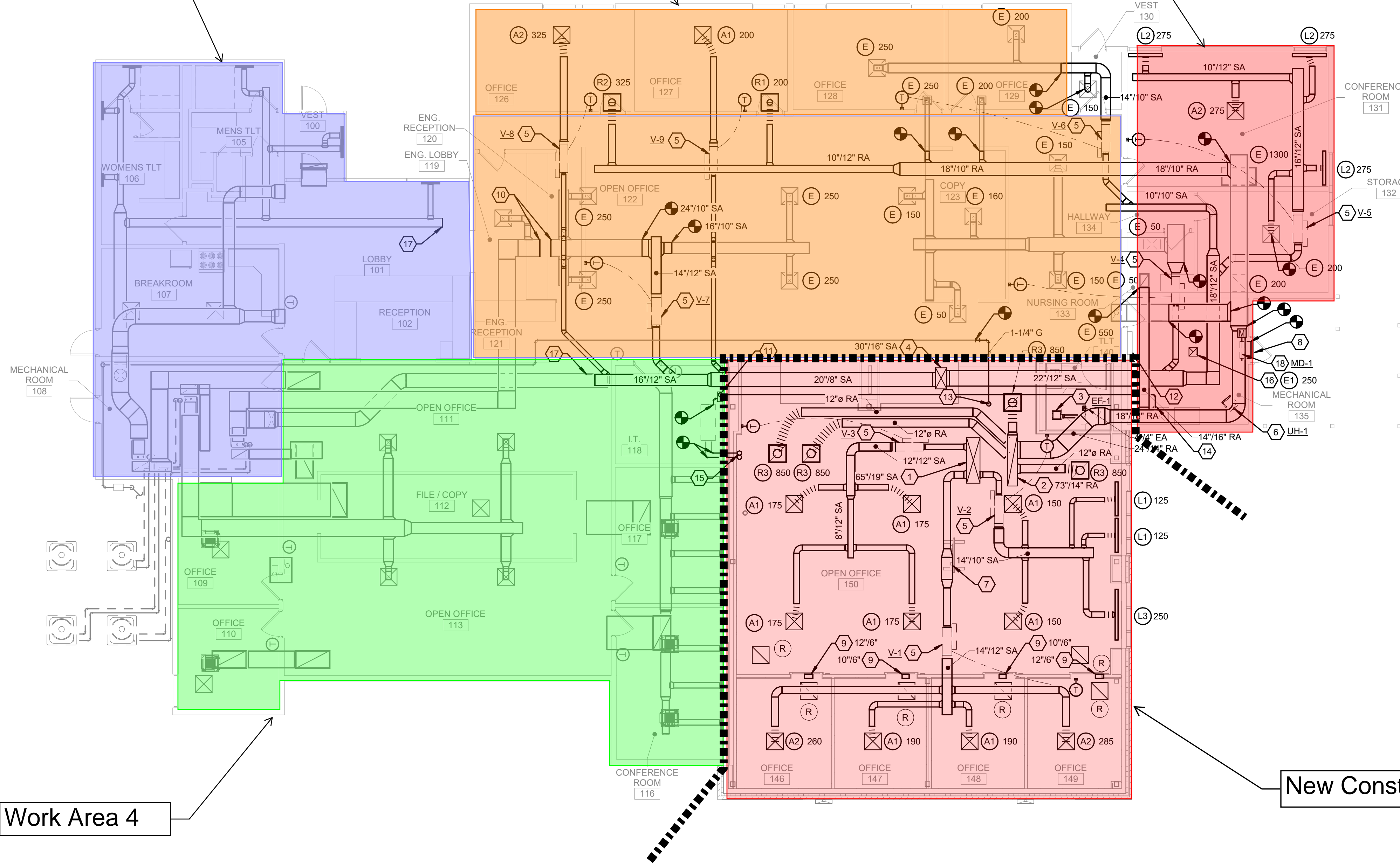


# Sequencing Work in the Existing Facility

Work Area 3

Work Area 2

Work Area 1



New Construction

## NOTES (THIS SHEET)

1. REFER TO SHEET M0.00 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.

## # KEYNOTES (THIS SHEET)

1. SA DUCT UP TO RTU-1
2. RA DUCT UP TO RTU-1
3. CEILING CASSETTE EXHAUST FAN EF-1. PROVIDE DISCHARGE DUCT UP THRU ROOF. SEE SCHEDULES.
4. SA DUCT UP THRU ROOF.
5. VAV BOX WITH ELECTRIC REHEAT. SEE SCHEDULES.
6. PROVIDE NEW ELECTRIC UNIT HEATER. SEE SCHEDULES.
7. TRANSITION DUCTWORK AS NECESSARY TO ROUTE UNDER LARGE STRUCTURAL BEAM. SEE STRUCTURAL SHEETS FOR SIZE AND LOCATION.
8. EXISTING LOUVER TO BE REUSED WITH EF-2. PROVIDE MOTORIZED DAMPER IN PLENUM. SEE SCHEDULES AND DETAILS.
9. PROVIDE TRANSFER OPENING SIZED AS NOTED.
10. CAP EXISTING DUCT TO ALLOW REZONING OF REMODEL AREA.
11. PROVIDE NEW CONDENSATE PUMP FOR EXISTING IT ROOM SPLIT SYSTEM. ROUTE CONDENSATE ABOVE CEILING TO DISCHARGE IN EASTERN MECHANICAL ROOM. PUMP SHOULD AT MINIMUM HAVE 1/2 GALLON CAPACITY WITH A FLOW RATE OF 65 GALLONS PER HOUR.
12. EXISTING TEMPERATURE CONTROL PANEL TO REMAIN. NEW CONTROLS TO BE FED FROM EXISTING PANEL.
13. EXISTING GAS PIPING UP TO RTU ON ROOF. SEE M2.2 FOR CONTINUATION.
14. ROUTE CONDENSATE DRAIN TO EXISTING MOP SINK IN MECHANICAL ROOM.
15. ROUTE NEW REFRIGERANT LINES UP TO RELOCATED CONDENSING UNIT ON ROOF. MATCH EXISTING SIZE.
16. 12"x12" EXHAUST DUCT DOWN FROM ROOF MOUNTED EXHAUST FAN WITH DUCT MOUNTED GRILLE. SEE MECHANICAL ROOF PLAN AND SCHEDULES.
17. CAP AND ABANDON EXISTING UNDERGROUND DUCT TO ALLOW REZONING OF REMODEL AREA. PATCH AND SEAL ALL OPENINGS.
18. PROVIDE NEW MECHANICAL DAMPER CONNECTED TO ROOFTOP EXHAUST FAN. SEE SCHEDULES.



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**NOT FOR CONSTRUCTION**

FOR REVIEW ONLY  
Not for regulatory approval, permit or construction.  
The information on this document is preliminary or incomplete, not for construction, recording purposes, or implementation.

ISSUANCE		
NO	DATE	DESCRIPTION

**LAKE COUNTY PUBLIC WORKS**  
LAKE COUNTY PUBLIC WORKS  
650 WEST WINCHESTER ROAD,  
LIBERTYVILLE, IL 60048

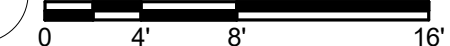
SD ISSUANCE (IN PROGRESS)

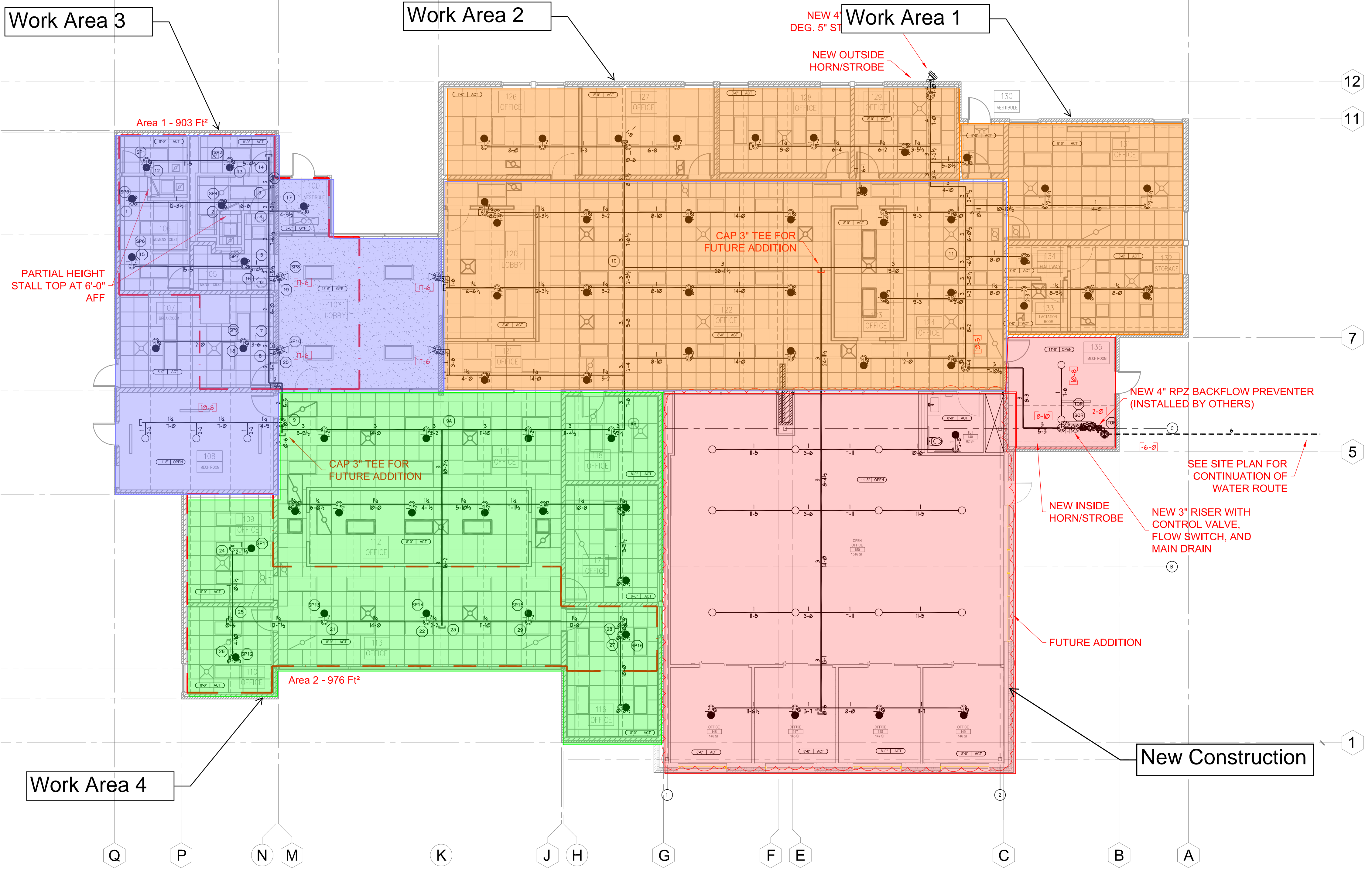
**FIRST FLOOR MECHANICAL PLAN**

SHEET NO.  
**M2.1**

JOB NO. 24-4020.01  
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**1 FIRST FLOOR MECHANICAL PLAN**





**LOCATION PLAN**  
NOT TO SCALE



**SITE PLAN**  
NOT TO SCALE

**BUILDING INFORMATION:**

EXISTING SINGLE-STORY BUILDING  
CONSTRUCTION TYPE II  
OCCUPANCY CLASSIFICATION GROUP B - BUSINESS

**GENERAL NOTES:**

ALL MATERIAL AND RELATED EQUIPMENT SHALL BE U.L. APPROVED AND LISTED FOR FIRE PROTECTION USE  
HANGERS SHALL BE SPACED & INSTALLED PER N.F.P.A. 13 (2019)  
F.E. MORAN FIRE PROTECTION SHALL SUPPLY A CONTRACTORS MATERIAL TEST CERTIFICATE  
PIPING 1.25" AND UP TO BE BLACK GROOVED SCH-10 WITH GROOVED FITTINGS  
1" PIPING TO BE BLACK THREADED SCH-40 PIPE WITH DUCTILE IRON FITTINGS

**WORK NOT INCLUDED:**

ANY ELECTRICAL WIRING (TO BE DONE BY OTHERS)  
PAINTING OF PIPE AND OR BAGGING OF SPRINKLERS FOR PAINTING  
INSTALLATION OF BACKFLOW PREVENTER, BELLS

**DESIGN CRITERIA:**

- LIGHT HAZARD OCCUPANCY
- QUICK RESPONSE K=5.6 SPRINKLERS
- SPACING: 225 SQ FT MAX
- DENSITY: 0.1 GPM PER SQ FT
- REMOTE 900 SQ.FT. (CEILING < 10'-0" ALLOW FOR A 40% DESIGN AREA REDUCTION ACCORDING TO N.F.P.A. 13 (2019) 19.3.3.2.3.1)
- 100 GPM HOSE ALLOWANCE

**SCOPE OF WORK:**

TO INSTALL A NEW WET PIPE FIRE PROTECTION SYSTEM IN ORDER TO PROVIDE CODE COMPLIANT COVERAGE FOR AN EXISTING BUILDING AT 650 W WINCHESTER RD.  
• INSTALLATION OF NEW HORIZONTAL SIDEWALL SPRINKLERS BELOW EXISTING CEILINGS.  
• INSTALLATION OF NEW UPRIGHT SPRINKLERS BELOW EXISTING DECK.  
• INSTALLATION OF NEW CONCEALED PENDENT SPRINKLERS BELOW EXISTING CEILINGS.  
• INSTALLATION OF NEW 3" RISER WITH CONTROL VALVE, MAIN DRAIN, AND FLOW SWITCH.  
• INSTALLATION OF NEW 4" NPT x 30 DEG. 5" STORZ FDC.  
• PROVIDE NEW 4" RPZ BACKFLOW PREVENTER (INSTALLED AND CERTIFIED BY OTHERS).  
• PROVIDE NEW INSIDE HORN/STROBE AND NEW OUTSIDE HORN/STROBE (INSTALLED BY OTHERS).

STORAGE AND MECHANICAL ROOMS ARE ORDINARY HAZARD OCCUPANCY. COVERAGE AREA PER SPRINKLER SHALL NOT EXCEED 130 SQ.FT. IN ORDINARY HAZARD AREAS.

ALL OTHER AREAS ARE LIGHT HAZARD OCCUPANCY. COVERAGE AREA PER SPRINKLER SHALL NOT EXCEED 225 SQ.FT. IN LIGHT HAZARD AREAS.

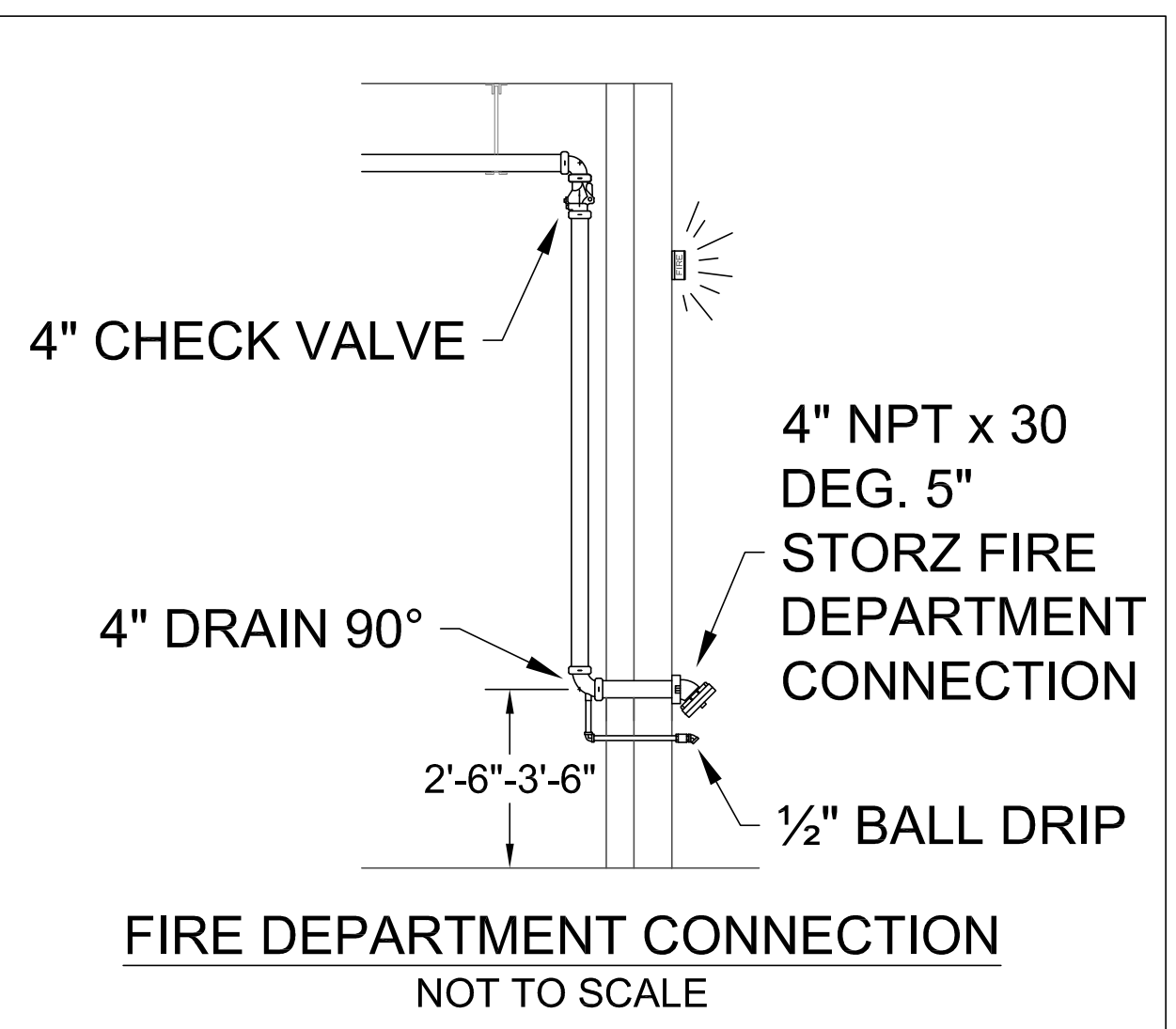
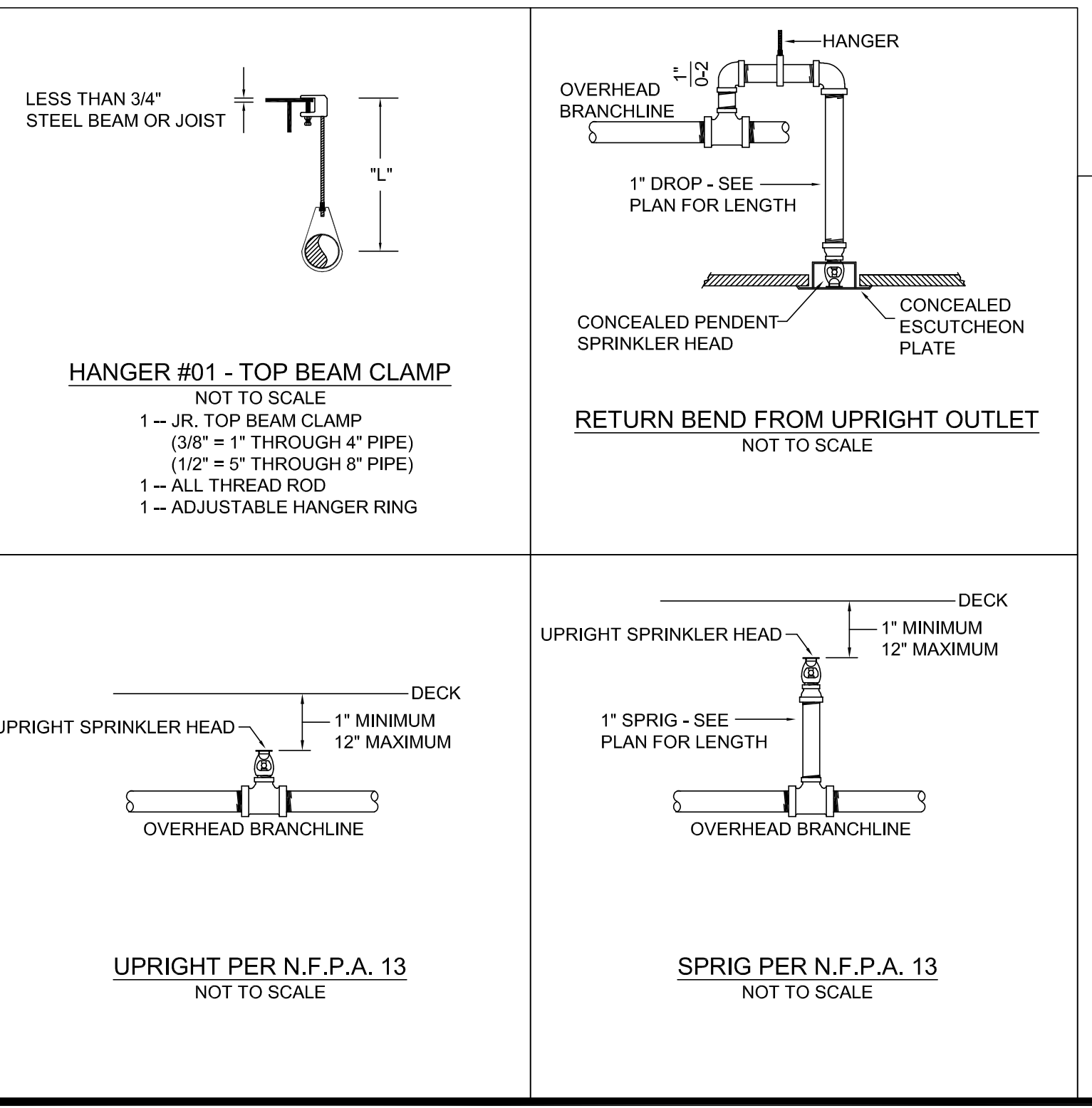
SPACING BETWEEN SPRINKLERS SHALL NOT EXCEED 15'-0". SPACING FROM WALLS SHALL NOT EXCEED 7'-6". FOR LIGHT HAZARD ROOMS LESS THAN 800 SQ. FT., SPACING FROM A SINGLE WALL SHALL BE PERMITTED NOT TO EXCEED 9'-0". ALL SPRINKLER HEADS SHALL BE AT LEAST 4" FROM NEARBY WALLS.

THIS FIRE SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE N.F.P.A. 13 (2019)

**Sequencing Work in the Existing Facility**

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

- LEGEND**
- ◁ NEW HSW SPRINKLER
  - NEW UPRIGHT SPRINKLER
  - NEW CONCEALED PENDENT SPRINKLER
  - [X-X] PIPE ELEVATION ABOVE FINISHED FLOOR
  - CEILING ELEVATION
  - MT NEW MECHANICAL TEE
  - ⊖ PLUGGED OUTLET
  - ⊕ HYDRAULIC NODE
  - NEW SPRINKLER PIPE
  - EXISTING SPRINKLER PIPE TO REMAIN



**HYDRAULIC SYSTEM**  
THIS BUILDING IS PROTECTED BY A HYDRAULICALLY DESIGNED AUTOMATIC SPRINKLER SYSTEM  
LOCATION - REMOTE AREA 1  
F.E. MORAN'S CONTRACT NO. 30.6023.000

**BASIS OF DESIGN**

DENSITY OR START PSI	0.1
DESIGN AREA OF DISCHARGE	900 SQ. FT.
NUMBER OF SPRINKLERS FLOWING	10

**SYSTEM DEMAND**

GPM DISCHARGE	159.7	GPM
AT BASE OF RISER		
RESIDUAL PRESSURE	39.1	PSI
AT BASE OF RISER		
INSIDE HOSE ALLOWANCE	N/A	GPM
TOTAL HOSE ALLOWANCE	100	GPM
OCCUPANCY CLASSIFICATION	LIGHT HAZARD	
COMMODITY CLASSIFICATION	N/A	
MAXIMUM STORAGE HEIGHT	N/A	

**HYDRAULIC SYSTEM**  
THIS BUILDING IS PROTECTED BY A HYDRAULICALLY DESIGNED AUTOMATIC SPRINKLER SYSTEM  
LOCATION - REMOTE AREA 2  
F.E. MORAN'S CONTRACT NO. 30.6023.000

**BASIS OF DESIGN**

DENSITY OR START PSI	0.1
DESIGN AREA OF DISCHARGE	900 SQ. FT.
NUMBER OF SPRINKLERS FLOWING	6

**SYSTEM DEMAND**

GPM DISCHARGE	124.5	GPM
AT BASE OF RISER		
RESIDUAL PRESSURE	40.3	PSI
AT BASE OF RISER		
INSIDE HOSE ALLOWANCE	N/A	GPM
TOTAL HOSE ALLOWANCE	100	GPM
OCCUPANCY CLASSIFICATION	LIGHT HAZARD	
COMMODITY CLASSIFICATION	N/A	
MAXIMUM STORAGE HEIGHT	N/A	

<p><b>WATER TEST INFORMATION</b></p> <p>TYPE OF FLOW TEST: HYDRANT</p> <p>STATIC PRESSURE (PSI): 48</p> <p>RESIDUAL PRESSURE (PSI): 43</p> <p>TOTAL FLOW (GPM): 680</p> <p>DATE OF TEST: 7/29/24</p> <p>SOURCE OF TEST: Hydrant Flow Test</p> <p>LOCATION OF TEST: 650 W Winchester Rd, Libertyville, IL 60048</p>	<p><b>SPRINKLER LEGEND</b></p> <table border="1"> <thead> <tr> <th>SYM.</th> <th>MFR.</th> <th>MODEL</th> <th>PART #</th> <th>STYLE</th> <th>POSITION</th> <th>FINISH</th> <th>K</th> <th>THREAD</th> <th>TEMP.</th> <th>ESC.</th> <th>ESC.</th> <th>ESC.</th> <th>SH.</th> <th>PROJ.</th> </tr> </thead> <tbody> <tr> <td>◁</td> <td>RELIABLE</td> <td>F1FR56</td> <td>RA1425</td> <td>EXPOSED</td> <td>HSW</td> <td>BRONZE</td> <td>5.6</td> <td>1/2"</td> <td>155</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>4</td> <td>16</td> </tr> <tr> <td>○</td> <td>RELIABLE</td> <td>F1FR56</td> <td>RA1425</td> <td>EXPOSED</td> <td>UPRIGHT</td> <td>BRONZE</td> <td>5.6</td> <td>1/2"</td> <td>155</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>4</td> <td>16</td> </tr> <tr> <td>●</td> <td>RELIABLE</td> <td>G5-56</td> <td>RA3415</td> <td>CONCEALED/PENDENT</td> <td>BRONZE</td> <td>5.6</td> <td>1/2"</td> <td>165</td> <td>G5</td> <td>WHITE</td> <td></td> <td></td> <td>66</td> <td></td> </tr> </tbody> </table>	SYM.	MFR.	MODEL	PART #	STYLE	POSITION	FINISH	K	THREAD	TEMP.	ESC.	ESC.	ESC.	SH.	PROJ.	◁	RELIABLE	F1FR56	RA1425	EXPOSED	HSW	BRONZE	5.6	1/2"	155	N/A	N/A	N/A	4	16	○	RELIABLE	F1FR56	RA1425	EXPOSED	UPRIGHT	BRONZE	5.6	1/2"	155	N/A	N/A	N/A	4	16	●	RELIABLE	G5-56	RA3415	CONCEALED/PENDENT	BRONZE	5.6	1/2"	165	G5	WHITE			66		<p><b>REVISIONS</b></p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>SUBMITTAL</td> <td>RB</td> <td>8/22/24</td> </tr> </tbody> </table>	NO.	DESCRIPTION	BY	DATE	1	SUBMITTAL	RB	8/22/24	<p>CONTRACT NO: 30.6023.000</p> <p>DRAWN BY: RB</p> <p>PHONE NUMBER: 847-560-1344</p> <p>SCALE: AS SHOWN</p> <p>DATE: 8/22/24</p> <p>PROJECT MANAGER: KL</p> <p>CONTRACT WITH: McDonagh</p>	<p><b>APPROVAL STAMP</b></p> <p>_____ LCPW Admin Building Fire Protection Plan</p> <p><b>FP-01</b> <b>OF 01</b></p>
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<p><b>F.E. MORAN INC.</b> Fire Protection of Northern Illinois 2165 Sherman Road Suite "D" Northbrook, IL 60062 Illinois Fire Sprinkler Contractor License #FSC 0080 - Phone (847) 498 - 4870 femoran.com</p> <p>LCPW Admin Building 650 W Winchester Rd Libertyville, IL 60048</p>																																																																								