UPRIGHT	286°	5.6	10
TOTAL SPRINKLERS SHOWN ON THIS SHEET									159
TOTAL SPRINKLERS REQUIRED ON THIS CONTRACT									159

**CAROLINA FIRE PROTECTION**  
4055 HODGES CHAPEL ROAD  
Dunn, N.C. 28334  
Phone (910) 892-1700  
Fax (910) 892-7322

CONTRACT NAME: <b>GOOD HOPE HOSPITAL</b> 410 DENIM DRIVE ERWIN, NC	CHECKED BY: K.WILDER
CONTRACT WITH: STE GENERAL CONTRACTORS	DATE: 12/4/2020
DESCRIPTION: PIPING PLAN	SCALE: AS SHOWN
SYSTEM DESIGN DATA	CONTRACT NO.: 20K533
HAZARD CLASSIFICATION: HYDRAULIC DESIGN DATA	SYSTEM AREA: SQ. FT.
AREA OF APPLICATION:	COVERAGE: SQ. FT./HEAD
TOTAL SYSTEM REQUIREMENTS:	ALLEGANCES: GPM
WATER SUPPLY STATIC PRESSURE:	PSI AT
RESIDUAL PRESSURE:	PSI W/
FLOWING:	GPM FLOWING
SEE SHEET FP-1 FOR DESIGN CRITERIA	

NO.	DATE	REVISIONS - SEE FLAGGED AREA ON PLAN

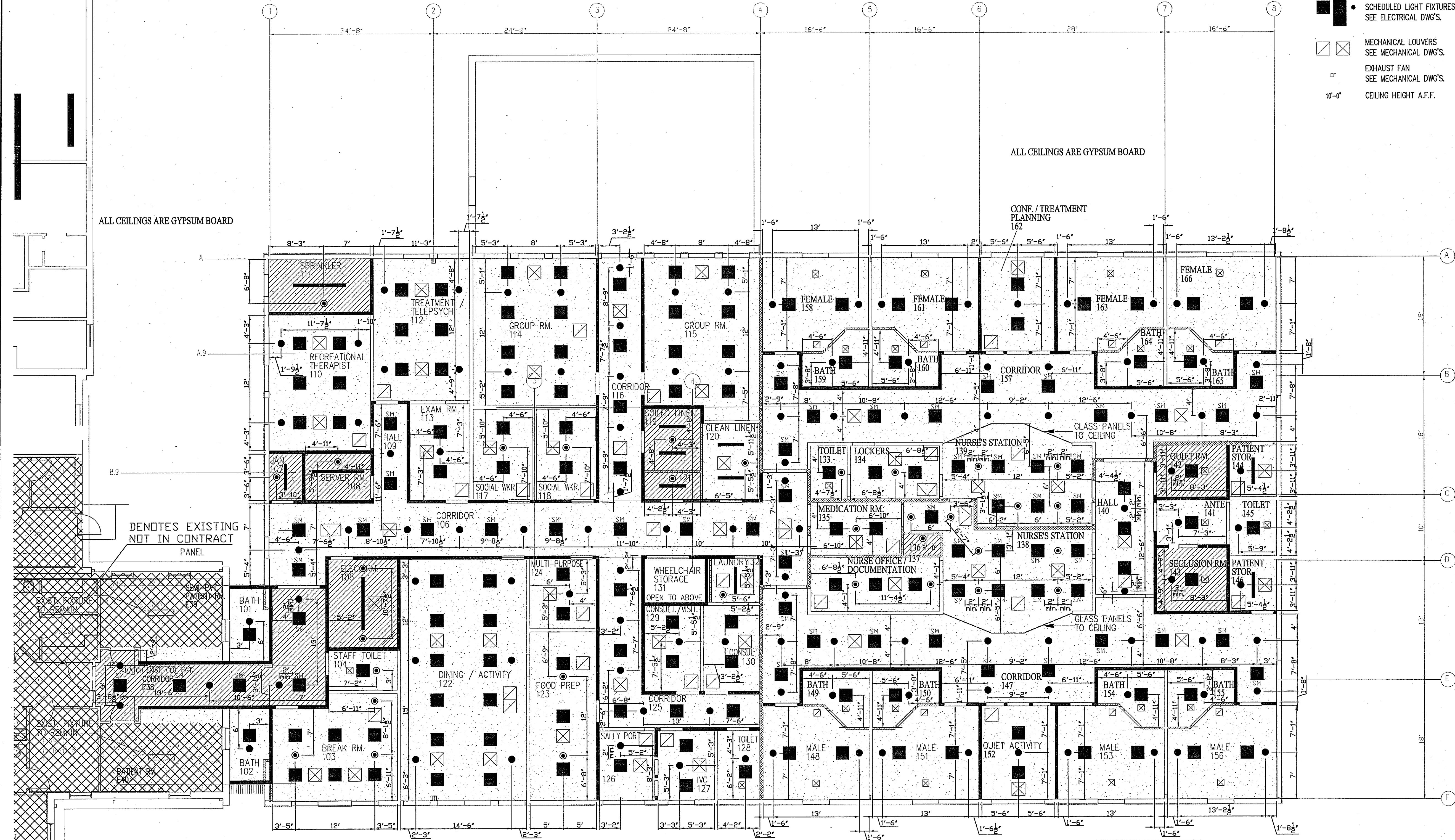
DRAWN BY:  
M.FORD

DRAWING NO.  
FP 2 of 3



CEILING LEGEND:

- SCHEDULED LIGHT FIXTURES  
SEE ELECTRICAL DWG'S.
- MECHANICAL LOUVERS  
SEE MECHANICAL DWG'S.
- EXHAUST FAN  
SEE MECHANICAL DWG'S.
- CEILING HEIGHT A.F.F.
- GYPSUM BOARD - PAINTED
- GYPSUM BOARD - PAINTED  
1 HOUR FIRE RATED - U415  
SYSTEM A - HORIZ. ASSEMBLY
- 22"x36" INSULATED  
FIRE-RATED ACCESS  
DOOR BY: NYSTROM;  
MODEL: 1WM22X36G



NOTE: SPRINKLER HEADS TO BE ALIGNED WITH LIGHTS U.N.C. (TYP.)

**CEILING PLAN**  
SCALE: 1/8"=1'-0"

**IMPORTANT**  
In locations that are subject to freezing conditions, it is the owner's responsibility to provide heat throughout areas protected by wet pipe sprinkler systems and in enclosures for dry pipe, deluge or other types of valves controlling water supplies to sprinkler systems.  
This drawing including all information and design concept herein contained is the property of Carolina Fire Protection Company, Inc. and is loaned upon express conditions that the same be returned to CFP, Inc. upon request; all information contained herein shall be treated as secret, and confidential; no reproduction of this drawing or any part thereof shall be made without written consent of CFP, Inc.

CONTRACT RESPONSIBILITIES	
ITEM	C.F.P./OTHERS
STREET WATER CONNECTION	N/A
UNDERGROUND WATER MAINS	N/A
EXCAVATIONS	N/A
BACKFILL	N/A
WIRING	N/A
PAINTING	N/A

SYMBOLS	
	CEILING HT. ABOVE REF. CL. OF PIPE BELOW BOD
	CL. OF PIPE ABOVE REF.
	HYDRAULIC REF. POINT
	LINE DESIGNATION
	MAIN DESIGNATION
	HANGER
	UNION
	GROOVED COUPLING (GC)
	SCREWED CAP
	GROOVED CAP
	SCREWED PLUG
	FLANGED CONNECTION

SYMBOLS	
	ELECTRIC BELL
	WATER MOTOR GONG (VMG)
	Bottom of Deck
	Bottom of Pipe
	Fire Dept. Conn. (Standard)
	Hose Valve
	Nipple and Cap
	Not in Contract
	Not to Scale
	Open Bar Joint
	Pressure Red. Valve
	Roof Manifold
	Standpipe
	Top of Beam
	Top of Pipe
	Top of Steel
	Unless Noted Otherwise

ABBREVIATIONS	
BOB	Bottom of Beam
BOP	Bottom of Deck
DO	Bottom of Pipe
HV	Hose Valve
N & C	Nipple and Cap
NIC	Not in Contract
NTS	Not to Scale
N & C	Open Bar Joint
PRV	Pressure Red. Valve
RM	Roof Manifold
SP	Standpipe
TOB	Top of Beam
TOP	Top of Pipe
TOS	Top of Steel
UNO	Unless Noted Otherwise

SYSTEM TYPE	
WET- <input type="checkbox"/>	DELUGE- <input type="checkbox"/>
DRY- <input type="checkbox"/>	PREACTION- <input type="checkbox"/>

APPROVALS	
<input type="checkbox"/> ISO	OUT IN
<input type="checkbox"/> IRI	OUT IN
<input type="checkbox"/> FM	OUT IN
<input type="checkbox"/>	OUT IN

SPRINKLER SYMBOL DESCRIPTION									
SYMBOL	SIZE	MODEL	MAKE	SIN	FINISH	STYLE	TEMP	K-FACTOR	TOTAL
	1/2	QR	RELIABLE	RA1414	WHITE	RECESSED PENDENT	155°	5.6	31
	1/2	QR	GLOBE	GL5606	WHITE	CONCEALED PENDENT	155°	5.6	118
	1/2	SR	RELIABLE	RA1325	BRASS	UPRIGHT	286°	5.6	10
TOTAL SPRINKLERS SHOWN ON THIS SHEET									159
TOTAL SPRINKLERS REQUIRED ON THIS CONTRACT									159

**CAROLINA FIRE PROTECTION**  
4055 HODGES CHAPEL ROAD  
Dunn, N.C. 28334  
Phone (910) 892-1700  
Fax (910) 892-7322

CONTRACT NAME: **GOOD HOPE HOSPITAL**  
410 DENIM DRIVE ERWIN, NC

CONTRACT WITH: **STE GENERAL CONTRACTORS**

DESCRIPTION: **CEILING PLAN**

SYSTEM DESIGN DATA

HAZARD CLASSIFICATION:	SYSTEM AREA:	SQ. FT.
HYDRAULIC DENSITY:	GPMSQ. FT.	COVERAGE:
DESIGN DATA:	SQ. FT.	SQ. FT./HEAD
AREA OF APPLICATION:	SQ. FT.	ALLOWANCES:
TOTAL SYSTEM RESOURCES:	GPMSQ. FT.	PSI AT
WATER SUPPLY INFORMATION:	PSI RESIDUAL PRESSURE:	PSI W
		GPMSQ. FT.

SEE SHEET FP-1 FOR DESIGN CRITERIA

CHECKED BY: **K. WILDER**  
DATE: **12/4/2020**

SCALE: **AS SHOWN**

CONTRACT NO: **20K533**

DRAWN BY: **M. FORD**

DRAWING NO. **FP 3 of 3**

NO.	DATE	REVISIONS - SEE FLAGGED AREA ON PLAN