

MECHANICAL GENERAL NOTES

- ALL WORK AND MATERIALS SHALL BE PURCHASED AND INSTALLED IN ACCORDANCE WITH ALL NATIONAL & STATE OF NORTH CAROLINA CODES AND REGULATIONS (AS WELL AS ALL APPLICABLE LOCAL CODES & REGULATIONS). THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL HVAC WORK IS PROVIDED AND INSTALLED IN STRICT ACCORDANCE WITH SEISMIC REQUIREMENTS.
- DO NOT SCALE FROM THESE DRAWINGS.
- THE EXACT MOUNTING HEIGHTS AND LOCATIONS OF ALL HVAC EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL OTHER MECHANICAL, ELECTRICAL, PLUMBING, FIRE SPRINKLER, ARCHITECTURAL AND STRUCTURAL SYSTEMS. DURINGS SHOP DRAWINGS SUBMISSIONS, SHOW ALL MOUNTING HEIGHTS OF DUCTWORK, UNITS, ETC.
- VERIFY ALL EQUIPMENT VOLTAGES WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
- ELECTRICAL CONTRACTOR WILL PROVIDE DISCONNECT SWITCHES FOR ALL HVAC EQUIPMENT INCLUDING WEATHERPROOF UNITS AS REQUIRED. UNLESS UNITS ARE SPECIFIED WITH FACTORY MOUNTED & INSTALLED DISCONNECT SWITCHES. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR EXACT DETAILS.
- PROVIDE PHASE LOSS PROTECTION FOR ALL POLY-PHASE MOTOR DEVICES.
- DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET STEEL IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE ASHRAE, NFPA, AND SMACNA GUIDE RECOMMENDATIONS. ALL DUCTS TO HAVE PITTSBURGH TYPE LOCK FOR LONGITUDINAL SEAMS AND DRIVE SLIP / "S" SLIP FOR TRANSVERSE JOINTS. "DUCT-MATE" JOINT SYSTEM IS ACCEPTABLE IN LIEU OF PRIOR SEAM SYSTEMS. SIZES AS SHOWN INDICATE INSIDE CLEAR DIMENSIONS OF THE AIR PASSAGE. DUCTWORK SHALL BE FULLY INSULATED AS PER APPLICABLE CODES AND WRITTEN SPECIFICATIONS.
- DUCT SIZES MUST BE VERIFIED FOR CLEARANCES AT THE JOB SITE PRIOR TO FABRICATION. DIMENSIONS MAY BE CHANGED TO ACCOMMODATE CONSTRUCTION AS LONG AS EFFECTIVE CROSS-SECTIONAL AREA IS MAINTAINED. DUCT TRANSITIONS SHALL BE CONSTRUCTED WITH A SLOPE OF 1" TO 4". ALL DEVIATIONS FROM ORIGINAL CONTRACT DRAWINGS SHALL BE REVIEWED BY ENGINEER DURING THE SHOP DRAWING PROCESS.
- PROVIDE ELBOWS OR TEES WITH TURNING VANES FOR ALL CHANGES OF DUCT DIRECTION. PROVIDE SPLITTER DAMPERS WITH LOCKING QUADRANTS IN ALL TEES.
- PROVIDE MANUAL BALANCING DAMPERS AS REQUIRED TO PROPERLY BALANCE EACH INDIVIDUAL AIR DISTRIBUTION SYSTEM. IF THE LOCATION OF THE BALANCING DAMPER IS NOT DEFINED ON THE DRAWINGS, THE FOLLOWING MINIMUM STANDARDS SHALL GOVERN. ALL SUPPLY, RETURN, AND EXHAUST MAIN BRANCHES FROM TRUNKS, EACH SPLIT AND ALL SUB-BRANCHES FROM MAIN SHALL INCORPORATE BALANCING DAMPERS.
- PROVIDE FLEXIBLE CONNECTORS AT ALL DUCT CONNECTIONS TO VIBRATING EQUIPMENT. THESE CONNECTORS SHALL BE INSTALLED IN CLOSE PROXIMITY TO SUCH EQUIPMENT.
- ALL ACCESS DOORS REQUIRED IN GENERAL CONSTRUCTION ARE TO BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR. IT IS THE RESPONSIBILITY OF THE HVAC CONTRACTOR TO IDENTIFY SIZE, TYPE AND LOCATION OF SUCH DOORS FOR PROPER ACCESS TO ALL CONCEALED HVAC EQUIPMENT, VALVES AND OTHER RELATED EQUIPMENT. THE HVAC CONTRACTOR SHALL IDENTIFY THESE REQUIREMENTS ON A COORDINATED SHOP DRAWING PRIOR TO SYSTEM FABRICATION AND INSTALLATION.
- ALL CEILING MOUNTED EQUIPMENT MUST BE SUPPORTED DIRECTLY FROM BUILDING STRUCTURE WITH COMBINATION SPRING AND EOPRENE-IN-SHEAR HANGERS AND ROD. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED TO ADEQUATELY SUPPORT THE LOAD.
- M.C. MUST CONTRACT AN INDEPENDENT NEBB CERTIFIED AIR BALANCING & TESTING COMPANY TO PERFORM THE AIR BALANCING WORK AND ASSOCIATED SYSTEM AIR BALANCING REPORT. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH ALL APPLICABLE CODES, REGULATIONS, PLANS AND WRITTEN SPECIFICATIONS. SUBMIT THE FINAL AIR BALANCE REPORT TO THE ENGINEER FOR REVIEW AND APPROVAL. PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT, AS DETERMINED BY THE G.C. AND OWNER/CLIENT. THE AIR BALANCE REPORT MUST INCLUDE ALL SUPPLY, RETURN, & EXHAUST AIR TERMINALS, FRESH AIR (OUTSIDE AIR) INTAKE AND VENTILATION EXHAUST CFM RATES FOR ALL UNITS. ALSO INCLUDE ACTUAL SUPPLY & RETURN AIR VELOCITY & STATIC PRESSURE READINGS ALONG WITH ALL MOTOR AMPERAGES FOR ALL UNITS.
- FIRE ALARM CONTRACTOR IS TO PROVIDE & INSTALL 12V SMOKE DETECTORS WITH AUXILIARY CONTACTS. UPON ACTIVATION THE SMOKE DETECTORS SHALL SHUT DOWN THE AIR DISTRIBUTION SYSTEMS AND ACTIVATE A VISIBLE AND AUDIBLE SUPERVISOR SIGNAL AT A CONSTANTLY ATTENDED LOCATION IN ACCORDANCE WITH NFPA 90A & 90B. THE M.C. IS RESPONSIBLE FOR WIRING BETWEEN THE FAN SHUTDOWN RELAY AND THE HVAC UNIT. THE M.C. IS RESPONSIBLE TO COORDINATE THE INSTALLATION OF THE SMOKE DETECTORS WITH THE FIRE ALARM CONTRACTOR.
- THE MECHANICAL CONTRACTOR IS TO INCLUDE IN HIS BID ALL LOW VOLTAGE CONTROL WIRING, THERMOSTATS, RELAYS, TRANSFORMERS, STARTERS ETC FOR A COMPLETE OPERATING CONTROL SYSTEM AS DESCRIBED IN THE SEQUENCE OF OPERATIONS. (M.C.) IS ALSO RESPONSIBLE FOR LOW VOLTAGE CONTROL FOR EXHAUST FANS CONTROLLED FROM LIGHT SWITCH AND THERMOSTATS. ALL CONTROL WIRING IN THE AREAS THAT DO NOT HAVE DROPPED CEILINGS THE (M.C) MUST PROVIDE ALL CONTROL WIRING CONDUIT. IN AREAS OF DROPPED CEILING PLENUM RATED CONTROL WIRING CAN BE RUN EXPOSED ABOVE CEILING.
- ALL MECHANICAL EQUIPMENT SHALL BE MOUNTED AND/OR INSTALLED PER MANUFACTURER'S REQUIREMENTS/SPECIFICATIONS.
- IN ACCORDANCE WITH 2015 ECCPA, HEATING AND COOLING LOADS HAVE BEEN CALCULATED USING COMPUTATIONAL PROCEDURES VIA CARRIER HAP SOFTWARE
- IN AGREEMENT WITH 2015 ECCPA SECTION C403.2.4.3, SHUT-OFF DAMPERS SHALL BE INSTALLED AT ALL STAIRWAY ENCLOSURE PENETRATIONS, ELEVATOR SHAFT PENETRATIONS, AND OUTDOOR AIR INTAKE BUILDING ENVELOPE PENETRATIONS. PERFORMANCE REQUIREMENTS AND CONTROLS SHALL MATCH THOSE DETAILED IN THE ABOVE REFERENCED CODE.
- SUPPLY AIR DUCT IN FIRST FLOOR OFFICE AREA (ABOVE SUSPENDED CEILING) SHALL HAVE MINIMUM R-6 RATED INSULATION. DUCT SEALING SHALL COMPLY WITH REQUIREMENTS OF SECTION 603.9 OF THE 2014 NYC MECHANICAL CODE. NO OTHER DUCTWORK THROUGHOUT THE BUILDING SHALL BE INSULATED.
- INSULATION SHALL CONFORM TO STATE OF NORTH CAROLINA ENERGY CODES AND

FLUID OPERATING TEMPERATURE RANGE & USAGE (°F)	INSULATION CONDUCTIVITY		NORMAL PIPE OR TUBE SIZE (in)			
	CONDUCTIVITY BTU-IN/IN ² -HR-°F		<1	1 To <1 1/2	1 1/2 To <4	4 To >8
40-60	0.21-0.27		0.5	0.5	1.0	1.0

- PIPE SURFACES TO BE CLEAN AND DRY SURFACES, ENDS TIGHTLY BUTTED AND SECURED WITH SSL BUTT STRIPS.
- INSULATE PIPE FITTINGS AND VALVES TO SAME THICKNESS AS ADJACENT PIPE INSULATION. FITTINGS AND VALVES SHALL BE COVERED WITH WOVEN GLASS FABRIC.
- RUN INSULATION CONTINUOUS THROUGH HANGERS. USE 16 GAUGE SHEET STEEL 2" PIPE DIA. LONG, 100 DEGREE SUPPORT.
- ALL INSULATION SHALL HAVE SURFACE BURNING CHARACTERISTIC RATINGS OF FLAME SPREAD 25 AND SMOKE DEVELOPED 50.

B. PIPE COVERING:

- INSULATION SHALL BE JOHNS- MANVILLE, KNAUFF, OR APPROVED EQUAL. EXTERIOR PIPING SHALL BE PROVIDED WITH VENTURECLAD WEATHERPROOF JACKETING OR APPROVED EQUAL.
- MINIMUM REQUIRED PIPE, VALVE, AND FITTING INSULATION FIELD-APPLIED JACKETING:
 - OUTDOOR PIPES: 0.032" ALUMINUM JACKET.
 - INDOOR, UNACCESSIBLE PORTIONS OF SHAFTS: NONE.
 - INDOOR, ALL OTHER AREAS NOT LISTED ABOVE: PVC.

HVAC ABBREVIATIONS

IDENTIFIER	DESCRIPTION
AC	DIRECT EXPANSION AIR CONDITIONING UNIT
ACCU	AIR COOLED CONDENSING UNIT
AI	ANALOG INPUT
AO	ANALOG OUTPUT
AHU	AIR HANDLING UNIT
A.P.D.	AIR PRESSURE DROP
BACNET	BUILDING AUTOMATION AND CONTROL NETWORKS
BAS	BUILDING AUTOMATION SYSTEM
BG	BOTTOM GRILLE
BHP	BRAKE HORSEPOWER
BMS	BUILDING MANAGEMENT SYSTEM
BOT	BOTTOM
BR	BOTTOM REGISTER
BTU/HR	BRITISH THERMAL UNITS/HR
CA	COMMON ALARM
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CND	LOW PRESSURE CONDENSATE RETURN
COND	CONDENSATE DRAIN
CP	CONTROL PANEL
CR	CEILING REGISTER
CU	CONDENSING UNIT
DB	DRY BULB
DES	DAMPER END SWITCH
DIA	DIAMETER
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB
EWV	ENTERING WATER TEMPERATURE
FAI	FRESH AIR INTAKE
FLA	FULL-LOAD-AMPERAGE
FPM	FEET PER MINUTE
FZ	FREEZE
G	GAS
GC	GENERAL CONTRACTOR
HP	HORSEPOWER
IAW	IN ACCORDANCE WITH
IF	INTAKE FAN
IR	INTERPOSING RELAY
LAT	LEAVING AIR TEMPERATURE
LPVR	LOW PRESSURE VAPOR REFRIGERANT
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MIN	MINIMUM
PD	PRESSURE DROP
RA	RETURN AIR
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RHG	REFRIGERANT HOT GAS LINE
RL	REFRIGERANT LIQUID LINE
RPM	ROTATIONS PER MINUTE
RR	RETURN REGISTER
SA	SUPPLY AIR
SD	SUPPLY DIFFUSER
SG	SUPPLY GRILLE
SPS	STATIC PRESSURE SENSOR
SR	SAFETY RELAY
SS	START/STOP
ST	STATUS
TSP	TOTAL STATIC PRESSURE
TYP.	TYPICAL
WB	WET BULB
W.C.	WATER COLUMN
WG	WATER GAUGE

NOTE: NOT ALL ABBREVIATIONS USED IN DRAWINGS.

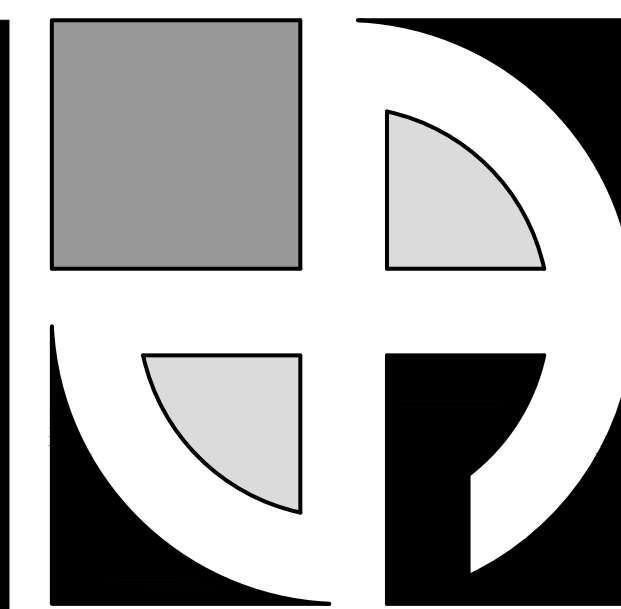
BUILDING DEPARTMENT NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2015 CODE OF NORTH CAROLINA BUILDING CODE (BC), AND MECHANICAL CODE (MC). WORK SHALL BE EXECUTED IN FULL COMPLIANCE WITH THE APPLICABLE PROVISIONS OF ALL LOCAL LAWS, BY LAWS, STATUTES, ORDINANCES, CODES, RULES REGULATIONS AND LAWFUL ORDERS OF PUBLIC AUTHORITIES BEARING ON THE PERFORMANCE AND EXECUTION OF THE WORK. ALL WORK SHALL COMPLY WITH THE 2014 NYC ENERGY CONSERVATION CODE.
- MATERIALS, OPERATIONS AND EQUIPMENT OF REQUIRED HVAC SYSTEM SHALL BE SUBJECT TO SPECIAL INSPECTIONS AS REQUIRED IN CONSTRUCTION CODE ADMINISTRATIVE PROVISION, ARTICLES 28-115, 28-116, 28-118, BC-109.
 - FORM TR-1 SHALL BE FILED PRIOR TO INSTALLATION. FORM TR-1 SHALL AGAIN BE FILED UPON COMPLETION OF INSTALLATION.
 - THEY SHALL HAVE BEEN ACCEPTABLE PRIOR TO THE EFFECTIVE DATE OF THE CODE BY THE BOARD OF STANDARDS AND APPEALS.
 - THEY SHALL HAVE BEEN ACCEPTED FOR USE UNDER THE PRESCRIBED TEST METHODS BY THE COMMISSIONER (OR).
 - PREVIOUSLY APPROVED BY THE BOARD OF STANDARDS AND APPEALS (AS PER CC SECTION 28-113)
- ALL MATERIALS AND EQUIPMENT DELIVERED TO THE SITE SHALL BE RECOGNIZED BY THE OFFICE OF TECHNICAL CERTIFICATION AND RESEARCH (OTCR). PRODUCTS ARE NOT CODE-PRESCRIBED OR APPROVED ALTERNATIVE AND SHALL BE REJECTED UNTIL SUCH CERTIFICATES ARE OBTAINED.
- ALL EQUIPMENT USE PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AS REQUIRED IN NEW YORK CITY CONSTRUCTION CODES.

HVAC SYMBOL LIST

IDENTIFIER	DESCRIPTION	IDENTIFIER	DESCRIPTION	SINGLE LINE	DOUBLE LINE
	SPIRAL DUCTWORK WITH 1" ACOUSTICAL LINING HARD DUCT CONNECTION TO ROUND DIFFUSER DUCTWORK TO BE PAINTED TO COLOR SPECIFIED BY ARCHITECT		FLAT, PLEATED FILTER		
	AIR VENT		CARTRIDGE FILTER	ELBOW MAY TRANSITION IN "W" DIMENSION ONLY	
	PRESSURE GAUGE WITH PETCOCK		HUMIDIFIER	SUPPLY, RETURN OR EXHAUST ROUND ELBOW	
	THERMOMETER		COIL - PREHEAT	SINGLE THICKNESS TURNING VANES	
	PIPE RUNOUT UP THROUGH FINISHED FLOOR ABOVE		COIL - COOLING	SUPPLY, RETURN OR EXHAUST SQUARE ELBOW	
	PIPE DROP OR DIRECTION OF FLOW		COIL - HEATING	SUPPLY, RETURN OR EXHAUST DUCT BRANCH	
	PIPE RISER		ELECTRIC HEATER	SINGLE THICKNESS TURNING VANES	
	PIPE TEE DOWN		AVERAGING DEVICE XX - DEVICE TYPE YY - SIGNAL TYPE	SUPPLY, RETURN OR EXHAUST SQUARE ELBOW	
	PIPE TEE UP		PUMP	SUPPLY, RETURN OR EXHAUST DUCT BRANCH	
	TWO WAY AND THREE WAY CONTROL VALVE		VARIABLE FREQUENCY DRIVE	SINGLE THICKNESS TURNING VANES	
	BALL/ISOLATION VALVE		SPLIT-CASE PUMP	SUPPLY, RETURN OR EXHAUST SQUARE ELBOW	
	GLOBE VALVE		END-SUCTION PUMP	SINGLE THICKNESS TURNING VANES	
	EXPANSION/RELIEF VALVE		INLINE PUMP	SUPPLY, RETURN OR EXHAUST SQUARE ELBOW	
	BALANCING VALVE		EQUIPMENT TAG XX - DEVICE TYPE YY - SIGNAL TYPE	SINGLE THICKNESS TURNING VANES	
	CHECK VALVE		DETAIL TAG/CALL OUT TAG MECHANICAL SHEET NUMBER	SINGLE THICKNESS TURNING VANES	
	DRAIN VALVE		TAG - BMS DEVICE XX - DEVICE TYPE YY - SIGNAL TYPE	SINGLE THICKNESS TURNING VANES	
	FLEXIBLE CONNECTION		ELECTRIC PNEUMATIC RELAY XX - TAG NUMBER YYY - SYSTEM	SINGLE THICKNESS TURNING VANES	
	UNION		FIELD CONNECT NEW TO EXISTING	SINGLE THICKNESS TURNING VANES	
	STRAINER WITH BLOW OFF VALVE		FIELD DISCONNECT	SINGLE THICKNESS TURNING VANES	
	TRIPLE DUTY VALVE		DIFFERENTIAL PRESSURE SENSOR	SINGLE THICKNESS TURNING VANES	
	THERMOSTATIC STEAM TRAP		SUPPLY AIR FLOW	SINGLE THICKNESS TURNING VANES	
	CAPPED PIPE		EXHAUST AIR	SINGLE THICKNESS TURNING VANES	
	PIPE ANCHOR		GAS SENSOR (INDICATE TYPE)	SINGLE THICKNESS TURNING VANES	
	PIPE SLEEVE		UNDERCUT DOOR	SINGLE THICKNESS TURNING VANES	
	NEW DUCTWORK OR PIPING		THERMOSTAT	SINGLE THICKNESS TURNING VANES	
	EXISTING DUCTWORK OR PIPING TO BE REMOVED		DUCT SMOKE DETECTOR	SINGLE THICKNESS TURNING VANES	
	EXISTING DUCTWORK OR PIPING TO REMAIN		TEMPERATURE SENSOR	SINGLE THICKNESS TURNING VANES	
	HEAT TRACE PIPE		4 WAY CEILING DIFFUSER	SINGLE THICKNESS TURNING VANES	
	DOUBLE-LINE AND SINGLE-LINE RECTANGULAR DUCT. FIRST NUMBER INDICATES SIDE IN VIEW IN INCHES, SECOND NUMBER INDICATES SIDE IN DEPTH IN INCHES		3 WAY CEILING DIFFUSER	SINGLE THICKNESS TURNING VANES	
	EQUIPMENT TAG XX - DEVICE TYPE YY - SIGNAL TYPE		2 WAY CEILING DIFFUSER	SINGLE THICKNESS TURNING VANES	
	DETAIL TAG/CALL OUT TAG MECHANICAL SHEET NUMBER		EXHAUST FAN	SINGLE THICKNESS TURNING VANES	
	FLEXIBLE DUCTWORK		EXHAUST GRILLE	SINGLE THICKNESS TURNING VANES	
	REGULAR SUPPLY AIR DUCT (UP AND DOWN)		METER	SINGLE THICKNESS TURNING VANES	
	REGULAR RETURN AIR DUCT (UP AND DOWN)		REGULATOR	SINGLE THICKNESS TURNING VANES	
	REGULAR EXHAUST AIR DUCT (UP AND DOWN)		RETURN GRILLE/REGISTER	SINGLE THICKNESS TURNING VANES	
	REGULAR OUTSIDE AIR DUCT (UP AND DOWN)		SUPPLY DIFFUSER - ROUND	SINGLE THICKNESS TURNING VANES	
	ROUND RETURN AIR DUCT (UP AND DOWN)		RETURN DIFFUSER - ROUND	SINGLE THICKNESS TURNING VANES	
	ROUND EXHAUST AIR DUCT (UP AND DOWN)		EXHAUST DIFFUSER - ROUND	SINGLE THICKNESS TURNING VANES	
	ROUND OUTSIDE AIR DUCT (UP AND DOWN)		SIDEWALL GRILLE	SINGLE THICKNESS TURNING VANES	
	INSULATED FLEXIBLE DUCT		ELECTRONIC TIMECLOCK	SINGLE THICKNESS TURNING VANES	
	VOLUME DAMPER		REFER TO SUPPLEMENTAL FIGURE INDICATED BY NUMBER (I.E. F2 REFERS TO FIGURE 2)	SINGLE THICKNESS TURNING VANES	
	BACKDRAFT DAMPER			SINGLE THICKNESS TURNING VANES	
	FIRE DAMPER AND ACCESS DOOR			SINGLE THICKNESS TURNING VANES	
	SMOKE DAMPER AND ACCESS DOOR			SINGLE THICKNESS TURNING VANES	
	MOTOR OPERATED DAMPER			SINGLE THICKNESS TURNING VANES	
	CONTROL DAMPER			SINGLE THICKNESS TURNING VANES	
	FAN - CENTRIFUGAL			SINGLE THICKNESS TURNING VANES	
	AIRFLOW MEASURING STATION			SINGLE THICKNESS TURNING VANES	

NOTE: NOT ALL SYMBOLS USED IN DRAWINGS.



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22-110

STORE SPACE
STORAGE CAP ELON, LP
L070
931 East Haggard Ave.
Elon, North Carolina 27244

No.	Description	Date	By

DATE: 3-17-2023

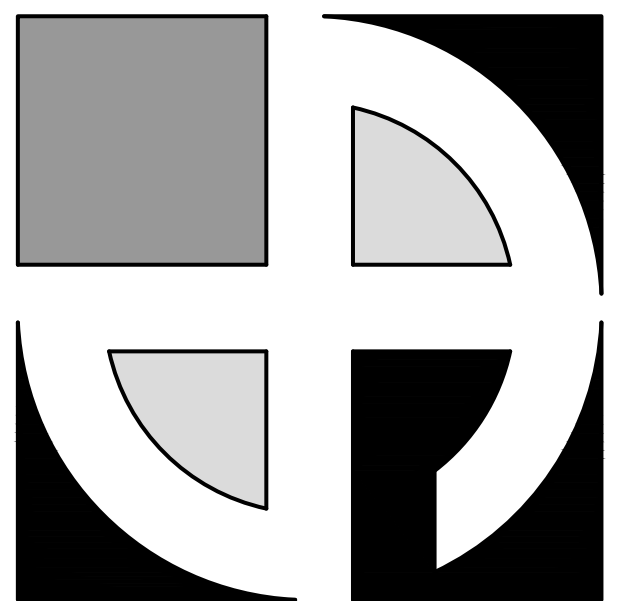
DRAWN BY: A. Brose
CHECKED BY: M. Dean

SCALE: 1/16"= 1'-0"

MECHANICAL SYMBOLS
ABBREVIATIONS & NOTES

M1.0





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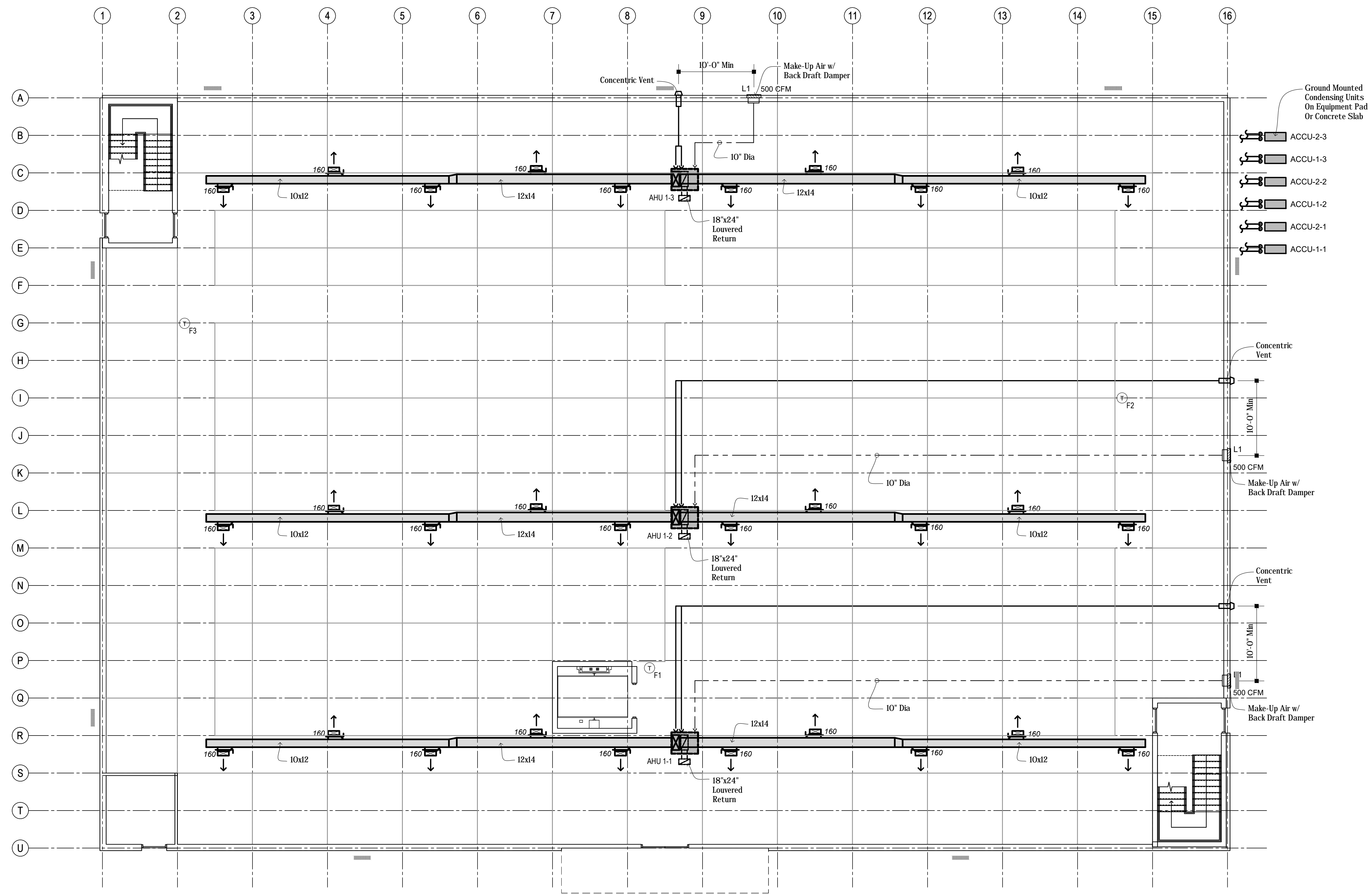
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1 FIRST FLOOR HVAC PLAN
 1/8"=1'-0"

GENERAL NOTES:
 INSTALL ALL ACCU'S PER MANUFACTURER'S INSTALLATION INSTRUCTIONS WITH PROPER CLEARANCES BETWEEN UNITS.

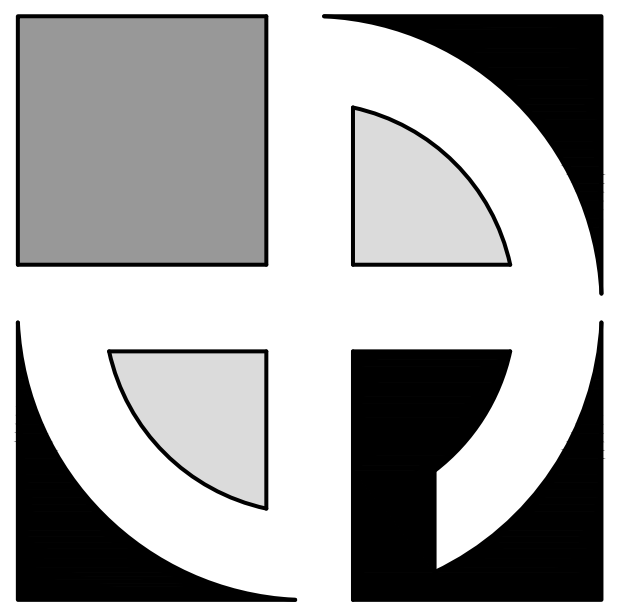
MECHANICAL NOTES:
 ① INSTALL HORIZONTAL COMBINATION VENT TERMINAL & COMBUSTION AIR INLET PER MANUFACTURER'S INSTRUCTIONS.
 ② REFRIGERANT LIQUID AND REFRIGERANT GAS LINES UP TO CONDENSING UNIT ON ROOF ABOVE. SIZES PER MANUFACTURER'S INSTALLATION REQUIREMENTS.

No.	Description	Date	By

DATE:
 3-17-2023
 DRAWN BY:
 A. Brose
 CHECKED BY:
 M. Dean
 SCALE:
 1/8"= 1'-0"



1ST FLOOR
 HVAC PLAN
M1.1



**MARK A. DEAN
ARCHITECT**

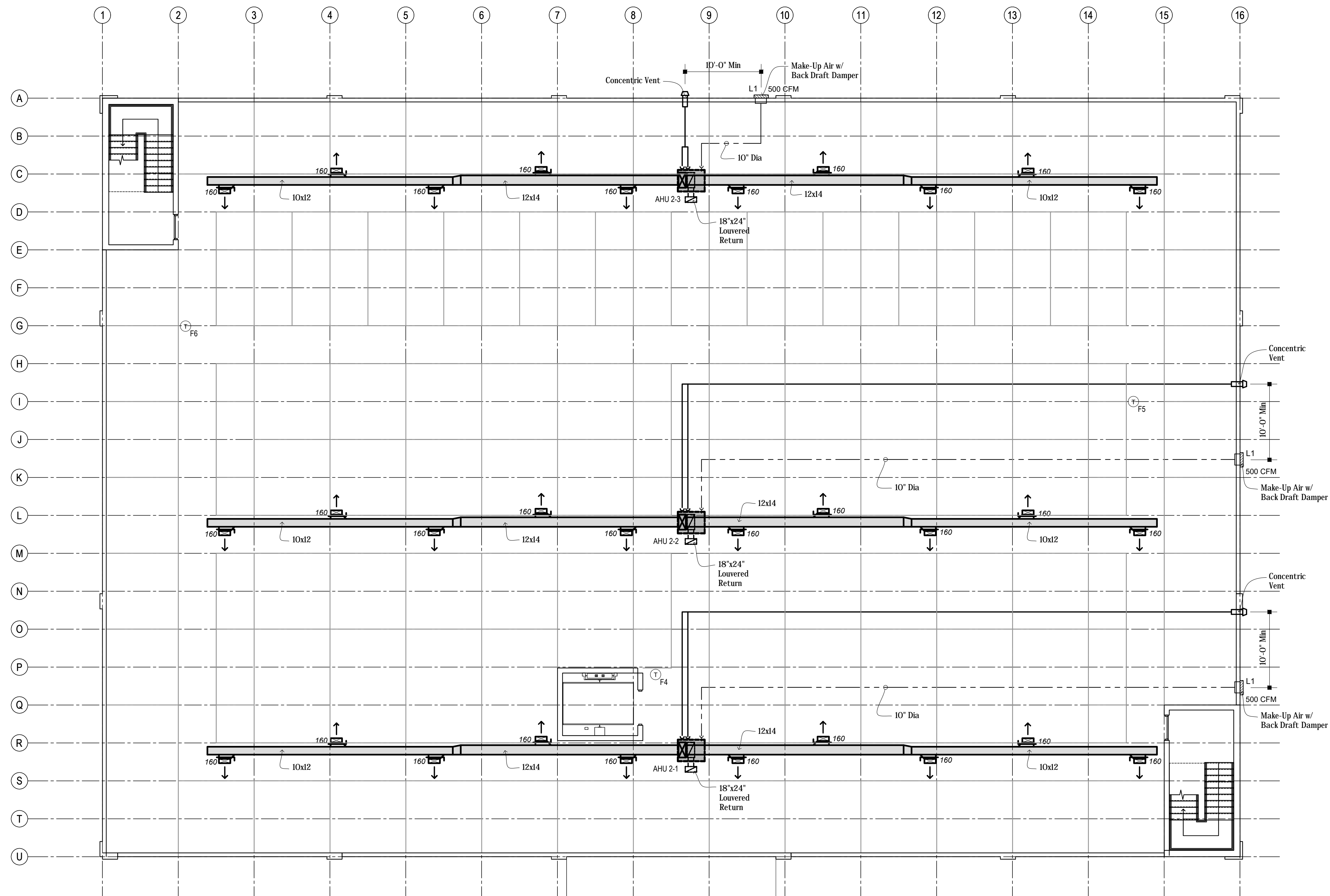
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22-110

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1 SECOND FLOOR HVAC PLAN
1/8"=1'-0"

GENERAL NOTES:

INSTALL ALL ACCU'S PER MANUFACTURER'S INSTALLATION INSTRUCTIONS WITH PROPER CLEARANCES BETWEEN UNITS.

MECHANICAL NOTES:

- ① INSTALL HORIZONTAL COMBINATION VENT TERMINAL & COMBUSTION AIR INLET PER MANUFACTURER'S INSTRUCTIONS.
- ② REFRIGERANT LIQUID AND REFRIGERANT GAS LINES UP TO CONDENSING UNIT ON ROOF ABOVE. SIZES PER MANUFACTURER'S INSTALLATION REQUIREMENTS.

No.	Description	Date	By

DATE:
3-17-2023
DRAWN BY:
A. Brose
CHECKED BY:
M. Dean
SCALE:
1/8"= 1'-0"



2ND FLOOR
HVAC PLAN

M1.2

GAS FIRED FURNACE SCHEDULE																									
TAG	MANUFACTURER	MODEL	LOCATION	SERVICE	NOM. CAP. (TONS)	MIN. OA (CFM)	SUPPLY FAN			DX COOLING					GAS HEAT		ELECTRICAL			OPERATING WEIGHT (±LBS)	DIMENSIONS LxWxH (IN)	NOTES			
							AIR FLOW (CFM)	ESP (IN)	MOTOR HP	REFRIG TYPE	COIL MODEL	TOTAL CAP. (MBH)	SENSIBLE CAP. (MBH)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	INPUT MAX HEAT (MBH)	OUTPUT MAX HEAT (MBH)				MCA	MOCP	V-PH-HZ
1ST FLOOR																									
AHU-1-1	CARRIER	59SP5A060E17-14	CORRIDOR	STORAGE	4		1600	0.50		PURON	CNPH	45.6	35.6	80.0	67.0	59.4	58.1	80.00	78.00	13	20	115-1-60	160	35x21x30	1, 2
AHU-1-2	CARRIER	59SP5A060E17-14	CORRIDOR	STORAGE	4		1600	0.50		PURON	CNPH	45.6	35.6	80.0	67.0	59.4	58.1	80.00	78.00	13	20	115-1-60	160	35x21x30	1, 2
AHU-1-3	CARRIER	59SP5A060E17-14	CORRIDOR	STORAGE	4		1600	0.50		PURON	CNPH	45.6	35.6	80.0	67.0	59.4	58.1	80.00	78.00	13	20	115-1-60	160	35x21x30	1, 2
2ND FLOOR																									
AHU-2-1	CARRIER	59SP5A060E17-14	CORRIDOR	STORAGE	4		1600	0.50		PURON	CNPH	45.6	35.6	80.0	67.0	59.4	58.1	80.00	78.00	13	20	115-1-60	160	35x21x30	1, 2
AHU-2-2	CARRIER	59SP5A060E17-14	CORRIDOR	STORAGE	4		1600	0.50		PURON	CNPH	45.6	35.6	80.0	67.0	59.4	58.1	80.00	78.00	13	20	115-1-60	160	35x21x30	1, 2
AHU-2-3	CARRIER	59SP5A060E17-14	CORRIDOR	STORAGE	4		1600	0.50		PURON	CNPH	45.6	35.6	80.0	67.0	59.4	58.1	80.00	78.00	13	20	115-1-60	160	35x21x30	1, 2

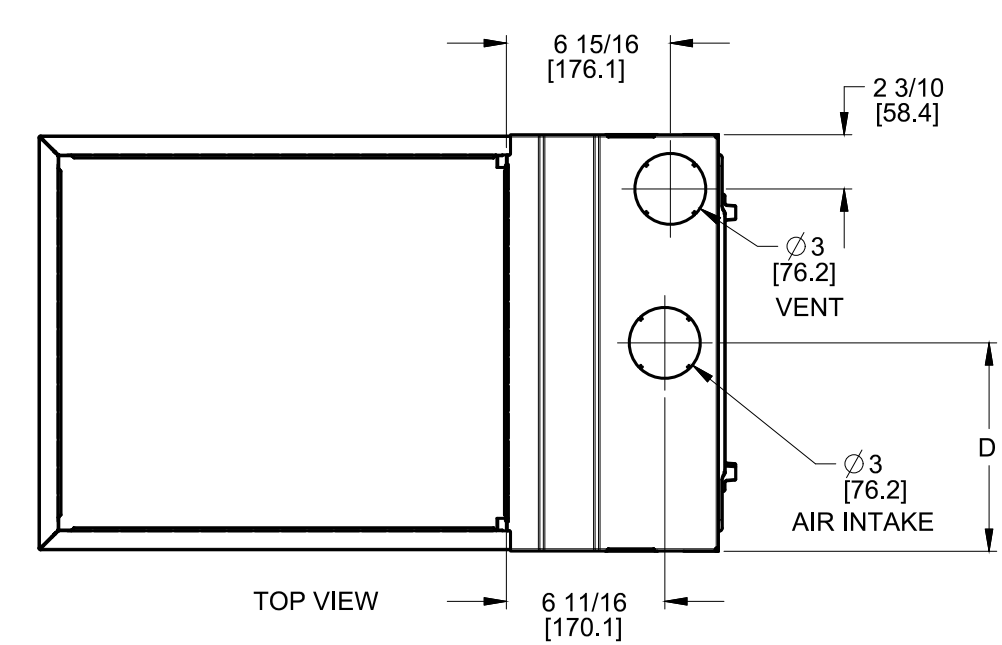
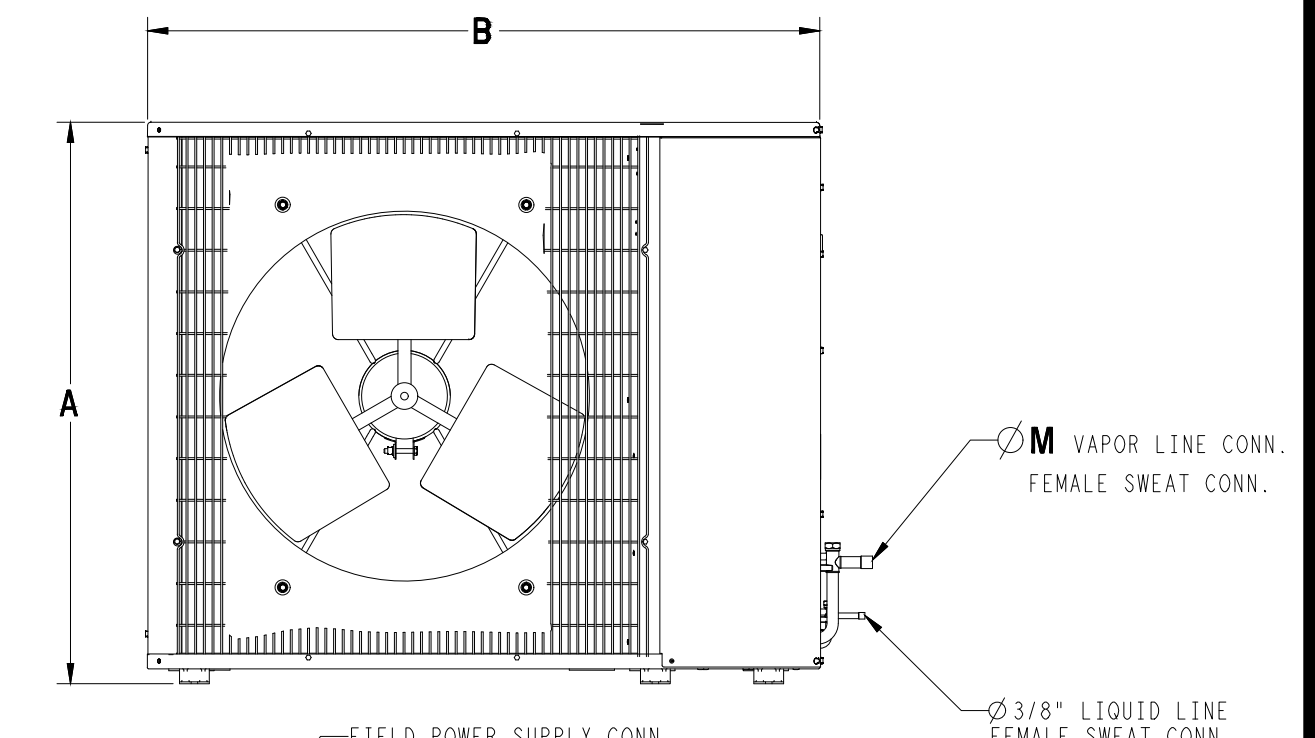
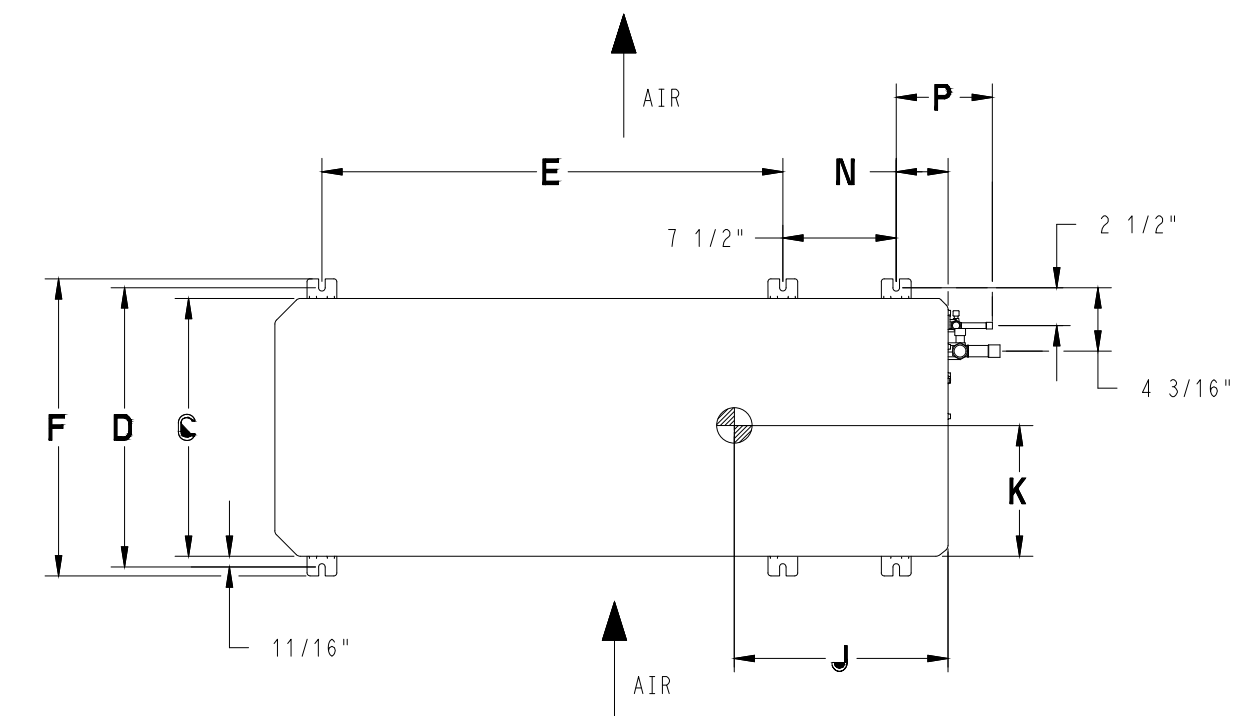
NOTES:

DIFFUSER SCHEDULE									
TAG	MANUFACTURER	MODEL	SERVICE	NECK SIZE (IN)	FACE SIZE (IN)	MAX PD (w/g)	MAX NC	NOTES	
SD-1	PRICE	SCD	SUPPLY	6	24x24	0.10	22	1, 2	
SD-2	PRICE	SCD	SUPPLY	8	24x24	0.10	26	1, 2	
RG-1	PRICE	PDDR	RETURN	8	24x24	-0.14	-	1, 2	
RG-2	PRICE	PDDR	RETURN	10x10	24x24	-0.11	-	1, 2	
EG-1	PRICE	PDDR	EXHAUST	6	24x12	-0.03	-	1, 2	

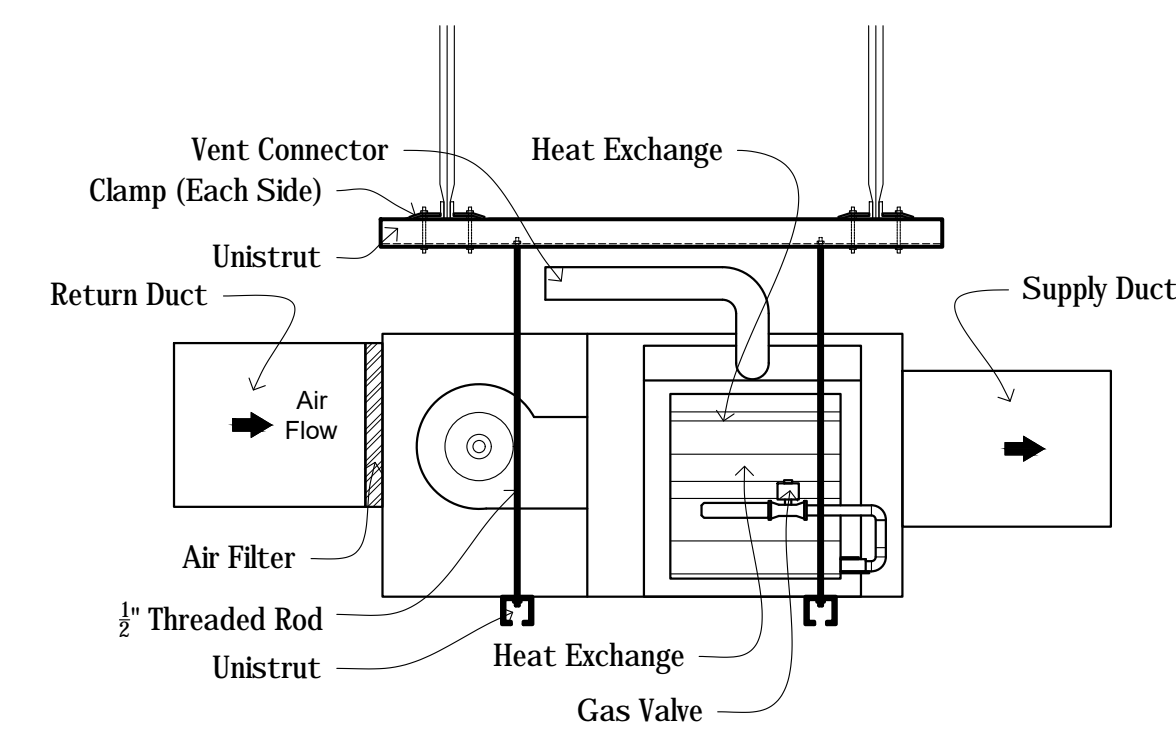
NOTES:

- COORDINATE AND CONFIRM CEILING MOUNT (T-BAR, SURFACE, ETC) WITH ARCHITECT BEFORE ORDERING EQUIPMENT.
- PROVIDE WITH OPPOSED BLADE DAMPER.

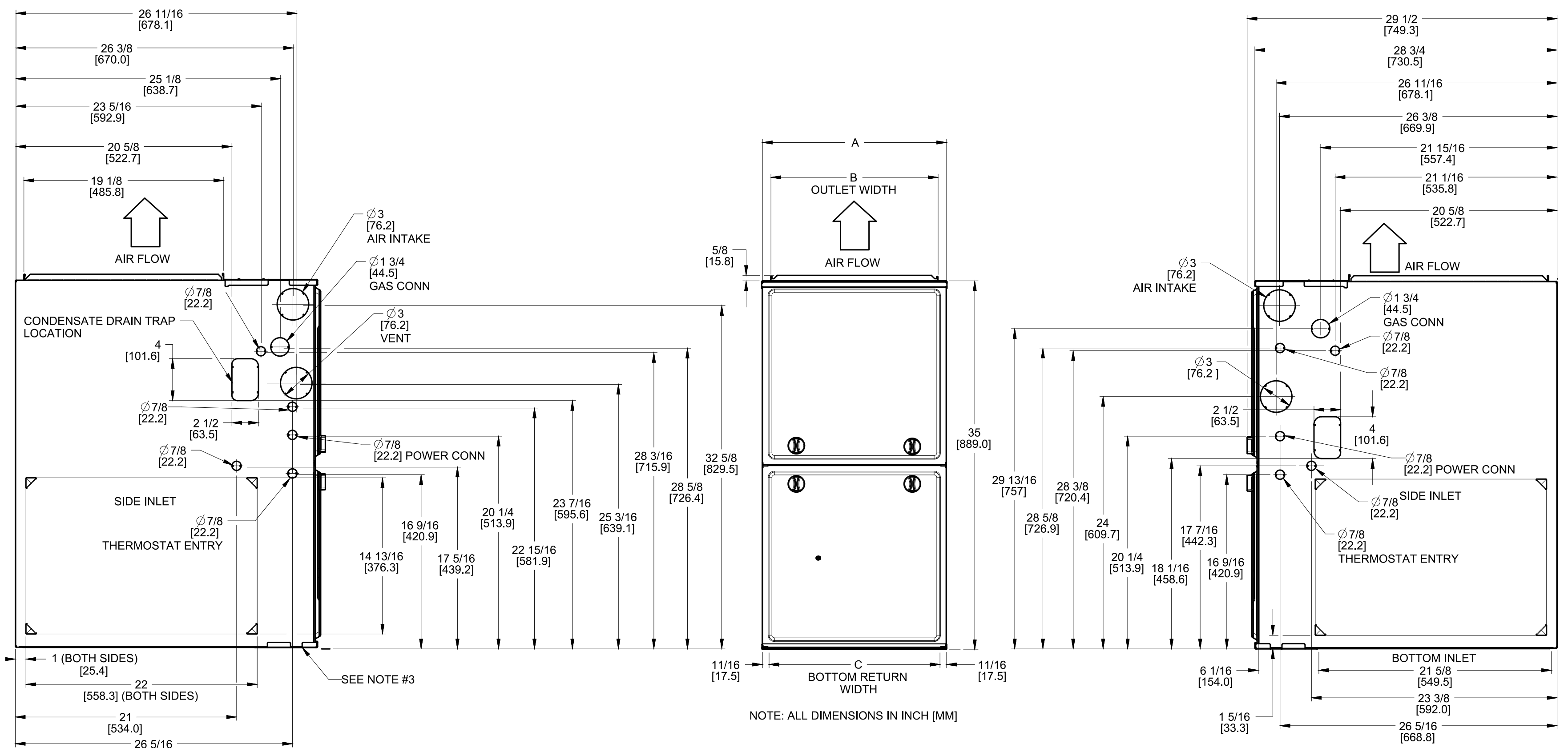
AIR COOLED CONDENSING UNIT SCHEDULE													
TAG	MANUFACTURER	MODEL	SERVICE	LOCATION	NOMINAL CAPACITY (TONS)	SEER	COMPRESSOR TYPE	REFRIGERANT	ELECTRICAL			OPERATING WEIGHT (LB)	DIMENSIONS WxLxH (IN)
1ST FLOOR													
ACCU-1	CARRIER	24AH448A003	AHU-1-1	GRADE-PAD	4	14.0	SCROLL	PURON	208-230/3	23.7	40	225	18x45x38
ACCU-2	CARRIER	24AH448A003	AHU-1-2	GRADE-PAD	4	14.0	SCROLL	PURON	208-230/3	23.7	40	225	18x45x38
ACCU-3	CARRIER	24AH448A003	AHU-1-3	GRADE-PAD	4	14.0	SCROLL	PURON	208-230/3	23.7	40	225	18x45x38
2ND FLOOR													
ACCU-4	CARRIER	24AH448A003	AHU-2-1	GRADE-PAD	4	14.0	SCROLL	PURON	208-230/3	23.7	40	225	18x45x38
ACCU-5	CARRIER	24AH448A003	AHU-2-2	GRADE-PAD	4	14.0	SCROLL	PURON	208-230/3	23.7	40	225	18x45x38
ACCU-6	CARRIER	24AH448A003	AHU-2-3	GRADE-PAD	4	14.0	SCROLL	PURON	208-230/3	23.7	40	225	18x45x38



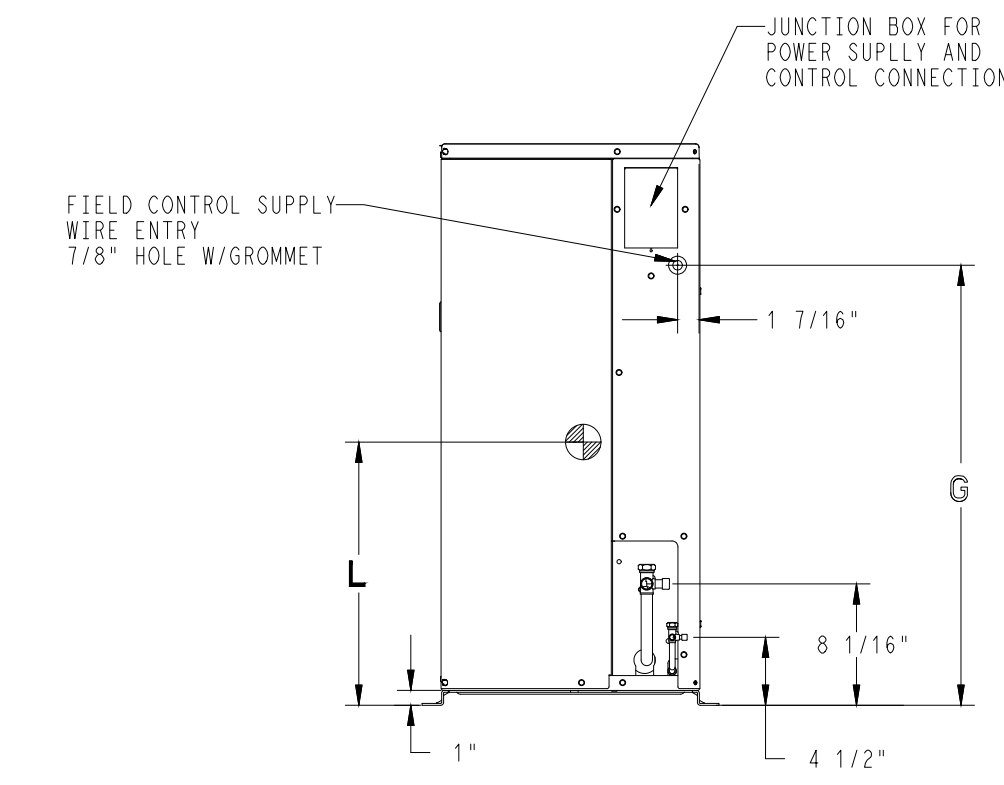
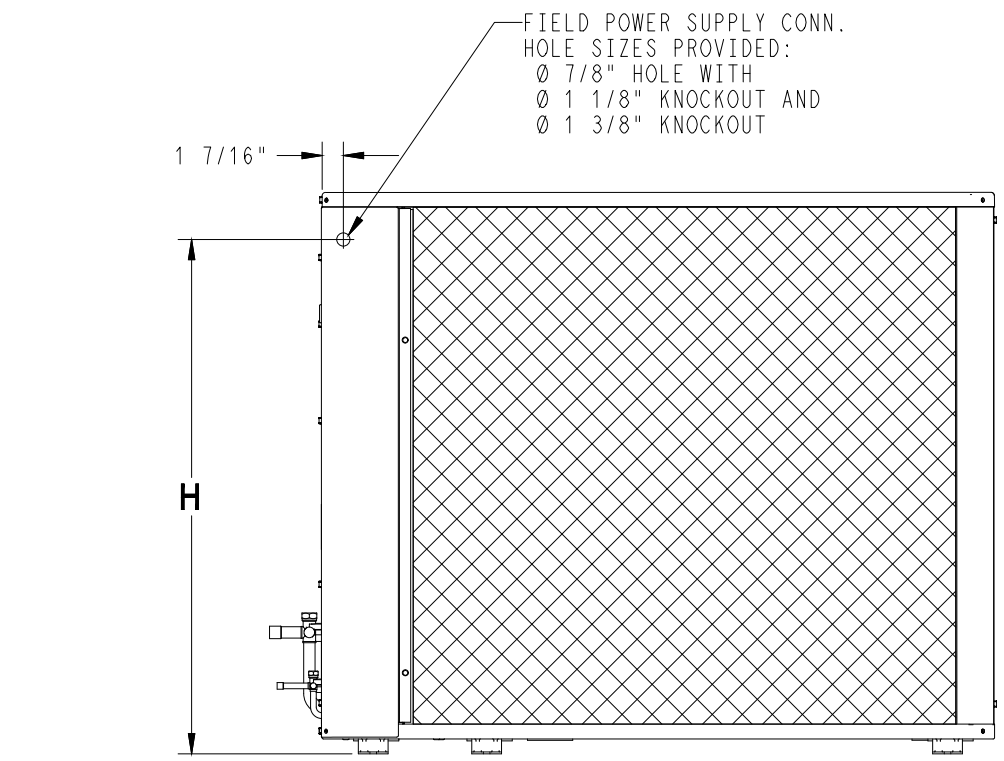
- NOTES:
- Doors may vary by model.
 - Minimum return-air openings at furnace, based on metal duct. If flex duct is used, see flex duct manufacturer's recommendations for equivalent diameters.
 - For 800 CFM-16-in. (406 mm) round or 14 1/2 x 12-in. (368 x 305 mm) rectangle.
 - For 1200 CFM-20-in. (508 mm) round or 14 1/2 x 19 1/2-in. (368 x 495 mm) rectangle.
 - For 1600 CFM-22-in. (559 mm) round or 14 1/2 x 22 1/16-in. (368 x 560 mm) rectangle.
 - Return air above 1800 CFM at 0.5 in. w.c. ESP on 24.5" casing, requires one of the following configurations: 2 sides, 1 side and a bottom or bottom only. See Air Delivery table in this document for specific use to allow for sufficient airflow to the furnace.
 - Vent and Combustion air pipes through blower compartment must use accessory "Vent Kit - Through the Cabinet". See accessory list for current part number.



2 FURNACE SUPPORT DETAIL



1 GAS FIRED FURNACE DETAILS



- CLEARANCE REQUIREMENTS: SINGLE UNIT APPLICATIONS: WITH COIL FACING WALL: ALLOW 6 IN. MINIMUM CLEARANCE ON COIL SIDE AND COIL END AND 20 IN. MINIMUM CLEARANCE ON FAN SIDE. WITH FAN FACING WALL: ALLOW 8 IN. MINIMUM CLEARANCE ON FAN SIDE AND 6 IN. ON COIL END AND 20 IN. MINIMUM CLEARANCE ON COIL SIDE. MULTI-UNIT APPLICATIONS: ALLOW 24 IN. MINIMUM CLEARANCE BETWEEN FAN AND COIL SIDES OF MULTIPLE UNITS. ARRANGE UNITS SO DISCHARGE OF ONE DOES NOT ENTER INLET OF ANOTHER WHEN TWO UNITS ARE INSTALLED END TO END WITH THE COIL ENDS FACING EACH OTHER ALLOW 12 IN. MINIMUM CLEARANCE BETWEEN UNITS. COMPRESSOR END SERVICE CLEARANCE: ALLOW 24 IN. MINIMUM CLEARANCE ON COMPRESSOR END WHEN UNITS ARE STACKED OR THERE IS LESS THAN 40 IN. OF CLEARANCE ABOVE THE TOP OF THE UNIT. IF THERE IS 40 IN. CLEARANCE ABOVE UNIT AND THE TOP PANEL IS ACCESSIBLE FOR REMOVAL ALLOW 8 IN. MINIMUM CLEARANCE ON COMPRESSOR END FOR SERVICE. IMPORTANT: WHEN INSTALLING SINGLE OR MULTIPLE UNITS IN AN ALCOVE, ROOF WELL, OR PARTIALLY ENCLOSED AREA, ENSURE THERE IS ADEQUATE VENTILATION TO PREVENT RECIRCULATION OF DISCHARGE AIR.
- MINIMUM OUTDOOR OPERATING AMBIENT IN COOLING MODE IS 55°F, MAX. 125°F.
- SERIES DESIGNATION IS THE 13TH POSITION OF THE UNIT MODEL NUMBER.
- CENTER OF GRAVITY
- ALL DIMENSIONS ARE IN "INCHES" UNLESS NOTED.

1 AIR COOLED CONDENSING UNIT DETAILS (GROUND MOUNTED)

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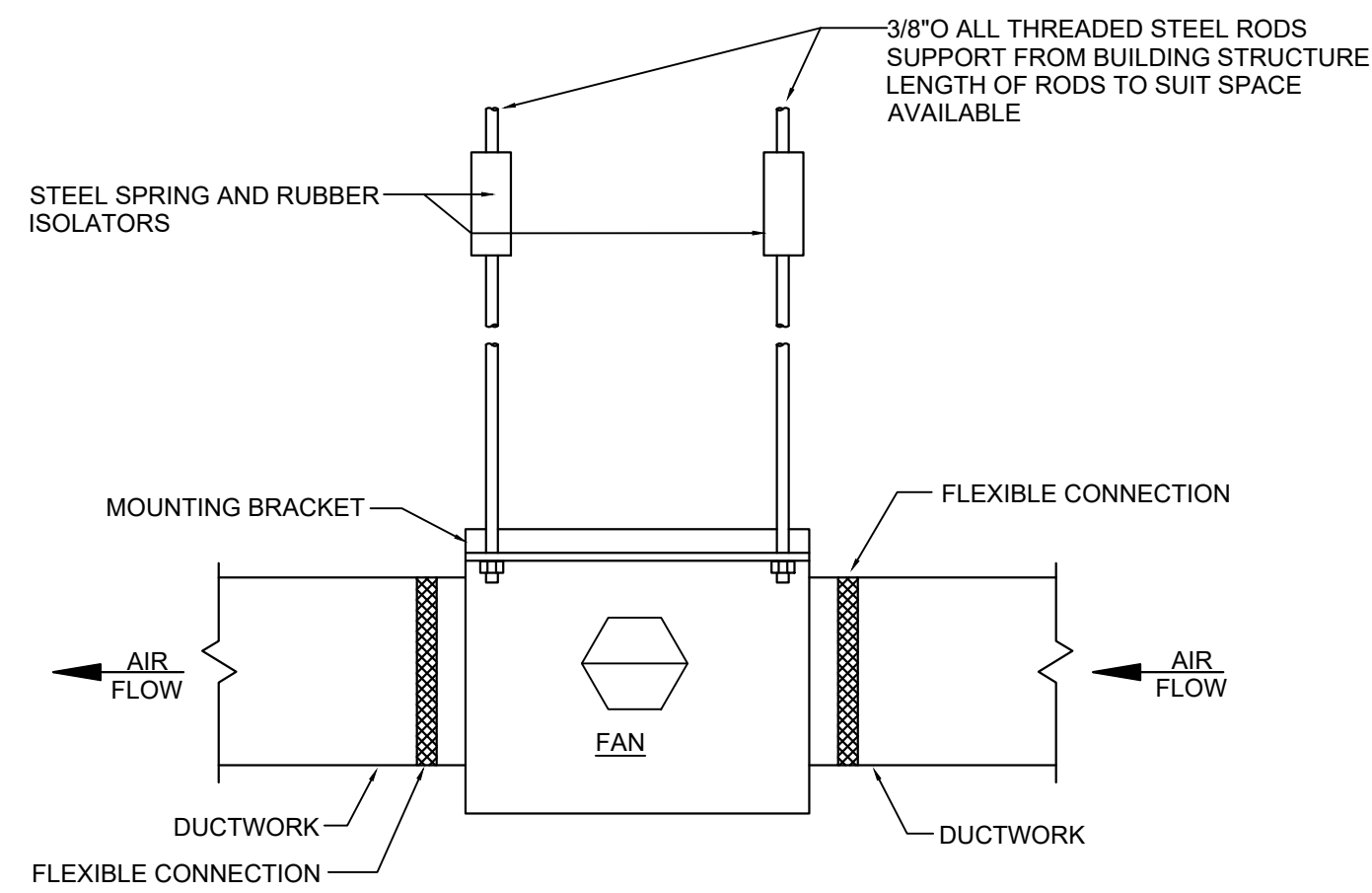
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 STORAGE CAP ELON, LP
 L070
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 Elon, North Carolina 27244

No.	Description	Date	By

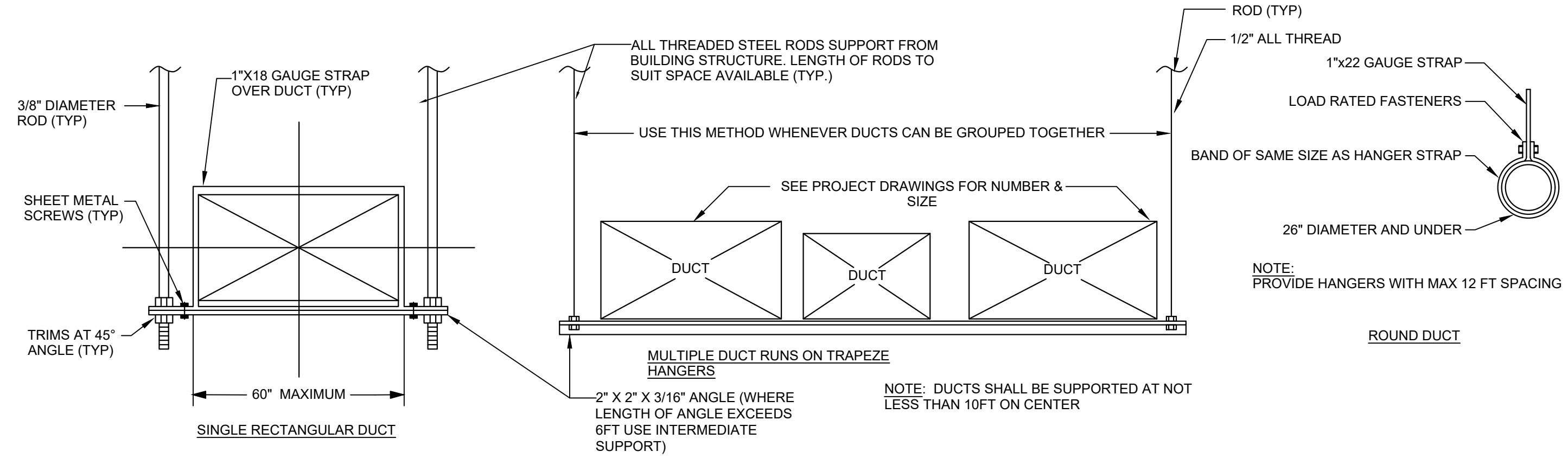
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 DRAWN BY: A. Brose
 CHECKED BY: M. Dean
 SCALE: 1/8" = 1'-0"

HVAC SCHEDULE

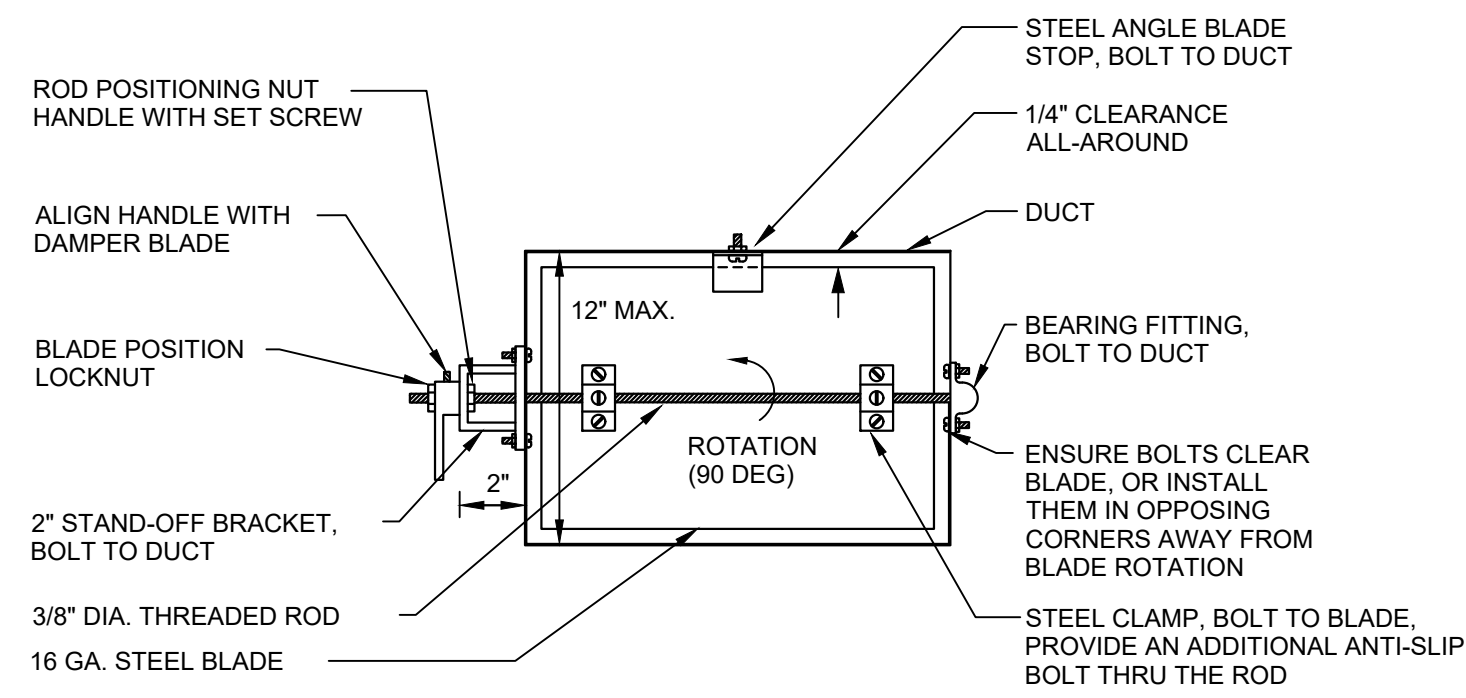
M1.3



2 | IN-LINE EXHAUST FAN DETAIL
N.T.S.

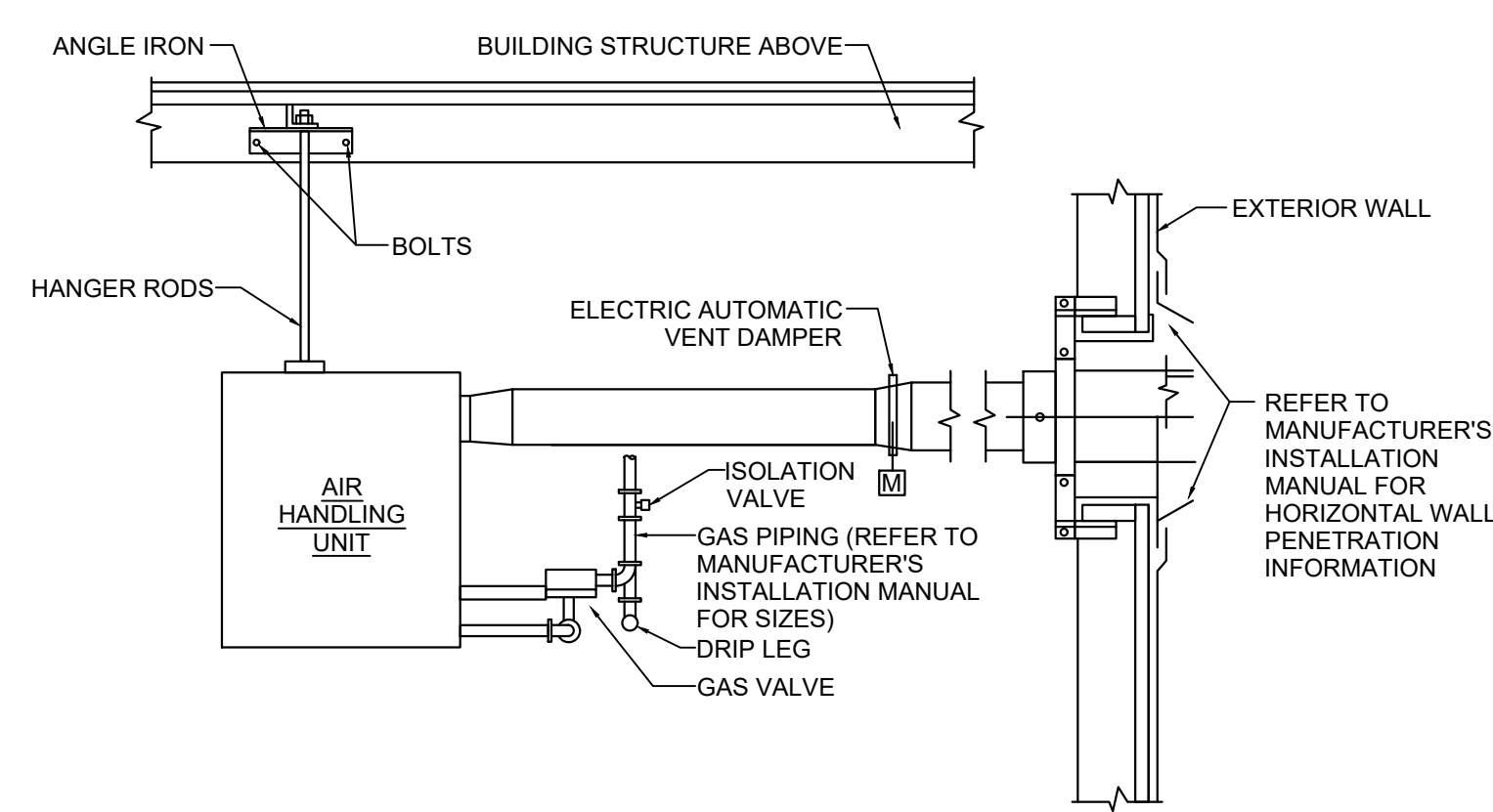


3 | DUCT HANGER DETAIL
N.T.S.

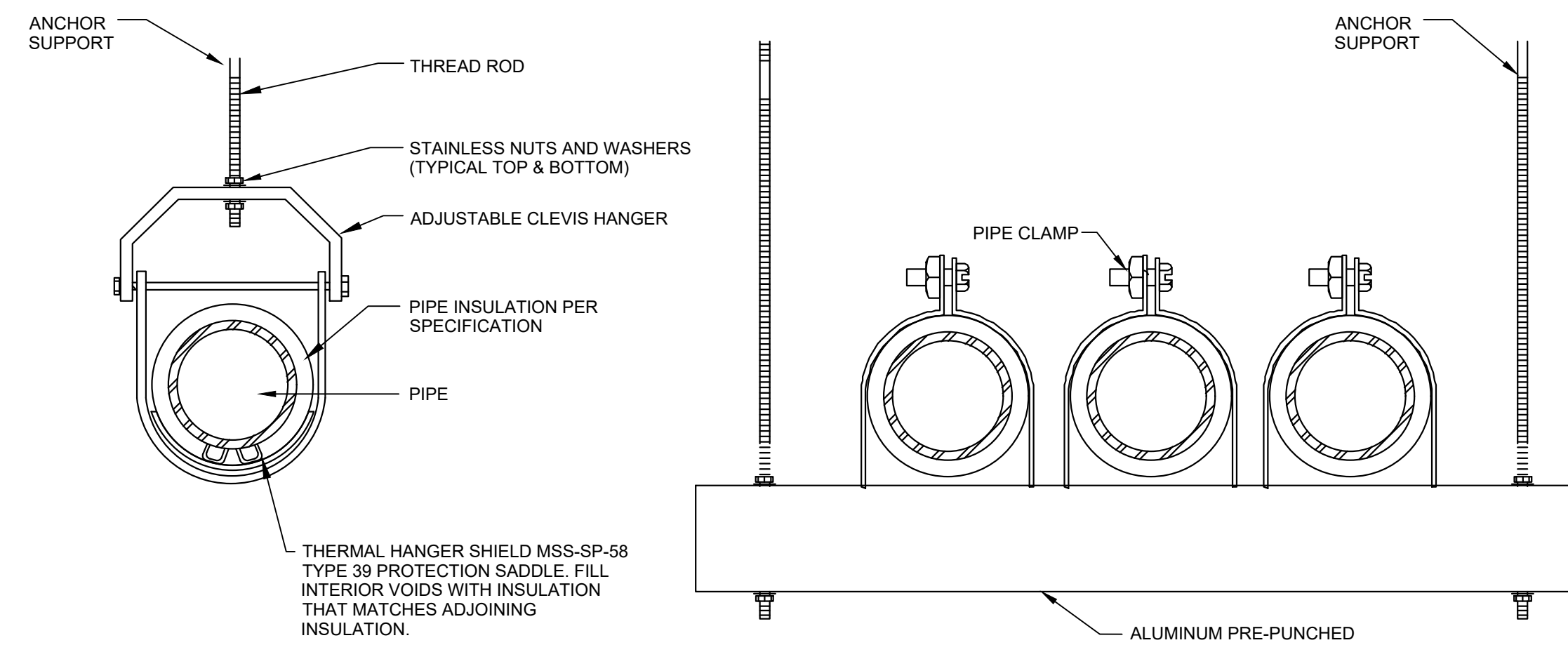


NOTES:
1. DAMPERS FOR ROUND DUCTS SHALL BE SIMILAR TO THE DAMPER SHOWN ABOVE.
2. ENSURE THAT FULL 90 DAMPER BLADE MOVEMENT IS UNOBSTRUCTED.
3. FOR DUCT HEIGHTS MORE THAN 12\", PROVIDE FACTORY-FABRICATED OPPOSED BLADE DAMPERS.

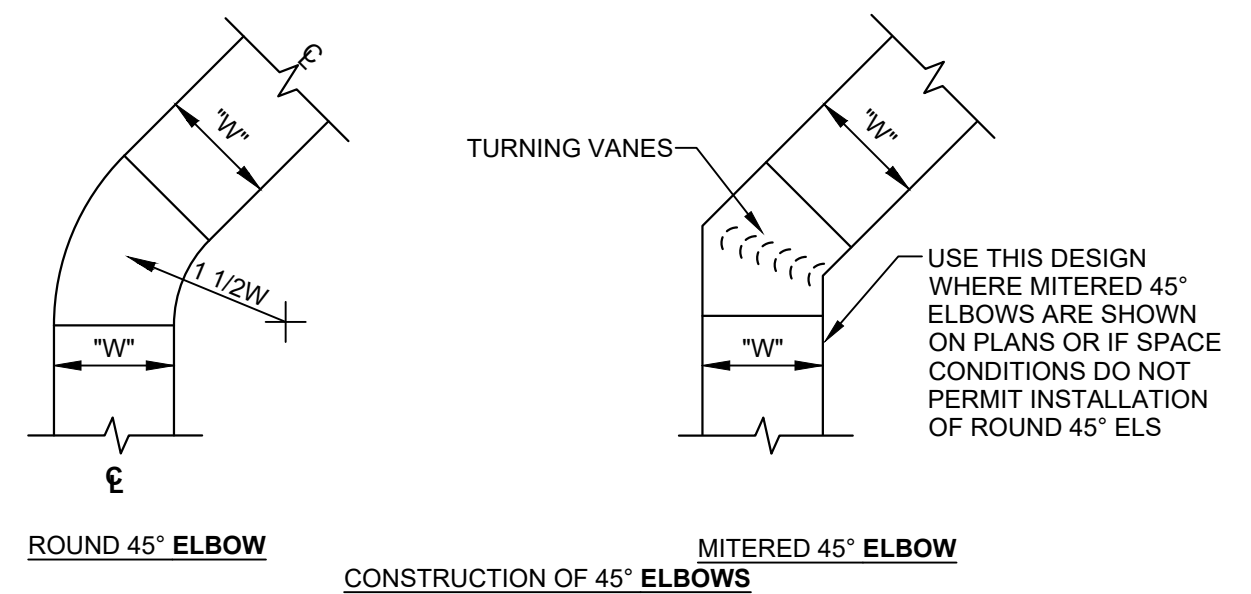
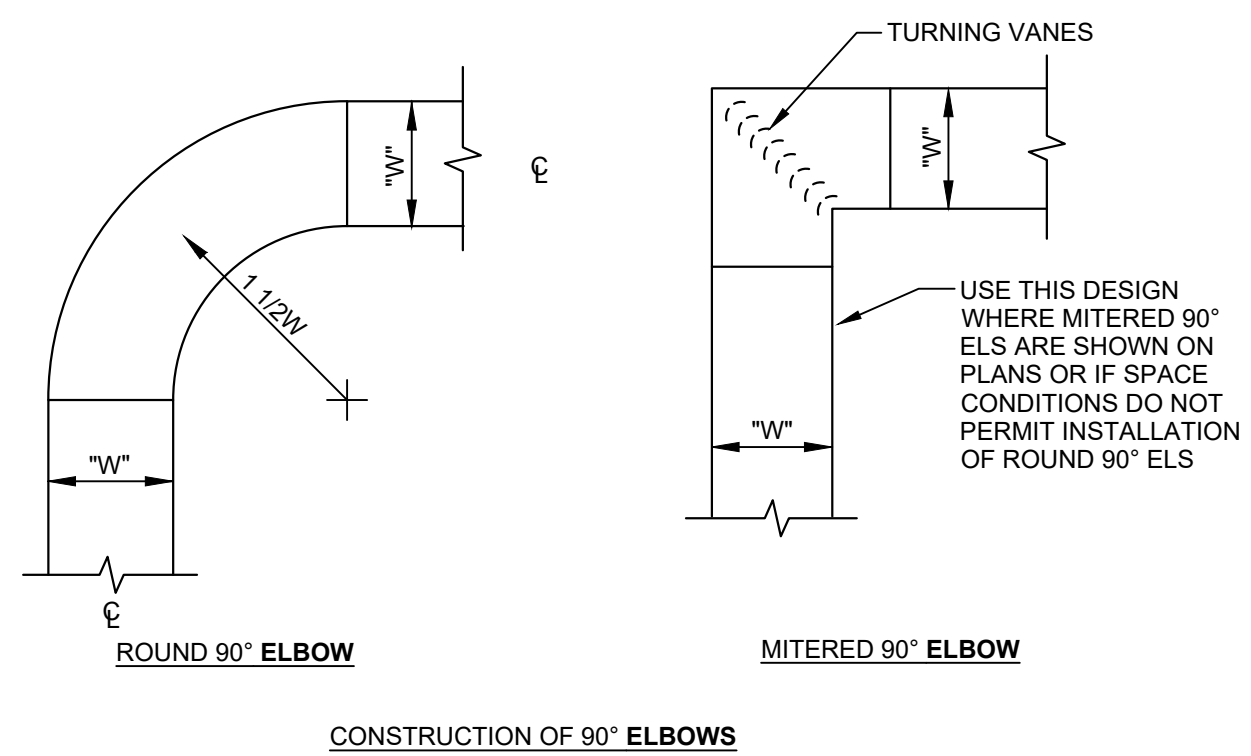
1 | SINGLE BLADE VOLUME DAMPER DETAIL
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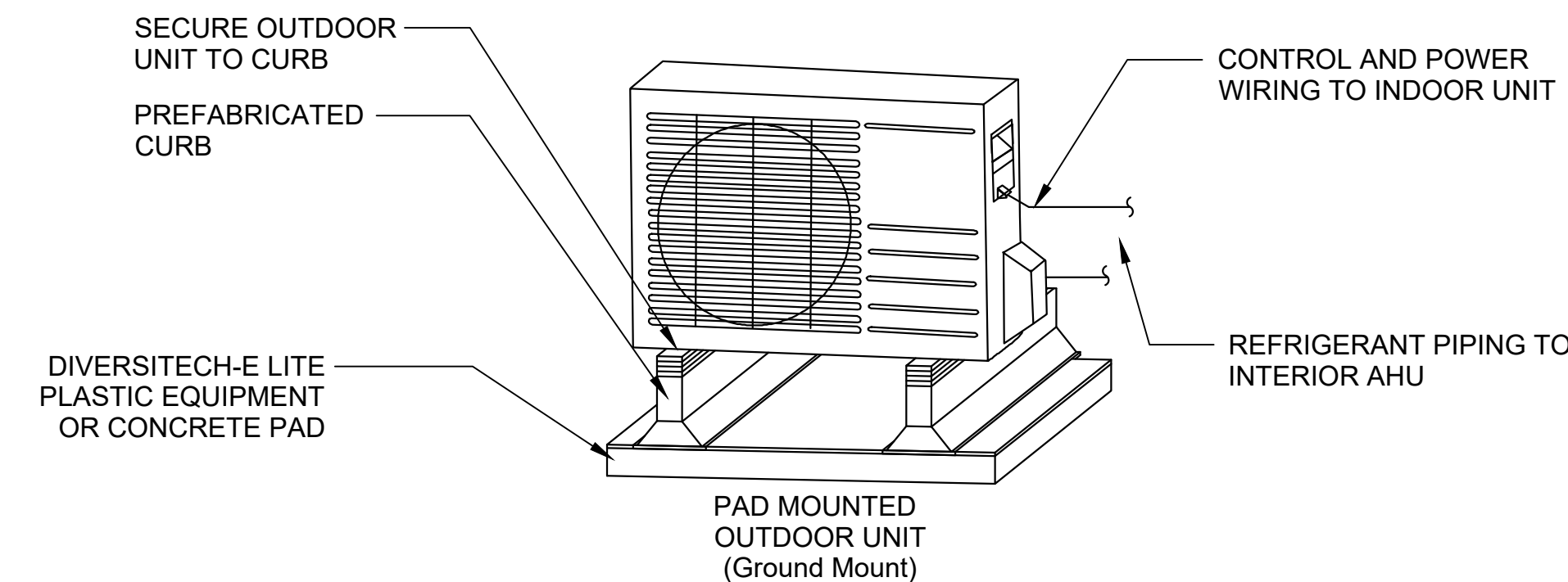
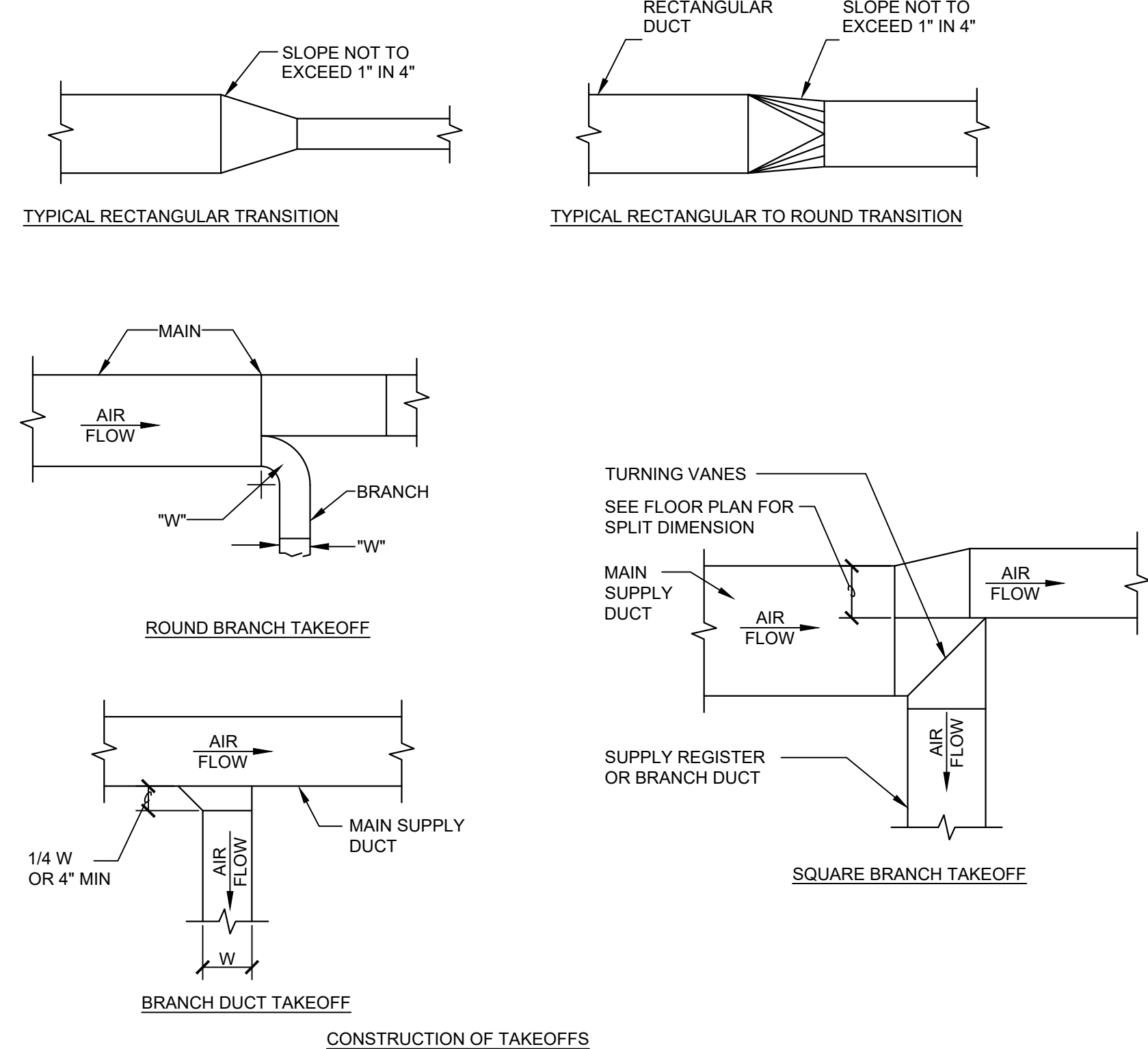
4 | TYPICAL GAS FIRED FURNACE DETAIL
N.T.S.



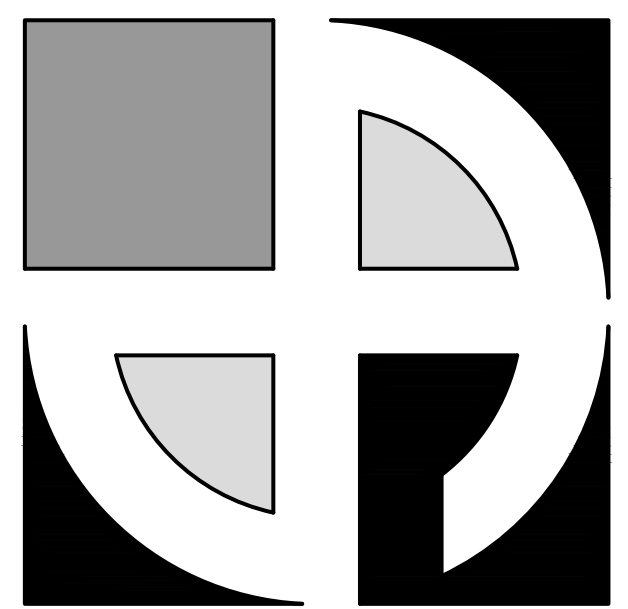
5 | PIPE SUPPORT DETAIL
N.T.S.



6 | LOW VELOCITY DUCT LAYOUT DETAIL
N.T.S.



7 | TYPICAL PAD MOUNTED ACCU DETAIL
N.T.S.



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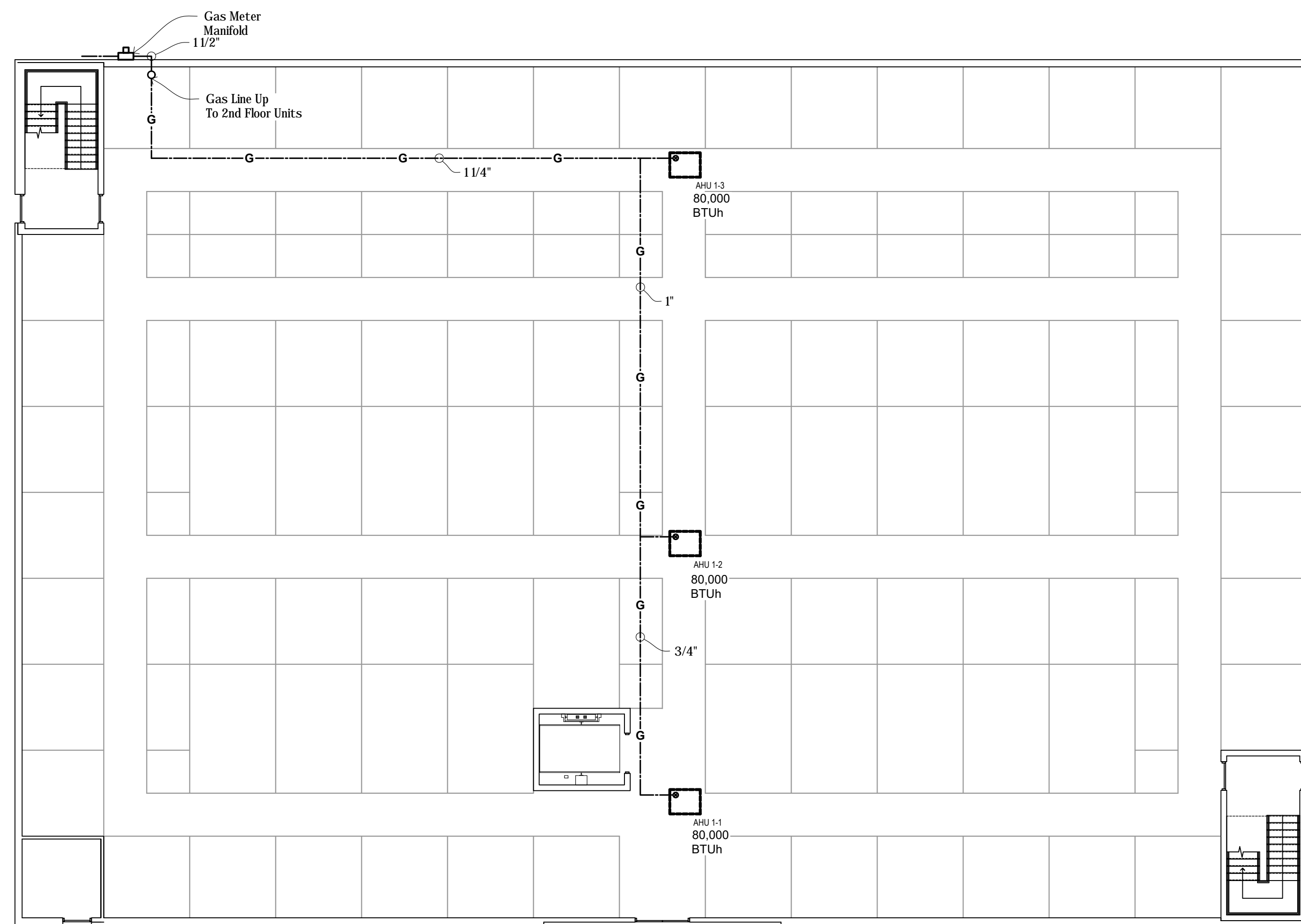
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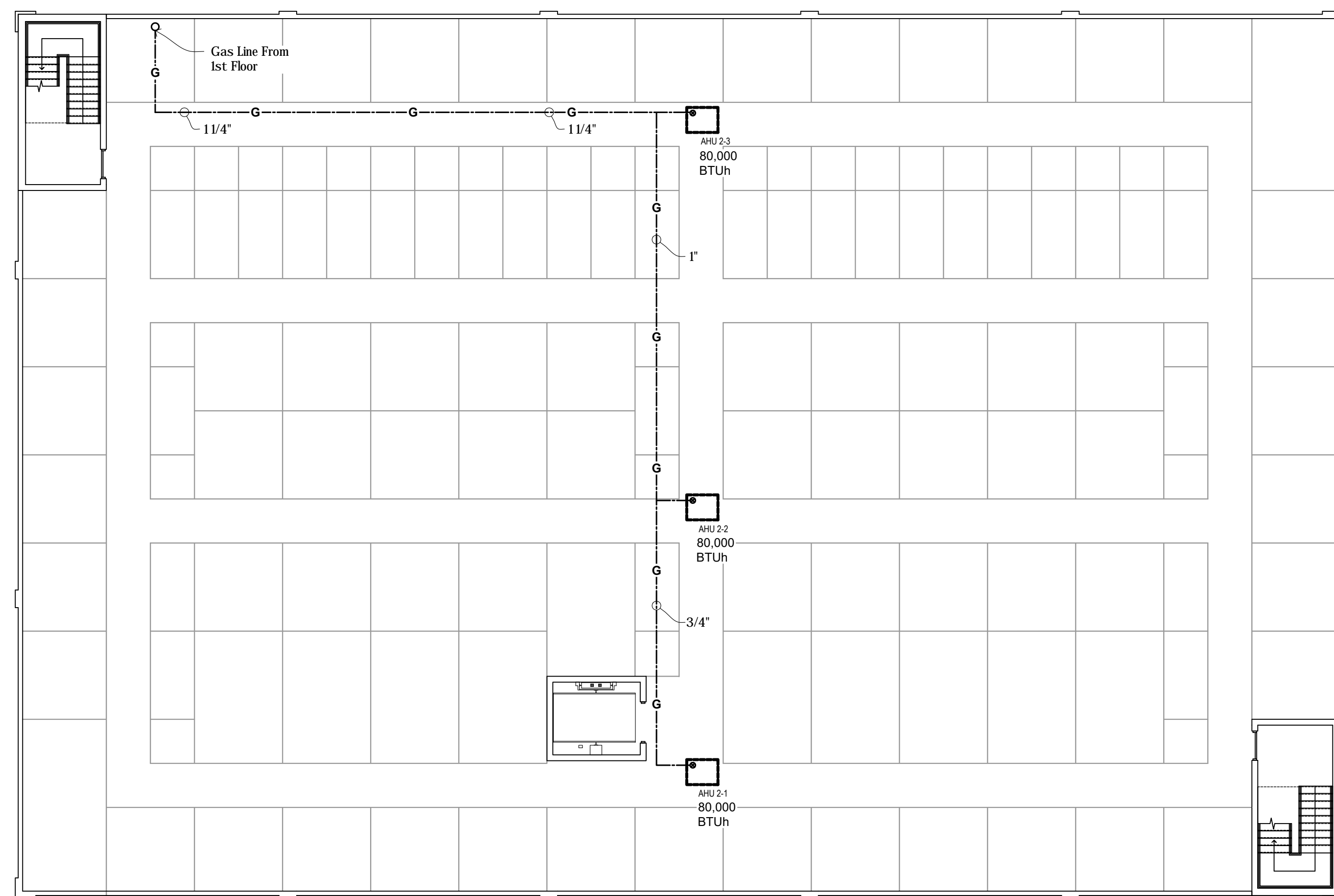
HVAC DETAILS

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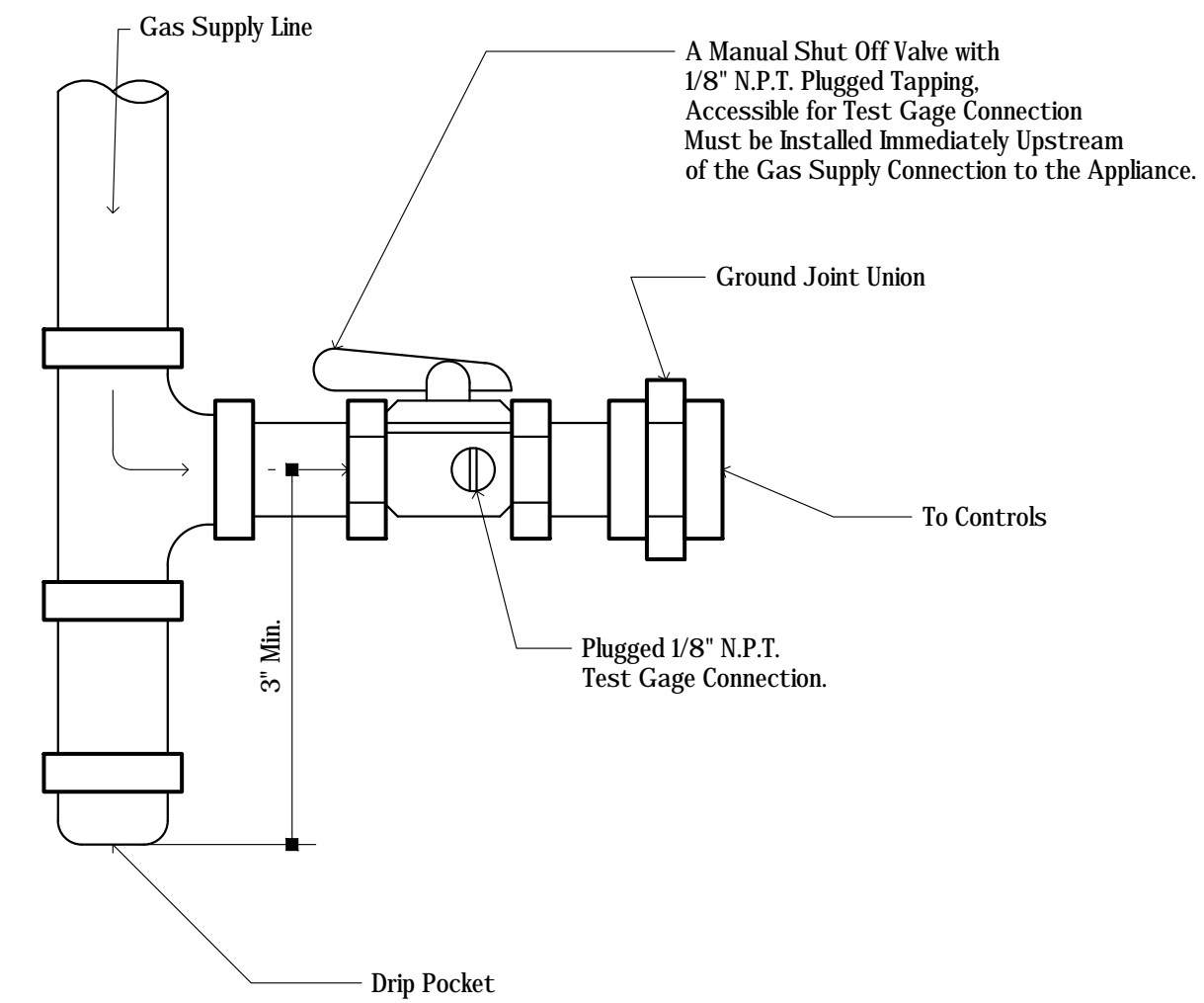




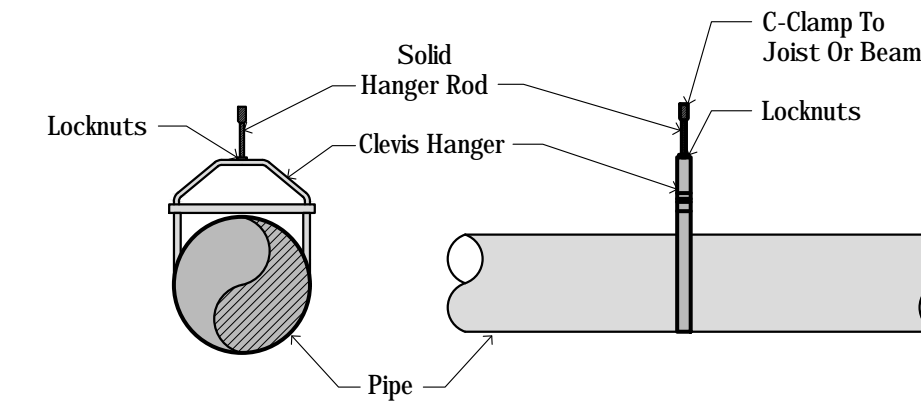
1 | 1ST FLOOR GAS PIPING PLAN
3/32"=1'-0"



2 | 2ND FLOOR GAS PIPING PLAN
3/32"=1'-0"

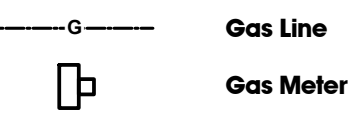


3 | GAS PIPING INSTALLATION
NTS

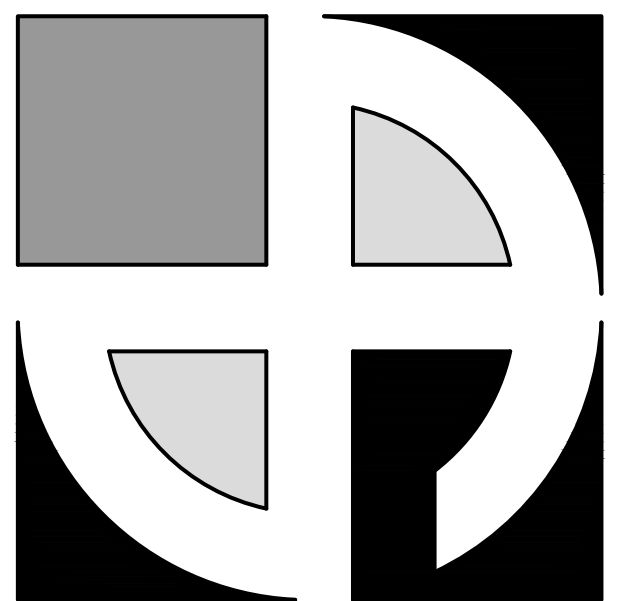


4 | PIPE HANGER DETAIL
NTS

GAS LEGEND



GAS PIPING SCHEDULE	
Gas Pressure (Max):	5" wc
Line Sizes:	As Indicated
Total Connected Load:	480 mbh
Pipe Total Equivalent Length:	508.5 LF
Total Pressure Drop:	0.037 psi



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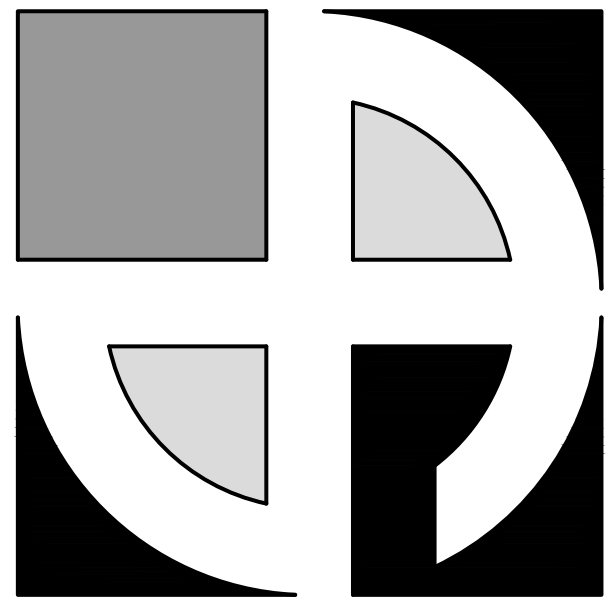
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DATE:
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CHECKED BY:
M. Dean
SCALE:
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GAS PIPING PLANS

P1.1



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DATE: 3-17-2023
DRAWN BY: M. Kasperk
CHECKED BY: M. Dean
SCALE: NTS

**SPRINKLER
NOTES
FP1.0**



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FIRE PROTECTION SAFETY NOTES:

1. SPECIAL PRECAUTION SHALL BE TAKEN BY THE CONTRACTOR SO THAT EQUIPMENT OF THIS APPLICATION AND ITS INSTALLATION WILL NOT AFFECT THE FOLLOWING: EGRESS TO AND FROM THE BUILDING, FIRE SAFETY OR CREATE A FIRE HAZARD. STRUCTURAL SAFETY OF THE BUILDING, ACCUMULATION OF DUST AND DEBRIS. (THE CONTRACTOR SHALL LEAVE THE SITE BROOM CLEANED EACH DAY.)

FIRE PROTECTION SPECIAL INSPECTIONS:

SPECIAL INSPECTIONS REQUIRED IN ACCORDANCE WITH CHAPTER 17 AND THE APPLICABLE SECTION OF 2018 NORTH CAROLINA BUILDING CODE ARE LISTED IN THE FOLLOWING TABLES. THE "AUTHORITY" SHALL BE RESPONSIBLE FOR THE FOLLOWING SPECIAL INSPECTIONS:

SPRINKLER SYSTEM	BC 1704.23
FIRE-RESISTANT PENETRATIONS AND JOINTS	BC 1704.27
STANDPIPE AND POST INSTALLED ANCHORS	BC 1704.24

FIRE PROTECTION GENERAL NOTES:

- DIMENSIONS, LOCATIONS AND SIZES INDICATED ON THE PLANS AND THE ELEVATION ARE APPROXIMATE AND SHALL BE VERIFIED BY FIELD INSPECTION BY THE CONTRACTOR, CONTRACTOR AND A SAFETY PLAN IS SUBMITTED AND IS APPROVED.
- NO WORK SHALL BE INITIATED UNTIL A WORK PERMIT IS OBTAINED BY THE CONTRACTOR AND AN INSPECTION APPROVALS, AND LETTER OF COMPLETION FROM BUILDING DEPARTMENT FOR WORK UNDER THIS CONTRACT AS APPLICABLE.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS, EQUIPMENT USE PERMITS, ALL INSPECTION APPROVALS, AND LETTER OF COMPLETION FROM BUILDING DEPARTMENT FOR WORK UNDER THIS CONTRACT AS APPLICABLE.
- CONTRACTOR MAY PROPOSE ALTERNATE ROUTING IN DIFFICULT AREAS WHERE REPLACEMENT IN KIND IS NOT PRACTICAL. ANY AND ALL ALTERNATE ROUTING IS SUBJECT TO PRIOR REVIEW AND APPROVAL BY THE ENGINEER.
- A FIRE WATCH SHALL BE USED IF REQUIRED.

FIRE PROTECTION SYMBOL LIST

FS	NEW WET SPRINKLER PIPING
▲	NEW DRY SPRINKLER PIPING
○	NEW SIDEWALL SPRINKLER HEAD
●	NEW UPRIGHT SPRINKLER HEAD
⊙	NEW CONCEALED PENDENT SPRINKLER HEAD-ORDINARY TEMPERATURE
⊕	SMOKE DETECTOR
⊖	HEAT DETECTOR
⊥	SPRINKLER DRY PIPE VALVE
⊥	FIRE HOSE CABINET
⊥	FIRE HOSE RACK
⊥	FIRE HOSE RACK / SPRINKLER
⊥	SIAMESE CONNECTION
⊥	SIAMESE CONNECTION FREESTAND
⊥	CHECK VALVE
⊥	PIRE-ON-SERVE W/ ALARM
⊥	PIPE DROP
⊥	PIPE UP
⊥	DRY PIPE VALVE
⊥	SPRINKLER PLUG
⊥	FLOOR CONTROL VALVE ASSEMBLY
⊥	FIRE EXTINGUISHER
⊥	PREACTION TROUBLE HORN
⊥	PREACTION 6" BELL FOR SUPERVISION
⊥	PREACTION 10" BELL STROBE ALARM
⊥	SOLENOID VALVE
⊥	OS & Y VALVE
⊥	BACKFLOW PREVENTER DOUBLE CHECK TYPE
⊥	BACKFLOW PREVENTER REDUCED PRESSURE ZONE (RPZ) TYPE
⊥	REVISION SYMBOL
⊥	REFER TO SUPPLEMENTAL FIGURE INDICATED BY NUMBER (I.E. F2 REFERS TO FIGURE 2)
⊥	EQUIPMENT TAG
⊥	EQUIPMENT NUMBER
⊥	DETAIL TAG/ CALL OUT TAG
⊥	FIRE PROTECTION SHEET NUMBER

ABBREVIATIONS

ACV	ALARM CHECK VALVE	MA	MASSACHUSETTS
B.O.P.	BOTTOM OF PIPE	P.C	PLUMBING CONTRACTOR
F.S.C.	FIRE SPRINKLER CONTRACTOR	W/	WITH

FIRE PROTECTION NOTES

- THE DRAWINGS SHOW THE LAYOUT OF THE SYSTEM AND INDICATE THE APPROXIMATE LOCATIONS OF EQUIPMENT AND PIPING. CONTRACTOR IS CAUTIONED NOT TO SCALE THE DRAWINGS. THE PIPING SHALL BE RUN APPROXIMATELY IN THE AREAS AS INDICATED ON THE DRAWINGS. (HOWEVER, TO THE ARRANGEMENT OF THE PIPING SYSTEMS AS MAY BE REFERENCED WITH WORK OF OTHER TRADES). CONTRACTOR SHALL REVIEW AND COORDINATE WITH STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS, PARTITIONS, STRUCTURAL MEMBERS, ETC. ARE DESIGNED TO BE FURRED OR CLOSED IN AND TO INCLUDE ROUGH-IN PIPING. CONTRACTOR SHALL FURNISH ALL OFFSETS, ADDITIONAL FITTINGS, ETC. WHETHER SHOWN ON DRAWINGS OR NOT, AS REQUIRED TO MEET INSTALLATION CONDITIONS.
- CONTRACTOR IS TO COMPLY WITH LATEST NFPA AND NC CODES, AND COORDINATE HIS WORK WITH OTHER TRADES AND MAKE NECESSARY ADJUSTMENTS.
- CONTRACTOR IS TO PREPARE SHOP DRAWINGS FOR ENGINEERS REVIEW AFTER MAKING A COMPLETE FIELD SURVEY.
- CONTRACTOR IS TO REPORT ANY CONDITION REQUIRING CHANGES FROM PLANS TO ENGINEER PRIOR TO STARTING WORK.
- BRANCH LINES AND MAINS (1 1/2" OR LESS) - SCHEDULE 40 FM APPROVED
- BRANCH LINES AND MAINS (2" OR LARGER) - THINWALL (THICKNESS LESS THEN SCHEDULE 40 MORE THEN SCHEDULE 10 & FM APPROVED)
- HEAT BY OWNER THROUGHOUT INCLUDING CONCEALED SPACE, EXCEPT AS INDICATED.
- SYSTEM TO BE TURNED ON AT END OF EACH WORK DAY.
- CONTRACTOR IS TO PERFORM A HYDROSTATIC TEST FOR 2 HRS. @ 200 PSI WITH NO LEAKAGE AND PROVIDE A TEST CERTIFICATE TO ENGINEER
- CONTRACTOR IS TO EMPLOY EXPERIENCED WORKMEN WHO ARE TO FAMILIARIZE THEMSELVES WITH THE BUILDING AND OBSERVE SAFETY REQUIREMENTS.
- CONTRACTOR TO ADJUST HEAD LOCATION TO COORDINATE WITH LIGHTS, DUCTS, ETC.
- PENDENT DEFLECTORS MIN 2" BELOW CEILING
- PERMIT FROM LOCAL AUTHORITY, TO BE OBTAINED BY CONTRACTOR.
- ALL WORK TO BE APPROVED BY OWNERS ENGINEER, STATE AUTHORITIES HAVING JURISDICTION AND MUNICIPAL FIRE, PLUMBING, BUILDING AND WATER DEPARTMENTS.
- U.L. AND/OR FM APPROVED EQUIPMENT TO BE USED.
- WORK TO BE IN ACCORDANCE WITH MUNICIPAL WATER DEPT. RULES.
- SYSTEM IS TO BE MAINTAINED AND TESTED BY THE OWNER OR HIS AGENT IN ACCORDANCE WITH APPLICABLE LOCAL AND STATE CODES AND IN CONFORMANCE WITH NFPA 13A, LATEST EDITION.
- IF BUILDING OCCUPANCY OR CONSTRUCTION CHANGES, THE SPRINKLER SYSTEM IS TO BE UPDATED ACCORDINGLY BY THE OWNER OR HIS AGENT.
- CONTRACTOR IS TO NEATLY CUT AND PATCH IN A FIRST CLASS WORKMANLIKE MANNER, ALL HOLES AND PENETRATIONS IN WALLS, CEILINGS, FLOORS, PARTITIONS, ETC.
- THE ENGINEER IS NOT RETAINED FOR SUPERVISION.
- THE INSTALLATION OF THIS SYSTEM WILL REQUIRE THE CLOSING OF ONE OR MORE FIRE PROTECTION CONTROL VALVES. THESE VALVE CLOSURES SHOULD BE CLOSELY COORDINATED WITH THE OWNERS WHO SHOULD CONTACT THE LOCAL FIRE DEPARTMENT, INSURANCE INTERESTS, ETC. PRIOR TO VALVE CLOSURES.
- ACTUAL DESIGN DENSITY MAY EXCEED STANDARDS. HOWEVER, IT IS A MINIMUM TO BE USED BY THE CONTRACTOR.
- ALL ALARMS RELATING TO THE SPRINKLER SYSTEM SHOULD BE ACTIVATED UPON PLACING THE SPRINKLER SYSTEM IN SERVICE.
- THE INSTALLATION COMPONENTS, SIZING, SPACING, MATERIALS LOCATION CLEARANCES, POSITION AND TYPE OF SYSTEM SHALL CONFORM TO NFPA 13 AND NC UNIFORM FIRE PREVENTION BUILDING CODE LATEST EDITION
- SPRINKLERS SHALL BE PROTECTED AGAINST FREEZING AND INJURY AS PER NFPA CODE.
- INSPECTION AND TESTS OF SPRINKLER SYSTEM SHALL BE CONDUCTED AS SPECIFIED IN NFPA CODE.
- WATER SUPPLY TEST PIPES AND GAUGES SHALL BE PROVIDED AS SPECIFIED IN CHAPTER 2-9 OF NFPA 13.
- PIPING SPECIFICATIONS, PIPE SCHEDULES, SYSTEM TEST PIPES, PROTECTION AGAINST CORROSION, DAMAGE FITTINGS, VALVES, HANGERS, SPRINKLERS, GUARDS AND SHIELDS SHALL BE IN ACCORDANCE WITH CHAPTER 3 OF NFPA 13, LATEST EDITION.
- STOCK OF EXTRA SPRINKLERS WILL BE FURNISHED AS PER CHAPTER 3 OF NFPA 13 (REQUIRED FOR EACH TEMPERATURE RATING).
- SPRINKLER ALARMS WILL BE IN ACCORDANCE WITH NFPA 13.
- SPACING, LOCATION AND POSITION OF SPRINKLERS SHALL BE IN ACCORDANCE WITH CHAPTER 4 OF NFPA 13.
- ALL BLIND SPACES EXCEEDING 6 INCHES IN WIDTH OR DEPTH WHICH CONTAIN COMBUSTIBLE MATERIAL SHALL BE SPRINKLERED.
- ALL PIPING PASSING THROUGH WALLS SHALL COMPLY WITH NFPA FOR FIRE PROOFING.
- DISTANCE OF SPRINKLERS FROM HEAT SOURCES SHALL BE IN ACCORDANCE WITH TABLE 3-16.6.3 OF NFPA 13.
- AUTOMATIC INTERLOCK CUTOFF SWITCH FOR VENTILATION SHALL BE BY HVAC FAN SHUTDOWN.
- PROVIDE WATER SUPPLY LETTER WITH FLOW TEST DATA.
- ALL PIPES PASSING THROUGH FOUNDATION WALLS TO BE PROTECTED.
- ALL VALVES SHALL BE IDENTIFIED AS REQUIRED BY NFPA 13.
- DRAINAGE TO CONFORM TO CHAPTER 3-11 OF NFPA 13.
- A ONE PIECE REDUCING FITTING OF GOOD DESIGN SHOULD BE USED WHEREVER A CHANGE IS MADE IN THE SIZE OF PIPE AS PER SECTION 3-12.2.7 OF NFPA 13.
- ALL VALVES ON CONNECTIONS TO WATER SUPPLIES AND IN SUPPLY TO SPRINKLERS SHALL BE APPROVED O.S. & Y. OR APPROVED INDICATOR TYPE WITH TAMPER SWITCHES.
- DRAIN VALVES AND TEST VALVES SHALL BE APPROVED TYPE AS PER SECTION 3-14.1.2 OF NFPA 13.
- HANGERS SHALL BE OF A TYPE APPROVED FOR USE WITH THE PIPE OR TUBE INVOLVED. SPRINKLER PIPING SHOULD BE SUPPORTED BY ADJUSTABLE HANGERS PER NFPA 13, SECTION 3-15.
- PROVISIONS SHOULD BE MADE TO FACILITATE FLUSHING SYSTEM PIPING BY PROVIDING FLUSHING CONNECTIONS CONSISTING OF A CAPPED NIPPLE 4" LONG ON THE END OF THE CROSS MAIN, AS PER SECTION 3-8.2 OF NFPA 13.
- SPRINKLER SHALL BE AN APPROVED TYPE AS PER SECTION 3-16 OF NFPA 13.
- TEMPERATURE RATING SHALL COMPLY WITH SEC. 3-16.6 OF NFPA 13.
- CLEARANCES BETWEEN SPRINKLERS AND STORAGE OR PARTITIONS AS PER NFPA 13, SECTION 4-2.5.
- SPACING AND LOCATION OF SPRINKLER SHALL COMPLY WITH CHAPTER 4 NFPA 13. OF
- CONTRACTOR TO COORDINATE HIS WORK WITH OTHER TRADES.
- HEAT IS TO BE PROVIDED THROUGHOUT THE ENTIRE AREA THAT PIPING, EQUIPMENT AND HEADS ARE INSTALLED.
- ONLY EXPERIENCED SPRINKLER MECHANICS TO WORK ON THE SYSTEM.
- ALL PIPING TO BE A MINIMUM OF 1" UNLESS OTHERWISE NOTED.
- PROVIDE WATER SHIELDS OVER ALL / SURFACE MOUNTED ELECTRIC PANELS AND EQUIPMENT IN ELECTRICAL ROOMS PER NFPA & LOCAL FIRE MARSHALL REQUIREMENTS.

NORTH CAROLINA SPRINKLER NOTES:

- AUTOMATIC SPRINKLER SYSTEM SHALL COMPLY WITH SEC. 903 OF 2018 NORTH CAROLINA BUILDING CODE & NFPA 14-2007.
- CONSTRUCTION DOCUMENTS FOR STANDPIPE SYSTEM SHALL CONTAIN PLANS THAT INCLUDE THE INFORMATION AND DATA LISTED IN SEC. 903.1.2 2018 NORTH CAROLINA BUILDING CODE.
- APPROVED AUTOMATIC SPRINKLER SYSTEM IN NEW BUILDINGS AND STRUCTURES SHALL BE PROVIDED IN THE LOCATIONS DESCRIBED IN SEC. 903.2 OF 2018 NORTH CAROLINA BUILDING CODE.
- AUTOMATIC SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH SEC. 903.3.1 THROUGH 903.3.7 OF 2018 NORTH CAROLINA BUILDING CODE.
- WHERE THE PROVISIONS OF NC BUILDING CODE REQUIRE THAT A BUILDING OR PORTION THERE OF BE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SEC. 903.3.1. 1. SPRINKLERS SHALL BE INSTALLED THROUGHOUT IN ACCORDANCE WITH NFPA 13 AS MODIFIED IN APPENDIX Q EXCEPT AS PROVIDED IN SEC. 903.3.1.1.1. OF 2018 NORTH CAROLINA BUILDING CODE.
- AUTOMATIC SPRINKLERS SHALL NOT BE REQUIRED IN THE ROOMS OR AREAS WHICH ARE LISTED IN 903.3.1.1.1 OF 2018 NORTH CAROLINA BUILDING CODE AS LONG AS AN APPROVED AUTOMATIC FIRE DETECTION SYSTEM IN ACCORDANCE WITH SECTION 904. AND AN ALTERNATIVE EXTINGUISHING SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 904.
- SPRINKLERS SHALL NOT BE OMITTED FROM ANY ROOM MERELY BECAUSE IT IS DAMP, OF FIRE-RESISTANCE-RATED CONSTRUCTION OR CONTAINS ELECTRICAL EQUIPMENT. AS PER SECTION 903.1.1.1 OF 2018 NORTH CAROLINA BUILDING CODE.
- WHERE ALLOWED IN BUILDINGS OF GROUP R, UP TO & INCLUDING SIX STORIES IN HEIGHT, AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED THROUGHOUT IN ACCORDANCE WITH NFPA 13 R AS MODIFIED IN APPENDIX Q 903.3.1.2 OF 2018 NORTH CAROLINA BUILDING CODE.
- WHERE AUTOMATIC SPRINKLER SYSTEMS ARE REQUIRED BY BUILDING CODE 2015 OF MASSACHUSETTS, QUICK-RESPONSE OR RESIDENTIAL AUTOMATIC SPRINKLERS SHALL BE INSTALLED IN THE AREAS LISTED IN SEC. 903.3.2 OF 2018 NORTH CAROLINA BUILDING CODE.
- AUTOMATIC SPRINKLERS SHALL BE INSTALLED WITH DUE REGARD TO OBSTRUCTIONS THAT WILL DELAY ACTIVATION OR OBSTRUCT THE WATER DISTRIBUTION PATTERN. AUTOMATIC SPRINKLERS SHALL BE INSTALLED IN OR UNDER COVERED KIOSKS, DISPLAYS, BOOTH, CONCESSION STANDS, OR EQUIPMENT THAT EXCEEDS 4 FEET IN WIDTH, NOT LESS THAN 3 FOOT CLEARANCE SHALL BE MAINTAINED BETWEEN AUTOMATIC SPRINKLERS & TOP OF PILES OF COMBUSTIBLE FIBERS SEC. 903.3.3 OF 2018 NORTH CAROLINA BUILDING CODE.
- WATER SUPPLIES FOR AUTOMATIC SPRINKLER SYSTEM SHALL COMPLY WITH SEC. 903.35 OF NYC BUILDING CODE AND SEC. 903.3.1 THE POTABLE WATER SUPPLY SHALL BE PROTECTED AGAINST BACK FLOW IN ACCORDANCE WITH THE REQUIREMENTS OF SEC. 903.3.5 OF THE 2018 NORTH CAROLINA PLUMBING CODE.
- A SECONDARY ON-SITE WATER SUPPLY EQUAL TO THE HYDRAULICALLY CALCULATED SPRINKLER DEMAND, INCLUDING THE HOSE STREAM REQUIREMENT, SHALL BE PROVIDED FOR HIGH-RISE BUILDINGS IN SEISMIC DESIGN CATEGORY "C" OR "D" AS DETERMINED BY THIS CODE, AND IN ANY HIGH-RISE BUILDING GREATER THAN 300 FEET IN HEIGHT. THE SECONDARY WATER SUPPLY SHALL HAVE A DURATION NOT LESS THAN 30 MINUTES AS DETERMINED BY THE OCCUPANCY HAZARD CLASSIFICATION IN ACCORDANCE WITH NFPA 13-2002. AS PER SECTION 903.3.5.2 OF 2018 NORTH CAROLINA BUILDING CODE.
- FIRE HOSE THREADS USED IN CONNECTION WITH AUTOMATIC SPRINKLER SYSTEMS SHALL BE APPROVED AND COMPATIBLE WITH FIRE DEPARTMENT HOSE THREADS. AS PER SECTION 903.3.6 OF THE 2018 NORTH CAROLINA BUILDING CODE.
- ALL VALVES CONTROLLING THE WATER SUPPLY FOR AUTOMATIC SPRINKLER SYSTEM, PUMPS, TANKS, WATER LEVELS AND TEMPERATURES, CRITICAL AIR PRESSURES AND WATER-FLOW SWITCHES ON ALL SPRINKLER SYSTEMS SHALL BE ELECTRICALLY SUPERVISED BY THE FIRE ALARM SYSTEM, AS PER SECTION 903.4 OF 2018 NORTH CAROLINA BUILDING CODE.
- APPROVED SUPERVISED INDICATING CONTROL VALVES SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE RISER ON EACH FLOOR IN HIGH-RISE BUILDINGS, AS PER SECTION 903.4.3 OF 2018 NORTH CAROLINA BUILDING CODE.
- THE DOCUMENTS OR PORTIONS THERE OF LISTED IN CHAPTER 2 OF NFPA13-2002 ARE REFERENCED WITHIN NFPA-14 AND SHALL BE CONSIDERED PART OF THE REQUIREMENTS OF THIS DOCUMENT.
- OCCUPANCY CLASSIFICATION SHALL COMPLY WITH CHAPTER 5 OF NFPA 14-2007.
- PROTECTION REQUIREMENTS FOR MIXED COMMODITIES SHALL BE IN ACCORDANCE WITH SEC. 5.6.1.2 OF NFPA 14-2007.
- REQUIREMENTS FOR CORRECT USE OF SPRINKLER SYSTEM COMPONENTS SHALL COMPLY WITH CHAPTER 6 OF NFPA 14-2007.
- THE K-FACTOR, RELATIVE DISCHARGE, AND MARKING IDENTIFICATION FOR SPRINKLERS HAVING DIFFERENT ORIFICE SIZES SHALL BE IN ACCORDANCE WITH TABLE 6.2.3.1 OF NFPA 14-2007.
- LARGE DROP & ESFR SPRINKLERS SHALL HAVE A MINIMUM NOMINAL K-FACTOR OF 11.2. PER SECTION 6.2.3.5. OF NFPA 14-2007.
- AUTOMATIC SPRINKLERS SHALL HAVE THEIR FRAME ARMS, DEFLECTOR, COATING MATERIAL, OR LIQUID BULB COLORED IN ACCORDANCE WITH THE REQUIREMENTS OF TABLE 6.2.5.1 OF NFPA 13-2002.
- LISTED CORROSION RESISTANT SPRINKLER SHALL BE INSTALLED IN LOCATIONS WHERE CHEMICALS, MOISTURE, OR OTHER CORROSIVE VAPORS SUFFICIENT TO CAUSE CORROSION OF SUCH DEVICES EXIST WITH SECTION 6.2.6.1. OF NFPA 13-2002.
- ALL CONTROL, DRAIN, AND TEST CONNECTION VALVES SHALL BE PROVIDED WITH PERMANENTLY MARKED WEATHERPROOF METAL OR RIGID PLASTIC IDENTIFICATION SIGNS. SEC. 6.7.4.1 OF NFPA 13-2002.
- FIRE DEPARTMENT CONNECTIONS SHALL BE EQUIPPED WITH LISTED PLUGS OR CAPS, PROPERLY SECURED AND ARRANGED FOR EASY REMOVAL BY THE FIRE DEPARTMENT. SEC. 6.8.4 OF NFPA 14-2007.
- REQUIREMENTS OF DRY PIPE SYSTEM INSTALLATION SHALL COMPLY WITH SEC. 7.2 OF NFPA 14-2007.
- REQUIREMENTS OF PREACTION & DELUGE SYSTEM INSTALLATION SHALL COMPLY WITH SEC. 7.3 OF NFPA 14-2007.
- OUTSIDE SPRINKLERS FOR PROTECTION AGAINST EXPOSURE FIRE SHALL COMPLY WITH SEC. 7.7 OF NFPA 14-2007.
- THE MAXIMUM FLOOR AREA OR ANY ONE FLOOR TO BE PROTECTED BY A SINGLE RISER FROM A CONTROL VALVE AND ALARM DEVICE SHALL COMPLY WITH SEC. 8.2.1 OF NFPA 14-2007.
- WHERE CIRCUMSTANCES REQUIRE THE USE OF OTHER THAN ORDINARY TEMPERATURE-RATED SPRINKLERS, STANDARD RESPONSE SPRINKLERS SHALL BE PERMITTED TO BE USED SEC. 8.3.3 OF NFPA 14-2007.
- WHEN EXISTING LIGHT HAZARD SYSTEMS ARE CONVERTED TO USE QUICK-RESPONSE OR RESIDENTIAL SPRINKLERS, ALL SPRINKLERS IN A COMPARTMENTED SPACE SHALL BE CHANGED. SEC. 8.3.3.4 OF NFPA 14-2007.
- SPRINKLERS OF INTERMEDIATE AND HIGH TEMPERATURE RATINGS SHALL BE INSTALLED IN SPECIFIC LOCATIONS AS REQUIRED BY SEC. 8.3.2 OF NFPA 14-2007.
- SPRINKLERS SHALL BE LOCATED, SPACED AND POSITIONED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 8.5. OF NFPA 14-2007.
- PROTECTION AREAS AND MAXIMUM SPACING FOR EACH HAZARD SHALL COMPLY WITH TABLE 8.6.2.2.1 (a) (b) (c) (d) OF NFPA14-2007.
- REQUIREMENTS OF DWELLING UNITS PROTECTION SHALL COMPLY WITH SEC. 8.14.8 OF NFPA 14-2007.
- REQUIREMENTS OF STAGES AREA PROTECTION SHALL COMPLY WITH SEC. 8.14.15 OF NFPA 14-2007.

SHOP DWGS/EQUIPMENT SUBMITTALS

THE CONTRACTOR IS RESPONSIBLE TO SUBMIT ALL ITEMS FOR REVIEW/APPROVAL BY NO MORE THAN 3 WEEKS AFTER THE CONTRACTOR'S CONTRACT/BID HAS BEEN AWARDED. ALL SUBMITTALS MUST BE SENT TOGETHER AS A SINGLE PACKAGE WITH MANUFACTURER'S SPECIFIC MODELS AND SPECIFICATIONS OUTLINED TO MATCH THE SCHEDULED REQUIREMENTS. EACH SUBMITTAL MUST BE LABELED WITH THE UNIT DESIGNATION USED WITHIN THIS DRAWING SET. IF THE SUBMITTAL PACKAGE IS FOUND TO BE INCOMPLETE UPON RECEIPT, THE PACKAGE WILL BE HELD AND WILL NOT BE REVIEWED UNTIL THE REMAINDER OF THE PACKAGE IS RECEIVED. ALL SHOP DRAWINGS AND SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY TO THE ENGINEER FOR REVIEW. CONTRACTOR SHALL NOT PURCHASE OR INSTALL ANY EQUIPMENT UNTIL WRITTEN ACCEPTANCE IS OBTAINED FROM THE ENGINEER.
NOTE: REFER TO SPECIFICATIONS FOR FURTHER SHOW DRAWING REQUIREMENTS. IF CONFLICTS ARISE, CONTACT DESIGN ENGINEER BEFORE FABRICATION.

SCOPE OF WORK:

- THE MODIFICATION OF AN EXISTING WET FS SYSTEM.
- PROPOSED FIRE SPRINKLER HEAD LOCATIONS AND PIPING ARE AS NOTED ON PLANS. EXACT PIPING FROM THE FIRE SPRINKLER MAIN TO ALL HEADS IS TO BE COORDINATED AND HYDRAULICALLY CALCULATED BY THE F.S.C. & SUBMITTED TO THE ENGINEER FOR APPROVAL.

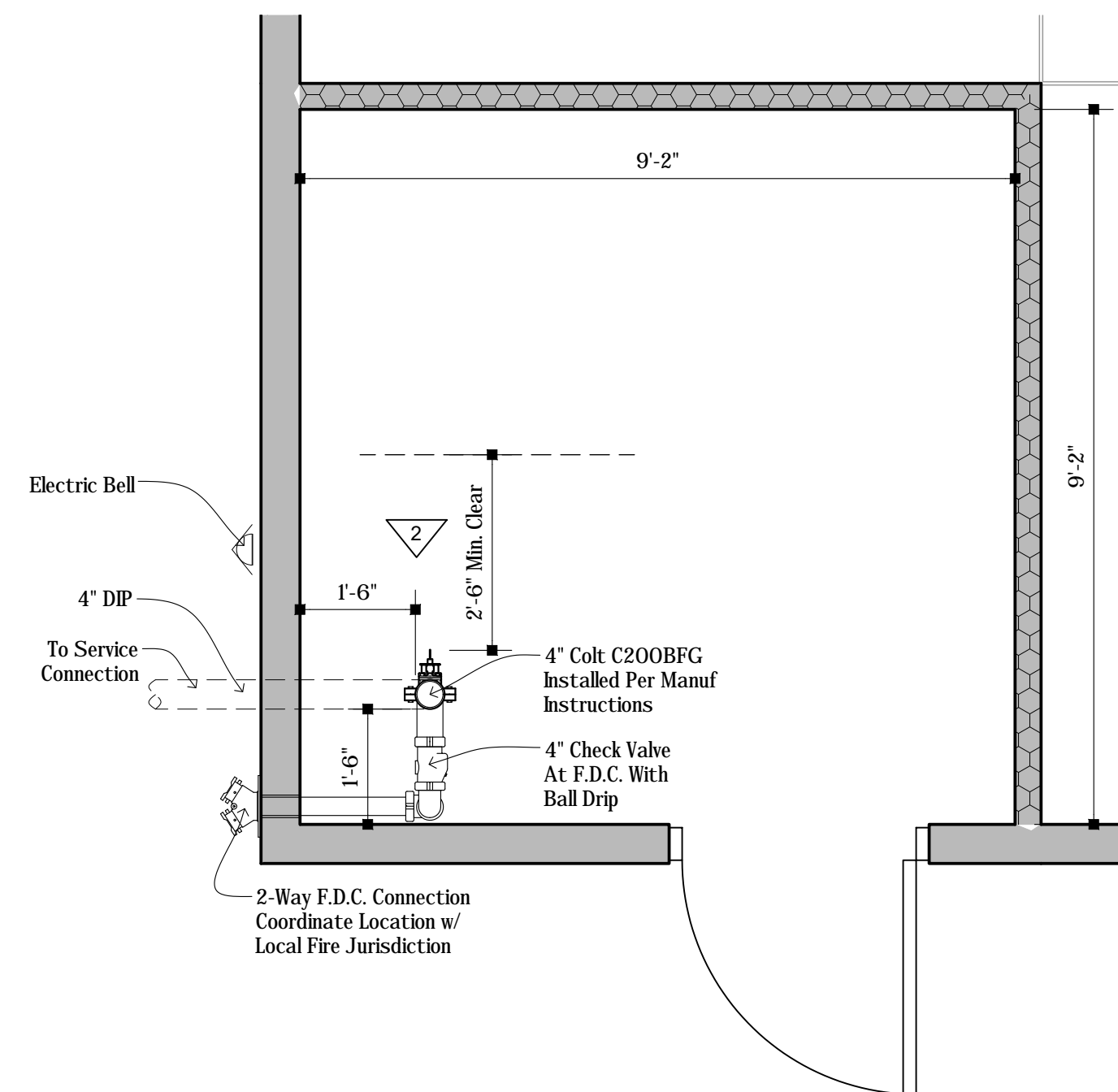
NOTE: THIS SCOPE OF WORK DESCRIPTION IS PROVIDED TO GIVE AN OVERALL "MACRO" DESCRIPTION OF THIS PROJECT. F.S.C. IS RESPONSIBLE TO REVIEW ALL ENGINEERING AND ARCHITECTURAL DRAWINGS AND VISIT THE SITE IF NEEDED, PRIOR TO SUBMISSION OF BID.

DOB DISCLAIMER NOTE:

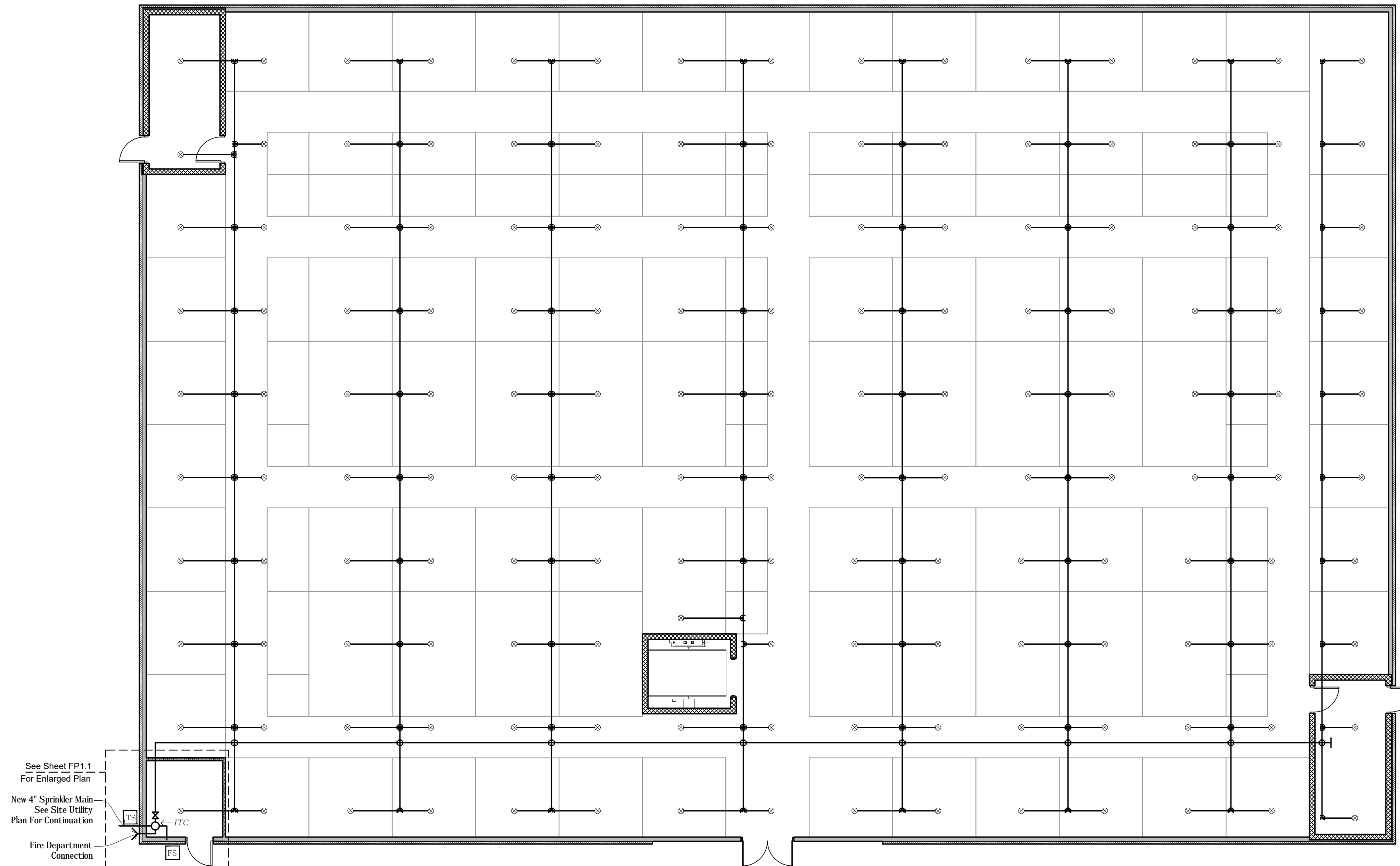
*THIS PLAN APPROVED ONLY FOR WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELED UPON, OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

FIRE PROTECTION SPECIFICATIONS

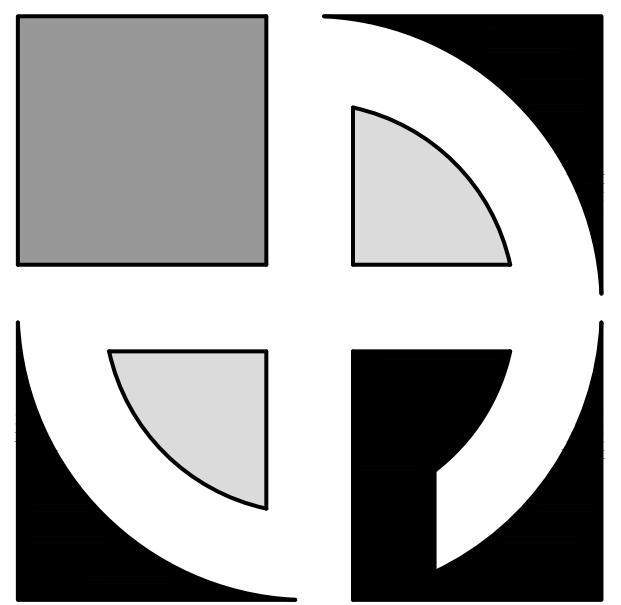
- THE WORK CONSISTS OF FURNISHING ALL LABOR, MATERIALS, TOOLS, EQUIPMENT SERVICES AND SUPERVISION REQUIRED TO INSTALL, TEST AND PLACE IN SERVICE MODIFICATIONS TO THE EXISTING FIRE PROTECTION SYSTEM IN STRICT ACCORDANCE WITH THIS SPECIFICATION AND APPLICABLE DRAWINGS.
NEW SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AND OWNERS INSURANCE UNDERWRITER.
TESTING OF SPRINKLER SYSTEM SHALL BE ACCORDING TO NFPA STANDARDS AND MUST BE WITNESSED BY OWNER'S REPRESENTATIVE AND/OR REPRESENTATIVE OF LOCAL FIRE MARSHAL'S OFFICE.
- CONTRACTOR SHALL VISIT THE SITE AND VERIFY EXISTING CONDITIONS, PRIOR TO SUBMITTING A BID.
- SYSTEM SHALL BE INSTALLED BASED ON THE FOLLOWING COVERAGE, SUBJECT TO THE APPROVAL OF DESIGN BY OWNER'S INSURANCE UNDERWRITER.
MINIMUM DENSITY: 0.10 GPM/SF OVER MOST REMOTE 1500 S.F.
MAXIMUM COVERAGE/HEAD: 225 S.F.
MINIMUM COVERAGE/HEAD: 90 S.F.
- CONTRACTOR SHALL PREPARE DRAWINGS TO LOCATE HEADS SHOWN ON PLAN AND SHALL BE RESPONSIBLE FOR THE COST OF ALL PERMITS AND FEES.
- SPRINKLER MAINS AND BRANCHES:
PIPING MATERIAL:
BLACK STEEL, SCHEDULE 40, ASTM A 135.
FITTINGS:
THREADED, CLASS 175, MECHANICAL COUPLINGS AND TEES OF A ROLLED GROOVED TYPE WILL BE ACCEPTED (IN LIEU OF THREADED) IF BOTH U.L.
FLEXIBLE HOSE ASSEMBLIES AND END FITTINGS:
A. COMPOSITION: 100% TYPE 304 STAINLESS STEEL.
B. STRAIGHT HOSE ASSEMBLY LENGTHS: 2FT, 3FT, 4FT, 5FT AND 6FT LENGTHS.
1. 1/2 INCH OUTLET.
2. 175 PSI MAXIMUM RATED PRESSURE.
3. FULLY WELDED NON-MECHANICAL FITTINGS, BRAIDED, LEAK-TESTED WITH MINIMUM 1 INCH TRUE BORE INTERNAL CORRUGATED HOSE DIAMETER.
C. ELBOW HOSE ASSEMBLY LENGTHS (FOR USE IN CONFINED SPACES): 2FT, 3FT, 4FT, 5FT, AND 6FT LENGTHS.
1. 1/2 INCH OUTLET
2. 175 PSI MAXIMUM RATED PRESSURE.
3. FULLY WELDED NON-MECHANICAL FITTINGS, BRAIDED, LEAK-TESTED WITH MINIMUM 1 INCH TRUE-BORE INTERNAL CORRUGATED HOSE DIAMETER.
- CEILING BRACKET:
A. COMPOSITION: TYPE G90 GALVANIZED STEEL.
B. TYPE: DIRECT ATTACHMENT TYPE, HAVING INTEGRATED SNAP-ON CLIP ENDS POSITIVELY ATTACHED TO THE CEILING USING TAMPER-RESISTANT SCREWS.
C. FLEXIBLE HOSE ATTACHMENT: REMOVABLE HUB TYPE WITH SET SCREW.
- INSTALLATION:
ALL SPRINKLER PIPING SHALL BE CONCEALED UNLESS OTHERWISE INDICATED. ALL PIPING SHALL BE LOCATED TO AVOID INTERFERENCE WITH ALL OTHER ELEMENTS ABOVE CEILINGS, ETC. SUPPORT ALL HORIZONTAL PIPING AT NOT GREATER THAN 10 FOOT INTERVALS, EXCEPT PIPES OF SIZE 1 1/2 AND LARGER WHICH SHALL BE SUPPORTED AT NOT GREATER THAN 15 FOOT INTERVALS WITH APPROVED SWIVAL SPLIT RING HANGERS WITH ROD SUPPORTS AND SWAY BRACES AT EVERY THIRD HANGER.
- SPRINKLER HEADS:
SPRINKLER PIPING SHALL BE INSTALLED SO THAT IT CAN BE THOROUGHLY DRAINED, AND WHERE PRACTICAL, ARRANGED TO DRAIN TO THE MAIN VALVE.
SPRINKLER HEADS IN AREAS WITH LAY-IN CEILINGS SHALL BE PENDANT TYPE, 165 DEG RATED, CHROME-PLATED HEAD WITH ESCUTCHEON FURNISHED IN A COLOR TO MATCH CEILING COLOR, MODEL F1FR AS MANUFACTURED BY RELIABE AUTOMATIC SPRINKLER CO., INC OR APPROVED EQUAL.
ALL SPRINKLER HEADS SHALL BE 1/2" ORFICE, RATED AT 165 DEGREES WITH A "K-FACTOR" OF 5.65 UNLESS OTHERWISE NOTED.
- UPON CLOSE OUT OF THE SYSTEM, THE INSTALLATION CONTRACTOR SHALL PROVIDE AN NFPA APPROVED CLARIFICATION FORM TO THE OWNER'S INSURANCE CARRIER (IF REQUIRED) CERTIFYING SATISFACTORY COMPLETION OF THE SPRINKLER SYSTEM INSTALLATION IN ACCORDANCE WITH APPROVED PLANS, CODES, PROCEDURES AND SPECIFICATIONS.



1 ENLARGED SPRINKLER ROOM
1/2"=1'-0"



2 FIRST FLOOR SPRINKLER PLAN
1/8"=1'-0"



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22-110

STORE SPACE

STORAGE CAP ELON, LP
L070

931 East Haggard Ave.
Elon, North Carolina 27244

No.	Description	Date	By

DATE:
3-17-2023

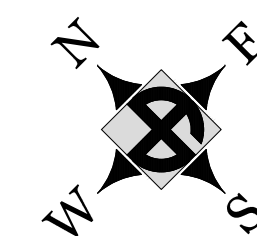
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M. Kasperek

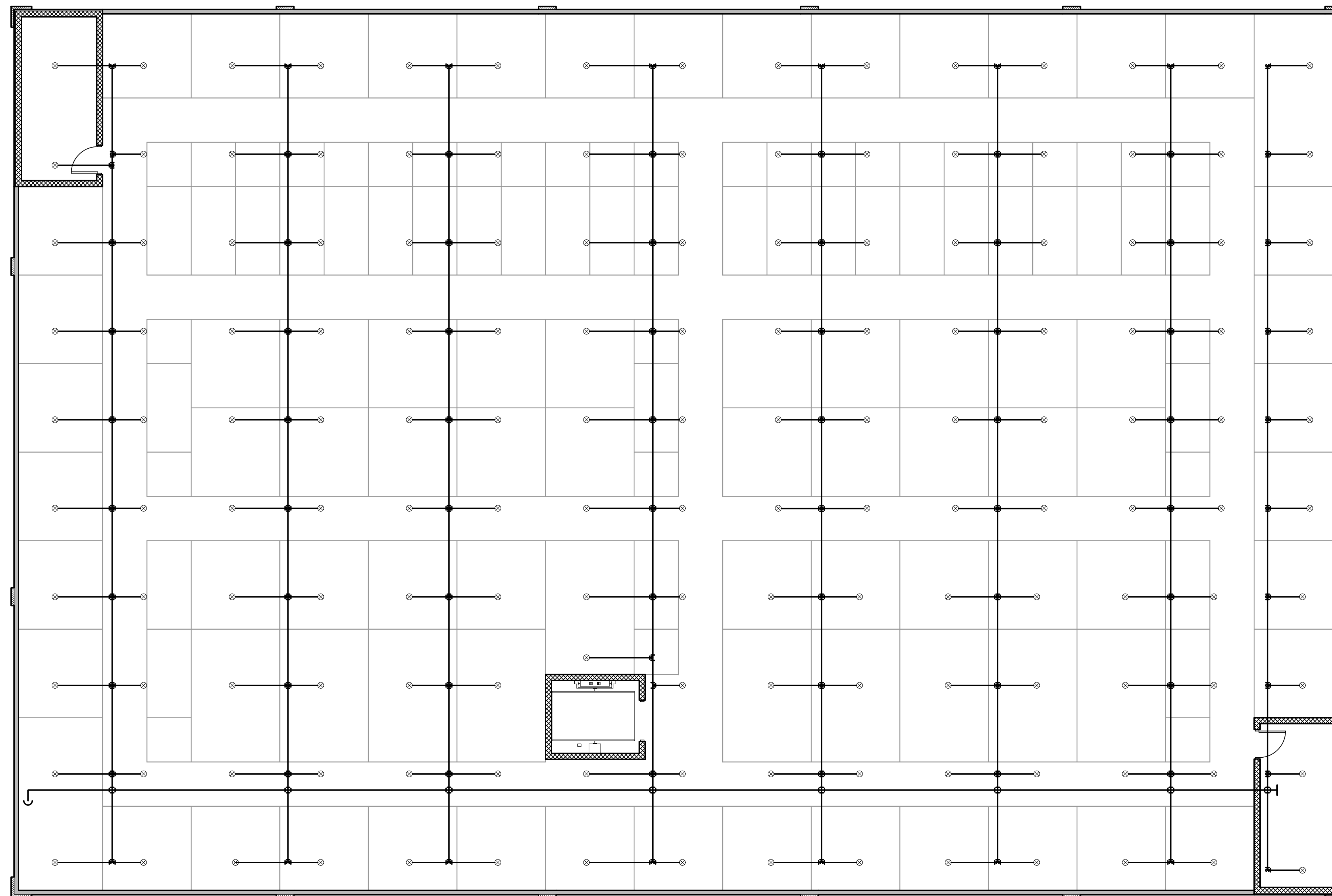
CHECKED BY:
M. Dean

SCALE:
1/8"= 1'-0"

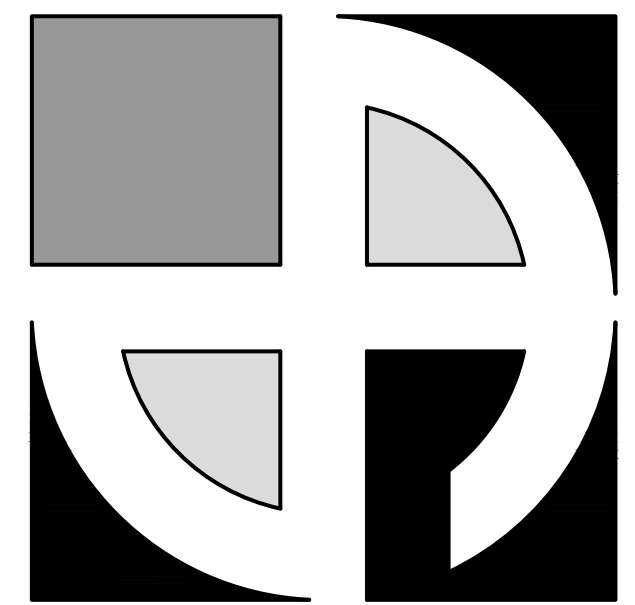
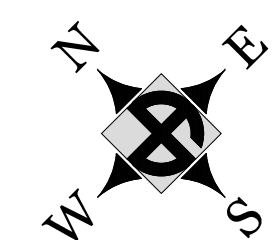
FIRST FLOOR
SPRINKLER PLAN

FP2.1





1 SECOND FLOOR SPRINKLER PLAN
1/8"=1'-0"



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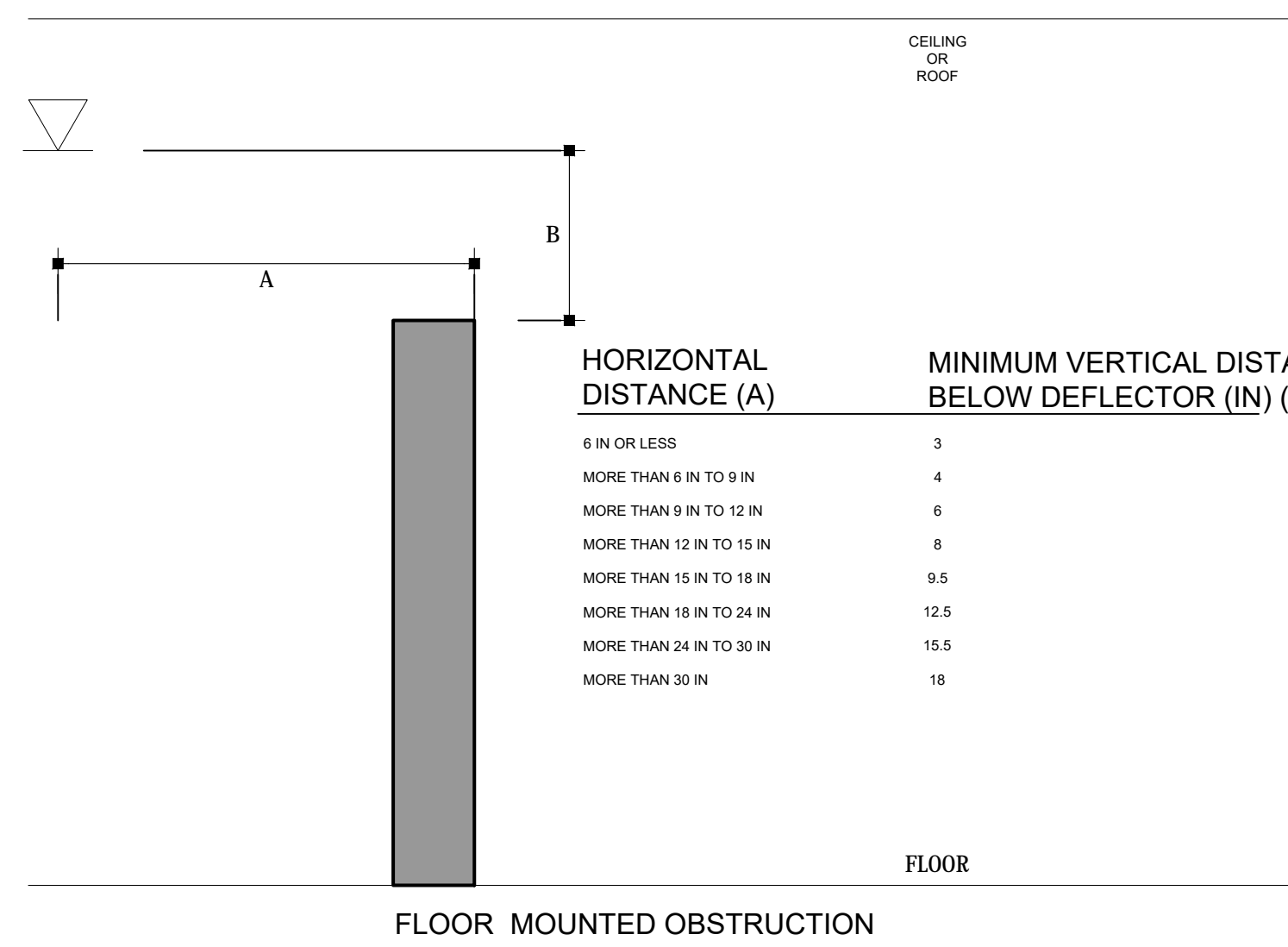
DRAWN BY:
M. Kasperek

CHECKED BY:
M. Dean

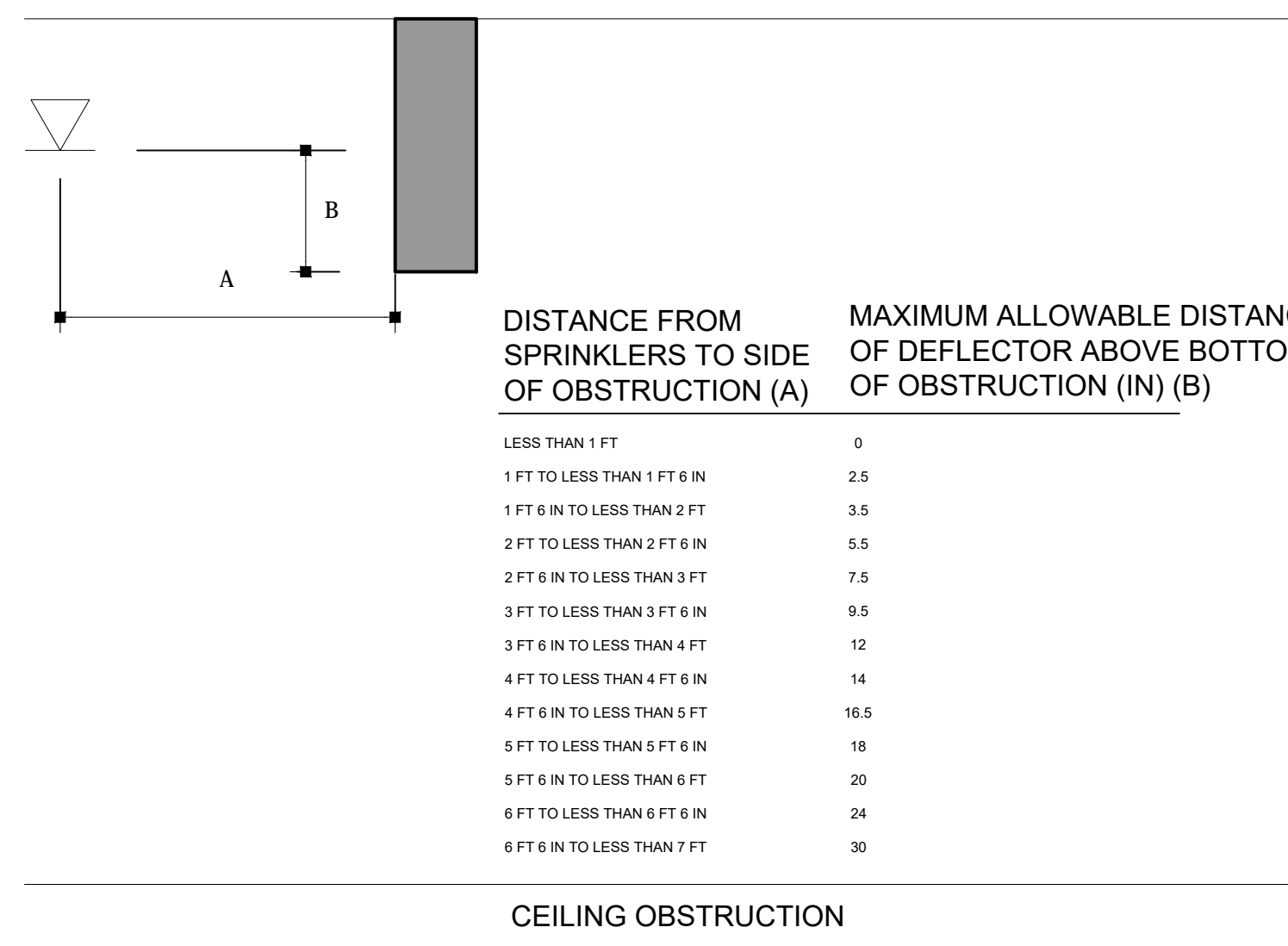
SCALE:
1/8"= 1'-0"

2ND FLOOR
SPRINKLER PLAN

FP2.2



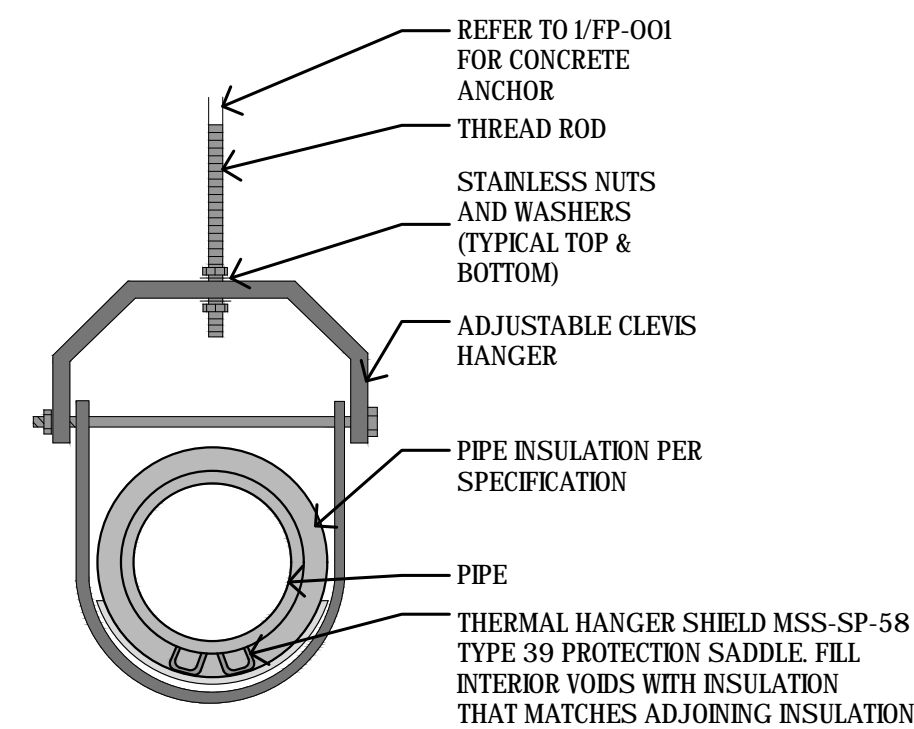
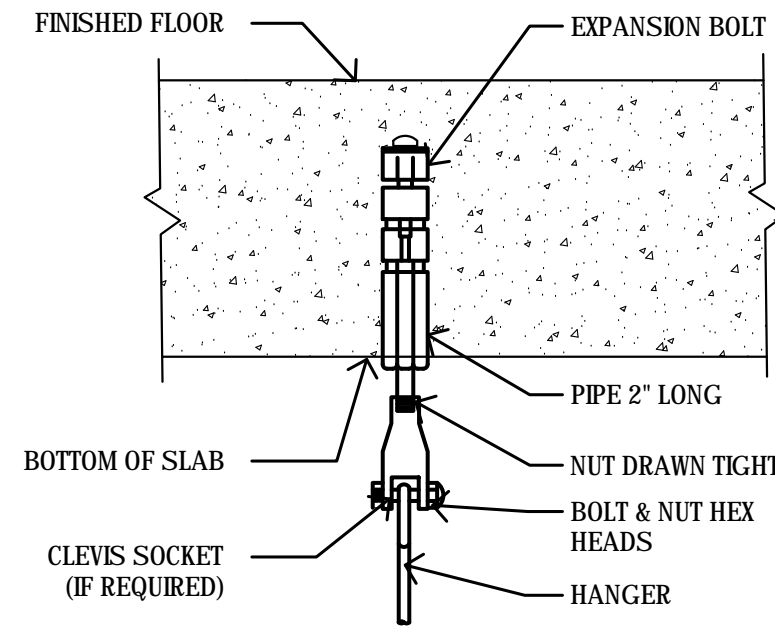
HORIZONTAL DISTANCE (A)	MINIMUM VERTICAL DISTANCE BELOW DEFLECTOR (IN) (B)
6 IN OR LESS	3
MORE THAN 6 IN TO 9 IN	4
MORE THAN 9 IN TO 12 IN	6
MORE THAN 12 IN TO 15 IN	8
MORE THAN 15 IN TO 18 IN	9.5
MORE THAN 18 IN TO 24 IN	12.5
MORE THAN 24 IN TO 30 IN	15.5
MORE THAN 30 IN	18



DISTANCE FROM SPRINKLERS TO SIDE OF OBSTRUCTION (A)	MAXIMUM ALLOWABLE DISTANCE OF DEFLECTOR ABOVE BOTTOM OF OBSTRUCTION (IN) (B)
LESS THAN 1 FT	0
1 FT TO LESS THAN 1 FT 6 IN	2.5
1 FT 6 IN TO LESS THAN 2 FT	3.5
2 FT TO LESS THAN 2 FT 6 IN	5.5
2 FT 6 IN TO LESS THAN 3 FT	7.5
3 FT TO LESS THAN 3 FT 6 IN	9.5
3 FT 6 IN TO LESS THAN 4 FT	12
4 FT TO LESS THAN 4 FT 6 IN	14
4 FT 6 IN TO LESS THAN 5 FT	16.5
5 FT TO LESS THAN 5 FT 6 IN	18
5 FT 6 IN TO LESS THAN 6 FT	20
6 FT TO LESS THAN 6 FT 6 IN	24
6 FT 6 IN TO LESS THAN 7 FT	30

1 OBSTRUCTION AND CLEARANCE

N.T.S.

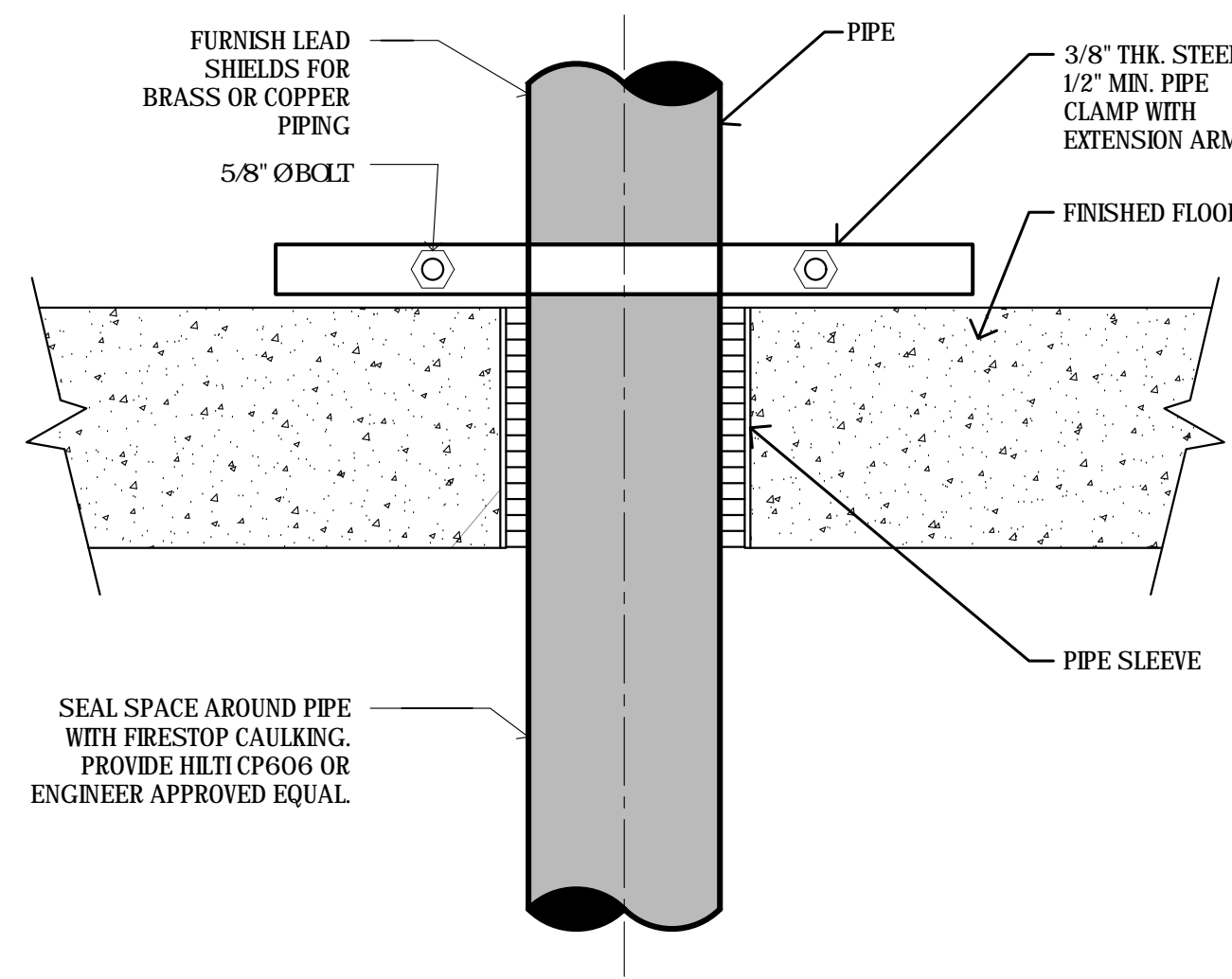


2 CONCRETE ANCHOR DETAIL

N.T.S.

3 PIPE HANGER DETAIL

N.T.S.



4 PIPE RISER DETAIL

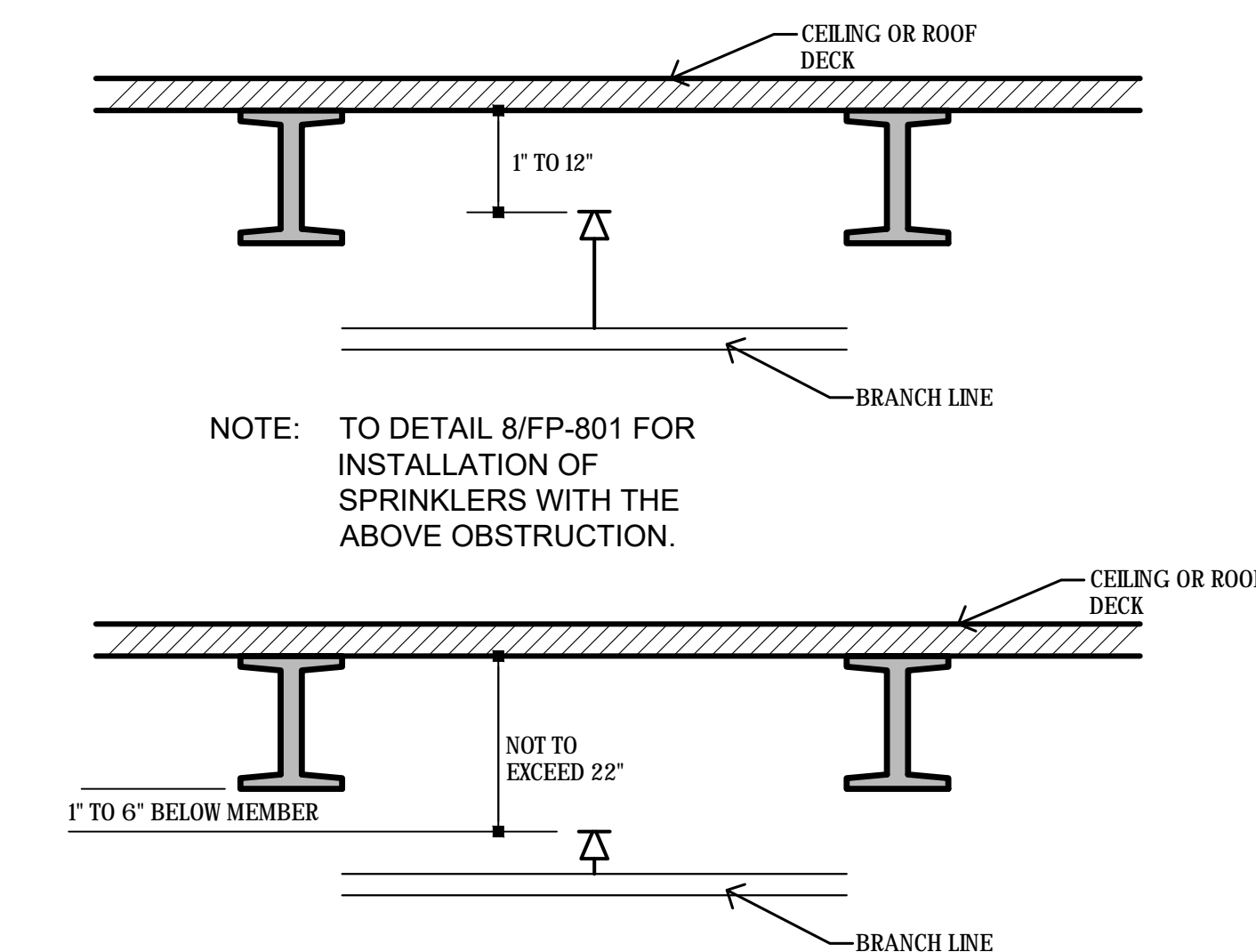
N.T.S.

2 SPRINKLER RISER DETAIL

N.T.S.

Riser Notes

- BACKFLOW PREVENTER SHALL BE TESTED FOR PROPER OPERATION PER ONONADAGA COUNTY WATER AUTHORITY. REQUIREMENTS BY A CERTIFIED TESTER RECOGNIZED BY THE CITY, BEFORE A TEMPORARY CERTIFICATE OF OCCUPANCY IS ISSUED.
- ADEQUATE CLEARANCE SHALL BE PROVIDED AROUND FIRE RISER. DIMENSIONS FROM FACE OF PIPE SHALL MEASURE A MINIMUM OF 12" OFF THE BACK WALL, 18" ON EACH SIDE AND 36" CLEAR IN FRONT WITH A FULL HEIGHT DOOR. THE FIRE LINE SHALL EXTEND A MAXIMUM OF 3' INTO THE BUILDING FROM INSIDE FACE OF WALL TO CENTER OF PIPE.
- RISER SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR TWO HOURS.
- AT #1 & #4 TEST PORTS INSTALL A 1/2" BRASS NIPPLE, TEE & PLUGS W/ 1/2" x 1/4" MALE FLARED CONNECTION W/ CAP (INSTALL PRESSURE GAUGE ON TEE OUTLET)
- HYDRAULIC DESIGN AND SUMMARY INFORMATION PER NFPA SHALL BE ATTACHED TO RISER.
- SPARE HEAD BOX SHALL BE MOUNTED IN AREA.

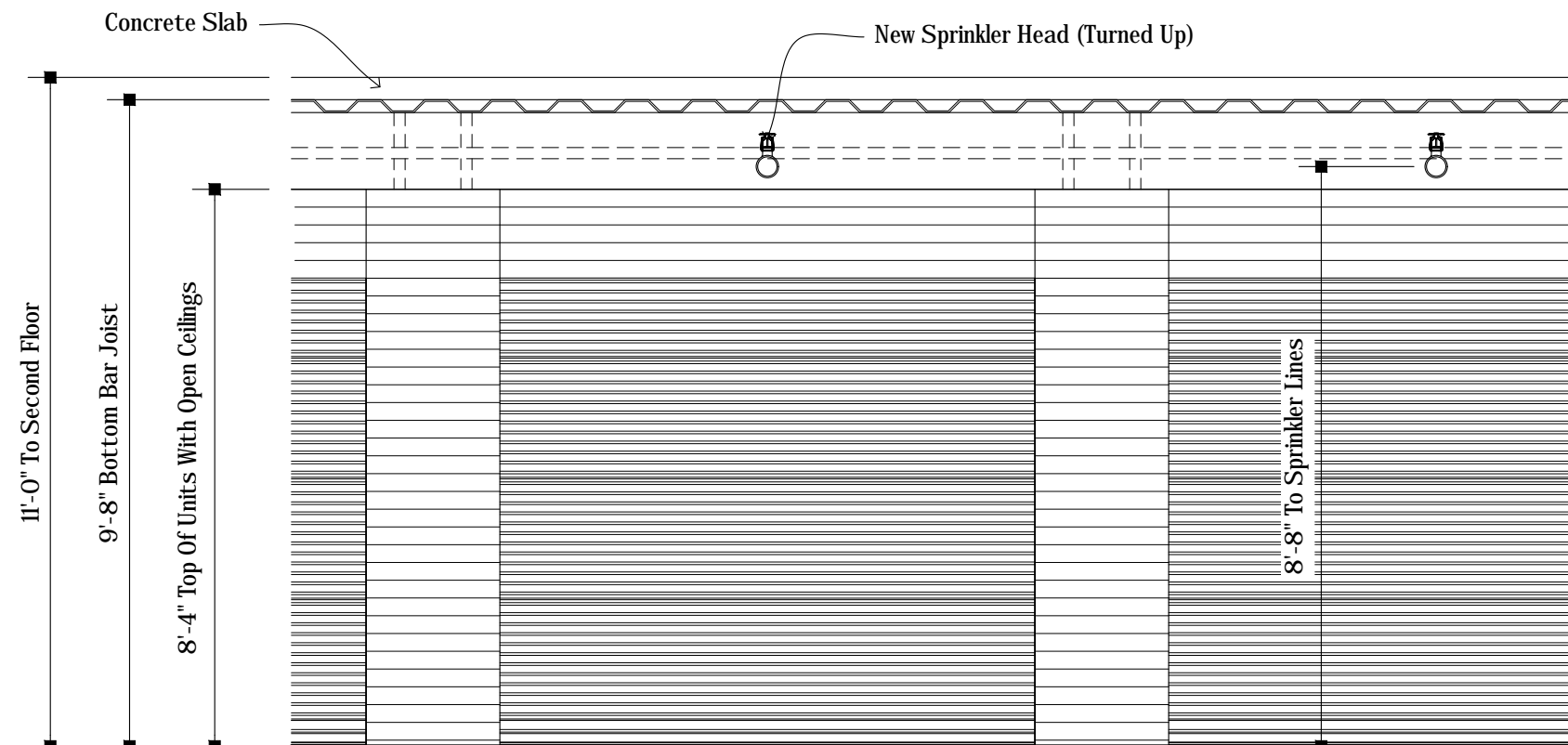
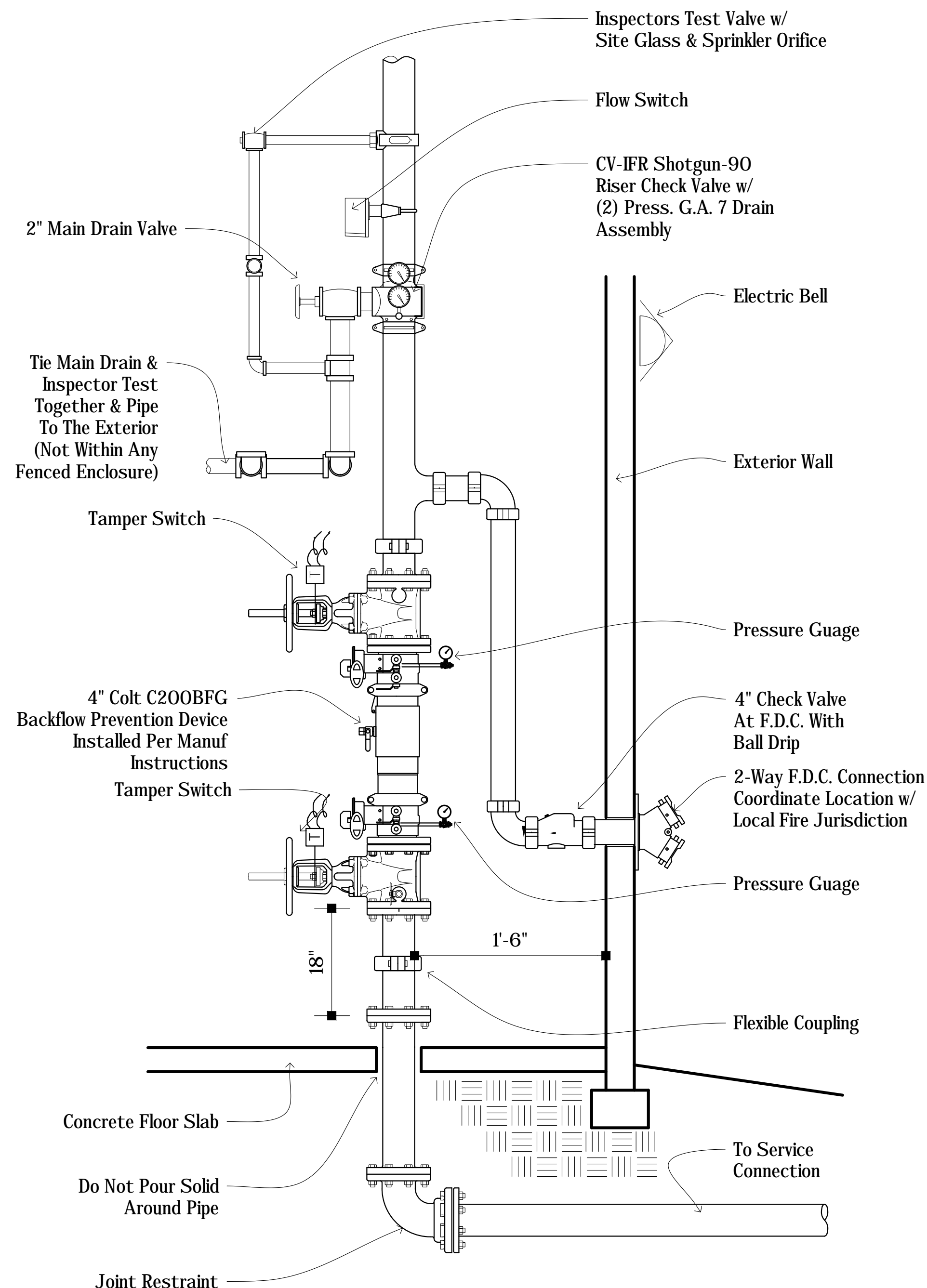


NOTE: TO DETAIL 8/FP-801 FOR INSTALLATION OF SPRINKLERS WITH THE ABOVE OBSTRUCTION.

NOTE: INSTALL SPRINKLER WITH THE DEFLECTORS WITHIN THE HORIZONTAL PLANES OF 1" TO 6" BELOW THE STRUCTURAL MEMBERS AND A MAXIMUM DISTANCE OF 22" BELOW THE CEILING/ROOF DECK

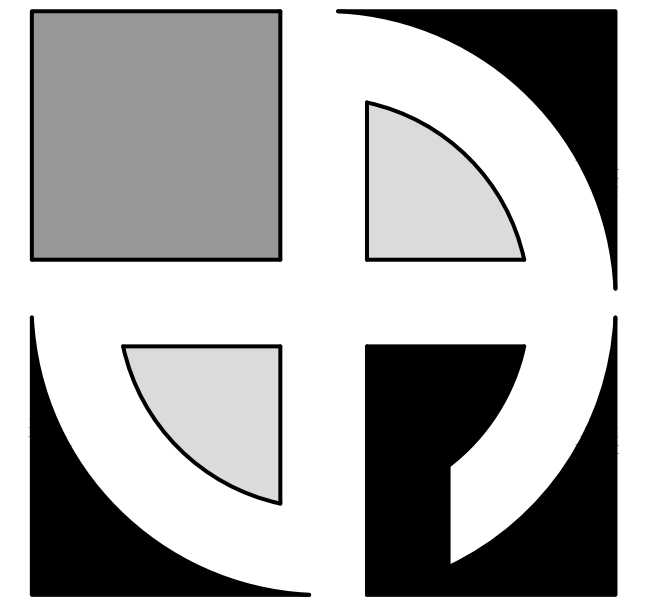
7 STRUCTURAL MEMBER OBSTRUCTED DETAIL

N.T.S.



5 SPRINKLER HEAD CLEARANCE DETAIL

N.T.S.



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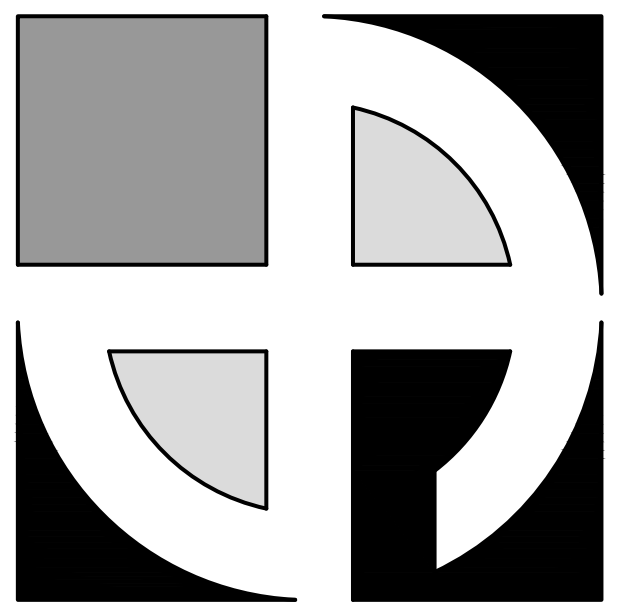
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Elon, North Carolina 27244

No.	Description	Date	By

DATE: 3-17-2023
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CHECKED BY: M. Dean
SCALE: 1/8" = 1'-0"

SPRINKLER DETAILS
FP2.3





**MARK A. DEAN
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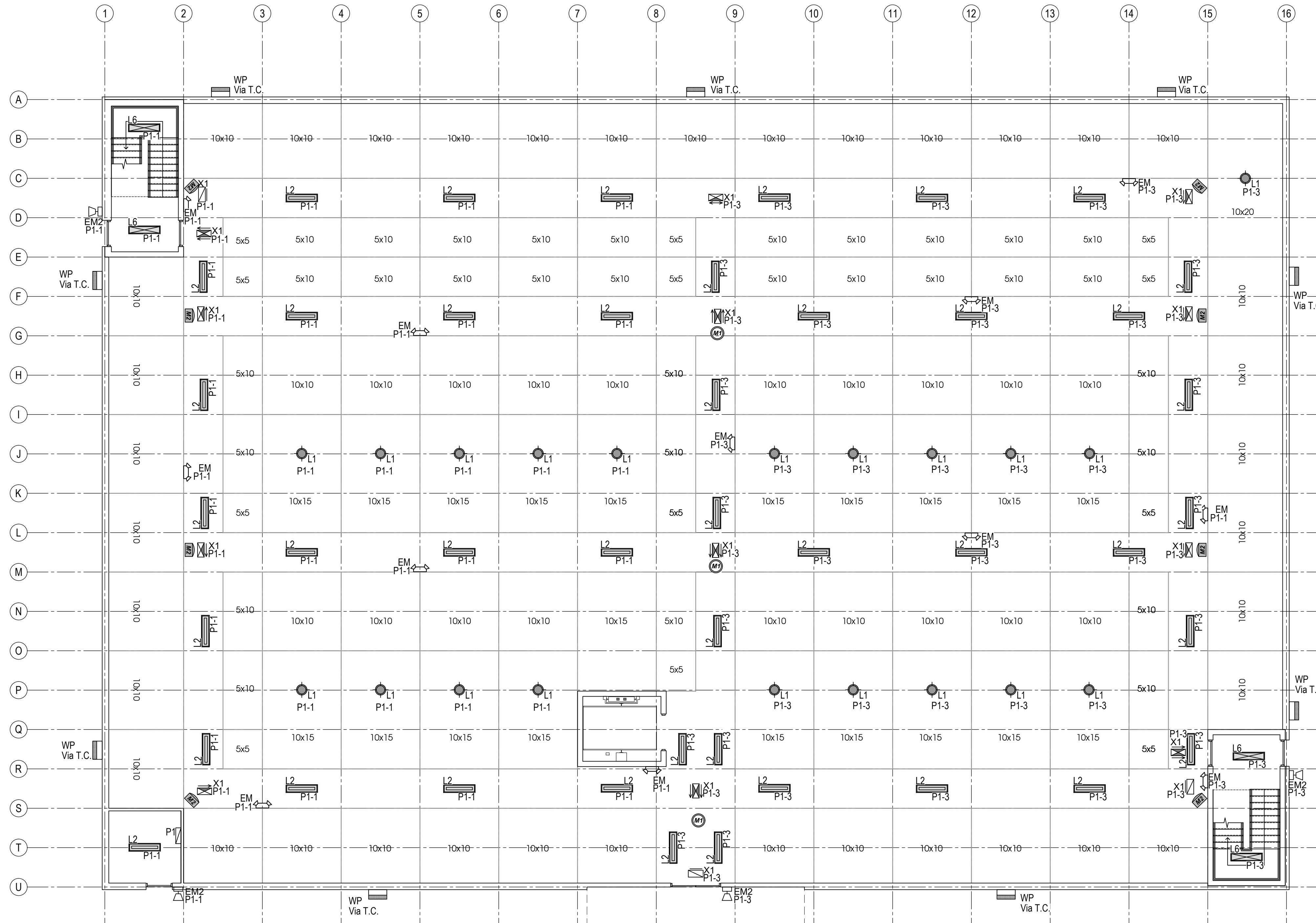
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1 FIRST FLOOR LIGHTING PLAN
1/8"=1'-0"

LEGEND

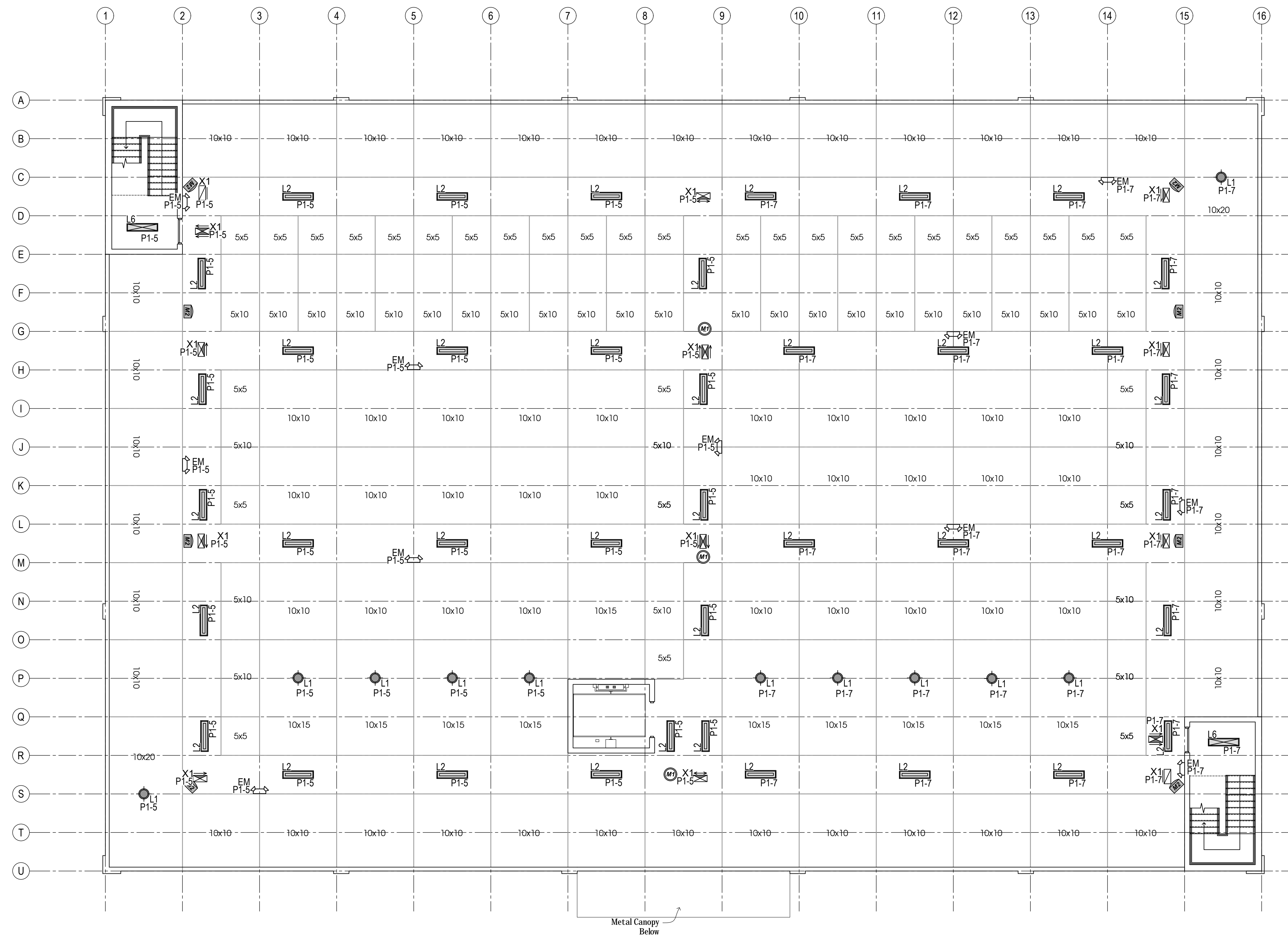
- FIXTURE TYPE (See Schedule)
- CIRCUIT #
- PANEL DESIGNATION
- OCCUPANCY SENSOR

No.	Description	Date	By

DATE: 3-17-2023
DRAWN BY: M. Kasperek
CHECKED BY: M. Dean
SCALE: 1/8"= 1'-0"

**1ST FLOOR
LIGHTING PLAN**
E1.1

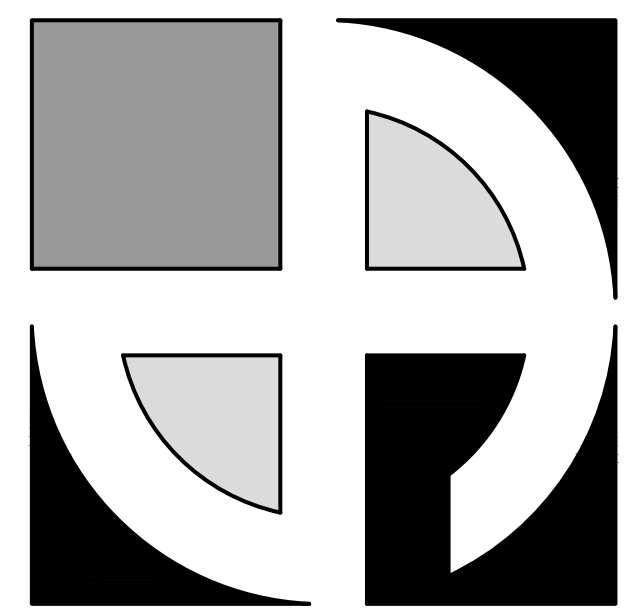




1 SECOND FLOOR LIGHTING PLAN
1/8"=1'-0"

LEGEND

- FIXTURE TYPE
(See Schedule)
- CIRCUIT #
- PANEL DESIGNATION
- OCCUPANCY SENSOR



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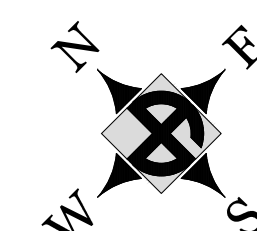
DRAWN BY:
M. Kasperek

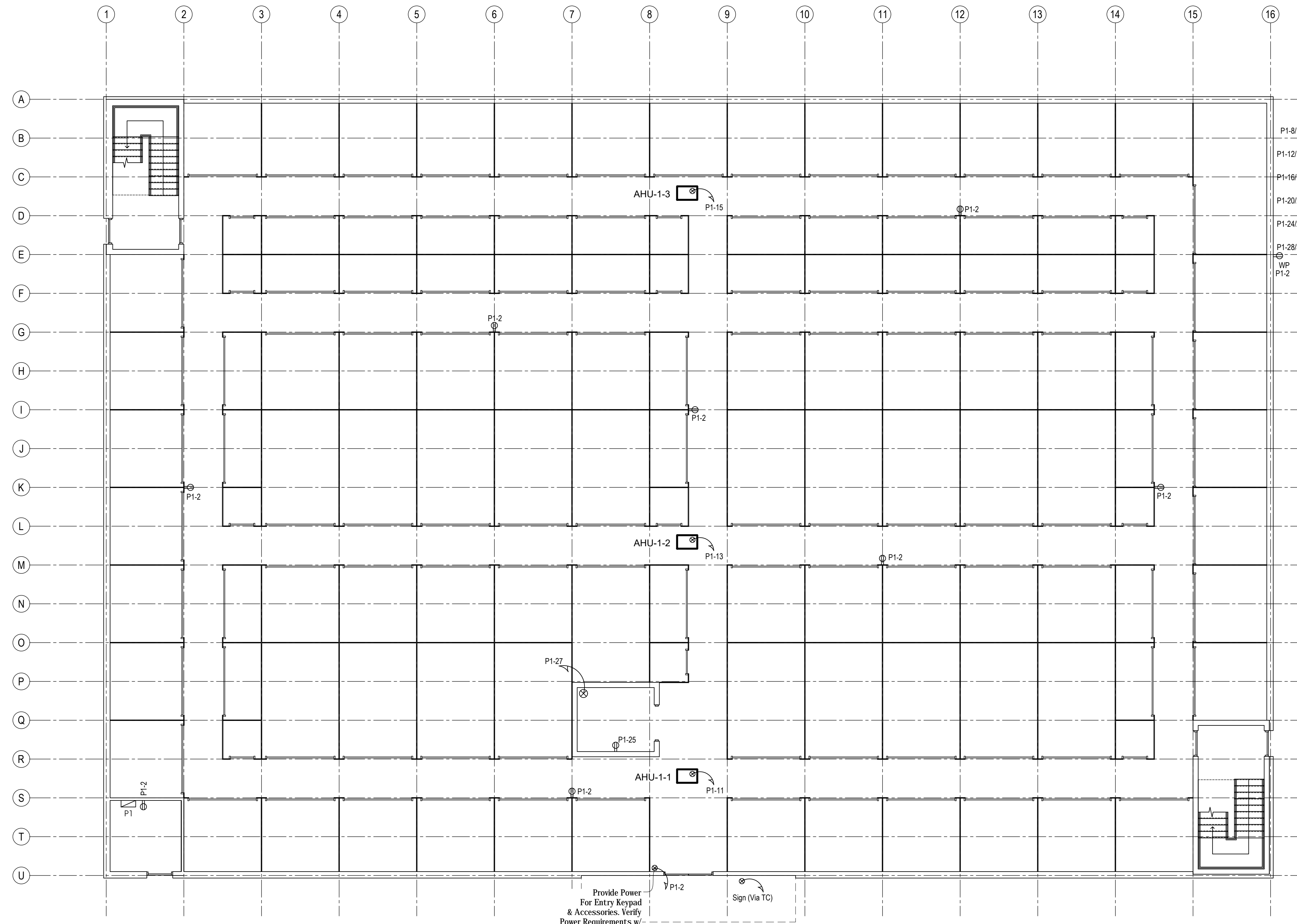
CHECKED BY:
M. Dean

SCALE:
1/8"= 1'-0"

2ND FLOOR
LIGHTING PLAN

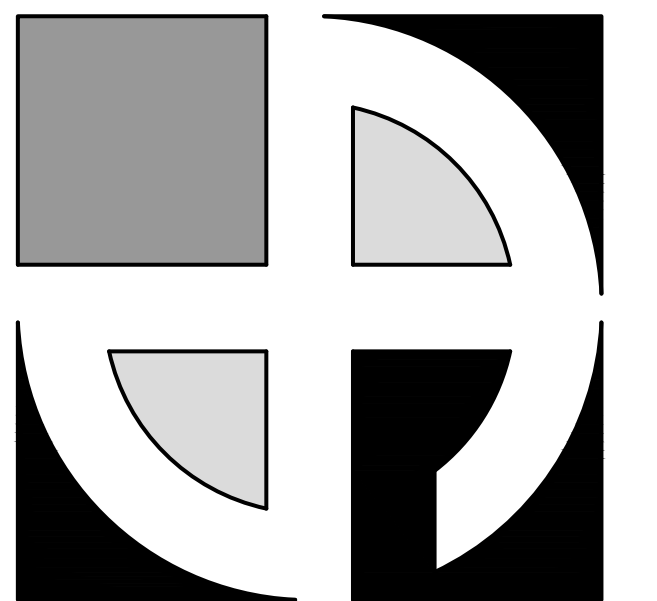
E1.2





1 FIRST FLOOR POWER PLAN
1/8"=1'-0"

Cct	Circuit Name	Load Type	A	B	C	P	Amp	Breaker	Breaker	Load (Va)	Load Type	Circuit Name	Cct
1	1st Flr Lighting	General Lighting	1260				20		1900		Gen. Receptacle	1st Flr Cor. Outlets	2
3	1st Flr Lighting	General Lighting	1260				20		1600		Gen. Receptacle	2nd Flr Cor. Outlets	4
5	2nd Flr Lighting	General Lighting	1260				20		1474		Cooling	ACCU-1-1	6
7	2nd Flr Lighting	General Lighting	1260				40		1474		Cooling	ACCU-1-1	8
9													10
11	AHU 1-1	Cooling			1560		20	40	4784		Cooling	ACCU-1-2	12
13	AHU 1-2	Cooling			1560		20	40	4784		Cooling	ACCU-1-2	14
15	AHU 1-3	Cooling			1560		40	40	4784		Cooling	ACCU-1-3	16
17	AHU 2-1	Cooling			1560		20	40	4784		Cooling	ACCU-2-1	18
19	AHU 2-2	Cooling			1560		40	40	4784		Cooling	ACCU-2-1	20
21	AHU 2-3	Cooling			1560		20	40	4784		Cooling	ACCU-2-1	22
23											Cooling	ACCU-2-2	24
25	Elevator Pit	Gen. Receptacle	600										26
27	Elevator	Motor Load			9600		100	40	4784		Cooling	ACCU-2-3	28
29													30
31													32
33													34
35													36
37													38
39									1200		General Lighting	Exterior Lights Via TC	40
41									600		Gen. Receptacle	Panel Outlet	42



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22-110

STORE SPACE

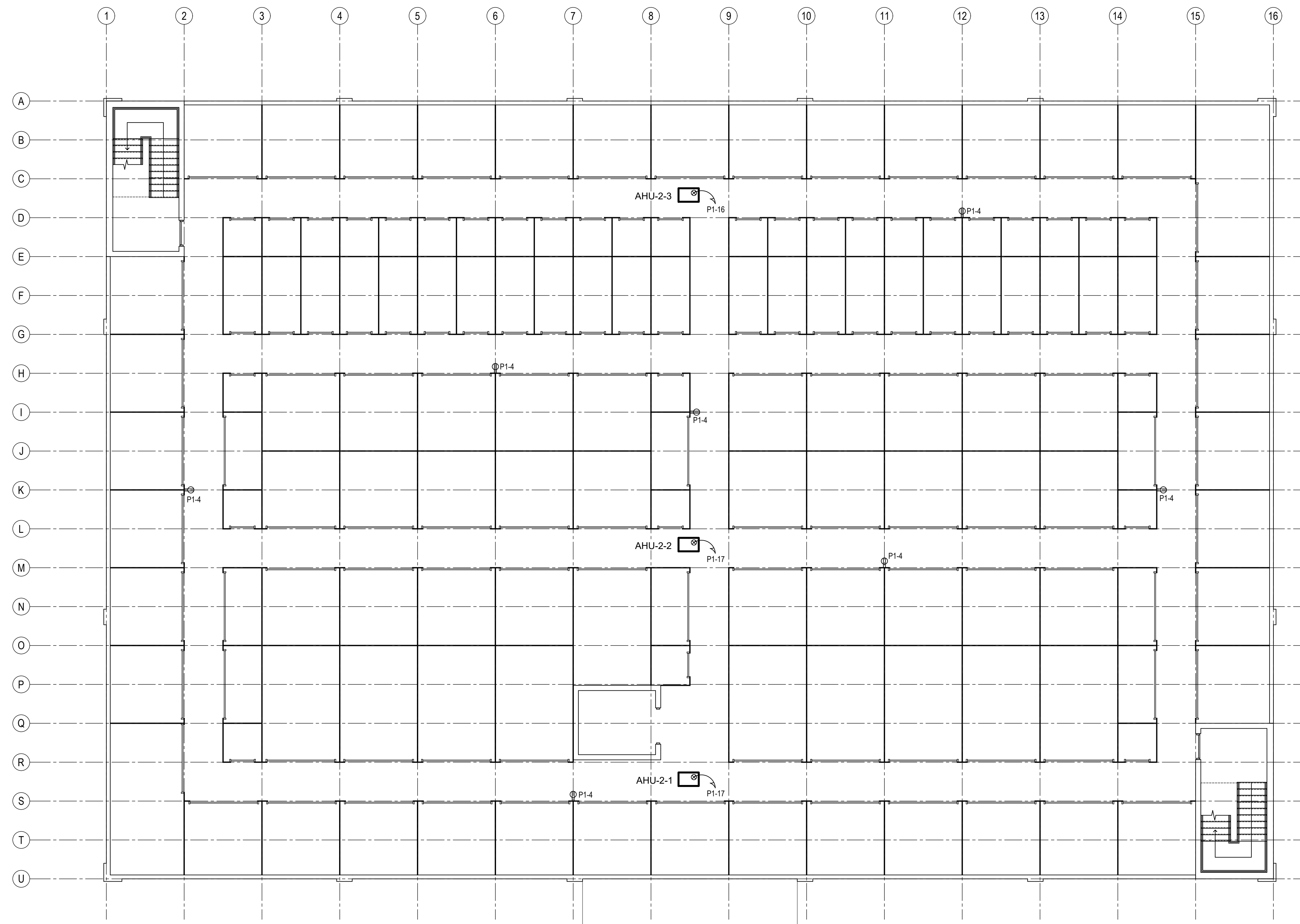
STORAGE CAP ELON, LP
L070
931 East Haggard Ave.
Elon, North Carolina 27244

No.	Description	Date	By

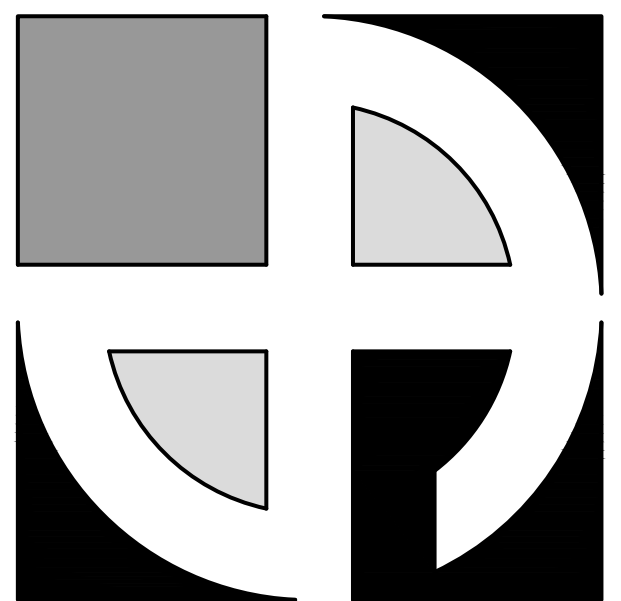
DATE: 3-17-2023
DRAWN BY: M. Kasperik
CHECKED BY: M. Dean
SCALE: 1/8"= 1'-0"



1ST FLOOR POWER PLAN
E2.0



1 SECOND FLOOR POWER PLAN
1/8"=1'-0"



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No.	Description	Date	By

DATE:
3-17-2023

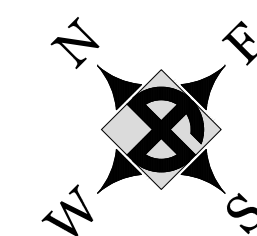
DRAWN BY:
M. Kasperek

CHECKED BY:
M. Dean

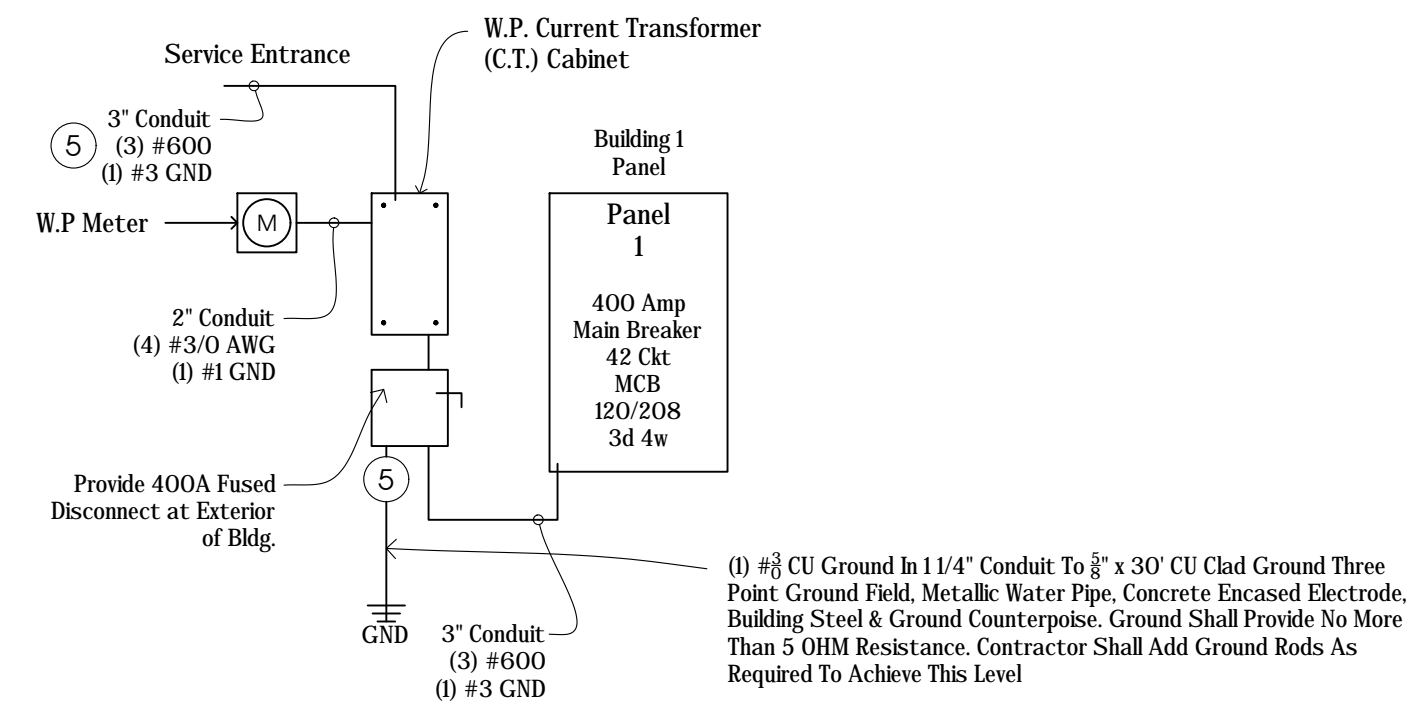
SCALE:
1/8"= 1'-0"

2ND FLOOR
POWER PLAN

E2.1



Tag	Service Size	CONDUCTORS			
		Per Phase	Neutral	Ground	Conduit
①	50A	#6	#6	#12	1"
②	100A	#3	#3	#8	1"
③	150A	#1/0	#1/0	#6	2"
④	200A	#3/0	#3/0	#3/0	2"
⑤	400A	#600 KCMIL	#600 KCMIL	2/0	2"
⑥	600A	#1500 KCMIL	#1500 KCMIL	#1 AWG	4"



1 SINGLE LINE DIAGRAM

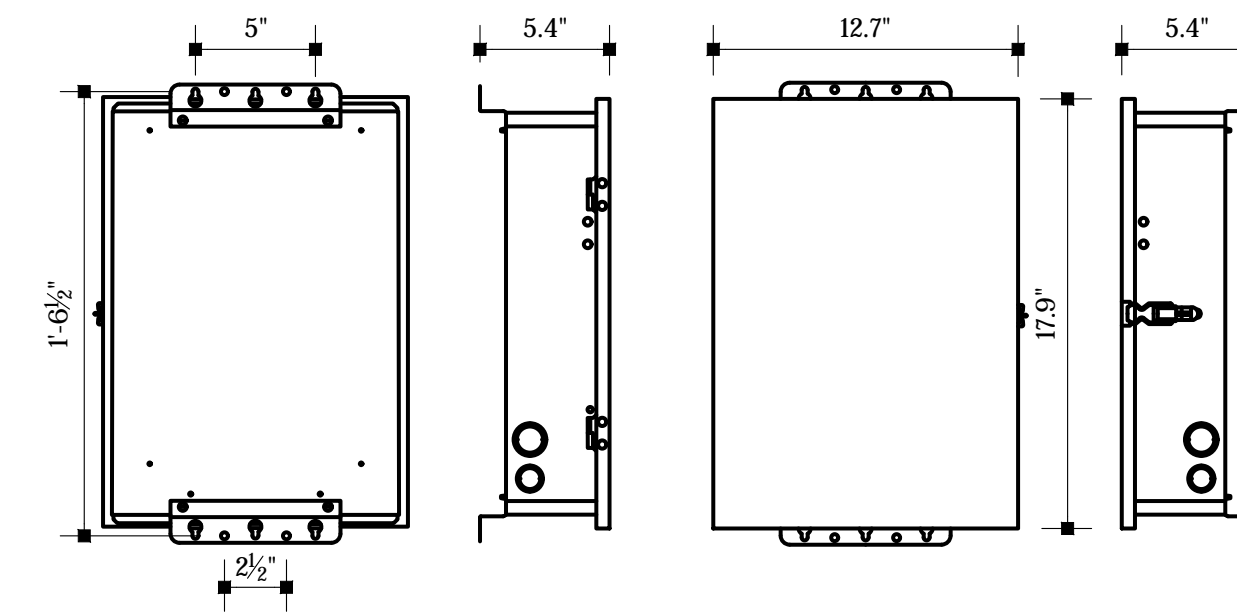
SINGLE LINE DIAGRAM NOTES

- The electrical contractor shall submit the switchboard room layout including elevations, copper details, ETC. to the architect prior to the fabrication of the equipment.
- Locate disconnect switches/circuit breakers within 10'0" of tap. Where tap feeder conductor length exceeds 10'0", size the tap conductor per code. Switch/CB enclosure shall be factory painted red and labeled "Sprinkler Booster Pump Service Switch" and "Fire Alarm Service Switch" respectively.
- Provide pull/splice boxes as required.
- All service switches and breakers and all generator switches and breakers shall be service entrance rated.
- Provide feeders with fire resistance ratings as required by code.
- Emergency load (including sprinkler booster pump) and standby load generator over current protection device shall be isolated from each other as required by NEC 700.9(B)(5). Emergency and standby load generator overcurrent protection devices shall not be mounted in the same vertical switchboard section. Emergency and standby load generator over current protection devices isolated by barriers within the same vertical switchboard section are not permitted.
- Contractor to provide a coordination study of all emergency generator backed overcurrent protective devices for the engineer of records review and approval.

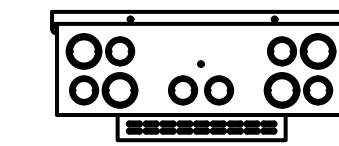


Digital Electronic Timer Control
365 day Astronomic Elec. Control

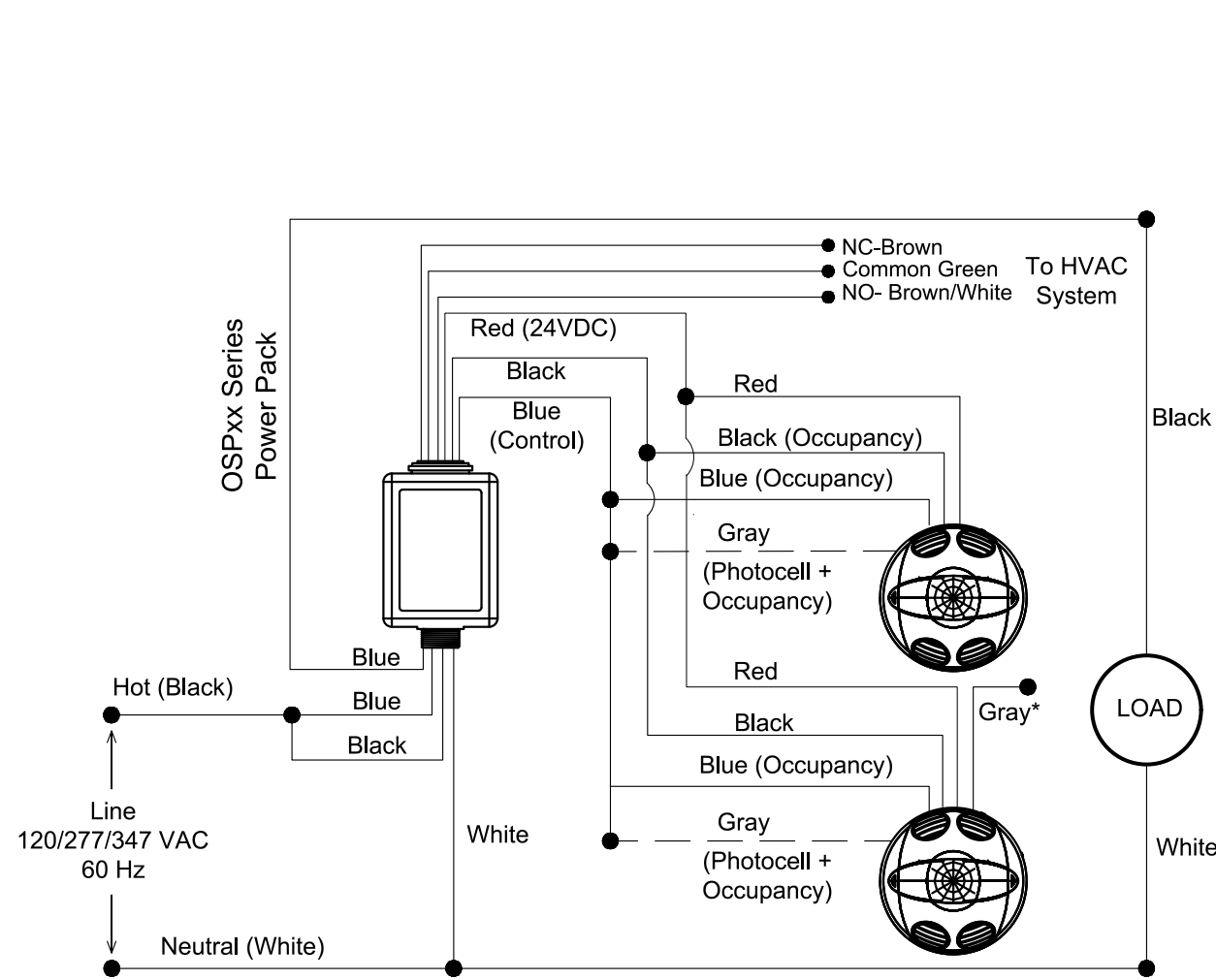
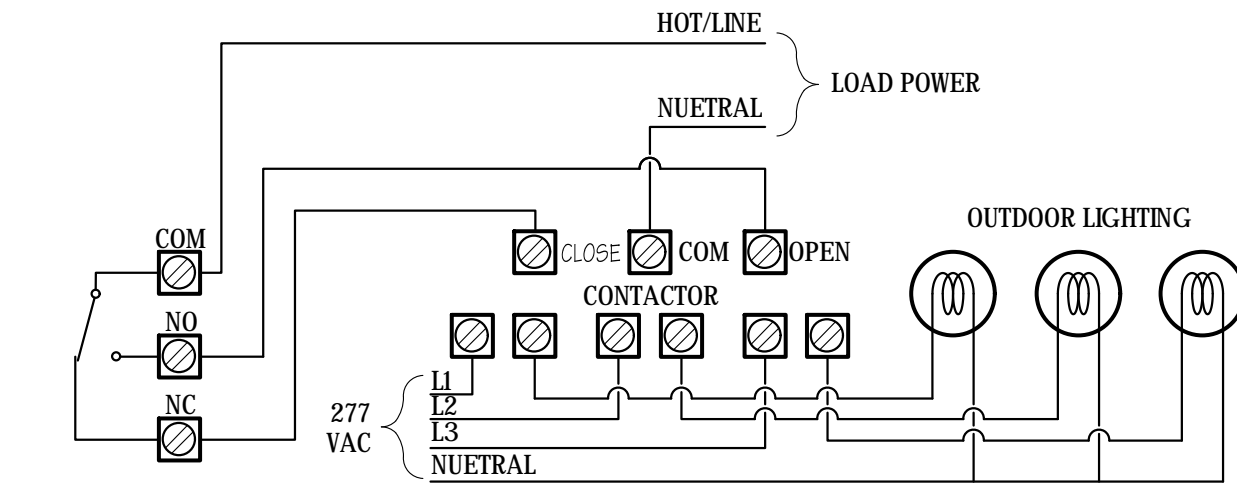
Input Voltage: 120, 208-277 50/60 #3
Max on/off operation: 2000
Number of circuits: 12
Operation mode: 365 day
Backup type: Supercapacitor
Backup Protection Time: 100 hour
Switch Type: DPDT, SPDT
Size: 17.87" H, 12.67" W, 5.43" D



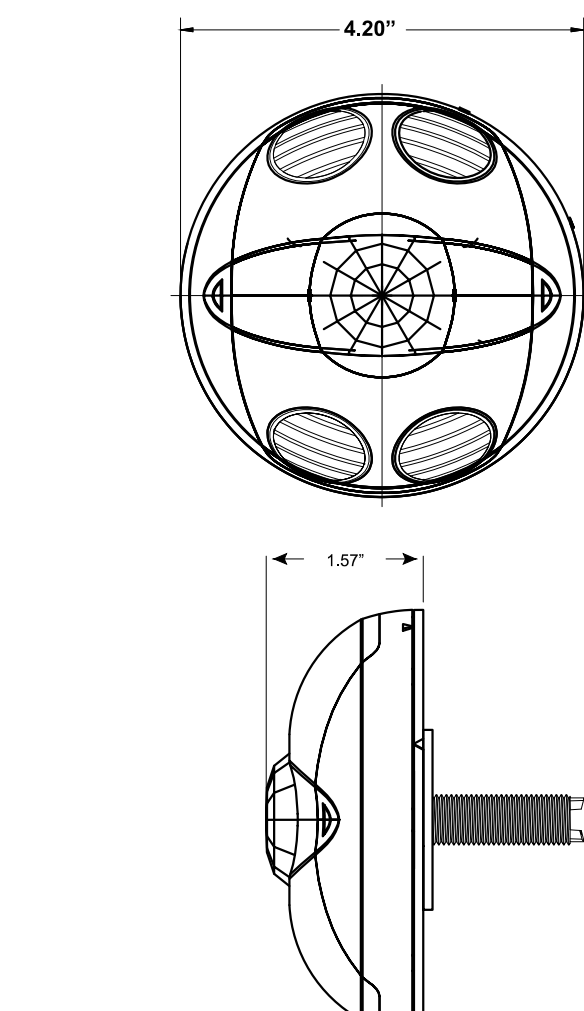
Conduit Knockout Sizes	
Sizes	Quantity
Dual 1" & 3/4"	6
Dual 3/4" & 1/2"	8



2 TIME CLOCK DETAILS



3 MOTION SENSOR- WIRING DIAGRAM

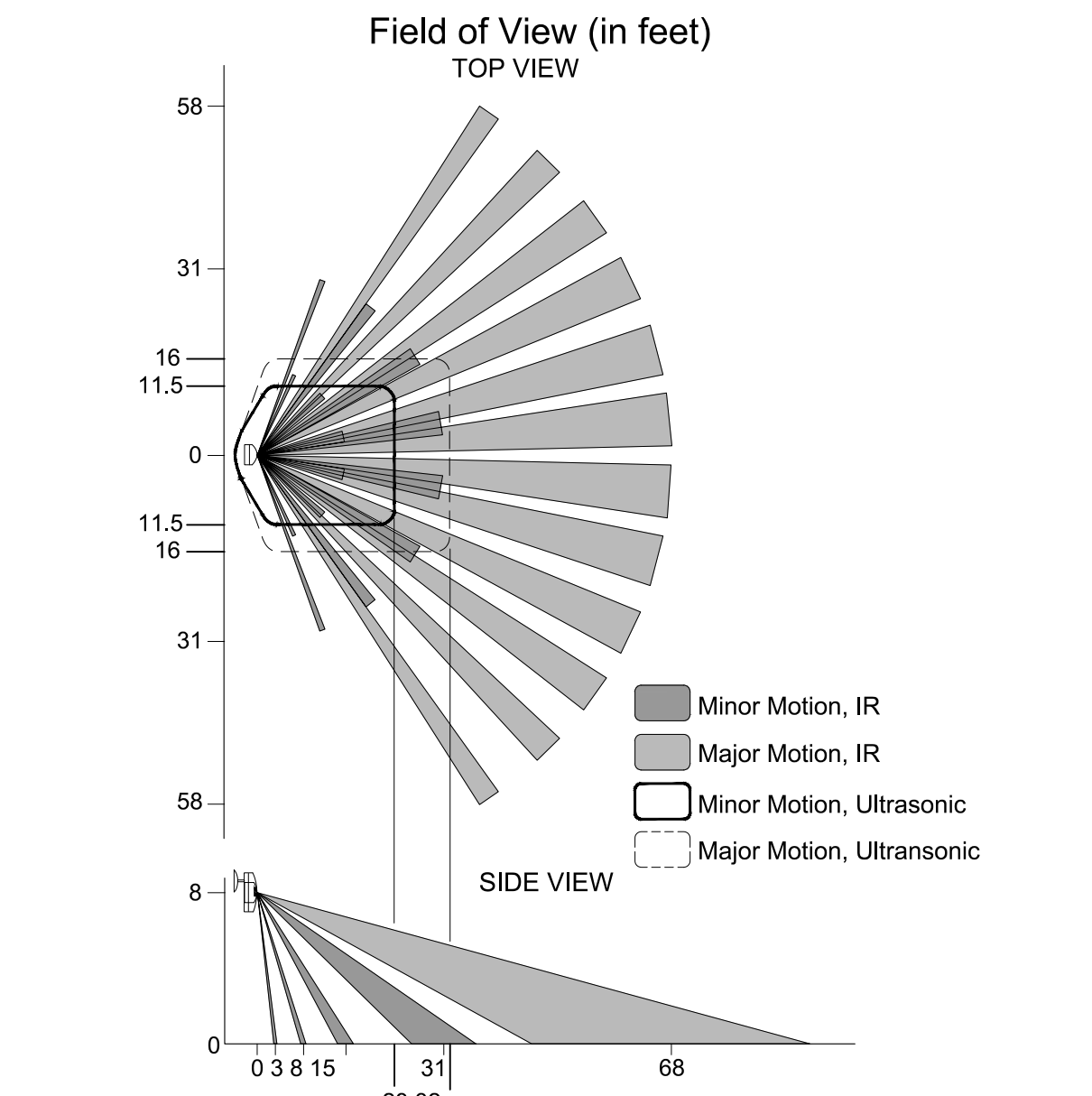


5 MOTION SENSOR

LEVITON: OSC20-M0W
MULTI-TECHNOLOGY CEILING
OCCUPANCY SENSOR

SPECIFICATIONS	
Frequency	OSC05-M0W, OSC10-M0W: 40kHz OSC20-M0W: 32kHz
Power Requirements	24 VDC, from OSPxx Power Pack or OPB15 Power Base
Power Consumption	OSC05: 25mA, OSC10: 35mA, OSC20: 30mA 24 VDC active high logic control signal with short circuit protection
Output	24 VDC active high logic control signal with short circuit protection
Ultrasonic Sensitivity	0-100%; green knob (factory setting: 75%)
Infrared Sensitivity	0-100%; red knob (factory setting: 75%)
Light Sensor	20 to 3,000 Lux; blue knob (factory set at 100% (gray wire required))
Time Delay	30sec-30min; black knob (factory setting: 10min)
Green LED	US motion technology
Red LED	Infrared motion technology
Operating Temperature Range	32-104°F (0-40°C)
Relative Humidity	0-95% non-condensing, for indoor use only
Mounting Height	8-12 feet
Listings	CULUS Certified, can be used to comply with 2018 Title 24, Part 6 occupancy sensing requirements
Warranty	Limited Five-Year Warranty
ORDERING INFORMATION	
OSC20-M0W	Multi-Technology Ceiling Sensor, 2,000 sq. feet of coverage

6 MOTION SENSOR- WIRING DIAGRAM

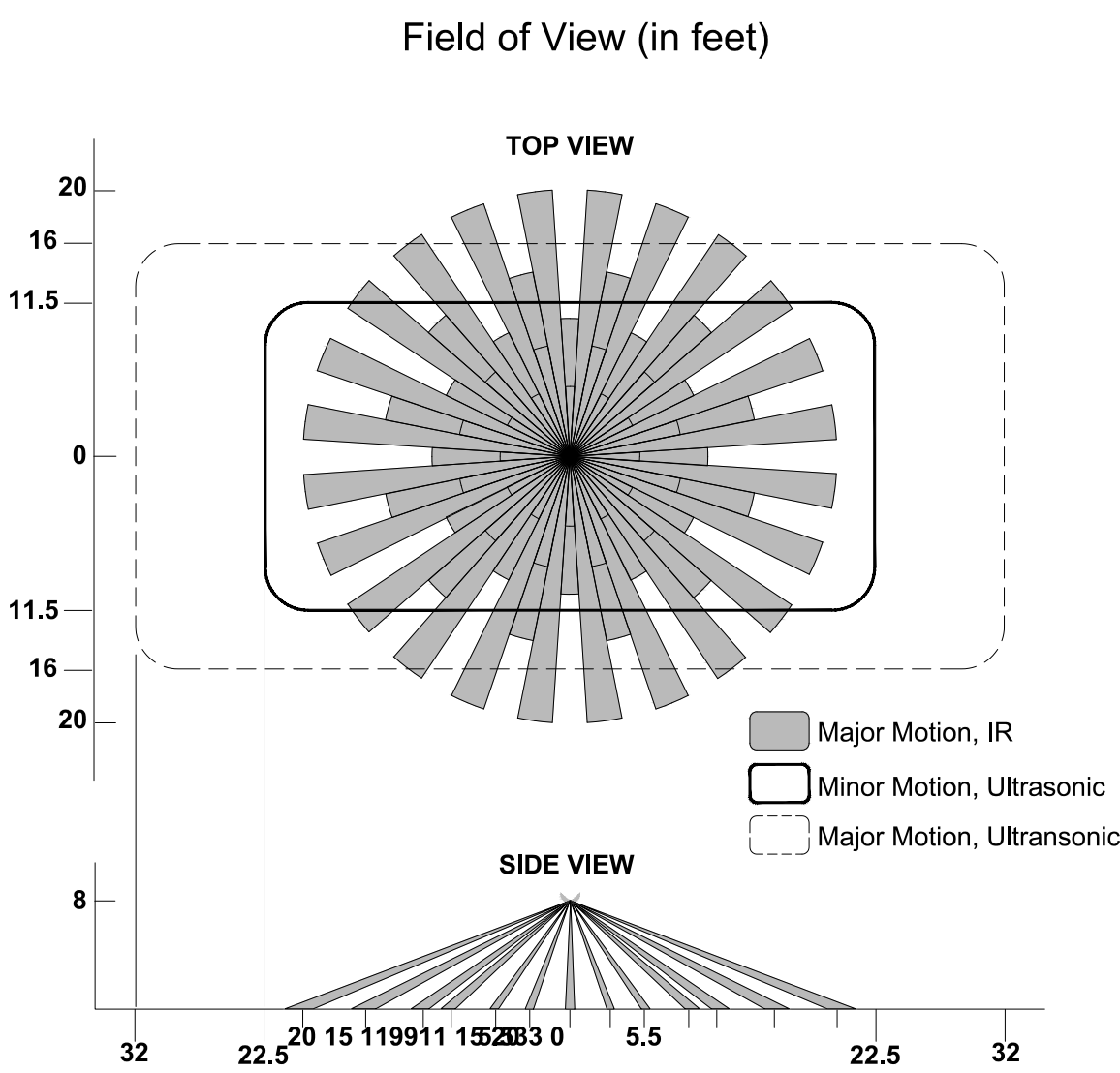


7 MOTION LOCATION DIAGRAM

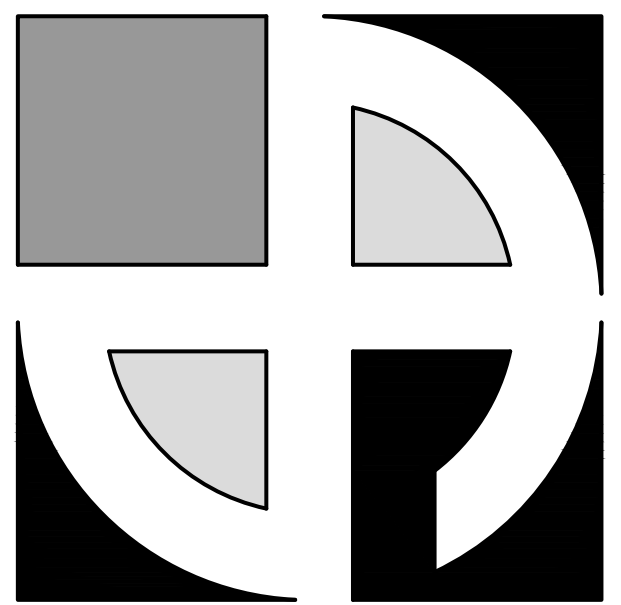
8 MOTION SENSOR

LEVITON: OSC12-M0W
MULTI-TECHNOLOGY CEILING
OCCUPANCY SENSOR

SPECIFICATIONS	
Power Requirements	24 VDC, 25 mA (6W) from OSPxx Power Pack or OPB15 Power Base
Power Consumption	25mA stand-by
Output	24 VDC active high logic control signal with short circuit protection
Ultrasonic (US) Sensitivity	0 to 100%; red knob (factory setting: 75%)
Infrared Sensitivity	0 to 100%; green knob (factory setting: 50%)
Light Sensor	Blue knob 20 to 3,000 Lux. Factory set at 100% (Gray wire required)
Time Delay	30sec-30min; black knob (Factory setting: 10min)
Red LED	Infrared motion technology
Green LED	Ultrasonic (US) motion technology
Operating Temperature Range	32-104°F (0-40°C)
Relative Humidity	0-95% non-condensing, for indoor use only
Mounting Height	8-10 feet
Listings	CULUS Certified, can be used to comply with ASHRAE 90.1 and 2016 Title 24, Part 6 occupancy sensing requirements
Warranty	Limited Five-Year Warranty
ORDERING INFORMATION	
OSW12-M0W	Multi-Technology Wall/Corner Occupancy Sensor



4 MOTION LOCATION DIAGRAM



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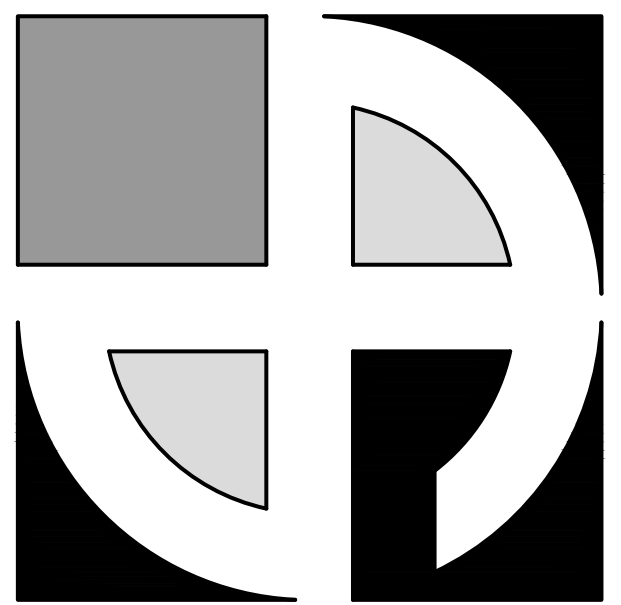
No.	Description	Date	By

DATE: 3-17-2023
DRAWN BY: M. Kasperk
CHECKED BY: M. Dean
SCALE: NTS

SINGLE LINE &
PANEL SCHEDULES

E2.2





**MARK A. DEAN
ARCHITECT**

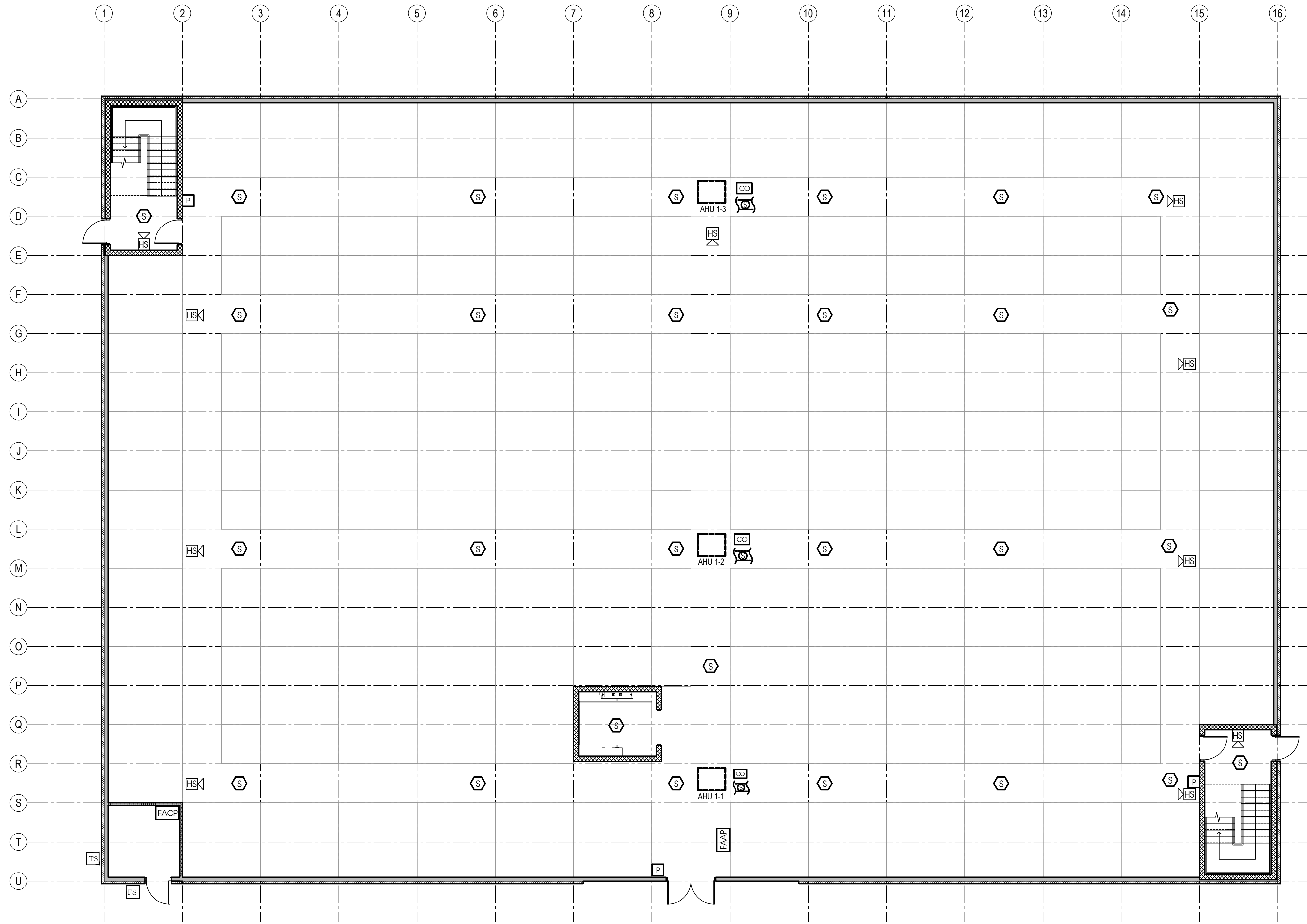
3284 WALDEN AVENUE
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1ST FLOOR FIRE ALARM PLAN
1/8"=1'-0"

LEGEND

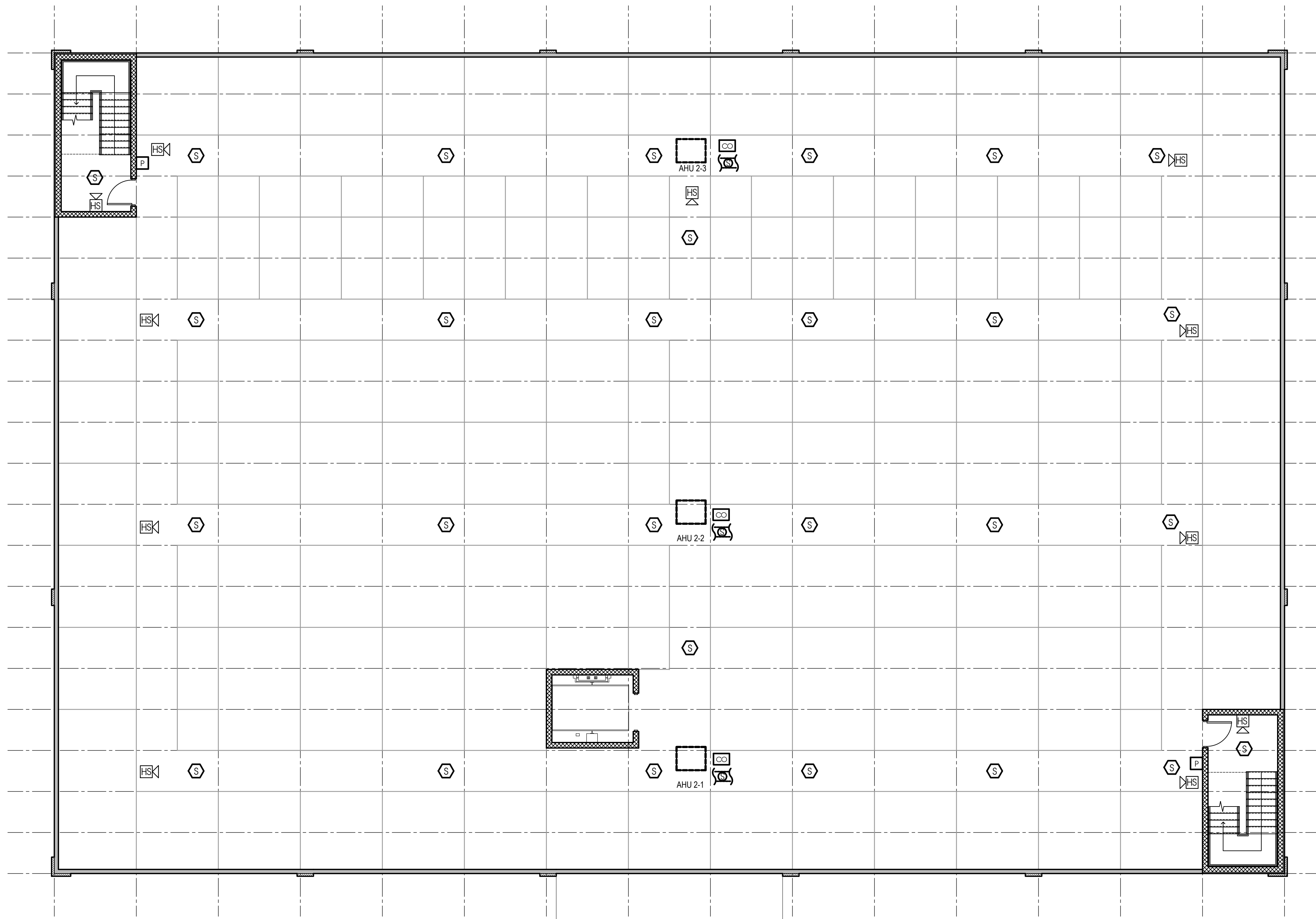
- Horn/ Strobe
- Strobe
- Smoke Detector
- Pull Station
- Duct Detector
- Carbon Monoxide Detector
- Fire Alarm Annunciator Panel
- Fire Alarm Control Panel
- Sprinkler Tamper Switch
- Sprinkler Flow Switch



No.	Description	Date	By

DATE:
3-17-2023
DRAWN BY:
M. Kasperek
CHECKED BY:
M. Dean
SCALE:
1/8"= 1'-0"

**1ST FLOOR
FIRE ALARM PLAN**
FA1.1

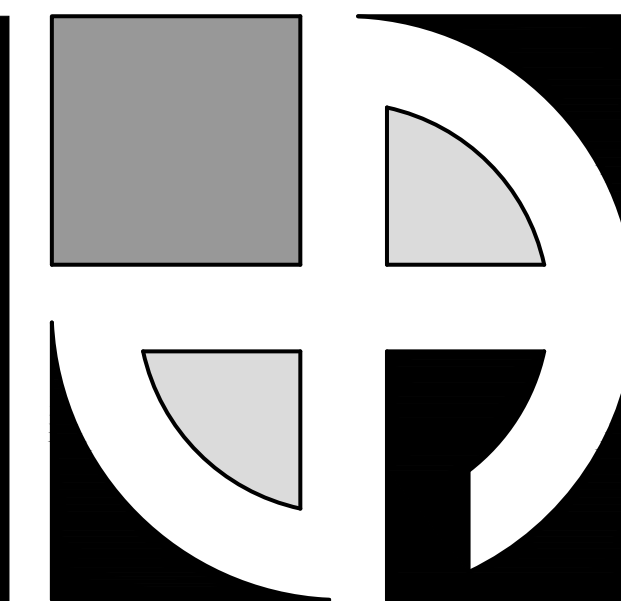
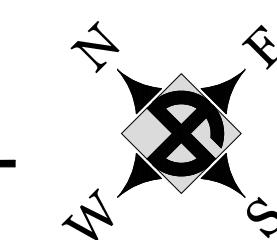
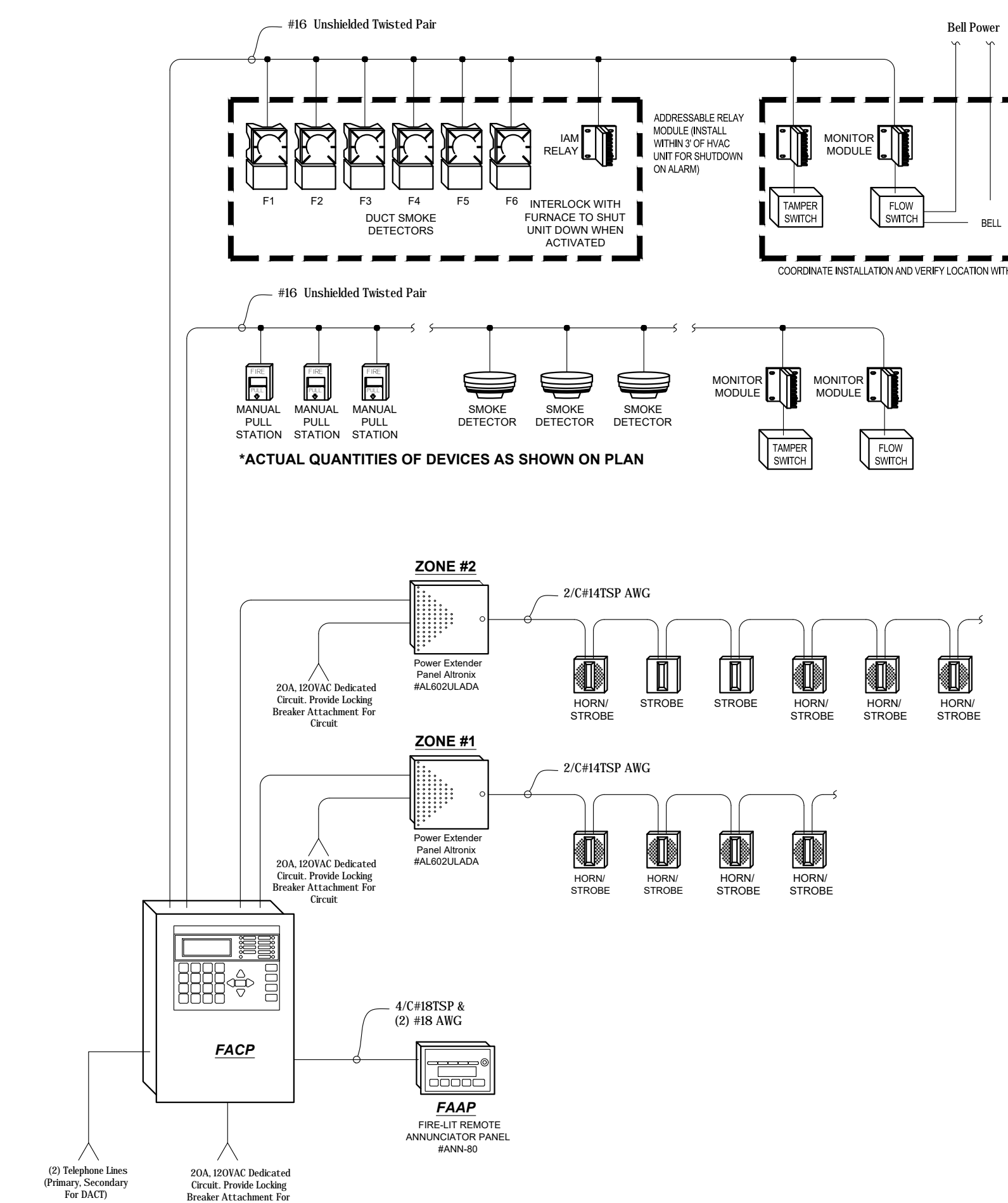


1 | 2ND FLOOR FIRE ALARM PLAN
1/8"=1'-0"

LEGEND

- Horn/ Strobe
- Strobe
- Smoke Detector
- Pull Station
- Duct Detector
- Carbon Monoxide Detector
- Fire Alarm Annunciator Panel
- Fire Alarm Control Panel
- Sprinkler Tamper Switch
- Sprinkler Flow Switch

2 | FIRE ALARM RISER
3/16"=1'-0"



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DATE: 3-17-2023
DRAWN BY: M. Kasperek
CHECKED BY: M. Dean
SCALE: 1/8"= 1'-0"

2ND FLOOR FIRE ALARM PLAN
FA1.2