

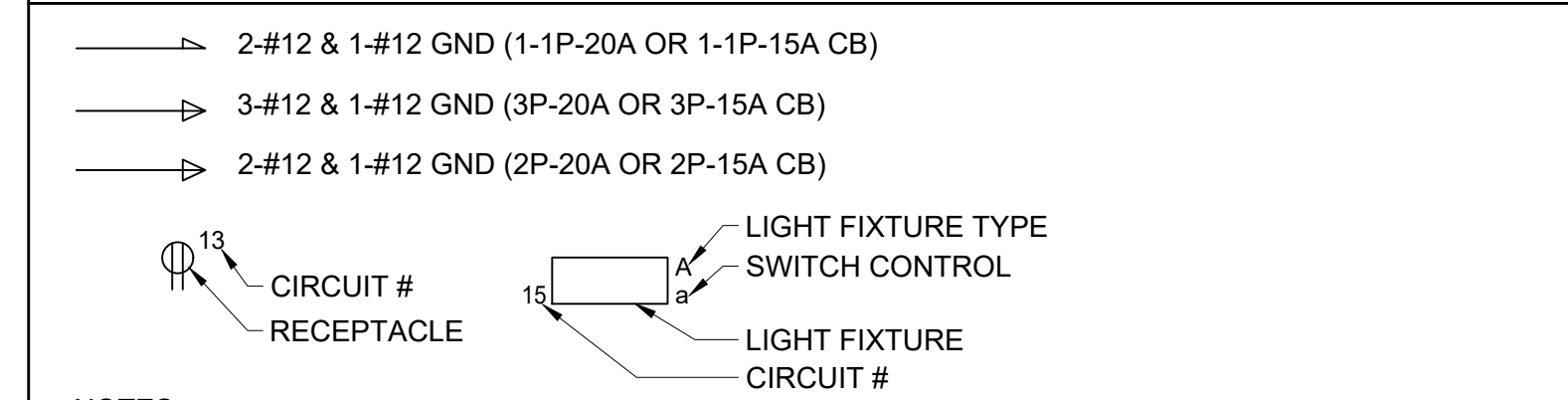
SYMBOLS AND ABBREVIATIONS					
SYMBOL	ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION
	-	CONDUIT AND WIRING		XFMR	TRANSFORMER
	-	CONDUIT & WIRING TO BE REMOVED UON		CT	CURRENT TRANSFORMER
	-	BURIED CONDUIT		-	UTILITY POLE
	-	OVERHEAD CONDUCTORS		WM	WATER MAIN
	-	HOMERUN TO PANEL, ARROWS INDICATE # 1P		-	BOILER BREAK GLASS STATION
	-	MULTI-POLE HOMERUN		NC	NORMALLY CLOSED CONTACTS
	-	ELECTRICAL EQUIPMENT AS INDICATED		NO	NORMALLY OPEN CONTACTS
	-	ELECTRICAL EQUIPMENT TO BE REMOVED UON		MD	MOTORIZED DAMPER
	-	ELECTRIC METER		SD OR CFSD	SMOKE DAMPER
	-	JUNCTION BOX		UH	UNIT HEATER
	-	FUSED DISCONNECT SWITCH		-	APARTMENT BEDROOM CEILING FAN
	-	UNFUSED DISCONNECT SWITCH		-	INTERCOM
	-	COMBINATION MOTOR STARTER/FUSED DISC.		-	REMOTE RESCUE ASSISTANCE
	-	MOTOR STARTER	A	AMPERE(S)	
	-	MOTOR	AC	AIR CONDITIONER	
	-	BATTERY PACK EMERGENCY LIGHT FIXTURE	ACC	AIR CONDITIONER CONDENSER	
	-	EXIT LIGHT, FACES-SHADED, CHEVRON-ARROW	AFF	ABOVE FINISHED FLOOR	
	-	SINGLE POLE SWITCH (x - INDICATES FIXTURE BEING CONTROLLED)	AF	AMPERAGE OF FUSE	
	-	THREE WAY SWITCH (x - INDICATES FIXTURE BEING CONTROLLED)	AGL	ABOVE GRADE LEVEL	
	-	FOUR WAY SWITCH (x - INDICATES FIXTURE BEING CONTROLLED)	AHU	AIR HANDLING UNIT	
	-	DIMMER SWITCH (x - INDICATES FIXTURE BEING CONTROLLED)	AL	ALUMINIUM	
	-	MOTOR RATED TOGGLE SWITCH	ARC	ARC FAULT INTERRUPTER	
	-	KEY OPERATED SINGLE POLE SWITCH	AS	AMPERAGE OF SWITCH	
	-	WALL MOUNTED OCCUPANCY SENSOR	AWG	AMERICAN WIRE GAUGE	
	-	WALL MOUNTED OCCUPANCY SENSOR, V INDICATES VACANCY SENSOR	BCW	BARE COPPER WIRE	
	-	CEILING MOUNTED OCCUPANCY SENSOR, V INDICATES VACANCY SENSOR	BLDG	BUILDING	
	-	DUPLEX RECEPTACLE	BMS	BUILDING MANAGEMENT SYSTEM	
	-	SWITCHED/SPLIT CIRCUIT DUPLEX RECEPTACLE	C	CONDUIT	
	-	DOUBLE DUPLEX RECEPTACLE	CD	CANDELA	
	-	SPECIAL RECEPTACLE	CKT	CIRCUIT	
	-	TELEPHONE OUTLET	CLG	CEILING	
	-	DATA OUTLET (x - INDICATES # OF JACKS, 1 JACK UON)	COL	COLUMN	
	-	COMBINATION TELEPHONE/DATA OUTLET	CU	COPPER	
	-	COMBINATION DATA & TV OUTLET	CUH	CABINET UNIT HEATER	
	-	TV OUTLET	DEM.	DEMOLISH AND REMOVE	
	-	120 VOLT SMOKE & CARBON MONOXIDE ALARM	DISC	DISCONNECT	
	-	120 VOLT SMOKE ALARM	DIM	DIMMER	
	-	120 VOLT DUAL MODE STROBE LIGHT WITH 177CD SIMILAR TO KIDDE SL1771 OR APPROVED EQUAL	DWG	DRAWING	
	-	TIME CLOCK	ELEV	ELEVATOR	
	-	CARD READER	EMT	ELECTRICAL METALLIC TUBING	
	-	ELECTRIC DOOR STRIKE	EM	EMERGENCY	
	-	SECURITY CAMERA PTZ - PAN, TILT, ZOOM	EX.	EXISTING TO REMAIN	
	CB	CIRCUIT BREAKER	F	FLOOR	
	-	ENCLOSED CIRCUIT BREAKER	FBO	FURNISHED BY OTHERS	
	-	FUSED SWITCH	FC	FAN COIL UNIT	
	GND	GROUND AS PER LOCAL CODE	GFI	GROUND FAULT INTERRUPTER	
	-	GROUND BAR	HP	HORSEPOWER	
	-	GROUND ROD	HVAC	HEATING VENTILATION AIR CONDITIONING	
			IMC	INTERMEDIATE METAL CONDUIT	
			KVA	KILO-VOLT-AMPERE	
			KW	KILO-WATT	
			MAX	MAXIMUM	
			MCB	MAIN CIRCUIT BREAKER	
			MIN	MINIMUM	
			MLO	MAIN LUG ONLY	
			NIC	NOT IN CONTRACT	
			NTS	NOT TO SCALE	
			OH	OVERHEAD	
			P	POLE	

NOTES:
1.) ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE APPLICABLE FOR THIS PROJECT.
2.) SEE LIGHTING FIXTURE SCHEDULE FOR LIGHT FIXTURE SYMBOLS.

GENERAL NOTES		
SYMBOL	ABBREVIATION	DESCRIPTION
	PBO	PROVIDED BY OTHERS
	PNL	PANEL
	PT	PRESSURE TREATED
	PVC	POLY VINYL CHLORIDE
	REL.	REMOVE AND RELOCATE
	RGS	RIGID GALVANIZED STEEL
	RTU	ROOF TOP UNIT
	SCH	SCHEDULE
	SPD	SURGE PROTECTION DEVICE
	SW	SWITCH(ES)
	TELCO	TELEPHONE COMPANY
	TYP	TYPICAL
	UG	UNDERGROUND
	UON	UNLESS OTHERWISE NOTED
	UV	UNIT VENTILATOR
	VIF	VERIFY IN FIELD
	V	VOLT(S)
	WH	WATER HEATER
	WP	WEATHERPROOF
	W	WASHER
	D	DRYER
	R	RANGE
	HO	RANGE HOOD
	MW	MICROWAVE
	REF	REFRIGERATOR

- ALL WORK SHOWN IS NEW UNLESS OTHERWISE NOTED (UON) EXISTING TO REMAIN (EX.).
- THE DRAWINGS ARE TO BE CONSIDERED SCHEMATIC ONLY AND DO NOT NECESSARILY SHOW THE EXACT LOCATIONS AND DETAILS OF THE WORK TO BE INSTALLED.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND PAYING ALL FEES ASSOCIATED WITH THIS WORK INCLUDING FILING WITH THE UTILITY COMPANY (AS REQUIRED), AND WITH LOCAL AUTHORITY HAVING JURISDICTION.
- ALL WORK INVOLVING THE ELECTRIC SERVICE SHALL BE COORDINATED AND APPROVED BY THE UTILITY COMPANY.
- ALL CONDUCTORS SHALL BE COPPER UON "ON DRAWINGS".
- ELECTRONIC FILES OF THE MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS ARE AVAILABLE TO THE CONTRACTOR. THE ENGINEER MAY GRANT THE CONTRACTOR A LIMITED LICENSE TO MAKE A DERIVATIVE WORK OF THE DATABASE FOR THE PURPOSE OF SHOP DRAWINGS, SUBMITTALS AND AS-BUILT DRAWINGS. UPON REQUEST, THE ENGINEER SHALL PROVIDE A RELEASE FORM THAT MUST BE SIGNED AND RETURNED BY THE CONTRACTOR PRIOR TO RELEASE OF THE ELECTRONIC FILES.
- CIRCUIT NUMBERS ARE FOR INFORMATION PURPOSES ONLY. ACTUAL CIRCUIT NUMBERS SHALL BE DETERMINED IN THE FIELD.
- FOR EACH WALL MOUNTED COMMUNICATIONS OUTLET, PROVIDE A 1900 JUNCTION BOX WITH AN EXTENDER COLLAR AND 1 INCH CONDUIT WITH DRAGLINE 6 INCHES ABOVE ACCESSIBLE CEILING FOR INSTALLATION OF CABLE BY OTHERS.
- COMMUNICATION WIRING BY OTHERS. COORDINATE COMMUNICATION JACKS WITH REPRESENTATIVE, TYPICAL.
- WHERE GFI RECEPTACLES ARE CIRCUITED WITH GENERAL CONVENIENCE RECEPTACLES, THE GFI RECEPTACLE SHALL BE THE LAST DEVICE ON THE CIRCUIT.
- INSTALL CONDUIT EXPANSION FITTINGS AT ALL LOCATIONS WHERE CONDUITS CROSS BUILDING OR STRUCTURE EXPANSION JOINTS.
- CEILING MOUNTED RECEPTACLES SHALL BE MOUNTED FLUSH TO CEILING.
- UNLESS OTHERWISE NOTED, DISCONNECT SWITCHES, STARTERS, HOAS AND MOTOR RATED TOGGLE SWITCHES FOR MECHANICAL PUMPS, CABINET AND UNIT HEATERS, RETURN FANS, ROOF FANS, VAV BOXES, COMPRESSORS, FAN COIL UNITS, AIR HANDLERS AND CONDENSERS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE ALL WORK WITH THE MECHANICAL CONTRACTOR.
- DISCONNECT SWITCHES FOR MOTORIZED DAMPERS, CFSD/SD AND VAV BOXES SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR. SWITCHES NOT SHOWN ON PLANS.
- ALL SMOKE, CO & COMBINATION SMOKE/CO ALARMS TO BE 120V, MULTI STATION HEADS WITH NON-REMOVABLE, NON-REPLACEABLE, 10 YEAR MINIMUM BATTERY BACKUP, U.O.N. PROVIDE WIRING AS REQUIRED BETWEEN HEADS. ALL HEADS WITHIN DWELLING UNIT SHALL BE CONNECTED TOGETHER.
- ALL 120V, 15 AND 20 AMP CIRCUITS FEEDING LOADS IN KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, GUEST ROOMS, GUEST SUITES OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY ARC-FAULT TYPE CIRCUIT INTERRUPTER CIRCUIT BREAKERS. RECEPTACLES IN THESE AREAS SHALL BE TAMPER RESISTANT TYPE.

TYPICAL BRANCH CIRCUIT WIRING LEGEND



NOTES:
1. EACH 120V AND 277V CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR. SHARED NEUTRAL HOMERUNS ARE NOT PERMITTED.
2. CONDUCTORS SHALL BE INCREASED FOR VOLTAGE DROP AND DERATING AS PER APPLICABLE ELECTRICAL CODE. FOR CIRCUITS THAT ARE BETWEEN 100' AND 150' IN LENGTH, PHASE AND NEUTRAL CONDUCTORS SHALL BE #10 AWG. FOR CIRCUITS THAT ARE BETWEEN 150' AND 225' IN LENGTH, PHASE AND NEUTRAL CONDUCTORS SHALL BE #8 AWG. FOR LENGTHS GREATER THAN 225' IN LENGTH, VERIFY CONDUCTOR SIZES WITH ENGINEER.

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4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1	ISSUED FOR PROGRESS	02-19-2021
NO.	REVISION/ISSUE	DATE

SEAL

PROJECT

LIBERTY PLAZA SUITES
500 COMMERCER ST.
TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020
PROJECT NO: NDM0001.00
DRAWN BY: CT
CHECKED BY: KS/DS
SCALE: AS NOTED

DRAWING TITLE

ELECTRICAL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES

SHEET NO.

E0.1

NOTES CONTINUED ON NEXT PAGE.

DEFINITION OF TERMS

- WHEREVER IN THE CONTRACT DOCUMENTS THE WORD "CLIENT" IS USED, IT MUST BE UNDERSTOOD THAT "LIBERTY PLAZA SUITES" IS INTENDED.
- WHEREVER IN THE CONTRACT DOCUMENTS THE WORD "ARCHITECT" IS USED, IT MUST BE UNDERSTOOD THAT "DIMOVSKI ARCHITECTURE" IS INTENDED.
- WHEREVER IN THE CONTRACT DOCUMENTS THE WORD "ENGINEER" IS USED, IT MUST BE UNDERSTOOD THAT "OLA CONSULTING ENGINEERS" IS INTENDED.
- WHEREVER IN THE CONTRACT DOCUMENTS THE WORDS "ELECTRICAL UTILITY" OR "POWER COMPANY" ARE USED, IT MUST BE UNDERSTOOD THAT "CON EDISON" IS INTENDED.
- WHEREVER IN THE CONTRACT DOCUMENTS THE WORDS "TELEPHONE UTILITY" OR "TELCO" ARE USED, IT MUST BE UNDERSTOOD THAT "VERIZON" IS INTENDED.
- "WORK" MUST BE DEEMED TO CONSIST OF ALL LABOR AND OPERATIONS, TRANSPORTATION, HOISTING, MATERIALS, TOOLS, EQUIPMENT, SERVICES, INSPECTIONS, INVESTIGATIONS, COORDINATION AND SUPERVISION REQUIRED AND / OR REASONABLY NECESSARY TO PRODUCE THE CONSTRUCTION REQUIRED BY THE CONTRACT DOCUMENTS.
- "FURNISH" MEANS THE DESIGN, FABRICATION, PURCHASE AND DELIVERY TO THE JOB SITE.
- "INSTALL OR INSTALLATION" MEANS THE ACT OF PHYSICALLY PLACING, APPLYING, SETTING, ERECTING, ANCHORING, SECURING, ETC., CONSTRUCTION MATERIALS, EQUIPMENT, FURNISHINGS, APPLIANCES, AND SIMILAR ITEMS SPECIFIED AND FURNISHED AT THE JOB SITE. INSTALLATION OF SPECIFIED ITEMS MUST BE COMPLETE IN ALL RESPECTS.
- "PROVIDE" MEANS TO FURNISH AND INSTALL CONSTRUCTION MATERIAL, EQUIPMENT, ETC. AS DEFINED ABOVE.
- THE FOLLOWING ARE DEFINITIONS OF SHOP DRAWING STAMP ACTIONS:
 - "NO EXCEPTIONS TAKEN" MEANS THAT THE SHOP DRAWING IS CORRECT AS TO PERFORMANCE, CAPACITY, ETC. AND SUBSTANTIAL CONFORMANCE TO THE CONTRACT DRAWINGS AND SPECIFICATIONS. FABRICATION AND/OR PURCHASE MAY COMMENCE.
 - "MAKE CORRECTIONS NOTED" MEANS THAT THE SHOP DRAWING IS CORRECT AS TO PERFORMANCE, CAPACITY, ETC. AND SUBSTANTIAL CONFORMANCE TO THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS, SUBJECT TO AND IN COMPLIANCE WITH THE ANNOTATIONS AND/OR CORRECTIONS INDICATED ON THE SHOP DRAWING. FABRICATION AND/OR PURCHASE MAY COMMENCE.
 - "AMEND AND RESUBMIT" MEANS THAT THE COMMENTS AND/OR CORRECTION ARE SO EXTENSIVE AND IMPORTANT THAT THE REVIEWER WANTS TO SEE HOW THE COMMENTS AND/OR CORRECTIONS ARE RESOLVED PRIOR TO RELEASE FOR FABRICATION AND/OR PURCHASE. FABRICATIONS AND/OR PURCHASE MAY NOT COMMENCE.
 - "REJECTED" MEANS THAT THE SHOP DRAWING DOES NOT COMPLY OR CONFORM TO THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS. FABRICATION AND/OR PURCHASE MAY NOT COMMENCE.

SPECIFICATIONS

E-1. SCOPE OF WORK

A. ALL WORK SHOWN ON THE DRAWINGS IS NEW UNLESS OTHERWISE NOTED EXISTING TO REMAIN (EX.). THIS CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, APPLIANCES, SERVICES, HOISTING, SCAFFOLDING, SUPERVISION AND OVERHEAD FOR THE FURNISHING AND INSTALLING OF ALL THE ELECTRICAL AND RELATED WORK COMPLETE, IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

- MODIFICATION OF PANELBOARDS, BALANCING AND UPDATED TYPED DIRECTORIES.
- REMOVAL, DISPOSAL, RELOCATION AND/OR INSTALLATION OF FIRE ALARM SYSTEM COMPONENTS, ELECTRICAL LIGHTING FIXTURES, SWITCHES, RECEPTACLES, WIRING, PANELBOARDS, TRANSFORMERS, DISCONNECT SWITCHES AND ASSOCIATED CONDUIT, ALARM WIRING AND ANY OTHER ELECTRICAL EQUIPMENT.
- LIGHTING FIXTURES, COMPLETE WITH NECESSARY HANGER ASSEMBLIES, STEMS AND SWIVELS, COUPLINGS, LAMP AUXILIARIES, LAMPS, MISCELLANEOUS MOUNTING DEVICES AND HARDWARE TO MEET THE BOCA SEISMIC REQUIREMENTS.
- JUNCTION AND OUTLET BOXES COMPLETE WITH COVERS, SWITCHES, RECEPTACLES AND ANY OTHER WIRING DEVICES AND SPECIAL COVERPLATES.
- CONDUIT, CONDUIT FITTINGS, OUTLET BOXES, JUNCTION AND PULL BOXES, TROUGHS, WIREWAYS AND ALL APPURTENANCES NECESSARY FOR ELECTRICAL RACEWAY SYSTEMS, INCLUDING NECESSARY SUPPORTS AND FASTENERS.
- INSULATED CONDUCTORS COMPLETE WITH SPLICES AND CONNECTIONS, INCLUDING CONNECTORS AND CONNECTION LUGS.
- GROUNDING AND BONDING SYSTEM.
- HOLES AND SLEEVES FOR CONDUITS PASSING THROUGH WALLS, FLOORS AND PARTITIONS.
- TAGGING AND IDENTIFYING ALL EQUIPMENT AND DEVICES WITH NAMEPLATES.
- FIELD TESTS OF ALL EQUIPMENT AND ITS OPERATIONS AS SPECIFIED.
- CUTTING AND PATCHING AS REQUIRED FOR INSTALLATION OF ELECTRICAL WORK.
- TEMPORARY POWER AND LIGHT AS REQUIRED.
- FIRE ALARM SYSTEM AS INDICATED.
- AS-BUILT DRAWINGS.

E-2 MATERIAL AND WORKMANSHIP

A. GENERAL:

- THE WORK PERFORMED SHALL BE "FIRST-CLASS WORK" IN EVERY RESPECT. THE WORK SHALL BE PERFORMED BY A LICENSED ELECTRICIANS SKILLED IN THEIR RESPECTIVE TRADES, WHO SHALL AT ALL TIMES BE UNDER THE SUPERVISION OF COMPETENT PERSONS.
- WORK THAT IS SLIPSHOD, POORLY LAID OUT, NOT PERFECTLY ALIGNED, OR THAT IS NOT CONSISTENT WITH THE REQUIREMENTS GENERALLY ACCEPTED IN THE TRADE FOR "FIRST-CLASS WORK" SHALL NOT BE ACCEPTABLE.
- IN ADDITION TO THE MATERIALS SPECIFIED ELSEWHERE, ALL OTHER MISCELLANEOUS ITEMS NECESSARY FOR THE COMPLETION OF THE WORK SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR TO THE EXTENT THAT ALL SYSTEMS BE COMPLETE AND OPERATIVE.
- ALL MATERIALS AND EQUIPMENT FURNISHED UNDER THIS SECTION SHALL BE NEW AND LISTED AND/OR LABELED BY THE UNDERWRITERS' LABORATORIES, INC., FOR THE APPLICATION, UNLESS OTHERWISE SPECIFIED HEREIN. MATERIALS, MATERIAL SIZES AND METHOD OF CONSTRUCTION NOT SPECIFIED SHALL BE AT LEAST EQUAL TO OR BETTER THAN THE STANDARDS AS LISTED BY THE UNDERWRITERS' LABORATORIES, INC., AND/OR THE REQUIREMENTS OF THE LAWS, REGULATIONS AND CODES MENTIONED HEREINAFTER. DEFECTIVE MATERIALS OR MATERIALS DAMAGED IN THE COURSE OF INSTALLATION OR TESTS SHALL BE REPLACED OR REPAIRED IN A MANNER MEETING WITH THE APPROVAL OF THE CLIENT.
- ALL WORK UNDER THIS SECTION SHALL BE PERFORMED IN COOPERATION WITH THE WORK BY ALL OTHER CONTRACTORS AND SUBCONTRACTORS ON THE PROJECT, IN ORDER TO AVOID INTERFERENCES AND TO SECURE THE PROPER INSTALLATION OF ALL WORK. THIS CONTRACTOR SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS COVERING THE WORK TO BE PERFORMED UNDER ALL SECTIONS, SO THAT HE UNDERSTANDS THE RELATION AND EXTENT OF THE WORK OF THIS SECTION WITH RESPECT TO THE WORK OF THE OTHER SECTIONS.
- ALL WORK SHALL BE COORDINATED WITH THE OWNER & CLIENT AND SHALL MEET ALL CLIENT STANDARDS WHERE APPLICABLE AND SHALL BE SUBJECT TO APPROVAL FROM AN AUTHORIZED CLIENT REPRESENTATIVE. ALL MATERIALS USED SUCH AS CONDUIT, WIRING, LIGHT FIXTURES, WIRING DEVICES, ETC. SHALL MEET CLIENT STANDARDS UNLESS OTHERWISE INDICATED.

E-3 LAWS, REGULATIONS AND CODES

A. GENERAL:

- ALL WORK UNDER THIS SECTION SHALL COMPLY WITH THE APPLICABLE FEDERAL, STATE, LOCAL CODES AND AUTHORITIES. WHERE REFERENCE IS MADE TO LAWS, CODES, REGULATIONS AND STANDARDS, THESE DOCUMENTS, INCLUDING THE LATEST REVISIONS AND AMENDMENTS THERETO IN EFFECT AS OF THE DATE OF BID OPENING, SHALL FORM PART OF THESE SPECIFICATIONS.

E-4 SHOP DRAWINGS

A. GENERAL: MANUFACTURER'S DATA OR SHOP DRAWINGS OF THE FOLLOWING APPARATUS GIVING FULL INFORMATION AS TO DIMENSIONS, MATERIALS, AND ALL INFORMATION PERTINENT TO THE ADEQUACY OF THE SUBMITTED EQUIPMENT INCLUDING WIRING DIAGRAMS SHALL ALSO BE SUBMITTED FOR APPROVAL AS DIRECTED:

- CONDUIT
- CONDUCTORS
- WIRING DEVICES
- SPECIAL OUTLETS/EQUIPMENT
- LIGHTING FIXTURES
- LIGHTING CONTROL DEVICES/SYSTEMS
- EXIT LIGHTING UNITS
- DISCONNECT SWITCHES
- FUSES
- PANELBOARDS
- SWITCHBOARDS
- SPDs
- FIRE ALARM SYSTEM (DEVICES/WIRING DIAGRAM/CALCULATIONS)
- MANHOLES/HAND HOLES

E-5 RECORD DRAWINGS

A. GENERAL:

- THE CONTRACTOR SHALL MAINTAIN AN ACCURATE RECORD OF ALL DEVIATIONS IN WORK AS ACTUALLY INSTALLED FROM WORK AS INDICATED. THIS RECORD SHALL BE UPDATED DAILY AND SHALL BE KEPT AVAILABLE AT THE SITE FOR INSPECTION. UPON COMPLETION OF THE WORK, AND BEFORE FINAL PAYMENT IS AUTHORIZED, MARKED PRINTS WITH SIGNED CERTIFICATION OF ACCURACY, SHALL BE DELIVERED TO THE OWNER'S REPRESENTATIVE.

E-6 INSTALLATION OF WORK

A. GENERAL:

- THE CONTRACTOR SHALL BE RESPONSIBLE TO EXAMINE THE SITE AND CHECK ALL FIELD CONDITIONS. NOTIFY THE ENGINEER OF ANY CONDITION WHICH DIFFERS FROM THAT INDICATED ON THE PLAN.
- ALL WORK SHALL BE CAREFULLY LAID OUT IN ADVANCE SO THAT UNNECESSARY CUTTING, CHANNELING, CHASING OR DRILLING OF WALLS, PARTITIONS, FLOORS, CEILINGS OR OTHER SURFACES WILL BE AVOIDED. WHERE WORK IS NECESSARY FOR THE PROPER INSTALLATION, SUPPORT OR ANCHORAGE OF RACEWAYS, OUTLETS OR OTHER ELECTRICAL WORK, IT SHALL BE CAREFULLY DONE IN SUCH A MANNER AS TO AVOID ANY DAMAGE. ALL WORK WHICH MAY BE DAMAGED SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER.
- ALL ELECTRICAL WORK SHALL BE PROTECTED AGAINST DAMAGE DURING CONSTRUCTION AND ANY WORK DAMAGED OR MOVED OUT OF LINE AFTER ROUGHING-IN SHALL BE REPAIRED AND RESET TO THE APPROVAL OF THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ROUTING IN THE FIELD WITH EXISTING EQUIPMENT. PROVIDE ALL NECESSARY OFFSETS TO AVOID EXISTING EQUIPMENT & OBSTRUCTIONS.
- CORE DRILLING OR TRENCHING THROUGH AN EXISTING FLOOR SLAB, WHEN REQUIRED, SHALL BE COORDINATED WITH THE OWNER. FLOOR SLABS SHALL BE RADAR SCANNED PRIOR TO CORE DRILLING OR TRENCHING. ALL WORK, INCLUDING CORE DRILLING, RADAR SCAN, INSTALLATION OF FIRE STOPPING, & CONDUIT/CABLE INSTALLATION SHALL BE PERFORMED DURING NON-BUSINESS HOURS AND INCLUDED IN BASE BID. USE EXTREME CAUTION DURING ANY CUTTING OPERATION TO AVOID DAMAGE TO EXISTING EQUIPMENT/SYSTEMS. ANY ITEMS DAMAGED AS A RESULT OF CORE DRILLING SHALL BE REPAIRED AT NO COST TO THE CLIENT. ALL CORES SHALL BE FIRE SEALED.
- CONTRACTOR SHALL VERIFY CONDUIT ROUTING WITH OWNER AND/OR CLIENT PRIOR TO INSTALLATION.

B. ELECTRIC SERVICE:

- ALL WORK INVOLVING THE ELECTRICAL SERVICE SHALL BE COORDINATED WITH AND APPROVED BY THE ELECTRICAL UTILITY COMPANY. THE CONTRACTOR SHALL PAY ALL FEES ASSOCIATED WITH THE ELECTRIC SERVICE MODIFICATIONS.
- NOTIFY THE ELECTRIC UTILITY COMPANY IMMEDIATELY UPON AWARD OF CONTRACT TO COORDINATE ELECTRIC SERVICE MODIFICATIONS.
- NOTIFY THE CLIENT AND OWNER IN WRITING AT LEAST TWO WEEKS IN ADVANCE OF ANY INTERRUPTION OF SERVICE IN THE BUILDING. INFORM THE CLIENT AND OWNER OF THE DURATION OF THE SHUTDOWN. ALL WORK INVOLVING A SHUTDOWN SHALL BE PERFORMED DURING PREMIUM TIME, AT NO ADDITIONAL COST TO THE CLIENT.

C. CONDUIT WORK:

- ALL THREADED JOINTS IN CONDUIT WORK SHALL BE MADE WATERTIGHT BY A COATING OF THOMAS & BETTS KOPR-SHIELD COMPOUND ON THE MALE THREADS ONLY. WHENEVER THREADS ARE CUT, THEY SHALL BE COATED WITH KOPR-SHIELD BEFORE MAKING UP THE CONNECTION.
- EXPOSED CONDUIT ON CEILING SHALL BE RUN PARALLEL OR PERPENDICULAR TO WALL AND VISE VERSA TO CEILING, WHEN INSTALLED ON WALL. SECURE CONDUIT CLAMPS AND SUPPORTS TO MASONRY MATERIALS BY TOGGLE BOLT, EXPANSION BOLT OR STEEL INSERT. SPACING OF CONDUIT SUPPORTS SHALL NOT EXCEED 7 FEET.
- THE ENDS OF ALL CONDUIT SHALL BE CAREFULLY REAMED OUT FREE FROM BURRS BEFORE INSTALLATION AND AFTER THREADING. THE END OF EACH CONDUIT 1" AND SMALLER SHALL BE PROVIDED WHERE IT ENTERS A JUNCTION BOX, OUTLET BOX, CABINET, ETC., WITH A LOCK NUT AND BUSHINGS. FOR CONDUITS 1-1/4" AND LARGER, INSULATED BUSHINGS SHALL BE USED. IF INSULATED BUSHINGS ARE OF THE FULLY INSULATED TYPE, AN ADDITIONAL LOCK NUT SHALL BE USED INSIDE JUNCTION BOX OR CABINET BEFORE INSTALLING THE BUSHINGS.
- FLEXIBLE SEAL-TITE CONDUIT AND SEAL-TITE FITTINGS SHALL BE USED TO CONNECT ALL MOTORS SO AS TO ISOLATE THE MOTION OR VIBRATION FROM THE RIGID CONDUIT SYSTEM AND THE BUILDING. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED IN ALL FLEXIBLE CONDUITS.
- CONDUITS SHALL BE SECURELY FASTENED IN PLACE WITH STRAPS, HANGERS AND SUPPORTS AS REQUIRED.
- CONDUIT IN HUNG CEILINGS SHALL BE SUPPORTED IN AN APPROVED MANNER FROM THE BUILDING STRUCTURE.
- FLEXIBLE METALLIC CONDUIT OR MC CABLE SHALL BE USED FOR BRANCH CIRCUIT WIRING ABOVE HUNG CEILINGS AND IN PARTITIONS.
- THE CONTRACTOR SHALL PROVIDE PULL BOXES, JUNCTION BOXES, CONDUITS, CONDUIT ELBOWS, AND OFFSETS IN CONDUIT RUNS WHICH INTERFERE WITH THE STRUCTURAL WOOD OR STEEL, MECHANICAL EQUIPMENT, DUCTWORK, PIPING, ETC., TO SUIT THE FIELD CONDITIONS.
- NO MORE THAN THREE RIGHT ANGLE BENDS SHALL BE PERMITTED IN CONDUIT BETWEEN ANY TWO TERMINATION OR PULLBOXES. PROVIDE ADDITIONAL PULLBOXES AS REQUIRED.
- TELEPHONE SERVICE CONDUITS SHALL HAVE ONE 18"x18"x8" PULL BOX AFTER 270 DEGREES OF BENDS WITH A MAXIMUM OF 360 DEGREES OF BEND PER RUN. ALL BENDS IN CONDUIT SHALL BE SWEEPING BENDS FOR FIBER OPTIC CABLE. 90 DEGREE BENDS SHALL NOT BE PERMITTED.
- ALL MC CABLE RUNS ABOVE HUNG CEILINGS SHALL BE SECURED TO BUILDING STRUCTURE. NO MC CABLES SHALL BE LEFT UNSUPPORTED ON DUCTWORK OR CEILING TILES.
- WHERE MULTIPLE HOME RUNS ARE ROUTED TOGETHER IN THE SAME RACEWAY LONGER THAN 24 INCHES, CONDUCTORS SHALL BE INCREASED TO

#10 AWG FOR UP TO EIGHT CONDUCTORS (HOT & NEUTRAL) MAXIMUM. INSTALLATION SHALL BE IN ACCORDANCE WITH THE AFOREMENTIONED CODE.

D. CABLE AND WIRING WORK:

- CONDUCTORS FOR BRANCH CIRCUITS SHALL BE OF SIZES INDICATED ON THE ELECTRICAL DRAWINGS, BUT SHALL NOT BE SMALLER THAN NO. 12 AWG EXCEPT AS OTHERWISE SHOWN OR SPECIFIED.
 - ALL JOINTS, SPLICES AND TAPS FOR WIRING CONNECTIONS SHALL BE MADE WITH MATERIALS AS HEREINAFTER SPECIFIED.
 - CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET, AND NO SPLICES OR CONNECTIONS SHALL BE MADE, EXCEPT WITHIN OUTLET BOXES, JUNCTION BOXES OR CABINETS.
 - THE NEUTRAL WIRE SHALL NOT BE USED AS A GROUND WIRE. THE NEUTRAL WIRE SHALL BE AN INSULATED WIRE AND SHALL BE CONNECTED TO THE GROUND SYSTEM AT ONE PLACE ONLY. THIS CONNECTION SHALL BE MADE AT THE BEGINNING OF THE SEPARATELY DERIVED SYSTEM.
 - TELEPHONE/DATA CABLING RUN ABOVE THE HUNG CEILING SHALL NOT BE LEFT UNSUPPORTED. ALL CABLING SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE.
- E. ELECTRICAL GROUNDING AND BONDING:
- ALL CABINETS AND TERMINAL BOXES SHALL BE BONDED TO THE CONDUIT SYSTEM, AND WHERE APPLICABLE TO THE GROUND WIRE.
 - THE ELECTRICAL RACEWAY SYSTEM, METALLIC ELECTRICAL EQUIPMENT FRAMES, HOUSING AND ENCLOSURES SHALL BE BONDED TOGETHER AND GROUNDED.
 - THE EQUIPMENT BONDING JUMPERS SHALL NOT BE SMALLER THAN THE SIZES LISTED IN THE AFOREMENTIONED CODE.
 - GROUND LUGS FOR CABLE CONNECTIONS SHALL BE SIMILAR TO BURNDY, TYPE YAV FOR CONDUCTOR SIZES AS PERMITTED BY THE AFOREMENTIONED CODES.
 - ALL GROUNDING AND BONDING SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER AND SHALL BE AS INCONSPICUOUS AS POSSIBLE. ALL WORK EXPOSED TO MECHANICAL DAMAGE SHALL BE PROTECTED IN AN APPROVED MANNER. ALL GROUND SCREWS AND BUSHINGS SHALL BE MADE TIGHT.
 - THE PROVISION OF A FULLY-WIRED GROUNDING SYSTEM DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR PROVIDING CONTINUITY OF THE METALLIC RACEWAY SYSTEM. THE METALLIC RACEWAY SYSTEM SHALL BE ASSEMBLED AND BONDED TOGETHER TO FORM A CONTINUOUS PATH FROM THE MOST REMOTE OUTLET.
 - ALL GROUNDING WIRES, EXCEPT AS OTHERWISE SPECIFIED OR INDICATED ON THE DRAWINGS, SHALL BE SIZED IN ACCORDANCE WITH THE RULES OF THE AFOREMENTIONED CODE.
 - FOR CONNECTION TO THE GROUNDING SYSTEM, THE CONTRACTOR SHALL FURNISH AND INSTALL A GROUND LUG WELDED TO THE INTERIOR OF EVERY METALLIC BOX, CABINET, HOUSING OR ENCLOSURE WHICH IS FURNISHED UNDER THIS OR ANY OTHER SECTION OF THE SPECIFICATIONS.
 - EACH STEEL BOX SHALL BE CONNECTED BY THE USE OF A GROUNDING BUSHING ON RIGID CONDUIT, O.Z. TYPE BLG.
 - A SEPARATE GREEN INSULATED GROUND WIRE SHALL BE RUN WITH EACH CIRCUIT AS INDICATED.

F. OUTLET BOXES:

- OUTLET BOXES SHALL BE INSTALLED AT ALL LOCATIONS SHOWN ON THE DRAWINGS FOR ALL ELECTRICAL DEVICES INCLUDING CONVENIENCE RECEPTACLES AND LIGHTING FIXTURES. THE LOCATIONS OF THE OUTLETS ON THE DRAWINGS ARE APPROXIMATE. ACTUAL LOCATIONS SHALL BE COORDINATED IN THE FIELD.
 - ALL OUTLETS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS AND NONE SHALL BE INSTALLED ABOVE DUCTS, BEHIND FURRING OR OTHER SIMILAR LOCATIONS. ANY OUTLET DESIGNATED AS PROVIDING POWER FOR A PARTICULAR PIECE OF EQUIPMENT SHALL BE ACCESSIBLE FOR DISCONNECTION WITH SAID UNIT IN PLACE. ALL JUNCTION BOXES SHALL BE LABELED IDENTIFYING THE CIRCUIT(S) CONTAINED.
 - OUTLETS IN HUNG CEILING AREAS SHALL BE CONCEALED ABOVE HUNG CEILING FOR RECESSED LIGHTING FIXTURES; OR SET FLUSH WITH HUNG CEILING FOR SURFACE AND PENDANT MOUNTED LIGHTING FIXTURES. THESE OUTLETS SHALL BE SECURELY SUPPORTED FROM THE FRAMING WORK WHICH SUPPORTS THE CEILING OR FROM THE BUILDING STRUCTURE ABOVE THE CEILING.
 - WHERE NECESSARY FOR THE SUPPORT OF THE ELECTRICAL WORK, BARS, ANGLES OR CHANNEL MEMBERS OF SUITABLE SIZE SHALL BE FURNISHED AND INSTALLED.
 - MOUNTING HEIGHTS FOR ELECTRICAL DEVICES SHALL BE AS INDICATED ON ARCHITECTURAL PLANS. IF THERE ARE NO ARCHITECTURAL PLANS FOR THIS PROJECT THE MOUNTING SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLANS:
 - LIGHT SWITCHES: 48" AFF TO CENTERLINE OF BOX.
 - WALL MOUNTED OCCUPANCY SENSORS: 48" AFF TO CENTERLINE OF BOX.
 - RECEPTACLES: 18" AFF TO CENTERLINE OF BOX.
 - DATA/TELEPHONE OUTLETS: 18" AFF TO CENTERLINE OF BOX.
 - FIRE ALARM MANUAL PULL STATION: 42" MIN./48" MAX. AFF TO HANDLE.
 - FIRE ALARM AUDIO AND/OR STROBE: 80" AFF TO BOTTOM OF STROBE LENS OR 6" FROM CEILING TO TOP OF STROBE LENS, WHICHEVER IS LOWER.
 - BLANK STEEL BOX COVERS SHALL BE INSTALLED ON ALL UNUSED OUTLETS UNLESS OTHERWISE INDICATED. IN FINISHED AREAS, BLANK COVERS SHALL BE PROVIDED. COLOR SHALL BE COORDINATED WITH THE ARCHITECT.
 - OUTLET BOXES FOR SWITCHES, RECEPTACLES AND COMMUNICATION OUTLETS SHALL NOT BE MOUNTED BACK-TO-BACK.
- G. MECHANICAL EQUIPMENT CONNECTIONS:
- FOR ALL MOTORS, STARTERS, ANNUNCIATORS, ETC. TO BE FURNISHED AND INSTALLED UNDER OTHER SECTIONS OF THE SPECIFICATIONS, THIS CONTRACTOR SHALL PROVIDE AND INSTALL ALL SAFETY DISCONNECTS SHOWN OR REQUIRED U.O.N.
 - CONTROL EQUIPMENT DEVICES SHALL BE FURNISHED AND INSTALLED UNDER OTHER SECTIONS OF THE SPECIFICATIONS.
 - THIS CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL WIRING BETWEEN THE CONTROL DEVICE AND THE MOTOR. THE POWER SUPPLY LEADS TO THE MOTOR FROM THE CONTROLLER SHALL BE THE SAME SIZE AS THE FEEDS INDICATED ON THE DRAWINGS.
 - THIS CONTRACTOR SHALL MAKE ALL ELECTRICAL CONNECTIONS BETWEEN MOTORS AND STARTERS AND LEAVE UNITS AND EQUIPMENT READY TO OPERATE.
 - ALL WIRING FOR MOTOR CONTROL INTERLOCK AND AUTOMATIC TEMPERATURE CONTROL SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR. PROVIDE 120 VOLT SUPPLIES FOR CONTROL EQUIPMENT AS DEFINED ON THE DRAWINGS AND APPROVED SHOP DRAWINGS.
 - EXACT LOCATIONS OF EQUIPMENT SHALL BE AS INDICATED ON MECHANICAL DRAWINGS.

LIBERTY PLAZA SUITES

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SEAL

PROJECT

LIBERTY PLAZA SUITES
500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020

PROJECT NO: NDM0001.00

DRAWN BY: CT

CHECKED BY: KS/DS

SCALE: AS NOTED

DRAWING TITLE

ELECTRICAL NOTES AND SPECIFICATIONS

SHEET NO.

E0.2

LIBERTY PLAZA SUITES

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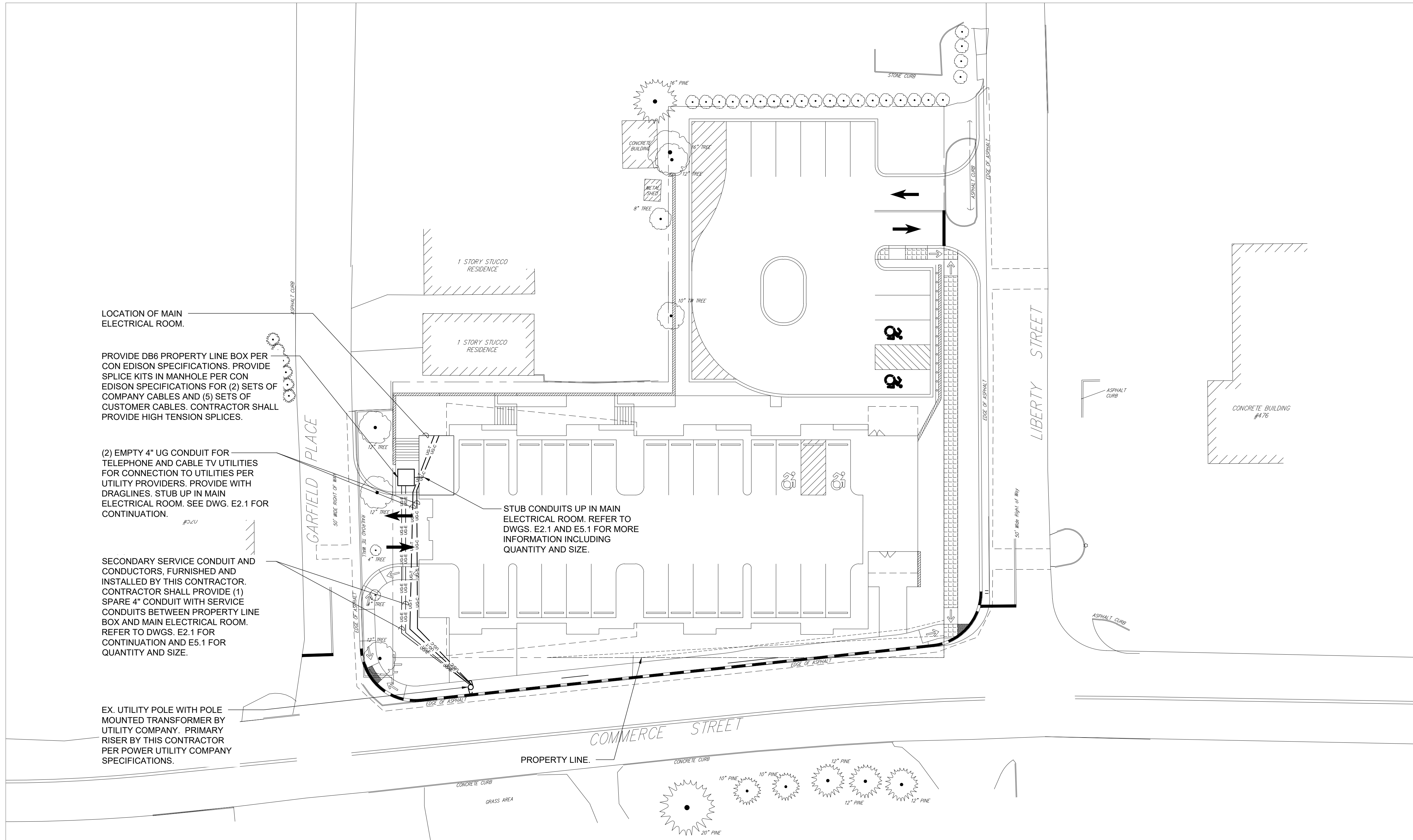
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LOCATION OF MAIN ELECTRICAL ROOM.

PROVIDE DB6 PROPERTY LINE BOX PER CON EDISON SPECIFICATIONS. PROVIDE SPLICE KITS IN MANHOLE PER CON EDISON SPECIFICATIONS FOR (2) SETS OF COMPANY CABLES AND (5) SETS OF CUSTOMER CABLES. CONTRACTOR SHALL PROVIDE HIGH TENSION SPLICES.

(2) EMPTY 4" UG CONDUIT FOR TELEPHONE AND CABLE TV UTILITIES FOR CONNECTION TO UTILITIES PER UTILITY PROVIDERS. PROVIDE WITH DRAGLINES. STUB UP IN MAIN ELECTRICAL ROOM. SEE DWG. E2.1 FOR CONTINUATION.

SECONDARY SERVICE CONDUIT AND CONDUCTORS, FURNISHED AND INSTALLED BY THIS CONTRACTOR. CONTRACTOR SHALL PROVIDE (1) SPARE 4" CONDUIT WITH SERVICE CONDUITS BETWEEN PROPERTY LINE BOX AND MAIN ELECTRICAL ROOM. REFER TO DWGS. E2.1 FOR CONTINUATION AND E5.1 FOR QUANTITY AND SIZE.

EX. UTILITY POLE WITH POLE MOUNTED TRANSFORMER BY UTILITY COMPANY. PRIMARY RISER BY THIS CONTRACTOR PER POWER UTILITY COMPANY SPECIFICATIONS.

STUB CONDUITS UP IN MAIN ELECTRICAL ROOM. REFER TO DWGS. E2.1 AND E5.1 FOR MORE INFORMATION INCLUDING QUANTITY AND SIZE.

1 ELECTRICAL SITE PLAN
SCALE: 1" = 20'-0"
NORTH

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DRAWING TITLE
ELECTRICAL SITE PLAN

SHEET NO.
E1.1

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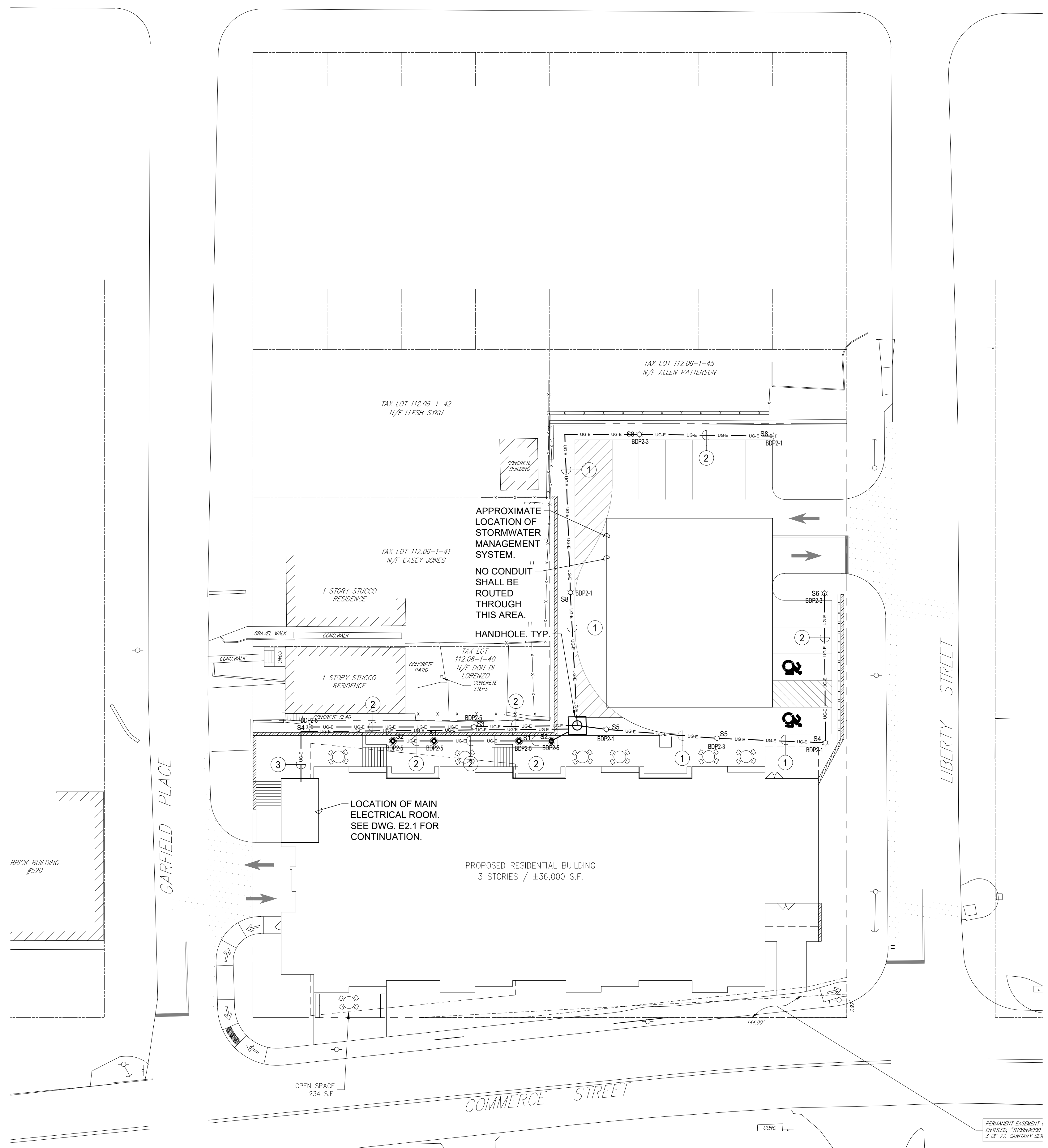
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500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020
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DRAWING TITLE
ELECTRICAL SITE LIGHTING PLAN

SHEET NO.
E1.2

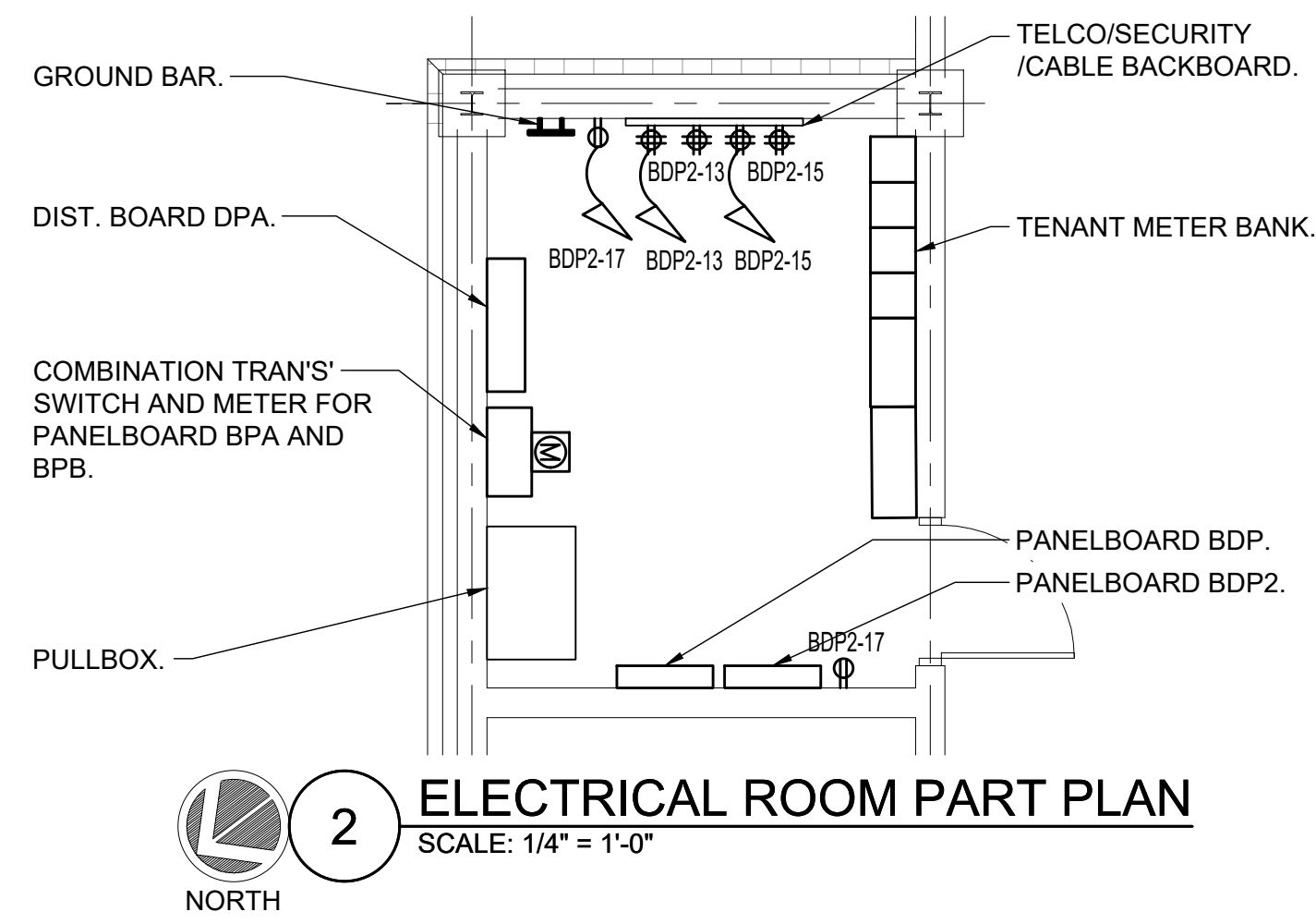


NOTES:
1.) PANELBOARD BDP2 LOCATED IN MAIN ELECTRICAL ROOM ON FIRST FLOOR. SEE DWG. E2.1 FOR LOCATION.

FIELD WIRING/CONDUIT LEGEND	
①	4-#10 & 1-#10 GND IN 1-1/2" C.
②	2-#10 & 1-#10 GND IN 3/4" C.
③	6-#10 & 1-#10 GND IN 2" C.

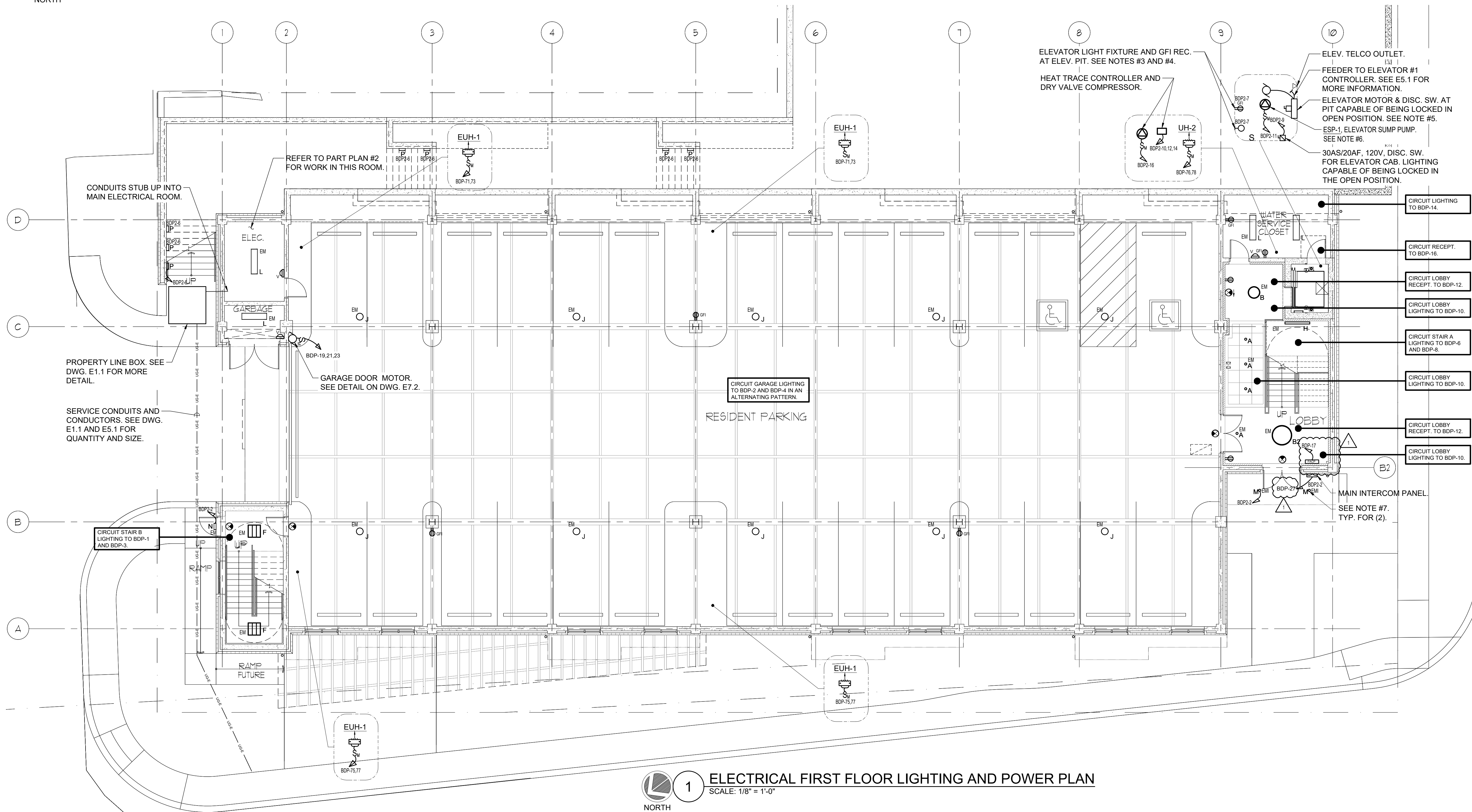
1 ELECTRICAL SITE LIGHTING PLAN
SCALE: 1" = 20'-0"

NOTES:
1.) ALL EXTERIOR LIGHT FIXTURE SHALL BE CONTROLLED FROM A TIME-CLOCK LOCATED IN THE MAIN ELECTRICAL ROOM ON THE FIRST FLOOR AND A PHOTOCELL.



NOTES:

- 1.) GARAGE LIGHTING FIXTURES SHALL CONTAIN INTEGRAL OCCUPANCY SENSORS THAT DIM TO 50% DURING NON-OCCUPANCY.
- 2.) ALL EXTERIOR LIGHT FIXTURES SHALL BE CONTROLLED VIA A TIME-CLOCK AND PHOTOCELL.
- 3.) WALL MOUNTED ELEVATOR LIGHT, VAPORPROOF, 13W LED DIE-CAST GUARD AND FROSTED GLOBE, AS MANUFACTURED BY RAB LIGHTING MODEL VXBRLD13DG OR APPROVED EQUAL.
- 4.) IN ELEVATOR PIT, LIGHTING FIXTURES SHALL BE CONNECTED TO THE LINE SIDE OF ALL GFI RECEPTACLES.
- 5.) PROVIDE AUXILIARY CONTACTS IN ELEVATOR DISCONNECT SWITCH FOR AUTOMATIC LOWERING DEVICE.
- 6.) PROVIDE 2" C FOR POWER, CONTROL AND ALARM CABLE TO ELEVATOR PIT SUMP PUMP CONTROL PANEL. ALL CABLES PROVIDED BY MANUFACTURER.
- 7.) PROVIDE (1) MINI-INVERTER SIMILAR TO IOTA IIS-125-I FOR LIGHT FIXTURE M. LOCATE ABOVE DROP CEILING IN LOBBY AREA.



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DOB COMMENTS	DATE
4	04-26-2021

PROJECT
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TOWN OF MT. PLEASANT, NY

DATE:	AUGUST 12, 2020
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DRAWING TITLE
ELECTRICAL FIRST FLOOR LIGHTING AND POWER PLAN

SHEET NO.
E2.1

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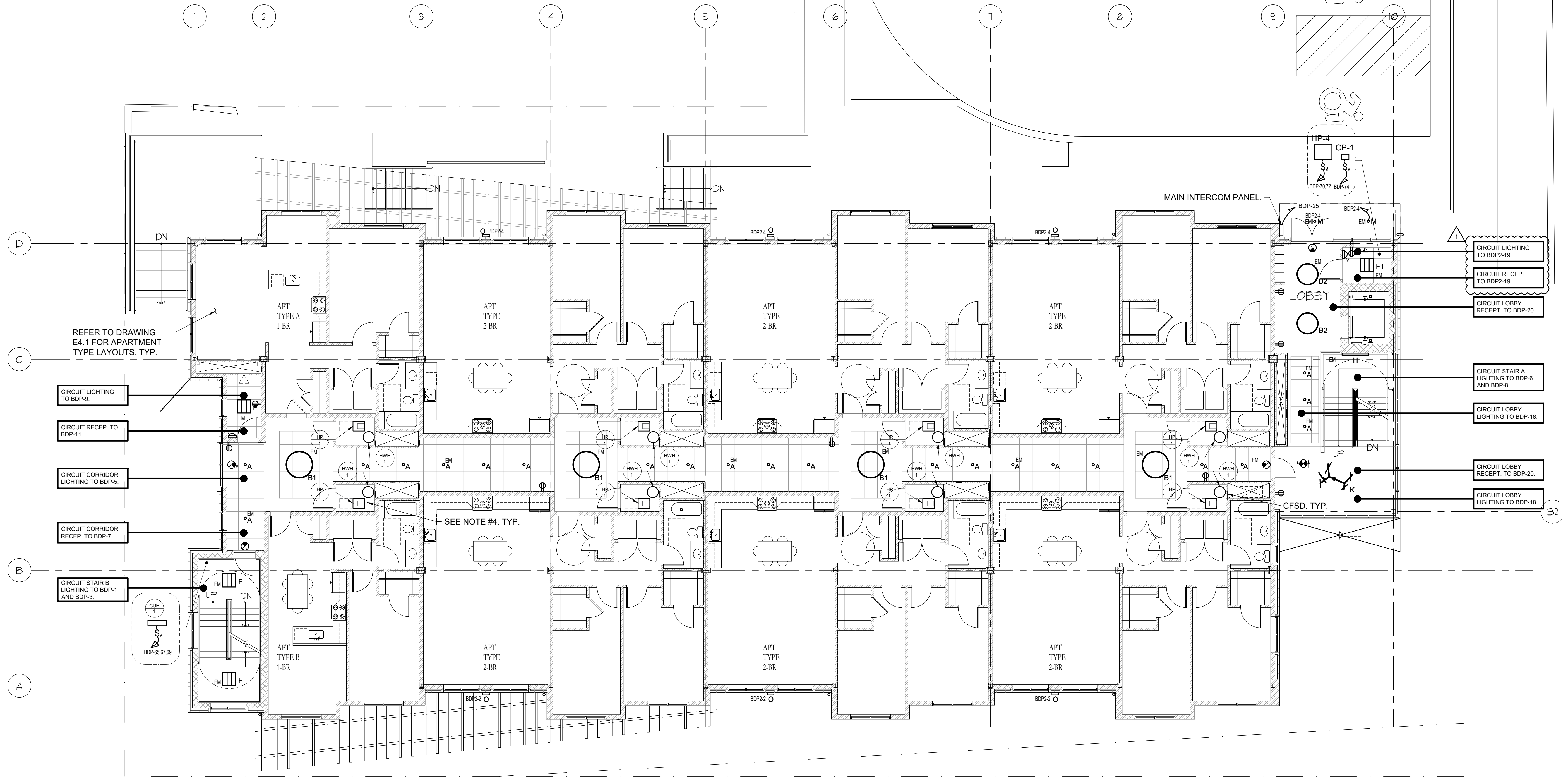
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NOTES:

- 1.) ALL EXTERIOR LIGHT FIXTURES SHALL BE CONTROLLED VIA A TIME-CLOCK AND PHOTOCELL.
- 2.) PROVIDE (1) MINI-INVERTER SIMILAR TO IOTA IIS-125-I FOR LIGHT FIXTURE M. LOCATE ABOVE DROP CEILING IN MAIL ROOM.
- 3.) PANELBOARD BDP AND BDP2 LOCATED IN THE MAIN ELECTRICAL ROOM ON THE FIRST FLOOR.
- 4.) CIRCUITS FOR HWH-1 AND HP-1 ARE FED FROM RESPECTIVE APARTMENT LOAD CENTER. REFER TO DWGS. E4.1 AND E6.2.
- 5.) CIRCUIT ALL CFSD'S ON SECOND FLOOR TO PANELBOARD BDP2-18.



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DRAWING TITLE
ELECTRICAL SECOND FLOOR LIGHTING AND POWER PLAN

SHEET NO.
E2.2

1 ELECTRICAL SECOND FLOOR LIGHTING PLAN
SCALE: 1/8" = 1'-0"
NORTH

LIBERTY PLAZA SUITES

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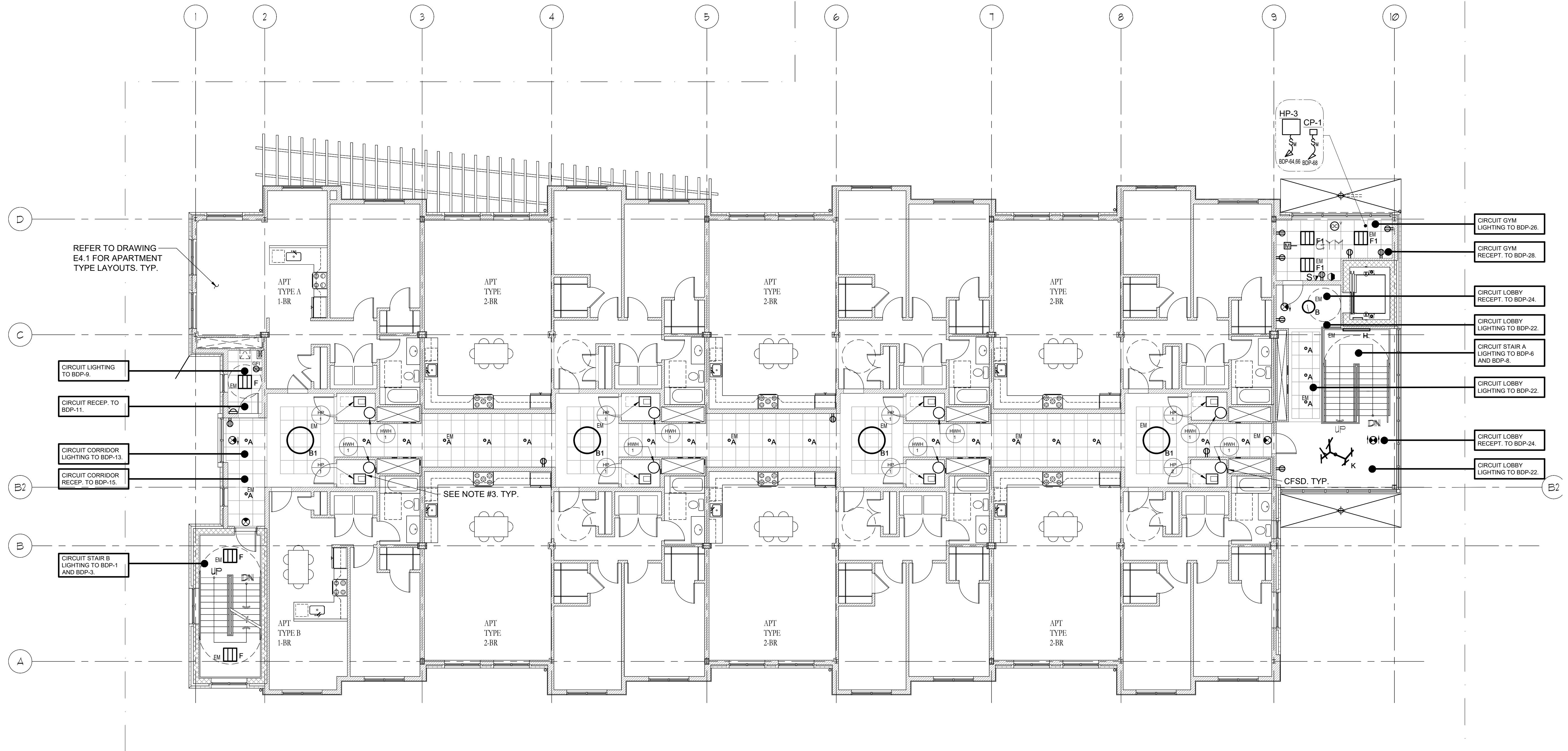
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1 ELECTRICAL THIRD FLOOR LIGHTING AND POWER PLAN

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

NOTES:

- 1.) CIRCUIT MOTORIZED DAMPERS IN GYM TO PANEL BOARD BDP2-8.
- 2.) PANEL BOARD BDP AND BDP2 LOCATED IN THE MAIN ELECTRICAL ROOM ON THE FIRST FLOOR.
- 3.) CIRCUITS FOR HWH-1 AND HP-1 ARE FED FROM RESPECTIVE APARTMENT LOAD CENTER. REFER TO DWGS. E4.1 AND E6.2.
- 4.) CIRCUIT ALL CFSD'S ON THIRD FLOOR TO PANEL BOARD BDP2-20.

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DRAWING TITLE
ELECTRICAL THIRD FLOOR LIGHTING AND POWER PLAN

SHEET NO.
E2.3

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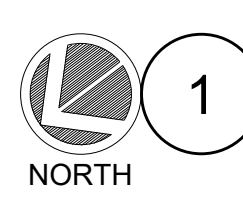
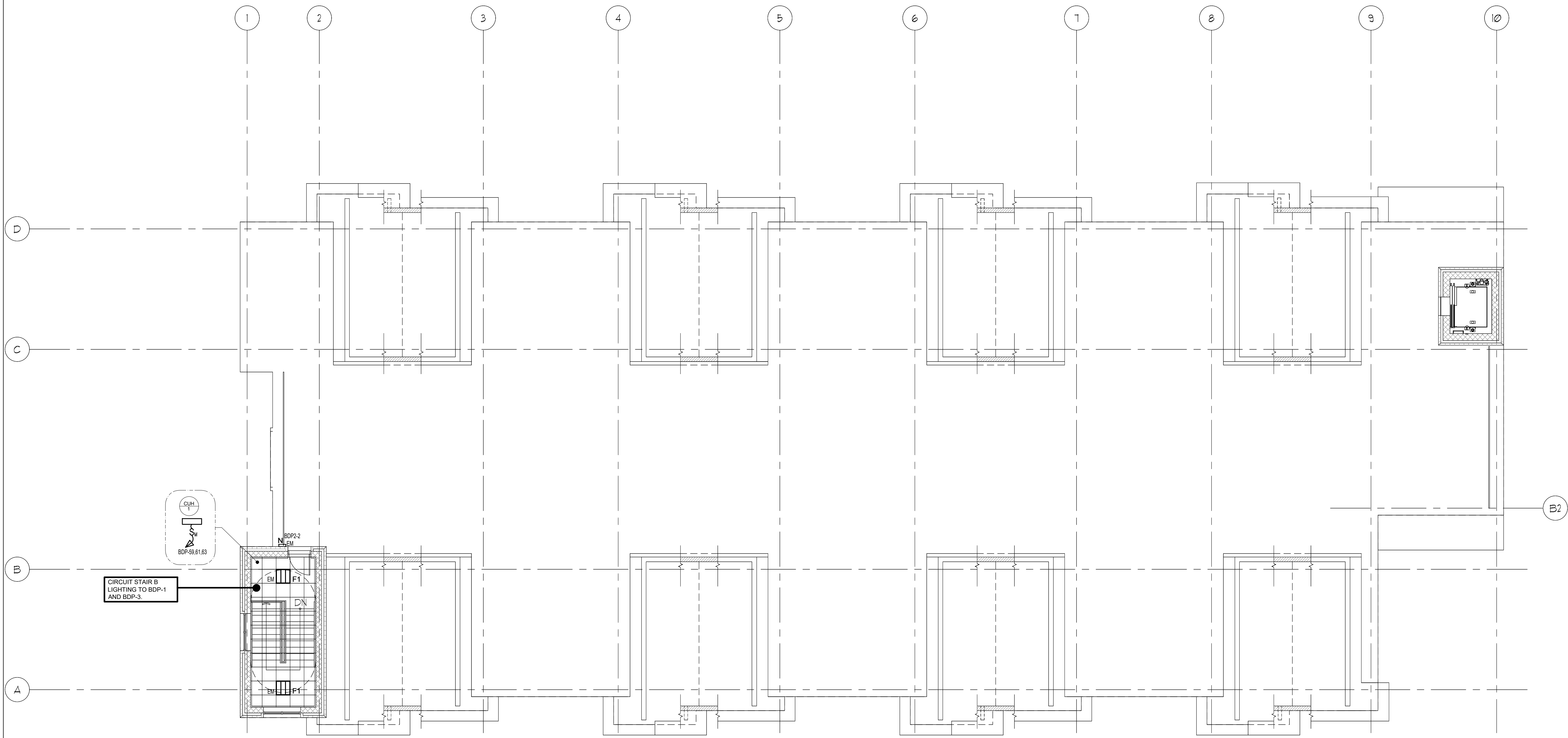
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1 ELECTRICAL FOURTH LEVEL ROOF FLOOR LIGHTING PLAN

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

NOTES:

- 1.) PANELBOARD BDP AND BDP2 LOCATED IN THE MAIN ELECTRICAL ROOM ON THE FIRST FLOOR.

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ELECTRICAL FOURTH LEVEL ROOF FLOOR LIGHTING AND POWER PLAN

SHEET NO.
E2.4

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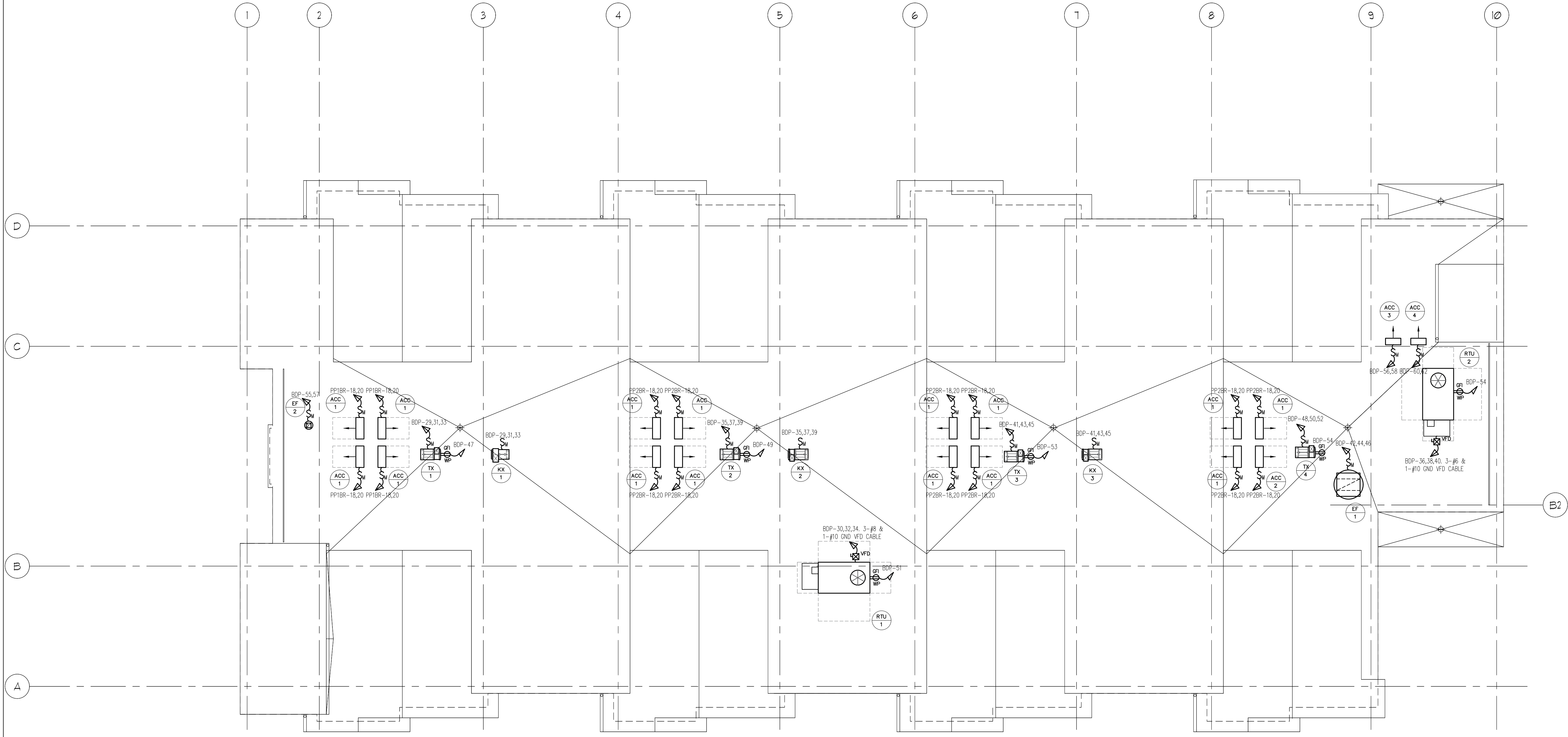
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1 ELECTRICAL ROOF POWER PLAN
SCALE: 1/8" = 1'-0"
NOTES:
1.) PANELBOARD BDP AND BDP2 LOCATED IN THE MAIN ELECTRICAL ROOM ON THE FIRST FLOOR.

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DRAWING TITLE
ELECTRICAL ROOF FLOOR POWER PLAN

SHEET NO.
E2.5

APARTMENT NOTES:

- 1.) ALL 120V, 15 AND 20 AMP CIRCUITS FEEDING LOADS IN THE KITCHENS, BEDROOMS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, CLOSETS, APARTMENT HALLWAYS, GUEST ROOMS, GUEST SUITES AND LAUNDRY AREAS SHALL BE PROTECTED BY ARC-FAULT CIRCUIT INTERRUPTER CIRCUIT BREAKERS. RECEPTACLES IN THESE AREAS SHALL BE TAMPER RESISTANT TYPE.
- 2.) FOR ALL VISION/HEARING IMPAIRED APARTMENTS INTERCONNECT A 120V DUAL MODE STROBE LIGHT DEVICE THAT IS SIMILAR TO THE KIDDLE SLED 1771 STROBE, WITH THE SMOKE ALARMS AND THE COMBINATION SMOKE-CARBON MONOXIDE ALARMS SO THAT THEY OPERATE TOGETHER WITHIN EACH DWELLING UNIT. TYP. PROVIDE 520HZ AUDIBLE SIGNAL IN EACH DWELLING UNIT. PROVIDE 2-#10 & 1-#10 GND IN 3/4" FOR 120V DUAL MODE STROBE LIGHT DEVICE. LOCATE THE DUAL MODE STROBE LIGHT DEVICE IN THE BEDROOMS, LIVING ROOMS AND BATHROOMS OF THE VISION/HEARING IMPAIRED APARTMENTS.
- 3.) FOR ALL APARTMENTS PROVIDE FIRE ALARM MINI-HORN WITH 520HZ AUDIBLE SIGNAL IN THE BEDROOMS AND LIVING ROOMS.
- 4.) IN ALL VISION/HEARING IMPAIRED APARTMENTS PROVIDE FIRE ALARM HORN/STROBES WITH 177CD RATING WITH 520HZ AUDIBLE SIGNAL IN THE BEDROOMS AND LIVING ROOMS. IN ADDITION, PROVIDE FIRE ALARM STROBE ONLY DEVICE IN THE BATHROOMS OF ALL VISION/HEARING IMPAIRED APARTMENTS.
- 5.) PROVIDE ROCKER-SWITCH FOR ALL RANGE HOODS DESIGNATED AS "HO" IN APARTMENTS. COORDINATE WIRING WITH MANUFACTURER DIRECTION. TYP. FOR ALL APARTMENTS. COORDINATE LOCATION OF SWITCH WITH ARCHITECTURAL ELEVATIONS.
- 6.) FOR ALL APARTMENTS PROVIDE NEMA 6-50R RECEPTACLES AND 3-#6 & 1-#10 GND IN 3/4" FOR ELECTRIC RANGES, DESIGNATED AS 'R'. COORDINATE FINAL NEMA RECEPTACLE WITH RANGE PURCHASED BEFORE INSTALLATION. TYP.

APARTMENT NOTES:

- 7.) FOR ALL APARTMENTS PROVIDE (2) 3/4" WITH DRAGLINES FROM THE TELE. BACKBOARD LOCATED IN MECH RM. 1, 2 AND 3 ON EACH FLOOR TO EACH APARTMENT LOW VOLTAGE PANEL. TYP.
- 8.) FOR ALL ACCESSIBLE APARTMENTS LOAD CENTERS SHALL BE MOUNTED SUCH THAT THE HEIGHT FROM THE TOP OF THE LOAD CENTER TO THE FINISHED FLOOR IS NO MORE THAN 4' AFF.
- 9.) FOR ALL APARTMENTS A NEMA 5-20R SIMPLEX RECEPTACLE SHALL BE PROVIDED FOR REFRIGERATOR, MICROWAVE AND WASHER DESIGNATED AS 'REF', 'MW' AND 'W' RESPECTIVELY.
- 10.) FOR ALL APARTMENTS PROVIDE 3-#10 & 1-#10 GND IN 3/4" FOR DRYERS DESIGNATED BY 'D'. PROVIDE NEMA 14-30R FOR DRYERS. COORDINATE FINAL NEMA RECEPTACLE WITH DRYER PURCHASED BEFORE INSTALLATION. TYP.
- 11.) FOR ALL APARTMENTS PROVIDE 3-#10 & 1-#10 GND IN 3/4" FOR HOT WATER HEATERS DESIGNATED BY 'HWH-1'.
- 12.) REFER TO PANEL SCHEDULES FOR 1-BEDROOM (PP1BR) AND 2-BEDROOM (PP2BR) RESPECTIVELY ON DWG. E6.2 FOR CIRCUITING WITHIN RESPECTIVE APARTMENT TYPES.
- 13.) KITCHEN COUNTER-TOP GFI RECEPTACLES SHALL BE CIRCUITED ALTERNATELY BY 2 DEDICATED CIRCUITS PER PANEL SCHEDULES. MICROWAVE, REFRIGERATOR AND ELECTRIC RANGES SHALL HAVE DEDICATED CIRCUITS PER PANEL SCHEDULES.
- 14.) FOR ALL APARTMENTS PROVIDE 2-#12 & 1-#12 GND IN 3/4" FOR HEAT PUMP DESIGNATED BY 'HP-1' AND 2-#10 & 1-#10 GND IN 3/4" FOR ASSOCIATED HEAT PUMP CONDENSER ON ROOF DESIGNATED BY 'ACC-1'.

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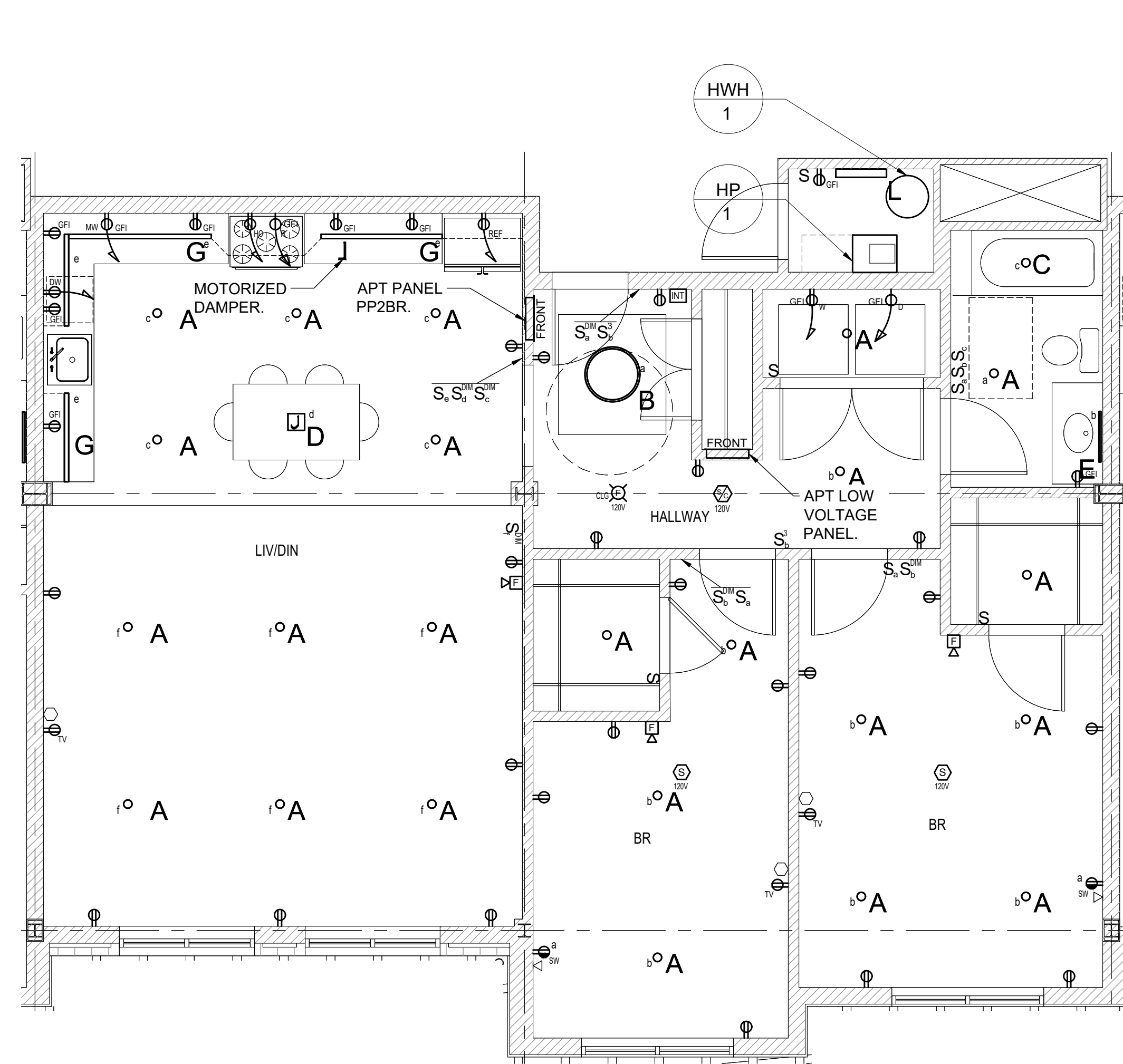
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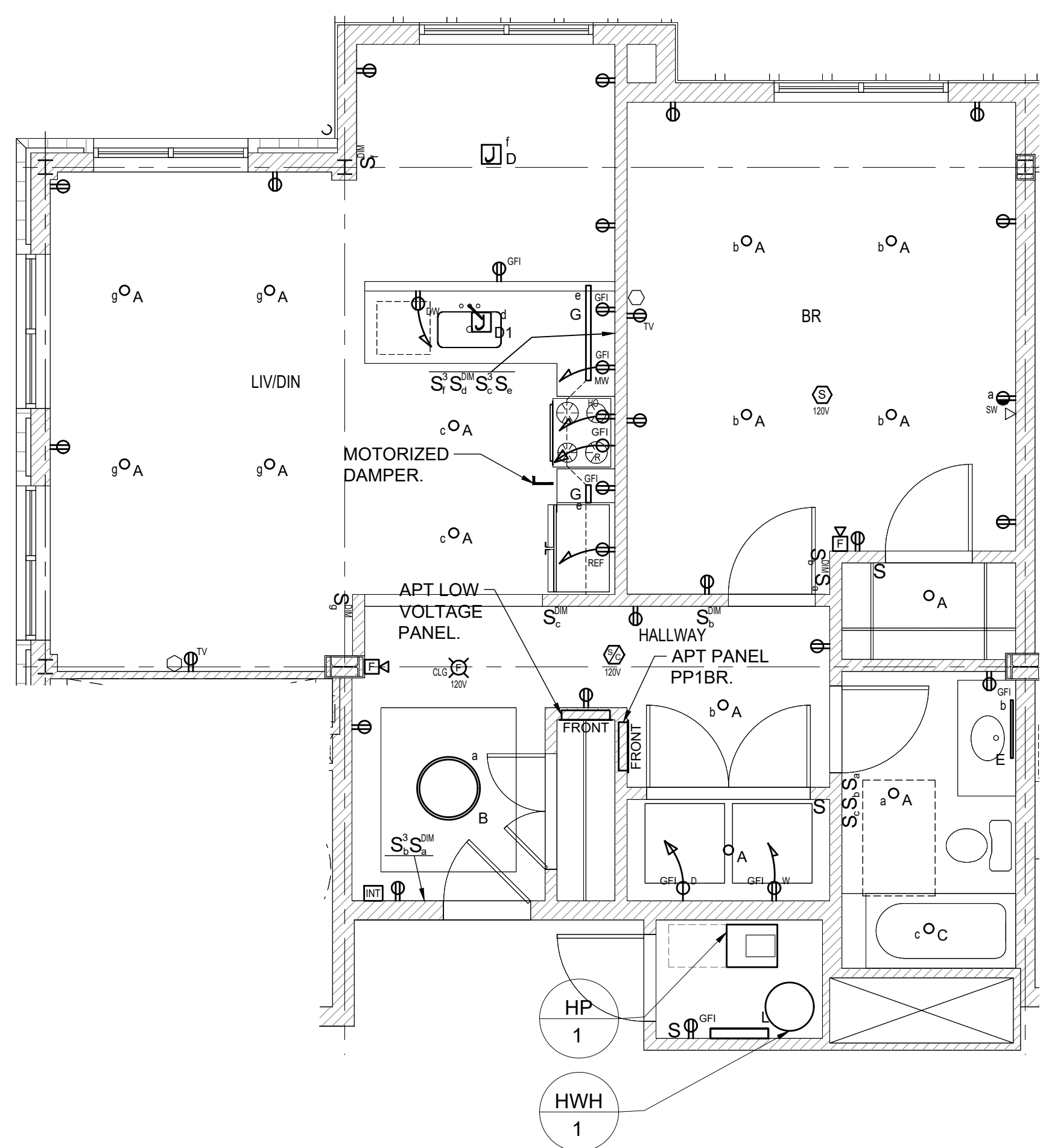
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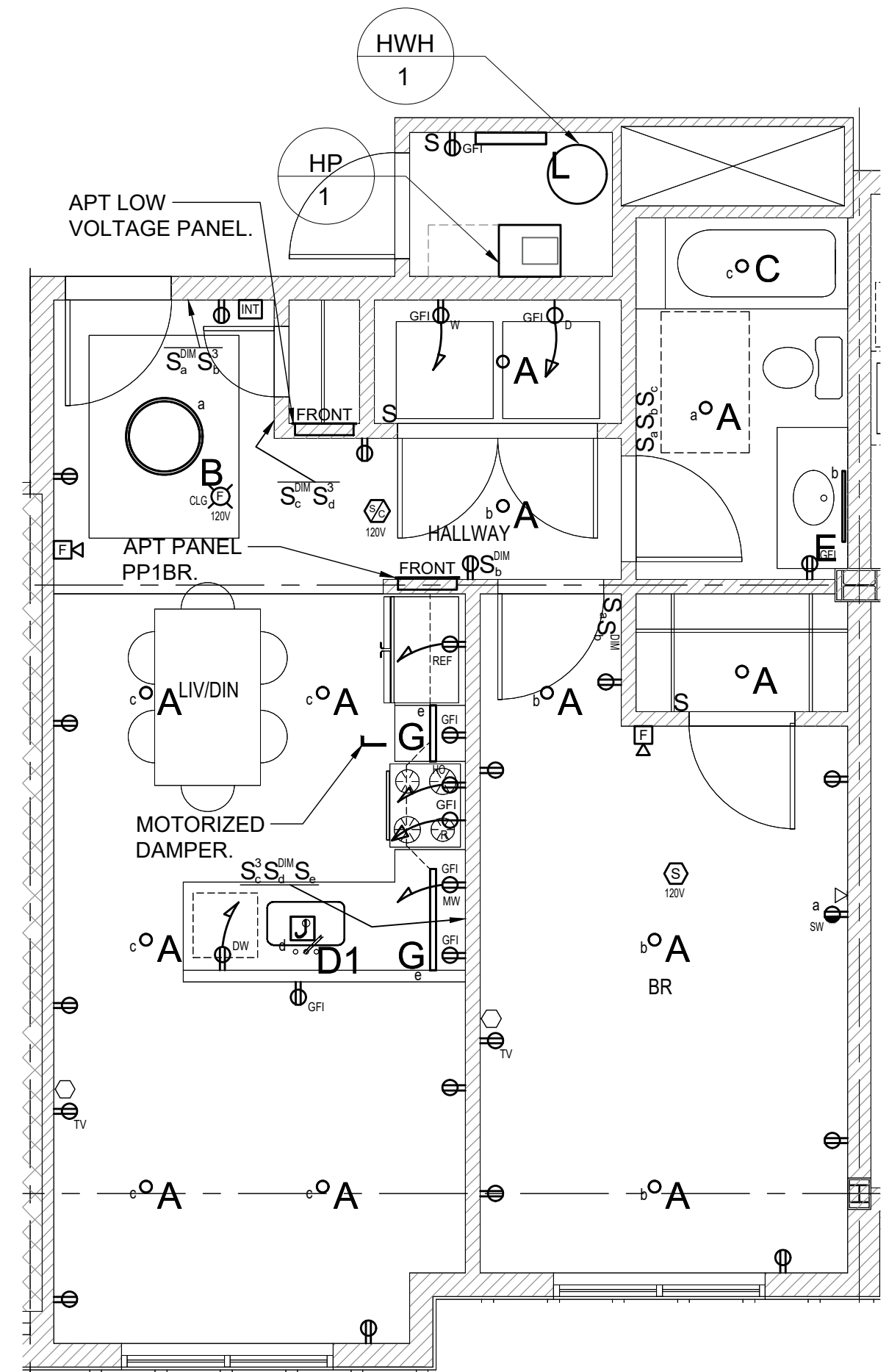
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3 TYPICAL TWO BEDROOM PLAN
 SCALE: 1/4" = 1'-0"
 NORTH



2 TYPICAL TYPE B ONE BEDROOM PLAN
 SCALE: 1/4" = 1'-0"
 NORTH



1 TYPICAL TYPE A ONE BEDROOM PLAN
 SCALE: 1/4" = 1'-0"
 NORTH

NO.	REVISION/ISSUE	DATE
4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1	ISSUED FOR PROGRESS	02-19-2021

SEAL

PROJECT
LIBERTY PLAZA SUITES
 500 COMMERCE ST.
 TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020
 PROJECT NO: NDM0001.00
 DRAWN BY: CT
 CHECKED BY: KS/DS
 SCALE: AS NOTED

DRAWING TITLE
TYPICAL APARTMENT TYPE PLANS

SHEET NO.
E4.1

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EQUIPMENT NOTES:

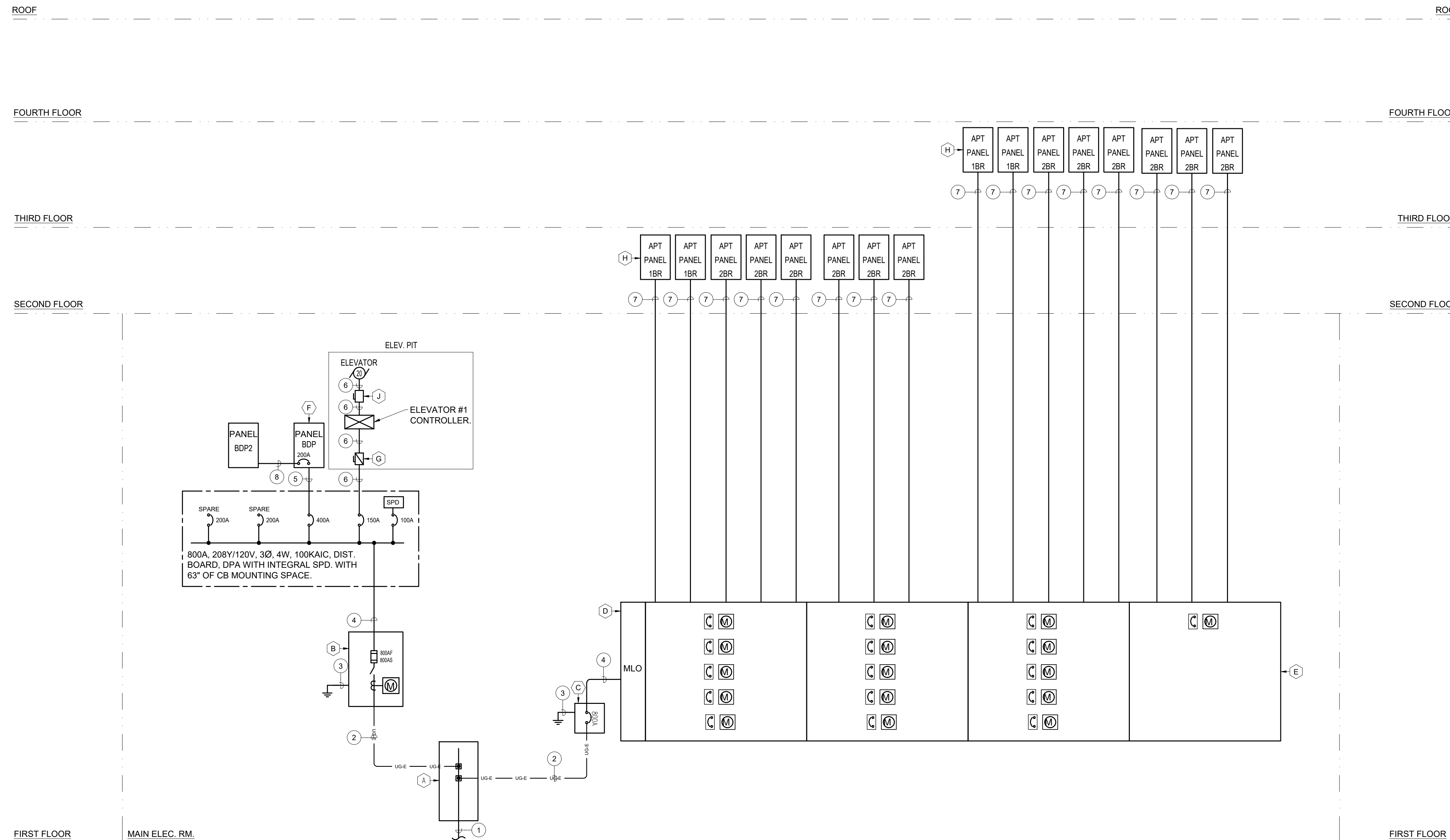
- (A) PULL BOX. SIZE AS NEEDED.
- (B) 800A, 208Y/120V, 3Ø, 4W, NEMA-1 ENCLOSURE COMBINATION TRANS "S"/SWITCH METERING/SERVICE SWITCH UNIT PER POWER UTILITY COMPANY SPECIFICATIONS. CABINET PROVIDED BY THIS CONTRACTOR AND METER PROVIDED BY POWER UTILITY COMPANY. PROVIDE WITH (3) 800A FUSES.
- (C) 800A, 240V, 3Ø, 4W, 100KAIC, NEMA-1 SERVICE RATED ENCLOSED CIRCUIT BREAKER FOR TENANT METER BANK.
- (D) 800A, 3Ø, 4W, NEMA-1 ENCLOSURE MAIN TERMINAL BOX SIMILAR TO EZM3800 TBCU PER UTILITY COMPANY SPECIFICATIONS.
- (E) (4) 125A, 3Ø, 4W, 208Y/120V IN TO 1Ø, 3W, 120/208V OUT METER SOCKET TYPE SIMILAR TO EZM315125M10 PER UTILITY COMPANY SPECIFICATIONS. PROVIDE EACH DISCONNECT SWITCH LOCATION WITH (1) 2P-125A CB. TYP. FOR (16).
- (F) 400A, 208Y/120V, 3Ø, 4W, 65KAIC BUILDING DISTRIBUTION PANEL, 'BDP'.
- (G) 100A, 240V, 3-POLE, 4W ELEVATOR DISCONNECT SWITCH WITH (3) 100A FUSES. PROVIDE WITH SHUNT TRIP CAPABILITY AND 2-NO & 2-NC AUXILIARY CONTACTS IN NEMA 1 ENCLOSURE FOR ELEVATOR MOTOR.
- (H) 125A, 120/208V, 1Ø, 3W LOAD CENTER PANELS LOCATED WITHIN EACH TENANT APARTMENT. TYPICAL FOR (16). SEE TYPICAL PANEL SCHEDULE ON DWG. E6.2 FOR MORE INFORMATION.
- (J) 100A, 240V, 3-POLE, 4W ELEVATOR UNFUSED DISCONNECT SWITCH.

WIRING/CONDUIT LEGEND:

- (1) (5) SETS OF 4-#500 MCM IN (5) UG 4" HDPE CONDUIT SERVICE CONDUCTORS FROM PROPERTY LINE BOX. PROVIDE (1) SPARE 4" HDPE CONDUIT WITH DRAGLINES.
- (2) (2) SETS OF (4-#500MCM) IN (2) UG 4" C IN ENCASED CONCRETE.
- (3) 1-#2/0 GROUNDING ELECTRODE (REFER TO DETAIL #11 ON DRAWING E7.1)
- (4) (2) SETS OF (4-#500MCM & 1-#1/0 GND) IN (2) 4" C.
- (5) 4-#500MCM & 1-#3 GND IN 3-1/2" C.
- (6) 3-#2 & 1-#6 GND IN 1-1/2" C.
- (7) 3-#2/0 & 1-#6 GND IN 2" MC.
- (8) 4-#3/0 & 1-#6 GND IN 2" C.

NOTES:

- 1.) ALL CIRCUIT BREAKERS ARE 3 POLE, U.O.N.
- 2.) ALL CABLE BETWEEN THE VFD'S AND MOTORS SHALL BE TYPE TC-ER, VFD CABLE. CABLE SHALL COMPLY WITH NEMA WC70/ICEA S-95-658, UL 1277 AND NFPA 70 FOR TYPE TC-ER CABLE. VFD CABLE SHALL BE: TYPE TC-ER WITH OVERSIZED CROSSLINKED POLYETHYLENE INSULATION, SPIRAL-WRAPPED FOIL PLUS 85 PERCENT COVERAGE BRAIDED SHIELDS AND INSULATED FULL-SIZE GROUND WIRE, AND SUNLIGHT AND OIL-RESISTANT OUTER PVC JACKET.



1 ELECTRICAL ONE-LINE DIAGRAM
SCALE: NONE

NO.	REVISION/ISSUE	DATE
	DOB COMMENTS	04-26-2021
4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1.	ISSUED FOR PROGRESS	02-19-2021

SEAL

PROJECT
LIBERTY PLAZA SUITES
500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE:	AUGUST 12, 2020
PROJECT NO.:	NDIM0001.00
DRAWN BY:	CT
CHECKED BY:	KS/DS
SCALE:	AS NOTED

DRAWING TITLE
ELECTRICAL ONE-LINE DIAGRAM

SHEET NO.
E5.1

LIGHTING SYSTEM FUNCTIONAL TESTING/COMMISSIONING

I. FUNCTIONAL TESTING

PRIOR TO PASSING FINAL INSPECTION, THE CONTRACTOR SHALL PROVIDE EVIDENCE TO THE BUILDING OWNER AND THE ENGINEER THAT THE LIGHTING CONTROL SYSTEMS HAVE BEEN TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S DOCUMENTS. FUNCTIONAL TESTING, FOR THE APPLICABLE CONTROL TYPE, SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

1. OCCUPANT SENSOR CONTROLS

WHERE OCCUPANT SENSOR CONTROLS ARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:

- CERTIFY THAT THE OCCUPANT SENSOR HAS BEEN LOCATED AND AIMED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
- FOR PROJECTS WITH SEVEN OF FEWER OCCUPANT SENSORS, EACH SENSOR SHALL BE TESTED.
- FOR PROJECTS WITH MORE THAN SEVEN OCCUPANT SENSORS, TESTING SHALL BE DONE FOR EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY. WHERE MULTIPLES OF EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY ARE PROVIDED, NOT LESS THAN 10 PERCENT, BUT IN NO CASE LESS THAN ONE, OF EACH COMBINATION SHALL BE TESTED UNLESS THE BUILDING OFFICIAL OR DESIGN PROFESSIONAL REQUIRES A HIGHER PERCENTAGE TO BE TESTED, WHERE 30 PERCENT OR MORE OF THE TESTED CONTROLS FAIL, ALL REMAINING IDENTICAL COMBINATIONS SHALL BE TESTED.

FOR OCCUPANT SENSOR CONTROLS TO BE TESTED, VERIFY THE FOLLOWING:

- WHERE OCCUPANT SENSOR CONTROLS INCLUDE STATUS INDICATORS, VERIFY CORRECT OPERATION.
- THE CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN THE REQUIRED TIME.
- FOR AUTO-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON TO THE PERMITTED LEVEL WHEN AN OCCUPANT ENTERS THE SPACE.
- FOR MANUAL-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON ONLY WHEN MANUALLY ACTIVATED.
- THE LIGHTS ARE NOT INCORRECTLY TURNED ON BY MOVEMENT IN ADJACENT AREAS OR BY HVAC OPERATION.

2. TIME-SWITCH CONTROLS

WHERE TIME-SWITCH CONTROLS ARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:

- CONFIRM THAT THE TIME-SWITCH CONTROL IS PROGRAMMED WITH ACCURATE WEEKDAY, WEEKEND AND HOLIDAY SCHEDULES.
- PROVIDE DOCUMENTATION TO THE OWNER OF TIME-SWITCH CONTROLS PROGRAMMING INCLUDING WEEKDAY, WEEKEND, HOLIDAY SCHEDULES, AND SET-UP AND PREFERENCE PROGRAM SETTINGS.
- VERIFY THE CORRECT TIME AND DATE IN THE TIME SWITCH.
- VERIFY THAT ANY BATTERY BACK-UP IS INSTALLED AND ENERGIZED.
- VERIFY THAT THE OVERRIDE TIME LIMIT IS SET TO NOT MORE THAN 2 HOURS.
- SIMULATE OCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
 - ALL LIGHTS CAN BE TURNED ON AND OFF BY THEIR RESPECTIVE AREA CONTROL SWITCH.
 - THE SWITCH ONLY OPERATES LIGHTING IN THE ENCLOSED SPACE IN WHICH THE SWITCH IS LOCATED.
- SIMULATE UNOCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
 - NONEXEMPT LIGHTING TURNS OFF.
 - MANUAL OVERRIDE SWITCH ALLOWS ONLY THE LIGHTS IN THE ENCLOSED SPACE WHERE THE OVERRIDE SWITCH IS LOCATED TO TURN ON OR REMAIN ON UNTIL THE NEXT SCHEDULED SHUTOFF OCCURS.

3. DAYLIGHT RESPONSIVE CONTROLS

WHERE DAYLIGHT RESPONSIVE CONTROLS ARE PROVIDED, THE FOLLOWING SHALL BE VERIFIED:

- CONTROL DEVICES HAVE BEEN PROPERLY LOCATED, FIELD CALIBRATED AND SET FOR ACCURATE SET POINTS AND THRESHOLD LIGHT LEVELS.
- DAYLIGHT CONTROLLED LIGHTING LOADS ADJUST TO LIGHT LEVEL SET POINTS IN RESPONSE TO AVAILABLE DAYLIGHT.
- THE CALIBRATION ADJUSTMENT EQUIPMENT IS LOCATED FOR READILY ACCESS ONLY BY AUTHORIZED PERSONNEL.

II. DOCUMENTATION REQUIREMENTS

THE DOCUMENTS DESCRIBED IN THIS SECTION SHALL BE PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT WITHIN 60 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

- DRAWINGS:
 - AS-BUILT CONSTRUCTION DOCUMENTS, SHOWING THE LOCATION AND CATALOG NUMBER OF EACH PIECE OF EQUIPMENT.
- MANUALS: AN OPERATING AND MAINTENANCE MANUAL SHALL BE PROVIDED AND INCLUDE THE FOLLOWING:
 - NAME AND ADDRESS OF NOT LESS THAN ONE SERVICE AGENCY FOR INSTALLED EQUIPMENT.
 - A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING RECOMMENDED SET POINTS.
 - SUBMITTAL DATA INDICATING ALL SELECTED OPTIONS FOR EACH PIECE OF LIGHTING EQUIPMENT AND LIGHTING CONTROLS.
 - OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF LIGHTING EQUIPMENT. REQUIRED ROUTINE MAINTENANCE ACTIONS, CLEANING AND RECOMMENDED RELAMPING SHALL BE CLEARLY IDENTIFIED.
 - A SCHEDULE FOR INSPECTING AND RECALIBRATING ALL LIGHTING CONTROLS.
- REPORT: A REPORT OF TEST RESULTS SHALL BE PROVIDED AND INCLUDE THE FOLLOWING.
 - RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
 - DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.

LIGHTING FIXTURE SCHEDULE NOTES:

- VERIFY ALL FIXTURE CATALOG NUMBERS FOR INTENDED APPLICATIONS WITH REQUIRED ACCESSORIES.
- ALL BALLASTS AND DRIVERS IN FIXTURES LOCATED OUTDOORS SHALL BE ZERO DEGREE RATED STARTING TEMPERATURE. REFER TO DRAWINGS FOR LOCATION OF FIXTURES.
- LIGHT FIXTURES INDICATED AS EMERGENCY (EM) ON DRAWINGS SHALL CONTAIN AN EMERGENCY BACK-UP BATTERY WHERE POSSIBLE THE SHALL BE INTERNAL TO FIXTURE WITH A VISUAL INDICATING CHARGE LAMP AND TEST SWITCH. IF IT IS NOT POSSIBLE TO INSTALL THE EMERGENCY BATTERY IN THE FIXTURE, THE CONTRACTOR SHALL FURNISH & INSTALL A REMOTE EMERGENCY BATTERY. EACH BATTERY PACK SHALL BE CONNECTED SO THAT THE FIXTURE CAN BE SWITCHED UNDER NORMAL CONDITIONS AND IN THE EVENT OF A POWER OUTAGE, THE FIXTURE SHALL AUTOMATICALLY ILLUMINATE FOR 90 MINUTES WITH A 1200 LUMEN OUTPUT (TOTAL FROM FIXTURE), MINIMUM.
- ALL EXIT AND EMERGENCY FIXTURES SHALL BE FED FROM UNSWITCHED LEG OF ASSOCIATED LOCAL LIGHTING CIRCUITS.
- IN THE EVENT THE CONTRACTOR CHOOSES TO SUBSTITUTE LIGHT FIXTURES FOR THOSE THAT ARE SPECIFIED ON THE LIGHT FIXTURE SCHEDULE, THE CONTRACTOR SHALL SUBMIT POINT-TO-POINT PHOTOMETRIC CALCULATIONS FOR ALL AREAS WHERE THE SUBSTITUTED FIXTURES ARE INDICATED TO BE INSTALLED ON THE DRAWINGS. THESE CALCULATIONS SHALL BE SUBMITTED ALONG WITH THE LIGHT FIXTURE SHOP DRAWINGS.

LIGHTING FIXTURE SCHEDULE

FIXTURE DESIGNATION	MANUFACTURER	CATALOG NUMBER	LAMPS	LUMENS	VOLTS	MOUNTING	REMARKS
A	FOCAL POINT LIGHTING	FLC3D-RO-SW-700L UNV-LZ1-IC-EMR-RO -700L-35K-FL1-CD	(1) 8W LED	700	120V	RECESSED	3.5" DIA. RECESSED LED DOWNLIGHT. PROVIDE EM OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, WHERE INDICATED ON PLANS BY 'EM'. COORDINATE FINISH COLOR WITH ARCHITECT.
B	FOCAL POINT LIGHTING	FSDEP-2-FL-2000DN -35K-1C-UNV-LD1-SM -EM-WH	(1) 17.3W LED	2000	120V	SURFACE	24" DIA. SURFACE MOUNTED LED SKYDOME EDGE LIGHT FIXTURE. PROVIDE EM OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, WHERE INDICATED ON PLANS BY EM. COORDINATE FINISH COLOR WITH ARCHITECT.
B1	FOCAL POINT LIGHTING	FSDEP-4-FL-7000DN-OUP -35K-1C-UNV-L11-C24 -EM-WH	(1) 62.2W LED	7000	120V	PENDANT	48" DIA. PENDANT MOUNTED LED SKYDOME EDGE LIGHT FIXTURE. PROVIDE EM OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, WHERE INDICATED ON PLANS BY EM. COORDINATE FINISH COLOR WITH ARCHITECT.
B2	FOCAL POINT LIGHTING	FSDEP-3-FL-4000DN-OUP -35K-1C-UNV-L11-C24 -EM-WH	(1) 34.6W LED	4000	120V	PENDANT	36" DIA. PENDANT MOUNTED LED SKYDOME EDGE LIGHT FIXTURE. PROVIDE EM OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, WHERE INDICATED ON PLANS BY EM. COORDINATE FINISH COLOR WITH ARCHITECT.
C	FOCAL POINT LIGHTING	FLC3D-RT-SW-700L 120-IC-OD-LC3-RT 700L-35K-DNS-FL1-CD	(1) 8W LED	700	120V	RECESSED	3.5" DIA. RECESSED LED DOWNLIGHT RATED FOR WET LOCATIONS.
D	-	TBD	-	-	120V	PENDANT	SPECIALITY LED PENDANT LIGHT FIXTURE
D1	-	TBD	-	-	120V	PENDANT	SPECIALITY LED PENDANT LIGHT FIXTURE
E	MODERN FORMS LIGHTING	WS-3724-AL-B1D2113	(1) 13.3W LED	1220	120V	SURFACE	24" LINEAR NEO LED BATH & INTERIOR SCONCE WITH BRUSHED ALUMINUM FINISH AND DAMP LOCATION LISTED..
F	FOCAL POINT LIGHTING	FEQ2-22-AC-2000-35K -1C-UNV-L11-F-EM-WH	(1) 18.16W LED	2000	120V	SURFACE	2'X2' LED EQUATION 2 SURFACE LIGHT FIXTURE. PROVIDE EM OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, WHERE INDICATED ON PLANS BY EM. COORDINATE FINISH COLOR WITH ARCHITECT.
F1	FOCAL POINT LIGHTING	FEQ2-22-AC-2000L-30K -1C-UNV-ST-EM-WH	(1)18.16W LED	2000	120V	RECESSED	2'X2' LED EQUATION 2 RECESSED LIGHT FIXTURE. PROVIDE EM OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, WHERE INDICATED ON PLANS BY EM. COORDINATE FINISH COLOR WITH ARCHITECT.
G	Q TRAN LIGHTING	SW24/3.0-DMP-30-WH-CL2-MATCH	3W/FT LED	300L/FT	120V	SURFACE	LINEAR LED UNDER CABINET STRIP LIGHT FIXTURE IN STATIC WHITE.
H	FOCAL POINT LIGHTING	FSM4BW-FLFL-275DN -275UP-35K-1C-UNV-LD1 -WM-EM-WH-4FT	(1) 21.06W LED	550	120V	SURFACE	SEEM 4 LED DIRECT/INDIRECT WALL MOUNTED LIGHT FIXTURE.
J	LITHONIA LIGHTING	VCPG-V4-P4-30K-80CRI-T5M-120-PM -NLTAIR2PIR	(1) 26.6W LED	-	120V	PENDANT	LED PENDANT LIGHT FIXTURE. PROVIDE EM OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, WHERE INDICATED ON PLANS BY EM. COORDINATE FINISH COLOR WITH ARCHITECT.
K	ROLL & HILL LIGHTING	CHANDELIER 20 LIGHTS	(20) 3W LED	2000	120V	PENDANT	CHANDELIER WITH (20) LED LAMPS MACHINED ALUMINUM & GLASS FINISH AND 5" ROUND CANOPY.
L	LITHONIA LIGHTING	ZLIN-L48-SMR-3000LM -FST-120-35-80-E7W-WH	(1) 25W LED	3000	120V	SURFACE /PENDANT	4' LED LINEAR STRIP SURFACE/PENDANT MOUNTED LED LIGHT FIXTURE. PROVIDE EM OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, WHERE INDICATED ON PLANS BY 'EM'.
M	TAGETTI	CCD-F-10-FL-L1-30-84-1	(1) 29W LED	2209	120V	RECESSED	6" PROFESSIONAL FIXED LED DOWNLIGHT. PROVIDE REMOTE EM BATTERY OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, WHERE INDICATED ON PLANS BY 'EM'.
N	LSI INDUSTRIES INC.	XWS-LED-3L-FTW-UNV -30-80CRI-CWBB	(1) 26W LED	3624	120V	SURFACE	MIRANDA SMALL WALL SCONCE (XWS), OUTDOOR LED WALL LIGHT.
O	TAGETTI	MRS-W-41-BI-L2-30	(1) 13W LED	1186	120V	SURFACE	MR. SMITH WALL MOUNT LUMINAIRE.
P	TAGETTI	ZES-RP-FW-L1-30-24	(1)4.6W LED	40	120V	STEP	PROFESSIONAL SMALL SCALE LED STEPLIGHT.
☒	PHILIPS LIGHTING	PVERWEM	2W LED		120V	SURFACE	EXIT SIGN WITH 90 MINUTES OF BATTERY BACKUP TIME, MIN., RED LETTERING ON WHITE BACKGROUND, WHITE THERMO PLASTIC HOUSING, SEALED LEAD CADMIUM BATTERY. PROVIDE CHEVRONS AS INDICATED ON DRAWINGS.
☒ WP	LITHONIA LIGHTING	EDG-1-G	2.2W LED		120V	SURFACE	WEATHERPROOF EXIT SIGN WITH 90 MINUTES OF BATTERY BACKUP TIME, MIN., RED LETTERING ON WHITE BACKGROUND, WHITE THERMO PLASTIC HOUSING, SEALED LEAD CADMIUM BATTERY. PROVIDE CHEVRONS AS INDICATED ON DRAWINGS BY 'EM'.
S1	INULA LIGHTING	IBL-X-1Q-30-XX-UNV	(1) 7.6W LED	-	120V	BOLLARD	BOLLARD LED LIGHT FIXTURE
S2	INULA LIGHTING	IBL-X-2Q90-30-XX-UNV	(1) 14W LED	-	120V	BOLLARD	BOLLARD LED LIGHT FIXTURE
S3	INULA LIGHTING	ICL-X-1Q-XX-XX-30 -XX-UNV	(1) 15.2W LED	-	120V	BOLLARD	BOLLARD LED LIGHT FIXTURE
S4	INULA LIGHTING	ICL-X-2Q90-XX-XX-30 -XX-UNV	(1) 28.5W LED	-	120V	BOLLARD	BOLLARD LED LIGHT FIXTURE
S5	INULA LIGHTING	ICL-X-3Q-XX-XX-30 -XX-UNV	(1) 42W LED	-	120V	BOLLARD	BOLLARD LED LIGHT FIXTURE
S6	OURAY LIGHTING	U5-R2-S1-5G350-30 -UNV-HS	(1) 44W LED	-	120V	POLE	POLE MOUNTED LED LIGHT FIXTURE
S7	OURAY LIGHTING	U5-R3-S1-5G350-30 -UNV-HS	(1) 44W LED	-	120V	POLE	POLE MOUNTED LED LIGHT FIXTURE
S8	OURAY LIGHTING	U5-R4-S1-5G350-30 -UNV-HS	(1) 44W LED	-	120V	POLE	POLE MOUNTED LED LIGHT FIXTURE

LIBERTY PLAZA SUITES

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SHAILESH R. NAIK, P.E.
NEW YORK LICENSE No. 072797-1

MEP ENGINEER



NO.	REVISION/ISSUE	DATE
4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1	ISSUED FOR PROGRESS	02-19-2021

SEAL

PROJECT

LIBERTY PLAZA SUITES
500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE:	AUGUST 12, 2020
PROJECT NO.:	NDM0001.00
DRAWN BY:	CT
CHECKED BY:	KS/DS
SCALE:	AS NOTED

DRAWING TITLE

ELECTRICAL SCHEDULES

SHEET NO.

E6.1

LIBERTY PLAZA SUITES

500 COMMERCE STREET
HAWTHORNE, NY 10532

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NO.	REVISION/ISSUE	DATE
4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1.	ISSUED FOR PROGRESS	02-19-2021
NO.	REVISION/ISSUE	DATE

SEAL

PROJECT
LIBERTY PLAZA SUITES
 500 COMMERCE ST.
 TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020
 PROJECT NO: NDM0001.00
 DRAWN BY: CT
 CHECKED BY: KS/DS
 SCALE: AS NOTED

DRAWING TITLE
ELECTRICAL SCHEDULES

SHEET NO.
E6.2

PANELBOARD BDP SCHEDULE										
MAIN RATING: 400A			MAIN C.B.: MLO			KAIC RATING: 42KAIC				
VOLTAGE: 208Y/20V			PHASE: 3			WIRE: 4 MOUNTING: SURFACE				
CIRC. NO.	LOAD DESCRIPTION	BKR. AMPS	NO. OF POLES	NO. OF POLES	BKR. AMPS	LOAD DESCRIPTION	CIRC. NO.	BKR. AMPS	NO. OF POLES	NO. OF POLES
1	STAIR B LIGHTING.	20	1	1	20	GARAGE LIGHTING.	2			
3	STAIR B LIGHTING.	20	1	1	20	GARAGE LIGHTING.	4			
5	2ND FL. CORR. LIGHTING.	20	1	1	20	STAIR A LIGHTING.	6			
7	2ND FL. CORR. RECEP.	20	1	1	20	STAIR A LIGHTING.	8			
9	2ND AND 3RD FL. GARBAGE RM LIGHTING.	20	1	1	20	1ST FL. LOBBY LIGHTING.	10			
11	2ND AND 3RD FL. GARBAGE RM RECEP.	20	1	1	20	1ST FL. LOBBY RECEP.	12			
13	3RD FL. CORR. LIGHTING.	20	1	1	20	WATER SERVICE RM. LIGHTING	14			
15	3RD FL. CORR. RECEP.	20	1	1	20	WATER SERVICE RM. RECEP.	16			
17	FIRE ALARM CONTROL PANEL.	20	1	1	20	2ND FL. LOBBY LIGHTING.	18			
19				1	20	2ND FL. LOBBY RECEP.	20			
21	GARAGE DOOR MOTOR.	20	3	1	20	3RD FL. LOBBY LIGHTING.	22			
23				1	20	3RD FL. LOBBY RECEP.	24			
25	MAIN INTERCOM PANEL.	20	1	1	20	3RD FL. GYM LIGHTING.	26			
27	MAIN INTERCOM PANEL.	20	1	1	20	3RD FL. GYM RECEP.	28			
29							30			
31	TX-1 AND KX-1	15	3	3	45	RTU-1	32			
33							34			
35							36			
37	TX-2 AND KX-2	15	3	3	50	RTU-2	38			
39							40			
41							42			
43	TX-3 AND KX-3	15	3	3	30	EF-1	44			
45							46			
47	EXTERIOR GF/WP REC.	20	1				48			
49	EXTERIOR GF/WP REC.	20	1	3	15	TX-4	50			
51	EXTERIOR GF/WP REC.	20	1				52			
53	EXTERIOR GF/WP REC.	20	1	1	20	EXTERIOR GF/WP REC.	54			
55	EF-2	15	2	2	15	ACC-3	56			
57							58			
59							60			
61	CUH-1- 4TH LEVEL ROOF PLAN	20	3	2	15	ACC-4	62			
63							64			
65							66			
67	CUH-1- 1ST FL	20	3	1	20	CP-1 - GYM	68			
69							70			
71	UH-1 - GARAGE	20	2	2	15	HP-3 - GYM	72			
73							74			
75	UH-1 - GARAGE	20	2	1	20	CP-1 - MAIL RM.	76			
77							78			
79	SPARE	20	1	2	20	UH-2 -WATER METER RM.	80			
81	SPARE	20	1	3	200	BDP-2	82			
83	SPARE	20	1				84			

LK - PROVIDE LOCKING TABS ON C.B.; GF - GFI TYPE C.B.; GP - GFP TYPE C.B.; AF - ARC FAULT TYPE C.B.; ST - SHUNT TRIP TYPE C.B.

NOTES:

APT PANEL PP2BR										
MAIN RATING: 125A			MAIN C.B.: MLO			KAIC RATING: 10KAIC				
VOLTAGE: 120/208V			PHASE: 1			WIRE: 3 MOUNTING: RECESSED				
CIRC. NO.	LOAD DESCRIPTION	BKR. AMPS	NO. OF POLES	NO. OF POLES	BKR. AMPS	LOAD DESCRIPTION	CIRC. NO.	BKR. AMPS	NO. OF POLES	NO. OF POLES
1	REFRIGERATOR RECEP.	AF20	1	1	AF20	APT LOW VOLTAGE PANEL RECEP.	2			
3	COUNTERTOP RECEP.	AF20	1	1	AF20	BEDROOM RECEP.	4			
5	COUNTERTOP RECEP.	AF20	1	1	AF20	BEDROOM RECEP.	6			
7	MICROWAVE RECEP.	AF20	1	1	AF20	LIV./DIN./HALLWAY ROOM RECEP.	8			
9						LIV./DIN./HALLWAY ROOM RECEP.	10			
11	RANGE	GF50	2	1	AF20	LIGHTING	12			
13	RANGE HOOD AND MOTORIZED DAMPER	AF20	1	2	15	HP-1	14			
15	DISHWASHER	GA20	1	1	AF20	COMB. SMOKE/CO ALARMS	16			
17	WASHING MACHINE	GA20	1	2	25	ACC-1	18			
19							20			
21	DRYER	AF30	2	2	25	ACC-1	22			
23	BATHROOM RECEP. & LTG.	AF20	1	2	30	HOT WATER HEATER, HWH-1	24			
25	SPARE	AF20	1	2	30	HOT WATER HEATER, HWH-1	26			
27							28			
29							30			

LK - PROVIDE LOCKING TABS ON C.B.; GF - GFI TYPE C.B.; AF - ARC FAULT TYPE C.B.; ST - SHUNT TRIP TYPE C.B.; GA - COMBINATION GFI/ARC FAULT TYPE CB.

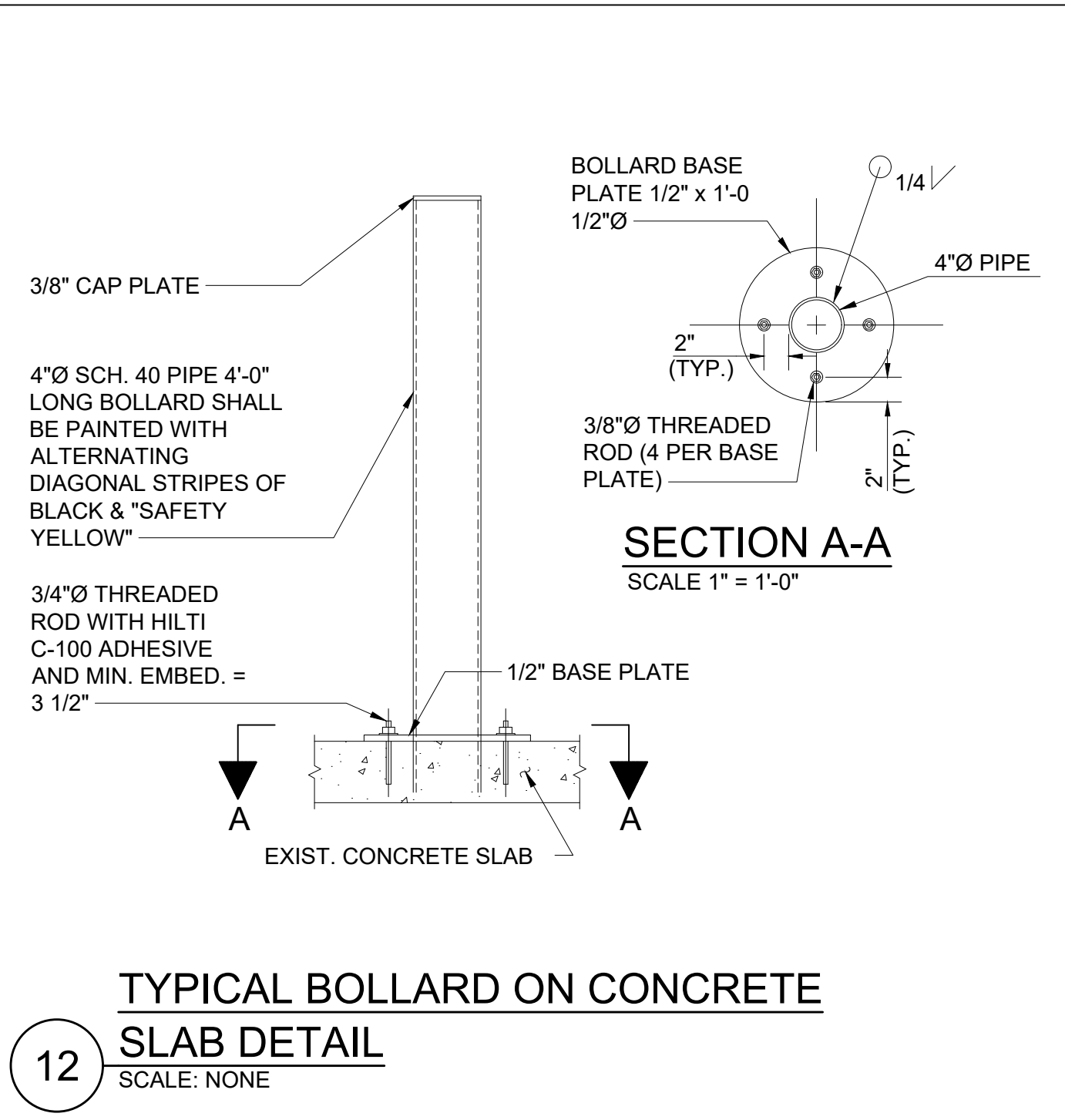
PANELBOARD BDP2 SCHEDULE										
MAIN RATING: 200A			MAIN C.B.: MLO			KAIC RATING: 42KAIC				
VOLTAGE: 208Y/120V			PHASE: 3			WIRE: 4 MOUNTING: SURFACE				
CIRC. NO.	LOAD DESCRIPTION	BKR. AMPS	NO. OF POLES	NO. OF POLES	BKR. AMPS	LOAD DESCRIPTION	CIRC. NO.	BKR. AMPS	NO. OF POLES	NO. OF POLES
1	SITE LIGHTING	20	1	1	20	EXTERIOR BLDG. MOUNTED LIGHTING	2			
3	SITE LIGHTING	20	1	1	20	EXTERIOR BLDG. MOUNTED LIGHTING	4			
5	SITE LIGHTING	20	1	1	20	EXTERIOR STEP LIGHTING	6			
7	ELEV. PIT LIGHT & GFI REC.	20	1	1	20	MOTORIZED DAMPERS- 3RD FLOOR.	8			
9	ELEV. CAB. LIGHT.	20	1				10			
11	ELEV. SUMP PUMP CONTROLLER	20	1	3	15	HEAT TRACE CONTOLLER.	12			
13	SECURITY/TELCO. EQPT.	20	1				14			
15	SECURITY/TELCO. EQPT.	20	1	1	20	DRY VALVE COMPRESSOR	16			
17	REC - MAIN ELEC RM	20	1	1	20	CFSD	18			
19	1ST FL. MAIL RM. REC AND LIGHT	20	1	1	20	CFSD	20			
21	SPARE	20	1	1	20	SPARE	22			
23	SPARE	20	1	1	20	SPARE	24			
25	SPARE	20	1	1	20	SPARE	26			
27	SPARE	20	1	1	20	SPARE	28			
29	SPARE	20	1	1	20	SPARE	30			
31	SPARE	20	1	1	20	SPARE	32			
33	SPARE	20	1	1	20	SPARE	34			
35	SPARE	20	1	1	20	SPARE	36			
37	SPARE	20	1	1	20	SPARE	38			
39	SPARE	20	1	1	20	SPARE	40			
41	SPARE	20	1	1	20	SPARE	42			

LK - PROVIDE LOCKING TABS ON C.B.; GF - GFI TYPE C.B.; GP - GFP TYPE C.B.; AF - ARC FAULT TYPE C.B.; ST - SHUNT TRIP TYPE C.B.

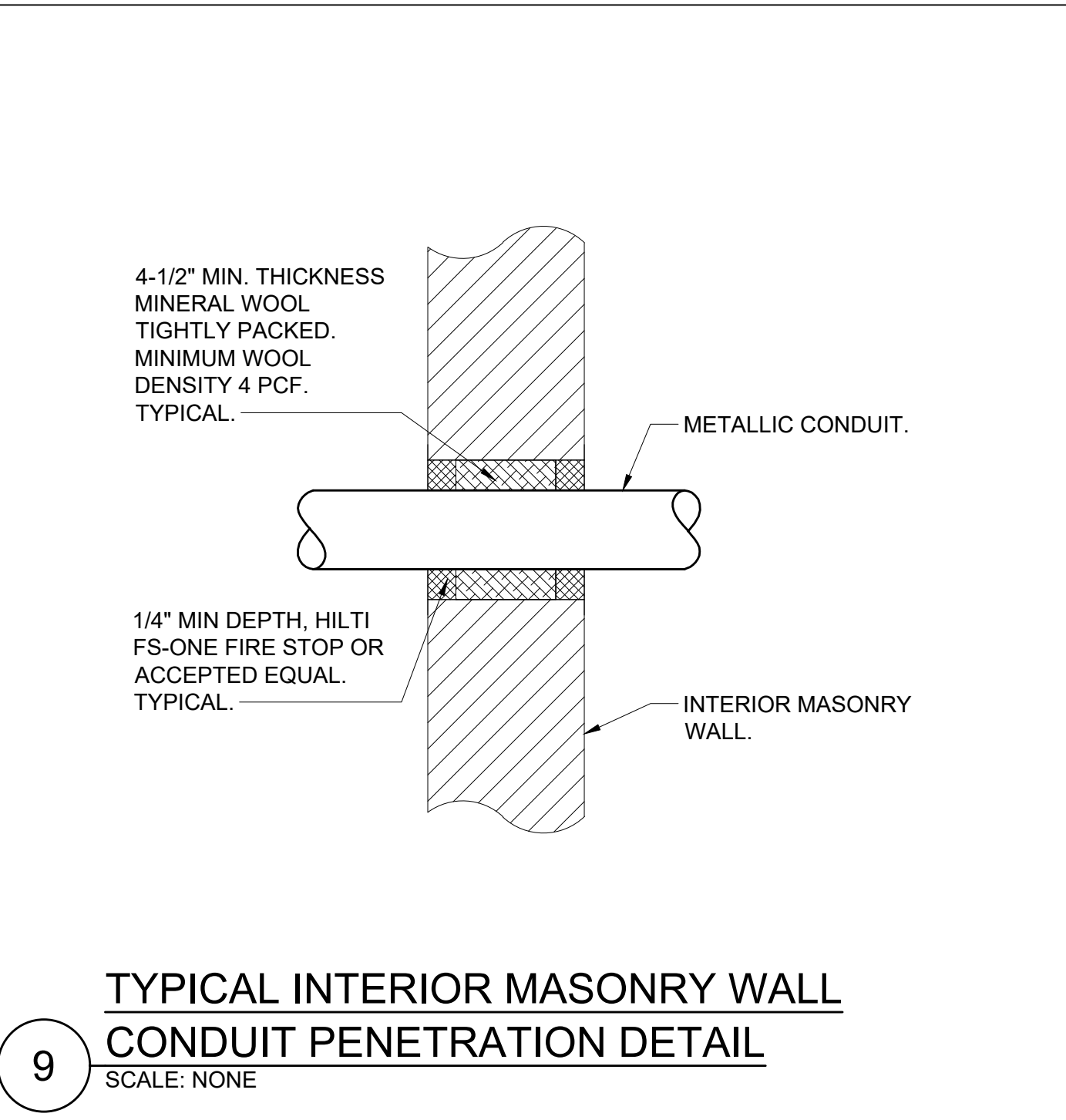
NOTES:

APT PANEL PP1BR										
MAIN RATING: 125A			MAIN C.B.: MLO			KAIC RATING: 10KAIC				
VOLTAGE: 120/208V			PHASE: 1			WIRE: 3 MOUNTING: RECESSED				
CIRC. NO.	LOAD DESCRIPTION	BKR. AMPS	NO. OF POLES	NO. OF POLES	BKR. AMPS	LOAD DESCRIPTION	CIRC. NO.	BKR. AMPS	NO. OF POLES	NO. OF POLES
1	REFRIGERATOR RECEP.	AF20	1	1	AF20	APT LOW VOLTAGE PANEL RECEP.	2			
3	COUNTERTOP RECEP.	AF20	1	1	AF20	BEDROOM RECEP.	4			
5	COUNTERTOP RECEP.	AF20	1	1	AF20	SPARE	6			
7	MICROWAVE RECEP.	AF20	1	1	AF20	LIV./DIN./HALLWAY ROOM RECEP.	8			
9						LIV./DIN./HALLWAY ROOM RECEP.	10			
11	RANGE	GF50	2	1	AF20	LIGHTING	12			
13	RANGE HOOD AND MOTORIZED DAMPER	AF20	1	2	15	HP-1	14			
15	DISHWASHER	GA20	1	1	AF20	COMB. SMOKE/CO ALARMS	16			
17	WASHING MACHINE	GA20	1	2	25	ACC-1	18			
19							20			
21	DRYER	AF30	2	2	25	ACC-1	22			
23	BATHROOM RECEP. & LTG.	AF20	1	2	30	HOT WATER HEATER, HWH-1	24			
25	SPARE	AF20	1	2	30	HOT WATER HEATER, HWH-1	26			
27							28			
29							30			

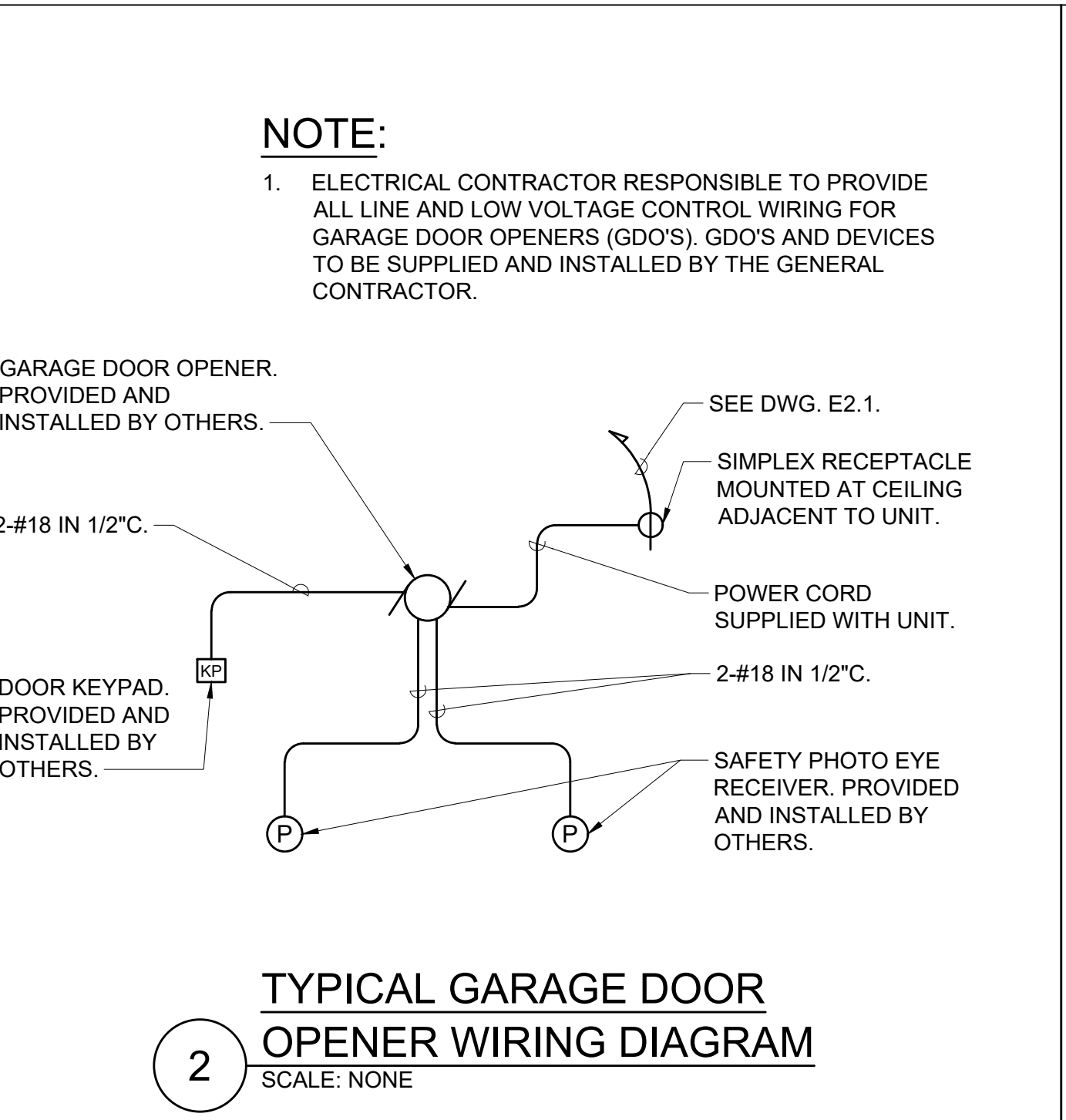
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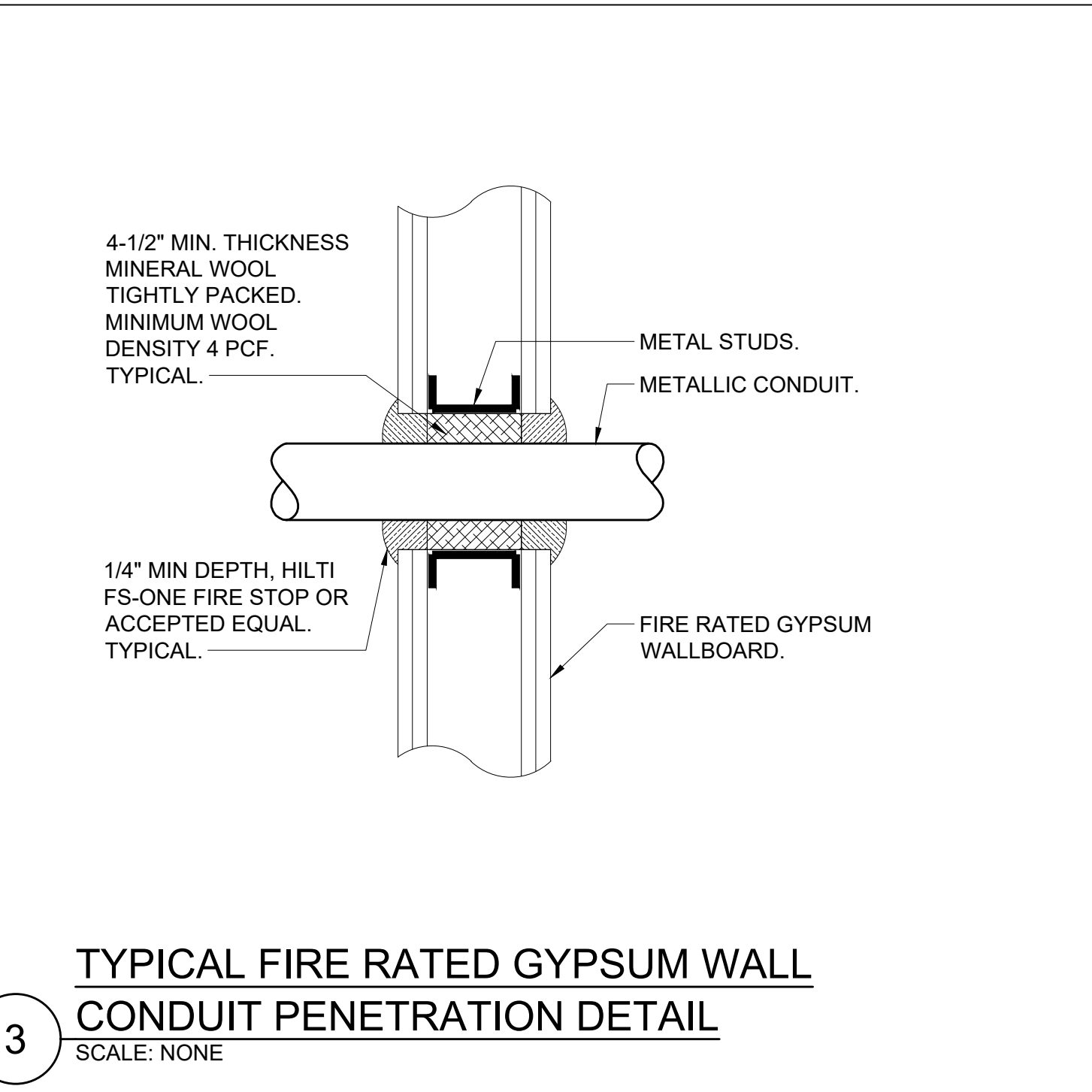
12 TYPICAL BOLLARD ON CONCRETE SLAB DETAIL SCALE: NONE



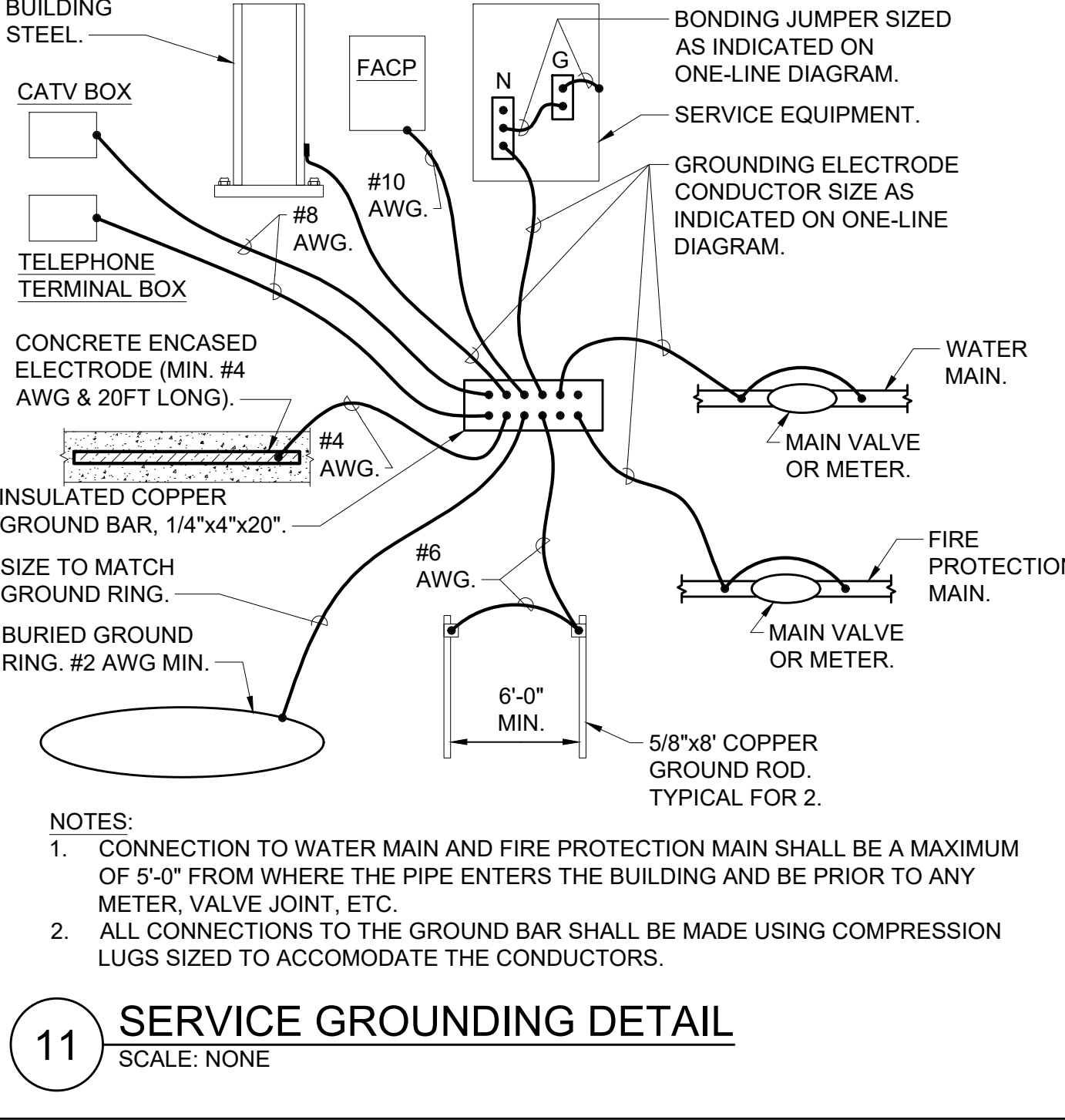
9 TYPICAL INTERIOR MASONRY WALL CONDUIT PENETRATION DETAIL SCALE: NONE



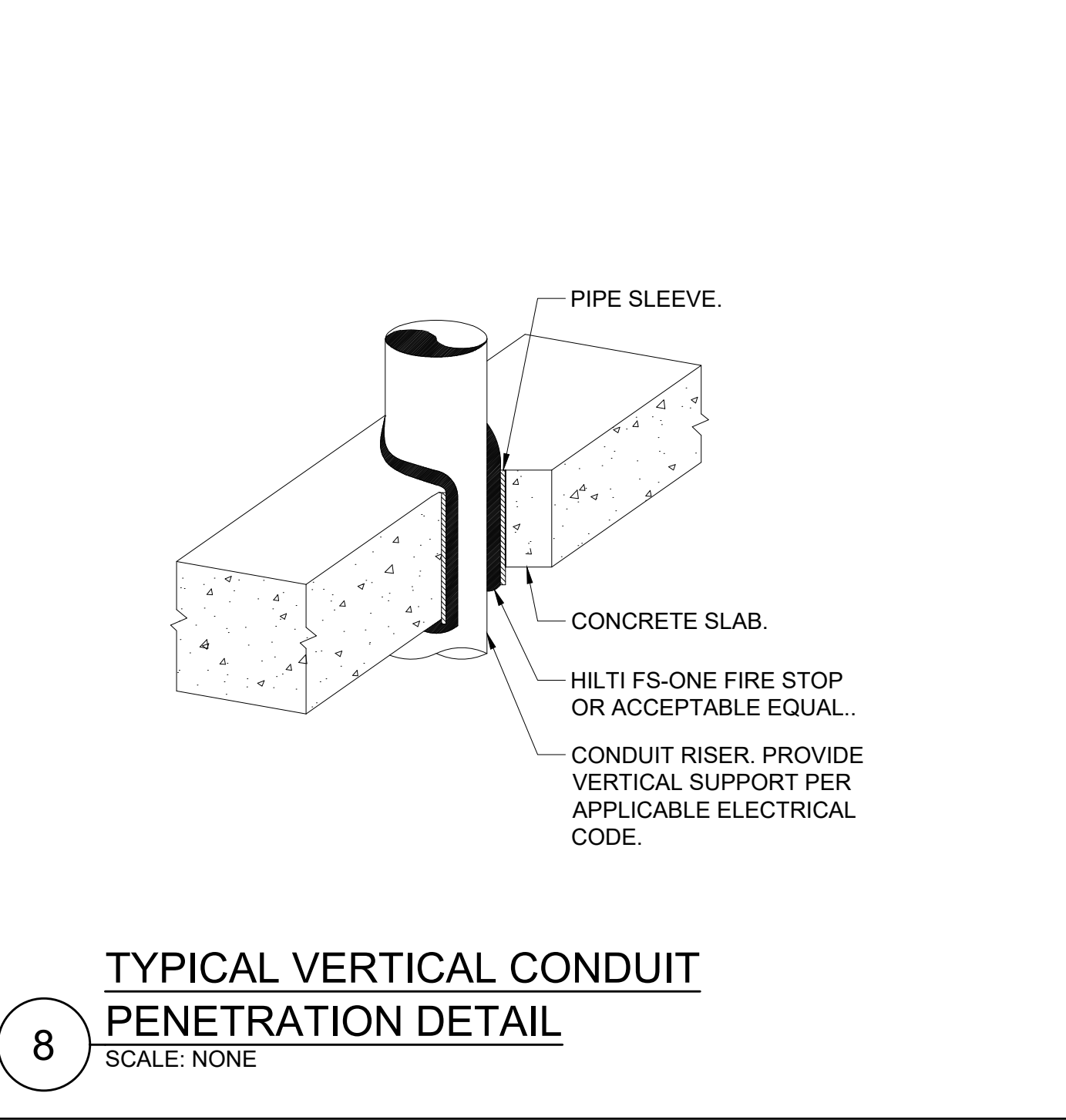
2 TYPICAL GARAGE DOOR OPENER WIRING DIAGRAM SCALE: NONE



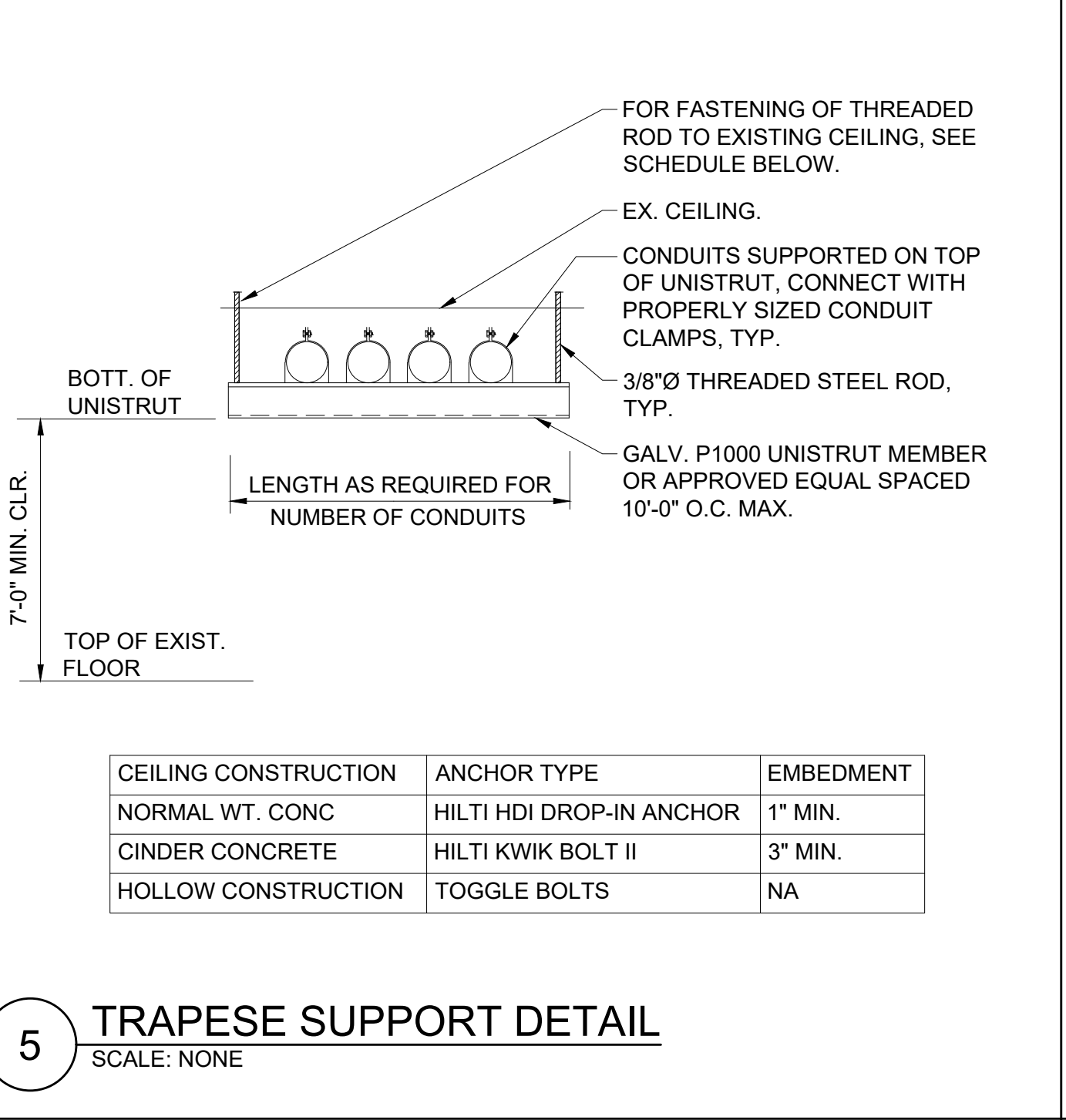
3 TYPICAL FIRE RATED GYPSUM WALL CONDUIT PENETRATION DETAIL SCALE: NONE



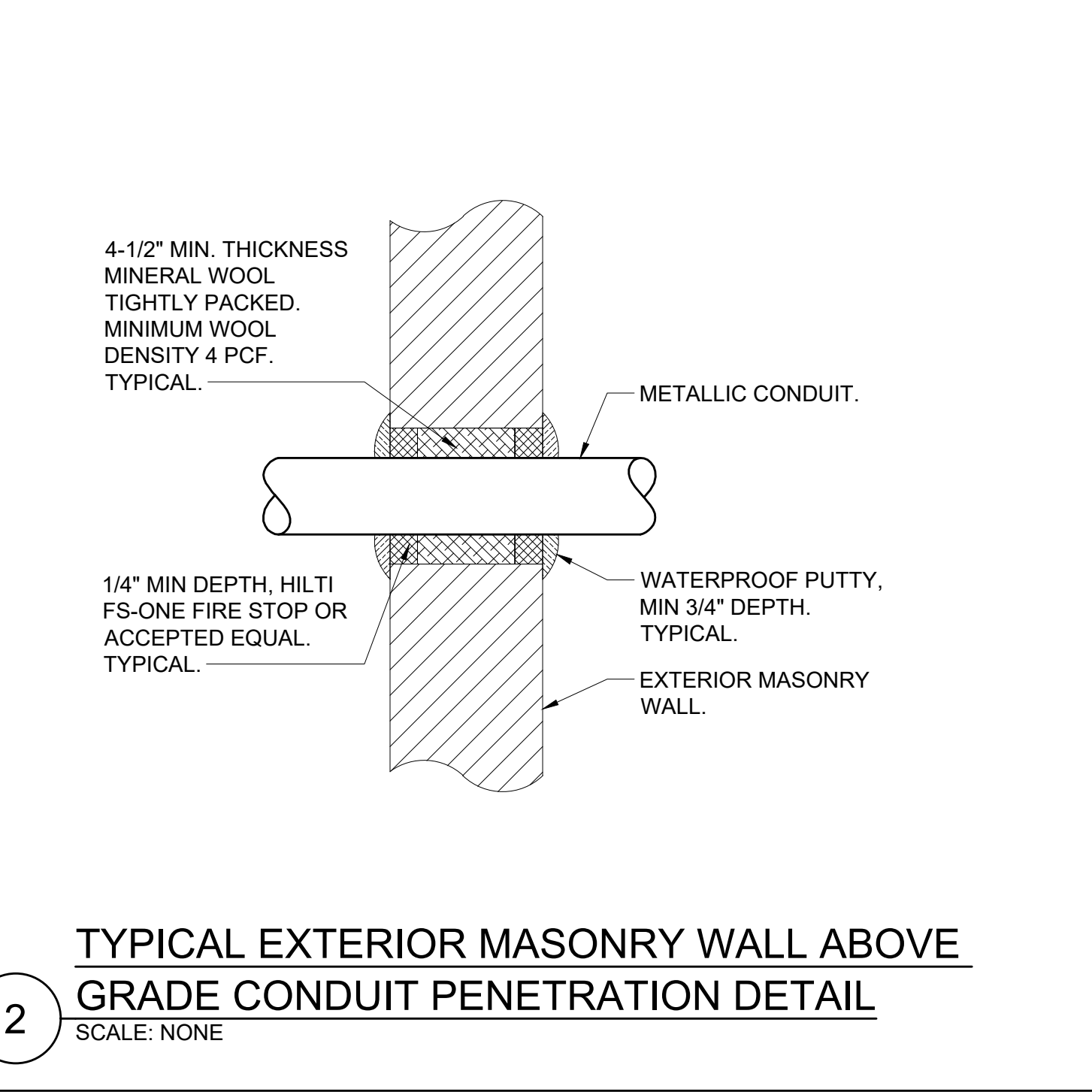
11 SERVICE GROUNDING DETAIL SCALE: NONE



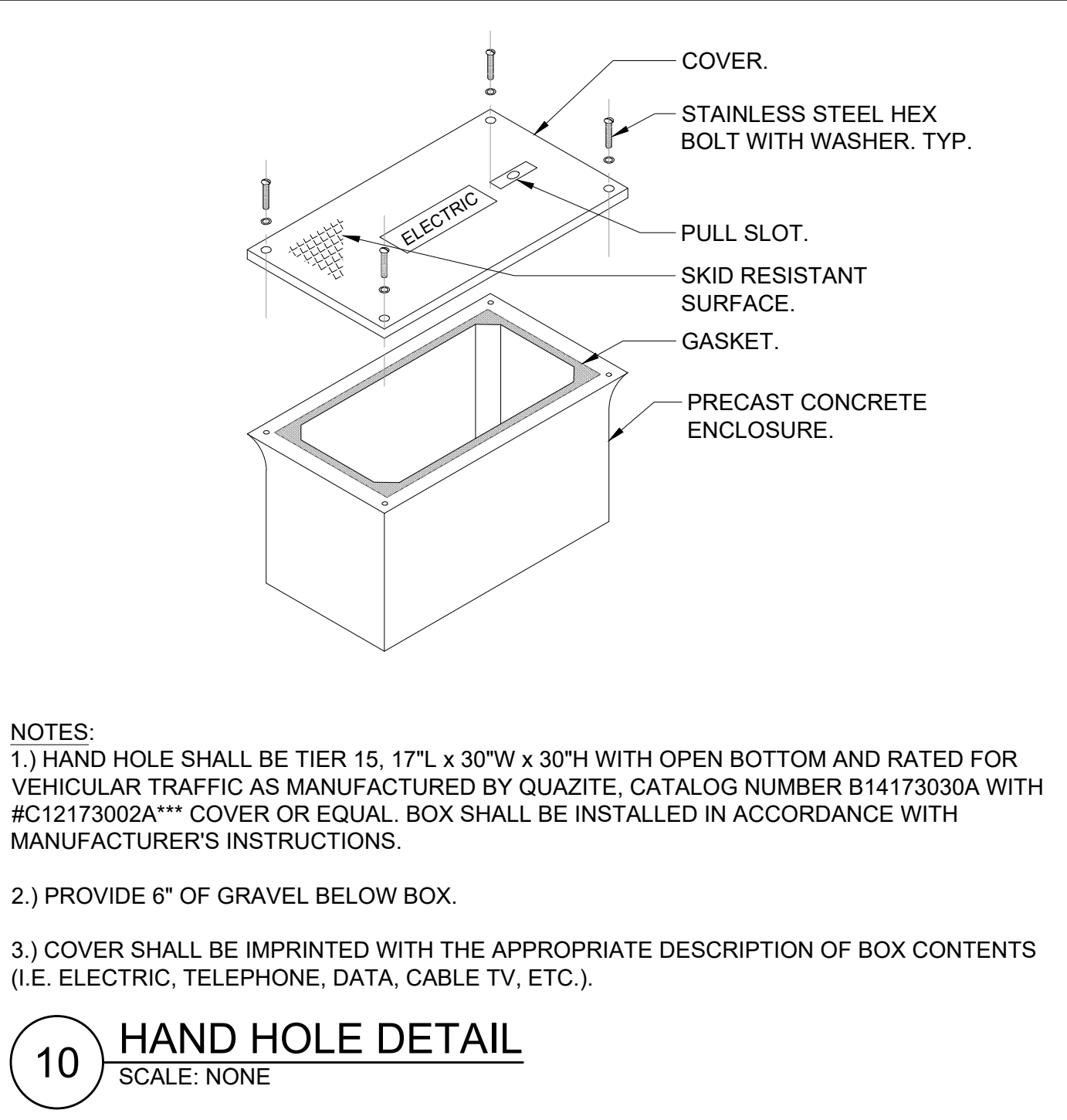
8 TYPICAL VERTICAL CONDUIT PENETRATION DETAIL SCALE: NONE



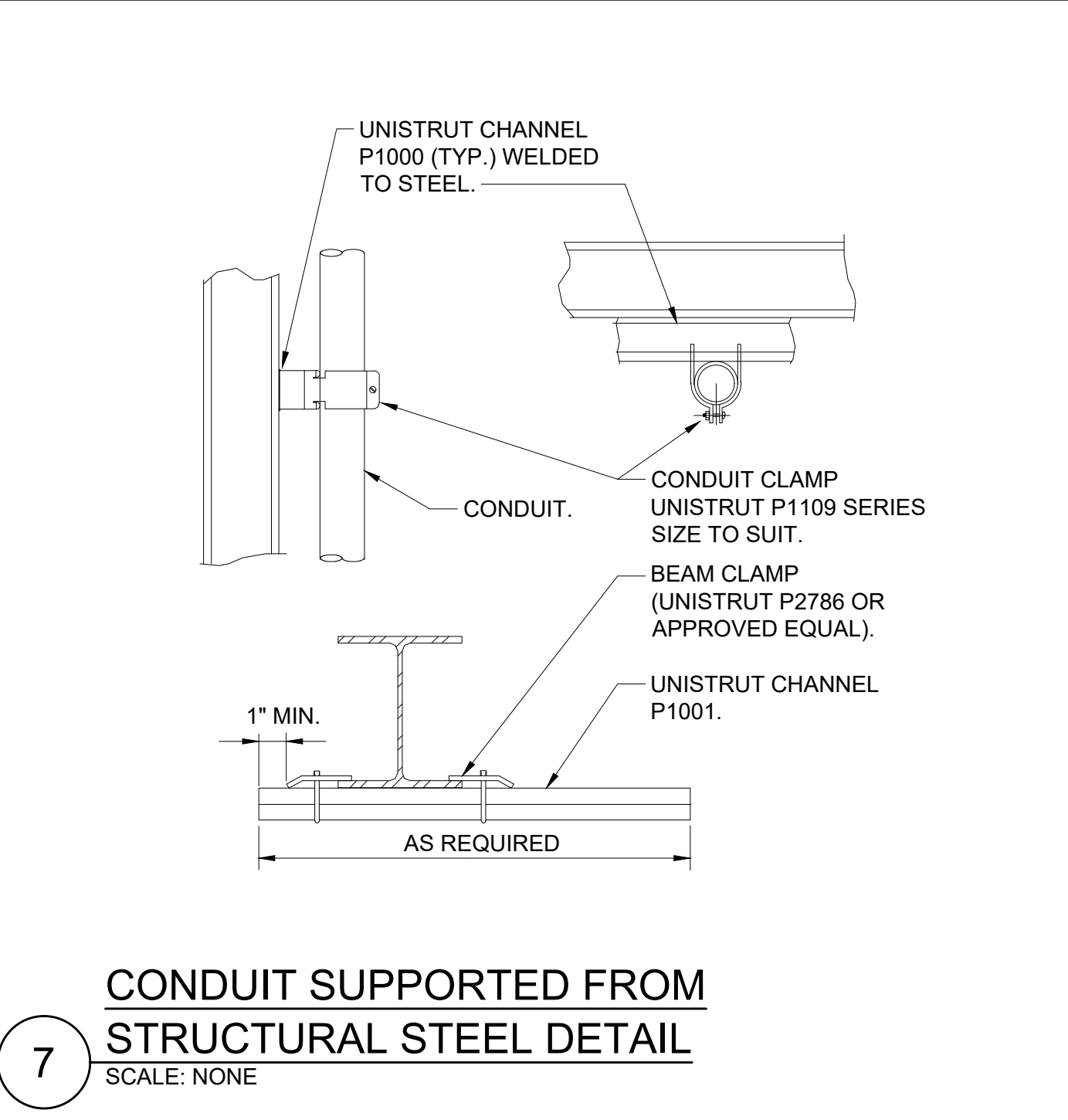
5 TRAPESE SUPPORT DETAIL SCALE: NONE



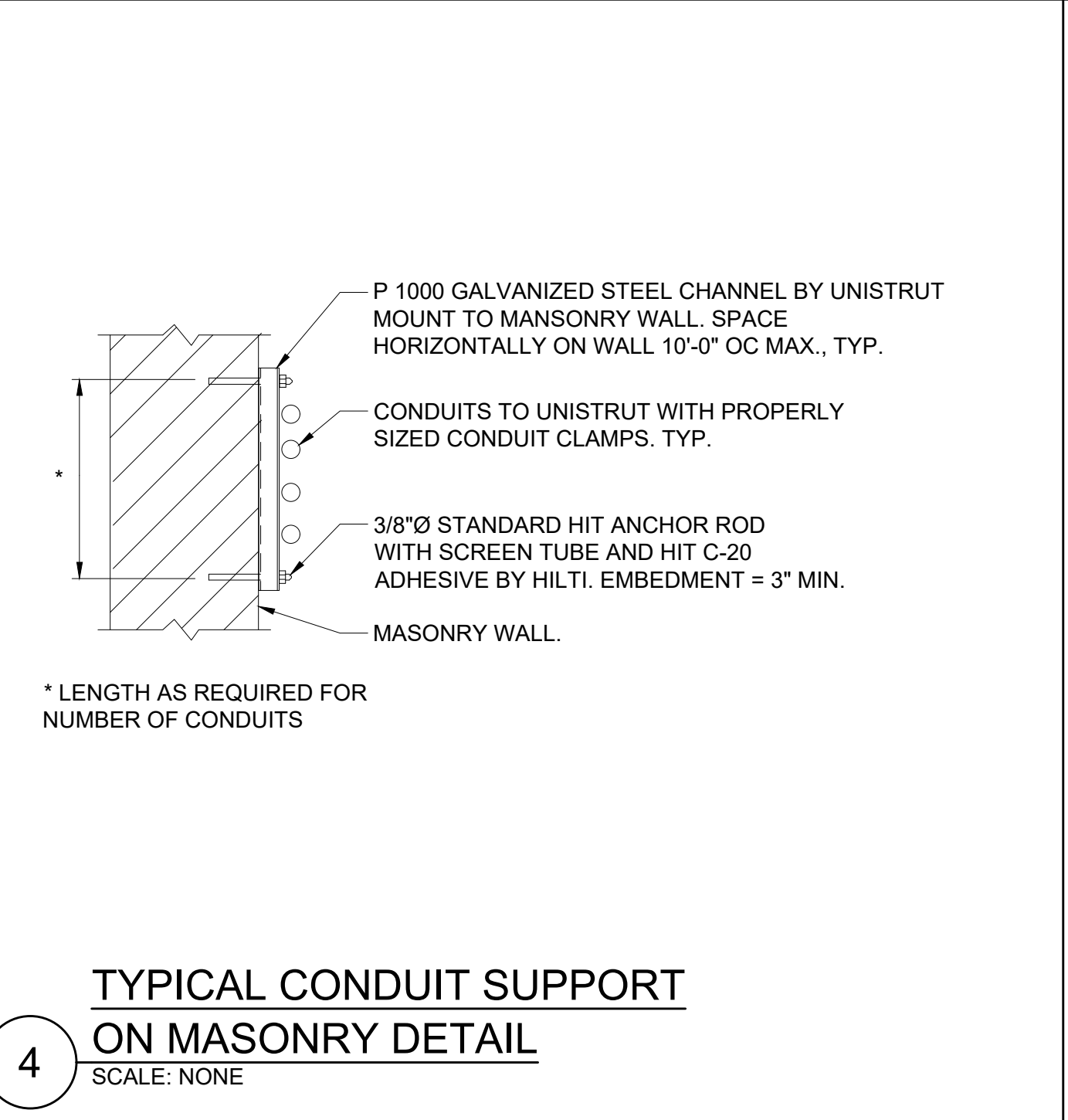
2 TYPICAL EXTERIOR MASONRY WALL ABOVE GRADE CONDUIT PENETRATION DETAIL SCALE: NONE



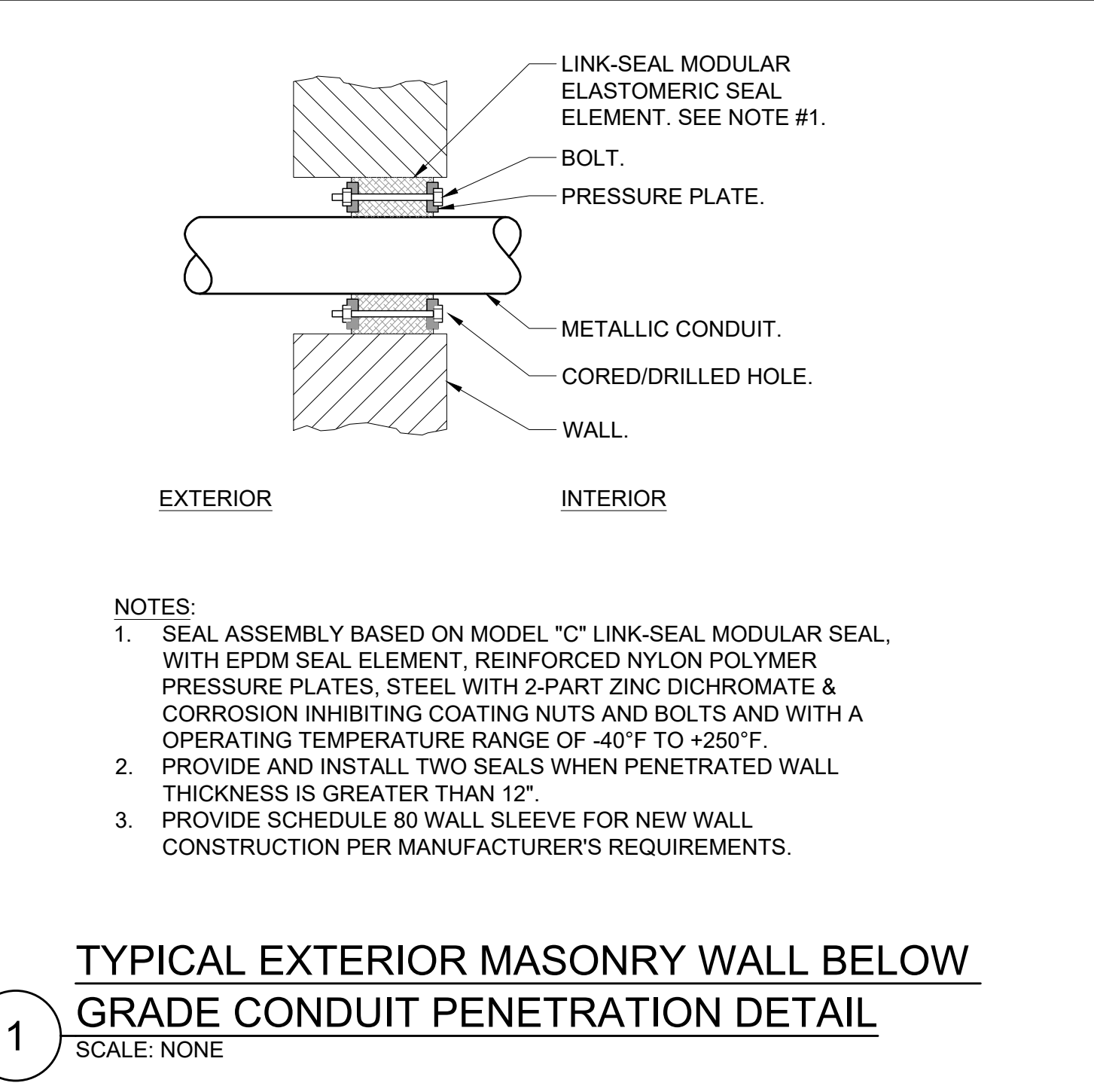
10 HAND HOLE DETAIL SCALE: NONE



7 CONDUIT SUPPORTED FROM STRUCTURAL STEEL DETAIL SCALE: NONE



4 TYPICAL CONDUIT SUPPORT ON MASONRY DETAIL SCALE: NONE



1 TYPICAL EXTERIOR MASONRY WALL BELOW GRADE CONDUIT PENETRATION DETAIL SCALE: NONE

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SEAL

PROJECT
LIBERTY PLAZA SUITES
 500 COMMERCE ST.
 TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020
 PROJECT NO: NDM0001.00
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DRAWING TITLE
ELECTRICAL DETAILS

SHEET NO.
E7.1

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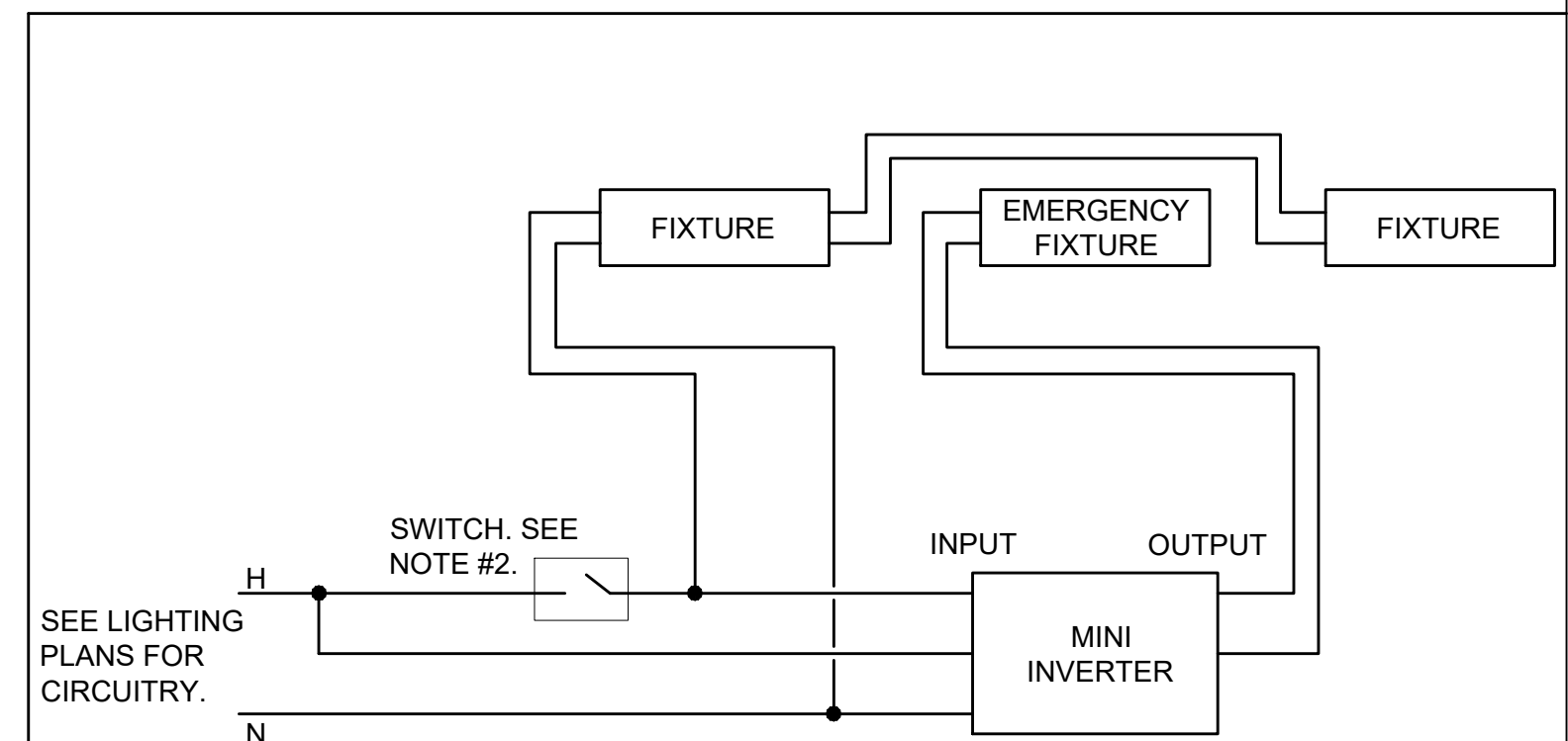
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EMERGENCY FIXTURE MINI INVERTER SYSTEM WIRING DIAGRAM

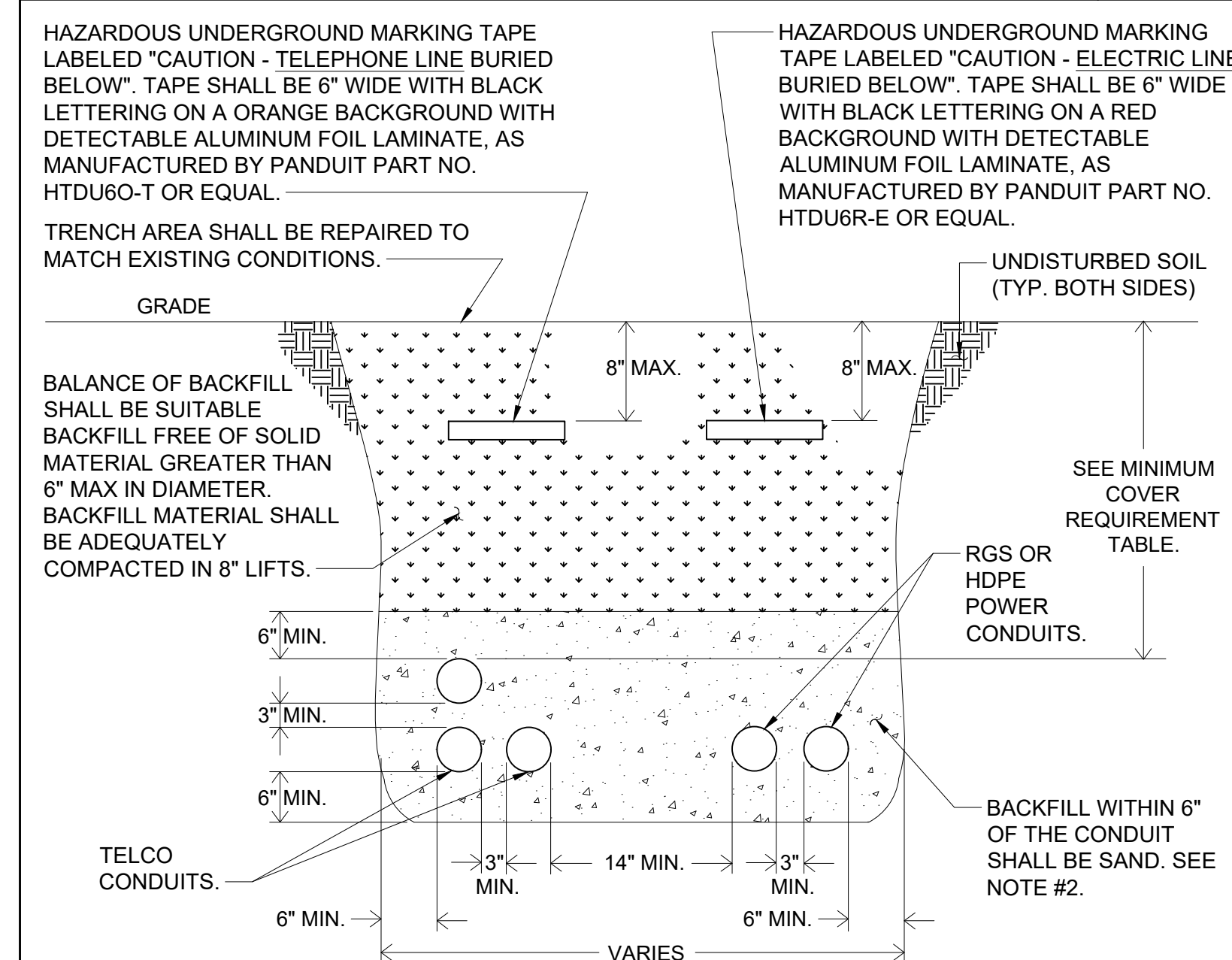
SCALE: NONE

NOTES:

- MINI INVERTER SHALL HAVE 90 MINUTES OF BATTERY BACKUP TIME WITH 91% LUMEN OUTPUT FROM FIXTURES MINIMUM. UNIT INPUT/OUTPUT VOLTAGE SHALL BE 120/277V FIELD SELECTABLE. MINI INVERTER TO BE MANUFACTURED BY IOTA, IIS SERIES OR APPROVED EQUAL.
- "SWITCH" REPRESENTS A SINGLE POLE SWITCH, A SET OF CONTACTS, A COMBINATION OF 3 WAY AND 4 WAY SWITCHES, ETC. SEE DRAWINGS FOR ACTUAL SWITCH CONFIGURATION.
- SEE LIGHTING PLANS FOR ACTUAL NUMBER OF LIGHT FIXTURES ON CIRCUIT.

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SEAL



TRENCHING DETAIL FOR CONDUIT

SCALE: NONE

MINIMUM COVER REQUIREMENT TABLE

LOCATION	NONMETALLIC RACEWAYS LISTED FOR DIRECT BURIAL WITHOUT CONCRETE ENCASEMENT OR OTHER APPROVED RACEWAYS
ALL LOCATION NOT SPECIFIED BELOW.	18"
IN TRENCH BELOW 2-IN. THICK CONCRETE OR EQUIVALENT.	12"
UNDER MINIMUM OF 4-IN. THICK CONCRETE EXTERIOR SLAB WITH NO VEHICULAR TRAFFIC AND THE SLAB EXTENDING NOT LESS THAN 6 IN. BEYOND THE UNDERGROUND INSTALLATION.	4" SEE NOTE #2.
UNDER STREETS, HIGHWAYS, ROADS, ALLEYS, DRIVEWAYS, AND PARKING LOTS.	24"

NOTES:

- DETAIL SHOWN FOR INFORMATION PURPOSES. SAME CONCEPT SHALL ALSO APPLY FOR SINGLE CONDUITS.
- SAND MAY BE OMITTED FOR INSTALLATIONS WHERE COVER REQUIREMENTS ARE 6" OR LESS.

PROJECT

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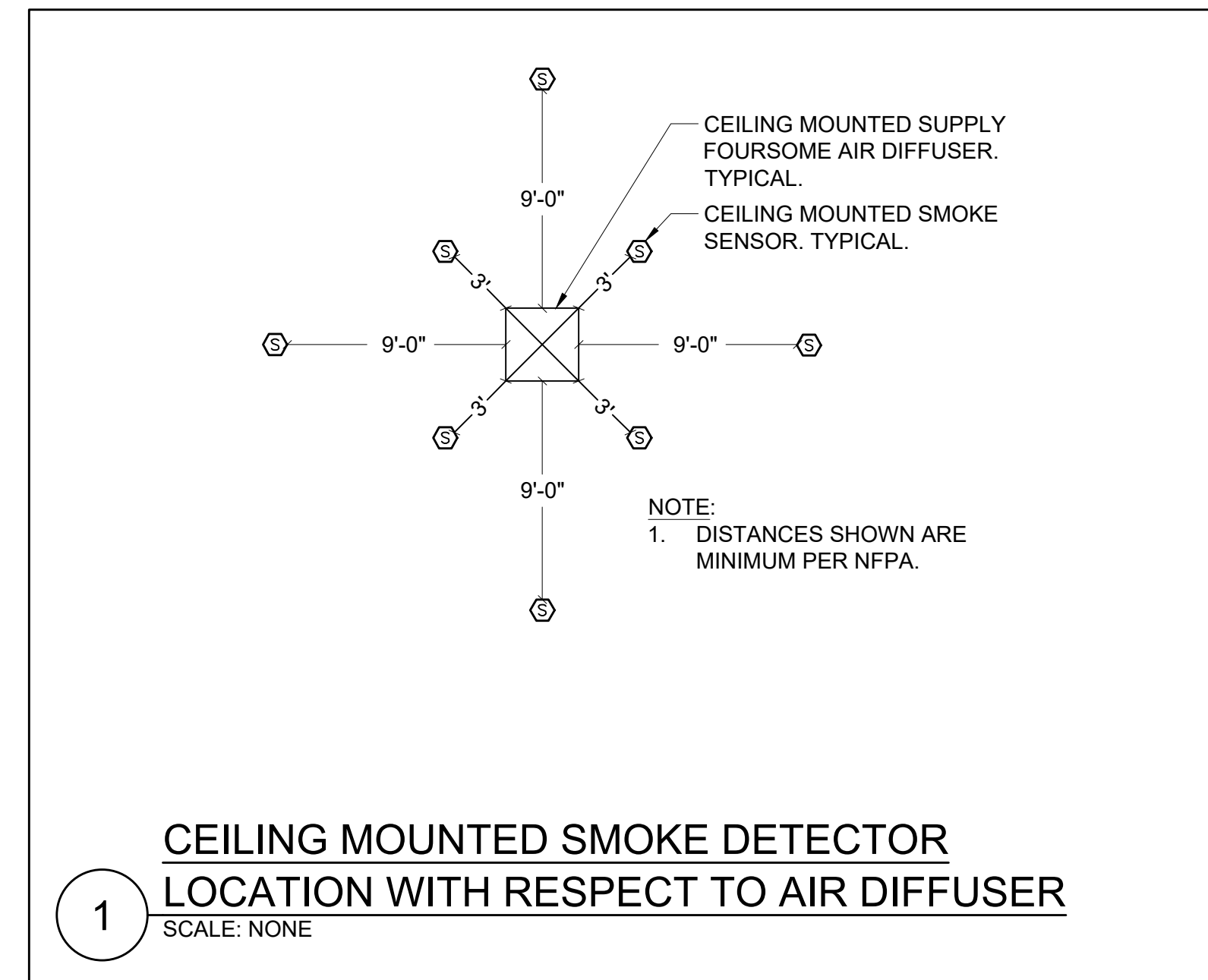
SCALE: AS NOTED

DRAWING TITLE

ELECTRICAL
DETAILS

SHEET NO.

E7.3



1 CEILING MOUNTED SMOKE DETECTOR
LOCATION WITH RESPECT TO AIR DIFFUSER
SCALE: NONE

SYMBOLS AND ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
[F]	-	FIRE ALARM MANUAL PULL STATION
[EK]	-	FIRE ALARM COMBINATION AUDIO/VISUAL DEVICE (15/75 CD - STROBE)
[EK] ¹¹⁰	-	FIRE ALARM COMBINATION AUDIO/VISUAL DEVICE (110 CD - STROBE)
[F]	-	FIRE ALARM STROBE 15/75 CD
[F] ¹¹⁰	-	FIRE ALARM STROBE 110 CD
[CK]	-	CARBON MONOXIDE DEVICE (15/75 CD - STROBE)
[S] EL, SH, SC	-	SMOKE DETECTOR. EL - ELEVATOR LOBBY; SH - SMOKE HATCH; SC - PLENUM RATED ABOVE CEILING
[CO] SB	SB	FIRE ALARM DEVICE. SB - SOUNDER BASE FOR SMOKE OR CARBON MONOXIDE DETECTOR
[S] AC	-	DUCT MOUNTED SMOKE DETECTOR
[H]	-	HEAT DETECTOR
[F]	-	FIRE ALARM MINI-HORN
[TS]	-	FIRE ALARM TAMPER SWITCH
[WF]	-	FIRE ALARM WATER FLOW SWITCH
[LT]	-	FIRE WATER TANK LOW TEMP SENSOR
[LW]	-	FIRE WATER TANK LOW WATER
[HW]	-	FIRE WATER TANK HIGH WATER
[LA]	-	DRY VALVE LOW AIR
[HA]	-	DRY VALVE HIGH AIR
[ANN]	-	FIRE ALARM ANNUNCIATOR PANEL
[CM]	CM	FIRE ALARM CONTROL MODULE
[MM]	MM	FIRE ALARM MONITORING MODULE
[FACP]	FACP	FIRE ALARM CONTROL PANEL
[BPS]	BPS	BOOSTER POWER SUPPLY
[R]	-	FIRE ALARM RELAY
-w-	EOL	END OF LINE RESISTOR

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DRAWING TITLE
 FIRE ALARM ABBREVIATIONS AND DETAILS

SHEET NO.
FA0.1

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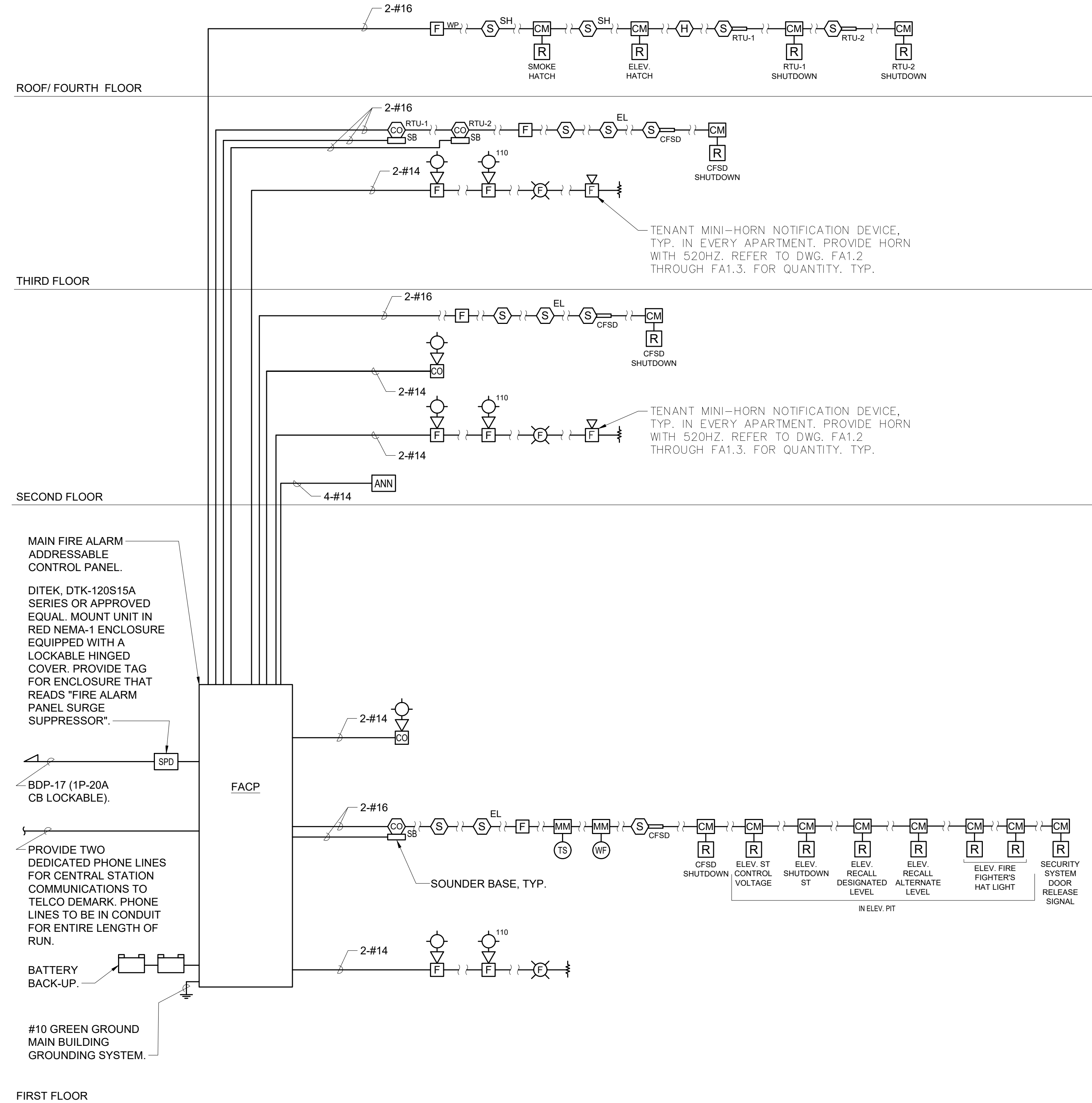
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RISER NOTES:

- THIS IS NOT A POINT-TO-POINT WIRING DIAGRAM. PRIOR TO STARTING ANY WORK, A WORKING POINT-TO-POINT WIRING DIAGRAM SHALL BE OBTAINED FROM FIRE ALARM SYSTEM VENDOR AND PERFORM ALL WORK IN ACCORDANCE WITH THAT DIAGRAM.
- ELECTRICAL CONTRACTOR SHALL INCLUDE IN THE BASE BID ALL 120V CIRCUITS THAT ARE REQUIRED TO SUPPORT THE OPERATION OF THE FIRE ALARM SYSTEM. COORDINATE REQUIREMENTS WITH THE FIRE ALARM VENDOR.
- QUANTITY OF STROBE BOOSTER POWER SUPPLY PANELS AND ASSOCIATED 120V CIRCUITS SHALL BE COORDINATED WITH SELECTED FIRE ALARM SYSTEM MANUFACTURER AND/OR FIRE ALARM VENDOR.
- PROVIDE ALL NECESSARY WIRING, MODULES, COMPONENTS, EXTENDER CABINET, AND PROGRAMMING REQUIRED TO CONNECT NEW DEVICES TO EXISTING SYSTEM.
- PROVIDE ALL NECESSARY HARDWARE AND PROGRAMMING TO PROVIDE THE CLIENT WITH 20% SPARE CAPACITY ON ALL INITIATING AND INDICATING CIRCUITS.
- PROVIDE AS PART OF THE BASE CONTRACT ALL LABOR AND MATERIALS TO INSTALL FIFTEEN (15) ADDITIONAL FIRE ALARM DEVICES DURING CONSTRUCTION. THE ADDITIONAL FIRE ALARM DEVICES CAN BE BUT NOT LIMITED TO SMOKE DETECTOR, HEAT DETECTOR, DOOR HOLDER, DUCT DETECTOR, FAN SHUTDOWN, TAMPER SWITCHES, FLOW SWITCHES, ETC. INCLUDE ALL LABOR AND MATERIALS INCLUDING WIRE, BOXES, CONDUIT, TERMINATIONS, HARDWARE, SOFTWARE, PROGRAMMING AND TESTING.
- HEAT DETECTORS IN ELEVATOR MACHINE ROOM AND/OR SHAFT SHALL HAVE A LOWER TEMPERATURE RATING THAN THE NEARBY SPRINKLER HEAD(S). HEAT DETECTORS SHALL BE INSTALLED 2'-0" MAXIMUM AWAY FROM EACH SPRINKLER HEAD IN THE ELEVATOR MACHINE ROOM AND EACH HEAD LOCATED GREATER THAN 2'-0" ABOVE THE FLOOR OF THE ELEVATOR SHAFT. UPON ACTIVATION OF A HEAT DETECTOR USED FOR ELEVATOR POWER SHUTDOWN, THERE SHALL BE A DELAY IN THE ACTIVATION OF THE POWER SHUNT TRIP. THIS DELAY SHALL BE THE TIME THAT IT TAKES THE ELEVATOR CAB TO TRAVEL FROM THE TOP OF THE HOISTWAY TO THE LOWEST RECALL LEVEL. COORDINATE WITH ELEVATOR CONTRACTOR.
- DUCT SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR AND INSTALLED IN DUCT WORK BY MECHANICAL CONTRACTOR.
- CARBON MONOXIDE DETECTORS SHALL BE SUPERVISED BY FIRE ALARM SYSTEM AND SHALL NOT SEND AN ALARM SIGNAL TO THE SYSTEM. THESE DETECTORS SHALL BE MOUNTED ON SOUNDER BASES WHICH PROVIDE LOCAL ALARM ONLY IN A TEMPORAL 4 PATTERN OR CONSTANT TONE.
- ALL VISUAL ALARM DEVICES SHALL BE ADA COMPLIANT.
- ELECTRICAL CONTRACTOR TO PROVIDE A RELAY FOR EACH SMOKE DAMPER/COMBINATION FIRE SMOKE DAMPER. RELAYS ARE NOT SHOWN ON PLANS FOR CLARITY.
- DOOR HOLDERS SHALL BE FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
- PROVIDE REMOTE LED INDICATORS FOR ALL CONCEALED FIRE ALARM DEVICES SUCH AS DUCT SMOKE DETECTORS, ABOVE CEILING SMOKE DETECTORS, ELEVATOR SHAFT DETECTORS, MONITORING AND CONTROL MODULES, ETC. LED INDICATORS FOR DEVICES MOUNTED ABOVE DROP CEILINGS SHALL BE MOUNTED BELOW ASSOCIATED DEVICES. LABEL INDICATORS TO INDICATE DEVICE SERVED.
- CONTRACTOR TO PROVIDE SMOKE DETECTOR(S) IN ALL LOCATIONS CONTAINING FIRE ALARM CONTROL PANELS, DATA GATHERING PANELS, BOOSTER POWER SUPPLIES, OR ANY OTHER FIRE ALARM SYSTEM PANEL, WHETHER SHOWN ON PLANS OR NOT.
- CONTROL MODULES USED TO INITIATE EMERGENCY CONTROL FUNCTIONS THAT DO NOT FAIL IN A SAFE POSITION SHALL BE LOCATED WITHIN 3 FEET OF THE COMPONENT CONTROLLING THE EMERGENCY CONTROL FUNCTION PER NFPA 72. THIS INCLUDES, BUT IS NOT LIMITED TO, CONTROL MODULES CONNECTED TO FAN MOTOR CONTROLLERS, ELEVATOR CONTROLLERS, ETC.
- BATTERY BACKUP FOR FACP SHALL PROVIDE A MINIMUM OF 24 HOURS OF STAND BY POWER FOLLOWED BY 45 MINUTES OF ALARM.
- ALL FIRE ALARM PANELS, JUNCTION BOX COVERS, ETC SHALL BE PAINTED "FIRE DEPARTMENT RED".
- NOTIFICATION CIRCUITS FOR APARTMENT MINI-HORN DEVICES SHALL BE SIZED SUCH THAT AUDIO DEVICES CAN BE REPLACED WITH VISUAL/AUDIO DEVICES TO COMPLY WITH THE REQUIREMENT THAT GROUP R-2 DWELLING UNITS OR SLEEPING UNITS SHALL BE PROVIDED WITH THE CAPABILITY TO SUPPORT VISIBLE ALARM NOTIFICATION APPLIANCES.



1 FIRE ALARM RISER DIAGRAM
SCALE: NONE

NO.	REVISION/ISSUE	DATE
4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1	ISSUED FOR PROGRESS	02-19-2021

SEAL

PROJECT
LIBERTY PLAZA SUITES
500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE:	AUGUST 12, 2020
PROJECT NO.:	NDM0001.00
DRAWN BY:	CT
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SCALE:	AS NOTED

DRAWING TITLE
FIRE ALARM RISER DIAGRAM

SHEET NO.
FA1.0

LIBERTY PLAZA SUITES

500 COMMERCE STREET
HAWTHORNE, NY 10532

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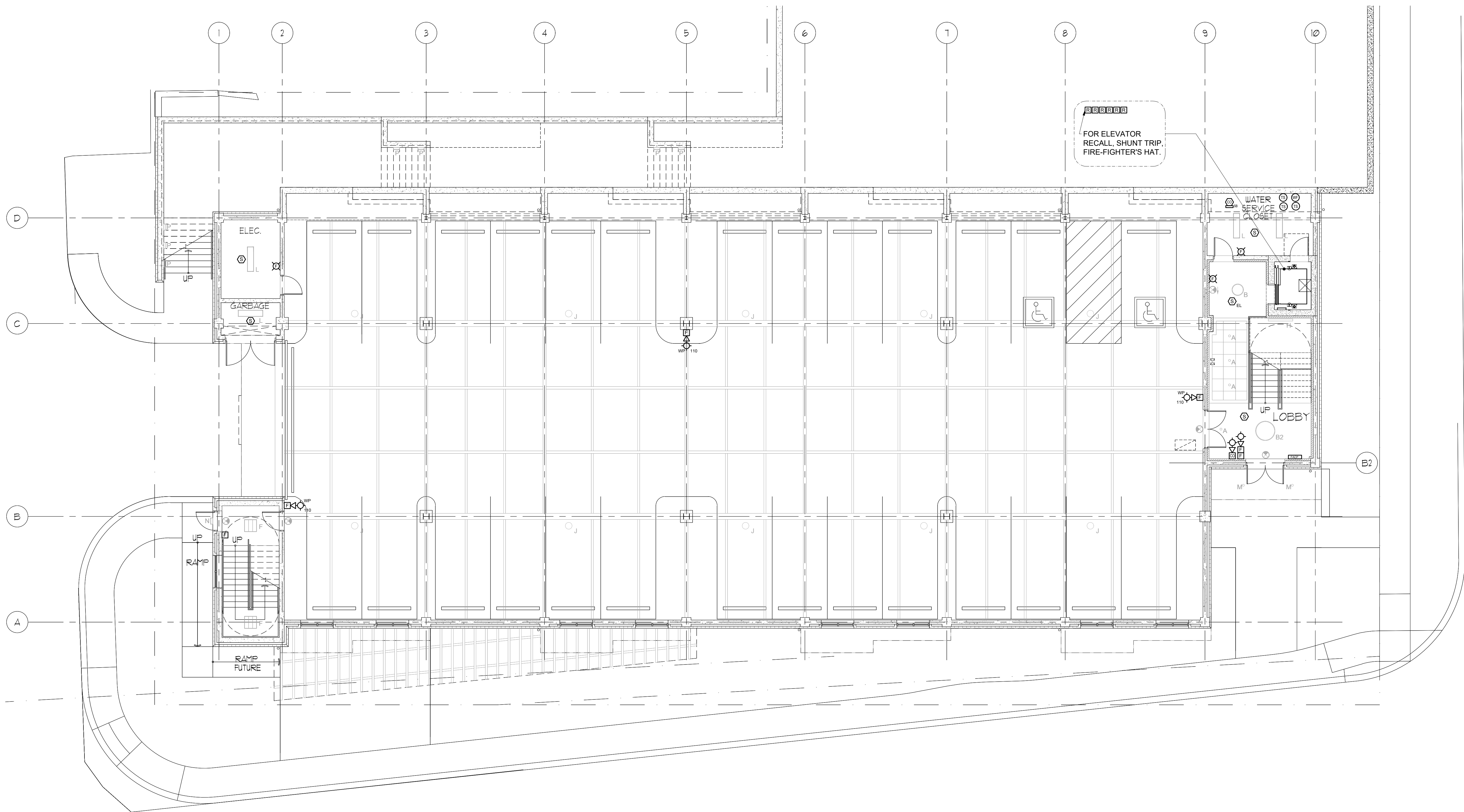
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DRAWING TITLE
FIRE ALARM FIRST FLOOR PLAN

SHEET NO.
FA1.1

1 FIRE ALARM FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"
NORTH

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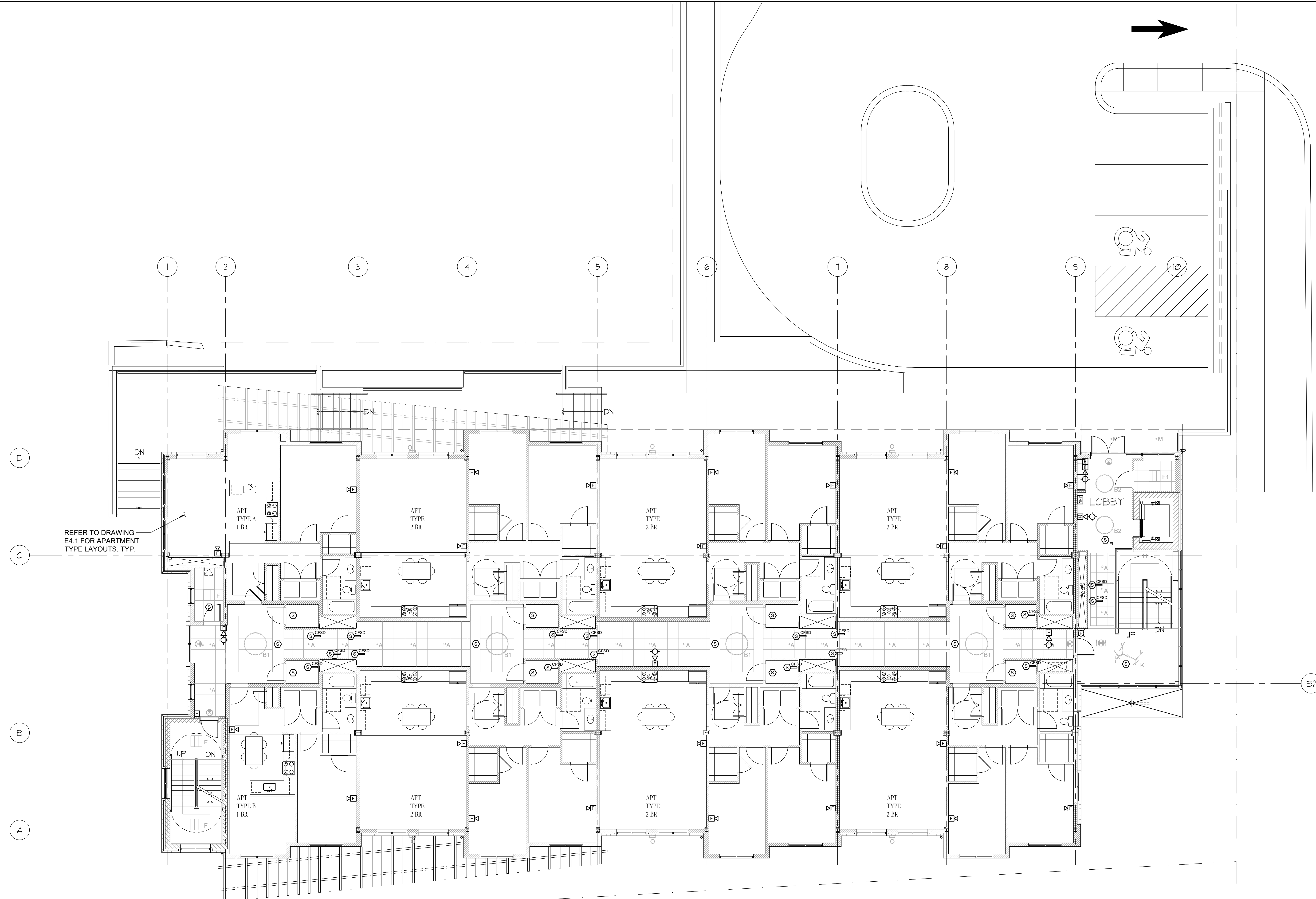
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TYPE LAYOUTS. TYP.

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DRAWING TITLE
FIRE ALARM SECOND FLOOR PLAN

SHEET NO.
FA1.2

1 FIRE ALARM SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"
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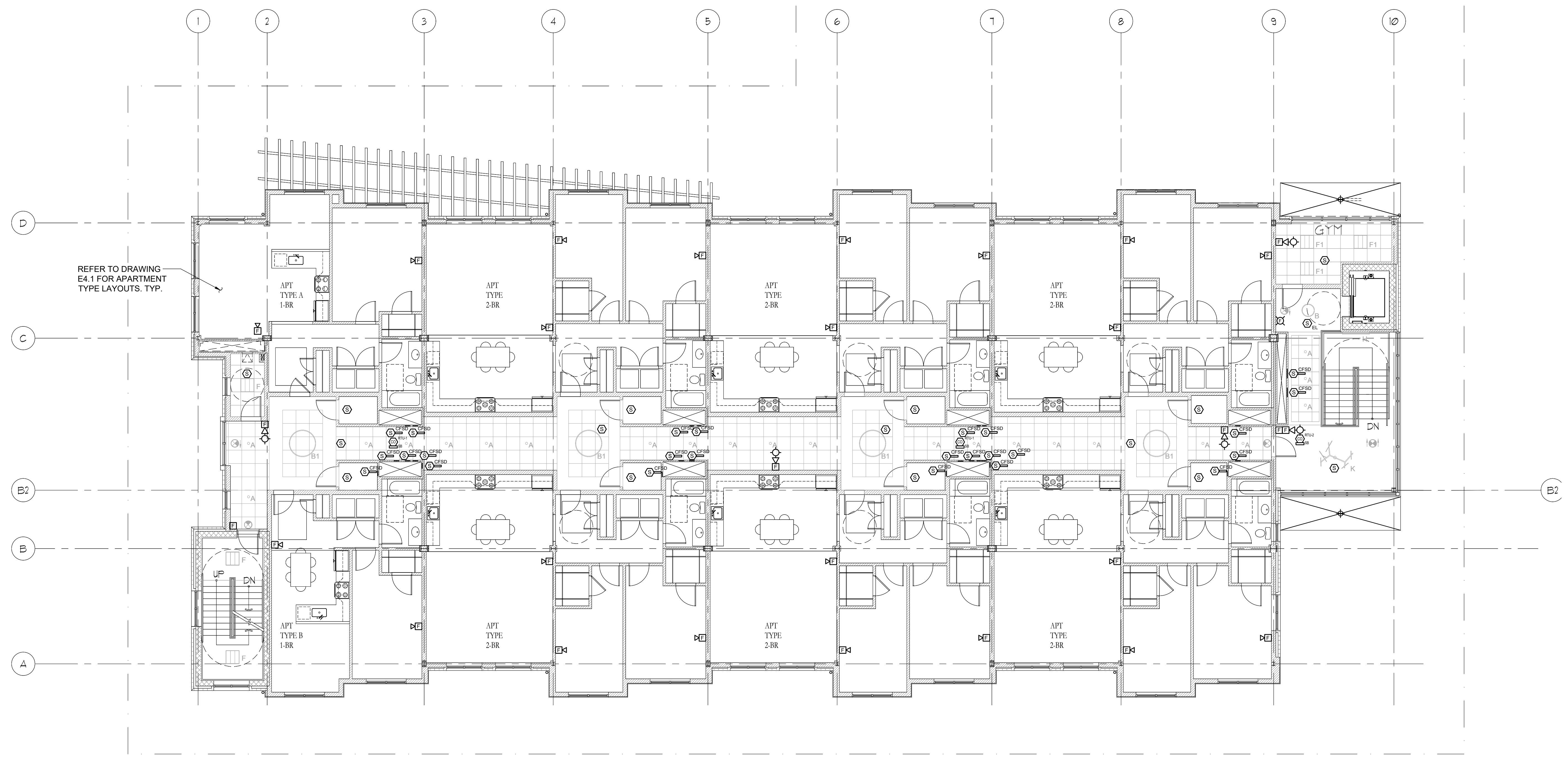
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DRAWING TITLE
FIRE ALARM THIRD FLOOR PLAN

SHEET NO.
FA1.3

1 FIRE ALARM THIRD FLOOR PLAN
SCALE: 1/8" = 1'-0"
NORTH

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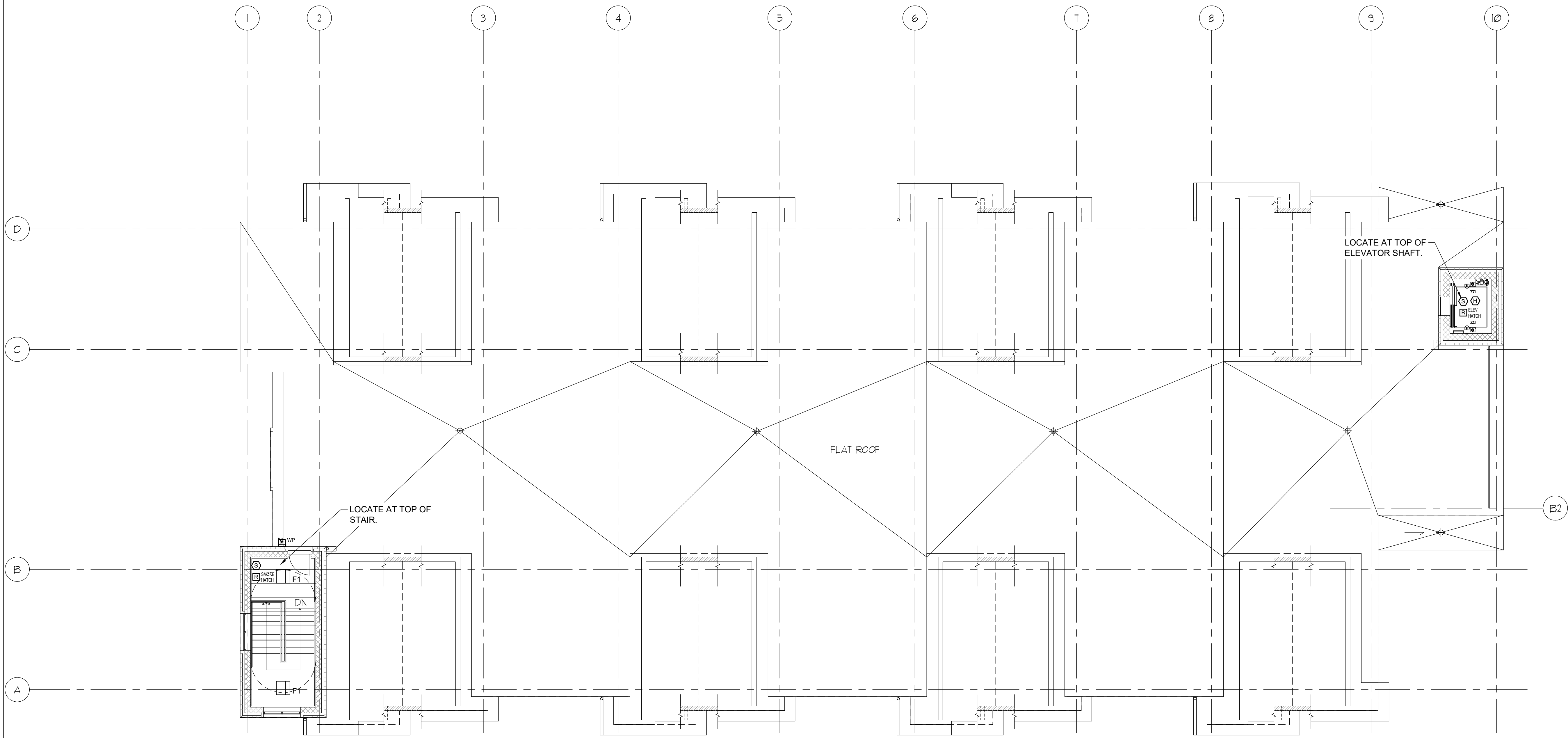
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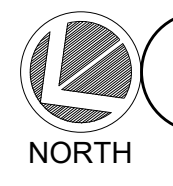
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DRAWING TITLE
FIRE ALARM FOURTH LEVEL ROOF PLAN

SHEET NO.
FA1.4

1 FIRE ALARM FOURTH LEVEL ROOF PLAN
SCALE: 1/8" = 1'-0"



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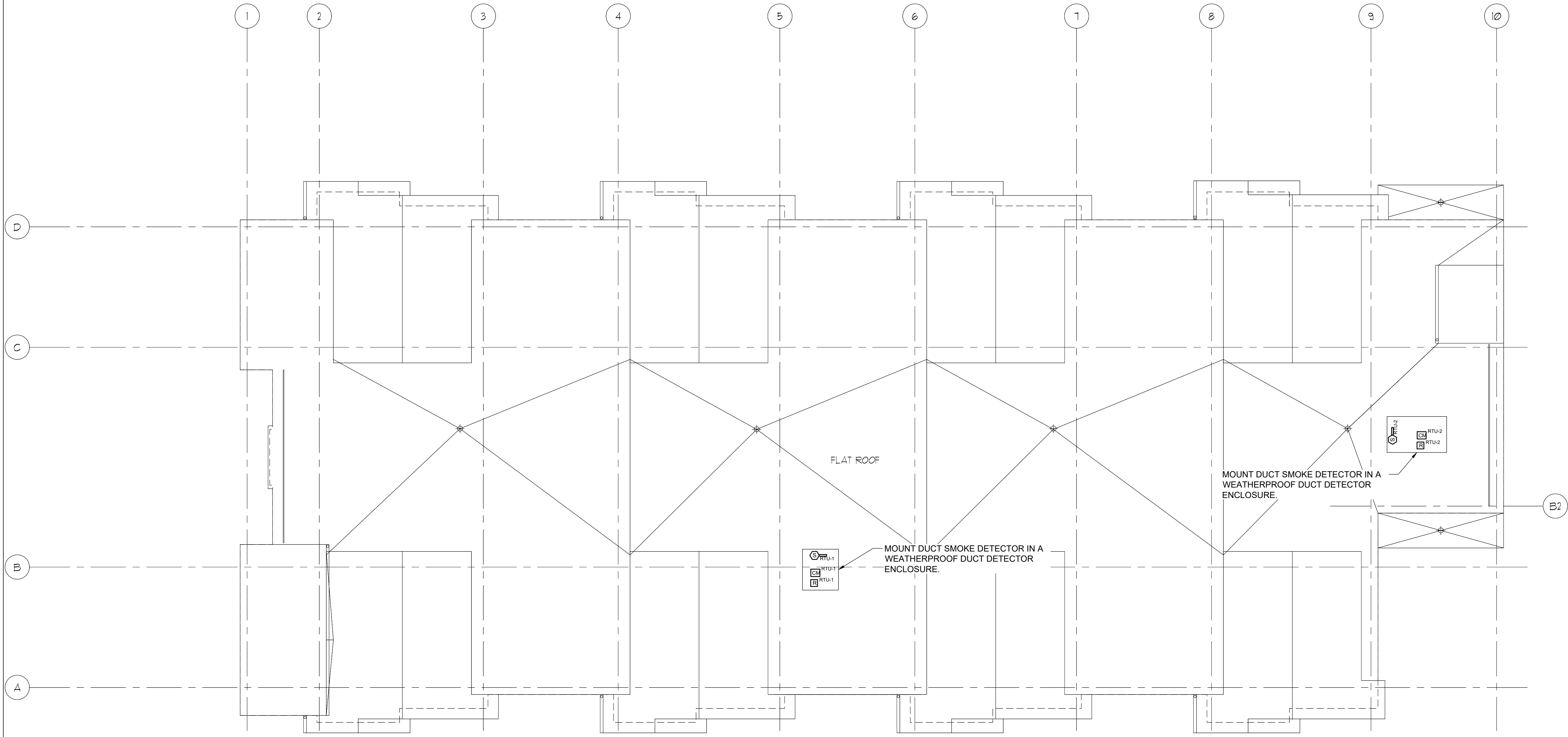
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1 FIRE ALARM ROOF PLAN
SCALE: 1/8" = 1'-0"
NORTH

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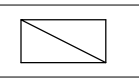


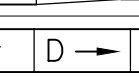
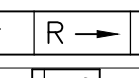
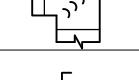
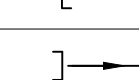
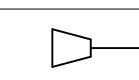
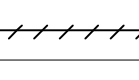
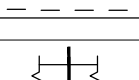
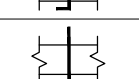
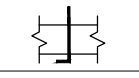
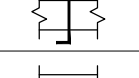
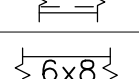
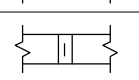
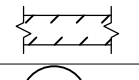
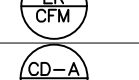
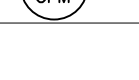




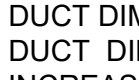
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500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE:	AUGUST 12, 2020
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DRAWING TITLE
FIRE ALARM ROOF PLAN

SHEET NO.
FA1.5

SYMBOLS AND ABBREVIATIONS			SYMBOLS AND ABBREVIATIONS		
SYMBOL	ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION
—	AC-	AIR CONDITIONING UNIT		—	RETURN DUCT UP
—	AD	ACCESS DOOR		—	RETURN DUCT DOWN
—	AFF	ABOVE FINISHED FLOOR		—	TRANSITION FROM SQUARE TO ROUND DUCT
—	AHC	ABOVE HUNG CEILING		—	TRANSITION
—	AP	ACCESS PANEL		—	DUCT DROP
—	BHP	BRAKE HORSEPOWER		—	DUCT RISE
—	BTU	BRITISH THERMAL UNIT		—	SQUARE VANED ELBOW
—	CFM	CUBIC FEET PER MINUTE		—	DUCT RISE
—	COD	CABLE OPERATED DAMPER		—	DUCT DROP
—	DB	DRY BULB TEMPERATURE		—	DUCT TRANSITION
—	DIA. OR Ø	DIAMETER		—	ALUMINUM DUCT
—	DX	DIRECT EXPANSION		AL	ACOUSTIC LINING
—	EA	EXHAUST AIR		FD/AD	FIRE DAMPER W/ ACCESS DOOR
—	EAT	ENTERING AIR TEMPERATURE		SD/AD	SMOKE DAMPER W/ ACCESS DOOR
—	ER	EXHAUST REGISTER		CFSD	COMBINATION FIRE/SMOKE DAMPER W/ ACCESS DOOR
—	ESP	EXTERNAL STATIC PRESSURE		VD	VOLUME DAMPER
—	EWT	ENTERING WATER TEMPERATURE		AL	ACOUSTIC LINING
—	FCU	FAN COIL UNIT			DUCT SIZE - 1ST FIGURE IS SIDE SHOWN
—	FPM	FEET PER MINUTE		FC	FLEXIBLE CONNECTION
—	FPS	FEET PER SECOND		—	ALUMINUM DUCT
—	GPM	GALLONS PER MINUTE		—	EXHAUST REGISTER
—	HP	HORSE POWER		—	NEW CEILING DIFFUSER
—	LAT	LEAVING AIR TEMPERATURE		CVD	CAR TYPE VOLUME DAMPER
—	LF	LINEAR FEET			
—	LWT	LEAVING WATER TEMPERATURE			
—	MBH	1000 BRITISH THERMAL UNITS PER HOUR			

GENERAL NOTES

- DUCT DIMENSIONS SHOWN ON MECHANICAL DRAWINGS REFER TO INSIDE CLEAR DUCT DIMENSIONS. WHERE DUCTWORK IS LINED THE CONTRACTOR SHALL INCREASE THE SIZE OF DUCT TO COMPENSATE FOR LINING.
- CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO THE BEGINNING OF WORK AND COORDINATE NEW WORK.
- THE CONTRACTOR SHALL INSTALL FIRE DAMPERS WITH ACCESS DOORS IN ALL DUCTS PENETRATING FIRE RATED WALLS WHETHER SPECIFICALLY SHOWN ON THE DRAWING OR NOT.
- PROVIDE ALL PIPE OPENINGS THROUGH PARTITIONS WITH PIPE SLEEVES. FOR PIPES PENETRATING FIRE RATED PARTITIONS, THE SPACE BETWEEN THE PIPE AND THE SLEEVE SHALL BE SEALED WITH FIRE STOPPING MATERIAL.
- COORDINATE DUCTWORK, GRILLE, DIFFUSER AND REGISTER LOCATIONS WITH LIGHTS, ARCHITECTURAL ELEMENTS AND SHELVING.
- THIS CONTRACTOR SHALL SUBMIT FOR REVIEW A COMPOSITE SHOP DRAWING, FULLY COORDINATED WITH ALL OTHER TRADES, INDICATING DUCTWORK, PLUMBING PIPING, SMOKE DETECTORS, LIGHTS, CONDUITS, DIFFUSERS, GRILLES, ETC.
- CONTRACT DRAWINGS AS FAR AS THEY RELATE TO THE GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT, PIPING AND SHEETMETAL, SHALL BE UNDERSTOOD AS DIAGRAMMATIC. ANY CHANGES TO SHEETMETAL AND EQUIPMENT LOCATIONS NECESSARY TO AVOID INTERFERENCE WITH OTHER TRADES SHALL BE MADE AT NO EXTRA COST.
- PROVIDE CABLE OPERATED DAMPERS ON DUCTWORK ABOVE DRYWALL CEILINGS WHEN LOCATED IN COMMON SPACES.
- ALL RETURN DUCTWORK ENDING ABOVE HUNG CEILING TO HAVE 1/2"WMS.
- SEE ARCHITECTURAL DRAWINGS FOR EXACT PHASING AND TIME SCHEDULE FOR CONSTRUCTION.

- OWNER PROVIDED APPLIANCE REQUIREMENTS:
 - ELECTRIC HOUSEHOLD RANGES SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 858 AND BE LISTED AND LABELED AS HOUSEHOLD TYPE APPLIANCES FOR DOMESTIC USE. RANGES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 - MICROWAVE COOKING APPLIANCES SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 923 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 - RESIDENTIAL ELECTRIC CLOTHES DRYERS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 2158 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 - DOMESTIC ELECTRIC WATER HEATERS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 174 OR UL 1453 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.



MECHANICAL PIPE MATERIAL SCHEDULE							
PIPE SYSTEM	SIZE	PIPE			FITTINGS		
		MATERIAL	TYPE / WEIGHT	STANDARD	MATERIALS	TYPE / WEIGHT	STANDARD
CONDENSATE DRAIN	ALL	COPPER	HARD TEMPER TYPE L	ASTM B88	COPPER	WROUGHT COPPER SOLDER JOINT	ANSI 16.18
REFRIGERANT	ALL	COPPER	HARD TEMPER TYPE K (ACR)	ASTM 280	COPPER	SILVER SOLDER 300PSI	ANSI B16.22
NATURAL GAS	≤ 4"	STEEL	SCHEDULE 40	ASTM A53 ASTM A106	MALLEABLE IRON	THREADED	ASME B16.3
	> 4"	STEEL	SCHEDULE 40	ASTM A53 ASTM A106	MALLEABLE IRON	WELDED	ASME B16.3

NOTES:

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DRAWING TITLE
**MECHANICAL SCHEDULES
SYMBOLS AND
GENERAL NOTES**

SHEET NO.
M0.1

SPECIFICATIONS

M-1 SCOPE OF WORK

A.) THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, APPLIANCES, SERVICES, HOISTING, SCAFFOLDING, SUPERVISION AND OVERHEAD FOR THE FURNISHING AND INSTALLING OF ALL THE HEATING, VENTILATING AND AIR CONDITIONING AND RELATED WORK COMPLETE, IN ACCORDANCE WITH THE DRAWINGS, SCHEDULES AND SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. INSTALLATION AND/OR RELOCATION OF NEW DUCTWORK, RTU'S, FCU'S, AC UNITS, DIFFUSERS, REGISTERS, AND ASSOCIATED ACCESSORIES.
2. DUCTWORK INSULATION.
3. EXHAUST FAN ROOFTOP UNITS.
4. AUTOMATIC TEMPERATURE CONTROLS.
5. TESTING AND BALANCING.

M-2 WORK EXCLUDED

A.) THE FOLLOWING ITEMS ARE EXCLUDED FROM THIS SECTION OF WORK:
 1.) MOUNTING AND POWER WIRING FOR ALL MOTOR STARTERS.
 2.) ALL ELECTRIC POWER WIRING EXCEPT WHERE FURNISHED AS AN INTEGRAL PART OF FACTORY ASSEMBLED EQUIPMENT OR AS OTHERWISE REQUIRED FOR AUTOMATIC TEMPERATURE CONTROLS, VARIOUS SAFETY CONTROLS AND MOTOR INTERLOCKS.

M-3 GENERAL REQUIREMENTS

A.) CONSTRUCT ALL APPARATUS OF MATERIALS AND PRESSURE RATINGS SUITABLE FOR THE CONDITIONS ENCOUNTERED DURING CONTINUOUS OPERATION.

B.) WHERE CORROSION CAN OCCUR, APPROPRIATE CORROSION-RESISTANT MATERIALS AND ASSEMBLY METHODS SHALL BE USED, INCLUDING ISOLATION OF DISSIMILAR METALS AGAINST GALVANIC INTERACTION. RESISTANCE TO CORROSION SHALL BE ACHIEVED BY THE USE OF THE APPROPRIATE BASE MATERIALS COATINGS SHALL BE RESORTED TO ONLY WHEN SPECIFICALLY PERMITTED BY THE SPECIFICATIONS.

C.) CONSTRUCT ALL EQUIPMENT IN ACCORDANCE WITH REQUIREMENTS OF ALL APPLICABLE CODES. ALL PRESSURE VESSELS AND SAFETY DEVICES THAT FALL WITHIN THE SCOPE OF THE ASME CODE SHALL CONFORM TO THE CODE AND BEAR THE ASME LABEL OR STAMP.

D.) MATCH AND BALANCE ALL SYSTEM COMPONENTS TO ACHIEVE COMPATIBILITY OF EQUIPMENT FOR SATISFACTORY OPERATION AND PERFORMANCE THROUGHOUT THE ENTIRE OPERATING TEMPERATURE AND CONTROL RANGES. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND GUIDELINES.

E.) UPON COMPLETION OF WORK, THE ENTIRE MECHANICAL SYSTEM SHALL BE OPERATED IN THE PRESENCE OF THE OWNER TO DEMONSTRATE THAT ALL COMPONENTS ARE INSTALLED AND OPERATING PROPERLY.

F.) PROVIDE ALL CONTROLS, WIRING (EXCEPT POWER WIRING FOR MOTORS), PIPING, VALVES, ACCESSORIES AND OTHER COMPONENTS NECESSARY TO MAKE ALL SYSTEMS COMPLETE AND OPERABLE.

M-4 REMOVALS

A.) REMOVE AND DISPOSE OF ALL EQUIPMENT, DUCTWORK, PIPING, DIFFUSERS AND ACCESSORIES WITHIN THE PROJECT AREA AS SHOWN ON THE DRAWINGS OR AS REQUIRED FOR THE INSTALLATION OF THE WORK OF THIS PROJECT.

B.) THIS WORK SHALL BE EXECUTED IN AN ORDERLY AND CAREFUL MANNER, WITH DUE CONSIDERATION FOR THE PROTECTION OF ADJACENT ACTIVITIES. DUST PRODUCING DEMOLITION SHALL BE ISOLATED WITH PROPER PRECAUTIONS.

C.) THE CONTRACTOR SHALL ASK THE OWNER FOR INSTRUCTIONS IF HE/SHE ENCOUNTERS DEMOLITION WORK WHICH MIGHT RESULT IN A HAZARDOUS CONDITION.

D.) MECHANICAL DEMOLITION INDICATED ON THE DRAWING IS ACCORDING TO THE BEST INFORMATION AVAILABLE. CONTRACTOR SHALL VERIFY ALL DEMOLITION WORK WITHIN THE AREA AND SHALL CONDUCT REMOVALS, AS REQUIRED, OR AS INSTRUCTED BY THE OWNER.

M-5 DUST PROTECTION

A.) IT IS IMPERATIVE THAT DURING DEMOLITION, AND ALSO DURING NORMAL CONSTRUCTION, WHERE THERE IS ANY POSSIBILITY OF DUST DUE TO CONSTRUCTION WORK CONTAMINATING THE OWNER'S EQUIPMENT OR CAUSING A NUISANCE TO PERSONNEL, THIS CONTRACTOR SHALL FURNISH AND INSTALL SUITABLE PROTECTION AS REQUIRED.

B.) WHEREVER POLYETHYLENE IS USED AS PROTECTIVE TARPULINS OR DROP CLOTH, IT SHALL BE FIRE-RETARDANT POLYETHYLENE SHEETING, .004" THICK.

M-6 TIME AND MANNER

A.) ALL WORK SHALL BE PERFORMED DURING NORMAL WORKING HOURS UNLESS OTHERWISE DIRECTED BY THE OWNERS REPRESENTATIVE.

B.) PRIOR TO THE BEGINNING OF WORK THE CONTRACTOR SHALL SUBMIT A SCHEDULE OF WORK TO THE OWNER. ANY SHUTDOWNS OF EXISTING EQUIPMENT AND/OR SYSTEMS SHALL BE VERIFIED IN WRITING WITH THE OWNER'S REPRESENTATIVE.

C.) ANY SHUT-DOWN OF EXISTING SYSTEMS WHERE SUCH SHUT-DOWN IS REQUIRED FOR THE PERFORMANCE OF THE WORK UNDER THE CONTRACT SHALL BE AT SUCH TIMES AS DESIGNATED BY OWNER'S REPRESENTATIVE. RESTORE SYSTEMS TO ORIGINAL CONDITION AFTER PERFORMANCE WORK. THE INTENT IS TO INSURE MINIMUM INTERFERENCE WITH OPERATION OF EXISTING FACILITIES. REPAIR ANY DAMAGE DONE TO BUILDING RESULTING FROM INSTALLATION OF NEW WORK.

M-7 SITE INSPECTION

A.) VISIT SITE BEFORE SUBMITTING BID. INSPECT AND VERIFY ALL CONDITIONS WHICH MAY AFFECT COST OF INSTALLATION. VERIFY EXACT LOCATION OF ALL EXISTING PIPES, DUCTS, BEAMS, ETC., WHETHER SHOWN ON THE DRAWINGS OR NOT, SO FAR AS THESE LOCATIONS RELATE TO THE NEW WORK. PROVIDE ANY OFFSETS IN NEW PIPING OR DUCTS AS MAY BE REQUIRED FOR PROPER CLEARANCES TO AVOID EXISTING DUCTS, CABLES OR OTHER OBSTRUCTION.

M-8 RUBBISH REMOVAL

A.) EQUIPMENT, DUCTWORK, ETC., SPECIFIED TO BE REMOVED AND RUBBISH CAUSED BY CONSTRUCTION SHALL BE REMOVED FROM THE CONSTRUCTION SITE.

M-9 CUTTING AND PATCHING

A.) THE CONTRACTOR SHALL PROVIDE ALL CUTTING REQUIRED FOR DUCTS, PIPING AND CONTROL CONDUITS PASSING THROUGH WALLS, FLOORS, ETC.

B.) PENETRATIONS FOR PIPING SHALL BE MADE BY CORE DRILLING WHENEVER POSSIBLE.

C.) PATCHING SHALL BE PROVIDED BY THE GENERAL CONTRACTOR EXCEPT WHERE DAMAGE AND/OR REPAIRS ARE NECESSITATED DUE TO ERROR OR NEGLIGENCE ON THE

PART OF THIS CONTRACTOR OR HIS SUB-CONTRACTORS.

M-10 SHOP DRAWINGS AND SUBMITTALS REQUIRED

A.) MANUFACTURER'S DATA OR SHOP DRAWINGS OF THE FOLLOWING APPARATUS GIVING FULL INFORMATION AS TO CATALOG NUMBERS, DIMENSIONS, MATERIALS AND ALL INFORMATION PERTINENT TO THE ADEQUACY OF THE SUBMITTED EQUIPMENT SHALL BE SUBMITTED FOR REVIEW:

- 1.) SHEET METAL CONSTRUCTION DETAILS.
- 2.) DUCTWORK LAYOUTS (3/16" SCALE).
- 3.) ROOFTOP UNITS
- 4.) AUTOMATIC TEMPERATURE CONTROLS INCLUDING WIRING DIAGRAMS.
- 5.) BALANCING REPORTS.
- 6.) FIRE DAMPERS
- 7.) AIR OUTLETS AND REGISTERS.
- 8.) HANGERS AND INSERTS.
- 9.) INSULATION.
- 10.) EXHAUST FAN ROOFTOP UNITS.
- 11.) HEAT PUMP UNITS.

M-11 TESTING AND BALANCING

A.) THE CONTRACTOR SHALL ENGAGE THE SERVICES OF AN INDEPENDENT AIR BALANCING FIRM THAT SHALL BE SUBJECT TO THE REVIEW OF THE ENGINEER. THE BALANCING FIRM SHALL HAVE AT LEAST ONE MEMBER OF ITS FULL TIME STAFF WHO IS A LICENSED PROFESSIONAL ENGINEER WHO SHALL SUPERVISE THE BALANCING WORK.

B.) THE TESTING AGENCY SHALL BE FULLY CERTIFIED BY THE ASSOCIATED BALANCE COUNCIL OR AN EQUIVALENT ORGANIZATION AND SHALL HAVE AT LEAST ONE MEMBER OF THE AGENCY QUALIFIED AS A CERTIFIED TEST AND BALANCE ENGINEER THAT HAS BEEN ISSUED THIS CERTIFICATION. ALL FINAL REPORTS SHALL BE SIGNED BY THIS CERTIFIED TEST AND BALANCE ENGINEER AND SHALL INCLUDE HIS OFFICIAL STAMP. SUBMIT FOUR (4) COPIES OF REPORT FOR REVIEW. BOTH A PRELIMINARY AND FINAL BALANCING REPORT SHALL BE SUBMITTED.

C.) SUPPLY ALL LABOR, MATERIALS, INSTRUMENTS, ETC., REQUIRED FOR TESTING. REPAIR ALL DAMAGE TO PIPING OR EQUIPMENT WHICH OCCURS AS A RESULT OF TESTING. PLUG ALL HOLES IN DUCTS MADE FOR RAVERSE PURPOSES WITH APPROPRIATE SNAP-IN PLUGS. DUCT TAPE IS NOT ACCEPTABLE.

D.) AIR BALANCE:

1.) ALL FANS AND DUCT SYSTEMS SERVING THE BUILDING SHALL BE COMPLETELY BALANCED BY THE ADJUSTMENT OF SHEAVES, DAMPERS, AND OTHER VOLUME AND DIVERTING CONTROL DEVICES, TO OBTAIN THE AIR QUANTITIES REQUIRED.

2.) THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONDITION WHICH PREVENTS THE ADJUSTMENT OF THE EQUIPMENT TO DELIVER THE INDICATED DESIGN AIR QUANTITIES.

3.) SUBMIT SINGLE LINE DIAGRAMS OF ALL FAN SYSTEMS INDICATING OUTSIDE AIR INTAKE AND DISCHARGE DUCTS IDENTIFIED BY UNIT NUMBER.

4.) RECORD THE FOLLOWING TEST DATA FOR ALL FANS AND FAN MOTORS INSTALLED AT THE PROJECT AT FINAL BALANCED CONDITIONS:

- a. FAN SPEED (RPM).
- b. FAN STATIC PRESSURE (EXTERNAL AND TOTAL).
- c. MOTOR OPERATING AMPS.
- d. ACTUAL VOLTAGE.
- e. FAN CFM.

E.) PIPE TESTS:

1.) ALL PIPING SHALL BE TESTED AS HEREINAFTER SPECIFIED. TESTS SHALL BE MADE AFTER ERECTION AND BEFORE COVERING IS APPLIED OR PIPING PAINTED OR CONCEALED AND AS SECTIONS OF MAINS AND GROUPS OR RISERS ARE COMPLETED. WHERE CONTROLS AND ACCESSORIES ARE NOT DESIGNED TO WITHSTAND PIPE TEST PRESSURES, THEY SHALL BE PROPERLY PROTECTED AGAINST DAMAGE DURING SUCH TESTS. ALL PIPING SHALL BE SUBJECTED TO A HYDROSTATIC TEST FOR A PERIOD OF TWO (2) HOURS WITHOUT FALL IN THE PRESSURE GAUGE READING.

2.) ALL PIPING SHALL BE TESTED TO A MINIMUM OF 1.5 TIMES THE SYSTEM WORKING PRESSURE WITH A MINIMUM OF 150 PSIG FOR WATER PIPING AND 100 PSIG FOR ALL OTHER PIPING.

M-12 DUCTWORK - GENERAL REQUIREMENTS

A.) ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES SHALL BE PROVIDED AND ALL OPERATIONS REQUIRED FOR COMPLETE INSTALLATION OF THE DUCTWORK, DAMPERS AND ALL AUXILIARY WORK OF ANY KIND, NECESSARY TO MAKE THE SYSTEM COMPLETE AND READY FOR SATISFACTORY OPERATION SHALL BE PERFORMED.

B.) CONSTRUCT ALL EQUIPMENT IN ACCORDANCE WITH REQUIREMENTS OF ALL APPLICABLE CODES.

C.) ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND REQUIREMENTS OF APPLICABLE CODES.

D.) INSTALL DUCTS AND HANGERS PLUMB AND LEVEL WITH JOINTS SQUARE AND DEVOID OF SHARP EDGES. ROUTE DUCTWORK TO MINIMIZE DIRECTIONAL CHANGES AND ABRUPT TRANSITIONS. PROVIDE ADEQUATE SPACE AROUND DUCTS TO ASSURE PROPER SUPPORT AND TO ALLOW THE INSTALLATION OF THE INSULATION SPECIFIED. INSTALL VOLUME DAMPERS AT BRANCHES CONNECTED INTO THE MAIN DUCT.

M-13 DUCT CONSTRUCTION REQUIREMENTS

A.) CONSTRUCT AND SUPPORT ALL DUCTWORK IN ACCORDANCE WITH THE LATEST STANDARDS OF ASHRAE AND THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION. ALL WORK, MATERIALS AND EQUIPMENT SHALL COMPLY WITH THE LATEST REQUIREMENTS OF NFPA 90A AND THE LOCAL AUTHORITIES HAVING JURISDICTION.

B.) ALL LOW PRESSURE DUCTWORK SHALL BE MADE OF BEST BLOOM GALVANIZED IRON OF THE FOLLOWING U.S. STANDARD GAUGES:

NO. 24	UP TO 30 INCHES MAXIMUM DIMENSION
NO. 22	30 INCHES TO 54 INCHES
NO. 20	55 INCHES TO 84 INCHES
NO. 18	85 INCHES AND OVER

C.) NO DUCT SHALL BE LESS THAN 24 GAUGE.

D.) BRACING, GAUGES AND SUPPORTS INDICATED IN SMACNA MANUALS ARE THE MINIMUM ACCEPTABLE. ADDITIONAL BRACING OR SUPPORTS SHALL BE INSTALLED TO ELIMINATE ANY DISTORTION OR VIBRATION WHEN THE SYSTEMS ARE OPERATING OR UNDER TESTS.

E.) ALL LONGITUDINAL SEAMS SHALL BE PITTSBURGH TYPE SEAMS LOCATED AT THE CORNERS.

F.) DUCT SEALANT SHALL BE 3M CO. TYPE EC-800 SEALING COMPOUND OR EQUIVALENT.

M-14 HANGERS AND SUPPORTS

A.) GENERAL:

1.) PROVIDE HANGERS AND SUPPORTS TO SUPPORT THE WEIGHT OF DUCTS AND ASSOCIATED EQUIPMENT WITHIN THE DUCT RUN. FASTEN HANGERS AND SUPPORTS TO CONCRETE STRUCTURE BY INSERTS OR EXPANSION ANCHORS.

B.) HORIZONTAL DUCTWORK:

1.) FOR DUCTS WITH A CROSS-SECTIONAL AREA OF 2 FT² OR LESS, HANGERS SHALL BE CONSTRUCTED OF AT LEAST 1" BY 3/16" STEEL STRAP. FOR DUCTS WITH A CROSS-SECTIONAL AREA OF OVER 2 FT² HANGERS SHALL BE CONSTRUCTED OF AT LEAST 1" BY 1/2" STEEL STRAP.

2.) FOR DUCTS WITH A CROSS-SECTIONAL AREA OF 4 FT² OR LESS, HANGERS SHALL BE NO MORE THAN 8 FT APART; FOR DUCTS WITH A CROSS-SECTIONAL AREA OF MORE THAN 4 FT² BUT NOT OVER 10 FT² HANGERS SHALL BE NO MORE THAN 6 FT APART, AND FOR DUCT WITH A CROSS-SECTIONAL AREA OF MORE THAN 10 FT² HANGERS SHALL BE NO MORE THAN 4 FT. APART. THE DISTANCES BETWEEN HANGERS SHALL BE MEASURED LINEARLY ALONG THE DUCT.

3.) STRAP HANGERS SHALL BE FASTENED TO DUCT WITH SHEET METAL SCREWS ON 2" CENTERS WITH NOT LESS THAN 2 PER VERTICAL SIDE. FOR DUCTS OVER 48" WIDE, STRAP HANGERS SHALL BE EXTENDED AROUND BOTTOM DUCT NOT LESS THAN 2" FROM EACH EDGE WITH AT LEAST ONE SHEET METAL SCREW PER LEG.

M-15 TURNING VANES

A.) PROVIDE APPROVED TURNING VANES IN ALL 90 DEGREE SQUARE ELBOWS OF DOUBLE VANE CONSTRUCTION, OF THE SAME MATERIAL AS THE DUCTS IN WHICH THEY ARE INSTALLED.

M-16 ACCESS DOORS IN SHEET METAL

A.) DOORS IN DUCTWORK SHALL BE PROVIDED FOR ACCESS TO ALL APPARATUS, ACCESSORIES, AUTOMATIC CONTROLS, VALVES, AUTOMATIC DAMPERS AND DAMPER MOTORS, SMOKE DETECTORS, AND ALL OTHER AREAS AND EQUIPMENT REQUIRING PERIODIC INSPECTION OR SERVICE.

B.) UNLESS OTHERWISE INDICATED, ACCESS DOORS IN DUCTS SHALL BE 20"x20". FOR DUCTS LESS THAN 24", THE DOOR SHALL BE A MINIMUM OF 12" LONG AND 2" SMALLER THAN THE DUCT WIDTH/HHEIGHT DIMENSION, DEPENDING ON LOCATION.

C.) ACCESS DOORS SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND INSTALLED TO WITHSTAND THE SAME TEST PRESSURES WITHOUT DEFORMATION, VIBRATION OR LEAKAGE AS THE DUCTWORK IN WHICH THEY ARE PROVIDED. DOORS INSTALLED IN INSULATED DUCTWORK SHALL BE OF THE DOUBLE INSULATED, REINFORCED PANEL TYPE WITH MINIMUM 18 GAUGE SHEET METAL. ACCESS DOORS IN UN-INSULATED DUCTWORK MAY BE SINGLE PANEL CONSTRUCTION OF NOT LESS THAN 18 GAUGE SHEET METAL. ALL ACCESS DOORS SHALL HAVE HINGES, LOCKING DEVICES, AND RUBBER GASKETS AROUND THE PERIMETER.

D.) DOORS SHALL BE FIT CLOSELY. ROUND SOFT RUBBER GASKETING SHALL BE SECURELY ATTACHED TO THE DOORS BY CEMENT AND RIVETS SHALL BE COUNTERSUNK FOR A CONTINUOUS AIRTIGHT SEAL.

M-17 DAMPERS

A.) PROVIDE VOLUME DAMPERS FOR NEW DUCT SYSTEMS IN EACH BRANCH DUCT, WHERE INDICATED, AND WHERE REQUIRED TO ACCOMPLISH AIR BALANCE. VOLUME DAMPERS TO BE FABRICATED WITH 16 GAUGE GALVANIZED STEEL WITH INTERLOCKING BLADES AND HEMMED EDGES SET IN A GALVANIZED STEEL FRAME. PROVIDE SINGLE BLADE BUTTERFLY TYPE DAMPERS WITH MAXIMUM ASSEMBLY LENGTH OF 48 INCHES. FOR LONGER LENGTHS USE MULTIPLE ASSEMBLIES INSTALLED SIDE BY SIDE.

B.) U.L. APPROVED FIRE DAMPERS SHALL BE INSTALLED IN ALL DUCTS PIERCING FIRE RATED WALLS, FLOORS OR CEILINGS WHETHER SPECIFICALLY INDICATED ON DRAWINGS OR NOT; EXCEPT FOR KITCHEN EXHAUST DUCTS. DAMPERS SHALL BE INSTALLED IN CONFORMANCE WITH NFPA-90A AND LOCAL CODES. FIRE DAMPERS SHALL BE SHUTTER TYPE WITH MINIMUM 1½ HOUR RATING IN ACCORDANCE WITH NFPA 252. DAMPER SHALL BE RUSKIN OR AS APPROVED. FIRE DAMPER SHALL COMPLY WITH REQUIREMENTS OF UL 555.

M-18 FLEXIBLE CONNECTIONS

A.) FOR AIR OUTLETS PROVIDE INLET CONNECTIONS OF NEOPRENE COATED AND IMPREGNATED FIBERGLASS CLOTH REINFORCED WITH CONTINUOUS GALVANIZED WIRE HELIX AND PREINSULATED WITH 1½" THICK FIBERGLASS COVERED WITH REINFORCED ALUMINUM FOIL, FLEXIBLE TUBING CORP., "THERMALFLEX" TYPE M-KN (TEMPERATURE RANGE 0-250°F), CUT BACK INSULATION 4" FROM EACH END. SEAL ALL INSULATION ENDS AND JOINTS VAPORTIGHT. LIMIT THE FLEXIBLE CONNECTION LENGTH TO FOUR FEET MAXIMUM. SECURELY FASTEN THE FLEXIBLE RUNOUTS TO THE DUCTWORK. SLIP THE FLEXIBLE CONNECTION OVER A 4" LONG MATCHING SHEET METAL SLEEVE OR FITTING IN THE DUCT PREPARED WITH SEALING COMPOUND. CLAMP THE FLEXIBLE RUNOUT SECURELY TO THE DUCT WITH A 1" WIDE, 18 GAUGE GALVANIZED STEEL, BOLTED CLAMPING COLLAR. REINFORCE THE JOINT WITH SHEET METAL SCREWS AND SEALING COMPOUND.

B.) FAN, CV AND VAV BOX INLET AND DISCHARGE CONNECTIONS SHALL BE MADE WITH FLEXIBLE MATERIAL SO AS TO PROHIBIT THE TRANSFER OF VIBRATION FROM FANS TO DUCTWORK. CONNECTIONS SHALL BE MADE OF HEAVY VINYL AND NEOPRENE CLOTH. THE FLEXIBLE CONNECTIONS SHALL BE APPROXIMATELY 6" LONG AND HELD IN PLACE WITH HEAVY METAL BANDS OR DOUBLE HEMLOCK SECURELY ATTACHED TO PREVENT ANY LEAKAGE AT THE CONNECTION POINTS.

M-19 INSULATION - GENERAL REQUIREMENTS

A.) ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES, SHALL BE PROVIDED. ALL OPERATIONS REQUIRED FOR COMPLETE INSTALLATION OF INSULATION AND RELATED WORK AS INDICATED ON THE DRAWING, OR SPECIFIED HEREIN, SHALL BE PERFORMED. THE EXECUTION OF THE WORK SHALL BE IN STRICT ACCORDANCE WITH THE INSULATION MANUFACTURER'S RECOMMENDATIONS AND THE BEST PRACTICE OF THE TRADE.

B.) NO INSULATION SHALL BE APPLIED UNTIL ALL TESTS HAVE BEEN COMPLETED. ONLY INSULATION AND FINISH MATERIALS INCLUDING ADHESIVES, CEMENTS AND MASTICS WHICH CONFORM TO THE REQUIREMENTS OF ALL GOVERNING CODES AND ORDINANCES SHALL BE USED.

C.) ANY EXISTING INSULATION AND SURFACE FINISH DISTURBED OR DAMAGED BY THE INSTALLATION OF NEW EQUIPMENT OR OTHER ALTERATIONS TO THE SYSTEM SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER.

M-20 DUCT INSULATION

A.) THE CONTRACTOR SHALL NOTE THAT ALL NEW AND EXISTING DUCTWORK THAT IS NOT ALREADY INSULATED SHALL BE INSULATED AS PART OF THIS PROJECT.

B.) COVERINGS AND LININGS INCLUDING ADHESIVES WHERE USED, SHALL HAVE A FLAME SPREAD INDEX NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX NOT MORE THAN 50, WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR UL 723, USING THE SPECIMEN PREPARATION AND MOUNTING PROCEDURES OF ASTM E2231.

C.) ALL CONCEALED AIR CONDITIONING SUPPLY AND RETURN DUCTWORK, INCLUDING SUPPLY AND RETURN DUCTWORK RUNNING THROUGH RETURN AIR PLENUM ABOVE HUNG CEILING, SHALL BE COVERED WITH WITH 1½" THICK R-6 FLEXIBLE FIBROUS GLASS BLANKET, MINIMUM DENSITY 1½ POUNDS PER CUBIC FOOT, MAXIMUM K-FACTOR: 0.27 AT 75°F MEAN TEMPERATURE, TEMPERATURE RANGE: 40°F TO 250°F FACTORY APPLIED VAPOR BARRIER FACING OF MINIMUM 0.7 MIL ALUMINUM FOIL LAMINATED TO FIRE RESISTANT KRAFT PAPER AND REINFORCED WITH GLASS FIBERS: 0.02 PERMEABILITY.

D.) ALL DUCTWORK EXPOSED TO VIEW IN MECHANICAL ROOMS, WHICH IS NOT INTERNALLY INSULATED, SHALL BE COVERED WITH WITH 1½" THICK RIGID BOARD TYPE MINERAL FIBER OR GLASS WITH A RESIN BINDER, MINIMUM DENSITY: 3 POUNDS PER CUBIC FOOT, MAXIMUM K-FACTOR: 0.27 AT 75°F MEAN TEMPERATURE, TEMPERATURE RANGE: 35°F TO 350°F, FACTORY APPLIED VAPOR BARRIER JACKET OF ALUMINUM FOIL LAMINATED TO FIRE RESISTANT KRAFT PAPER AND REINFORCED WITH GLASS FIBERS: 0.02 PERMEABILITY.

E.) ALL INSULATION SHALL BE APPLIED AS PER MANUFACTURERS RECOMMENDATIONS WITH ADHESIVE AND COPPER CLAD WIRE FOR FLEXIBLE TYPE AND MECHANICAL FASTENERS FOR RIGID TYPE. SEAL ALL SEAMS AND JOINTS VAPOR-TIGHT WITH FIRE RETARDANT, VAPOR BARRIER SEALANT.

F.) INTERNAL INSULATION EXPOSED TO AIRSTREAM SHALL PROVIDE DURABILITY IN ACCORDANCE WITH UL 181.

G.) ALTERNATE MANUFACTURERS:

- 1.) CERTAIN TEED
- 2.) OWENS-CORNING

M-21 ACOUSTIC TREATMENT

A.) ALL SUPPLY AND RETURN DUCTWORK WITHIN 20' OF FANS OR WITHIN 5' OF VAV AND CV BOX DISCHARGE, AND ALL TRANSFER AIR DUCTWORK SHALL BE INSTALLED WITH 1" ACOUSTIC LINING. SUCH ACOUSTIC LINING SHALL BE FLEXIBLE GLASS FIBER DUCT LINER; ANSI/ASTM C553 WITH "K" VALUE OF 0.24 AT 75°F; 1.5 LBS./CU. FT. MINIMUM DENSITY; COATED ON AIR SIDE FOR MAXIMUM VELOCITY OF 4000 FEET PER MINUTE; APPROVED BY THE NFPA.

B.) STAPLING METHOD OF ATTACHMENT SHALL NOT BE PERMITTED. MAT-FACED DUCT LINER SHALL BE ADHERED BY A FIRE RETARDANT ADHESIVE SUCH AS BENJAMIN FOSTER 81-99 OR EQUIVALENT. MECHANICAL FASTENERS WHICH DO NOT PIERCE THE SHEET METAL SHALL BE INSTALLED ON 16" CENTERS ON TOP SECTIONS (WHEN WIDTH EXCEEDS 12").

C.) ALL EXPOSED EDGES OF ACOUSTIC LINING SHALL BE INSTALLED WITH SHEET METAL NOSING AND CAULKED.

M-22 - NOT USED

M-23 VIBRATION ISOLATION

A.) ALL SUSPENDED FANS SHALL BE SUPPORTED WITH STEEL COMPRESSION SPRING AND NEOPRENE OR RUBBER ISOLATED UNIT WITHIN A STEEL HOUSING OR RETAINER LOCATED IN HANGER RODS. MINIMUM COMBINED STATIC DEFLECTION 1½". MINIMUM SPRING RUNOUT - ½". MASON INDUSTRIES, INC. - TYPE DNH.

M-24 ELECTRIC WIRING

A.) THE ELECTRICAL CONTRACTOR WILL ERCT ALL STARTING EQUIPMENT FURNISHED UNDER THIS SECTION, EXCEPT STARTERS SPECIFIED TO BE FACTORY MOUNTED AND WIRED AS ALL INTEGRAL PART OF THE EQUIPMENT, AND WILL DO ALL WIRING NECESSARY TO SUPPLY POWER TO THE ELECTRIC MOTOR PROVIDED UNDER THIS SECTION, INCLUDING POWER TO THE STARTERS AND CONNECTIONS FROM STARTERS TO THE MOTORS.

B.) THIS CONTRACTOR SHALL INSTALL ALL MOTOR CONTROL, TEMPERATURE CONTROL WIRING AND INTERLOCK WIRING EXCLUSIVE OF MOTOR POWER WIRING.

M-25 ELECTRIC MOTOR CONTROLS

A.) FURNISH AND TURN OVER THE ELECTRICAL CONTRACTOR WHO SHALL ERECT AND WIRE THE SAME, SUITABLE STARTING CONTROLLING EQUIPMENT, AND DISCONNECT SWITCHES.

B.) ALL CONTROLLERS SHALL BE ALLEN-BRADLEY, CUTLER-HAMMER, OR GENERAL ELECTRIC, FULLY ENCLOSED IN NEATLY FINISHED VENTILATED BOXES. CONTROLLERS SHALL BE OF THE COMBINATION STARTER AND UNFUSED SWITCH TYPE.

C.) ALL STARTERS FOR MOTORS ½ HORSEPOWER AND LARGER SHALL BE MAGNETIC ACROSS-THE-LINE TYPE WITH UNFUSED DISCONNECT SWITCH UNLESS OTHERWISE NOTED. SUCH STARTERS SHALL BE 208 VOLT, 3 PHASE, 60 CYCLE, A.C. SOURCE.

D.) ALL MAGNETIC STARTERS SUBJECT TO MANUAL START SHALL HAVE MOMENTARY CONTACT START AND STOP BUTTONS BUILT INTO COVER. ALL MAGNETIC STARTERS SUBJECT TO ELECTRICAL INTERLOCKS OR AUTOMATIC CONTROLS SHALL HAVE HAND-OFF-AUTOMATIC SWITCHES BUILT INTO COVER.

E.) ALL MAGNETIC STARTERS SHALL HAVE THERMAL OVERLOAD AND VOLTAGE PROTECTION IN EACH PHASE LEG. PROVIDE EACH STARTER WITH MINIMUM OF TWO AUXILIARY CONTACTS, ONE NORMALLY OPEN AND ONE NORMALLY CLOSED.

M-26 AIR OUTLETS

A.) ALL OUTLET TYPES SHALL BE TESTED IN ACCORDANCE WITH ADC STANDARDS AND SHALL BEAR AN ADC LABEL. PROVIDE NEW AIR OUTLETS OF SIZE AND TYPE AS INDICATED ON THE DRAWING. CEILING DIFFUSERS SHALL BE ALUMINUM AND COMPLETE WITH GASKETS, OPPOSED BLADE DAMPERS AND CONTROL GRIDS. RETURN REGISTERS SHALL BE SINGLE DEFLECTION GRILLES WITH OPPOSED BLADE DAMPERS.

B.) CEILING OUTLETS SHALL BE FACTORY FINISHED WITH OFF-WHITE ENAMEL, OR AS OTHERWISE NOTED/APPROVED BY ARCHITECT/OWNER.

C.) ACCEPTABLE MANUFACTURERS:

- 1.) TITUS
- 2.) NAILOR
- 3.) PRICE

M-28 PIPE INSULATION

A.) INSULATE ALL NEW PIPING AND ALL EXISTING PIPING WITH PRE-FORMED PIPE INSULATION. INSULATION SHALL HAVE A MAXIMUM FLAME SPREAD INDEX OF 25 AND A SMOKE-DEVELOPED INDEX NOT EXCEEDING 450. PIPE INSULATION INSTALLED WITHIN AIR PLENUMS SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723. REFER TO PIPE INSULATION SCHEDULE FOR INSULATION THICKNESS.

B.) PIPING VALVES AND FITTINGS ON ALL INSULATED PIPES SHALL BE PROVIDED WITH FABRICATED SECTIONS OF INSULATION OR PRE MOLDED FITTING COVERS EQUAL IN THICKNESS AND MATERIAL TO ADJOINING PIPE INSULATION.

C.) ALL INSULATION SHALL BE APPLIED AS PER MANUFACTURER'S RECOMMENDATIONS WITH USE OF 2" STRIPS AT ALL SEAMS SECURED WITH ADHESIVE. ALL SEAMS AND JOINTS

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NO.	REVISION/ISSUE	DATE
4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1	ISSUED FOR PROGRESS	02-19-2021

SEAL

PROJECT

LIBERTY PLAZA SUITES

500 COMMERCER ST.
 TOWN OF MT. PLEASANT, NY

DATE:	AUGUST 12, 2020
PROJECT NO.:	NDM10001.00
DRAWN BY:	HLD
CHECKED BY:	RJ
SCALE:	AS NOTED

DRAWING TITLE

MECHANICAL SPECIFICATIONS 1 OF 2

SHEET NO.

SPECIFICATIONS CONTINUED

SHALL BE VAPOR SEALED USING VAPOR BARRIER TAPE AND VAPOR SEAL ADHESIVE. STAPLES ARE NOT PERMITTED. ALL INSULATION AND VAPOR BARRIERS SHALL BE CONTINUOUS THROUGH SLEEVES, HANGERS, ETC. INSULATION FOR STRAINERS AND OTHER FITTINGS OR ACCESSORIES REQUIRING SERVICING OR INSPECTION SHALL HAVE INSULATION REMOVABLE AND REPLACEABLE WITHOUT DAMAGE.

D.) ALTERNATE MANUFACTURERS:

- 1.) ARMSTRONG
- 2.) MANVILLE
- 3.) OWENS-CORNING

E.) PIPE INSULATION JACKETING: SHALL BE WHITE ZESTON 2000 PVC COVERS FOR PIPING AND FITTINGS. JACKET ALL PIPING AND FITTING THAT ARE EXPOSED IN ANY ROOM.

F.) PIPE LABELS: SHALL BE SETON ULTRA-MARK WEATHER RESISTANT FOR OUTDOOR APPLICATION AND OPTI-CODE FOR INDOOR APPLICATION. LETTERS AND ARROWS SHALL BE 2½" HIGH AND SHALL BE WHITE ON A GREEN BACKGROUND AND SHALL CONFORM TO ANSI AND OSHA STANDARDS. APPLY OVER INSULATION ONLY.

M-28 PIPING INSTALLATION - GENERAL REQUIREMENTS

A.) REFER TO DRAWINGS FOR REQUIRED PIPING LAYOUTS. CONNECTION DETAILS INDICATE REQUIRED PIPING AT VARIOUS PIECES OF EQUIPMENT. FLOOR PLANS INDICATE GENERAL ROUTING OF PIPING. SPECIFICATIONS DEFINE MATERIALS, INSTALLATION REQUIREMENTS AND SUPPLEMENTARY REQUIREMENTS TO THOSE SHOWN ON DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE SYSTEM BASED ON ALL DOCUMENTATION PROVIDED. TO EQUIPMENT SCHEDULES FOR NOMINAL FLOW RATES. FINAL SIZING SHALL BE BASED ON FLOW RATE OF CONTRACTOR PURCHASED EQUIPMENT.

B.) WHERE DRAWING DETAILS REFER BRANCH PIPE SIZING TO FLOW RATES, REFER TO DRAWINGS.

C.) PIPING SHALL BE INSTALLED IN STRAIGHT PARALLEL RUNS, PARALLEL TO PIPING OF OTHER TRADES. ROUTING SHALL BE COORDINATED WITH PIPING AND CONDUIT RUNS OF OTHER TRADES.

D.) ALL PIPE SHALL BE NEW, CLEAN, OF DOMESTIC MANUFACTURE, AND MARKED WITH APPROPRIATE STANDARD.

E.) PIPING SHALL BE INSTALLED TO MINIMIZE TURBULENCE AND PREVENT NOISE AND WATER HAMMER. WATER PIPING SHALL PITCH 1" IN 40 FEET, UPWARD IN DIRECTION OF FLOW. PROPER PROVISION SHALL BE MADE FOR EXPANSION AND CONTRACTION IN ALL PORTIONS OF PIPEWORK, TO PREVENT UNDUE STRAINS ON PIPING OR EQUIPMENT. ALL PIPE SHALL BE SUITABLY REINFORCED AT ALL ANCHOR POINTS.

F.) PIPE SUPPORTS SHALL BE SPACED, REDUCERS ARRANGED AND PIPING PITCHED TO ALLOW AIR TO BE VENTED TO SYSTEM HIGH POINTS AND TO ALLOW THE SYSTEM TO BE DRAINED AT THE LOW POINTS. DRAIN VALVES WITH HOSE CONNECTIONS SHALL BE PROVIDED AT THE BASE OF EACH RISER, AT ALL LOW POINTS AND WHEREVER REQUIRED TO PERMIT COMPLETE DRAINING OF ALL LINES.

G.) AUTOMATIC FLOAT TYPE AIR VENTS SHALL BE PROVIDED AT HIGH POINTS OF WATER LINES AND WHEREVER REQUIRED TO ALLOW AIR TO VENT FROM SYSTEM. EACH VENT SHALL HAVE A DRAIN LINE PIPED TO NEAREST INDIRECT WASTE.

H.) RUN OUTS, AND CONNECTIONS TO EQUIPMENT, SHALL BE PROVIDED WITH A SWING JOINT OR FLEXIBLE CONNECTION TO WITHSTAND EXPANSION AND CONTRACTION. RISERS SHALL HAVE SWING JOINTS COMPOSED OF AT LEAST 4 ELBOWS.

I.) ALL CHANGES IN SIZE AND DIRECTION OF PIPING SHALL BE MADE WITH FITTINGS. DO NOT USE MITER FITTINGS, FACE OR FLUSH BUSHINGS, CLOSE NIPPLES OR STREET ELBOWS. ALL NIPPLES (PIPE LESS THAN 3" LONG) SHALL BE EXTRA HEAVY.

J.) ALL BRANCH CONNECTIONS SHALL BE MADE WITH TEES, EXCEPT THAT ON STEEL PIPING FORGED STEEL "WELDOLETS" AND "LATROLETS" AS MANUFACTURED BY BONNEY FORGE MAY BE USED WHERE THE BRANCH PIPE IS AT LEAST TWO NOMINAL PIPE SIZES LESS THAN THE MAIN PIPE.

K.) ECCENTRIC REDUCING FITTINGS OR ECCENTRIC REDUCING COUPLINGS SHALL BE USED WHERE REQUIRED BY THE CONTRACT DOCUMENTS OR WHERE REQUIRED TO PREVENT POKETING OF LIQUID OR NON-CONDENSIBLES.

L.) FITTINGS SHALL BE FACTORY MANUFACTURED. SHOP OR FIELD FABRICATED FITTINGS ARE NOT ACCEPTABLE. WELDING FITTINGS SHALL BE "TUBE-TURNS" OR EQUIVALENT. FITTINGS SHALL HAVE THE SAME PRESSURE RATING AS THE SYSTEM IN WHICH THEY ARE INSTALLED.

M.) ELECTROLYTIC COUPLINGS OR UNIONS SHALL BE INSTALLED BETWEEN COPPER AND STEEL PIPE.

N.) ALL JOINTS SHALL BE MADE IN A WORKMANLIKE MANNER USING CLEAN THREADS, DEBURRED PIPE AND PROPER MATERIALS. ALL JOINTS SHALL CONFORM TO THE APPLICABLE ANSI AND ASTM STANDARDS. QUALIFY WELDERS TO THE CODE FOR PRESSURE PIPING ANSI SPECIFICATIONS B31.1, WITH CERTIFICATION BY THE WELDING BUREAU OF HEATING, PIPING AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION. ASME STAMP SHALL BE PROVIDED AS REQUIRED.

O.) RUN OUTS, AND CONNECTIONS TO EQUIPMENT, SHALL BE PROVIDED WITH A SWING JOINT OR FLEXIBLE CONNECTION TO WITHSTAND EXPANSION AND CONTRACTION. RISERS SHALL HAVE SWING JOINTS COMPOSED OF AT LEAST 4 ELBOWS.

Q.) PIPING MATERIALS: REFER TO PIPING MATERIAL SCHEDULE.

R.) PIPE FITTINGS: REFER TO PIPING MATERIAL SCHEDULE.

S.) PIPING CONNECTIONS TO EQUIPMENT

1.) FLANGES OR UNIONS SHALL BE PROVIDED AT ALL FINAL CONNECTIONS TO EQUIPMENT AND CONTROL VALVES TO FACILITATE DISMANTLING. OFFSETS SHALL BE PROVIDED AND CONNECTIONS ARRANGED SO THAT THE EQUIPMENT BEING SERVED MAY BE REMOVED WITHOUT DISTURBING THE PIPING.

2.) ALL AUTOMATIC VALVES SHALL BE PROVIDED WITH A GATE VALVE AND A STRAINER ON THE INLET SIDE.

3.) HANGERS AND SUPPORTS FOR CONNECTED EQUIPMENT SHALL CONFORM TO THE CRITERIA FOR PIPING. NO WIRE, TAPE OR METAL BANDS ARE PERMITTED.

4.) INSTALL ALL SUPPLY PIPING TO EQUIPMENT INCLUDING GATE VALVES AND STRAINERS AT LINE SIZE WITH THE REDUCTION IN SIZE BEING MADE ONLY AT THE INLET TO THE CONTROL VALVE OR PUMP. INSTALL THE OUTLET PIPING FROM THE CONTROL VALVE AT THE FULL SIZE OF THE TAPPING IN THE EQUIPMENT SERVED.

5.) FOR EQUIPMENT MOUNTED ON ISOLATION BASES AND WHEREVER INDICATED ON

DRAWING AND DETAILS, MASON INDUSTRIES TYPE BSS STAINLESS STEEL BRAIDED FLEXIBLE HOSE CONNECTIONS OR EQUIVALENT SHALL BE PROVIDED.

T.) VALVES

1.) ALL HAND VALVES, CHECK-VALVES, VENT VALVES, COCKS, ETC., SHALL BE FURNISHED AND INSTALLED AS REQUIRED FOR THE COMPLETE AND PROPER VALVING OF THE ENTIRE INSTALLATION AS DEFINED HEREIN. VALVES SHALL HAVE THE SAME PRESSURE RATING AS THE SYSTEM IN WHICH THEY ARE INSTALLED.

2.) VALVES WITH HAND-WHEELS SHALL BE INSTALLED HORIZONTALLY OR VERTICALLY UPWARD UNLESS SPECIFICALLY SHOWN OTHERWISE. ALL VALVES SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS TO FACILITATE EASY REMOVAL FOR REPAIR OR REPLACEMENT.

3.) VALVES SHALL BE FULL LINE SIZE UNLESS OTHERWISE NOTED. ALL DRAIN VALVES IN EQUIPMENT ROOMS SHALL BE LOCATED AT AN ELEVATION NOT GREATER THAN 6'-0" ABOVE FLOOR AND SHALL BE PROVIDED WITH ¾" HOSE CONNECTIONS.

4.) VALVES SHALL BE CAPABLE OF BEING REPACKED WHILE WIDE OPEN AND OPERATING AT THEIR RATED PRESSURE.

5.) UNLESS OTHERWISE NOTED OR REQUIRED BY THE APPLICATION, SCREWED VALVES SHALL BE OF BRONZE CONSTRUCTION AND FLANGED VALVES OF CAST IRON CONSTRUCTION WITH BRONZE TRIM. GLOBE AND CHECK VALVE DISCS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS FOR THE SERVICE. ALL CAST IRON BODY VALVES SHALL HAVE RENEWABLE BRONZE SEAT RINGS AND BRONZE SPINDLES.

6.) IN GENERAL, USE GLOBE VALVES FOR ALL THROTTLING SERVICE (INCLUDING PUMP DISCHARGES). FOR WATER LINES 3" AND OVER, ECCENTRIC PLUG VALVES SHALL BE USED, WHERE BUTTERFLY OR BALL VALVES ARE SPECIFIED THESE TYPES SUFFICE FOR THROTTLING. BALL VALVES USED FOR BALANCING SHALL HAVE LOCKING STOP.

7.) HORIZONTAL CHECK VALVES SHALL GENERALLY BE 15 DEGREE SWING CHECK TYPE. CHECK VALVES IN VERTICAL PIPING AND IN ALL PUMP DISCHARGES SHALL BE SPRING-CUSHIONED OF THE DISC OR DUAL PLATE TYPE AS MANUFACTURED BY ONE OF THE FOLLOWING:

- a. MILLER VALVE CO.
- b. CPV CO.
- c. SMOLENSKY VALVE CO.
- d. WILLIAMS GAUGE CO. - "WILLIAMS - HAGER"
- e. MISSION "DUO-CHEK"

8.) EXCEPT WHERE SPECIFICALLY STATED TO CONTRARY, ALTERNATE MANUFACTURERS FOR VALVES ARE AS FOLLOWS: CRANE CO., LUNKENHEIMER CO., NIBCO, INC.

9.) THE CONTRACTOR SHALL PROVIDE THE VALVES SPECIFIED, OR THE EQUIVALENT AS PRODUCED BY ONE OF THE ABOVE LISTED MANUFACTURERS.

U.) PIPE SLEEVES AND ESCUTCHEONS

1.) ALL PIPE OPENINGS THROUGH WALLS, CEILINGS, FURRING, PARTITIONS AND SLABS SHALL BE PROVIDED WITH SLEEVES HAVING AN INTERNAL DIAMETER AT LEAST 2" LARGER THAN THE OUTSIDE DIAMETER OF THE PIPE FOR UNINSULATED LINES OR OF THE INSULATION FOR INSULATED SERVICES. SLEEVES SHALL BE LOCATED SO THAT THE PIPE PASSES THROUGH CENTER OF SLEEVE.

2.) SLEEVES SHALL BE INSTALLED THROUGH INTERIOR WALLS AND PARTITIONS FLUSH WITH FINISHED SURFACE, SLEEVES THROUGH OUTSIDE WALLS SHALL PROJECT 1/2" ON EACH SIDE OF THE FINISHED WALL; FLOOR SLEEVES SHALL PROJECT 1" ABOVE FINISHED FLOORS.

3.) INTERIOR WALLS AND FLOORS - THE SPACE BETWEEN OUTSIDE OF PIPE OR INSULATION AND THE INSIDE OF THE SLEEVE OR FRAMED OPENING SHALL BE FILLED WITH FIBROUS GLASS AND FIRE STOPPED WITH 3-M FIRE BARRIER.

4.) ESCUTCHEONS SHALL BE PROVIDED ON BOTH SIDES OF THE PENETRATION THROUGH THE STRUCTURE FOR ALL PIPES EXPOSED TO VIEW PASSING THROUGH FURRING, WALLS, FLOORS, CEILING AND PARTITIONS, WHETHER INSULATED OR NOT. FOR PIPES PASSING THROUGH FLOORS, AND EXTERIOR WALLS, ESCUTCHEONS SHALL FIT OVER THE SLEEVE.

5.) ALL ESCUTCHEONS SHALL BE CHROME PLATED BRASS, SPLIT HINGED TYPE WITH SET SCREWS.

V.) PIPING SPECIALTIES

A.) PROVIDE ALL SPECIAL APPLIANCES REQUIRED FOR THE PROPER OPERATION OF THE PIPING SYSTEMS.

B.) PROVIDE "Y" TYPE STRAINERS WITH FULL SIZE BLOW-OFF-VALVES. SPENCE, MUELLER, McALEAR OR CRANE CAST BRONZE UP TO 2 1/2", SEMI-STEEL 3" AND OVER, MONEL BASKETS WITH NO. 20 MESH.

C.) PROVIDE FLOAT AND THERMOSTATIC TRAPS AS MANUFACTURED BY SPIRAX/SARCO OR APPROVED EQUAL. TRAPS SHALL BE CAST IRON BODY AND BOLTED COVER, STAINLESS STEEL OR BRONZE BELLOW TYPE AIR VENT, STAINLESS STEEL OR COPPER FLOAT, STAINLESS STEEL LEVER AND VALVE ASSEMBLY.

W.) CLEANING - ALL PIPING SYSTEMS

1.) ALL OPEN ENDS OF PIPING, VALVES AND EQUIPMENT SHALL BE PLUGGED EXCEPT WHEN ACTUAL WORK IS BEING PERFORMED, TO MINIMIZE ACCUMULATION OF DIRT AND DEBRIS.

2.) AFTER INSTALLATION IS COMPLETE TEMPORARY SCREENS SHALL BE PLACED AT CONNECTIONS TO ALL EQUIPMENT AND AT AUTOMATIC CONTROL VALVES WHERE PERMANENT STRAINERS ARE NOT PROVIDED.

3.) PRIOR TO THE PERFORMANCE OF TESTS, ALL PIPING THAT IS TO RECEIVE A HYDROSTATIC TEST SHALL BE FLUSHED OUT WITH CLEAN WATER. PIPING THAT IS TO BE AIR OR GAS PRESSURE TESTED SHALL BE BLOWN OUT WITH COMPRESSED AIR. DIRT AND DEBRIS COLLECTED AT SCREENS STRAINERS, AND OTHER POINTS FROM THE SYSTEM, SHALL BE REMOVED BOTH BEFORE AND AFTER TESTING.

4.) THE MANUFACTURER SHALL CLEAN ALL STEEL PIPE AND FITTINGS BEFORE SHIPMENT. THE PIPE AND FITTINGS SHALL BE DIPPED INTO A SOLUTION OF SULPHURIC ACID TO REMOVE THE MILL SCALE AND THEN INTO A SOLUTION TO STOP THE CHEMICAL ACTION ON THE METAL AND REMOVE GREASE.

X.) HANGERS, SUPPORTS, ANCHORS AND GUIDES - GENERAL

1.) SUPPORT, ANCHOR AND GUIDE ALL PIPING AND CONNECTED EQUIPMENT TO PRECLUDE FAILURE OR DEFORMATION. CONSTRUCT AND INSTALL HANGERS, SUPPORTS, ANCHORS,

GUIDES AND ACCESSORIES IN CONFORMANCE WITH THE CODE FOR PRESSURE PIPING ANSI B-31.1 AS A MINIMUM REQUIREMENT. WHERE SPECIFICATION REQUIREMENTS ARE MORE STRINGENT THAN THE CODE, THE SPECIFICATION SHALL APPLY. WIRE, TAPE OR METAL BANDS SHALL NOT BE USED.

2.) PIPING SHALL BE SECURELY FASTENED TO THE STRUCTURE WITHOUT OVERSTRESSING ANY PORTION OF THE SUPPORTS OF THE STRUCTURE ITSELF. SUFFICIENT INTERMEDIATE STEEL SHALL BE PROVIDED TO TRANSFER LOADS TO AREAS WHERE THEY CAN SAFELY BE ACCOMMODATED. PIPE SUPPORTS, ANCHORS AND GUIDES SHALL BE SECURED TO STEEL BY WELDED BRACKETS, BEAM CLAMPS, OR BY FASTENING RODS OVER THE BEAM TOP FLANGE, AND TO CONCRETE BY MEANS OF INSERTS, OR IF GREATER LOAD CARRYING CAPACITY IS REQUIRED, BY MEANS OF STEEL FISHPlates EMBEDDED IN THE CONCRETE ABOVE THE REINFORCEMENT RODS. ALL HANGERS SHALL BE LOCATED TO PERMIT FREE EXPANSION AND CONTRACTION.

3.) UNLESS OTHERWISE INDICATED, ALL HORIZONTAL PIPING SHALL BE HUNG TIGHT TO CEILING BEAMS AND LOCATED MORE THAN SIX FEET ABOVE THE FLOOR. PIPING LOCATED WITHIN SIX FEET OF THE FLOOR SHALL BE SUPPORTED ON FABRICATED STANDS OR PIERS. WHERE PIPING RUNS ALONG WALLS, SUITABLE WALL TYPE AND GANG-TYPE HANGERS SHALL BE PROVIDED.

4.) PIPING AND TUBING SHALL BE SUPPORTED AT ALL CHANGES IN DIRECTION. MAXIMUM DEFLECTION SHALL BE 1/8". MAXIMUM SPACING BETWEEN SUPPORTS SHALL BE:

MATERIAL 1/2" - 1-1/4" 1-1/2" - 2"

COPPER TUBING 6 FT O.C. 10 FT O.C.

5.) HANGER RODS FOR BOTH SINGLE AND DOUBLE ROD HANGERS SHALL CONFORM TO THE FOLLOWING SCHEDULE OF DIAMETERS:

STEEL PIPE		COPPER TUBING	
PIPE SIZE	HANGER ROD Ø	PIPE SIZE	HANGER ROD Ø
1/2" - 1"	- 3/8"	1/2" - 2"	- 3/8"
1-1/4" - 2"	- 1/2"	2-1/2" - 5"	- 5/8"
2-1/2" - 4"	- 1/2"	5" - 6"	- 3/4"

6.) COPPER PLATED PIPE HANGERS AND SUPPORTS SHALL BE USED FOR VERTICAL AND HORIZONTAL RUNS OF COPPER OR BRASS PIPE AND TUBING WHERE THE HANGER IS IN DIRECT CONTACT WITH THE PIPE, OTHERWISE STEEL HANGERS AND SUPPORTS SHALL BE USED.

7.) PIPE HANGERS AND SUPPORTS COMPLETE WITH RODS, BOLTS, LOCKNUTS, SWIVELS, COUPLINGS, BRACKETS AND ALL OTHER COMPONENTS AND ACCESSORIES SHALL BE PROVIDED.

Y.) HANGER TYPES

1.) IN GENERAL, HANGERS SHALL BE OF CLEVIS TYPE OR ROLL TYPE WITH VERTICAL ADJUSTMENT. WHERE SEVERAL LINES OF PIPING RUN AS A COMMON GROUP, THEY SHALL BE SUPPORTED ON A COMMON HANGER BAR OF GALVANIZED CHANNEL OR BACK TO BACK ANGLE SECTIONS OR "UNISTRUT" TYPE SUPPORTS.

2.) HANGERS SHALL BE AS FOLLOWS:

APPLICATION CENTRAL IRON FIG. NO.

CLEVIS HANGER	10
RISER CLAMP - THRU 3"	261
RISER CLAMP - OVER 3"	262
ROLL HANGER THRU 6"	272
ROLL HANGER OVER 6"	171

3.) ALTERNATE MANUFACTURERS: GRINELL, GRABLER, CRANE

M-29 WATER TREATMENT - NOT USED

M-30 AUTOMATIC TEMPERATURE CONTROLS

A.) PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES, AND PERFORM ALL OPERATIONS REQUIRED FOR THE AUTOMATIC TEMPERATURE CONTROL SYSTEM.

B.) THE CONTROL SYSTEM SHALL BE COMPLETE WITH ALL NECESSARY CONTROL DEVICES, THERMOSTATS, VALVES, SWITCHES, PANELS AND CONTROL WIRING TO PROVIDE THE DESCRIBED FUNCTIONS. PROVIDE INFORMATION TO THE ELECTRICAL CONTRACTOR REQUIRED TO PERMIT INSTALLATION OF POWER WIRING TO ANY CONTROL COMPONENTS.

C.) THE CONTROLS MANUFACTURER SHALL FURNISH FACTORY WIRED CONTROL PANELS WHICH SHALL HOUSE ALL RELAYS, DEVICES, SWITCHES, TRANSFORMERS, TERMINAL STRIPS, ETC., AS REQUIRED FOR THE COMPLETE TEMPERATURE CONTROL OF THE SYSTEM.

D.) ALL CONTROLS SHALL BE THE PRODUCT OF ONE (1) MANUFACTURER AND ALL COMPONENTS SHALL BE U.L. APPROVED WHERE APPLICABLE. SYSTEM SHALL BE THE LATEST TOP QUALITY EQUIPMENT AND SHALL BE INSTALLED COMPLETE IN ALL RESPECTS BY COMPETENT MECHANICS, REGULARLY EMPLOYED BY THE MANUFACTURER OF THE CONTROL SYSTEM. ALL AUTOMATIC CONTROL VALVES AND DAMPERS SHALL BE MANUFACTURED BY THE CONTROL MANUFACTURER.

E.) AFTER COMPLETION OF THE CONTROL SYSTEM WORK, THE CONTROL MANUFACTURER SHALL REGULATE AND ADJUST ALL THERMOSTATS, CONTROL VALVES, ETC., AND PLACE THEM IN COMPLETE OPERATING CONDITION SUBJECT TO THE REVIEW OF THE ENGINEERS. COMPLETE INSTRUCTIONS SHALL BE GIVEN TO THE OPERATING PERSONNEL AND/OR OWNER.

F.) THE CONTROL SYSTEM HEREIN SPECIFIED SHALL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIAL UNDER NORMAL USE AND SERVICE. IF, WITHIN ONE (1) YEAR FROM DATE OF ACCEPTANCE BY THE OWNER, ANY EQUIPMENT HEREIN DESCRIBED IS PROVED TO BE DEFECTIVE IN WORKMANSHIP OR MATERIAL, IT SHALL BE ADJUSTED, REPAIRED OR REPLACED FREE OF CHARGE.

G.) DELIVER TO THE OWNER TWO (2) COPIES OF THE AS-INSTALLED CONTROL SYSTEM, LAMINATED IN CLEAR PLASTIC. PROVIDE IDENTIFYING TAGS ON ALL CONTROLS TO CONFORM TO THE DESIGNATIONS ON THE CONTROL DIAGRAMS.

H.) ALL CONTROL WIRING SHALL BE RUN IN EMT OR GALVANIZED CONDUIT. CONTROL CONDUIT AND/OR PIPING SHALL BE CONCEALED IN ALL SPACES EXCEPT IN MECHANICAL EQUIPMENT ROOMS AND UNFINISHED SPACES, AND SHALL BE INSTALLED IN PARALLEL BANKS WITH ALL CHANGES IN DIRECTIONS MADE AT 90 DEGREE ANGLES. CONTROL AND INSTRUMENT WIRING SHALL NOT BE INSTALLED ON DUCTWORK. WIRING AND PIPING SHALL BE SECURED TO THE BUILDING STRUCTURE, SUCH AS WALLS, COLUMNS, UNDERSIDE OF SLABS, ETC.

I.) ALL CONTROLLERS SHALL BE OF THE FULLY PROPORTIONING TYPE AND SHALL BE PROVIDED WITH AN ADJUSTABLE THROTTLING RANGE, MINIMUM RANGE SHALL BE 1°F. ALL ROOM THERMOSTATS SHALL BE LOCATED AS SHOWN ON THE PLANS. ALL THERMOSTATS AND OTHER CONTROLLERS SHALL HAVE ADJUSTABLE SET POINTS.

J.) PROVIDE A MINIMUM OF 5 FEET EXCESS CONTROL WIRING TO EACH THERMOSTAT FOR FUTURE RELOCATION OF THERMOSTATS. EXCESS CONTROL WIRING SHALL BE NEATLY BUNDLED AND SECURED.

M-31 SEQUENCE OF OPERATIONS

1.) THIS CONTRACTOR SHALL PROVIDE A CONTROL SYSTEM COMPLETE WITH ALL NECESSARY WIRING, VALVES, INTERLOCKS, PANELS, ETC. FOR SYSTEM TO OPERATE AS SPECIFIED IN THE SEQUENCE OF OPERATION.

2.) SUBMITTALS FOR REVIEW

A.) SHOP DRAWINGS: INDICATE ALL MECHANICAL CONTROLLED COMPONENTS AND CONTROL SYSTEM COMPONENTS. LABELLED WITH SETTINGS, AND ADJUSTABLE RANGE OF CONTROLS AND LIMITS. INCLUDE WRITTEN DESCRIPTION OF CONTROL SEQUENCE.

B.) INCLUDE FLOW DIAGRAMS FOR EACH CONTROL SYSTEM, GRAPHICALLY DEPICTING CONTROL LOGIC. INCLUDE DRAFT COPIES OF GRAPHIC DISPLAYS INDICATING MECHANICAL SYSTEM COMPONENTS, CONTROL SYSTEM COMPONENTS, AND CONTROLLED FUNCTION STATUS AND VALUE.

3.) HEAT PUMPS: HEAT PUMPS SHALL BE CONTROLLED THROUGH THE UNIT MANUFACTURES PROGRAMMABLE DIGITAL ROOM THERMOSTAT (PROVIDE ONE THERMOSTAT FOR EACH HEAT PUMP UNIT). REFER TO SPECIFICATION SECTION 23 81 29 VARIABLE-REFRIGERANT-FLOW HVAC SYSTEM CONTROLLERS. THE THERMOSTAT SHALL BE CAPABLE OF SET POINT ADJUSTMENT WITH AN ADJUSTABLE DEAD BAND, HEATING COOLING CHANGE OVER EITHER MANUAL OR AUTOMATIC AS WELL AS FAN SPEED AND ON/OFF/AUTO MODES. THE ZONE AIR CONDITIONER SHALL BE ARRANGED TO MAINTAIN ROOM SET POINT. COOLING OR HEATING. UPON A RISE IN SPACE TEMPERATURE ABOVE SET POINT, (COOLING), OR DROP BELOW SET POINT (HEATING) THE EVAPORATOR FAN SHALL START. FAN SPEED CONTROL SHALL AUTOMATICALLY ADJUST TO MAINTAIN ROOM SET POINT IN RESPONSE TO LOAD. CONDENSER AND HEAD PRESSURE CONTROL SHALL BE PERFORMING BY THE UNIT MANUFACTURER'S INTERNAL CONDENSING UNIT CONTROLS.

4.) KITCHEN AND TOILET EXHAUST FANS: GENERAL AND TOILET EXHAUST FANS SHALL RUN AS SCHEDULED THROUGH A PROGRAMMABLE TIMECLOCK. THESE FANS SHALL BE INITIALLY SCHEDULED TO RUN 24 HRS A DAY 7 DAYS A WEEK. FAN FAILURE SHALL BE ALARMED AT THE ITM SYSTEM CONTROL PANEL WITH INDICATOR LIGHT CORRESPONDING TO THE SPECIFIC FAN AND AN ALARM SOUND.

KITCHEN EXHAUST FANS SHALL BE CONTINUOUSLY ENABLED. PROVIDE A STATIC PRESSURE SENSOR 2/3 DOWNSTREAM OF EACH KITCHEN EXHAUST FAN. UPON A RISE IN STATIC PRESSURE ABOVE SETPOINT (ADJUSTABLE) THE KITCHEN EXHAUST FAN SPEED SHALL INCREASE. UPON A DROP IN STATIC PRESSURE BELOW SETPOINT (ADJUSTABLE) THE KITCHEN EXHAUST FAN SPEED SHALL DECREASE.

5.) GARAGE EXHAUST FANS: PROVIDE EACH GARAGE EXHAUST FAN SYSTEM WITH CARBON MONOXIDE (CO) AND NITROGEN DIOXIDE (NO2) DETECTORS SPACED 50 FEET ON CENTER AND COVERING A MAXIMUM AREA OF 7,500 SQUARE FEET EACH. UPON A RISE IN CO AND NO2 ABOVE SETPOINT THE FAN SPEED SHALL INCREASE TO ITS MAXIMUM SPEED. UPON A DROP IN CO AND NO2 BELOW SETPOINT THE FAN SPEED SHALL DECREASE TO ITS MINIMUM SPEED. CONTROL SYSTEM SHALL BE SIMILAR TO HONEYWELL MODEL 301C. PROVIDE ALARM AT ITM TO ALARM UPON CO OR NO2 DETECTION AS WELL AS FAILURE OR ANY GARAGE EXHAUST FAN

6.) TRASH ROOM EXHAUST FAN: THE TRASH ROOM EXHAUST FAN SHALL RUN AS SCHEDULED THROUGH A PROGRAMMABLE TIMECLOCK. THE TRASH ROOM FAN SHALL BE SCHEDULED TO RUN 24 HRS A DAY 7 DAYS A WEEK. FAN FAILURE SHALL BE ALARMED IN THE GROUND FLOOR TRASH ROOM. PROVIDE SYSTEM CONTROL PANEL WITH INDICATOR LIGHT AND ALARM HORN WITH SILENCE BUTTON.

7.) UNIT HEATERS & CABINET UNIT HEATERS:

A. RTU-1: PROVIDE WALL MOUNTED PROGRAMMABLE THERMOSTAT IN LOBBY. THERMOSTAT SHALL BE 7-DAY 3-EVENT PROGRAMMABLE WITH OCCUPIED AND UNOCCUPIED MODES AND LOCKABLE CLEAR PLASTIC COVER. IN THE OCCUPIED MODE THE OUTSIDE AND EXHAUST AIR DAMPER SHALL BE OPEN TO MINIMUM POSITION AND RETURN AIR DAMPER SHALL BE OPEN. DURING THE UNOCCUPIED MODE THE OUTSIDE AND EXHAUST AIR DAMPER SHALL BE CLOSED AND RETURN AIR DAMPER OPEN. COOLING MODE: UPON A RISE IN SPACE TEMPERATURE ABOVE SETPOINT DX COOLING SHALL CYCLE ON. UPON A DROP IN SPACE TEMPERATURE BELOW SETPOINT THE REVERSE SHALL OCCUR. HEATING MODE: UPON A DROP IN SPACE TEMPERATURE BELOW SETPOINT GAS HEATING SHALL ENERGIZE. UPON A RISE IS SPACE TEMPERATURE ABOVE SETPOINT THE REVERSE SHALL OCCUR. PROVIDE ENTHALPY BASED ECONOMIZER OPERATION WHEN OUTDOOR CONDITIONS PERMIT.

B. RTU-2: PROVIDE WALL MOUNTED PROGRAMMABLE THERMOSTAT LOCATED IN THE MAIL ROOM WITH REMOTE RETURN AIR TEMPERATURE SENSOR. THERMOSTAT SHALL BE 7-DAY 3-EVENT PROGRAMMABLE WITH OCCUPIED AND UNOCCUPIED MODES AND LOCKABLE CLEAR PLASTIC COVER. IN THE OCCUPIED MODE THE OUTSIDE AND EXHAUST AIR DAMPER SHALL BE OPEN TO MINIMUM POSITION AND RETURN AIR DAMPER SHALL BE OPEN. DURING THE UNOCCUPIED MODE THE OUTSIDE AND EXHAUST AIR DAMPER SHALL BE CLOSED AND RETURN AIR DAMPER OPEN. COOLING MODE: UPON A RISE IN RETURN AIR TEMPERATURE ABOVE SETPOINT DX COOLING SHALL CYCLE ON. UPON A DROP IN RETURN AIR TEMPERATURE BELOW SETPOINT THE REVERSE SHALL OCCUR. HEATING MODE: UPON A DROP IN RISE IN RETURN AIR TEMPERATURE BELOW SETPOINT GAS HEATING SHALL ENERGIZE. UPON A RISE IS RETURN AIR TEMPERATURE ABOVE SETPOINT THE REVERSE SHALL OCCUR. PROVIDE ENTHALPY BASED ECONOMIZER OPERATION WHEN OUTDOOR CONDITIONS PERMIT.

M-32 MISCELLANEOUS

A.) THE CONTRACTOR SHALL PROVIDE THE OWNERS WITH CATALOG DATA, OPERATING INSTRUCTIONS, MAINTENANCE INSTRUCTIONS AND RECORD (AS-BUILT) DRAWINGS OF ALL COMPLETED WORK. AS-BUILT DRAWINGS SHALL SHOW EXACT LOCATION OF ALL MECHANICAL SYSTEMS, EQUIPMENT, DUCTWORK, PIPING, ETC.

B.) SUBMIT THREE (3) SETS OF AS BUILT DRAWINGS AND AN ELECTRONIC FILE OF THE AS BUILT DOCUMENTS IN AN AUTO CAD LT 2004 FORMAT TO BUILDING MANAGEMENT.

C.) ALL WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.

D.) PROVIDE CONTROL SYSTEM TRAINING TO OWNERS PERSONNEL.

END OF SPECIFICATIONS

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PROJECT NO:	NIDM001.00
DRAWN BY:	HLD
CHECKED BY:	RJ
SCALE:	AS NOTED

DRAWING TITLE
MECHANICAL SPECIFICATIONS 2 OF 2

SHEET NO.
M0.3

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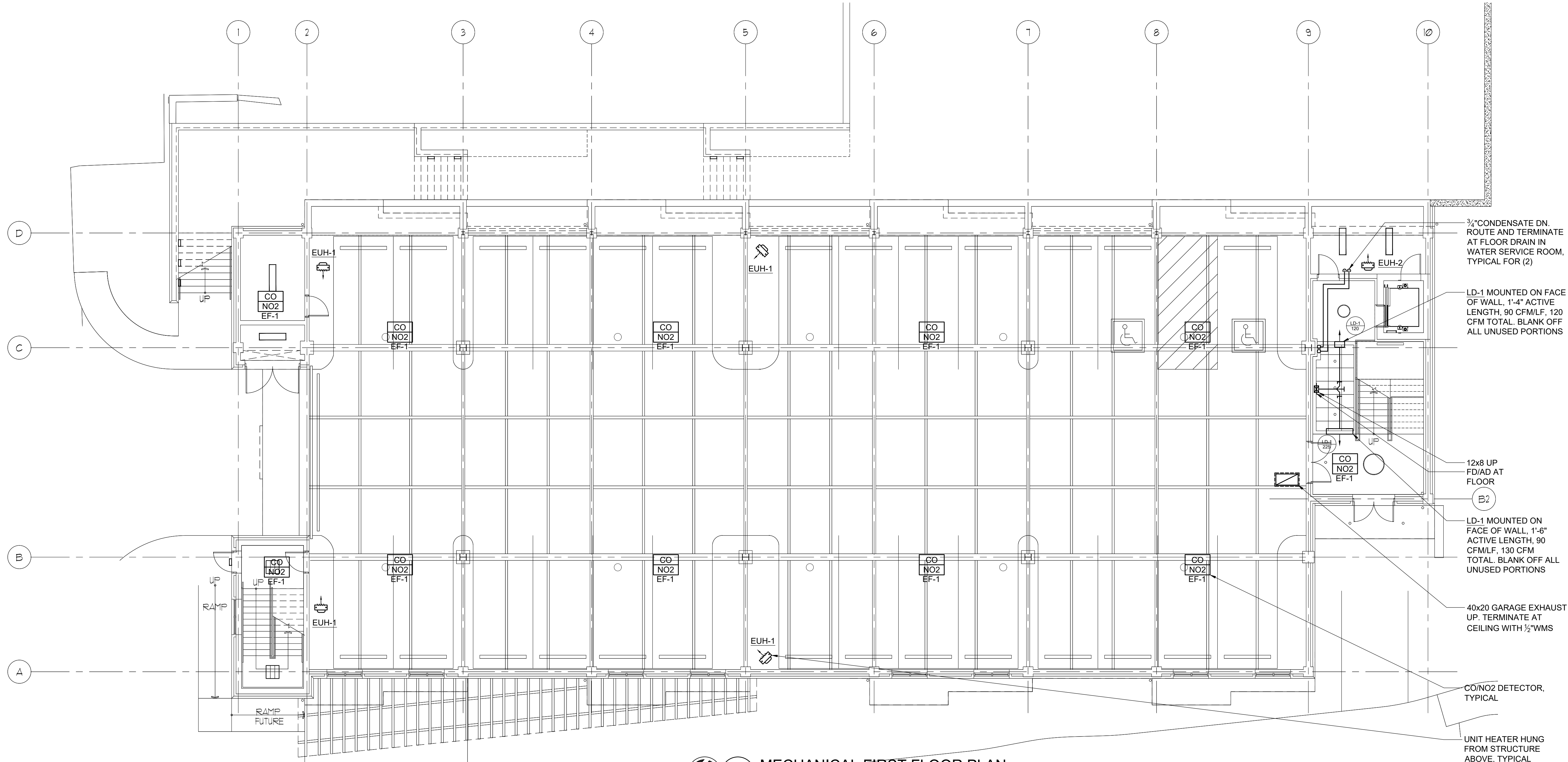
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3/4" CONDENSATE DN.
ROUTE AND TERMINATE
AT FLOOR DRAIN IN
WATER SERVICE ROOM,
TYPICAL FOR (2)

LD-1 MOUNTED ON FACE
OF WALL, 1'-4" ACTIVE
LENGTH, 90 CFM/LF, 120
CFM TOTAL. BLANK OFF
ALL UNUSED PORTIONS

12x8 UP
FD/AD AT
FLOOR

LD-1 MOUNTED ON
FACE OF WALL, 1'-6"
ACTIVE LENGTH, 90
CFM/LF, 130 CFM
TOTAL. BLANK OFF ALL
UNUSED PORTIONS

40x20 GARAGE EXHAUST
UP. TERMINATE AT
CEILING WITH 1/2" WMS

CO/NO2 DETECTOR,
TYPICAL

UNIT HEATER HUNG
FROM STRUCTURE
ABOVE, TYPICAL

MECHANICAL FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"
NORTH

GARAGE VENTILATION CALCULATION					
EXHAUST FAN SYSTEM	AREA (SQUARE FEET)	MAXIMUM CFM = 0.75 CFM/SQUARE FOOT	MINIMUM CFM = 0.05 CFM/SQUARE FOOT	MAXIMUM CONCENTRATION IN PPM	
				CO	NO2
EF-1	10,414	7,811	521	25	2

NOTES:
1. EXHAUST FAN EF-1 SHALL OPERATE CONTINUOUSLY AT THE MAXIMUM CFM INDICATED ABOVE WHEN CO OR NO2 CONCENTRATION IS GREATER THEN OR EQUAL TO THE MAXIMUM CONCENTRATION INDICATED ABOVE. WHEN CONCENTRATIONS ARE LESS THAN THE CONCENTRATIONS INDICATED ABOVE EF-1 SHALL OPERATE AT MINIMUM CFM.

NOTES:
1. PROVIDE GARAGE CO AND NO2 DETECTION SYSTEM THROUGHOUT ENCLOSED PARKING GARAGE. DETECTION SHALL BE INSTALLED IN ALL AREAS ADJACENT WITH DIRECT ACCESS TO GARAGE, INCLUDING LOBBIES, STAIRWELLS, AND CORRIDORS.

NO.	REVISION/ISSUE	DATE
4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1	ISSUED FOR PROGRESS	02-19-2021

SEAL

PROJECT
LIBERTY PLAZA SUITES
500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE:	AUGUST 12, 2020
PROJECT NO.:	NDIM0001.00
DRAWN BY:	HLD
CHECKED BY:	RJ
SCALE:	AS NOTED

DRAWING TITLE
MECHANICAL FIRST FLOOR NEW WORK PLAN

SHEET NO.
M2.1

MECHANICAL KEYED NOTES

1. 6x4 TOILET EXHAUST UP IN SHAFT. PROVIDE FIRE DAMPER AND ACCESS DOOR AT SHAFT DUCT PENETRATION AT THIS LEVEL.
2. 8x6 KITCHEN EXHAUST UP IN SHAFT. PROVIDE SUB-DUCT FOR DUCTWORK PENETRATING FIRE RATED WALLS. REFER TO MECHANICAL DETAILS M7.1 & M7.2.
- 2.1 10x8 KITCHEN EXHAUST UP IN SHAFT. PROVIDE SUB-DUCT FOR DUCTWORK PENETRATING FIRE RATED WALLS. REFER TO MECHANICAL DETAILS M7.1 & M7.2.
3. 8x6 DN TO KITCHEN HOOD EXHAUST OUTLET. TRANSITION DUCTWORK AS REQUIRED FOR CONNECTION. PROVIDE CEILING RADIATION DAMPER AT RATED CEILING PENETRATION.
4. PROVIDE KITCHEN EXHAUST ZONE REGISTER TERMINAL AND INTERLOCK WITH RANGE HOOD OPERATION. SEE MECHANICAL EQUIPMENT NOTES ON DRAWING M6.1.
5. 4"Ø LAUNDRY EXHAUST UP TO ROOF. DRYER EXHAUST TOTAL DUCT LENGTH AND NUMBER OF BENDS, FROM APPLIANCE OUTLET TO EXHAUST CAP TERMINATION, SHALL NOT EXCEED MANUFACTURER MAXIMUM RECOMMENDED EQUIVALENT LENGTH.
6. 3/8"RS & 3/4"RL ASSOCIATED WITH APARTMENT HEAT PUMP UNIT UP IN SHAFT.
7. 16x10 SUPPLY AIR UP IN SHAFT.
8. 16x10 RETURN AIR UP IN SHAFT.
9. 18x10 POINT OF RETURN ABOVE HUNG CEILING. TERMINATE WITH 1/2"WMS. PROVIDE FIRE DAMPER AND ACCESS DOOR AT SHAFT DUCT PENETRATION.
10. 14x8 SUPPLY DUCT UP IN SHAFT.
11. 14x8 RETURN DUCT UP IN SHAFT.
12. 16x8 POINT OF RETURN ABOVE HUNG CEILING. TERMINATE WITH 1/2"WMS. PROVIDE FIRE DAMPER AND ACCESS DOOR AT SHAFT DUCT PENETRATION.

LIBERTY PLAZA SUITES

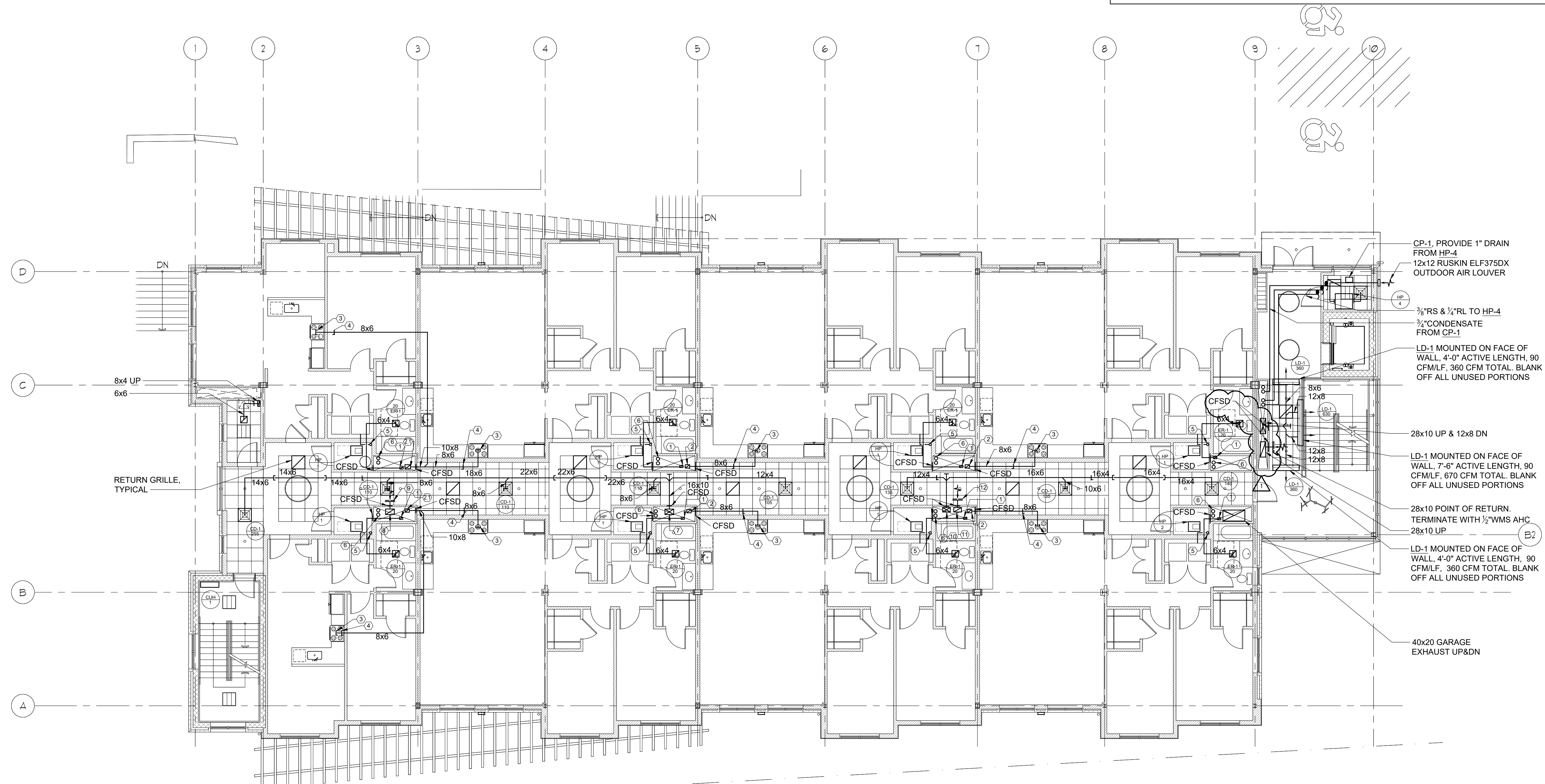
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1	ISSUED FOR PROGRESS	02-19-2021

DOB COMMENTS	DATE
	04-26-2021

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TOWN OF MT. PLEASANT, NY

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SCALE:	AS NOTED

DRAWING TITLE
MECHANICAL SECOND FLOOR NEW WORK PLAN

SHEET NO.
M2.2

1 MECHANICAL SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

- NOTES:
1. REFER TO APARTMENT TYPE PLANS ON DRAWING M4.1 FOR EQUIPMENT AND DUCTWORK DISTRIBUTION WITHIN APARTMENTS.
 2. PROVIDE FIRE DAMPERS IN ALL DUCTWORK PENETRATING FIRE RATED WALLS.
 3. PROVIDE COMBINATION FIRE/SMOKE DAMPER IN ALL WALLS PENETRATING SMOKE WALLS.
 4. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE AND SMOKE WALL LOCATIONS.
 5. ALL KITCHEN EXHAUST DAMPERS SHALL BE CAR TYPE DAMPERS. REFER TO MECHANICAL EQUIPMENT NOTES.
 6. ALL TOILET EXHAUST DAMPERS SHALL BE ACCESSIBLE FROM GRILLE FOR BALANCING.
 7. PROVIDE 10" DEEP SUPPLY AIR PLENUM FOR ALL LINEAR DIFFUSERS.

MECHANICAL KEYED NOTES

1. 8x6 TOILET EXHAUST UP AND 6x4 DN IN SHAFT. PROVIDE FIRE DAMPER FOR SHAFT DUCT PENETRATION AT THIS LEVEL.
- 1.1 6x4 DN IN SHAFT. PROVIDE FIRE DAMPER FOR SHAFT DUCT PENETRATION AT THIS LEVEL.
2. 12x10 KITCHEN EXHAUST UP AND 8x6 DOWN. PROVIDE SUB-DUCT FOR DUCTWORK PENETRATING FIRE RATED WALLS. REFER TO MECHANICAL DETAILS M7.1 & M7.2.
- 2.1 8x6 DOWN. PROVIDE SUB-DUCT FOR DUCTWORK PENETRATING FIRE RATED WALLS. REFER TO MECHANICAL DETAILS M7.1 & M7.2.
- 2.2 14x12 KITCHEN EXHAUST UP AND 10x8 DOWN. PROVIDE SUB-DUCT FOR DUCTWORK PENETRATING FIRE RATED WALLS. REFER TO MECHANICAL DETAILS M7.1 & M7.2.
- 2.3 10x8 DOWN. PROVIDE SUB-DUCT FOR DUCTWORK PENETRATING FIRE RATED WALLS. REFER TO MECHANICAL DETAILS M7.1 & M7.2.
3. 8x6 DN TO KITCHEN HOOD EXHAUST OUTLET. TRANSITION DUCTWORK AS REQUIRED FOR CONNECTION. PROVIDE CEILING RADIATION DAMPER AT RATED CEILING PENETRATION.
4. PROVIDE CAR TYPE DAMPER AND INTERLOCK WITH RANGE HOOD OPERATION. SEE MECHANICAL EQUIPMENT NOTES ON DRAWING M6.1.
5. 4"Ø LAUNDRY EXHAUST UP TO ROOF, TYPICAL FOR 2. DRYER EXHAUST TOTAL DUCT LENGTH AND NUMBER OF BENDS, FROM APPLIANCE OUTLET TO EXHAUST CAP TERMINATION, SHALL NOT EXCEED MANUFACTURER MAXIMUM RECOMMENDED EQUIVALENT LENGTH.
6. 5/8"RS & 3/4"RL UP&DN IN SHAFT, TYPICAL FOR (2) SETS. (1) SET OF RS&RL PIPING TO ASSOCIATED APARTMENT HEAT PUMP UNIT ON THIS LEVEL.
7. 26x12 SUPPLY AIR UP & 16x10 DN IN SHAFT.
8. 26x12 RETURN AIR UP & 16x10 DN IN SHAFT.
9. 18x10 POINT OF RETURN ABOVE HUNG CEILING, TERMINATE WITH 1/2"WMS. PROVIDE FIRE DAMPER AND ACCESS DOOR AT SHAFT DUCT PENETRATION.
10. 14x12 SUPPLY UP & 14x8 DN IN SHAFT.
11. 14x12 RETURN UP & 14x8 DN IN SHAFT.
12. 14x10 POINT OF RETURN ABOVE HUNG CEILING, TERMINATE WITH 1/2"WMS. PROVIDE FIRE DAMPER AND ACCESS DOOR AT SHAFT DUCT PENETRATION.

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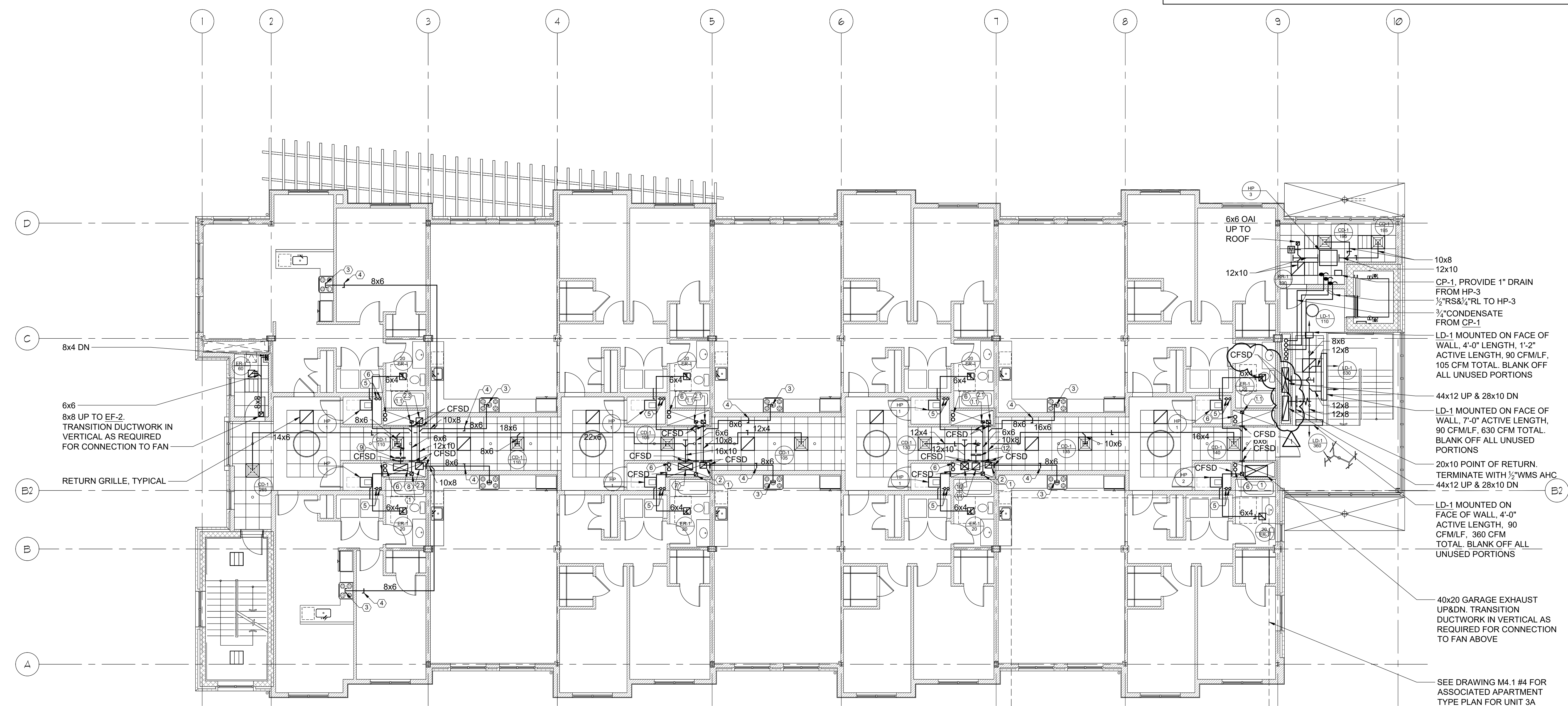
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TOWN OF MT. PLEASANT, NY

DATE:	AUGUST 12, 2020
PROJECT NO.:	NDIM0001.00
DRAWN BY:	HLD
CHECKED BY:	RJ
SCALE:	AS NOTED

DRAWING TITLE
MECHANICAL THIRD FLOOR NEW WORK PLAN

SHEET NO.
M2.3



1 MECHANICAL THIRD FLOOR PLAN
SCALE: 1/8" = 1'-0"

- NOTES:
1. REFER TO APARTMENT TYPE PLANS ON DRAWING M4.1 FOR ASSOCIATED WORK WITHIN APARTMENTS
 2. PROVIDE FIRE DAMPERS IN ALL DUCTWORK PENETRATING FIRE RATED WALLS.
 3. PROVIDE COMBINATION FIRE/SMOKE DAMPER IN ALL WALLS PENETRATING SMOKE WALLS.
 4. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE AND SMOKE WALL LOCATIONS.
 5. PROVIDE 10" DEEP SUPPLY AIR PLENUM FOR ALL LINEAR DIFFUSERS.
 6. PROVIDE ACCESS DOOR FOR EACH CFSD ABOVE DRY CEILINGS

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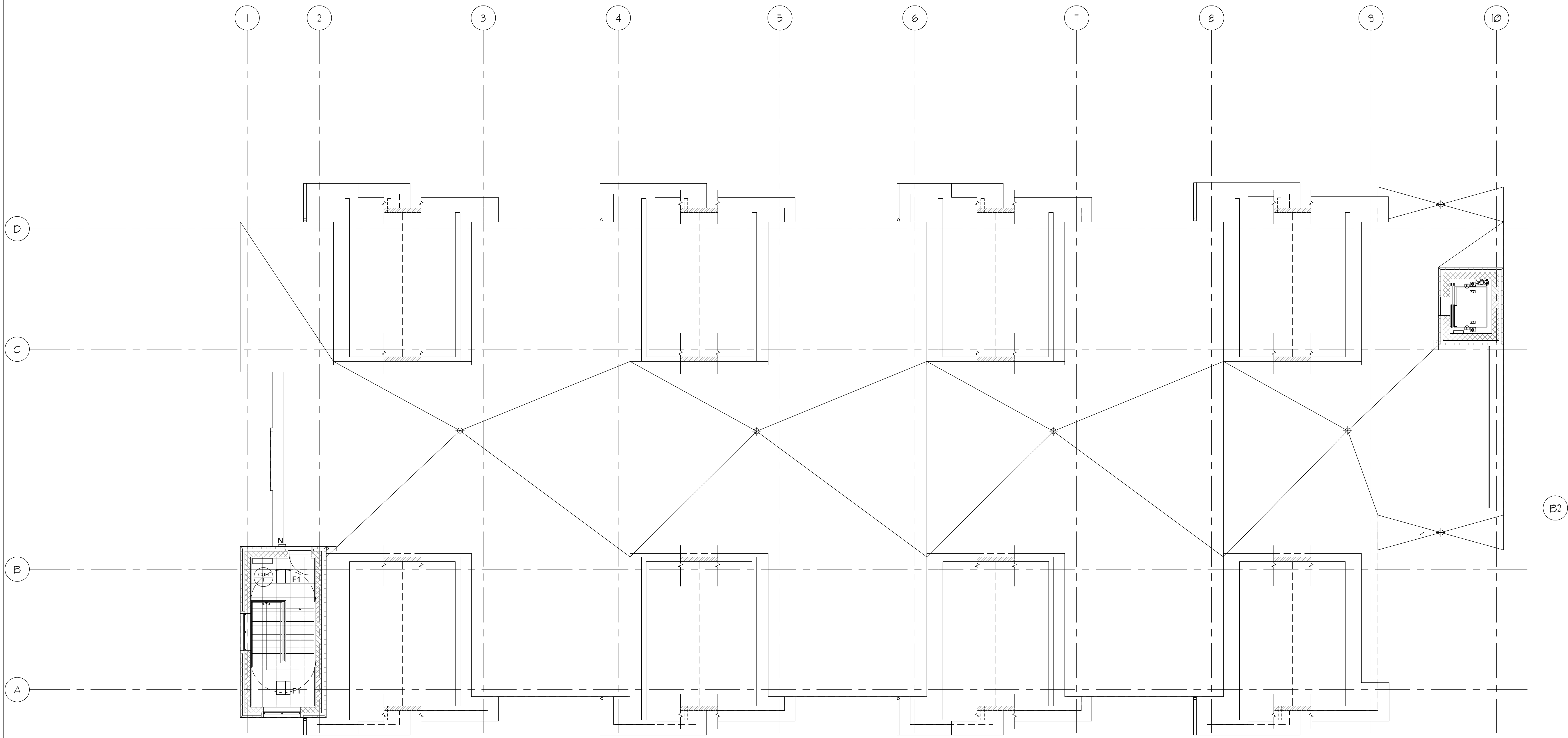
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1 MECHANICAL FOURTH FLOOR PLAN
SCALE: 1/8" = 1'-0"
NORTH

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DRAWING TITLE
MECHANICAL FOURTH LEVEL ROOF PLAN

SHEET NO.
M2.4

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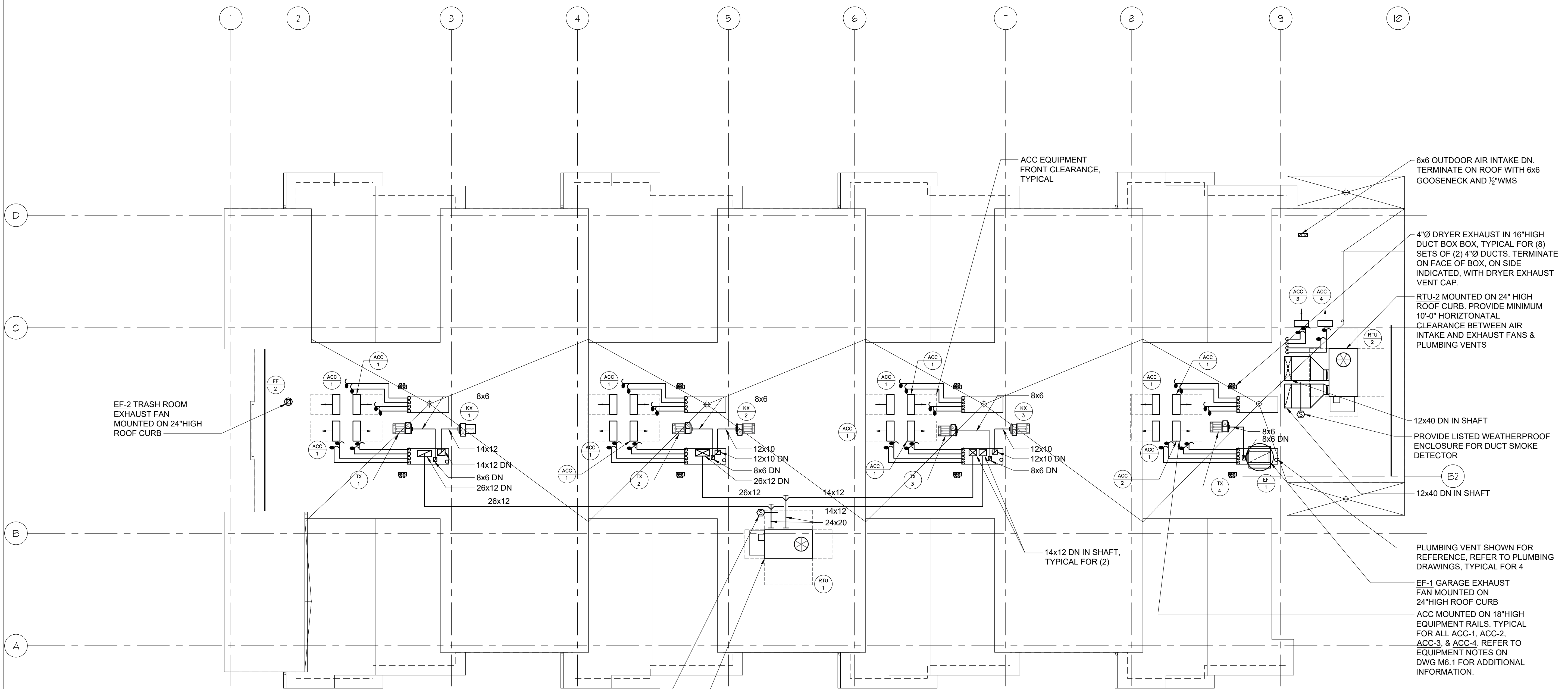
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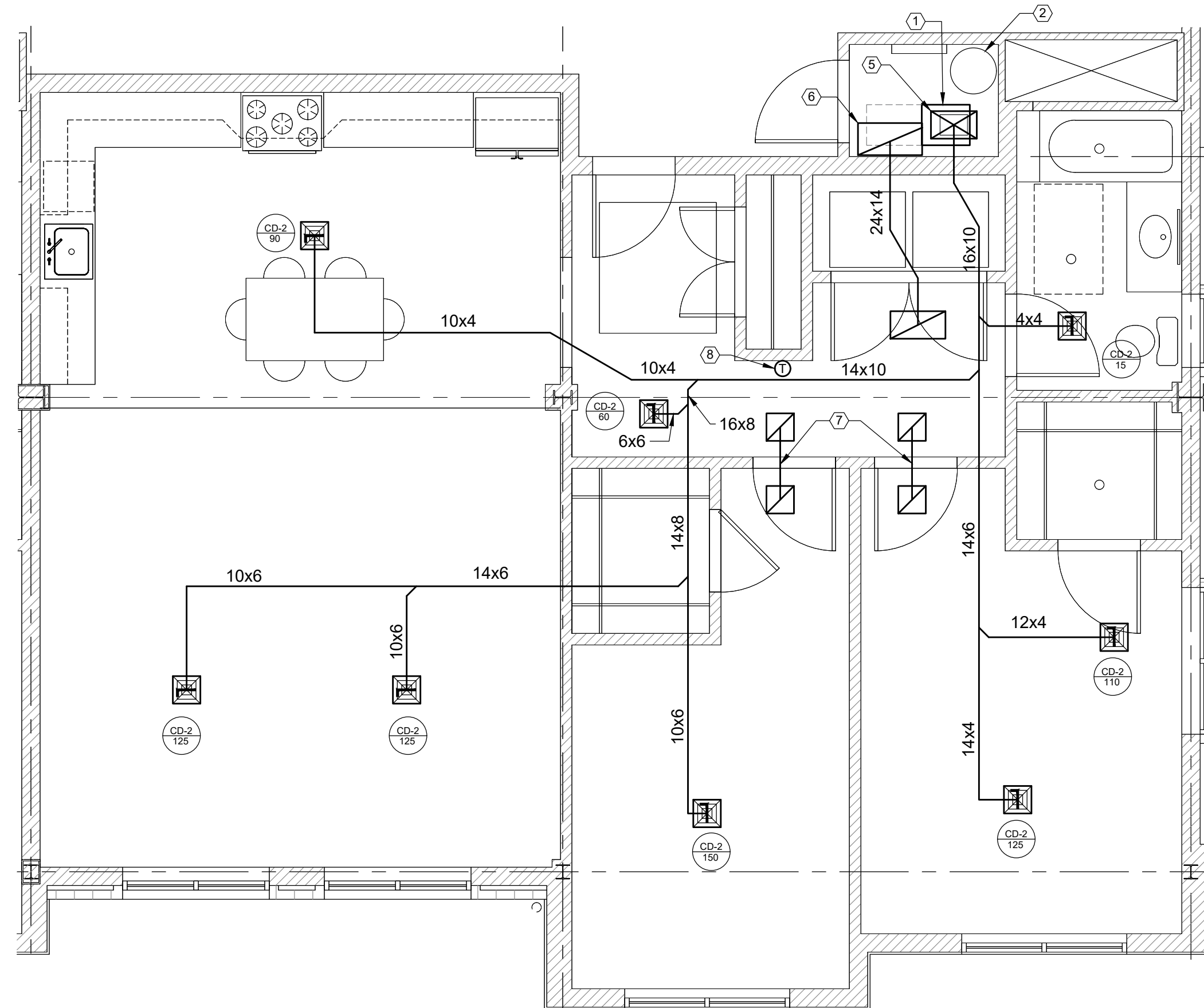
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PROJECT NO: NDM0001.00
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SCALE: AS NOTED

DRAWING TITLE
MECHANICAL ROOF NEW WORK PLAN

SHEET NO.
M2.5

1 MECHANICAL ROOF NEW WORK PLAN
SCALE: 1/8" = 1'-0"
NORTH



4 APARTMENT 3A PLAN
SCALE: 1/4" = 1'-0"

- NOTES:
1. REFER TO FLOOR PLANS M2.2 FOR ASSOCIATED KITCHEN AND TOILET EXHAUST.
 2. ALL DAMPERS SHOWN IN APARTMENT SHALL BE ACCESSIBLE FOR BALANCING FROM CEILING DIFFUSER. REFER TO CEILING DIFFUSER SCHEDULE ON DRAWING M6.1.

MECHANICAL KEYED NOTES

1. VERTICAL HEAT PUMP UNIT. PROVIDE 24" FRONT CLEARANCE. REFER TO FLOOR PLANS FOR ASSOCIATED UNIT TAG. PROVIDE 3/8"RS & 3/8" RL PIPING SO UNIT. SEE FLOOR PLANS FOR REFRIGERANT RISER LOCATIONS. PROVIDE 3/2"CONDENSATE DRAIN ROUTED TO FLOOR DRAIN IN MER CLOSET. REFER TO PLUMBING PLANS FOR FLOOR DRAIN LOCATION.
2. DOMESTIC WATER HEATER SHOWN FOR REFERENCE. REFER TO PLUMBING DRAWINGS.
3. 14x10 SA DN. TRANSITION DUCTWORK IN VERTICAL AS REQUIRED FOR CONNECTION TO HEAT PUMP UNIT. DUCTWORK SHALL BE CONNECTED TO UNIT WITH FLEXIBLE CONNECTION. OFFSET DUCT ROUTING IN VERTICAL AS REQUIRED TO AVOID BEAM.
4. 22x10 TRANSFER DUCT DN. TERMINATE IN MER APPROXIMATELY 7'-6" AFF WITH 1/2"WMS. TERMINATE IN APARTMENT CEILING WITH 24x12 RETURN REGISTER RR-1.
5. 16x10 SA DN. TRANSITION DUCTWORK IN VERTICAL AS REQUIRED FOR CONNECTION TO HEAT PUMP UNIT. DUCTWORK SHALL BE CONNECTED TO UNIT WITH FLEXIBLE CONNECTION. OFFSET DUCT ROUTING IN VERTICAL AS REQUIRED TO AVOID BEAM.
6. 24x14 TRANSFER DUCT DN. TERMINATE IN MER APPROXIMATELY 7'-6" AFF WITH 1/2"WMS. TERMINATE IN APARTMENT CEILING WITH 24x12 RETURN REGISTER RR-1.
7. 12x8 TRANSFER DUCT, TERMINATE IN CEILING WITH RETURN REGISTER RR-1 ON EACH END.
8. THERMOSTAT ASSOCIATED WITH APARTMENT HEAT PUMP MOUNTED ON WALL. COORDINATE FINAL MOUNTING WITH ARCHITECT.

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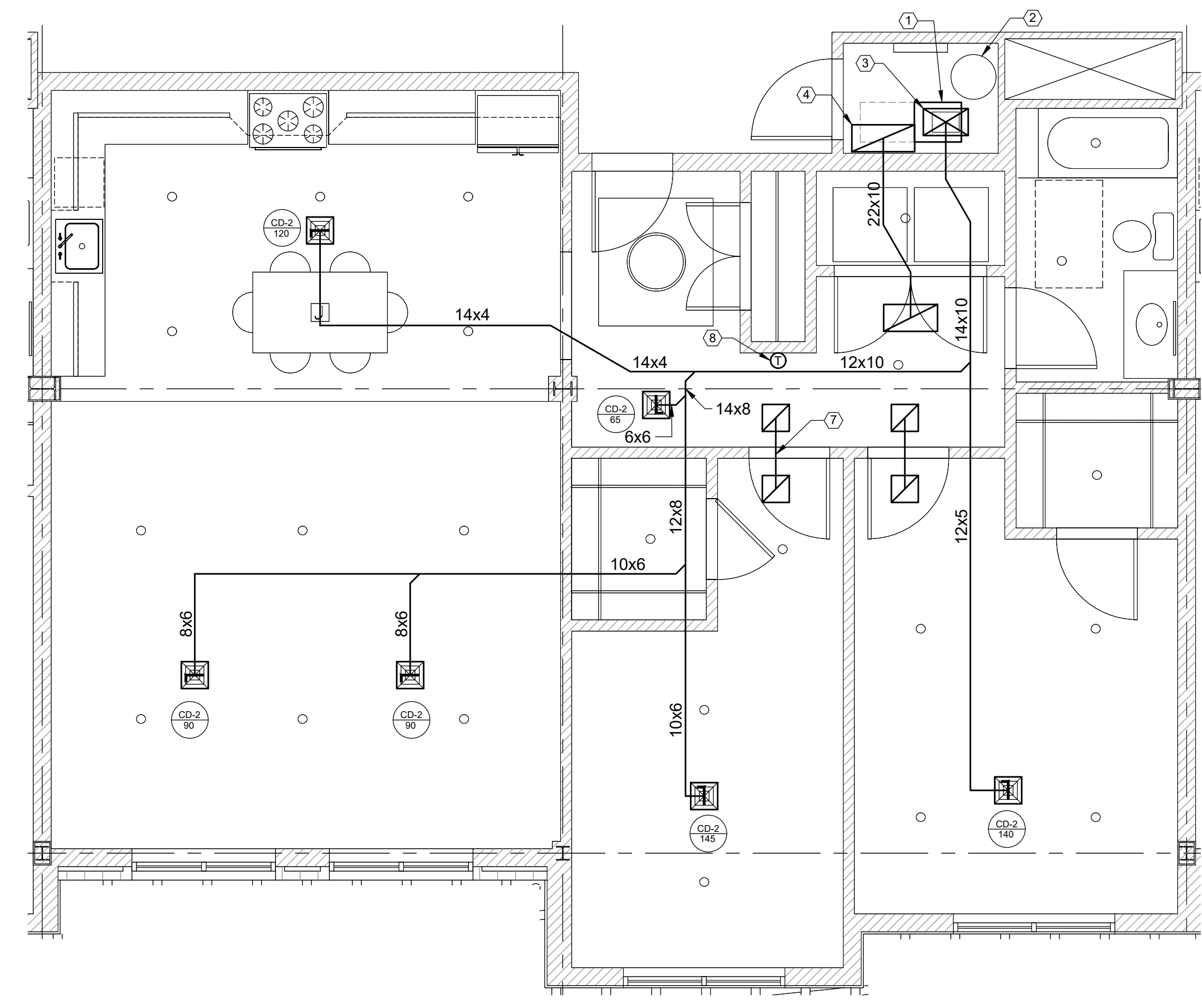
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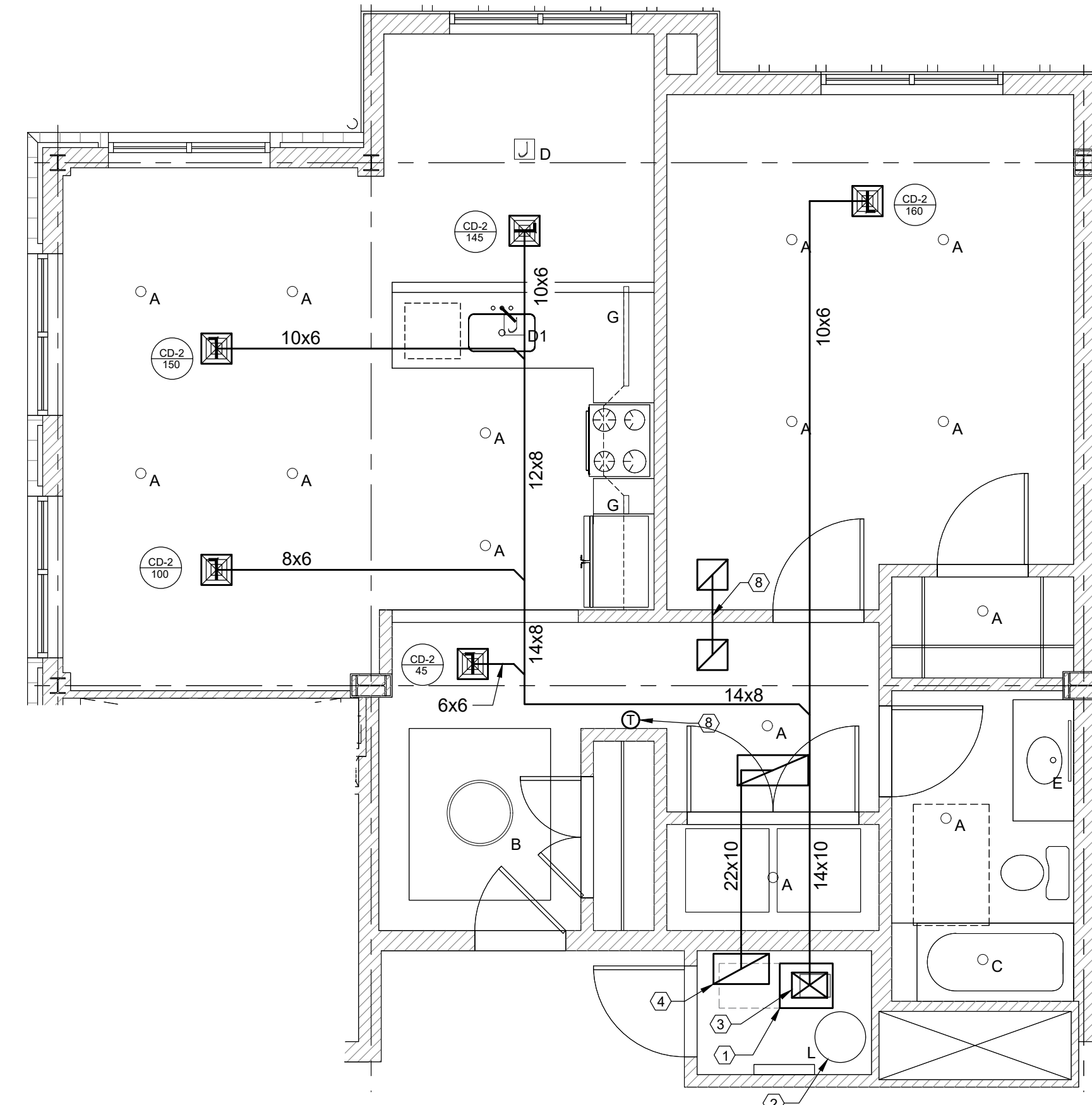
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MECHANICAL TYPICAL APARTMENT TYPE PLANS

SHEET NO.
M4.1



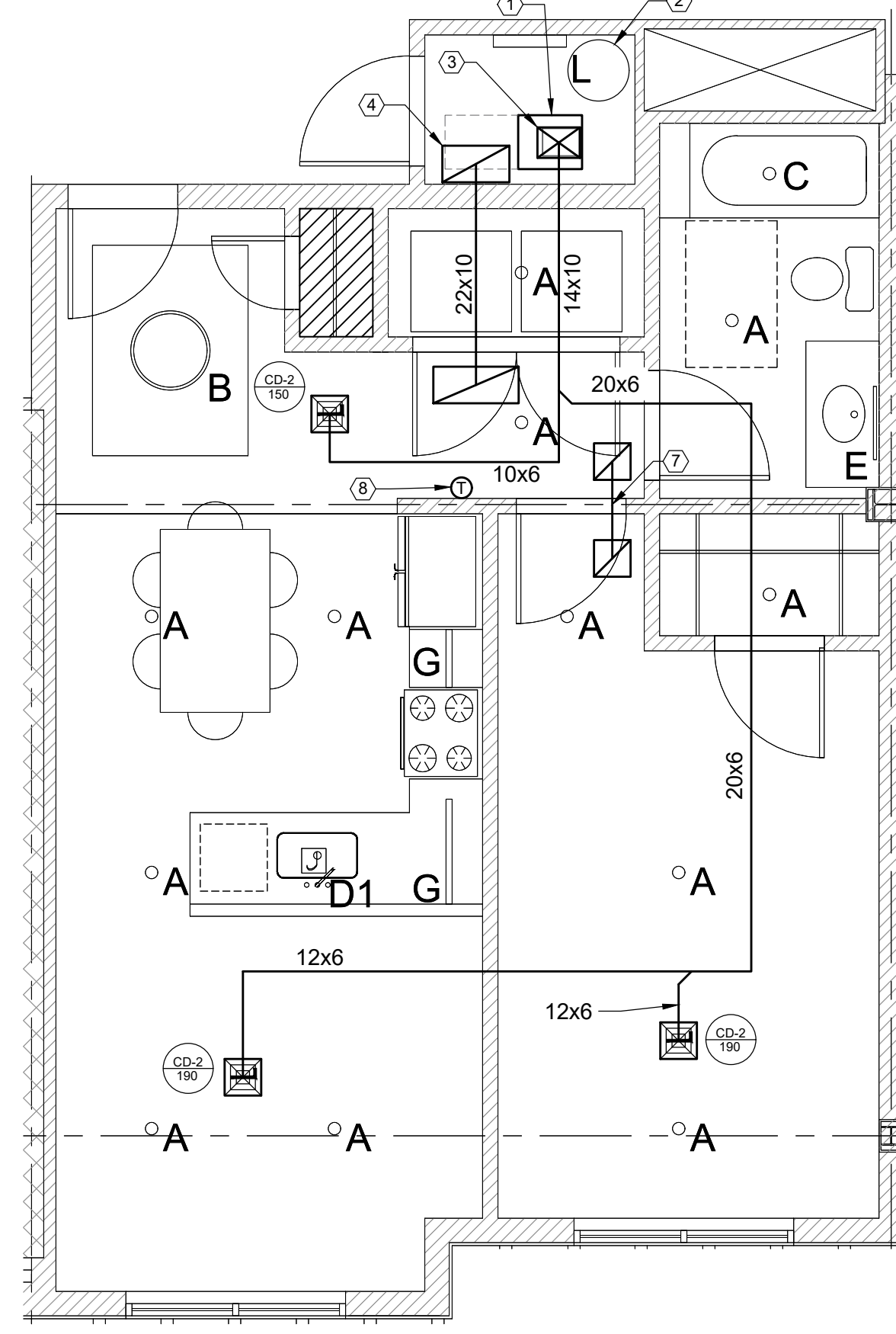
3 TYPICAL TWO BEDROOM APARTMENT PLAN
SCALE: 1/4" = 1'-0"

- NOTES:
1. REFER TO FLOOR PLANS M2.1 AND M2.2 FOR ASSOCIATED KITCHEN AND TOILET EXHAUST.
 2. ALL DAMPERS SHOWN IN APARTMENT SHALL BE ACCESSIBLE FOR BALANCING FROM CEILING DIFFUSER. REFER TO CEILING DIFFUSER SCHEDULE ON DRAWING M6.1.
 3. SEE DRAWING M4.1 #4 FOR APARTMENT TYPE PLAN ASSOCIATED WITH UNIT 3A.



2 TYPICAL TYPE B ONE BEDROOM APARTMENT PLAN
SCALE: 1/4" = 1'-0"

- NOTES:
1. REFER TO FLOOR PLANS M2.1 AND M2.2 FOR ASSOCIATED KITCHEN AND TOILET EXHAUST.
 2. ALL DAMPERS SHOWN IN APARTMENT SHALL BE ACCESSIBLE FOR BALANCING FROM CEILING DIFFUSER. REFER TO CEILING DIFFUSER SCHEDULE ON DRAWING M6.1.



1 TYPICAL TYPE A ONE BEDROOM APARTMENT PLAN
SCALE: 1/4" = 1'-0"

- NOTES:
1. REFER TO FLOOR PLANS M2.1 AND M2.2 FOR ASSOCIATED KITCHEN AND TOILET EXHAUST.
 2. ALL DAMPERS SHOWN IN APARTMENT SHALL BE ACCESSIBLE FOR BALANCING FROM CEILING DIFFUSER. REFER TO CEILING DIFFUSER SCHEDULE ON DRAWING M6.1.

SPLIT SYSTEM AC UNIT SCHEDULE				
INDOOR UNIT DESIGNATION	HP-1	HP-2	HP-3	HP-4
LOCATION	APARTMENT MER	APARTMENT MER	SEE PLANS	SEE PLANS
AREA SERVED	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS
MODEL	FTQ18TAVJUA	FTQ24TAVJUA	FDMQ15RVJU	FDMQ09RVJU
UNIT SIZE (TONS)	1.5	2	1.25	.75
EVAPORATOR FAN:				
CFM	600	800	438	290
MIN OA CFM	-	-	360	240
ESP (IN H ₂ O)	0.9	0.9	-	-
VOLTS/Ø/Hz	208/1/60	208/1/60	208/1/60	208/1/60
WATTS	-	-	230	130
MCA/MOCP	4.9 / 15	4.9 / 15	-	-
FLA	-	-	0.87	0.63
COOLING:				
E.A.T. (°F) DB/WB				
L.A.T. (°F) DB/WB				
EER/SEER	12.5 / 15.5	10.30 / 15.2	12.7 / 20.2	11.1 / 17.8
SENS. CAP. (MBH)	12.7	16.9	11.7	7.6
TOTAL CAP. (MBH)	18	24	14.4	9
HEATING:				
E.W.T./L.W.T. (°F)				
E.A.T./L.A.T. (°F)				
CAPACITY (MBH)	20	27	18	10.9
HEATING POWER INPUT (kW)	.22	.27	-	-
HSPF	-	-	10.3	10.3
COP	-	-	3.8	4.1
FILTER DATA:				
MERV	-	-	13	13
CONDENSING UNIT DESIGNATION	ACC-1	ACC-2	ACC-3	ACC-4
MODEL	RZQ18TAVJU	RZQ24TAVJUA	RX15RMVJU	RX09RMVJU9
CFM	2682	2862	2313	1105
REFRIGERANT TYPE	R-410a	R-410a	R-410a	R-410a
VOLTS/Ø/Hz	208/1/60	208/1/60		
MCA/MOCP	16.5 / 25	16.5 / 20	9.7 / -	9 / -
MFA	-	-	15	15
WEIGHT (LBS.)	172	172	97	60
NOTES:				
1. UNITS BASED ON DAIKIN.				
2. UNITS SHALL BE FURNISHED WITH LOW-AMBIENT KITS, WINTER START CONTROL, AND CRANKCASE HEATERS.				
3. PROVIDE WIND BAFFLE AND SNOW STAND KITS FOR UNITS.				
4. PROVIDE PLENUM RATED CONDENSATE PUMP FOR HP-4 & HP-5 INDOOR UNIT.				
5. ALL OUTDOOR UNITS SHALL BE MOUNTED ON 24" HIGH EQUIPMENT RAILS. SEE MECHANICAL EQUIPMENT NOTES.				

ELECTRIC UNIT HEATER SCHEDULE		
DESIGNATION	EUH-1	EUH-2
LOCATION	ELECTRICAL ROOM	WATER SERVICE ROOM
MODEL	EGEB	EGW
UNIT SIZE	3	02
FAN:		
CFM	310	300
RPM	1490	-
MOTOR HP	½	-
ELECTRIC HEATING COIL:		
HEATING CAPACITY (W)	3000	1500
CAPACITY (MBH)	10	5.118
WEIGHT (LBS)	40	20
ELECTRICAL DATA:		
VOLTS/Ø/Hz	208/1/60	208/1/60
FLA		-
NOTES:		
1. UNIT HEATER BASED ON REZNR.		
2. PROVIDE THERMOSTAT FOR EACH.		
3. SUSPEND ALL UNIT HEATERS FROM STRUCTURE WITH SPRING ISOLATORS.		
4. FURNISH DISCONNECT SWITCH FOR EACH UNIT.		

ELECTRIC CABINET UNIT HEATER SCHEDULE		
DESIGNATION	CUH-1	
MODEL	FFJ	
SIZE	03	
STYLE	MODEL J - VERTICAL CABINET SLOPE TOP	
LOCATION	STAIRWELL - SEE PLANS	
2-STAGE HEATING CAPACITY (KW)	2.0 / 4.5	
HEATER AMPS	12.6	
VOLTS/Ø/Hz	208/3/60	
NOTES:		
1.) CABINET UNIT HEATERS SHALL BE BASED ON TRANE FORCE FLO CABINET HEATER. HEATER SHALL BE PROVIDED WITH THE FOLLOWING:		
· UNIT MOUNTED DISCONNECT SWITCH		
· 1" THROWAWAY FILTERS (PROVIDE EXTRA SET OF FILTERS)		
· TAMPERPROOF LOCKING ACCESS DOOR AND PANELS		
· UNIT MOUNTED ZONE SENSOR WITH FAN MODE SWITCH		
· "OFF-AUTO-LOW-MED-HIGH" AND TEMPERATURE SETPOINT.		
· TRACER CONTROLS ZN520 STAND ALON MICROPROCESSOR CONTROLLER.		
· UNIT FINISH SHALL BE SELECTED FROM MANUFACTURERS COLOR CHART BY ARCHITECT, SUBMIT COLOR CHART		
· TWO BOTTOM STAMPED LOUVERS (INLET AND OUTLET)		

FAN SCHEDULE					
DESIGNATION	TX-1, TX-2, TX-3, TX-4	KX-1	KX-2 & KX-3	EF-1	EF-2
LOCATION	ROOF	ROOF	ROOF	ROOF	ROOF
AREA SERVED	TOILET ROOMS, SEE PLANS	KITCHEN HOOD, SEE PLANS	KITCHEN HOOD, SEE PLANS	GARAGE	TRASH ROOMS
MODEL	USF-7-5-B1	USF-10-5-B1	USF-8	CUBE-300	G-080-VG
FAN TYPE	BLOWER	BLOWER	BLOWER	ROOFTOP	ROOFTOP
FAN STYLE	10-UB-CW	10-UB-CW	10-UB-CW	UPBLAST	DOWNBLAST
DRIVE TYPE	BELT	BELT	BELT	BELT	DIRECT
CFM	80	800	400	7811	120
HP	¼	¼	¼	3	1/6
OPERATING HP	0.02	0.14	0.08	2	0.02
FAN RPM	844	1,509	1381	647	1036
TOTAL EXTERNAL SP (IN. WG)	0.22	0.3	0.3	0.8	0.25
VOLTS/Ø/Hz	208 / 3 / 60	208 / 3 / 60	208 / 3 / 60	208/3/60	208/1/60
FLA	2.4	2.4	2.4	-	-
STARTER TYPE	-	VFD	VFD	VFD	-
NOTES:					
1. FANS BASED ON GREENHECK.					
2. ALL MOTORS SHALL BE PREMIUM EFFICIENCY, DIRECT DRIVE.					
3. FURNISH WEATHERPROOF MOTOR STARTERS FOR EACH FAN					
4. FURNISH RUBBER IN SHEAR OR SPRING VIBRATION ISOLATORS AS PER THE SPECIFICATION					
5. FURNISH 24" HIGH ROOF CURB WITH BACK DRAFT DAMPER FOR ALL ROOF MOUNTED FANS					
6. ALL OUTDOOR FANS SHALL BE FURNISHED WITH UNIT MOUNTED WEATHER PROOF DISCONNECT SWITCH.					
7. PROVIDE VFD FOR FANS KX-1, KX-2, KX-3, AND EF-1. VFD SHALL BE WEATHERPROOF.					
8. FAN MOTOR STARTERS SHALL BE LOCATED ON FIRST FLOOR WATER METER ROOM.					

PACKAGED ROOFTOP AC UNIT SCHEDULE		
DESIGNATION	RTU-1	RTU-2
LOCATION	ROOF	ROOF
AREA SERVED	CORRIDORS - LEVEL 2 AND 3	LOBBY - SEE PLANS
MANUFACTURER	TRANE	TRANE
MODEL	YHC067E3RXA	YHC092F3RXA
NOMINAL CAPACITY (TONS)	5	7.5
WEIGHT OF UNIT (LBS)	999	1026
EER / SEER	13 / 17.2	12.6 / 15
DESIGN DATA:		
SUPPLY AIR (CFM)	2000	3000
OUTDOOR AIR (CFM)	165	80
RETURN AIR (CFM)	2000	3000
COMPRESSOR:		
COMPRESSOR No./TYPE	1	2
HORSEPOWER	4.3	4.1 / 2.4
COMPRESSOR RLA (AMPS) EA.	16.2	15.9 / 10
EVAPORATOR COIL:		
E.A.T. (°F) DB/WB	79.4 / 68.3	77.5 / 66.3
L.A.T. (°F) DB/WB	61.69 / 59.31	59.3 / 56.95
MOISTURE REMOVAL RATE (GPH)	2.22	3.08
SENS./TOTAL CAPACITY (MBH)	41.49 / 61.09	63.54 / 90.79
INDIRECT GAS-FIRED FURNACE:		
FUEL		
NATURAL GAS	NATURAL GAS	NATURAL GAS
No. OF STAGES	1	1
OUTPUT (MBH)	49	96
OUTPUT W/ FANS (MBH)	51.72	99.54
HEATING EAT	61.1	68.6
HEATING LAT	84.1	98.5
HEATING TEMP RISE	23	29.9
SUPPLY FAN:		
CFM	2000	3000
ESP (IN H ₂ O)	.750	.600
BHP/HP	.91 / 1	1.22 / 2.75
RPM	1097	1219
FILTERS:		
RETURN AIR FILTER TYPE	THROWAWAY	THROWAWAY
FILTER QUANTITY / SIZE	4 / 16"x25"x2"	4 / 20"x25"x2"
ELECTRICAL:		
VOLT/Ø/HZ	208-230/3/60	208-230/3/60
MCA / MOP (AMPS)	33 / 45	42 / 50
NOTES:		
1. PROVIDE THE FOLLOWING OPTIONS FOR ALL UNITS:		
· HIGH STATIC DRIVE MOTOR. COORDINATE LEFT/RIGHT HAND FAN DRIVE IN FIELD.		
· UNITS SHALL BE HIGH EFFICIENCY.		
· TEMP ULTRA LOW LEAK ECONOMIZER WITH BARO RELIEF		
· FURNISH EXTRA DRIVE BELT AND EXTRA FILTER SET FOR EACH UNIT.		
· UNIT SHALL BE MOUNTED ON 14" HIGH VIBRATION ISOLATION ROOF CURB. (HEIGHT INCLUDES BASE CURB AND VIBRATION ISOLATION RAILS.)		
· HIGH CAPACITY INDIRECT GAS-FIRED FURNACE.		
· POWER EXHAUST FAN, ARRANGED TO RUN IN ECONOMIZER MODE, WITH BAROMETRIC RELIEF WHEN ECONOMIZER IS NOT ENABLED.		
· PROVIDE 2 EXTRA SETS OF BELT & FILTER.		
2. PROVIDE THE FOLLOWING MOTOR CONTROL OPTIONS FOR ALL UNITS:		
· UNITARY CONTROLLER BY AUTOMATIC TEMPERATURE CONTROLS MANUFACTURER, COMPATIBLE WITH THE BUILDING AUTOMATION SYSTEM.		
· ALL MOTORS 1 HP OR GREATER SHALL BE PREMIUM EFFICIENCY. ALL MOTORS FURNISHED WITH VARIABLE FREQUENCY DRIVES SHALL BE INVERTER DUTY RATED & APPROVED FOR VARIABLE SPEED AND TORQUE APPLICATIONS.		
· SINGLE POINT EXTERNAL POWER CONNECTION AT UNIT, UNIT MOUNTED DISCONNECT SWITCH, AND FACTORY INSTALLED MOTOR STARTERS. VAV UNITS SHALL HAVE FACTORY MOUNTED VFD'S WITH H-O-A.		

EQUIPMENT NOTES:	
1.	NOT USED
2.	KITCHEN EXHAUST ZONE REGISTER TERMINAL: SHALL BE BASED ON ALDES ZRT-1 WITH OPTIONAL CAR-II MAXIMUM FLOW REGULATOR, SIZE 8"Ø. PROVIDE MOUNTING BRACKET, DAMPER ASSEMBLY, DAMPER MOTOR COVER, AND INTEGRAL EXHAUST/RETURN GRILLE. MAXIMUM CFM SHALL BE 100 CFM. MINIMUM CFM IS ZERO. PROVIDE CURRENT SENSOR IN KITCHEN HOOD WIRING TO OPERATE DAMPER. DAMPER SHALL OPEN UPON ACTIVATION OF KITCHEN HOOD.
3.	NOT USED
4.	DRYER EXHAUST VENT CAP: BASED ON BROAN MODEL WC650, 4"WALL CAP.
5.	AIR COOLED CONDENSING UNIT SUPPORT RAILS: SHALL BE BASED THYBAR MODEL TEMS-3 24" STANDARD HEIGHT. CONSTRUCTION SHALL BE WELDED 18 GAUGE GALVANIZED STEEL SHELL, BASE PLATE AND COUNTER FLASHING WITH FACTORY INSTALLED 2"x4" WOOD NAILER AND INTERNAL BULKHEAD REINFORCEMENT. RAIL LENGTH TO EXTEND MINIMUM 6" ON BOTH ENDS OF CONDENSING UNIT.
6.	LD-1 LINEAR DIFFUSER BASED ON TITUS FL-10, SINGLE SLOT, 2" SLOT WIDTH. ACTIVE LENGTH SHALL BE AS NOTED IN DRAWING. BLANK OFF ALL UNUSED PORTIONS OF LINEAR DIFFUSER. COORDINATE ALL MOUNTING WITH CEILING OR WALL TYPE. COORDINATE TOTAL LINEAR LENGTHS WITH ARCHITECT.
7.	CP-1 PLENUM RATED CONDENSATE PUMP SHALL BE BASED ON LITTLE GIANT MODEL VCC-20-P, LOW PROFILE TANK HEIGHT, AUTOMATIC START AND STOP SWITCH, 115V/1PH/60 HZ, 1.5 AMPS, 1/30 HP, 93 WATTS, 70 GPM AT 5' OF HEAD, SHUT OFF HEAT AT 20°F, 8.6 PSI, 4.5 LBS. PUMP MEETS UL 2043 AND IS LABELED FOR PLENUM APPLICATIONS.

RETURN/EXHAUST REGISTER AND GRILLE SCHEDULE						
DESIGNATION	RR-1 / ER-1 / RG-1	-	-	-	-	-
MODEL	3 FL					
MAX NK VEL (FT/MIN)	500					
MAX NC	25					
CONSTRUCTION	ALUMINUM					
BORDER/FRAME	SURFACE MOUNTED					
DEFLECTION	45° FIXED					
SPACING	3/4					
	CFM RANGE	NOMINAL NECK SIZE	CFM RANGE	NOMINAL NECK SIZE	CFM RANGE	NOMINAL NECK SIZE
	0-150	8x8				
	151-250	10x10				
	251-350	12x12				
	351-725	18x18				
	726-950	22x22				
	951-1100	24x24				
	1101-1400	24x30				
	1401-1700	24x36				
	1701-2000	28x36				
	2001-2300	30x36				
NOTES:						
1. REGISTERS ARE BASED ON TITUS.						
2. THE ABOVE SCHEDULE INDICATES NOMINAL REGISTER NECK SIZES. THE CONTRACTOR SHALL COORDINATE THE REGISTER SIZE IN THE FIELD ACCORDING TO THE ACTUAL DUCT DIMENSIONS AND MAINTAIN AN EQUIVALENT CORE AREA.						
3. ALL REGISTERS SHALL BE EQUIPPED WITH AN OPPOSED BLADE VOLUME DAMPER.						
4. SUBMIT COLOR CHART FOR REVIEW AND APPROVAL.						
5. RETURN REGISTERS SHALL HAVE FRAMES AND BORDERS SUITABLE FOR THE CONSTRUCTION IN WHICH THEY WILL BE INSTALLED. CONTRACTOR TO COORDINATE.						
6. PROVIDE CEILING RADIATION DAMPER FOR ALL REGISTERS.						

CEILING DIFFUSER SCHEDULE					
DESIGNATION	CD-1	CD-2	-	-	-
MODEL	OMNI	OMNI			
MAX CORE VEL (FT/MIN)	550	550			
MAX NC	25	25			
CONSTRUCTION	STEEL	STEEL			
FRAME	SURFACE MOUNT OR LAY IN	SURFACE MOUNT			
DEFLECTION	SEE PLANS	SEE PLANS			
FACE SIZE	SEE PLANS	12x12			
CEILING RADIATION DAMPER	CRD-2WT	CRD-2WT			
	CFM RANGE	NECK SIZE Ø	CFM RANGE	NECK SIZE Ø	
	0-100	6"	0-100	6"	
	101-200	8"	101-200	8"	
	201-350	10"	201-350	10"	
	351-450	12"	-	-	
	451-600	14"	-	-	
	601-700	15"	-	-	
NOTES:					
1. CEILING SUPPLY DIFFUSERS ARE BASED ON TITUS. CEILING RADIATION DAMPERS ARE BASED ON GREENHECK.					
2. ALL DIFFUSERS SHALL BE EQUIPPED WITH AN OPPOSED BLADE VOLUME DAMPER.					
3. COORDINATE COLOR SELECTION WITH ARCH PLANS.					
4. SUPPLY DIFFUSERS SHALL HAVE FRAMES AND BORDERS SUITABLE FOR THE CONSTRUCTION IN WHICH THEY WILL BE INSTALLED, CONTRACTOR TO COORDINATE.					
5. ALL LAY-IN DIFFUSERS SHALL HAVE A MODULE SIZE OF 12x12. FACE SIZES SHOWN IN SCHEDULE ARE FOR SURFACE MOUNT DIFFUSERS. NECK SIZES VARY ACCORDING TO THE SCHEDULE.					
6. DIFFUSER BLOW PATTERN IS AS SHOWN ON DRAWINGS.					
7. PROVIDE CEILING RADIATION DAMPER FOR ALL DIFFUSERS.					

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SHAILESH R. NAIK, P.E.
NEW YORK LICENSE No. 072797-1

MEP ENGINEER



NO.	REVISION/ISSUE	DATE
4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1.	ISSUED FOR PROGRESS	02-19-2021

SEAL

PROJECT

LIBERTY PLAZA SUITES

500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020

PROJECT NO. NDM0001.00

DRAWN BY: HLD

CHECKED BY: RJ

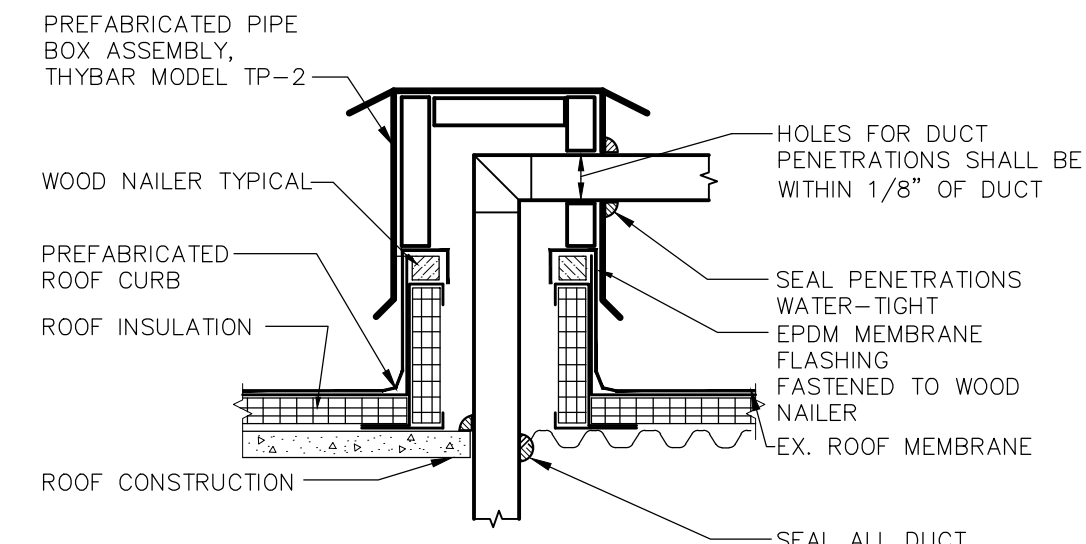
SCALE: AS NOTED

DRAWING TITLE

MECHANICAL SCHEDULES

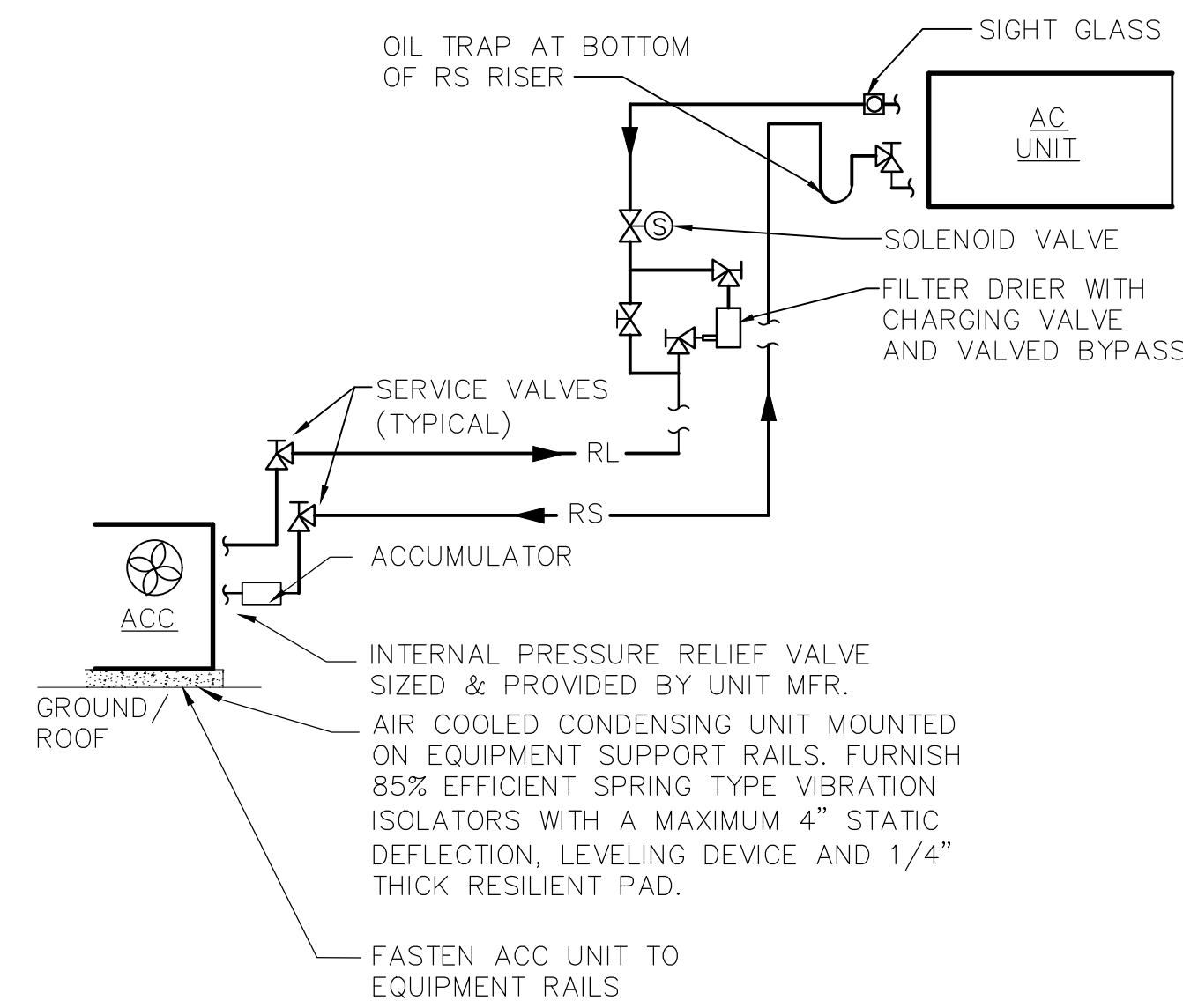
SHEET NO.

M6.1



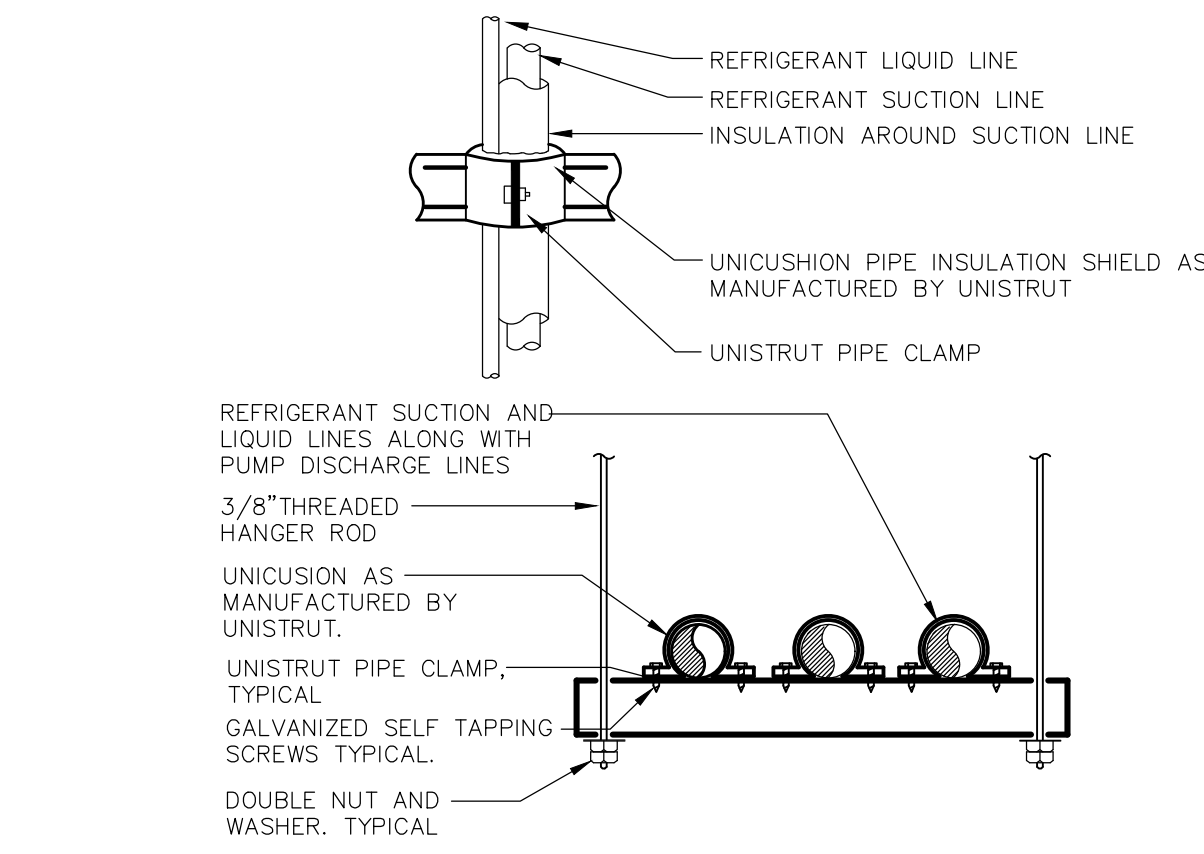
- NOTES:
- 1.) PREFABRICATED ROOF CURB SHALL BE BASED ON THYBAR MODEL TC-3 INSULATED ROOF CURB WITH BUILT IN 3" CANT AND VARIABLE STEP TO MATCH DECK INSULATION THICKNESS. ROOF CURBS SHALL BE CONSTRUCTED OF 18 GAUGE GALVANIZED STEEL CONSTRUCTION WITH WELDED CORNERS AND 3" CANT FULLY MITERED WITH SEAMS JOINED BY CONTINUOUS WELDS. CURB SHALL BE FACTORY INSULATED WITH 1-1/2" THICK 3# DENSITY INSULATION AND ASSEMBLED WITH 2x2 WOOD NAILERS.
 - 2.) CONTRACTOR SHALL PROVIDE ALL FLASHING, COUNTERFLASHING, AND ANY OTHER MATERIALS AND LABOR NECESSARY TO ENSURE A WATERTIGHT ROOF PENETRATION ENCLOSURE.
 - 3.) FOR PENETRATION THROUGH CONCRETE DECKS, CORE DRILL HOLE AND FURNISH DUCT SLEEVE AND RISER SUPPORT AS REQUIRED BY THE SPECIFICATIONS
 - 4.) USE ONLY THOSE MATERIALS COMPATIBLE WITH THE EXISTING ROOFING SYSTEM.

10 ROOF DUCT BOX DETAIL
SCALE: NONE



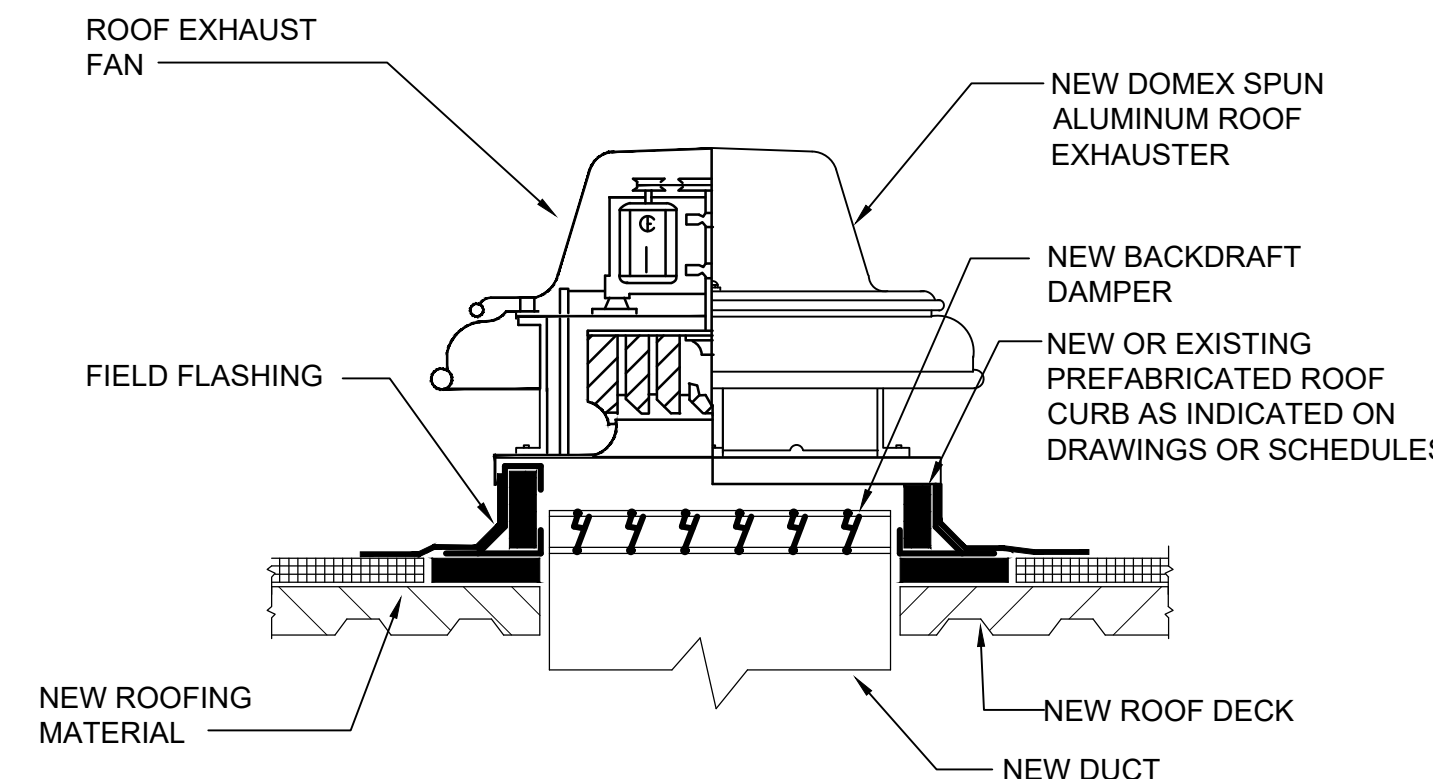
- NOTES:
- 1.) PROVIDE TRAPS AS FOLLOWS:
A. FOR RISES UP TO 50', USE 1 TRAP AT THE BOTTOM OF THE SUCTION RISER.
B. FOR RISES BETWEEN 50' AND 100', INSTALL A SECOND TRAP HALF WAY UP THE RISER.
 - 2.) REFRIGERANT PIPING SHALL BE INSTALLED SO THAT THEY WILL NOT OBSTRUCT SERVICE ACCESS TO EITHER THE INDOOR COIL OR CONDENSING UNIT, THE AIR HANDLER IN GENERAL OR THE FILTER.
 - 3.) SLOPE HORIZONTAL SUCTION LINES APPROX. 1" EVERY 20 FEET TOWARD THE CONDENSING UNIT TO FACILITATE OIL RETURN.
 - 4.) ALL FASTENERS AND SUPPORTS LOCATED OUTDOORS SHALL BE GALVANIZED

8 REFRIGERANT PIPING DETAIL
SCALE: NONE



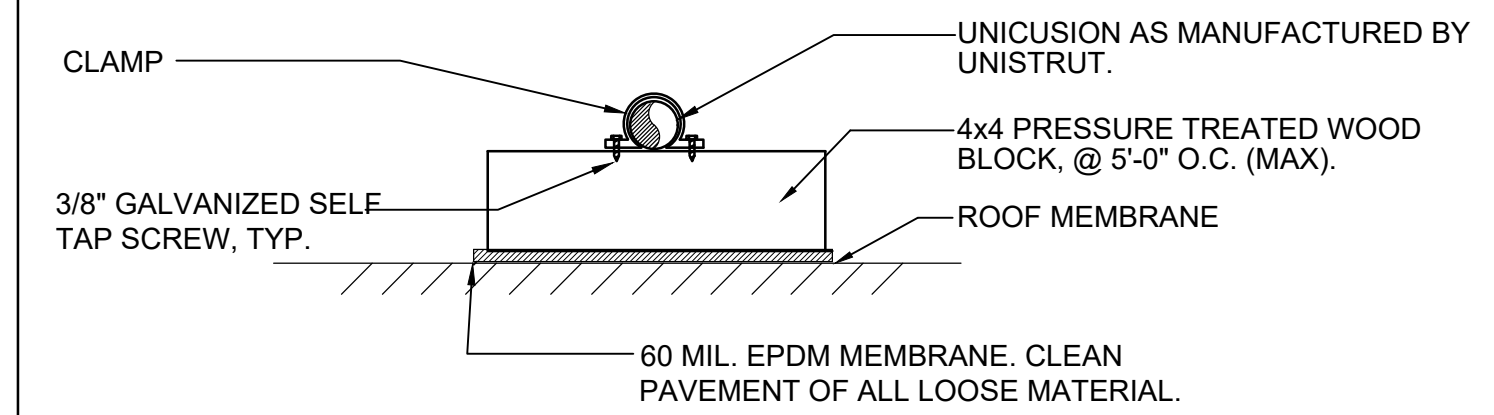
- NOTES:
- 1.) LIQUID AND SUCTION LINES MAY BE ROUTED TOGETHER FOR CONVENIENCE, BUT MUST BE COMPLETELY INSULATED FROM EACH OTHER. DO NOT SOLDER LIQUID AND SUCTION LINES TOGETHER. DO NOT ALLOW METAL TO METAL CONTACT.
 - 2.) LINES SHOULD BE INSTALLED WITH AS FEW BENDS AS POSSIBLE, ALLOWING SERVICE ACCESS TO THE INDOOR COIL.
 - 3.) USE LONG RADIUS ELBOWS WHEREVER POSSIBLE, EXCEPT IN OIL RETURN TRAPS, WHERE SHORT RADIUS ELBOWS SHOULD BE USED.
 - 4.) SLOPE HORIZONTAL SUCTION LINES 1 INCH EVERY 20 FEET TOWARD THE OUTDOOR UNIT.

6 REFRIGERANT PIPE SUPPORT DETAIL
SCALE: NONE



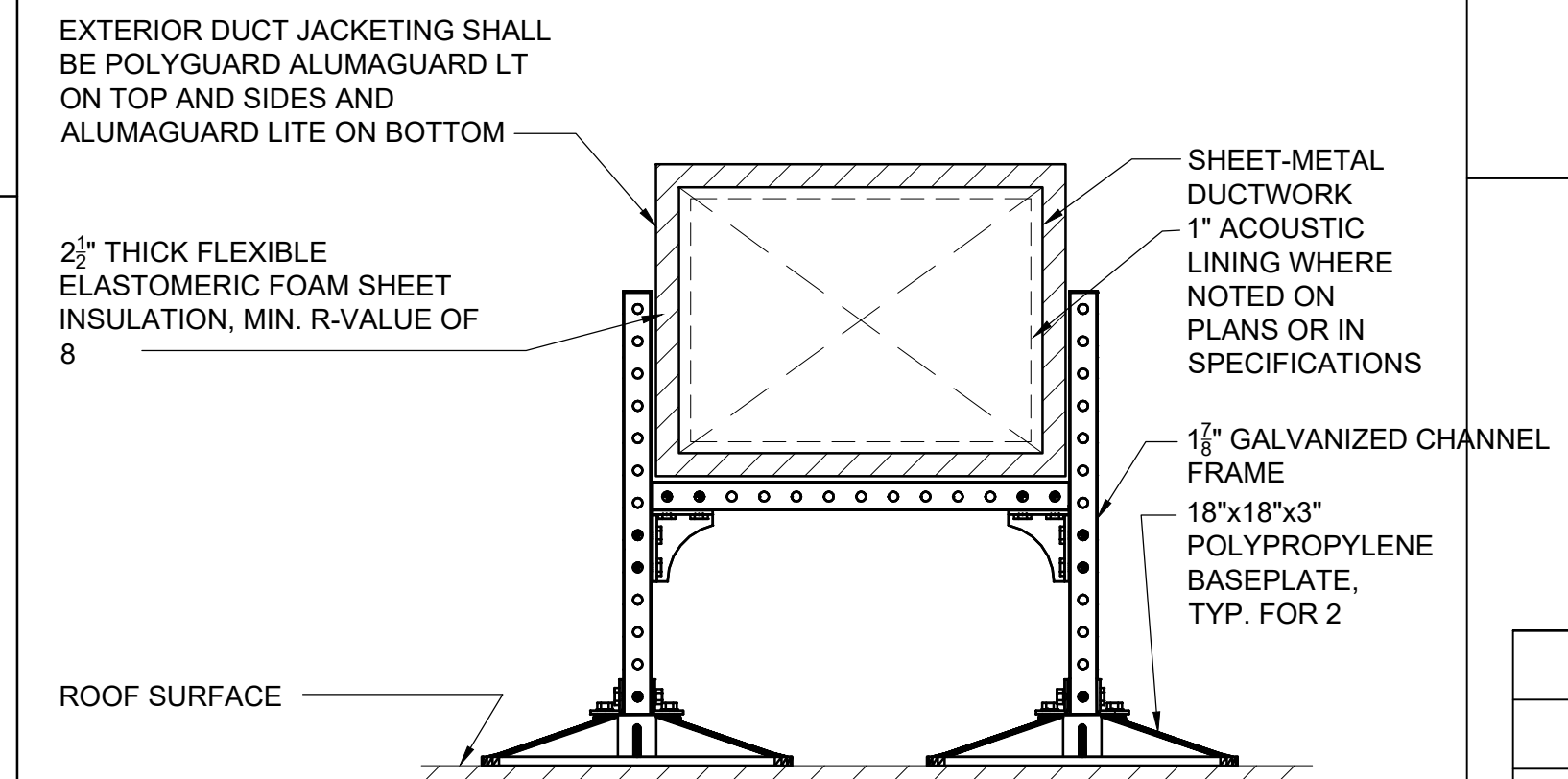
- NOTE:
1. ARRANGEMENT IS SIMILAR FOR UP BLAST TYPE FAN AND LINEAR FANS.
 2. UP BLAST KITCHEN EXHAUST FAN SHALL NOT HAVE A BACK DRAFT DAMPER.
 3. SEE ARCH. DRAWINGS FOR FLASHING AND COUNTER FLASHING DETAILS

5 ROOF TOP EXHAUST FAN DETAIL
SCALE: NONE



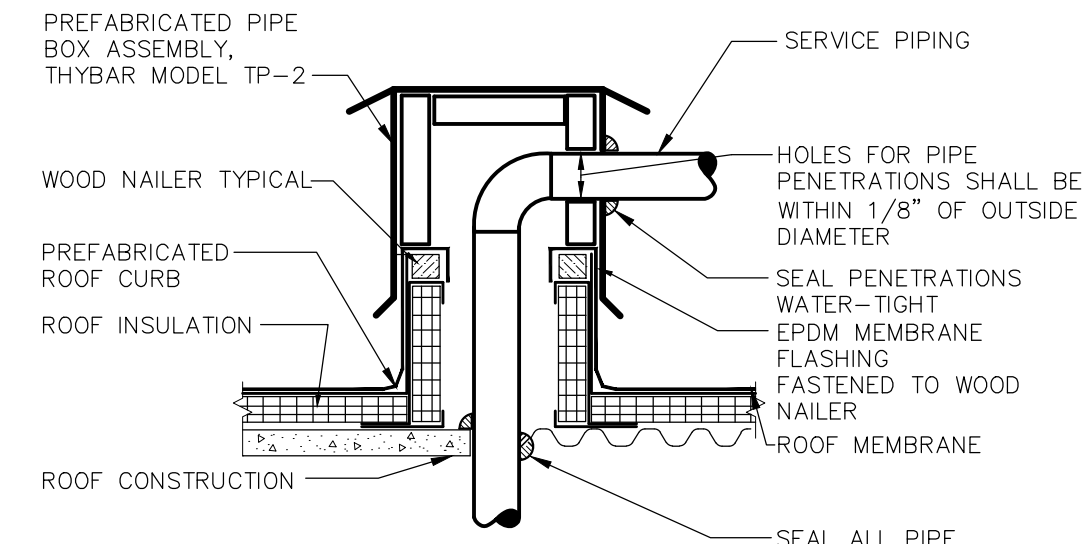
- NOTE:
1. ALL ROOFING WORK TO BE DONE BY THE BONDED ROOF CONTRACTOR.
 2. USE ONLY THOSE MATERIALS COMPATIBLE WITH THE EXISTING ROOF SYSTEM.

3 ROOF PIPE SUPPORT DETAIL
SCALE: NONE



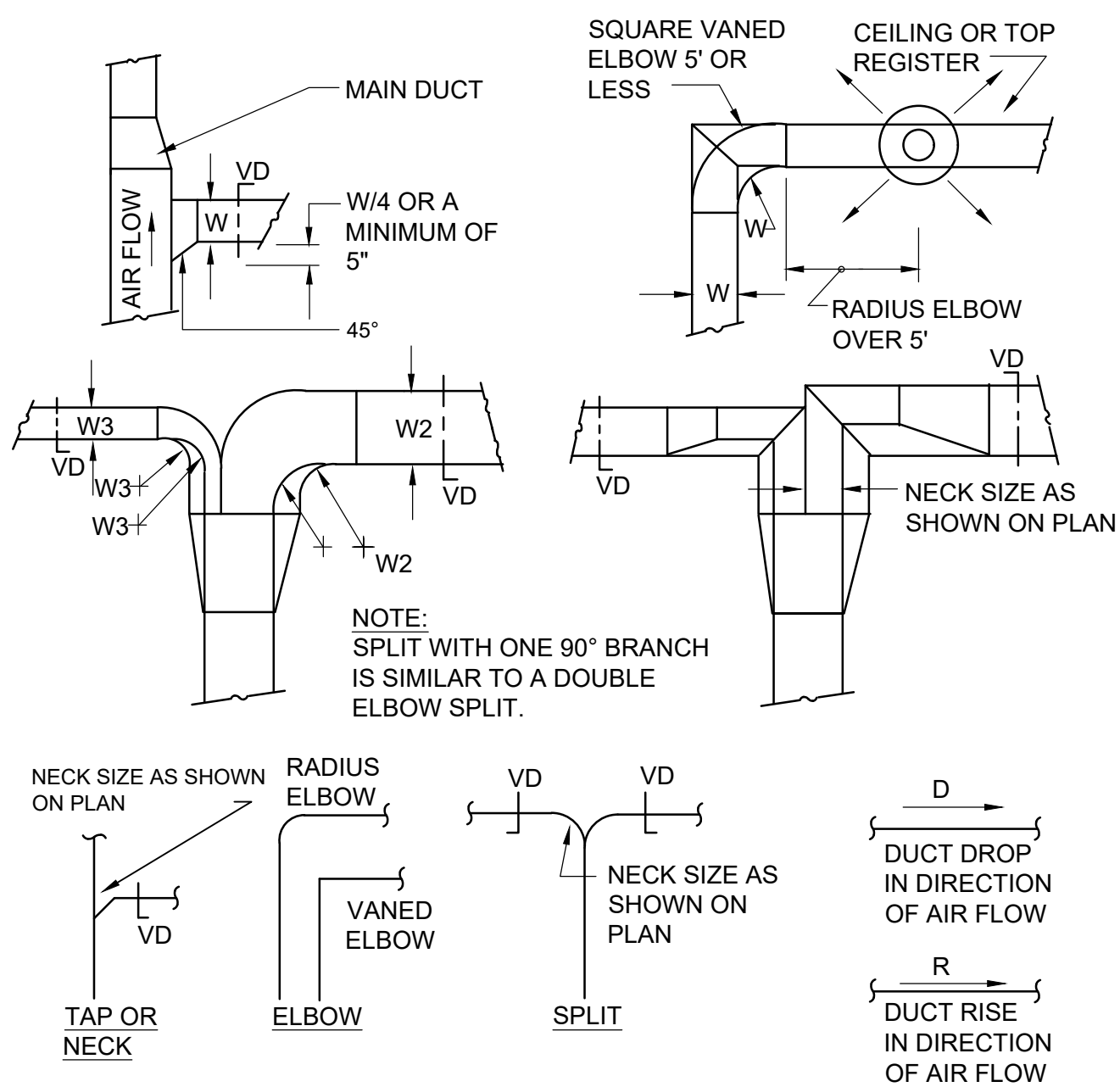
- 1.) ROOF DUCT SUPPORT SHALL BE BASED ON PHP SYSTEMS/DESIGN MODEL NUMBER PHP-D.
- 2.) ALL BRACKETS, HANGERS, FASTENERS AND SUPPORTS LOCATED OUTDOORS SHALL BE GALVANIZED OR NICKEL PLATED
- 3.) USE ONLY THOSE MATERIALS COMPATIBLE WITH THE EXISTING ROOFING SYSTEM.
- 4.) SEAL ALL EXTERIOR DUCTWORK IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE-SEAL CLASS A

2 ROOF DUCT SUPPORT DETAIL
SCALE: NONE



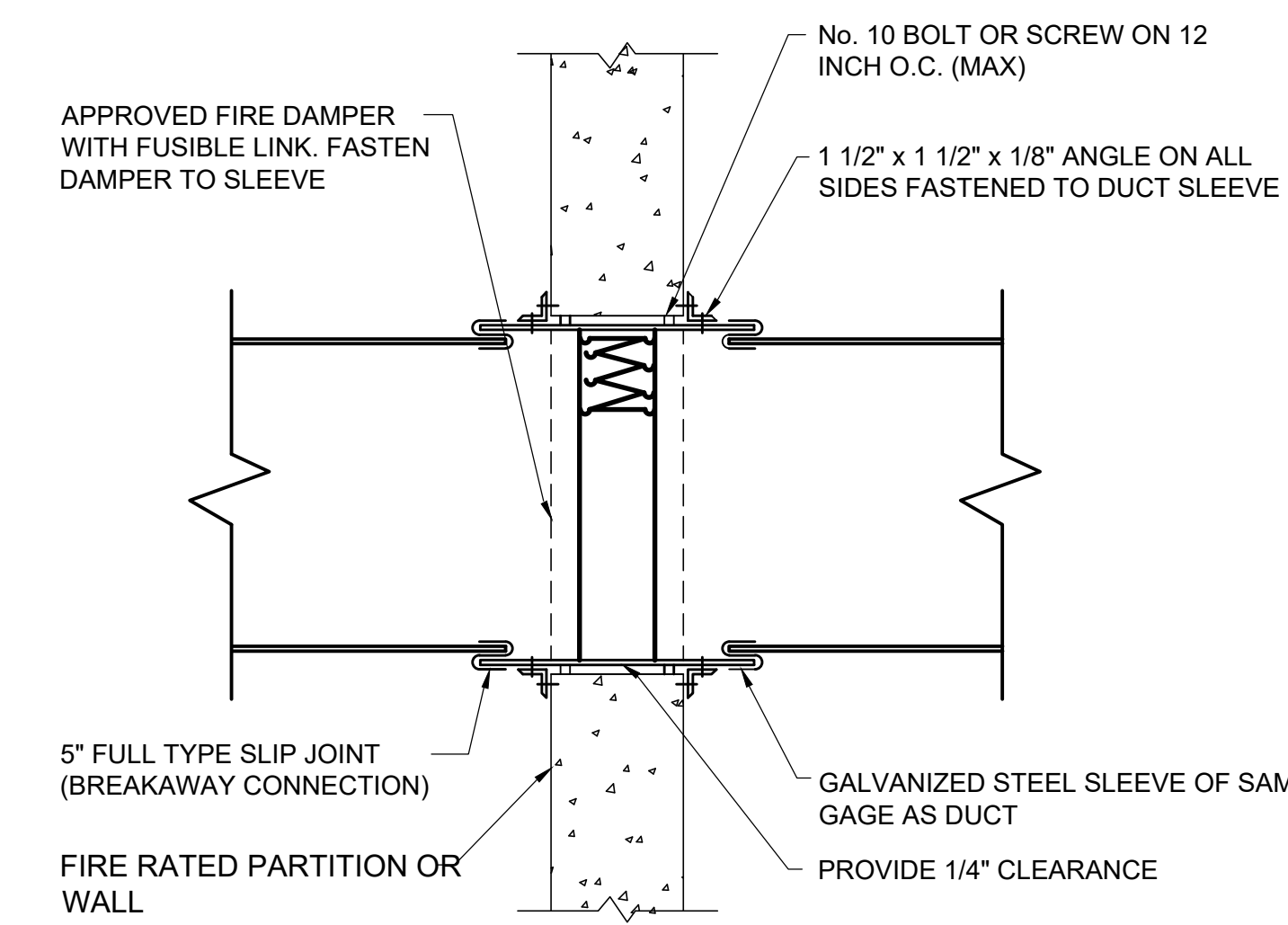
- NOTES:
- 1.) PREFABRICATED ROOF CURB SHALL BE BASED ON THYBAR MODEL TC-3 INSULATED ROOF CURB WITH BUILT IN 3" CANT AND VARIABLE STEP TO MATCH DECK INSULATION THICKNESS. ROOF CURBS SHALL BE CONSTRUCTED OF 18 GAUGE GALVANIZED STEEL CONSTRUCTION WITH WELDED CORNERS AND 3" CANT FULLY MITERED WITH SEAMS JOINED BY CONTINUOUS WELDS. CURB SHALL BE FACTORY INSULATED WITH 1-1/2" THICK 3# DENSITY INSULATION AND ASSEMBLED WITH 2x2 WOOD NAILERS.
 - 2.) CONTRACTOR SHALL PROVIDE ALL FLASHING, COUNTERFLASHING, AND ANY OTHER MATERIALS AND LABOR NECESSARY TO ENSURE A WATERTIGHT ROOF PENETRATION ENCLOSURE.
 - 3.) FOR PENETRATION THROUGH CONCRETE DECKS, CORE DRILL HOLE AND FURNISH PIPE SLEEVE AND RISER CLAMP AS REQUIRED BY THE SPECIFICATIONS
 - 4.) THIS DETAIL USED FOR ALL REFRIGERANT PIPING PENETRATIONS THROUGH ROOF.
 - 5.) USE ONLY THOSE MATERIALS COMPATIBLE WITH THE EXISTING ROOFING SYSTEM.

9 ROOF PIPE BOX DETAIL
SCALE: NONE



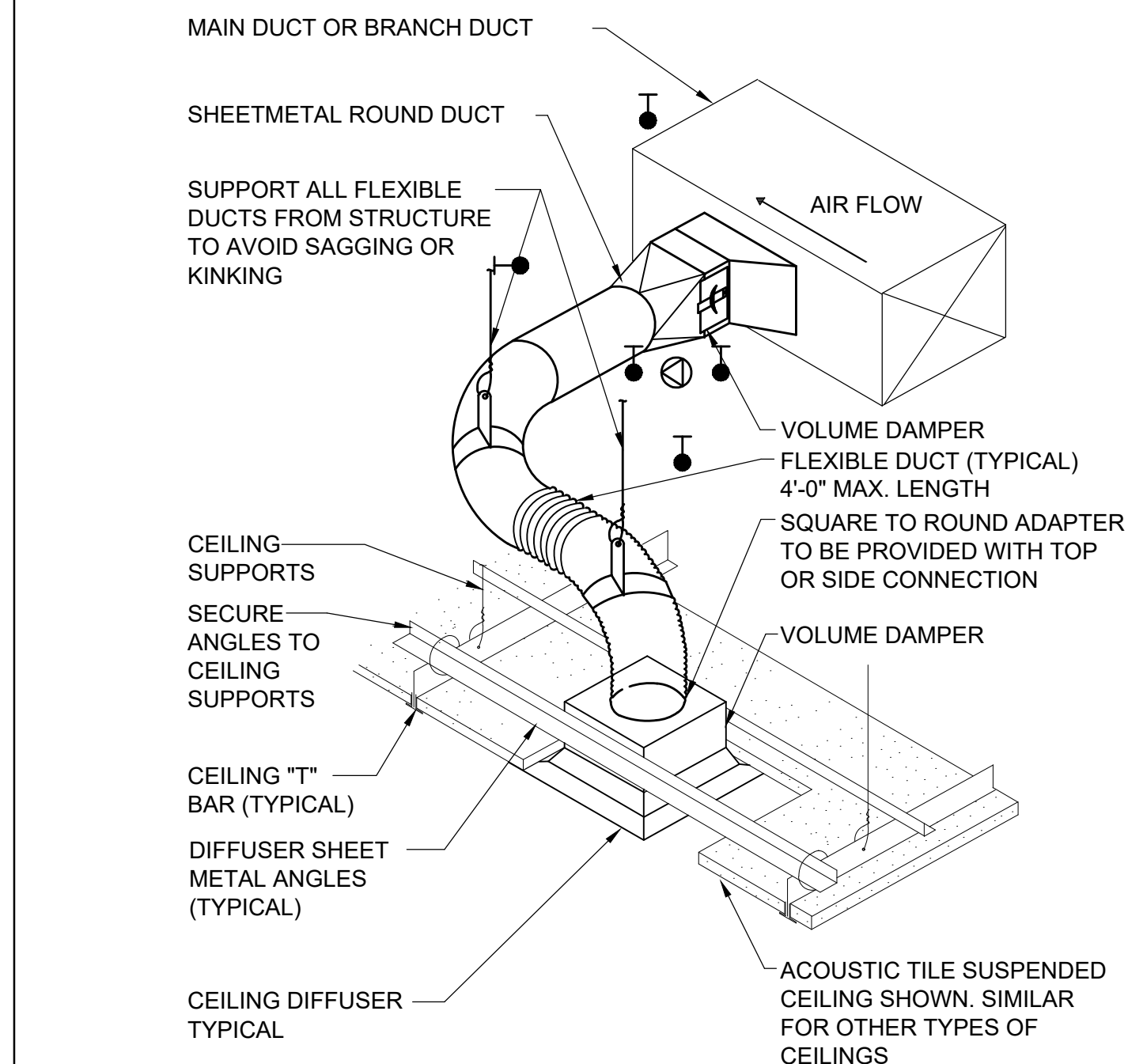
- NOTE: SPLIT WITH ONE 90° BRANCH IS SIMILAR TO A DOUBLE ELBOW SPLIT.
- NOTES:
- 1.) SINGLE LINE REPRESENTATIONS REFER TO DOUBLE LINE DETAILS.
 - 2.) USE RADIUS OR SQUARE VANED BENDS FOR BOTH ELBOWS AND SPLITS AS DETERMINED BY SPACE LIMITATIONS, AND THE DISTANCE FROM AIR OUTLETS.
 - 3.) ALL SQUARE ELBOWS SHALL HAVE FACTORY TURNING VANES, AND MAINTAIN A CONSTANT WIDTH.
 - 4.) WHERE DUCTS SPLIT, THE SOLID LINE REPRESENTATION IS PREFERRED, UNLESS PRECLUDED BY SPACE, OR OTHERWISE INDICATED.
 - 5.) USE ELBOW SPLIT FOR BRANCH CONNECTIONS ONLY WHERE NECK SIZE IS GIVEN.

7 DUCT BRANCH TAKE-OFF DETAIL
SCALE: NONE



- NOTES:
1. FIRE DAMPERS TO BE CONSTRUCTED AND INSTALLED ACCORDING TO NFPA 90A UL LABELS.
 2. MULTI-BLADE PIVOTED FIRE AMPERS MEETING THE ABOVE STANDARD WILL BE ACCEPTABLE.
 3. PROVIDE ACCESS DOORS. INSTALL 1 AD FOR EACH FIRE DAMPER SECTION. 4. FIRE DAMPERS SHALL CONFIRM TO N.Y.C. MANUFACTURING B.S. AND A.
 5. NUMBER 100-65 SM. SLEEVES TO BE OF SAME SHEET METAL GAGE AS DUCT CONNECTED TO IT, BUT IN NO CASE LESS THAN THAT SPECIFIED IN THE N.Y.C. BUILDING CODE RS13 PARA. 3 - 3, 7.2.3.

4 SHUTTER TYPE FIRE DAMPER & SLEEVE DETAIL
SCALE: NONE



1 FLEXIBLE DUCT CONNECTION
SCALE: NONE

LIBERTY PLAZA SUITES

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NO.	REVISION/ISSUE	DATE
4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1	ISSUED FOR PROGRESS	02-19-2021

SEAL

PROJECT
LIBERTY PLAZA SUITES
500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020
PROJECT NO: NDM0001.00
DRAWN BY: HLD
CHECKED BY: RJ
SCALE: AS NOTED

DRAWING TITLE
MECHANICAL DETAILS
1 OF 2

SHEET NO.
M7.1

PLUMBING FIXTURE SCHEDULE

TAG	SYMBOLS		FIXTURES	PLUMBING CONNECTIONS				DETAILS	REMARKS
	PLAN	ELEVATION		WASTE	VENT	COLD WATER	HOT WATER		
P-1			KITCHEN SINK	2"	1-1/2"	1/2"	1/2"	SINK: KOHLER CAIRN K-28001-CM6 UNDER MOUNT KITCHEN SINK. 9-1/2" DEPTH. KOHLER NEOROC COMPOSITE. FAUCET: KOHLER CRUE K-22974-VS TOUCHLESS PULL-DOWN SINGLE HANDLE KITCHEN FAUCET. ADA COMPLIANT. 1.5 GPM MAX FLOW RATE AT 60 PSI. 120V/1Ø .15A.	
P-2			TANK TYPE WATER CLOSET FLOOR MOUNTED	4"	2"	1/2"	-	TOILET: KOHLER MODEL K-3619-0, CIMARRON COMFORT HEIGHT, ONE PIECE ELONGATED, 1.28 GPF, CHAIR HEIGHT TOILET. SEAT: REFER TO ARCHITECTURAL DRAWINGS	
P-3			SHOWER/TUB	2"	1-1/2"	3/4"	3/4"	TUB: KOHLER ENTITY K-26109-0 60"x30" ACRYLIC ALCOVE BATH. ROUND OVERFLOW WITH LOW STEP OVER HEIGHT. ADA COMPLIANT. SHOWER HEAD ASSEMBLY: KOHLER PITCH K-TS907074-4G RITE TEMP 1.75 GPM BATH AND SHOWER TRIM. PRESSURE BALANCING DIAPHRAGM. ADA COMPLIANT METAL LEVER HANDLE. 6" DIVERTER BATH SPOUT WITH SLIP-FIT CONNECTION. PROVIDE MIXING VALVE	CONFORM TO ASSE 1060/ASME A112.1016/CSA B125.16 INTEGRAL SCREWDRIVER STOPS
P-4			LAV-DEC	1-1/2"	1-1/2"	1/2"	1/2"	SINK: KOHLER MODEL K2214-0 LADENA BATHROOM SINK. FAUCET: KOHLER MODEL K-97093-4-BN	CONFORM TO NSF 184 P-11 SCHEDULED FOR CONNECTION SIZES ONLY
P-5			DISHWASHER	HOSE DRAIN	-	-	1/2"	REFER TO ARCHITECT'S DRAWINGS	
P-6			LAUNDRY MACHINE	2"	1-1/2"	3/4"	3/4"	REFER TO ARCHITECT'S DRAWINGS	
P-7			REFRIGERATOR	-	-	1/2"	-	REFER TO ARCHITECT'S DRAWINGS	
FD-1			FLOOR DRAIN	AS NOTED	2"	-	-	MAKE: WATTS MODEL: FD-100-A EPOXY COATED FLOOR DRAIN TRAP PRIMER: PROVIDE TRAP PRIMER ON ALL FLOOR DRAINS, SIMILAR TO WATTS TP300S	CONFORM TO ASME A112.3.1 OR ASME A112.6.3
RD-1			ROOF DRAIN	AS NOTED	-	-	-	WATTS RD-300 HIGH VOLUME ROOF DRAIN	
TD-1			TRENCH DRAIN	4"	-	-	-	MAKE: WATTS MODEL: DEAD LEVEL P, PRE-SLOPED POLYPROPYLENE TRENCH DRAIN SYSTEM W/ POLY PROPYLENE FRAME. PROVIDE CLASS C DUCTILE IRON GRATE.	
WH-1			WALL HYDRANT NON FREEZE	-	-	3/4"	-	MIFAB MHY-15 LOW LEAD NON FREEZE WALL HYDRANT	
WH-2			HOSE BIB	-	-	3/4"	-	MIFAB MHY-9000-NPB LOW LEAD, ROUGH BRONZE ANTI-CONTAMINATION WALL FAUCET	

NOTES:
 1. REFER TO ARCHITECTURE DRAWINGS FOR LOCATIONS AND ELEVATIONS.
 2. PROVIDE WATER HAMMER ARRESTERS FOR FIXTURES WITH QUICK CLOSING VALVES (AUTOMATIC CLOTHES WASHERS, DISHWASHING MACHINES AND WATER CLOSETS. SEE EQUIPMENT NOTES.
 3. PROVIDE TRAP PRIMER FOR ALL FD-1 FLOOR DRAINS.

EXPANSION TANK SCHEDULE	
DESIGNATION	ET-1
SERVICE	DWH-1
MODEL	ST-5
DIAMETER/HEIGHT (IN)	8 / 13
TANK VOLUME (GALL)	2.0
MAX. TEMP. (°F)	200
MAX. PRESS. (PSI)	150
NOTES: 1. TANKS BASED ON AMTROL.	

SYMBOLS AND ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
-	AFF	ABOVE FINISHED FLOOR
-	AHC	ABOVE HUNG CEILING
-	BFP	BACK FLOW PREVENTOR
	-	BALL VALVE
	-	BASKET STRAINER
	-	BUTTERFLY VALVE
	-	CHECK VALVE
	-	CIRCUIT SETTER
	CODP	CLEAN OUT DECK PLATE
-	CW	COLD WATER
	-	CONCENTRIC REDUCER
	DCV	DOUBLE CHECK VALVE - BFP
	-	ECCENTRIC REDUCER
	-	ELBOW DOWN
	-	ELBOW UP
-	DEM.	EXISTING TO BE REMOVED
-	EX.	EXISTING TO REMAIN
	-	FLEXIBLE CONNECTION
-	FCO	FLOOR CLEAN OUT
-	FS	FLOOR SINK
	-	FLOW ARROW
-	FAI	FRESH AIR INTAKE
	-	GATE VALVE
	-	GLOBE VALVE
-	HW	HOT WATER
-	HW HTR	HOT WATER HEATER
-	HWC	HOT WATER RECIRCULATION
-	LDR	LEADER
	-	MANUAL AIR VENT
-	NEW	NEW WORK
	-	OS&Y GATE VALVE
	-	PLUG VALVE
	-	PIPE CAP
	-	PRESSURE GAGE
	-	PRESSURE REDUCING VALVE
	-	PUMP
-	PD	PUMP DISCHARGE
-	RPZ	REDUCED PRESSURE ZONE - BFP
-	REL.	REMOVE AND RELOCATE
-	S	SANITARY
	-	SOLENOID VALVE
	-	STRAINER
	SD	STORM DRAINAGE
	-	TEE DOWN
	-	TEE UP
	-	THERMOMETER
-	TYP.	TYPICAL
	-	T&P RELIEF VALVE
	-	UNION
-	V	VENT
-	VTR	VENT THROUGH ROOF
-	WCO	WALL CLEAN OUT
-	W	WASTE LINE
	-	2-WAY VALVE
	-	3-WAY VALVE

NOTE: FOR REFERENCE ONLY. NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED IN THIS PROJECT.

GENERAL NOTES

- THE CONTRACT DRAWINGS INDICATE THE EXTENT AND GENERAL ARRANGEMENTS OF THE PLUMBING SYSTEMS. IF ANY DEPARTURES FROM THE DRAWINGS ARE DEEMED NECESSARY BY THE PLUMBING CONTRACTOR, DETAILS OF SUCH DEPARTURES AND THE REASONS THEREFORE SHALL BE SUBMITTED TO THE OWNER AND ENGINEER FOR APPROVAL. NO SUCH DEPARTURES SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE OWNER AND ENGINEER. EQUIPMENT AND PIPING ARRANGEMENTS SHALL PROVIDE ADEQUATE AND ACCEPTABLE CLEARANCES FOR ENTRY, SERVICING, AND MAINTENANCE. ANY CHANGES TO PIPING AND EQUIPMENT LOCATIONS NECESSARY TO AVOID INTERFERENCE WITH OTHER TRADES SHALL BE MADE AT NO EXTRA COST.
- THE PLUMBING WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE PREVAILING NEW YORK STATE PLUMBING AND BUILDING CODES. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE, THE MORE STRINGENT STANDARD SHALL APPLY.
- THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR PAYING RELATED FEES.
- CONNECTIONS TO EXISTING UTILITIES AND SERVICES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, INVERT ELEVATIONS, AND SIZES OF EXISTING PLUMBING SERVICES IN FIELD, AND SHALL CONNECT NEW PLUMBING SERVICES AS INDICATED ON DRAWINGS.
- PRIOR TO FABRICATION, THIS CONTRACTOR SHALL VERIFY ALL MEASUREMENTS AND CONDITIONS ON JOB SITE, AND COORDINATE THIS WORK WITH THE WORK OF ALL OTHER TRADES.
- ALL ACCESS PANELS SHALL BE BY GENERAL CONTRACTOR. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR LOCATION.
- PROVIDE ALL PLUMBING FIXTURES, PIPING, VALVES AND ACCESSORY ITEMS AS SPECIFIED AND AS REQUIRED FOR A COMPLETE INSTALLATION. ROUGHING DIMENSIONS OF FIXTURES MUST BE COORDINATED WITH THE GENERAL CONTRACTOR.
- PITCH ALL WASTE, SANITARY, AND STORM DRAIN PIPING AT MAXIMUM SLOPE POSSIBLE, BUT NOT LESS THAN 1/8" PER FOOT FOR PIPING ≥ 3" AND 1/4" PER FOOT FOR PIPING ≤ 2 1/2".
- NO PIPING SHALL RUN EXPOSED IN FINISHED AREAS.
- PROVIDE DIELECTRIC FITTINGS OR COUPLINGS WHEREVER DISSIMILAR METALS ARE JOINED.
- PROVIDE SHUTOFF VALVES AT ALL FIXTURES AND EQUIPMENT ON COLD WATER, AND HOT WATER PIPES.
- ALL WORK SHALL BE PROPERLY TESTED, BALANCED, AND CLEANED AND DISINFECTED. PROVIDE A ONE YEAR WARRANTY FROM DATE OF FINAL INSPECTION ON ALL PARTS AND LABOR.
- PROVIDE ALL PIPE OPENINGS THROUGH PARTITIONS WITH PIPE SLEEVES. FOR PIPES PENETRATING FIRE RATED PARTITIONS, THE SPACE BETWEEN THE PIPE AND THE SLEEVE SHALL BE SEALED WITH FIRE STOPPING MATERIAL. PENETRATIONS FOR PIPING SHALL BE MADE BY CORE DRILLING WHENEVER POSSIBLE.
- PROVIDE TRAP SEAL PRIMERS FOR FLOOR DRAINS. INSTALL THE PRIMER VALVE IN THE COLD WATER SERVICE, WITH THE TRAP CONNECTION PIPED TO THE FLOOR DRAIN TRAP. LOCATE THE VALVE IN AN ACCESSIBLE LOCATION.
- THE PLUMBING CONTRACTOR SHALL PROVIDE ALL CUTTING, PATCHING, CORE DRILLING, PAINTING, ACCESS PANELS, AND FINAL RESTORATION REQUIRED TO FACILITATE THE INSTALLATION OF PLUMBING PIPING, INCLUDING ABOVE CEILINGS AND IN SHAFTS THAT WILL NOT BE REPLACED OR OPENED UNDER ANY OTHER SCOPE OF WORK RELATED TO THIS PROJECT. CONTRACTOR TO REMOVE AND REPLACE CEILINGS, AND OPEN AND PATCH SHAFTS AND WALLS, AS REQUIRED TO EXECUTE THE PLUMBING WORK.
- SEE THE ARCHITECTURAL DRAWINGS FOR EXACT PHASING AND TIME SCHEDULE FOR CONSTRUCTION.
- ALL MOTOR STARTERS AND DISCONNECT SWITCHES FOR PLUMBING EQUIPMENT SHALL BE FURNISHED BY THE PLUMBING CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. UNLESS OTHERWISE NOTED, DISCONNECT SWITCHES FURNISHED BY THE PLUMBING CONTRACTOR FOR PLUMBING EQUIPMENT SHALL BE HEAVY DUTY TYPE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY VENTILATION AND EXHAUST AIR WHEN WELDING OR SOLDERING OPERATIONS ARE PERFORMED, AS REQUIRED BY OSHA.

EQUIPMENT NOTES

- DOMESTIC WATER HEATER, DWH-1: SHALL BE BASED ON AO SMITH COMMERCIAL GRADE PROLINE XE ELECTRONICS DISPLAY RESIDENTIAL ELECTRIC WATER HEATER MODEL NUMBER PXGT-40. FIRST HOUR RATING: 59 GALLONS. LISTED AND LABELED IN ACCORDANCE WITH UL 174. CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE. WATER HEATER SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
 - A. CERTIFIED AT 300 PSI TEST PRESSURE AND 150 PSI WORKING PRESSURE
 - B. NOMINAL CAPACITY OF 40 GALLONS.
 - C. UEF: 0.93
 - D. 4.5 KW, 208V, 1Ø, 60Hz
 - E. DWH SHALL BE INSTALLED ON A 4" HIGH CONCRETE PAD
- WATER HAMMER ARRESTERS SHALL BE SIMILAR TO JAY R SMITH 5200 SERIES, ASSE/ANSI 1010, PDI WH-20 AND LEAD FREE.
- HEAT TRACE: BASED ON DANFOSS SELF REGULATING HEAT TRACE, SERIES PX, 2.5 WATTS PER LINEAR FOOT, 208V, 3PH, 60 HZ, 15 AMPS. FIELD LOCATE WITH PIPING. COORDINATE WITH ELECTRICAL CONTRACTOR FOR CIRCUITING TO PANEL. SEE PLANS FOR ASSOCIATED PANEL LOCATION. PANEL SHALL BE GFPE RATED.

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NO.	REVISION/ISSUE	DATE
△	DOB COMMENTS	04-26-2021
4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1.	ISSUED FOR PROGRESS	02-19-2021

SEAL

PROJECT
LIBERTY PLAZA SUITES
 500 COMMERCE ST.
 TOWN OF MT. PLEASANT, NY

DATE:	AUGUST 12, 2020
PROJECT NO:	NDM0001.00
DRAWN BY:	HLD
CHECKED BY:	RJ
SCALE:	AS NOTED

DRAWING TITLE
PLUMBING SYMBOLS ABBREVIATIONS, GENERAL NOTES AND SCHEDULES

SHEET NO.
P0.1

SPECIFICATIONS

P-1 GENERAL

A.) THE CONTRACTOR SHALL OBTAIN AND FAMILIARIZE HIMSELF WITH THE BUILDING DESIGN CRITERIA AND CONSTRUCTION REQUIREMENTS PRIOR TO SUBMITTING BID. THE PLUMBING WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL LOCAL PLUMBING AND BUILDING CODES, AS WELL AS THOSE OF THE STATE OF NEW YORK. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE THE MORE STRINGENT STANDARD SHALL APPLY.

B.) PRIOR TO FABRICATION THIS CONTRACTOR SHALL VERIFY ALL MEASUREMENTS AND CONDITIONS ON JOB SITE AND COORDINATE THIS WORK WITH THE WORK OF ALL OTHER TRADES.

C.) PROVIDE ALL PLANT FACILITIES, LABOR, MATERIALS, TOOLS, EQUIPMENT, APPLIANCES, TRANSPORTATION, SUPERVISION, AND RELATED WORK NECESSARY OR INCIDENTAL TO COMPLETE THE WORK SPECIFIED IN THIS SECTION AND AS SHOWN ON THE DRAWINGS.

D.) THE DRAWINGS INDICATE THE EXTENT AND GENERAL ARRANGEMENTS OF THE PLUMBING SYSTEMS. IF ANY DEPARTURES FROM THE DRAWINGS ARE DEEMED NECESSARY BY THE PLUMBING CONTRACTOR, DETAILS OF SUCH DEPARTURES AND THE REASONS THEREFOR SHALL BE SUBMITTED TO THE OWNER AND ENGINEER FOR APPROVAL. NO SUCH DEPARTURES SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE OWNER AND ENGINEER. EQUIPMENT AND PIPING ARRANGEMENTS SHALL PROVIDE ADEQUATE AND ACCEPTABLE CLEARANCES FOR ENTRY, SERVICING, AND MAINTENANCE.

E.) CONSTRUCT ALL APPARATUS OF MATERIALS AND PRESSURE SUITABLE FOR THE CONDITIONS ENCOUNTERED DURING CONTINUOUS OPERATION.

F.) WHERE CORROSION CAN OCCUR, APPROPRIATE CORROSION-RESISTANT MATERIALS AND ASSEMBLY METHODS MUST BE USED, INCLUDING ISOLATION OF DISSIMILAR METALS AGAINST GALVANIC INTERACTION. RESISTANCE TO CORROSION SHALL BE ACHIEVED BY THE USE OF THE APPROPRIATE BASE MATERIALS COATINGS AND SHALL BE RESORTED TO ONLY WHEN SPECIFICALLY PERMITTED BY THE SPECIFICATIONS.

G.) CONSTRUCT ALL EQUIPMENT IN ACCORDANCE WITH REQUIREMENTS OF ALL APPLICABLE CODES. ALL PRESSURE VESSELS AND SAFETY DEVICES THAT FALL WITHIN THE SCOPE OF THE ASME CODE SHALL CONFORM TO THE CODE AND BEAR THE ASME LABEL OR STAMP.

H.) ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND GUIDELINES.

I.) UPON COMPLETION OF WORK THE ENTIRE PLUMBING SYSTEM SHALL BE OPERATED IN THE PRESENCE OF THE OWNER AND ENGINEER TO DEMONSTRATE THAT ALL COMPONENTS ARE INSTALLED AND OPERATING PROPERLY.

P-2 WORK NOT INCLUDED

A.) THE FOLLOWING ITEMS OF WORK ARE TO BE DONE BY OTHERS AND SHALL NOT BE INCLUDED IN THE WORK OF THIS SECTION. HOWEVER, IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO SUPPLY THE OTHER CONTRACTORS WITH THE NECESSARY INFORMATION, DRAWINGS, AND SUPERVISION SO THAT THEY CAN PROPERLY COMPLETE THEIR PHASE OF THE INSTALLATION.

- 1.) ELECTRICAL WIRING AND MOUNTING OF STARTING AND CONTROL EQUIPMENT FOR ELECTRICALLY OPERATED PLUMBING EQUIPMENT.
- 2.) ALL ELECTRIC POWER WIRING EXCEPT WHERE FURNISHED AS AN INTEGRAL PART OF FACTORY ASSEMBLED EQUIPMENT OR AS OTHERWISE REQUIRED FOR AUTOMATIC CONTROLS.

B.) WORK FOR THIS CONTRACTOR SHALL BE LIMITED TO WITHIN FIVE FEET OF THE BUILDING EXTERIOR. ALL WORK TO BE PERFORMED OUTSIDE FIVE FEET OF THE BUILDING EXTERIOR SHALL BE DONE BY OTHERS UNLESS OTHERWISE NOTED.

C.) ALL EXTERIOR STORM-DRAINAGE AND GUTTERS, LEADERS, AND DOWNSPOUTS ARE BY OTHERS.

P-3 VISITING THE PREMISES

A.) THE PLUMBING CONTRACTOR, BEFORE SUBMITTING A BID ON THE WORK, MUST VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL VISIBLE EXISTING CONDITIONS.

B.) THE SUBMISSION OF A BID WILL BE CONSIDERED AN ACKNOWLEDGMENT ON THE PART OF THE BIDDER OF HIS VISITATION TO THE SITE. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF THE WORK AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

C.) INSPECT AND VERIFY ALL CONDITIONS WHICH MAY AFFECT COST OF INSTALLATION, VERIFY EXACT LOCATION OF ALL EXISTING PIPES, DUCTS, BEAMS, ETC., WHETHER SHOWN ON THE DRAWINGS OR NOT, SO FAR AS THESE LOCATIONS RELATE TO THE NEW WORK. PROVIDE ANY OFFSETS IN NEW PIPING OR AS MAY BE REQUIRED FOR PROPER CLEARANCES TO AVOID EXISTING DUCTS, CABLES OR OTHER OBSTRUCTION.

P-4 QUALITY ASSURANCE

A.) THE WORK SHALL BE EXECUTED IN STRICT ACCORDANCE WITH THE N.Y. STATE PLUMBING CODES. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.

B.) UNLESS OTHERWISE SPECIFIED OR INDICATED, MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE LATEST EDITION OF THE FOLLOWING CODES AND STANDARDS: AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), UNDERWRITERS' LABORATORIES, INC. (UL), AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), AND NATIONAL ELECTRIC CODE.

C.) IF ANY WORK IS PERFORMED AND SUBSEQUENT CHANGES ARE NECESSARY TO CONFORM TO THE ORDINANCES, THE CHANGES SHALL BE MADE AT THE PLUMBING CONTRACTOR'S EXPENSE.

P-5 WORKMANSHIP AND MATERIALS

A.) WORKMANSHIP SHALL BE OF THE BEST QUALITY AND NONE BUT COMPETENT MECHANICS SKILLED IN THEIR TRADES SHALL BE EMPLOYED. THE PLUMBING CONTRACTOR SHALL FURNISH THE SERVICES OF AN EXPERIENCED SUPERINTENDENT, WHO WILL BE CONSTANTLY IN CHARGE OF THE ERECTION OF THE WORK, UNTIL COMPLETED AND ACCEPTED.

B.) UNLESS OTHERWISE HEREINAFTER SPECIFIED, ALL MATERIALS AND EQUIPMENT UNDER THIS SECTION OF THE SPECIFICATIONS SHALL BE NEW, OF BEST GRADE, AND AS LISTED IN PRINTED CATALOGS OF THE MANUFACTURER. EACH ARTICLE OF ITS KIND SHALL BE THE STANDARD PRODUCT OF A SINGLE MANUFACTURER.

C.) THE ENGINEER SHALL HAVE THE RIGHT TO ACCEPT OR REJECT MATERIAL, EQUIPMENT, AND/OR WORKMANSHIP AND DETERMINE WHEN THE PLUMBING CONTRACTOR HAS COMPLIED WITH THE REQUIREMENTS HEREIN SPECIFIED.

D.) ALL MANUFACTURED MATERIALS SHALL BE DELIVERED AND STORED IN THEIR ORIGINAL CONTAINERS.

P-6 MANUFACTURERS' RECOMMENDATIONS

A.) EQUIPMENT INSTALLED UNDER THIS SECTION OF THE SPECIFICATIONS SHALL BE INSTALLED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR HEREIN SPECIFIED.

P-7 EQUIPMENT SUBMITTALS

A.) THE PLUMBING CONTRACTOR SHALL PREPARE A COMPLETE SUBMITTAL OF PLUMBING FIXTURES, PIPING, AND EQUIPMENT INCLUDED UNDER THIS SECTION.

B.) SHOP DRAWINGS: SHOP DRAWINGS SHALL INCLUDE DRAWINGS WITH DIMENSIONS OF ALL EQUIPMENT, SCHEDULES, PERFORMANCE CHARTS, INSTRUCTIONS, BROCHURES, DIAGRAMS, AND OTHER INFORMATION TO ILLUSTRATE THE REQUIREMENTS AND OPERATION OF THE SYSTEM.

P-8 INTERRUPTION OF SERVICES

A.) WHILE WORK IS IN PROGRESS, EXCEPT FOR DESIGNATED SHORT INTERVALS DURING WHICH CONNECTIONS ARE TO BE MADE, CONTINUITY OF SERVICE SHALL BE MAINTAINED TO ALL EXISTING SYSTEMS. INTERRUPTIONS SHALL BE COORDINATED WITH THE OWNERS AS TO TIME AND DURATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY INTERRUPTIONS TO SERVICE AND SHALL REPAIR ANY DAMAGES TO EXISTING SYSTEMS CAUSED BY HIS OPERATIONS. ANY SHUT DOWNS MUST BE APPROVED IN WRITING BY THE BUILDING MANAGEMENT PRIOR TO SHUTDOWN.

P-9 INFORMATION

A.) THE PLUMBING CONTRACTOR SHALL KEEP HIMSELF FULLY INFORMED AS TO THE SHAPE, SIZE, AND POSITION OF ALL OPENINGS AND FOUNDATIONS REQUIRED FOR HIS APPARATUS AND SHALL GIVE FULL INFORMATION TO THE GENERAL CONTRACTOR SUFFICIENTLY IN ADVANCE OF THE WORK, SO THAT ALL SUCH OPENINGS AND FOUNDATION MAY BE BUILT IN ADVANCE. HE SHALL ALSO FURNISH ALL SLEEVES AND SUPPORTS HEREIN SPECIFIED OR REQUIRED, SO THE GENERAL CONTRACTOR MAY BUILD SAME IN PLACE.

B.) THE PLUMBING CONTRACTOR SHALL OBTAIN DETAILED INFORMATION FROM THE MANUFACTURERS OF APPARATUS, WHICH HE IS TO PROVIDE, FOR THE PROPER METHODS OF INSTALLATION. HE SHALL ALSO OBTAIN ANY INFORMATION FROM OTHER SUBCONTRACTORS TO ENSURE FULL COMPREHENSION OF THE WORK TO BE DONE AND TO ENSURE COORDINATION BETWEEN WORK UNDER THIS SECTION AND ALL OTHER WORK UNDER THIS CONTRACT.

P-10 OPERATING AND MAINTENANCE MANUALS

A.) OPERATING INSTRUCTIONS: PROVIDE OPERATING INSTRUCTIONS TO THE OWNER WITH RESPECT TO OPERATION FUNCTIONS AND MAINTENANCE PROCEDURES FOR ALL EQUIPMENT AND SYSTEMS INSTALLED.

B.) MAINTENANCE MANUALS: AT THE COMPLETION OF THE PROJECT, FOUR COMPLETE MANUALS CONTAINING THE FOLLOWING SHALL BE TURNED OVER TO THE OWNER:

- 1.) COMPLETE SHOP DRAWINGS OF ALL EQUIPMENT.
- 2.) OPERATION DESCRIPTION OF ALL SYSTEMS.
- 3.) NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF ALL SUPPLIERS OF THE SYSTEMS AND SERVICE AGENTS.
- 4.) PREVENTIVE MAINTENANCE INSTRUCTIONS AND SCHEDULE FOR ALL SYSTEMS.
- 5.) SPARE PARTS LIST OF ALL SYSTEM COMPONENTS.

P-11 REMOVALS

A.) REMOVE AND DISPOSE OF ALL PIPING, AND ACCESSORIES WITHIN THE PROJECT AREA AS SHOWN ON THE DRAWINGS OR AS REQUIRED FOR THE INSTALLATION OF THE WORK OF THIS PROJECT.

B.) THIS WORK SHALL BE EXECUTED IN AN ORDERLY AND CAREFUL MANNER, WITH DUE CONSIDERATION FOR THE PROTECTION OF ADJACENT ACTIVITIES. DUST PRODUCING DEMOLITION SHALL BE ISOLATED WITH PROPER PRECAUTIONS.

C.) THE CONTRACTOR SHALL ASK THE OWNER FOR INSTRUCTIONS IF HE ENCOUNTERS ANY WORK, THE DEMOLITION OF WHICH MIGHT RESULT IN A HAZARDOUS CONDITION.

P-12 DUST PROTECTION

A.) IT IS IMPERATIVE THAT DURING DEMOLITION AND ALSO DURING NORMAL CONSTRUCTION WHERE THERE IS ANY POSSIBILITY OF DUST DUE TO CONSTRUCTION WORK CONTAMINATING THE OWNER'S EQUIPMENT OR CAUSING A NUISANCE TO PERSONNEL, THIS CONTRACTOR SHALL FURNISH AND INSTALL SUITABLE PROTECTION AS REQUIRED.

B.) WHEREVER POLYETHYLENE IS USED AS PROTECTIVE TARPULINS OR DROP-CLOTH, IT SHALL BE FIRE-RETARDANT POLYETHYLENE SHEETING, .004" THICK.

P-13 TIME AND MANNER

A.) ALL WORK SHALL BE PERFORMED DURING NORMAL WORKING HOURS UNLESS OTHERWISE DIRECTED BY THE OWNERS REPRESENTATIVE OR NOTED ON THE PLANS

B.) PRIOR TO THE BEGINNING OF WORK THE CONTRACTOR SHALL SUBMIT A SCHEDULE OF WORK TO THE OWNER BASED ON THE DATES GIVEN IN THE PRE-BID MEETING. ANY SHUTDOWNS OF EXISTING SYSTEMS MUST BE VERIFIED IN WRITING WITH THE OWNER'S REPRESENTATIVE.

C.) ANY SHUT-DOWN OF EXISTING SYSTEMS WHERE SUCH SHUT-DOWN IS REQUIRED FOR THE PERFORMANCE OF THE WORK UNDER THE CONTRACT SHALL BE AT SUCH TIMES AS DESIGNATED BY OWNER'S REPRESENTATIVE. RESTORE SYSTEMS TO ORIGINAL CONDITION AFTER PERFORMANCE WORK. THE INTENT IS TO INSURE MINIMUM INTERFERENCE WITH OPERATION OF EXISTING FACILITIES. REPAIR ANY DAMAGE DONE TO BUILDING RESULTING FROM INSTALLATION OF NEW WORK.

P-14 PIPE LABELS

A.) CONTRACTOR TO PROVIDE OPTI-CODE LABELS FOR ALL NEW PIPING. LETTERS AND ARROWS INDICATING FLOW SHALL BE 2 1/2" HIGH, PLACED EVERY 10' AND SHALL BE WHITE ON A GREEN BACKGROUND AND SHALL CONFORM TO ANSI AND OSHA STANDARDS. LABEL ALL COLD WATER, HOT WATER, HOT WATER RE-CIRCULATING, STORM, SANITARY, VENT, GAS PIPING AS FOLLOWS: "COLD WATER", "HOT WATER", "HOT WATER RECIRC", "STORM", ETC. APPLY OVER INSULATION WHERE INSTALLED.

P-14 PIPE

A.) REFER TO "PLUMBING PIPE MATERIAL SCHEDULE"

P-15 PIPING INSTALLATION - GENERAL REQUIREMENTS

A.) REFER TO DRAWINGS FOR REQUIRED PIPING LAYOUTS. CONNECTION DETAILS INDICATE REQUIRED PIPING AT VARIOUS PIECES OF EQUIPMENT. FLOOR PLANS INDICATE GENERAL ROUTING OF PIPING. SPECIFICATIONS DEFINE MATERIALS, INSTALLATION REQUIREMENTS AND SUPPLEMENTARY REQUIREMENTS TO THOSE SHOWN ON DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE SYSTEM BASED ON ALL DOCUMENTATION PROVIDED. TO EQUIPMENT SCHEDULES FOR NOMINAL FLOW RATES. FINAL SIZING SHALL BE BASED ON FLOW RATE OF CONTRACTOR PURCHASED EQUIPMENT.

B.) PROPER PROVISION SHALL BE MADE FOR EXPANSION AND CONTRACTION IN ALL PORTIONS OF PIPE-WORK, TO PREVENT UNDUE STRAINS ON PIPING OR EQUIPMENT. ALL PIPE SHALL BE SUITABLY REINFORCED AT ALL ANCHOR POINTS.

C.) RUN-OUTS, AND CONNECTIONS TO EQUIPMENT, SHALL BE PROVIDED WITH A FLEXIBLE CONNECTION TO WITHSTAND EXPANSION AND CONTRACTION.

D.) ALL CHANGES IN SIZE AND DIRECTION OF PIPING SHALL BE MADE WITH FITTINGS. DO NOT USE MITER FITTINGS, CLOSE NIPPLES OR STREET ELBOWS.

E.) ALL BRANCH CONNECTIONS SHALL BE MADE WITH TEES, EXCEPT THAT ON STEEL PIPING FORGED STEEL "WELDOLETS" AND "LATROLETS" AS MANUFACTURED BY BONNEY FORGE MAY BE USED WHERE THE BRANCH PIPE IS AT LEAST TWO NOMINAL PIPE SIZES LESS THAN THE MAIN PIPE.

F.) ECCENTRIC REDUCING FITTINGS OR ECCENTRIC REDUCING COUPLINGS SHALL BE USED WHERE REQUIRED BY THE CONTRACT DOCUMENTS OR WHERE REQUIRED TO PREVENT POCKETING OF LIQUID OR NON-CONDENSIBLES.

G.) FITTINGS SHALL BE FACTORY MANUFACTURED. SHOP OR FIELD FABRICATED FITTINGS ARE NOT ACCEPTABLE. FITTINGS SHALL HAVE THE SAME PRESSURE RATING AS THE SYSTEM IN WHICH THEY ARE INSTALLED.

H.) ALL FIXTURES SHALL BE INDIVIDUALLY TRAPPED AND VENTED.

I.) GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS.

J.) MINIMUM FALL ON ALL SANITARY DRAINS SHALL BE 1/8" PER FOOT FOR PIPING 4" AND LARGER. 3" AND SMALLER SHALL BE INSTALLED AT 1/4" PER FOOT.

K.) A CLEAN-OUT SHALL BE LOCATED AT THE BASE OF EACH STACK AND LEADER.

L.) INSTALL VENT PIPING PENETRATING ROOFED AREAS TO MAINTAIN INTEGRITY OF ROOF ASSEMBLY. VENT PIPING PASSING THROUGH ROOFS SHALL BE 4 INCH MINIMUM. PIPES SMALLER THAN 4 INCH SHALL BE INCREASED IN SIZE BY MEANS OF A 12 INCH LONG INCREASER. PIPES SHALL TERMINATE AT LEAST 12 INCHES ABOVE THE ROOF OR HIGHER IF REQUIRED BY CODE.

P.) ALL GAS PIPING SHALL BE INSTALLED IN ACCORDANCE WITH CON ED STANDARDS & SPECIFICATIONS.

P-16 SLEEVES AND ESCUTCHEONS

A.) PROVIDE ALL PIPE OPENINGS THROUGH PARTITIONS WITH PIPE SLEEVES. FOR PIPES PENETRATING FIRE RATED PARTITIONS, THE SPACE BETWEEN THE PIPE AND THE SLEEVE SHALL BE SEALED WITH APPROVED FIRE & SMOKE STOPPING MATERIAL.

B.) SLEEVES FOR PIPING PASSING THROUGH MASONRY WALLS SHALL BE SCHEDULE 40, STANDARD GALVANIZED STEEL PIPE. IN FRAMED PARTITIONS SHALL BE 20 GAUGE SHEET METAL. THE SPACE BETWEEN THE PIPE AND ITS SLEEVE SHALL NOT EXCEED ONE-HALF INCH. THE SLEEVE SHALL HAVE A SUFFICIENT LENGTH TO BE FLUSH WITH THE FINISHED WALL SURFACES.

C.) EXPOSED PIPING PASSING THROUGH WALLS, FLOORS OR CEILING SHALL BE FITTED WITH CHROMIUM PLATED CAST BRASS ESCUTCHEONS WITH FASTENING SET SCREWS SIMILAR TO FEE AND MASON MANUFACTURING CO., F. & S. MANUFACTURING CO., OR RITTER PATTERN AND CASTING CO.

P-17 JOINTS AND CONNECTIONS

A.) SOLDERED OR SWEAT: SOLDERED OR SWEAT JOINTS FOR TUBING SHALL BE MADE WITH APPROVED FITTINGS. SURFACES TO BE SOLDERED OR SWEATED SHALL BE PROPERLY CLEANED AND REAMED. THE JOINTS SHALL BE PROPERLY FLUXED AND MADE WITH APPROVED SOLDER. JOINTS IN COPPER WATER TUBING SHALL BE MADE BY APPROPRIATE USE OF APPROVED BRASS OR WROUGHT COPPER WATER FITTINGS IN ACCORDANCE WITH ANSI B16.22, PROPERLY SWEATED OR SOLDERED TOGETHER.

B.) UNIONS: UNIONS IN THE WATER SUPPLY SYSTEM SHALL BE METAL-TO-METAL WITH GROUND SEATS. UNIONS ON DRAINAGE SYSTEMS MAY BE USED ONLY IN THE TRAP SEAL OR ON THE INLET SIDE OF THE TRAP. UNIONS SHALL HAVE METAL-TO-METAL GROUND SEATS.

C.) DIELECTRIC UNIONS/COUPLINGS: INSULATED UNION/COUPLINGS SHALL BE PROVIDED FOR CONNECTING DISSIMILAR MATERIALS. UNION SHALL HAVE A WATER IMPERVIOUS INSULATION BARRIER CAPABLE OF LIMITING GALVANIC CURRENT TO ONE PERCENT OF THE SHORT CIRCUIT CURRENT IN A CORRESPONDING BIMETALLIC JOINT. WHEN DRY, INSULATION BARRIER SHALL BE ABLE TO WITHSTAND A 600-VOLT BREAK DOWN TEST.

P-19 INSULATION - GENERAL REQUIREMENTS

A.) ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES, SHALL BE PROVIDED. ALL OPERATIONS REQUIRED FOR COMPLETE INSTALLATION OF INSULATION AND RELATED WORK AS INDICATED ON THE DRAWING, OR SPECIFIED HEREIN, SHALL BE PERFORMED. THE EXECUTION OF THE WORK SHALL BE IN STRICT ACCORDANCE WITH THE INSULATION MANUFACTURER'S RECOMMENDATIONS AND THE BEST PRACTICE OF THE TRADE.

B.) NO INSULATION SHALL BE APPLIED UNTIL ALL TESTS HAVE BEEN COMPLETED. ONLY INSULATION AND FINISH MATERIALS INCLUDING ADHESIVES, CEMENTS AND MASTICS WHICH CONFORM TO THE REQUIREMENTS OF ALL GOVERNING CODES AND ORDINANCES SHALL BE USED.

C.) ANY EXISTING INSULATION AND SURFACE FINISH DISTURBED OR DAMAGED BY THE INSTALLATION OF NEW EQUIPMENT OR OTHER ALTERATIONS TO THE SYSTEM SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER.

P-20 INSULATION

A.) ALL PIPE COVERING SPECIFIED HEREIN FOR PIPING SYSTEMS SHALL BE FURNISHED AND INSTALLED BY A COMPETENT PIPE COVERING CONTRACTOR RESPONSIBLE TO THE PLUMBING CONTRACTOR. BEFORE COVERING IS APPLIED, ALL PRESSURE TESTS SHALL HAVE BEEN PERFORMED AND APPROVED, WITH ALL SURFACES TO BE COVERED SHALL HAVE BEEN CLEANED.

B.) THE JACKET SHALL HAVE A PRESSURE SEALING LAB ADHESIVE TO ELIMINATE THE USE OF STAPLES, ADHESIVES, OR BANDS, AND INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.

C.) ALL INSULATION SHALL HAVE A MAXIMUM FLAME SPREAD INDEX OF 25 AND A SMOKE-DEVELOPED INDEX NOT EXCEEDING 450. PIPE INSULATION INSTALLED WITHIN AIR PLENUMS SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723.

D.) PIPE COVERING SHALL BE CONTINUOUS AND SHALL BE CAREFULLY FITTED WITH SIDE AND END JOINTS BUTTED TIGHTLY AND STAGGERED. VALVES, FITTINGS, FLANGES, AND ACCESSORIES SHALL HAVE THE SAME THICKNESS OF PIPE COVERING AS THE ADJACENT PIPE. PIPE COVERING FOR THESE ITEMS SHALL BE FACTORY MOLDED TYPE OR FIELD FABRICATED.

E.) INSULATE ALL HOT, COLD WATER, HOT WATER RE-CIRCULATION, DRAIN, AND STORM PIPING WITH FIBERGLASS PIPE INSULATION WITH FIRE RETARDANT VAPOR BARRIER

JACKET. THICKNESS OF INSULATION SHALL AS PER TABLE C403.2.10.

F.) PIPING VALVES AND FITTINGS ON ALL INSULATED PIPES SHALL BE PROVIDED WITH FABRICATED SECTIONS OF INSULATION OR PRE-MOLDED FITTING COVERS EQUAL IN THICKNESS AND MATERIAL TO ADJOINING PIPE INSULATION.

P-21 HANGERS AND SUPPORTS

A.) ALL PIPING SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE BY MEANS OF APPROVED HANGERS AND SUPPORTS. PIPING SHALL BE SUPPORTED TO MAINTAIN REQUIRED GRADING AND PITCHING OF LINES, TO PREVENT VIBRATION AND TO SECURE PIPING IN PLACE, AND SHALL BE SO ARRANGED AS TO PROVIDE FOR EXPANSION AND CONTRACTION. CHAIN, PERFORATED STRAP, BAR, OR WIRE HANGERS ARE NOT PERMITTED.

B.) BRANCHES SHALL HAVE SEPARATE SUPPORTS AND NO BRANCH 5'-0" OR LONGER SHALL BE WITHOUT SUPPORT.

C.) WHERE CODES HAVING JURISDICTION REQUIRE CLOSER SPACING, THE HANGER SPACING SHALL BE AS REQUIRED BY CODE IN LIEU OF THE DISTANCES SPECIFIED HEREIN.

D.) PROVIDE HANGERS AT A MAXIMUM DISTANCE OF 2 FEET FROM ALL CHANGES IN DIRECTION (HORIZONTAL AND VERTICAL) ON BOTH SIDES OF CONCENTRATED LOADS INDEPENDENT OF THE PIPING.

E.) HANGERS IN GENERAL FOR ALL HORIZONTAL PIPING SHALL BE CLEVIS TYPE HANGERS. THESE HANGERS SHALL BE SIZED TO PROVIDE FOR INSULATION PROTECTORS AS HEREIN AFTER SPECIFIED.

F.) PIPING SHALL BE SECURELY FASTENED TO THE STRUCTURE WITHOUT OVERSTRESSING ANY PORTION OF THE SUPPORTS OF THE STRUCTURE ITSELF. SUFFICIENT INTERMEDIATE STEEL SHALL BE PROVIDED TO TRANSFER LOADS TO AREAS WHERE THEY CAN SAFELY BE ACCOMMODATED. PIPE SUPPORTS, ANCHORS AND GUIDES SHALL BE SECURED TO STEEL BY WELDED BRACKETS, BEAM CLAMPS, OR BY FASTENING RODS OVER THE BEAM TOP FLANGE, AND TO CONCRETE BY MEANS OF INSERTS, OR IF GREATER LOAD CARRYING CAPACITY IS REQUIRED, BY MEANS OF STEEL FISHPLATES EMBEDDED IN THE CONCRETE ABOVE THE REINFORCEMENT RODS. ALL HANGERS SHALL BE LOCATED TO PERMIT FREE EXPANSION AND CONTRACTION.

G.) PIPING AND TUBING SHALL BE SUPPORTED AT ALL CHANGES IN DIRECTION. MAXIMUM DEFLECTION SHALL BE 1/8". MAXIMUM SPACING BETWEEN SUPPORTS SHALL BE 10FT FOR STEEL PIPING AND 8FT FOR COPPER PIPING 2" AND LARGER, FOR COPPER PIPING LESS THAN 2" SPACING SHALL BE 6FT O.C. MAXIMUM.

H.) PIPE HANGERS AND SUPPORTS COMPLETE WITH RODS, BOLTS, LOCKNUTS, SWIVELS, COUPLINGS, BRACKETS AND ALL OTHER COMPONENTS AND ACCESSORIES SHALL BE PROVIDED.

I.) SUPPORT VERTICAL PIPING AT EVERY FLOOR. SUPPORT RISER PIPING INDEPENDENTLY OF CONNECTED HORIZONTAL PIPING.

J.) PROVIDE COPPER PLATED HANGERS AND SUPPORTS FOR COPPER PIPING.

K.) PRIME COAT EXPOSED STEEL HANGERS AND SUPPORTS. HANGERS AND SUPPORTS LOCATED IN CRAWL SPACES, PIPE SHAFTS, AND SUSPENDED CEILING SPACES ARE NOT CONSIDERED EXPOSED.

L.) PROVIDE HANGERS ADJACENT TO MOTOR DRIVEN EQUIPMENT WITH VIBRATION ISOLATION.

M.) UNLESS OTHERWISE SPECIFICALLY APPROVED, HANGER SIZE AND SPACING SHALL BE WITHIN FOLLOWING LIMITS:

PIPING SIZE	MAX. HANGER SPACING	MIN. ROD SIZE
1"	8FT. O.C.	3/8"
1-1/4" TO 2"	10 FT. O.C.	3/8"
2-1/2" TO 3-1/2"	12 FT. O.C.	1/2"
4" AND 5"	12 FT. O.C.	5/8"

P-22 PIPE HANGER TYPES

A.) IN GENERAL, HANGERS SHALL BE OF CLEVIS TYPE OR ROLL TYPE WITH VERTICAL ADJUSTMENT. WHERE SEVERAL LINES OF PIPING RUN AS A COMMON GROUP, THEY SHALL BE SUPPORTED ON A COMMON HANGER BAR OF GALVANIZED CHANNEL OR BACK TO BACK ANGLE SECTIONS OR "UNISTRUT" TYPE.

B.) HANGERS SHALL BE AS FOLLOWS:

APPLICATION CENTRAL IRON FIG.
NO. CLEVIS HANGER 10
RISER CLAMP - THRU 3" 261

C.) ALTERNATE MANUFACTURERS: GRINNELL, GRABLER, CRANE

P-23 PIPING CONNECTIONS TO EQUIPMENT

A.) FLANGES OR UNIONS SHALL BE PROVIDED AT ALL FINAL CONNECTIONS TO EQUIPMENT AND CONTROL VALVES TO FACILITATE DISMANTLING. OFFSETS SHALL BE PROVIDED AND CONNECTIONS ARRANGED SO THAT THE EQUIPMENT BEING SERVED MAY BE REMOVED WITHOUT DISTURBING THE PIPING.

B.) ALL AUTOMATIC VALVES SHALL BE PROVIDED WITH A GATE VALVE AND A STRAINER ON THE INLET SIDE.

C.) HANGERS AND SUPPORTS FOR CONNECTED EQUIPMENT SHALL CONFORM TO THE CRITERIA FOR PIPING. NO WIRE, TAPE OR METAL BANDS ARE PERMITTED.

D.) FOR EQUIPMENT MOUNTED ON ISOLATION BASES AND WHEREVER INDICATED ON DRAWING AND DETAILS; MERCER RUBBER CO./ MASON INDUSTRIES STAINLESS STEEL BRAIDED FLEXIBLE CONNECTIONS OR EQUIVALENT SHALL BE PROVIDED.

P-24 VALVES

A.) VALVES SHALL BE FURNISHED AND INSTALLED IN ALL BRANCHES SERVING MORE THAN TWO PIECES OF EQUIPMENT FOR ISOLATING OF BRANCH MAINS ELIMINATING THE NECESSITY OF INTERRUPTING SERVICE TO THE ENTIRE BUILDING STRUCTURE FOR MAINTENANCE PURPOSES AND WHERE INDICATED ON THE DRAWINGS. VALVES SHALL BE INSTALLED WITH THE BEST WORKMANSHIP AND APPEARANCE AND SHALL BE GROUPED SO THAT ALL PARTS ARE EASILY ACCESSIBLE FROM A MINIMUM NUMBER OF ACCESS DOORS. MANUFACTURER'S FIGURE NUMBERS ARE SPECIFIED TO INDICATE TYPE AND QUALITY AND CONSTRUCTION, BUT PRODUCTS OF LISTED APPROVED MANUFACTURERS MAY BE SUBSTITUTED FOR THOSE SPECIFIC NUMBERS SHOWN. ALL NEW VALVES SHALL BE TAGGED AND IDENTIFIED WITH 2" BRASS TAGS. VALVE NUMBERS TO BE FURNISHED BY THE BUILDING MANAGEMENT.

B.) ALL VALVES OF SIMILAR SERVICE SHALL BE OF THE SAME MANUFACTURER AND SHALL HAVE MANUFACTURER'S NAME OR TRADE MARK AND THE WORKING PRESSURE STAMPED OR CAST ON THE BODY.

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2	ISSUED FOR PROGRESS 90%	03-05-2021
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SEAL

PROJECT

LIBERTY PLAZA SUITES
500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020

PROJECT NO: NDM0001.00

DRAWN BY: HLD

CHECKED BY: RJ

SCALE: AS NOTED

DRAWING TITLE

PLUMBING SPECIFICATIONS 1 OF 2

SHEET NO.

P0.2

TABLE C403.2.10
MINIMUM PIPE INSULATION THICKNESS (IN INCHES)^{A, C}

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU*IN/(H*FT ² *F) ^B	MEAN RATING TEMPERATURE, °F	< 1	1 TO < 1½	1½ TO < 4	4 TO < 8	≥ 8
> 350	0.32 - 0.34	250	4.5	5.0	5.0	5.0	5.0
251 - 350	0.29 - 0.32	200	3.0	4.0	4.5	4.5	4.5
201 - 250	0.27 - 0.30	150	2.5	2.5	2.5	3.0	3.0
141 - 200	0.25 - 0.29	125	1.5	1.5	2.0	2.0	2.0
105 - 140	0.21 - 0.28	100	1.0	1.0	1.5	1.5	1.5
40 - 60	0.21 - 0.27	75	0.5	0.5	1.0	1.0	1.0
< 40	0.20 - 0.26	50	0.5	1.0	1.0	1.0	1.5

NOTES:
FOR SI: 1 INCH = 25.4 MM, °C = [(°F)-32]/1.8

a. FOR PIPING SMALLER THAN 1½ INCHES AND LOCATED IN PARTITIONS WITHIN CONDITIONED SPACES, REDUCTION OF THESE THICKNESSES BY 1 INCH SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN FOOTNOTE b) BUT NOT TO A THICKNESS LESS THAN 1 INCH.

b. FOR INSULATION OUTSIDE THE STATED CONDUCTIVITY RANGE, THE MINIMUM THICKNESS (T) SHALL BE DETERMINED AS FOLLOWS:
 $T = r \{ (1 + 1/r)K/k - 1 \}$
 WHERE:
 T = MINIMUM INSULATION THICKNESS,
 r = ACTUAL OUTSIDE RADIUS OF PIPE,
 t = INSULATION THICKNESS LISTED IN THE TABLE FOR APPLICABLE FLUID TEMPERATURE AND PIPE SIZE,
 k = CONDUCTIVITY OF ALTERNATE MATERIAL AT MEAN RATING TEMPERATURE INDICATED FOR THE APPLICABLE FLUID TEMPERATURE (BTU * IN/H * FT² * °F)
 K = THE UPPER VALUE OF THE CONDUCTIVITY RANGE LISTED IN THE TABLE FOR THE APPLICABLE FLUID TEMPERATURE.

c. FOR DIRECT-BURIED HEATING AND HOT WATER SYSTEM PIPING, REDUCTION OF THESE THICKNESSES BY 1½ INCHES (38 MM) SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN FOOTNOTE b) BUT NOT TO THICKNESSES LESS THAN 1 INCH (25 MM).

PLUMBING PIPE MATERIAL SCHEDULE

PIPE SYSTEM	SIZE	PIPE			FITTINGS			REMARKS
		MATERIAL	TYPE / WEIGHT	STANDARD	MATERIALS	TYPE / WEIGHT	STANDARD	
DOMESTIC WATER PIPING (CW, HW, HWC)	ALL	CPVC	SCHEDULE 40	ASTM D2846	CPVC	SOLVENT CEMENT	ASTM D2846	INSULATE PER 22 07 19
	ALL	PEX	NA	ASTM F876	PEX	COLD EXPANSION & REINFORCING RING	ASTM F1960	INSULATE PER 22 07 19
	ALL	COPPER	HARD / TYPE L	ASTM B88	COPPER	95 / 5 SOLDER LEAD FREE	ASTM B828 ASME B16.22	
DOMESTIC WATER FIXTURE SUPPLY STUB OUTS (CW, HW, HWC)	ALL	COPPER	HARD / TYPE L	ASTM B88	COPPER	95 / 5 SOLDER LEAD FREE	ASTM B828 ASME B16.22	
	ALL	COPPER ALLOY	HARD / SCHEDULE 40	ASTM B687	COPPER ALLOY	THREADED	ASTM B584	
SANITARY, WASTE, VENT (ABOVE GROUND)	ALL	PVC	SCHEDULE 40	ASTM D2665	PVC	SOLVENT CEMENT	ASTM D2665	
SANITARY, WASTE, VENT (BELOW GROUND)	ALL	CAST IRON	HUB AND SPIGOT EXTRA-HEAVY	ASTM A74 ASTM A888 CISPI 301 / 310	CAST IRON	COMPRESSION GASKET	ASTM C 564	
BUILDING SEWER	ALL	CAST IRON	HUB AND SPIGOT EXTRA-HEAVY	ASTM A74 ASTM A888 CISPI 301 / 310	CAST IRON	COMPRESSION GASKET	ASTM B29	
STORM (ABOVE GROUND)	ALL	PVC	SCHEDULE 40	ASTM D2665	PVC	SOLVENT CEMENT	ASTM D2665	INSULATE PER 22 07 19
STORM (BELOW GROUND)	ALL	CAST IRON	HUB AND SPIGOT EXTRA-HEAVY	ASTM A74 ASTM A888 CISPI 301 / 310	CAST IRON	COMPRESSION GASKET	ASTM C 564	
NATURAL GAS	≤ 4"	STEEL	SCHEDULE 40	ASTM A53 ASTM A106	MALLEABLE IRON	THREADED	ASME B16.3	

NOTES:
 1. ALL DOMESTIC WATER PIPE AND FITTING MATERIALS SHALL BE NSF61 COMPLIANT.
 2. PIPING IN COMMON AREAS AND APARTMENT MER SHALL BE RATED FOR USE IN AIR PLENUM.

SPECIFICATIONS CONTINUED

C.) VALVES SHALL BE FULL LINE SIZE UNLESS OTHERWISE NOTED.

D.) VALVES SHALL BE CAPABLE OF BEING REPACKED WHILE WIDE OPEN AND OPERATING AT THEIR RATED PRESSURE.

E.) EVERY SECTION OF BRANCH SUPPLY AND RETURN PIPING AND ALL RISERS OF ALL SERVICES SHALL BE CONTROLLED BY A VALVE AT THE MAIN.

F.) EVERY FIXTURE AND OTHER ITEM OF EQUIPMENT SHALL BE INDEPENDENTLY ISOLATED BY MEANS OF VALVES IN ADDITION TO STOP VALVES AT THE FIXTURE OR EQUIPMENT.

G.) FAUCETS, HOSE BIBS AND WALL HYDRANT BRANCHES SHALL HAVE SHUT-OFF VALVES.

H.) VALVES INTENDED TO SUPPLY DRINKING WATER SHALL COMPLY WITH NSF 372 (LEAD-FREE) AND NSF 61.

I.) USE RISING SPINDLE GATE VALVES WHERE SPACE PERMITS.

J.) UNLESS OTHERWISE NOTED OR REQUIRED BY THE APPLICATION, SCREWED VALVES SHALL BE OF BRONZE CONSTRUCTION AND FLANGED VALVES OF CAST IRON CONSTRUCTION WITH BRONZE TRIM. GLOBE AND CHECK VALVE DISCS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS FOR THE SERVICE. ALL CAST IRON BODY VALVES SHALL HAVE RENEWABLE BRONZE SEAT RINGS AND BRONZE SPINDLES.

K.) NOT USED

L.) NOT USED

M.) VALVE TYPES:
 GATE VALVES
 A. UP TO 3 INCHES:
 MANUFACTURERS:
 NIBCO MODEL T-113
 STOCKHAM MODEL B-103
 CRANE MODEL 438
 MSS SP-80, CLASS 125, 200 PSI, BRONZE BODY, BRONZE TRIM, NON RISING STEM, HANDWHEEL, INSIDE SCREW, SOLID WEDGE DISC, SOLDER OR THREADED ENDS. LEAD FREE.
 BALL VALVES
 MANUFACTURER: NIBCO MODEL T-580-70 OR OTHER ACCEPTABLE MANUFACTURERS OFFERING EQUIVALENT PRODUCTS AS NOTED BELOW.
 STOCKHAM
 CRANE
 CONSTRUCTION, 3 INCHES AND SMALLER: MSS SP-110, 600 PSI, BRONZE, TWO PIECE BODY, CHROME PLATED BRASS BALL, REGULAR PORT, TEFLON SEATS AND STUFFING BOX RING, BLOW-OUT PROOF STEM, LEVER HANDLE, SOLDER OR THREADED ENDS. LEAD FREE.
 N.) CHECK VALVES 2½" AND SMALLER: 125 PSI, BRONZE BODY DISK, SWING TYPE. SOLDER END - JENKINS 1222 OR EQUAL, FAIRBANKS, OR LUNKENHEIMER. THREADED ENDS - JENKINS 92-A OR EQUAL, FAIRBANKS, OR LUNKENHEIMER. LEAD FREE.
 O.) VACUUM BREAKERS TO BE WATTS REGULATOR MODEL 288A.
 P.) GAS SHUT OFF VALVES SHALL BE OF AN APPROVED TYPE.
 1.1. APPLIANCE SHUT OFF VALVES UP TO 1/2PSIG SHALL COMPLY TO ANSIZ21.15/CGA9.1, ASME B 16.44, AND ASME B 16.33.
 1.2. LINE PRESSURE REGULATOR VALVES SHALL BE LISTED AND COMPLY TO ANSI Z21.80/CSA 6.22.
 P-25 GAUGES AND THERMOMETERS-GENERAL REQUIREMENTS
 A.) PRESSURE GAUGES AND OTHER INSTRUMENTATION SHALL BE PROVIDE AS SHOWN ON PIPING DETAILS AND AS SPECIFIED.
 B.) REQUIREMENTS FOR INSTRUMENTATION ASSOCIATED WITH TEMPERATURE CONTROLS ARE DEFINED IN THAT PARAGRAPH OF THESE SPECIFICATIONS. TEST WELLS ADJACENT TO SENSORS FOR REMOTE TEMPERATURE GAUGES SHALL BE PROVIDED.
 C.) ALL GAUGES SHALL BE LOCATED TO BE EASILY READABLE FROM THE FLOOR.
 D.) PROVIDE GAUGES ON WATER SERVICE AND UPSTREAM AND DOWNSTREAM OF STRAINERS, PRESSURE REDUCING VALVES AND PUMPS, AND WHERE OTHERWISE NOTED. MINIMUM ½" GAUGE COCKS SHALL BE PROVIDED BETWEEN PIPING AND ALL GAUGES.
 E.) INSTRUMENTS SHALL BE SELECTED SO THAT THE NORMAL RANGE OF OPERATING PRESSURE FALLS WITHIN THE MIDDLE-THIRD OF THE INSTRUMENT RANGE. COMPOUND GAUGES SHALL BE USED WHEN NORMAL OPERATING PRESSURE IS NEAR OR BELOW ATMOSPHERIC.
 F.) EXTENSION NECKS SHALL BE PROVIDED ON WELLS WHERE THERMOMETERS AND PRESSURE GAUGES ARE LOCATED IN INSULATED PIPING, VESSELS, DUCTWORK, PLENUMS OR EQUIPMENT.
 G.) WHERE THERMOMETERS ARE INSTALLED IN PIPING 2" AND SMALLER, INCREASE PIPE BY TWO SIZES.
 P-26 ELECTRIC WIRING
 A.) THE ELECTRICAL CONTRACTOR WILL ERECT ALL STARTING EQUIPMENT FURNISHED UNDER THIS SECTION, EXCEPT STARTERS SPECIFIED TO BE FACTORY MOUNTED AND WIRED AS ALL INTEGRAL PART OF THE EQUIPMENT, AND WILL DO ALL WIRING NECESSARY TO SUPPLY POWER TO THE ELECTRIC MOTOR PROVIDED UNDER THIS SECTION, INCLUDING POWER TO THE STARTERS AND CONNECTIONS FROM STARTERS TO THE MOTORS.
 B.) THIS CONTRACTOR SHALL INSTALL ALL MOTOR CONTROL, TEMPERATURE CONTROL WIRING AND INTERLOCK WIRING EXCLUSIVE OF MOTOR POWER WIRING.
 C.) ALL ELECTRICAL WORK SHALL BE DONE BY A ELECTRICAL CONTRACTOR LICENSED TO PERFORM WORK IN THE STATE OF NEW YORK.
 P-27 ELECTRIC MOTOR CONTROLS
 A.) FURNISH AND TURN OVER THE ELECTRICAL CONTRACTOR WHO SHALL ERECT AND WIRE THE SAME, SUITABLE STARTING CONTROLLING EQUIPMENT, AND DISCONNECT SWITCHES.
 B.) ALL CONTROLLERS SHALL BE ALLEN-BRADLEY, CUTLER-HAMMER, OR GENERAL ELECTRIC, FULLY ENCLOSED IN NEATLY FURNISHED VENTILATED BOXES. CONTROLLERS

SHALL BE OF THE COMBINATION STARTER AND NON-FUSED SWITCH TYPE.

C.) ALL STARTERS FOR MOTORS 1/2 HORSEPOWER AND LARGER SHALL BE MAGNETIC ACROSS-THE-LINE TYPE WITH NON-FUSED DISCONNECT SWITCH UNLESS OTHERWISE NOTED. SUCH STARTERS SHALL BE 208 VOLT, 3 PHASE, 60 CYCLE, A.C. SOURCE.

D.) ALL MAGNETIC STARTERS SUBJECT TO MANUAL START SHALL HAVE MOMENTARY CONTACT START AND STOP BUTTONS BUILT INTO COVER. ALL MAGNETIC STARTERS SUBJECT TO ELECTRICAL INTERLOCKS OR AUTOMATIC CONTROLS SHALL HAVE HAND-OFF-AUTOMATIC SWITCHES BUILT INTO COVER.

E.) ALL MAGNETIC STARTERS SHALL HAVE THERMAL OVERLOAD AND VOLTAGE PROTECTION IN EACH PHASE LEG. PROVIDE EACH STARTER WITH MINIMUM OF TWO AUXILIARY CONTACTS, ONE NORMALLY OPEN AND ONE NORMALLY CLOSED.

P-28 DISINFECTION OF DOMESTIC WATER SYSTEM PIPING
 A.) ALL OPEN ENDS OF PIPING, VALVES AND EQUIPMENT SHALL BE PLUGGED EXCEPT WHEN ACTUAL WORK IS BEING PERFORMED, TO MINIMIZE ACCUMULATION OF DIRT AND DEBRIS.
 B.) THE CONTRACTOR SHALL DISINFECT WATER PIPING BEFORE IT IS PLACED IN SERVICE.
 C.) THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND MATERIALS NECESSARY TO DO THE WORK OF DISINFECTING, AND SHALL PERFORM THE WORK IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN THE AWWA STANDARD FOR DISINFECTING WATER MAINS, DESIGNATION C601-68. CHLORINATION IS DETAILED IN AWWA STANDARD M20.
 D.) THE DOSAGE SHALL BE SUCH AS TO PRODUCE A CHLORINE RESIDUAL OF NOT LESS THAN 200 PPM AFTER A CONTACT PERIOD OF NO LESS THAN 2 HOURS. AFTER TREATMENT, THE PIPING SHALL BE FLUSHED WITH CLEAN WATER UNTIL THE RESIDUAL CHLORINE CONTENT DOES NOT EXCEED 0.2 PPM.
 F.) DURING THE DISINFECTION PERIOD, CARE SHALL BE EXERCISED TO PREVENT CONTAMINATION OF WATER IN THE STREET MAIN OR THE ACTIVE WATER PIPING WITHIN THE BUILDING.
 P-29 TESTING
 A.) UPON COMPLETION OF A SANITARY DRAIN AND VENT SYSTEM, THE CONTRACTOR SHALL PERFORM AN AIR PRESSURE TEST TO VERIFY THAT THE SYSTEM AS BUILT GAS-TIGHT. THE COMPLETED SANITARY SYSTEM SHALL BE SUBJECTED TO AN AIR PRESSURE EQUIVALENT OF A ONE-INCH COLUMN OF WATER. IF THE SANITARY SYSTEM SUSTAINS A CONSTANT, STATIC PRESSURE FOR A PERIOD OF NOT LESS THAN TEN (10) MINUTES, THE SYSTEM SHALL BE DEEMED GAS-TIGHT. DURING THE TEST, THE SANITARY DRAIN AND VENT SYSTEM IS TO BE SEALED AND NO ADDITIONAL AIR PRESSURE, OR OTHER VARIABLE, IS TO BE INTRODUCED OR APPLIED.
 B.) COLD WATER, HOT WATER, & HOT WATER RE-CIRCULATION: 150 PSI HYDRAULIC TEST PRIOR TO FINAL FIXTURE CONNECTIONS.
 C.) GAS: TEST UNDER AIR PRESSURE OF 30 PSI FOR 1 HOUR WITHOUT LOSS ON THE PRESSURE GAUGE, BEFORE FIXTURES OR OTHER OUTLETS ARE CONNECTED. AFTER ALL GAS CONSUMING EQUIPMENT IS INSTALLED AND ADJUSTED, RETEST THE ENTIRE SYSTEM WITH A MERCURY GAUGE MAINTAINING 30 INCHES OF MERCURY FOR 24 HOURS WITH NO DROP IN THE MERCURY COLUMN.
 P-30 MISCELLANEOUS
 A.) THE CONTRACTOR SHALL PROVIDE THE OWNERS WITH CATALOG DATA, OPERATING INSTRUCTIONS, MAINTENANCE INSTRUCTIONS AND RECORD (AS-BUILT) DRAWINGS OF ALL COMPLETED WORK. AS BUILT DRAWINGS SHALL INCLUDE PUMPS AND PIPING LAY OUT.
 B.) ALL WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.
 C.) THE PLUMBING CONTRACTOR SHALL KEEP AN ACCURATE RECORD OF ALL WORK AS ACTUALLY INSTALLED FROM WORK AS SHOWN ON DESIGN DRAWINGS. SUBMIT AS DRAWING (3) SETS ON 24x36 BLUEPRINTS AND A AUTOCAD ELECTRONIC FORMAT DISK IN VERSION 2004 OR LATER.
 D.) ALL MATERIALS, EQUIPMENT, FIXTURES, PIPING, AND DEVICES SHALL BE GUARANTEED TO BE FREE FROM MECHANICAL DEFECTS OR FAULTY WORKMANSHIP FOR A PERIOD OF 1 YEAR FROM THE DATE OF WRITTEN ACCEPTANCE BY THE ENGINEER FOR THE OWNER.
 E.) LABOR AND MATERIAL REQUIRED TO FULFILL THE REQUIREMENTS OF THIS GUARANTEE SHALL BE FURNISHED TO THE OWNER BY THIS CONTRACTOR AT NO ADDITIONAL COST.
 END OF SPECIFICATIONS

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2.	ISSUED FOR PROGRESS 90%	03-05-2021
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4.	ISSUED FOR PRICING	03-16-2021
	DOB COMMENTS	04-26-2021

SEAL

PROJECT
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500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020
 PROJECT NO: NDM0001.00
 DRAWN BY: HLD
 CHECKED BY: RJ
 SCALE: AS NOTED

DRAWING TITLE
PLUMBING SPECIFICATIONS 2 OF 2

SHEET NO.
P0.3

PLUMBING KEYED NOTES

1. 4" S UP.
2. 4" S UP TO CODP.
3. 3" W UP TO FLOOR DRAIN. PROVIDE 2" V.
4. 2" V UP.
5. 4" W UP TO STANDPIPE.

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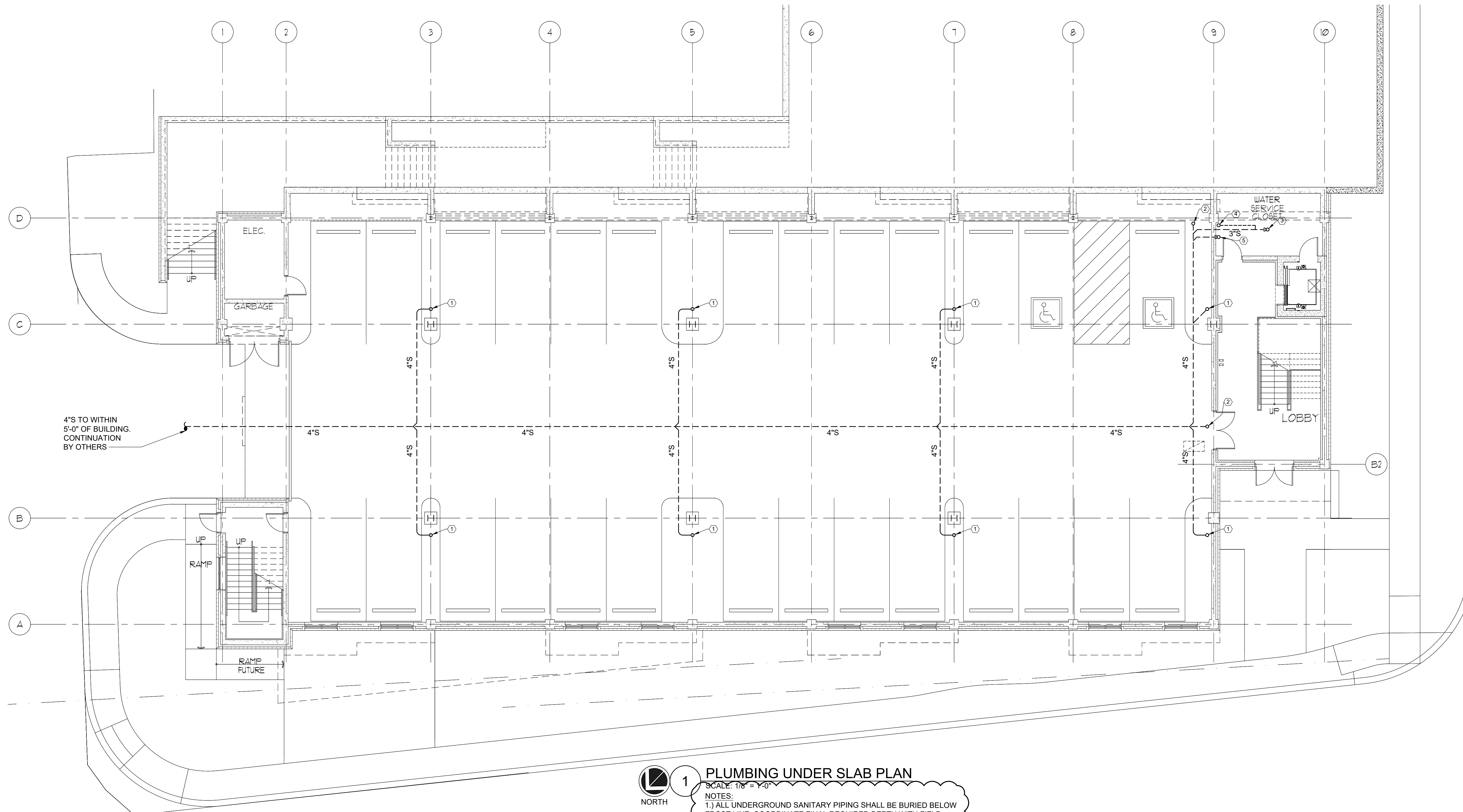
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DRAWING TITLE
PLUMBING FIRST FLOOR NEW WORK PLAN

SHEET NO.
P2.0

1 PLUMBING UNDER SLAB PLAN
SCALE: 1/8" = 1'-0"
NOTES:
1.) ALL UNDERGROUND SANITARY PIPING SHALL BE BURIED BELOW FROST LINE. COORDINATE FINAL REQUIRED DEPTH WITH FIELD CONDITIONS. BURY DEPTH SHALL BE MINIMUM 4 FEET.

PLUMBING KEYED NOTES

1. 4" S RISER UP IN SHAFT.
2. 2" W UP TO SHOWER/TUB. PROVIDE 2" P TRAP AND 1-1/2" W CONNECTION TO TRANSITION TO VENT ON FLOOR ABOVE. REFER TO RISER DIAGRAM FOR PIPING DISTRIBUTION.
3. 4" S UP TO WC. PROVIDE 2" W CONNECTION TO TRANSITION TO VENT ON FLOOR ABOVE. REFER TO RISER DIAGRAM FOR PIPING DISTRIBUTION.
4. 2" W UP TO LAV.
5. 2" W UP TO KITCHEN SINK.
6. 3" W UP TO FLOOR DRAIN. PROVIDE 2" W CONNECTION TO TRANSITION TO VENT ON FLOOR ABOVE. REFER TO RISER DIAGRAM FOR PIPING DISTRIBUTION..
7. 2" W UP TO LAUNDRY MACHINE STANDPIPE.
8. 4" W DN BELOW SLAB. PROVIDE CLEAN OUT IN VERTICAL PIPE.
9. 1-1/2" W UP. TRANSITION TO 1/2" V MINIMUM 6" ABOVE FLOOD RIM. CONNECT TO VENT RISER ON FLOOR ABOVE. REFER TO RISER DIAGRAM FOR PIPING DISTRIBUTION.
10. 2" W UP. TRANSITION TO 2" V MINIMUM 6" ABOVE FLOOD RIM. CONNECT TO VENT RISER ON FLOOR ABOVE. REFER TO RISER DIAGRAM FOR PIPING DISTRIBUTION.
11. 4" S UP.
12. 3" SD UP TO PIPE TRANSITION PIECE. CONNECT TO ROOF LEADERS BY ARCHITECT. COORDINATE FINAL TRANSITION PIECE WITH LEADER SIZE. REFER TO ARCHITECTURAL PLANS FOR CONTINUATION TO ROOF LEVEL.

LIBERTY PLAZA SUITES

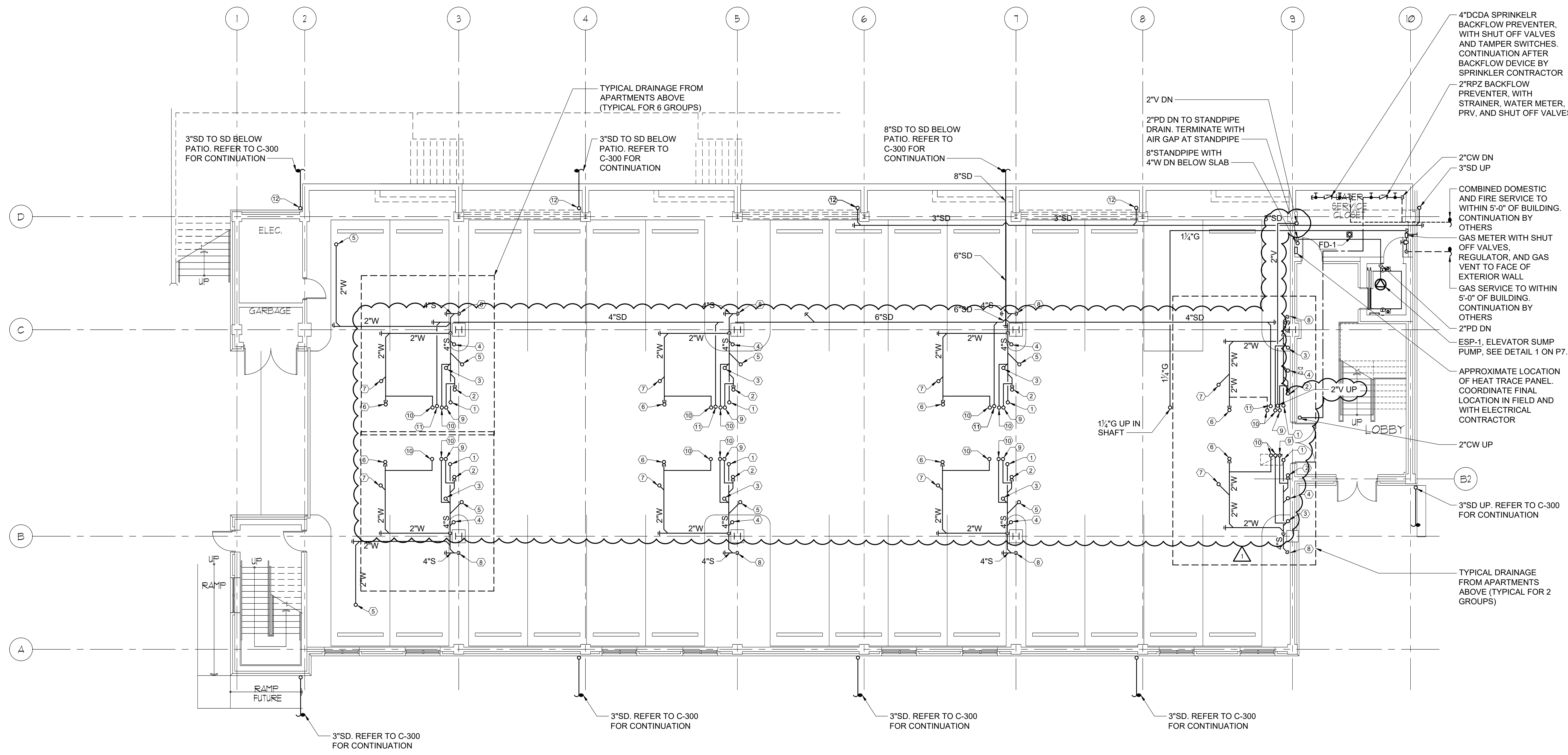
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1 PLUMBING FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"
NORTH

NOTES:
1. ALL EXPOSED PIPING IN GARAGE SHALL BE INSULATED.
2. PROVIDE HEAT TRACE FOR ALL EXPOSED PIPING IN GARAGE LEVEL. CONTRACTOR SHALL COORDINATE FINAL PIPING LENGTHS AND REQUIRED HEAT TRACE WITH PIPING IN FIELD. COORDINATE WITH ELECTRICAL CONTRACTOR FOR CIRCUITING TO PANEL. REFER TO EQUIPMENT NOTES ON DRAWING P0.1 FOR ADDITIONAL INFORMATION.
2.1. STORM PIPING: APPROXIMATELY 210 LINEAR FEET.
2.2. SANITARY PIPING: APPROXIMATELY 620 LINEAR FEET.
3. REFER TO DOMESTIC, SANITARY, STORM AND GAS RISER DIAGRAMS FOR PIPING DISTRIBUTION.
4. GAS REGULATOR AND VENTING SHALL COMPLY TO ALL 2020 NYSFGC. FINAL INSTALLATION REQUIREMENTS SHALL BE COORDINATED WITH GAS SERVICE PROVIDER.

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NO.	REVISION/ISSUE	DATE

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DRAWING TITLE
PLUMBING FIRST FLOOR NEW WORK PLAN

SHEET NO.
P2.1

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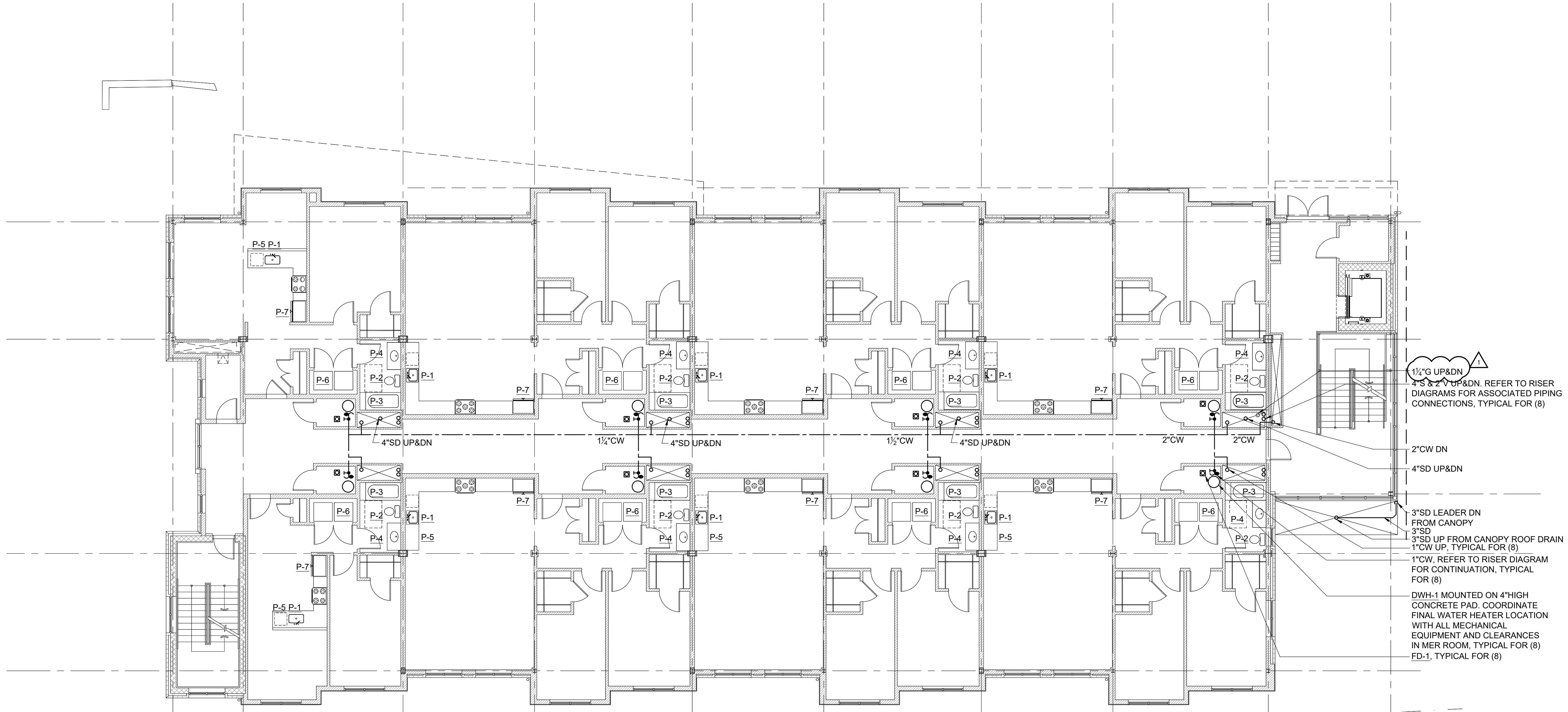
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- 1 1/2" G UP&DN
- 4" S & 2" V UP&DN. REFER TO RISER DIAGRAMS FOR ASSOCIATED PIPING CONNECTIONS, TYPICAL FOR (8)
- 2" CW DN
- 4" SD UP&DN
- 3" SD LEADER DN FROM CANOPY
- 3" SD
- 3" SD UP FROM CANOPY ROOF DRAIN
- 1" CW UP, TYPICAL FOR (8)
- 1" CW, REFER TO RISER DIAGRAM FOR CONTINUATION, TYPICAL FOR (8)
- DWH-1 MOUNTED ON 4" HIGH CONCRETE PAD. COORDINATE FINAL WATER HEATER LOCATION WITH ALL MECHANICAL EQUIPMENT AND CLEARANCES IN MER ROOM, TYPICAL FOR (8)
- FD-1, TYPICAL FOR (8)

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SCALE:	AS NOTED

DRAWING TITLE
PLUMBING SECOND FLOOR NEW WORK PLAN

SHEET NO.
P2.2

1 PLUMBING SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"
NORTH

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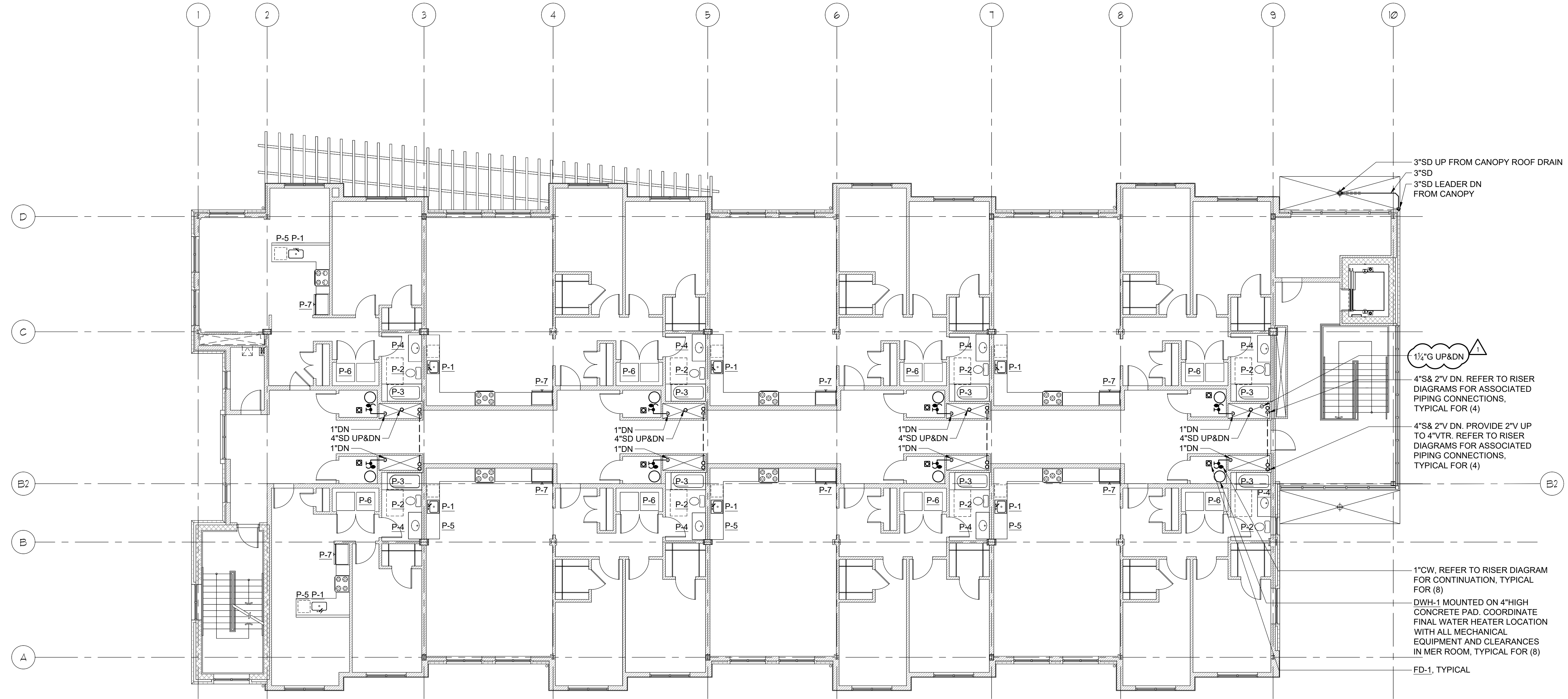
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DRAWING TITLE
PLUMBING THIRD FLOOR NEW WORK PLAN

SHEET NO.
P2.3

1 PLUMBING THIRD FLOOR PLAN
SCALE: 1/8" = 1'-0"
NORTH

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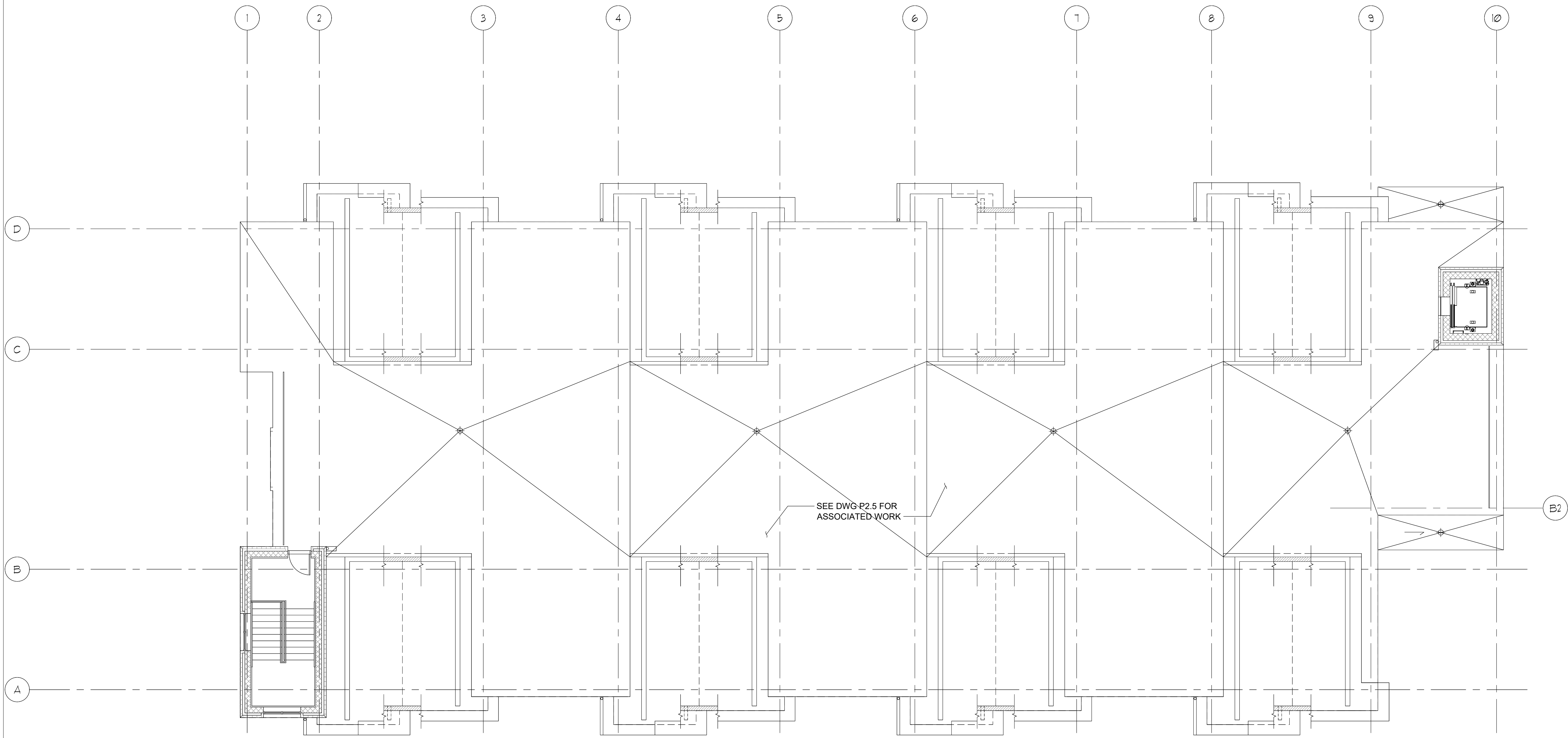
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1 PLUMBING FOURTH FLOOR PLAN
SCALE: 1/8" = 1'-0"
NORTH

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SCALE: AS NOTED

DRAWING TITLE
PLUMBING FOURTH FLOOR PLAN

SHEET NO.
P2.4

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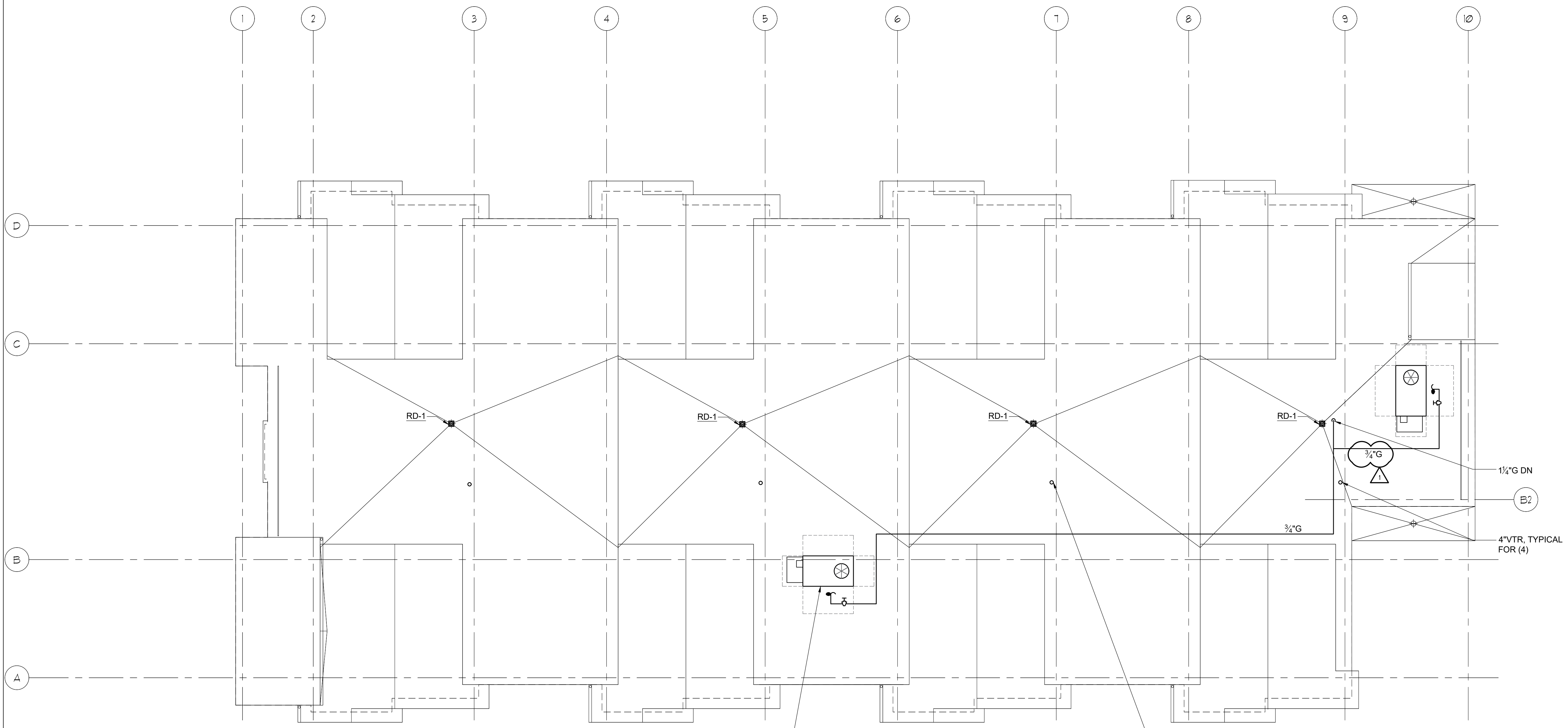
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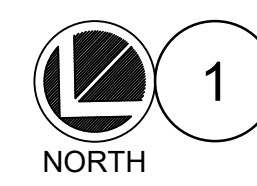
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RTU SHOWN FOR REFERENCE ONLY. REFER TO MECHANICAL DRAWINGS. TYPICAL FOR (2)

COORDINATE FINAL LOCATION OF ALL PLUMBING VENTS WITH MECHANICAL AIR INTAKES. PLUMBING VENT SHALL MAINTAIN MINIMUM 10'-0" HORIZONTAL CLEARANCE FROM ANY MECHANICAL AIR INTAKE, TYPICAL FOR ALL



1 PLUMBING ROOF NEW WORK PLAN

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

- NOTES:
1. ALL GAS PIPING SHALL BE SUPPORTED WITH ROOF PIPE SUPPORTS.

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	DOB COMMENTS	04-26-2021

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PLUMBING ROOF NEW WORK PLAN

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P2.5

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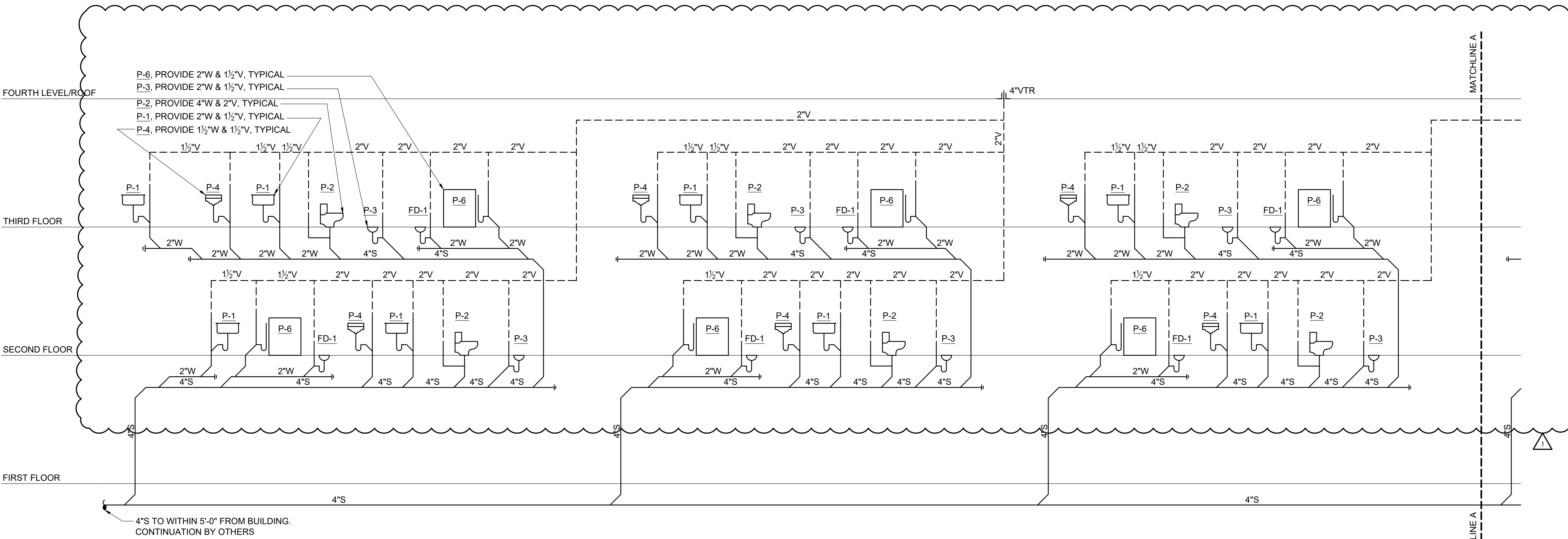
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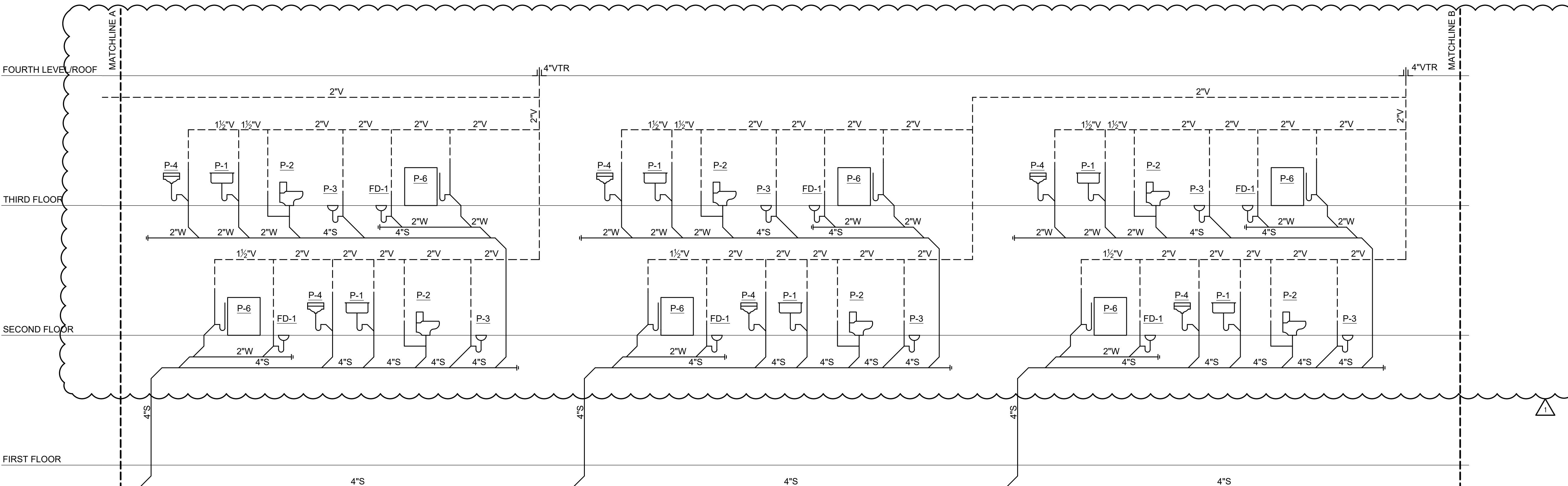


2 PLUMBING SANITARY RISER DIAGRAMS 2 OF 2

SCALE: NONE

NOTES:

- REFER TO PLUMBING FIXTURE SCHEDULE FOR PIPE SPECS TO EACH FIXTURE
- ALL VENT CONNECTIONS SHALL BE MINIMUM 6" ABOVE FLOOD LEVEL RIM OF FIXTURE SERVED.



1 PLUMBING SANITARY RISER DIAGRAMS 1 OF 2

SCALE: NONE

NOTES:

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DRAWING TITLE
PLUMBING SANITARY RISER DIAGRAMS 1 OF 2

SHEET NO.

P5.1

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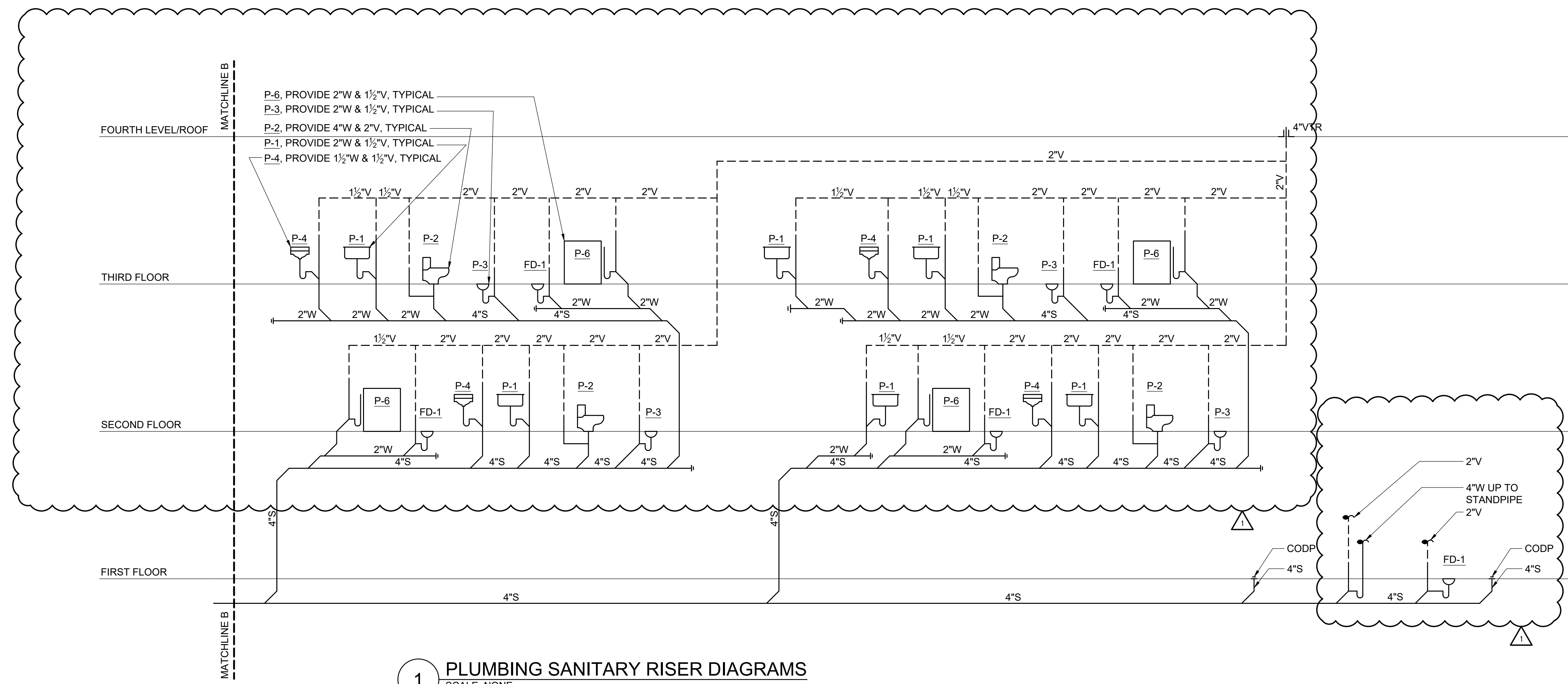
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1 PLUMBING SANITARY RISER DIAGRAMS

SCALE: NONE

NOTES:

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2. ALL VENT CONNECTIONS SHALL BE MINIMUM 6" ABOVE FLOOD LEVEL RIM OF FIXTURE SERVED.

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PLUMBING SANITARY RISER DIAGRAMS 2 OF 2

SHEET NO.
P5.2

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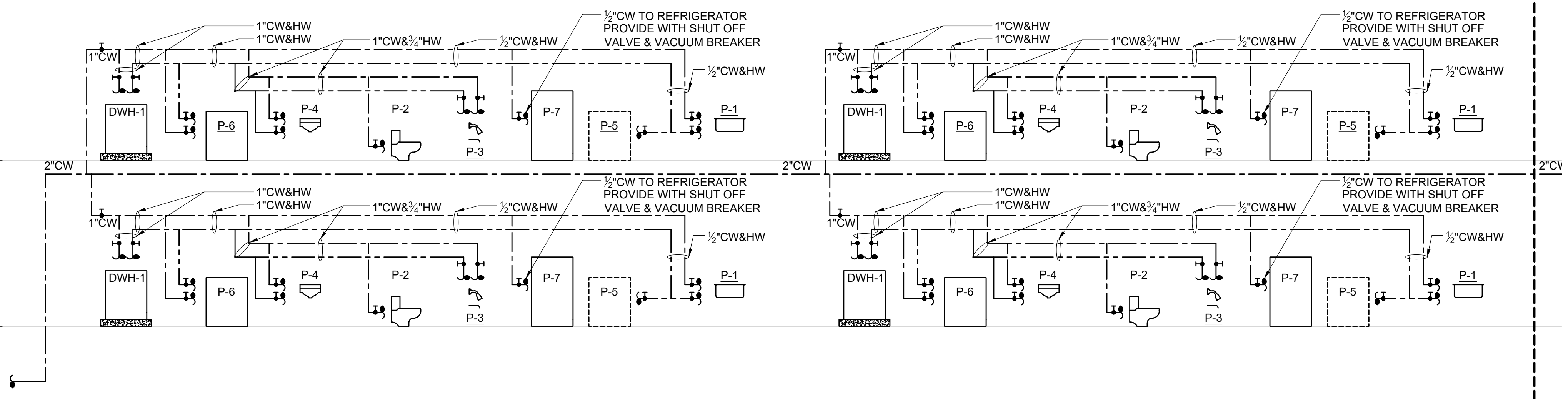
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FOURTH LEVEL/ROOF

THIRD FLOOR

SECOND FLOOR

FIRST FLOOR



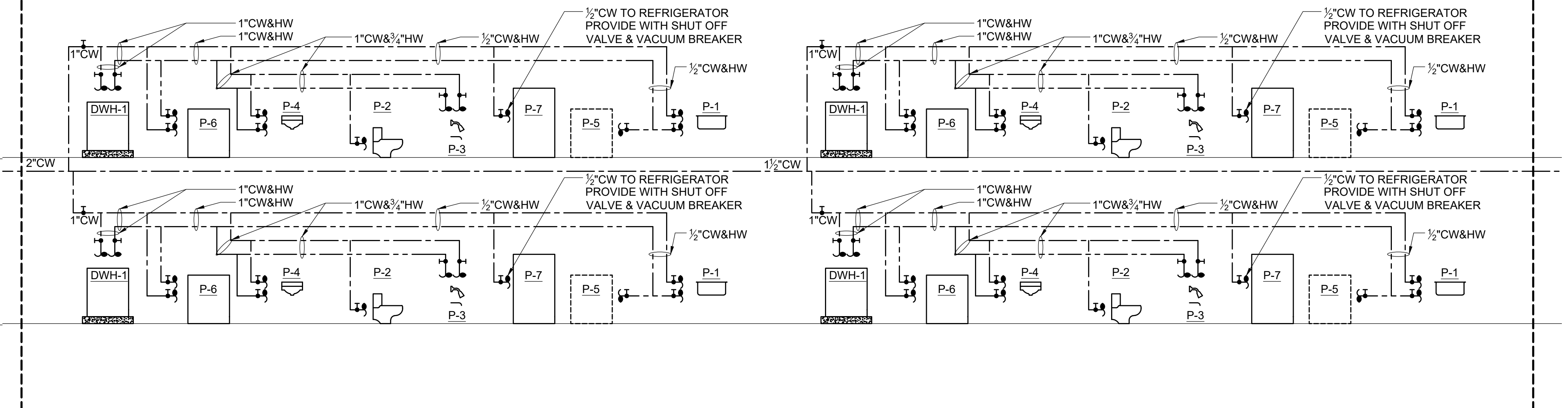
2 PLUMBING DOMESTIC RISER DIAGRAMS 2 OF 2
 SCALE: NONE
 NOTES:
 1. REFER TO PLUMBING FIXTURE SCHEDULE FOR PIPE SPECS TO EACH FIXTURE

FOURTH LEVEL/ROOF

THIRD FLOOR

SECOND FLOOR

FIRST FLOOR



1 PLUMBING DOMESTIC RISER DIAGRAMS 1 OF 2
 SCALE: NONE
 NOTES:
 1. REFER TO PLUMBING FIXTURE SCHEDULE FOR PIPE SPECS TO EACH FIXTURE

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PLUMBING DOMESTIC RISER DIAGRAMS 1 OF 2

SHEET NO.
P5.3

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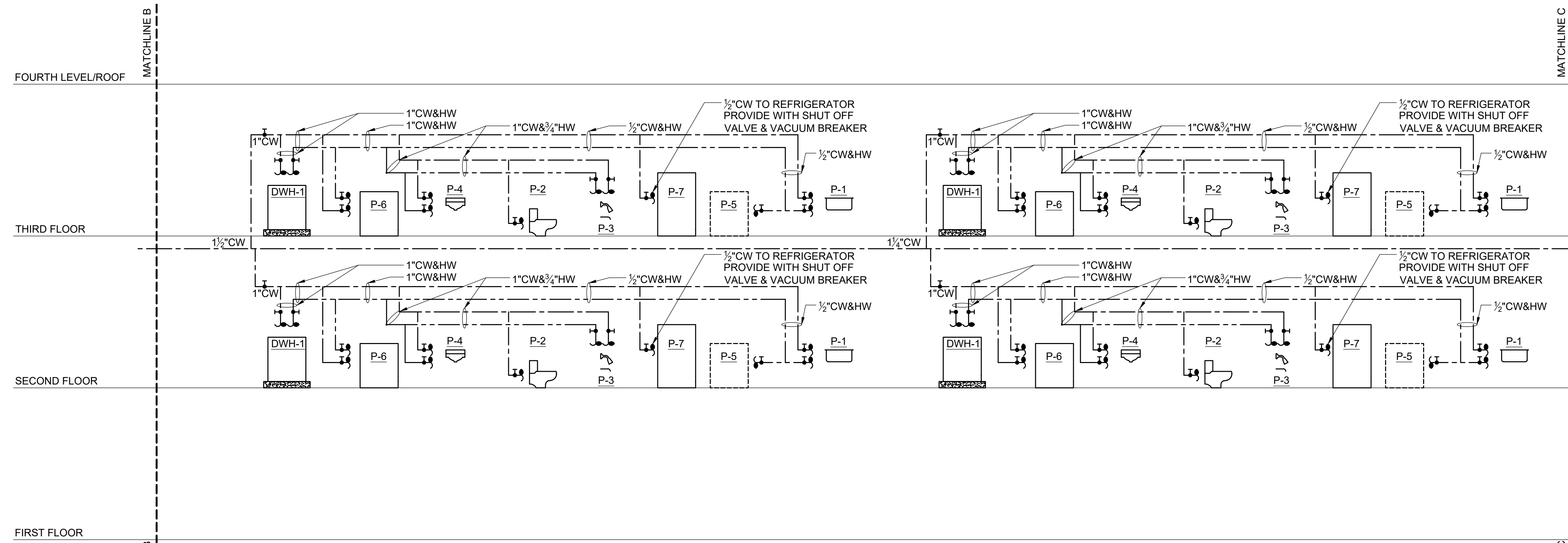
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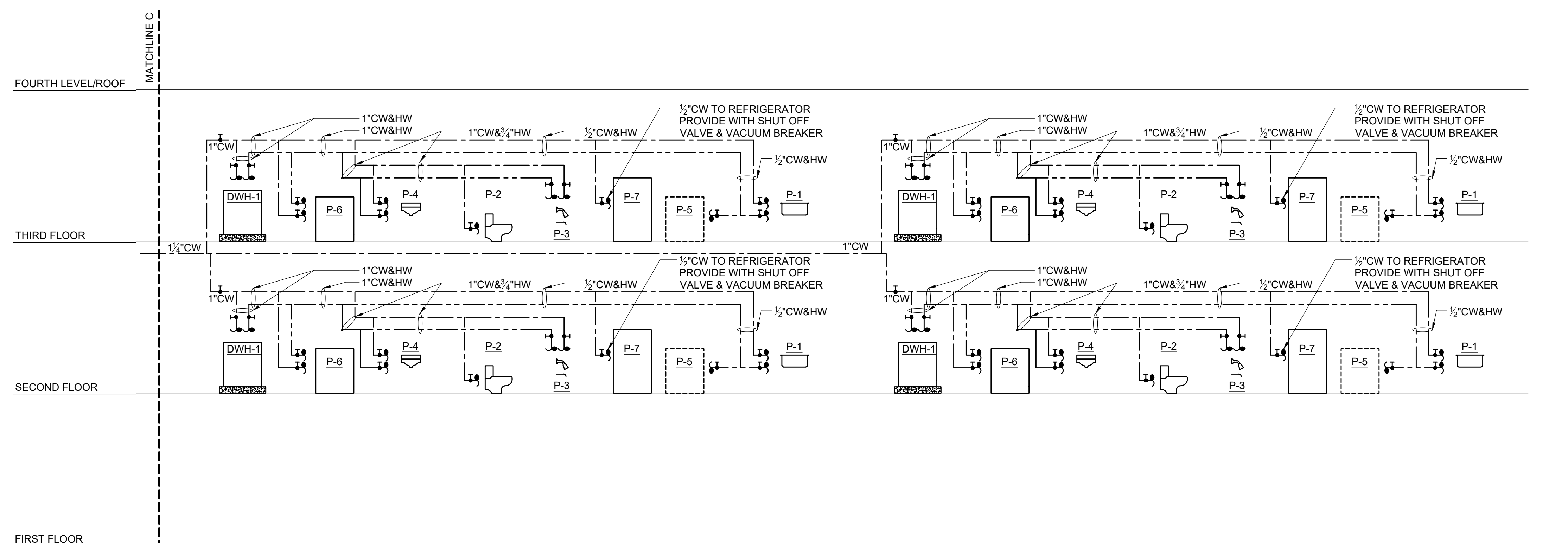
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2 PLUMBING DOMESTIC RISER DIAGRAMS 2 OF 2
 SCALE: NONE
 NOTES:
 1. REFER TO PLUMBING FIXTURE SCHEDULE FOR PIPE SPECS TO EACH FIXTURE



1 PLUMBING DOMESTIC RISER DIAGRAMS 1 OF 2
 SCALE: NONE
 NOTES:
 1. REFER TO PLUMBING FIXTURE SCHEDULE FOR PIPE SPECS TO EACH FIXTURE

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PLUMBING DOMESTIC RISER DIAGRAMS 2 OF 2

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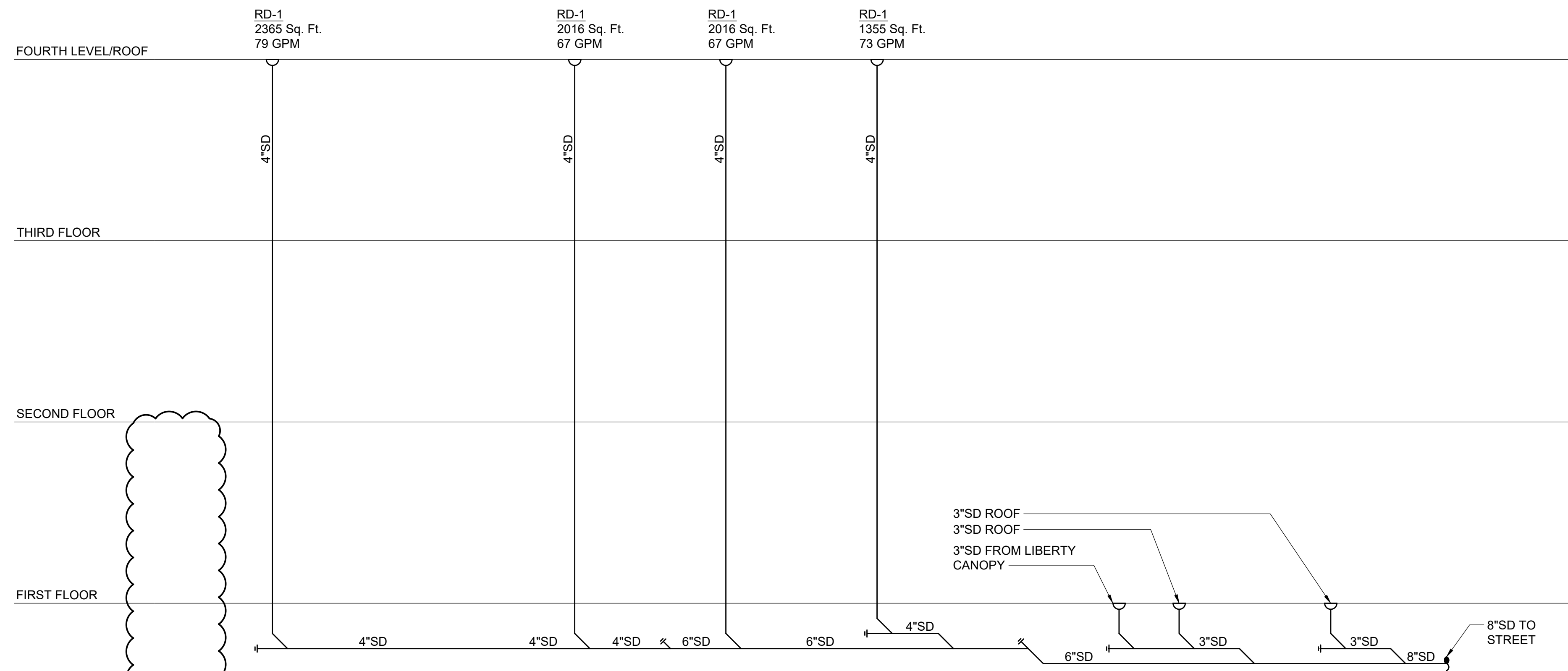
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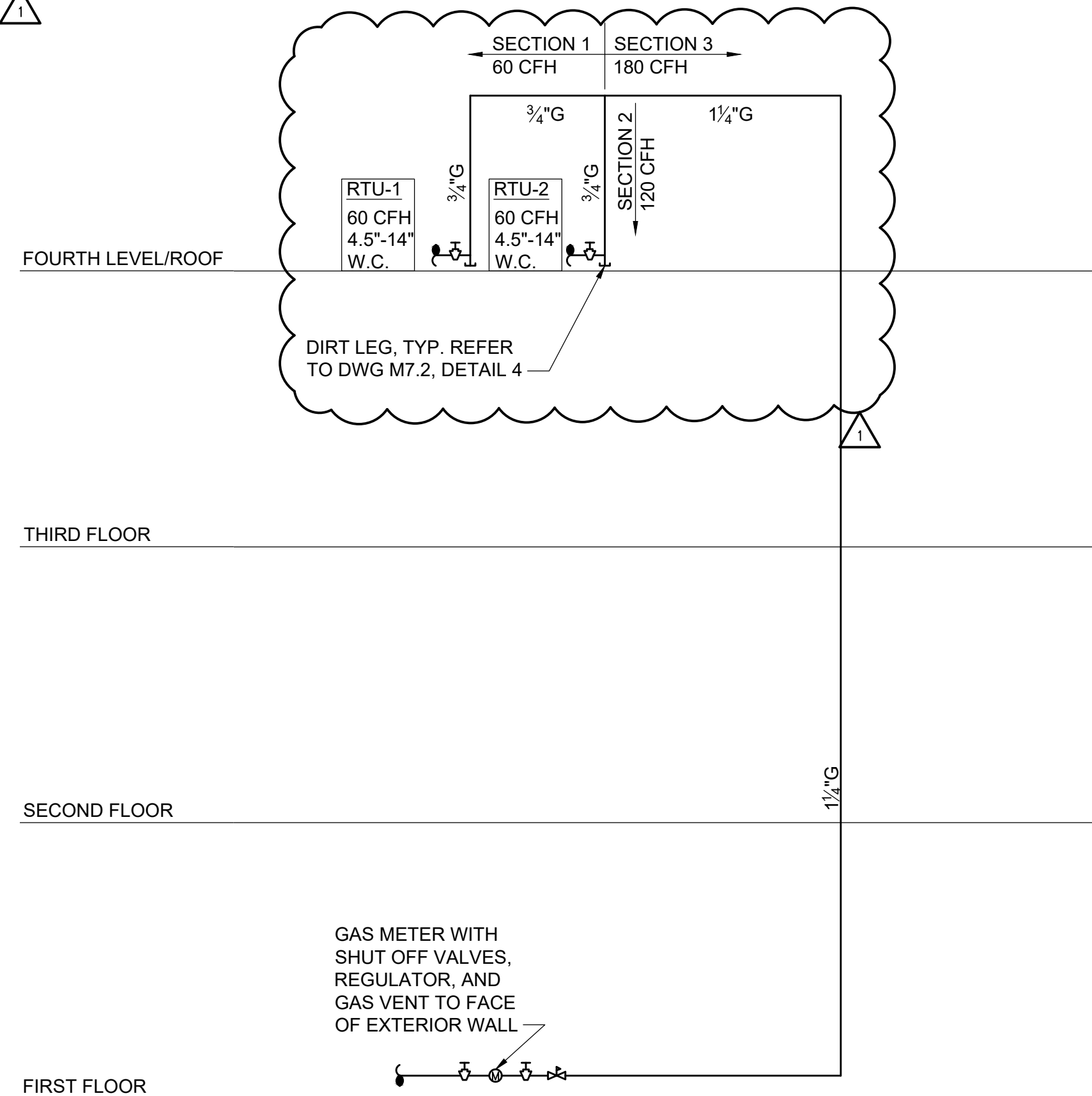


2 PLUMBING STORM RISER DIAGRAMS

SCALE: NONE

NOTES:

- REFER TO PLUMBING FIXTURE SCHEDULE FOR PIPE SPECS TO EACH FIXTURE



1 PLUMBING GAS RISER DIAGRAM

SCALE: NONE

NOTES:

- REFER TO PLUMBING FIXTURE SCHEDULE FOR PIPE SPECS TO EACH FIXTURE

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4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1	ISSUED FOR PROGRESS	02-19-2021
	DOB COMMENTS	04-26-2021

SEAL

PROJECT
LIBERTY PLAZA SUITES
500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020

PROJECT NO: NDM0001.00

DRAWN BY: HLD

CHECKED BY: RJ

SCALE: AS NOTED

DRAWING TITLE

PLUMBING STORM AND GAS RISER DIAGRAMS

SHEET NO.

P5.5

LIBERTY PLAZA SUITES

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HAWTHORNE, NY 10532

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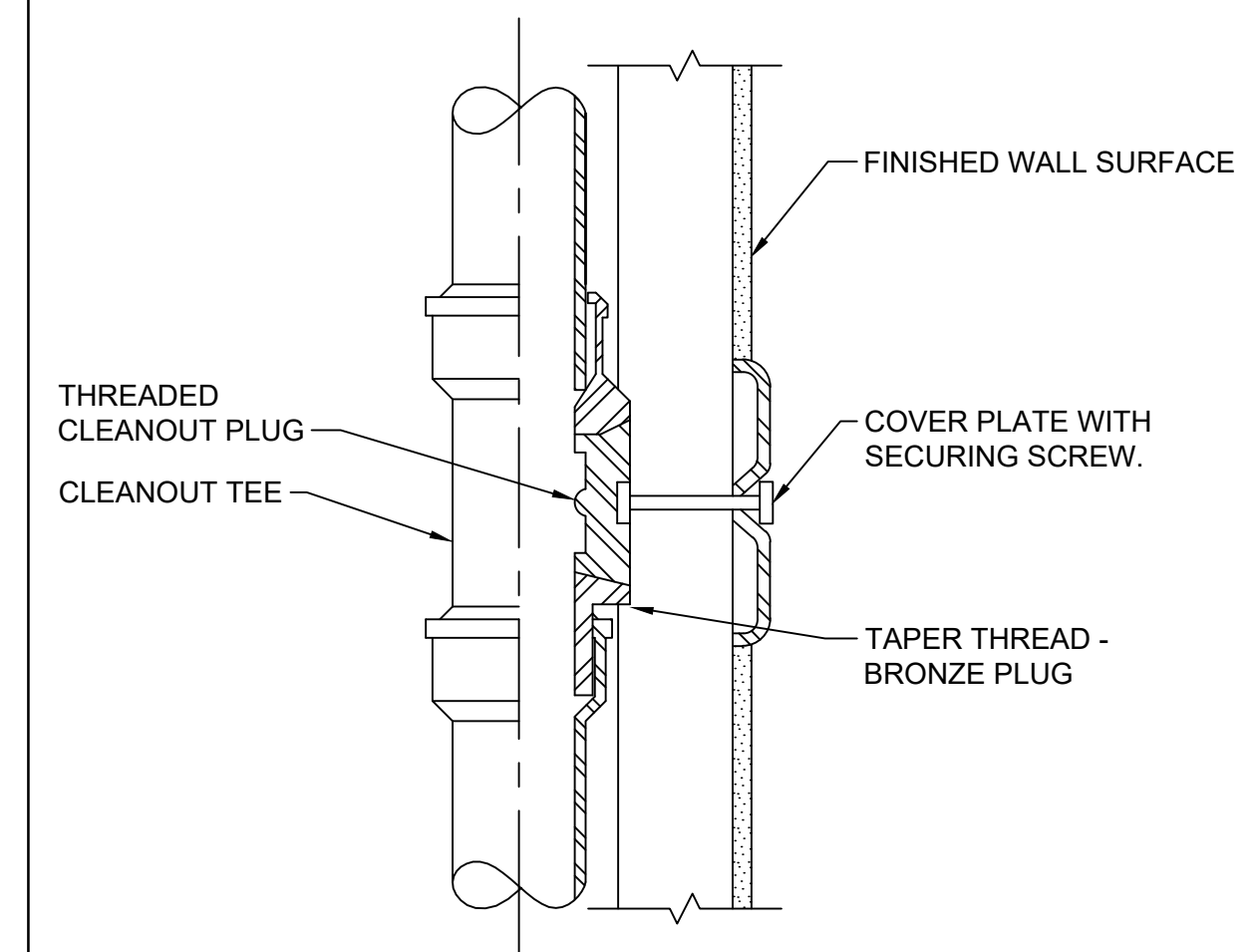
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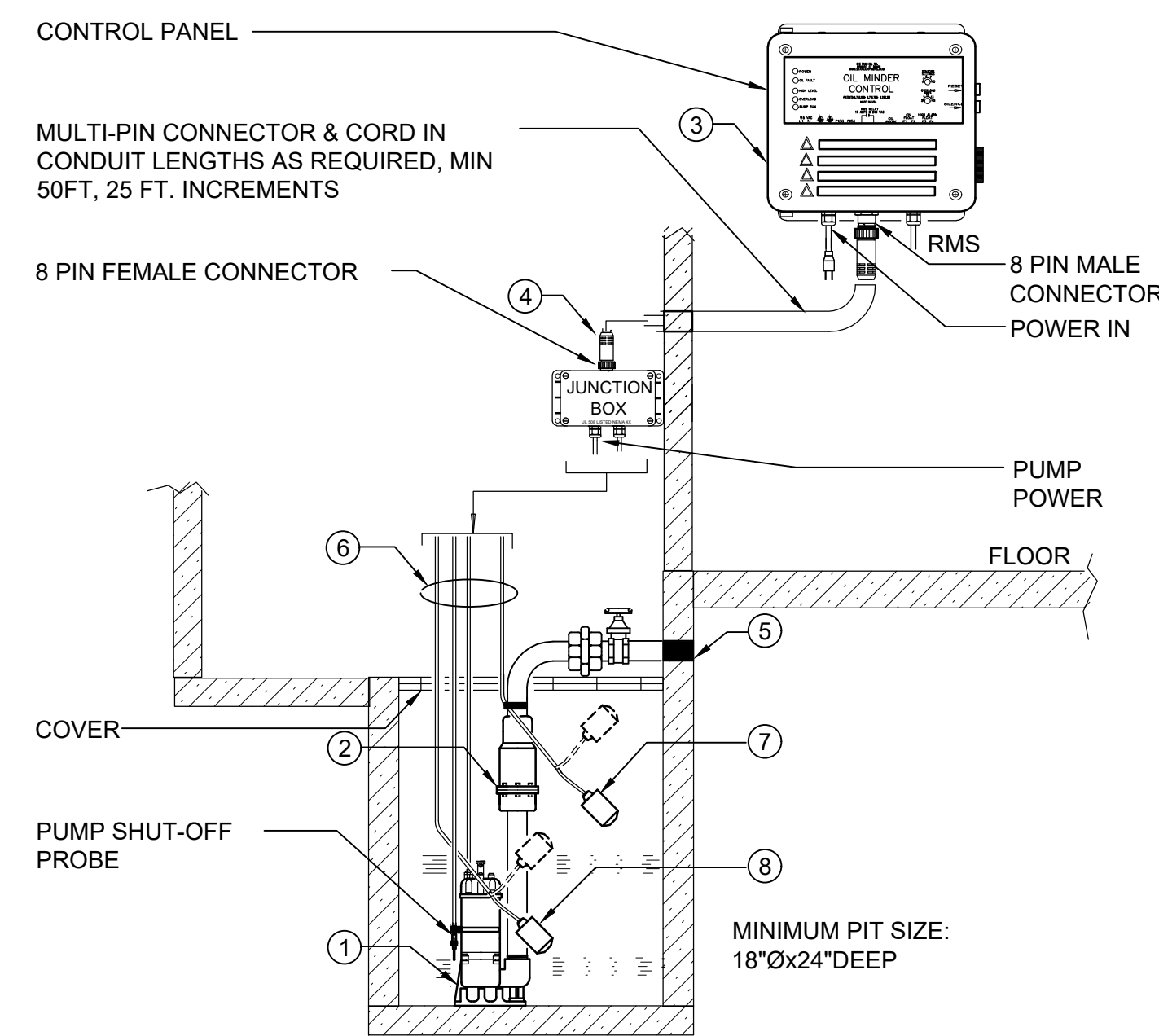
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**CLEANOUT CONCEALED
BEHIND WALL DETAIL**
SCALE: NONE

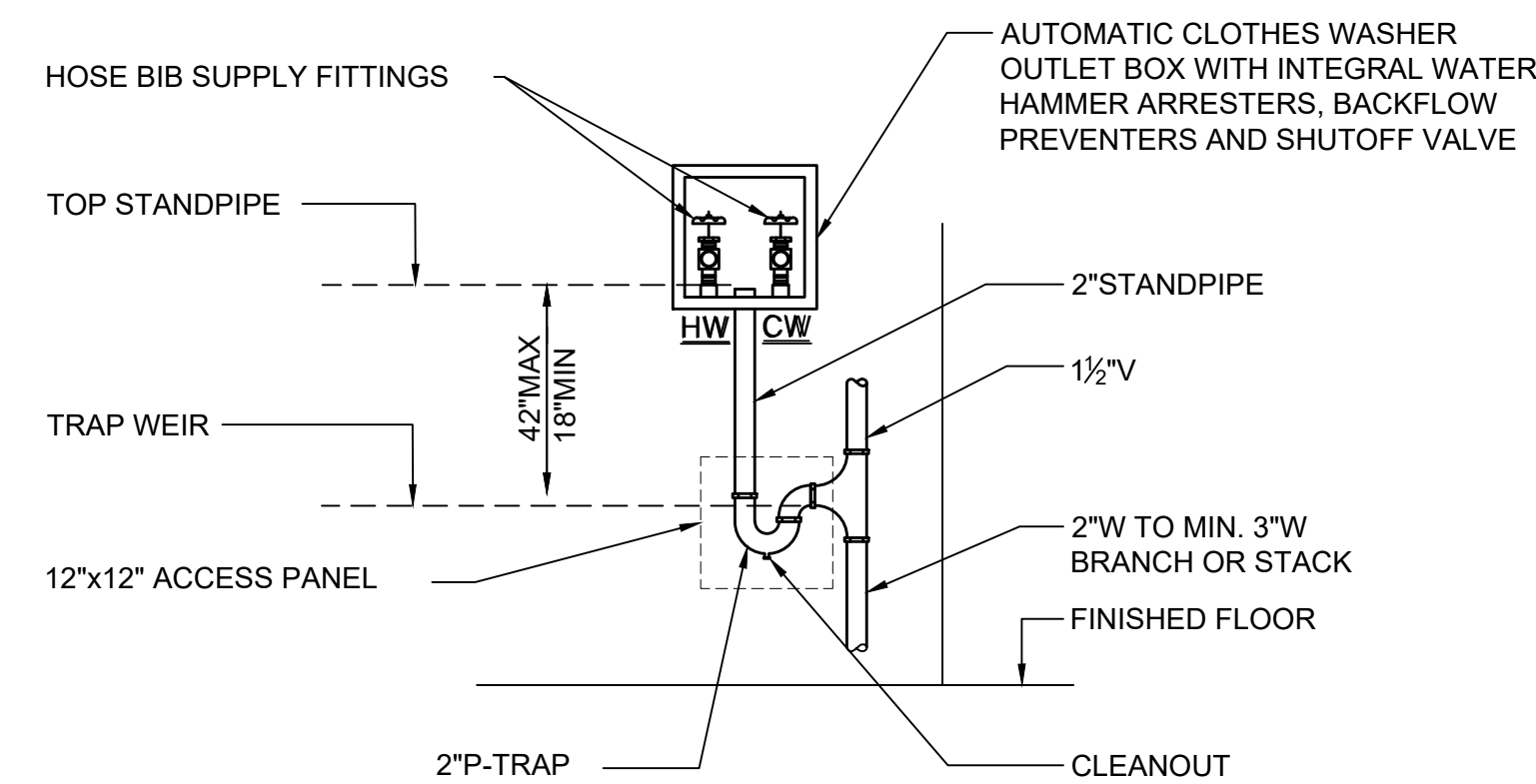
2



- 1.) STANCOR MODEL SE-40 SUBMERSIBLE EFFLUENT PUMP 1/2 HP, 115 VOLT, 3600 RPM, 2" DISCHARGE CONNECTION
- 2.) STANCOR CHECK VALVE
- 3.) STANCOR OIL MINDER 115V, 1Ø CONTROL SYSTEM WITH OPTIONAL BUILT IN AUDIBLE AND VISUAL ALARM WHEN PUMP DOES NOT RUN DUE TO OIL IN PIT OR HIGH LIQUID ALARM. PROVIDE SILENCING BUTTON FOR AUDIBLE ALARM BUILT INTO PANEL. PANEL SHALL HAVE ADDITIONAL CONTACT FOR A REMOTE ALARM LOCATION. A JUNCTION BOX WILL BE PROVIDED WITH MULTI-PIN CONNECTOR & CORD IN LENGTHS AS REQUIRED, 25 FT. IS STANDARD, OPTIONAL 25 FT. INCREMENTS. LIGHTS FOR OIL SPILL, POWER, HIGH LIQUID LEVEL, OVERLOAD & PUMP RUN
- 4.) JUNCTION BOX WILL BE PROVIDED WITH MULTI-PIN CONNECTOR AND CORD IN LENGTHS AS REQUIRED; 25 FT. IS STANDARD, OPTIONAL 25 FT. INCREMENTS AVAILABLE
- 5.) ALL BURIED PUMP PRESSURE DISCHARGE PIPING SHALL BE PROTECTED WITH TAPECOAT CT CORROSION PROTECTION TAPE
- 6.) OIL MINDER CABLE, POWER CABLE, PROBE CABLE, HIGH LIQUID ALARM CABLE & PUMP ON FLOAT CABLE.
- 7.) HIGH LIQUID ALARM FLOAT WITH CLAMP DEVICE TO MOUNT TO PUMP DISCHARGE PIPING
- 8.) PUMP ON FLOAT

5 ELEVATOR SUMP PUMP DETAIL
SCALE: NONE

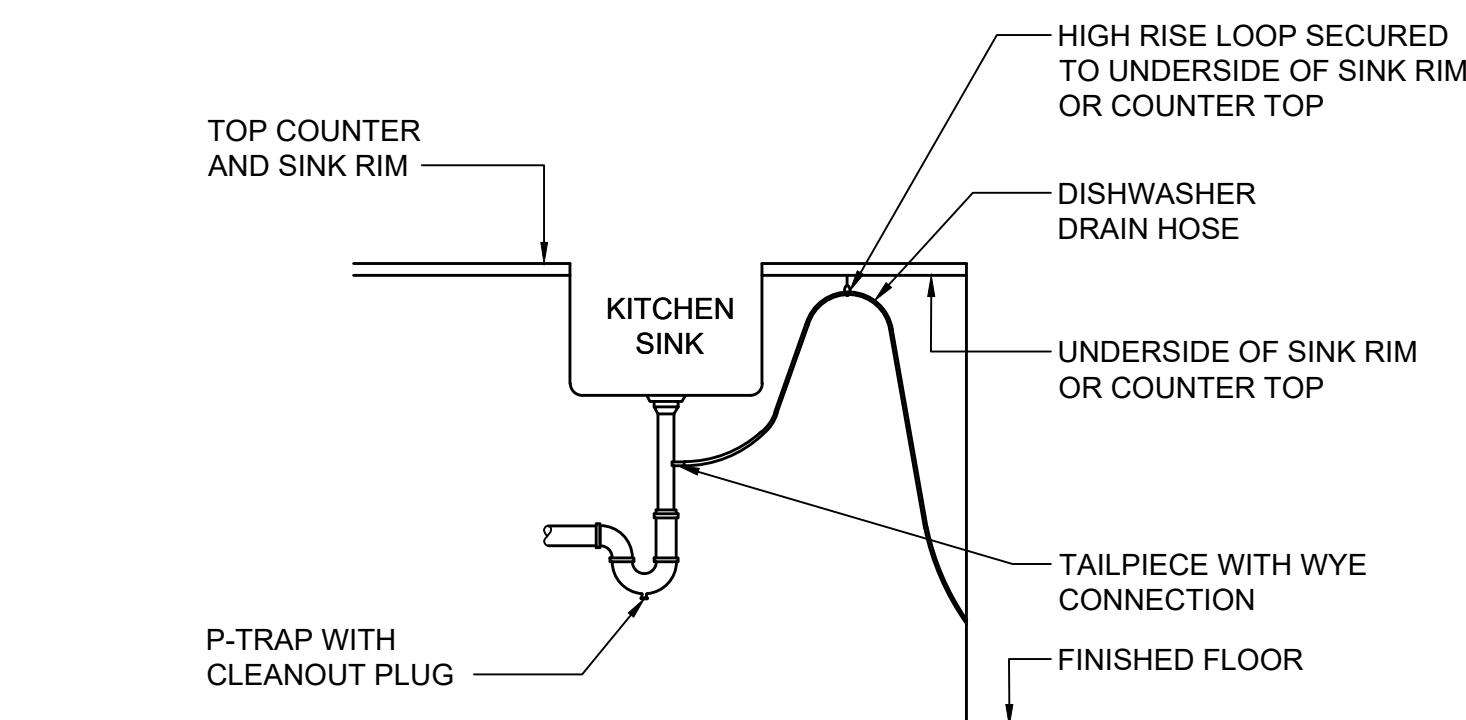
5



- NOTES:
1. DETAILS APPLIES TO AUTOMATIC CLOTHES WASHERS WITHOUT INTEGRAL AIR GAP ON WATER SUPPLY CONNECTIONS. FOR AUTOMATIC CLOTHES WASHER WITH INTEGRAL AIR GAP DELETE BACKFLOW PREVENTERS IN OUTLET BOX.

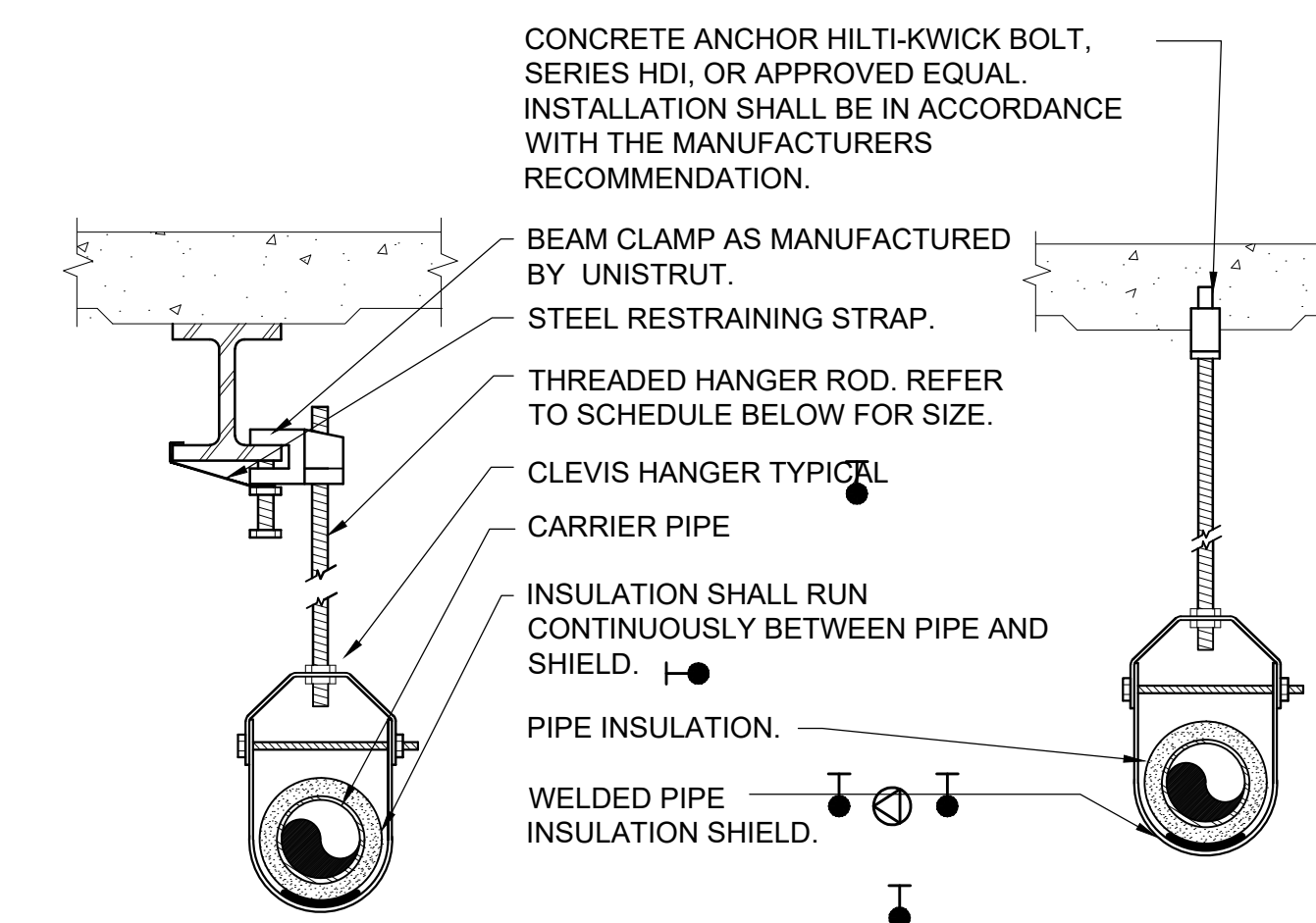
**RESIDENTIAL AUTOMATIC
CLOTHES WASHER CONNECTION DETAIL**
SCALE: NONE

4



**RESIDENTIAL DISHWASHER
DRAIN CONNECTION**
SCALE: NONE

3



PIPE HANGER SCHEDULE					
PIPE DIA.	3/4"-2"	2 1/2"-3"	4"-5"	6"	8"-12"
HANGER DIA.	3/8"	1/2"	5/8"	3/4"	7/8"

- NOTES:
1. CLEVIS HANGERS WITH WELDED INSULATION SHIELDS SIMILAR TO RAUCH FIG. 100SH ON ALL PIPES LARGER THAN 1".
 2. FOR PIPES 1" OR SMALLER, A BAND HANGER WITH INSULATION SHIELD MAY BE USED SIMILAR TO RAUCH FIG. NO. 1ASH.
 3. FOR NONINSULATED PIPE, INSULATION SHIELDS MAY BE OMITTED.
 4. ALL PIPE HANGERS SHALL BE GALVANIZED STEEL OR FACTORY PAINTED BLACK WITH ENAMEL.
 5. FOR NON FERROUS PIPING WITHOUT INSULATION, ALL HANGERS SHALL BE COPPER PLATED OR FURNISHED WITH A DI-ELECTRIC BETWEEN PIPE AND HANGERS.

1 PIPE HANGER DETAIL - CONCRETE & BEAM
SCALE: NONE

1

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SEAL

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LIBERTY PLAZA SUITES
500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020
PROJECT NO: NDM0001.00
DRAWN BY: HLD
CHECKED BY: RJ
SCALE: AS NOTED

DRAWING TITLE
**PLUMBING DETAILS
2 OF 2**

SHEET NO.
P7.2

SPECIFICATIONS CONTINUED

D. USE GROOVED MECHANICAL COUPLINGS AND FASTENERS ONLY IN ACCESSIBLE LOCATIONS. ROLL GROOVE PIPING ONLY.

E. INSTALL UNIONS DOWNSTREAM OF VALVES AND AT EQUIPMENT OR APPARATUS CONNECTIONS.

F. PREPARE PIPE, FITTINGS, SUPPORTS, AND ACCESSORIES FOR FINISH PAINTING.

G. MAKE FINAL CONNECTIONS BETWEEN EQUIPMENT AND SYSTEM WIRING UNDER DIRECT SUPERVISION OF FACTORY TRAINED REPRESENTATIVE OF MANUFACTURER.

H. AT HAZARD AREA WALLS PACK SPACE BETWEEN PIPE, PIPE SLEEVE OR SURFACE PENETRATION WITH MINERAL FIBER WITH ELASTOMER CAULK TO DEPTH OF 3 INCH. PROVIDE ESCUTCHEONS WHERE EXPOSED PIPING PASSES THROUGH WALLS, FLOORS, AND CEILINGS. SEAL PIPE PENETRATIONS OF FIRE SEPARATIONS.

F-17 VALVES

A. VALVES SHALL BE FULL LINE SIZE UNLESS OTHERWISE NOTED.

B. VALVES SHALL BE CAPABLE OF BEING REPACKED WHILE WIDE OPEN AND OPERATING AT THEIR RATED PRESSURE.

C. UNLESS OTHERWISE NOTED OR REQUIRED BY THE APPLICATION, SCREWED VALVES SHALL BE OF BRONZE CONSTRUCTION AND FLANGED VALVES OF CAST IRON CONSTRUCTION WITH BRONZE TRIM. GLOBE AND CHECK VALVE DISCS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS FOR THE SERVICE. ALL CAST IRON BODY VALVES SHALL HAVE RENEWABLE BRONZE SEAT RINGS AND BRONZE SPINDLES.

1. GATE VALVES:

- UP TO AND INCLUDING 2 INCHES:
 - a. BRONZE BODY, BRONZE TRIM, RISING STEM, HANDWHEEL, SOLID WEDGE OR DISC, THREADED ENDS.

- OVER 2 INCHES:
 - a. IRON BODY, BRONZE TRIM, RISING STEM PRE-GROOVED FOR MOUNTING TAMPER SWITCH, HANDWHEEL, OS&Y, SOLID BRONZE OR CAST IRON WEDGE, FLANGED ENDS.

2. BALL VALVES:

- UP TO AND INCLUDING 1 INCHES:
 - a. BRONZE TWO PIECE BODY, BRASS, CHROME PLATED BRONZE, OR STAINLESS STEEL BALL, TEFLON SEATS AND STUFFING BOX RING, LEVER HANDLE AND BALANCING STOPS, THREADED, FULL PORT.

- OVER 1 INCHES:
 - a. BRONZE TWO PIECE BODY, BRASS, CHROME PLATED BRONZE, OR STAINLESS STEEL BALL, TEFLON SEATS AND STUFFING BOX RING, LEVER HANDLE AND BALANCING STOPS, THREADED, STANDARD PORT.

3. CHECK VALVES

- UP TO AND INCLUDING 2 INCHES:
 - a. BRONZE BODY AND SWING DISC, RUBBER SEAT, THREADED ENDS.
- OVER 2 INCHES:
 - b. IRON BODY, BRONZE TRIM, SWING CHECK WITH RUBBER DISC, RENEWABLE DISC AND SEAT, FLANGED ENDS.
- PUMP DISCHARGE:
 - a. SPRING LOAD CHECK VALVE, GOLBE VALVE PATTERN.

4. DRAIN VALVES:

- UP TO AND INCLUDING 3 INCHES:
 - a. BRONZE WITH SCREW-IN BONNET, RENEWABLE DISC, AND INTEGRAL SEAT.

5. BUTTERFLY VALVES:

- 1-1/2 INCHES AND LARGER:
 - a. 200 PSI, CAST OR DUCTILE IRON BODY, ALUMINUM BRONZE DISC, RESILIENT REPLACEABLE SEAT, WAFER OR GROOVED ENDS, EXTENDED NECK, HANDWHEEL AND GEAR DRIVE AND INTEGRAL INDICATING DEVICE.

F-18 GAUGES

A. PRESSURE GAUGES SHALL BE PROVIDE AS SHOWN ON PIPING DETAILS AND AS SPECIFIED.

B. ALL GAUGES SHALL BE LOCATED TO BE EASILY READABLE FROM THE FLOOR.

C. MINIMUM 1/4" GAUGE COCKS SHALL BE PROVIDED BETWEEN PIPING AND ALL GAUGES.

D. INSTRUMENTS SHALL BE SELECTED SO THAT THE NORMAL RANGE OF OPERATING PRESSURE FALLS WITHIN THE MIDDLE-THIRD OF THE INSTRUMENT RANGE. COMPOUND GAUGES SHALL BE USED WHEN NORMAL OPERATING PRESSURE IS NEAR OR BELOW ATMOSPHERIC.

E. MANUFACTURERS:

1. TERICE MODEL 600C.
2. WEKSLER MODEL REGAL.

F. 4-1/2" DIAMETER DIAL, CAST BRASS TYPE 'L' CASE, GLASS COVERED PHOSPHOR BRONZE BOURDON TUBE TYPE, BRONZE BUSHED ROTARY MOVEMENT AND SILVER BRAZED JOINTS.

F-19 REMOVALS

A. ALL UNUSED PIPING, HANGERS, SUPPORTS SHALL BE COMPLETELY REMOVED BACK TO THE NEAREST ACTIVE BRANCH MAIN AND CAPPED, SEALED WATERTIGHT, ALL THE OPENINGS RESULTING SHALL BE PROPERLY PATCHED, SEALED, AND FIRESTOPPED TO MAINTAIN THE ORIGINAL INTEGRITY OF THE PARTITION'S FIRE RATING. CAPPING AND PLUGGING OF PIPING SHALL BE DONE USING THE SAME MATERIAL AS THE PIPING.

B. DISPOSE OF WATER REMOVED FROM PIPELINES IN A MANNER SHALL NOT CAUSE DAMAGE TO ANY PROPERTY AND IN A CODE COMPLIANT MANNER.

F-20 SHUTDOWNS

A. NO SHUT-DOWN OF EXISTING FIRE PROTECTION SYSTEMS SHALL BE DONE WITHOUT PRIOR WRITTEN PERMISSION FROM THE BUILDING MANAGEMENT. REQUESTS FOR SHUT DOWNS MUST BE DELIVERED TO THE MANAGEMENT OFFICE AT

LEAST (2) TWO WORKING DAYS PRIOR TO THE REQUESTED SHUT DOWN AND SHALL BE SUBJECTED TO THE FINAL APPROVAL OF THE MANAGER. KEEP THE SHUT DOWN TIME TO A MINIMUM. DRAINAGE SHALL BE TO A PROPERLY CONNECTED RECEPTACLE WITHOUT CAUSING DAMAGE TO OTHER WORK AND PROPERTY. FIRE PROTECTION SYSTEM SHALL BE PLACED IN OPERATION AT THE END OF EACH WORK DAY.

B. THE CONTRACTOR SHALL PROVIDE TWO 2-1/2 GALLON PRESSURIZED WATER AND ONE 10 LB ABC DRY CHEMICAL EXTINGUISHER FOR EMERGENCY USE DURING ALTERATIONS.

F-21 ELECTRIC WIRING

A. THE ELECTRICAL CONTRACTOR WILL ERECT ALL STARTING EQUIPMENT FURNISHED UNDER THIS SECTION, EXCEPT STARTERS SPECIFIED TO BE FACTORY MOUNTED AND WIRED AS ALL INTEGRAL PART OF THE EQUIPMENT, AND WILL DO ALL WIRING NECESSARY TO SUPPLY POWER TO THE ELECTRIC MOTOR PROVIDED UNDER THIS SECTION, INCLUDING POWER TO THE STARTERS AND CONNECTIONS FROM STARTERS TO THE MOTORS.

B. THIS CONTRACTOR SHALL INSTALL ALL MOTOR CONTROL, TEMPERATURE CONTROL WIRING AND INTERLOCK WIRING EXCLUSIVE OF MOTOR POWER WIRING.

F-22 ELECTRIC MOTOR CONTROLS

A. FURNISH AND TURN OVER TO THE ELECTRICAL CONTRACTOR WHO SHALL ERECT AND WIRE THE SAME, SUITABLE STARTING CONTROLLING EQUIPMENT, AND DISCONNECT SWITCHES.

B. ALL CONTROLLERS SHALL BE ALLEN-BRADLEY, CUTLER-HAMMER, OR GENERAL ELECTRIC, FULLY ENCLOSED IN NEATLY FURNISHED VENTILATED BOXES. CONTROLLERS SHALL BE OF THE COMBINATION STARTER AND UNFUSED SWITCH TYPE.

C. ALL STARTERS FOR MOTORS 1/2 HORSEPOWER AND LARGER SHALL BE MAGNETIC ACROSS-THE-LINE TYPE WITH UNFUSED DISCONNECT SWITCH UNLESS OTHERWISE NOTED. SUCH STARTERS SHALL BE 208 VOLT, 3 PHASE, 60 CYCLE, A.C. SOURCE.

D. ALL MAGNETIC STARTERS SUBJECT TO MANUAL START SHALL HAVE MOMENTARY CONTACT START AND STOP BUTTONS BUILT INTO COVER. ALL MAGNETIC STARTERS SUBJECT TO ELECTRICAL INTERLOCKS OR AUTOMATIC CONTROLS SHALL HAVE HAND-OFF-AUTOMATIC SWITCHES BUILT INTO COVER.

E. ALL MAGNETIC STARTERS SHALL HAVE THERMAL OVERLOAD AND VOLTAGE PROTECTION IN EACH PHASE LEG. PROVIDE EACH STARTER WITH MINIMUM OF TWO AUXILIARY CONTACTS, ONE NORMALLY OPEN AND ONE NORMALLY CLOSED.

F-23 FIRE PUMP -NOT USED

F-24 JOCKEY PUMP - NOT USED

F-25 TESTS

A. PERFORM HYDROSTATIC TESTS FOR ALL SECTIONS OF THE PIPING SYSTEMS INSTALLED UNDER THIS SECTION. AT NOT LESS THAN 200 PSIG PRESSURE FOR TWO HOURS, OR AT 50 PSI IN EXCESS OF THE MAXIMUM PRESSURE TO BE MAINTAINED IN THE SYSTEM IS IN EXCESS OF 150 PSIG. THE TEST PRESSURE SHALL BE READ FROM A GAUGE LOCATED AT THE LOW ELEVATION POINT OF THE INDIVIDUAL SYSTEM, OR PORTION OF THE SYSTEM BEING TESTED.

B. TESTS SHALL BE MADE IN THE PRESENCE OF THE BUILDING REPRESENTITIVE. AT LEAST 48 HOURS NOTICE SHALL BE GIVEN IN ADVANCE OF ALL TESTS.

C. PROVIDE AND INSTALL NECESSARY EQUIPMENT, INSTRUMENTS, HARDWARE, TEMPORARY PIPING, VENTS, DRAINS, AND INCLUDE NECESSARY PERSONNEL REQUIRED TO PERFORM ALL TESTS.

D. ALL TESTS SHALL CONFORM TO THE REQUIREMENTS OF NFPA 14. RECORDS OF ALL TESTS SHALL BE MADE AVAILABLE FOR THE ENGINEER'S INSPECTION, AS REQUIRED.

E. SHOULD THE TESTS REVEALED ANY LEAKS OR DEFICIENCIES IN PIPING INSTALLED UNDER THIS SECTION, MAKE NECESSARY CORRECTIONS IMMEDIATELY AND FLUSH, CLEAN AND RETEST THE SYSTEM FOR THE OWNER'S APPROVAL AT NO COST TO THE OWNER.

F. REPAIR OR REPLACE ANY PORTION OF THE SYSTEM INSTALLED UNDER THIS SECTION THAT IS DAMAGED AS A RESULT OF TEST OPERATIONS AT NO COST TO THE OWNER.

F-26 SYSTEM PRESSURE TESTING

A. HYDROSTATIC TEST: TEST ALL SYSTEMS AT 200 PSI FOR 2 HOURS MINIMUM WITHOUT LOSS OF PRESSURE OR WATER LEAKAGE.

B. DRY SYSTEM AIR TEST: IN ADDITION TO HYDROSTATIC TEST, CONDUCT AN AIR PRESSURE LEAKAGE TEST IN THE DRY SYSTEM AT 40 PSI FOR 24 HOURS WITHOUT LOSS OF PRESSURE IN EXCESS OF 1-1/2 PSI.

C. CONTRACTOR SHALL BE RESPONSIBLE DURING INSTALLATION AND TESTING FOR ANY DAMAGE CAUSED BY LEAKS.

F-27 SYSTEM INSPECTION AND CHECK OUT

A. AFTER THE SYSTEM INSTALLATION HAS BEEN COMPLETED, THE ENTIRE SYSTEM SHALL BE CHECKED OUT, INSPECTED AND FUNCTIONALLY TESTED BY QUALIFIED, TRAINED PERSONNEL, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES AND NFPA STANDARDS.

B. ALL PIPING SHALL BE CHECKED FOR PROPER MOUNTING AND INSTALLATION.

C. ALL ELECTRICAL WIRING SHALL BE TESTED FOR PROPER CONNECTION, CONTINUITY AND RESISTANCE TO GROUND.

D. THE COMPLETE SYSTEM SHALL BE FUNCTIONALLY TESTED, IN THE PRESENCE OF THE OWNER OR HIS REPRESENTATIVE, AND ALL FUNCTIONS, INCLUDING SYSTEM AND EQUIPMENT INTERLOCKS, MUST BE OPERATIONAL AT LEAST FIVE (5) DAYS PRIOR TO THE FINAL ACCEPTANCE TEST.

1. EACH DETECTOR SHALL BE TESTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES, AND TEST VALUES RECORDED.

2. ALL SYSTEM AND EQUIPMENT INTERLOCKS, SUCH AS DOOR RELEASE DEVICES, AUDIBLE AND VISUAL DEVICES, EQUIPMENT SHUTDOWNS, LOCAL AND REMOTE ALARMS, ETC. SHALL FUNCTION AS REQUIRED AND DESIGNED.

3. EACH CONTROL PANEL CIRCUIT SHALL BE TESTED FOR TROUBLE BY INDUCING A TROUBLE CONDITION INTO THE SYSTEM.

E. THE INSTALLING CONTRACTOR SHALL PROVIDE TWO (2) INSPECTIONS OF EACH SYSTEM. INSTALLED UNDER THIS CONTRACT, DURING THE ONE-YEAR WARRANTY PERIOD. THE FIRST INSPECTION SHALL BE AT THE SIX MONTH INTERVAL, AND THE SECOND INSPECTION AT THE 12 MONTH INTERVAL, AFTER SYSTEM ACCEPTANCE. INSPECTIONS SHALL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND SHALL COMPLY WITH THE RECOMMENDATIONS OF NFPA13.

F. DOCUMENTS CERTIFYING SATISFACTORY SYSTEM(S) OPERATION SHALL BE SUBMITTED TO THE OWNER UPON COMPLETION OF EACH INSPECTION.

F-28 MISCELLANEOUS

A. THE CONTRACTOR SHALL PROVIDE THE OWNERS WITH CATALOG DATA, OPERATING INSTRUCTIONS, MAINTENANCE INSTRUCTIONS AND RECORD (AS-BUILT) DRAWINGS OF ALL COMPLETED WORK.

B. ALL WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.

END OF SPECIFICATIONS

LIBERTY PLAZA SUITES

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1.	ISSUED FOR PROGRESS	02-19-2021



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TOWN OF MT. PLEASANT, NY

DATE:	AUGUST 12, 2020
PROJECT NO:	NDM0001.00
DRAWN BY:	HLD
CHECKED BY:	RJ
SCALE:	AS NOTED

DRAWING TITLE
SPRINKLER SPECIFICATIONS

SHEET NO.
SP0.2

LIBERTY PLAZA SUITES

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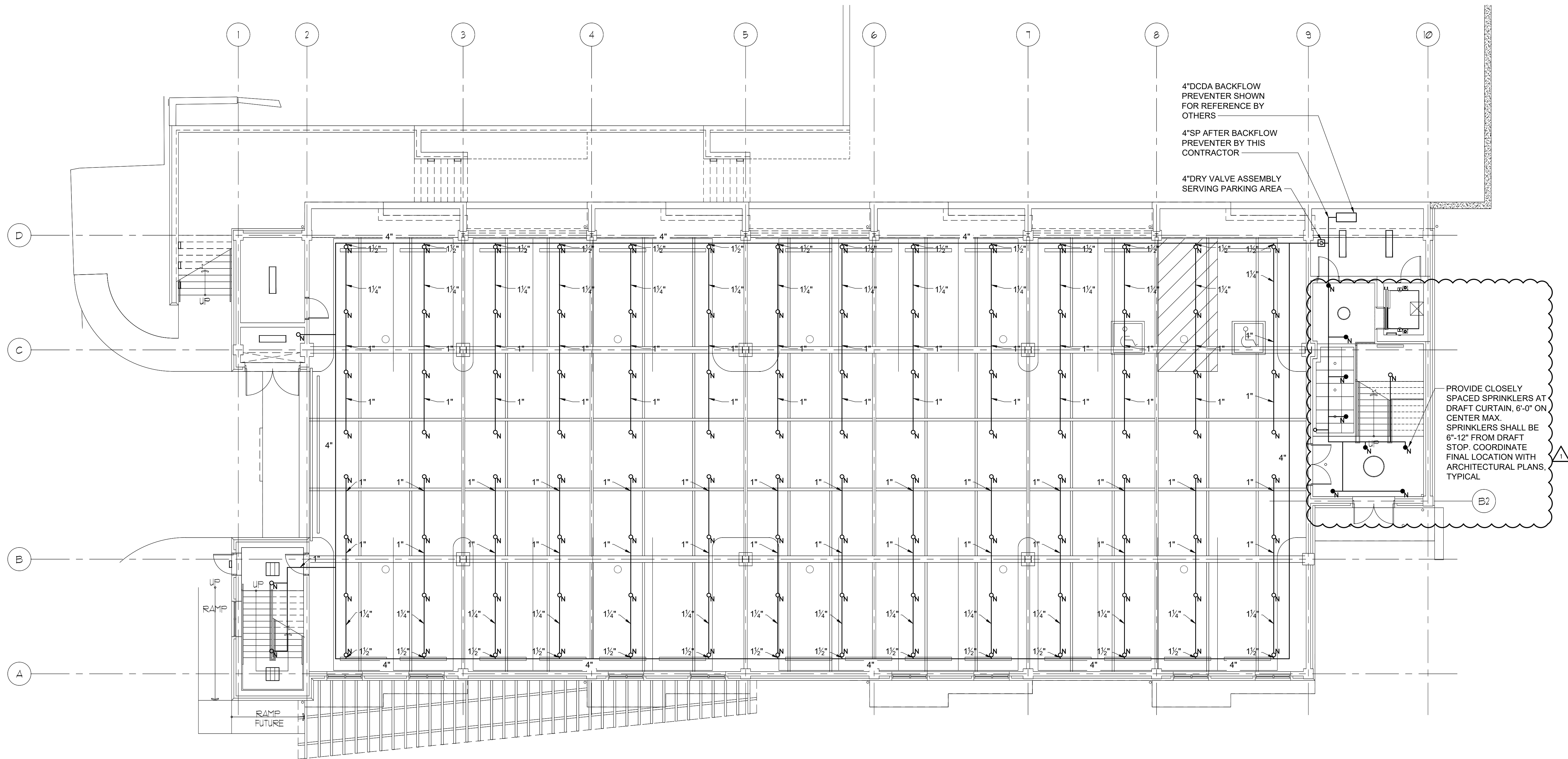
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SCALE: AS NOTED

DRAWING TITLE
SPRINKLER FIRST FLOOR NEW WORK PLAN

SHEET NO.
SP2.1

1 SPRINKLER FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"
NORTH

LIBERTY PLAZA SUITES

500 COMMERCE STREET
HAWTHORNE, NY 10532

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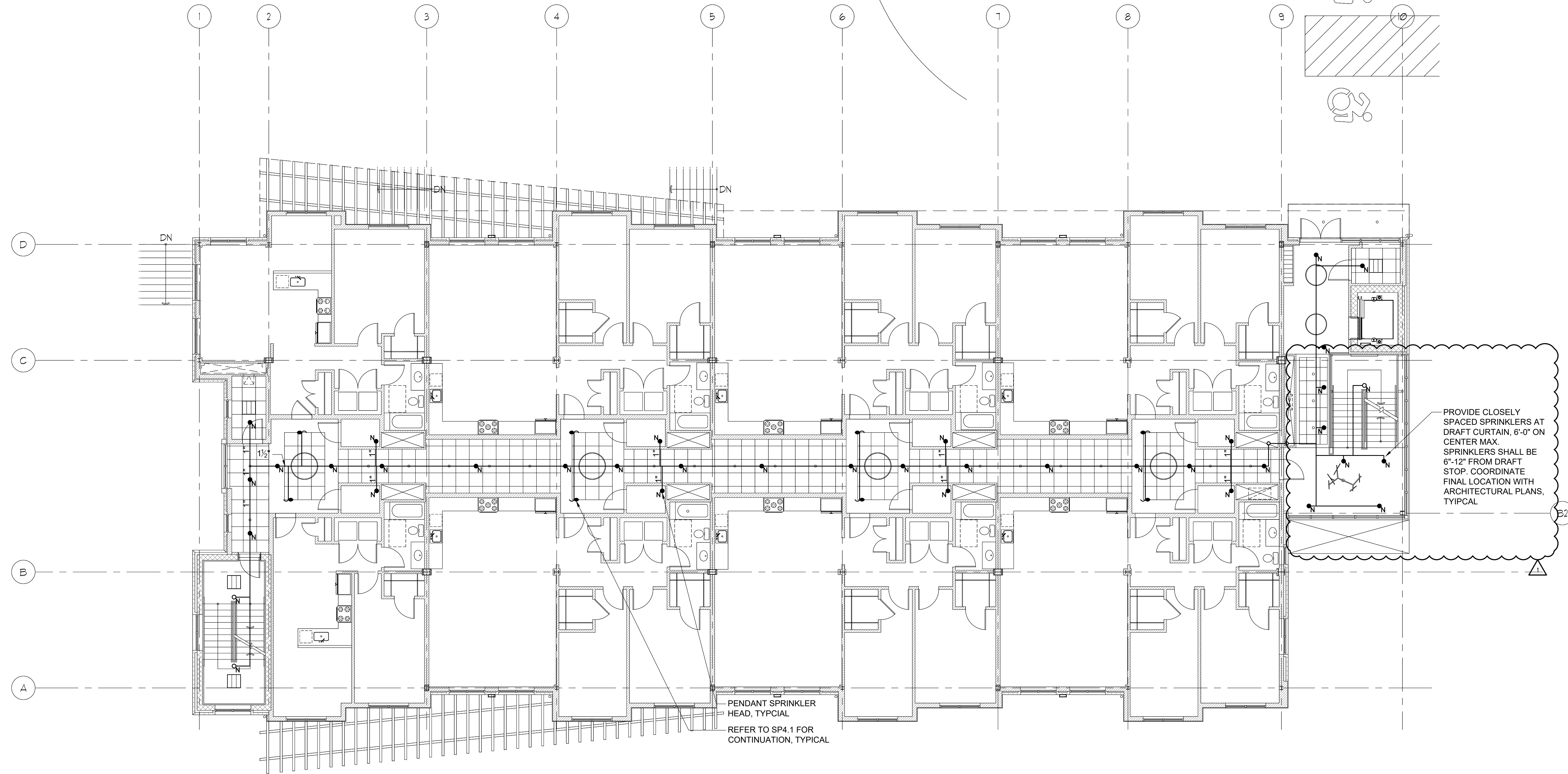
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PIPE SIZING SCHEDULE

SIZE	LIGHT HAZARD	ORDINARY HAZARD
	QTY SPRINKLERS	QTY SPRINKLERS
1"	2	2
1¼"	3	3
1½"	5	5
2"	10	10
2½"	30	20
3"	60	40
3½"	100	65
4"	SEE NOTE 3	100

NOTES:
1. IN ACCORDANCE WITH NFPA 13 - 2019 EDITION - TABLES 27.5.2.2.1 & 27.5.3.4
2. ALL PIPING BASED ON SCHEDULE 40 BLACK STEEL.
3. AREAS REQUIRING MORE SPRINKLERS THAN SPECIFIED FOR 3½" SHALL BE SUPPLIED BY MAINS OR RISERS SIZED FOR ORDINARY HAZARD OCCUPANCIES.



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DRAWING TITLE
SPRINKLER SECOND FLOOR NEW WORK PLAN

SHEET NO.
SP2.2

LIBERTY PLAZA SUITES

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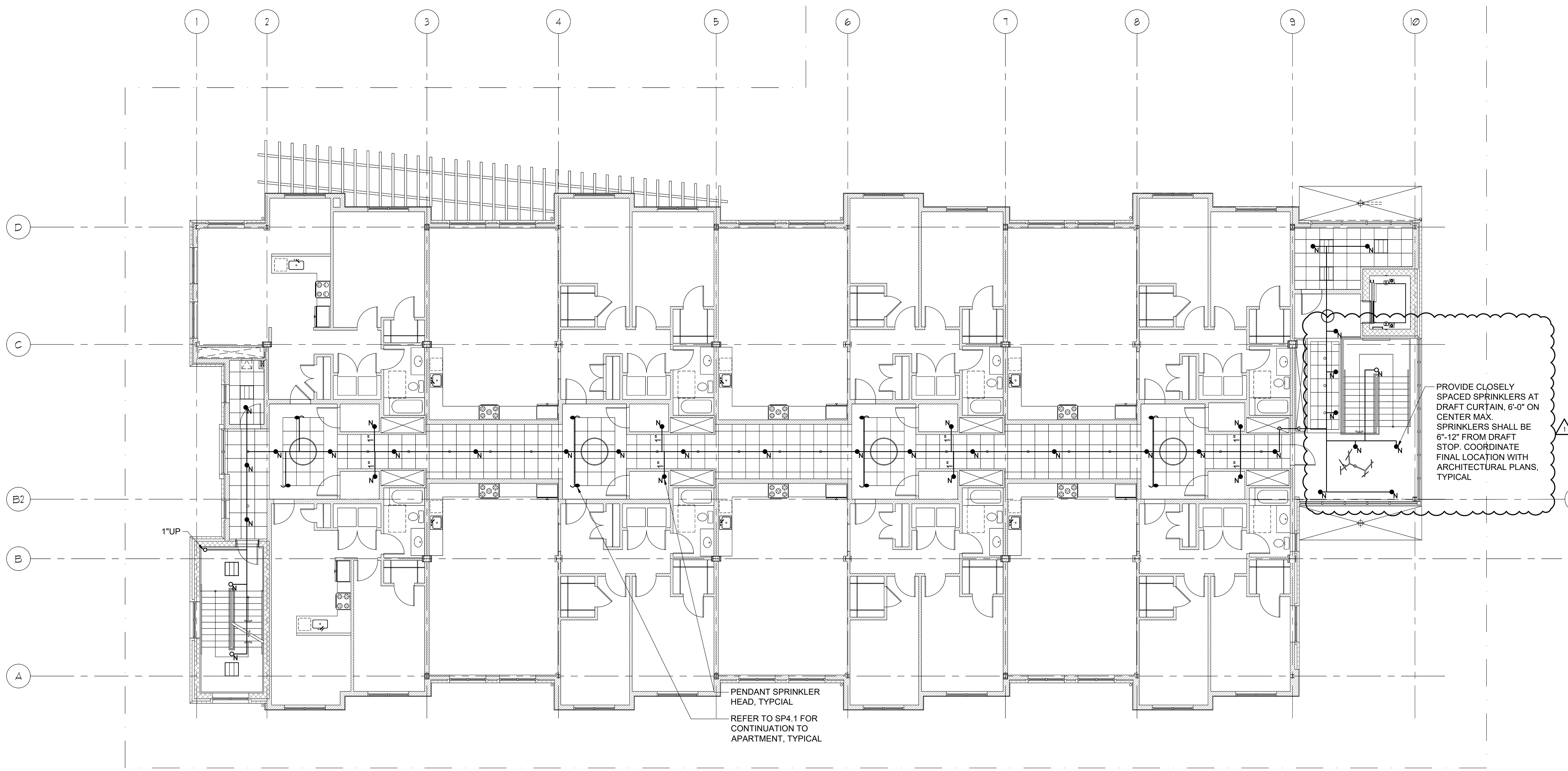
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PIPE SIZING SCHEDULE


SIZE	LIGHT HAZARD QTY SPRINKLERS	ORDINARY HAZARD QTY SPRINKLERS
1"	2	2
1 1/4"	3	3
1 1/2"	5	5
2"	10	10
2 1/2"	30	20
3"	60	40
3 1/2"	100	65
4"	SEE NOTE 3	100

NOTES:
 1. IN ACCORDANCE WITH NFPA 13 - 2019 EDITION - TABLES 27.5.2.2.1 & 27.5.3.4
 2. ALL PIPING BASED ON SCHEDULE 40 BLACK STEEL.
 3. AREAS REQUIRING MORE SPRINKLERS THAN SPECIFIED FOR 3 1/2" SHALL BE SUPPLIED BY MAINS OR RISERS SIZED FOR ORDINARY HAZARD OCCUPANCIES.



PROVIDE CLOSELY SPACED SPRINKLERS AT DRAFT CURTAIN, 6'-0" ON CENTER MAX. SPRINKLERS SHALL BE 6"-12" FROM DRAFT STOP. COORDINATE FINAL LOCATION WITH ARCHITECTURAL PLANS, TYPICAL

PENDANT SPRINKLER HEAD, TYPICAL
 REFER TO SP4.1 FOR CONTINUATION TO APARTMENT, TYPICAL

 **1** SPRINKLER THIRD FLOOR PLAN
 SCALE: 1/8" = 1'-0"

NO.	REVISION/ISSUE	DATE
4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1	ISSUED FOR PROGRESS	02-19-2021
	DOB COMMENTS	04-26-2021

SEAL

PROJECT
LIBERTY PLAZA SUITES
 500 COMMERCE ST.
 TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020
 PROJECT NO: NDM0001.00
 DRAWN BY: HLD
 CHECKED BY: RJ
 SCALE: AS NOTED

DRAWING TITLE
SPRINKLER THIRD FLOOR NEW WORK PLAN

SHEET NO.
SP2.3

PIPE SIZING SCHEDULE

SIZE	LIGHT HAZARD QTY SPRINKLERS	ORDINARY HAZARD QTY SPRINKLERS
1"	2	2
1 1/4"	3	3
1 1/2"	5	5
2"	10	10
2 1/2"	30	20
3"	60	40
3 1/2"	100	65
4"	SEE NOTE 3	100

NOTES:
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 2. ALL PIPING BASED ON SCHEDULE 40 BLACK STEEL.
 3. AREAS REQUIRING MORE SPRINKLERS THAN SPECIFIED FOR 3 1/2" SHALL BE SUPPLIED BY MAINS OR RISERS SIZED FOR ORDINARY HAZARD OCCUPANCIES.

LIBERTY PLAZA SUITES

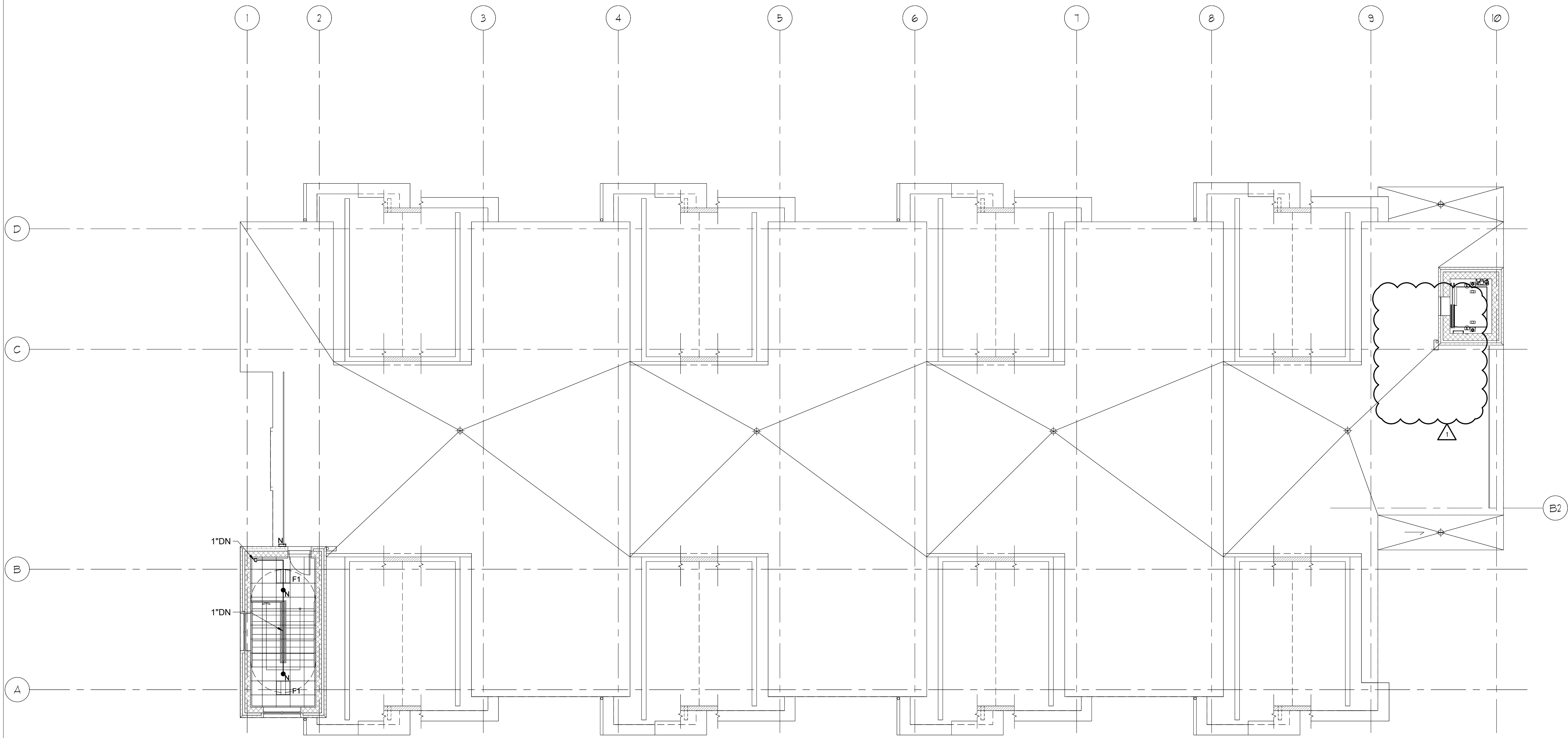
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 646.848.4110
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1 SPRINKLER FOURTH FLOOR PLAN
 SCALE: 1/8" = 1'-0"
 NORTH

NO.	REVISION/ISSUE	DATE
4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1	ISSUED FOR PROGRESS	02-19-2021

SEAL

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DATE: AUGUST 12, 2020
 PROJECT NO: NDM0001.00
 DRAWN BY: HLD
 CHECKED BY: RJ
 SCALE: AS NOTED

DRAWING TITLE
SPRINKLER FOURTH LEVEL ROOF PLAN

SHEET NO.
SP2.4

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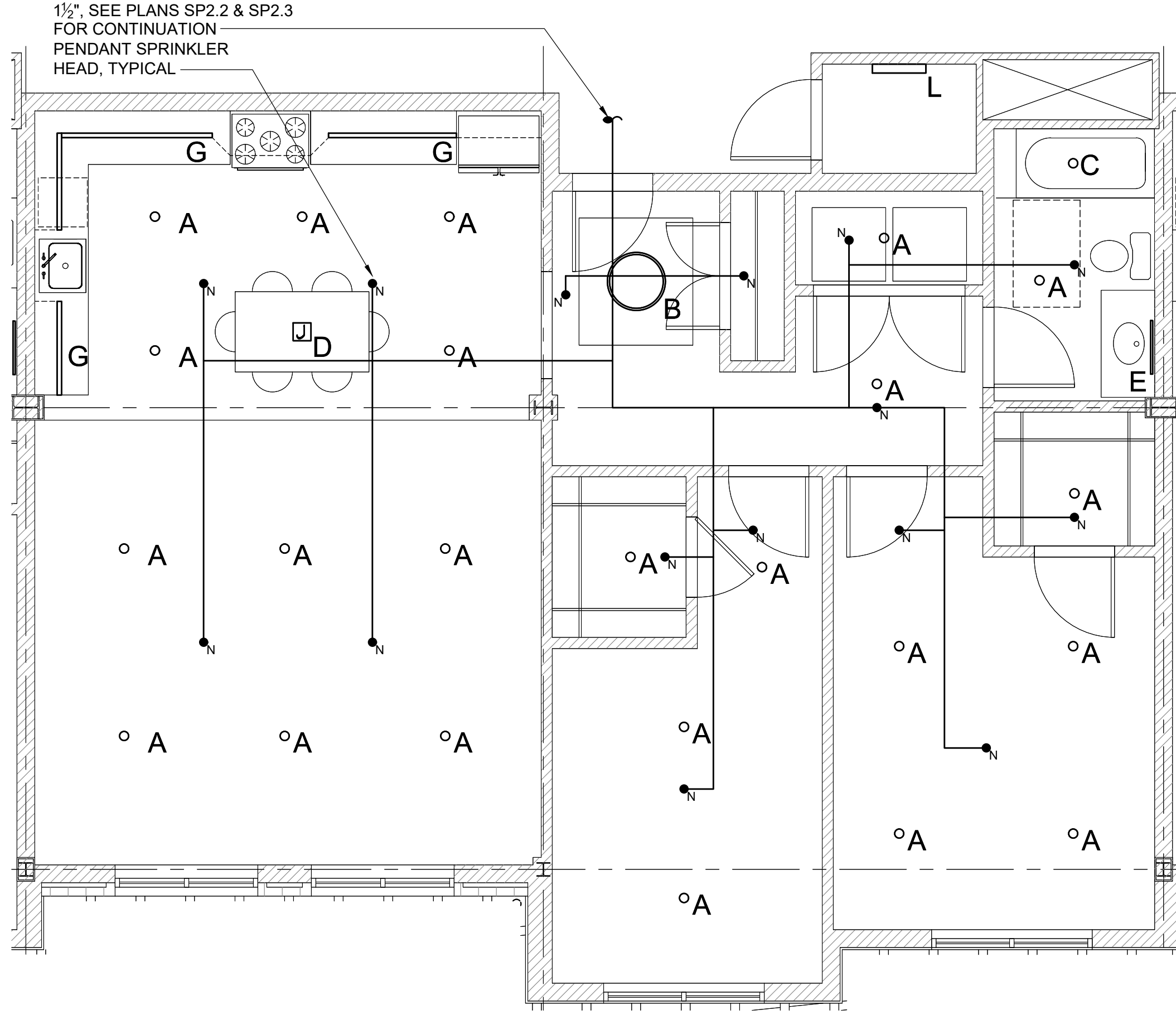
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PIPE SIZING SCHEDULE

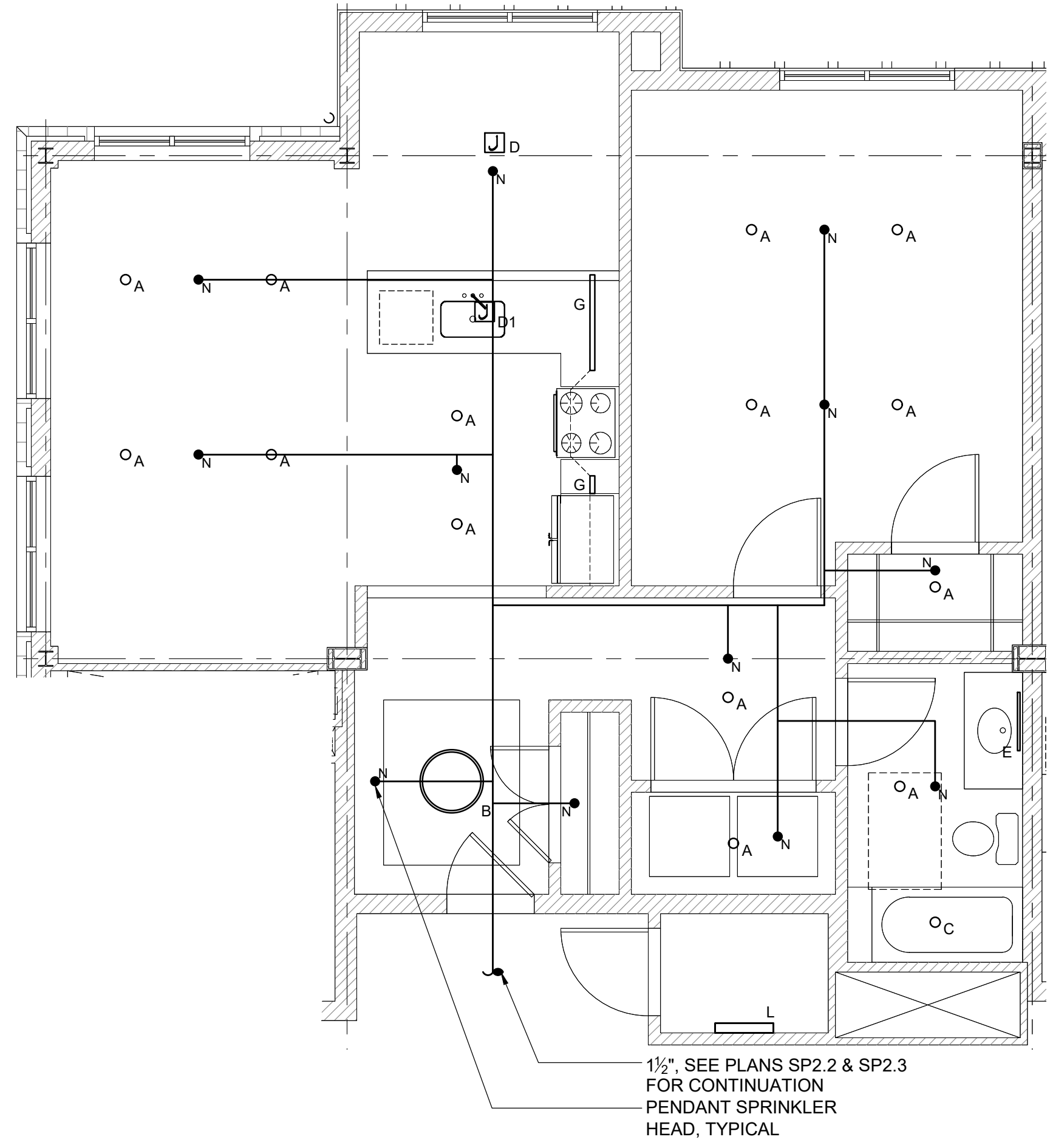
SIZE	LIGHT HAZARD QTY SPRINKLERS	ORDINARY HAZARD QTY SPRINKLERS
1"	2	2
1 1/4"	3	3
1 1/2"	5	5
2"	10	10
2 1/2"	30	20
3"	60	40
3 1/2"	100	65
4"	SEE NOTE 3	100

NOTES:
1. IN ACCORDANCE WITH NFPA 13 - 2019 EDITION - TABLES 27.5.2.2.1 & 27.5.3.4
2. ALL PIPING BASED ON SCHEDULE 40 BLACK STEEL.
3. AREAS REQUIRING MORE SPRINKLERS THAN SPECIFIED FOR 3 1/2" SHALL BE SUPPLIED BY MAINS OR RISERS SIZED FOR ORDINARY HAZARD OCCUPANCIES.



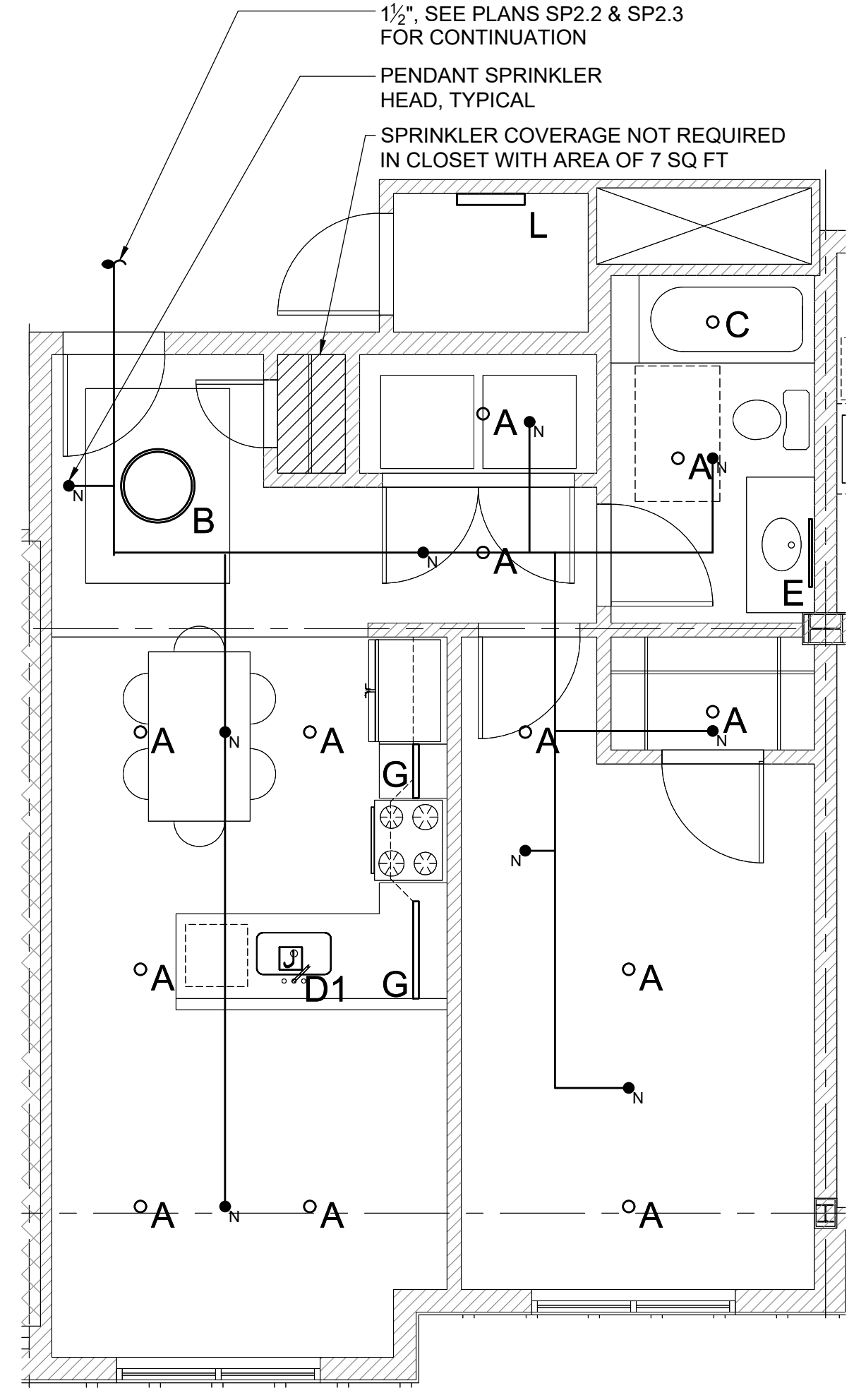
3 TYPICAL TWO BEDROOM PLAN
SCALE: 1/4" = 1'-0"

- NOTES:
- A. PROVIDE 1/2" SPRINKLER PIPING INTO EACH DWELLING UNIT.
 - B. RESIDENTIAL CONCEALED PENDENT SPRINKLERS SHALL BE SPACED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND LISTING.
 - C. PIPING SHALL BE CONCEALED ABOVE CEILING AND ROUTED IN BETWEEN JOISTS WHEREVER POSSIBLE. ALL PENETRATIONS THROUGH STRUCTURAL MEMBERS SHALL BE COORDINATED WITH STRUCTURAL ENGINEER.
 - D. REFER TO PIPE SIZING SCHEDULE TABLE FOR PIPE SIZING WITHIN UNITS IN ACCORDANCE WITH LIGHT HAZARD OCCUPANCY.
 - E. AS PER NFPA 13-2019 SECTION D.1.1.6.1: IN BUILDINGS SPRINKLERED IN ACCORDANCE WITH NFPA 13:
 - 1. CLOSETS LESS THAN 12 SQ. FT. IN INDIVIDUAL DWELLING UNITS SHALL NOT BE REQUIRED TO BE SPRINKLERED.
 - 2. CLOSETS THAT CONTAIN EQUIPMENT SUCH AS WASHERS, DRYERS, FURNACES, OR WATER HEATERS SHALL BE SPRINKLERED REGARDLESS OF SIZE.



2 TYPICAL TYPE B ONE BEDROOM PLAN
SCALE: 1/4" = 1'-0"

- NOTES:
- A. PROVIDE 1/2" SPRINKLER PIPING INTO EACH DWELLING UNIT.
 - B. RESIDENTIAL CONCEALED PENDENT SPRINKLERS SHALL BE SPACED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND LISTING.
 - C. PIPING SHALL BE CONCEALED ABOVE CEILING AND ROUTED IN BETWEEN JOISTS WHEREVER POSSIBLE. ALL PENETRATIONS THROUGH STRUCTURAL MEMBERS SHALL BE COORDINATED WITH STRUCTURAL ENGINEER.
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 - 2. CLOSETS THAT CONTAIN EQUIPMENT SUCH AS WASHERS, DRYERS, FURNACES, OR WATER HEATERS SHALL BE SPRINKLERED REGARDLESS OF SIZE.



1 TYPICAL TYPE A ONE BEDROOM PLAN
SCALE: 1/4" = 1'-0"

- NOTES:
- A. PROVIDE 1/2" SPRINKLER PIPING INTO EACH DWELLING UNIT.
 - B. RESIDENTIAL CONCEALED PENDENT SPRINKLERS SHALL BE SPACED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND LISTING.
 - C. PIPING SHALL BE CONCEALED ABOVE CEILING AND ROUTED IN BETWEEN JOISTS WHEREVER POSSIBLE. ALL PENETRATIONS THROUGH STRUCTURAL MEMBERS SHALL BE COORDINATED WITH STRUCTURAL ENGINEER.
 - D. REFER TO PIPE SIZING SCHEDULE TABLE FOR PIPE SIZING WITHIN UNITS IN ACCORDANCE WITH LIGHT HAZARD OCCUPANCY.
 - E. AS PER NFPA 13-2019 SECTION D.1.1.6.1: IN BUILDINGS SPRINKLERED IN ACCORDANCE WITH NFPA 13:
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 - 2. CLOSETS THAT CONTAIN EQUIPMENT SUCH AS WASHERS, DRYERS, FURNACES, OR WATER HEATERS SHALL BE SPRINKLERED REGARDLESS OF SIZE.

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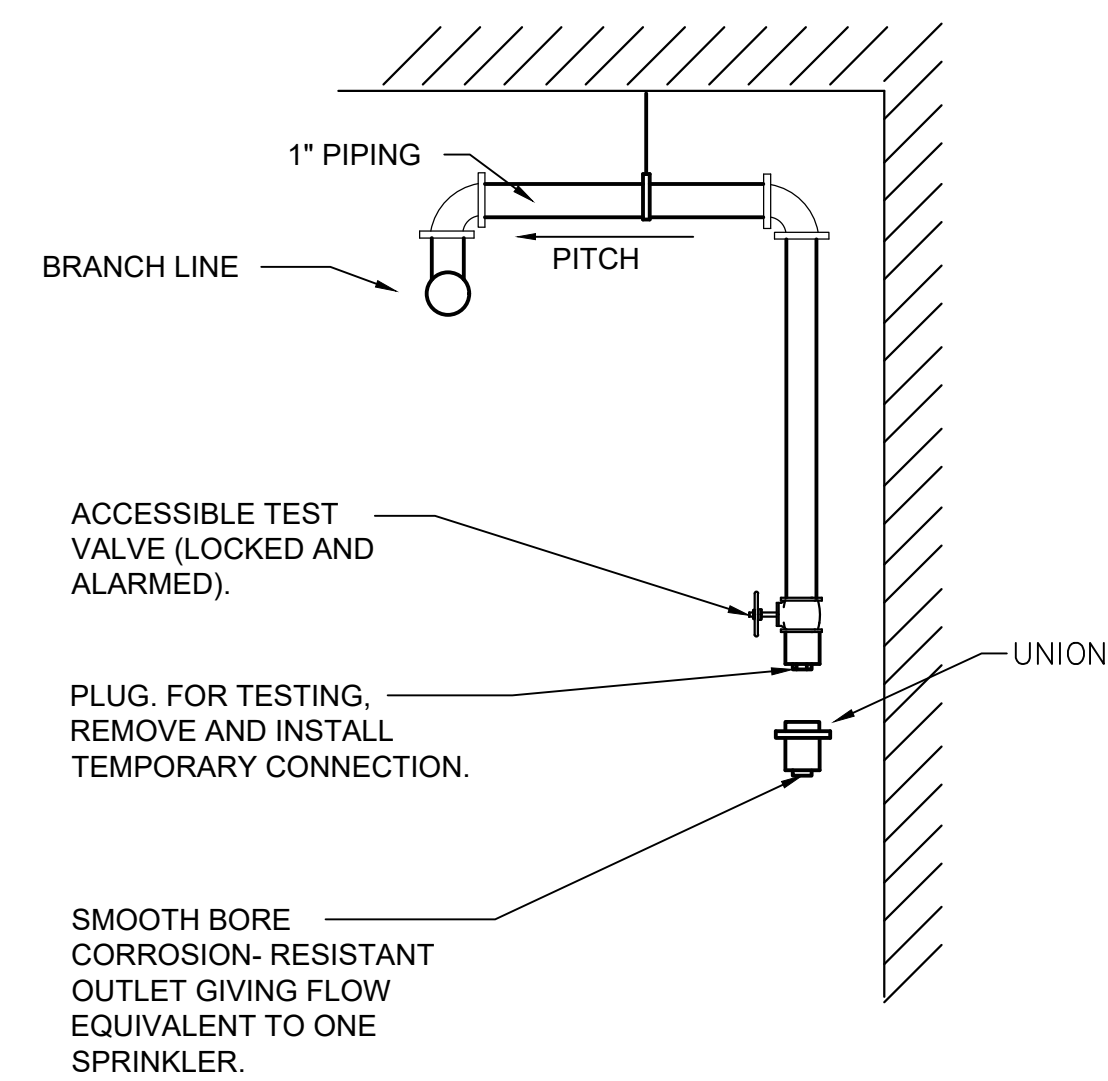
SEAL

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LIBERTY PLAZA SUITES
500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE: AUGUST 12, 2020
PROJECT NO: NDM0001.00
DRAWN BY: CT
CHECKED BY: KS/DS
SCALE: AS NOTED

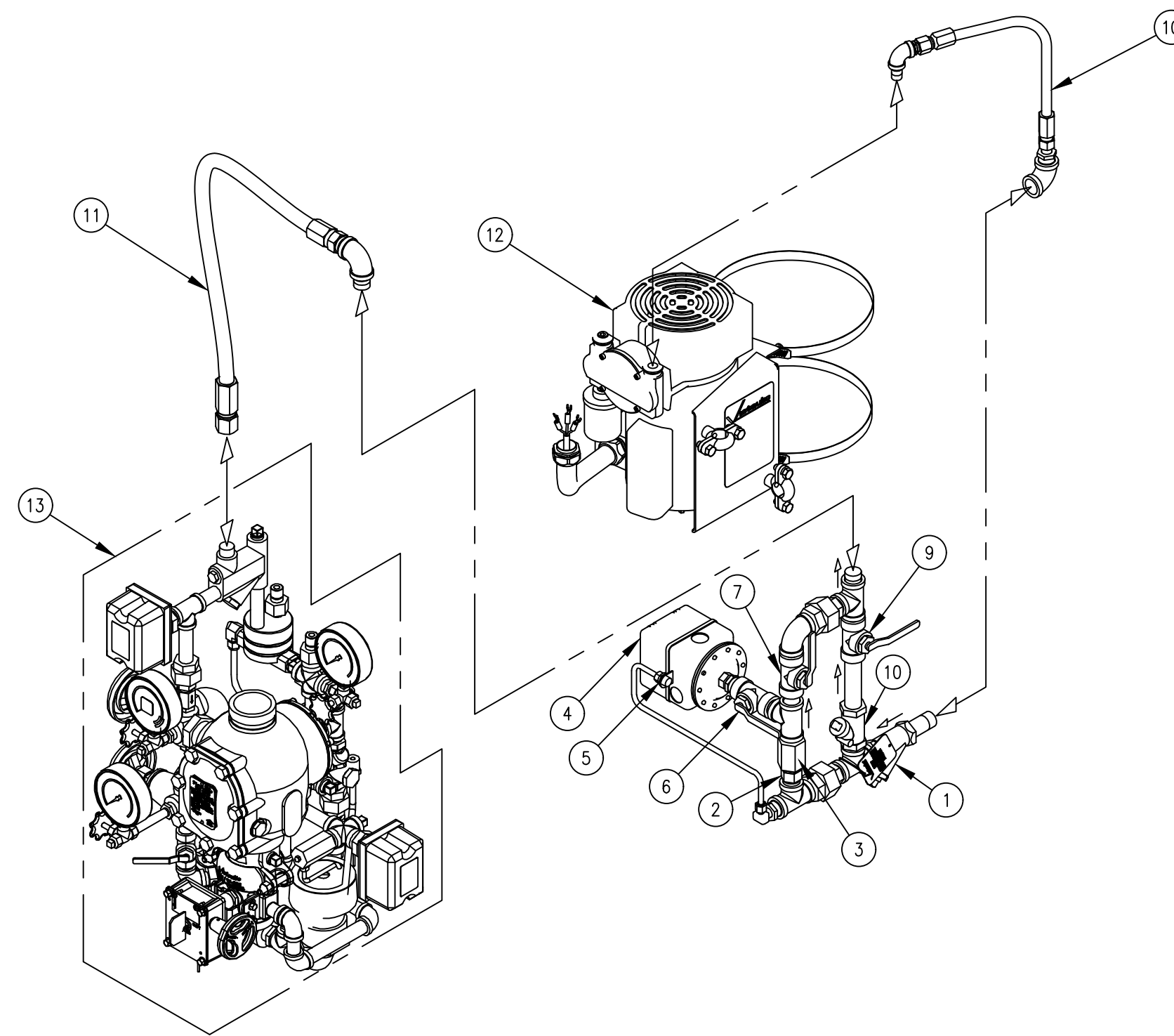
DRAWING TITLE
SPRINKLER TYPICAL APARTMENT TYPE PLANS

SHEET NO.
SP4.1



NOTE:
PROVIDE A NIPPLE-UP OFF OF BRANCH LINE TO MINIMIZE CONDENSATION IN TEST DROP.

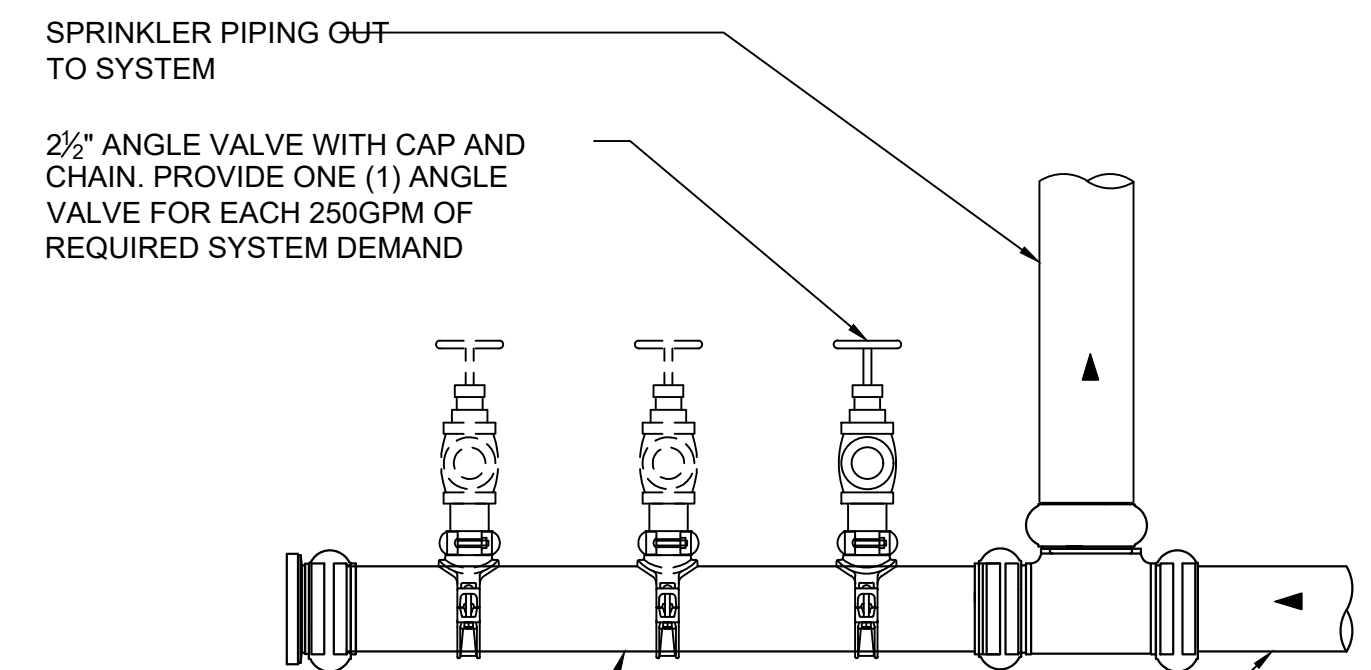
4 DRY SYSTEM INSPECTOR'S TEST
SCALE: NONE



SERIES 7C7 AIR MAINTENANCE COMPRESSOR ASSEMBLY

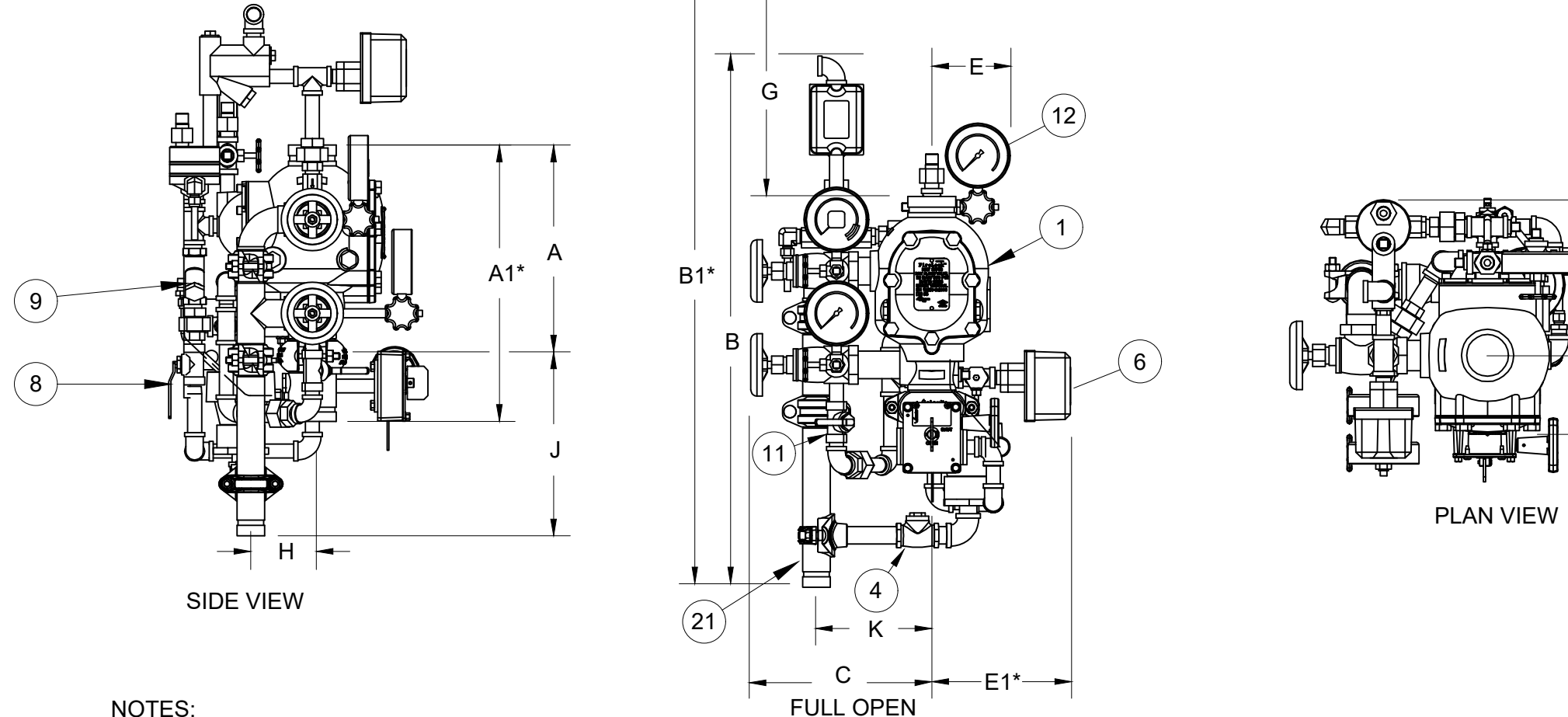
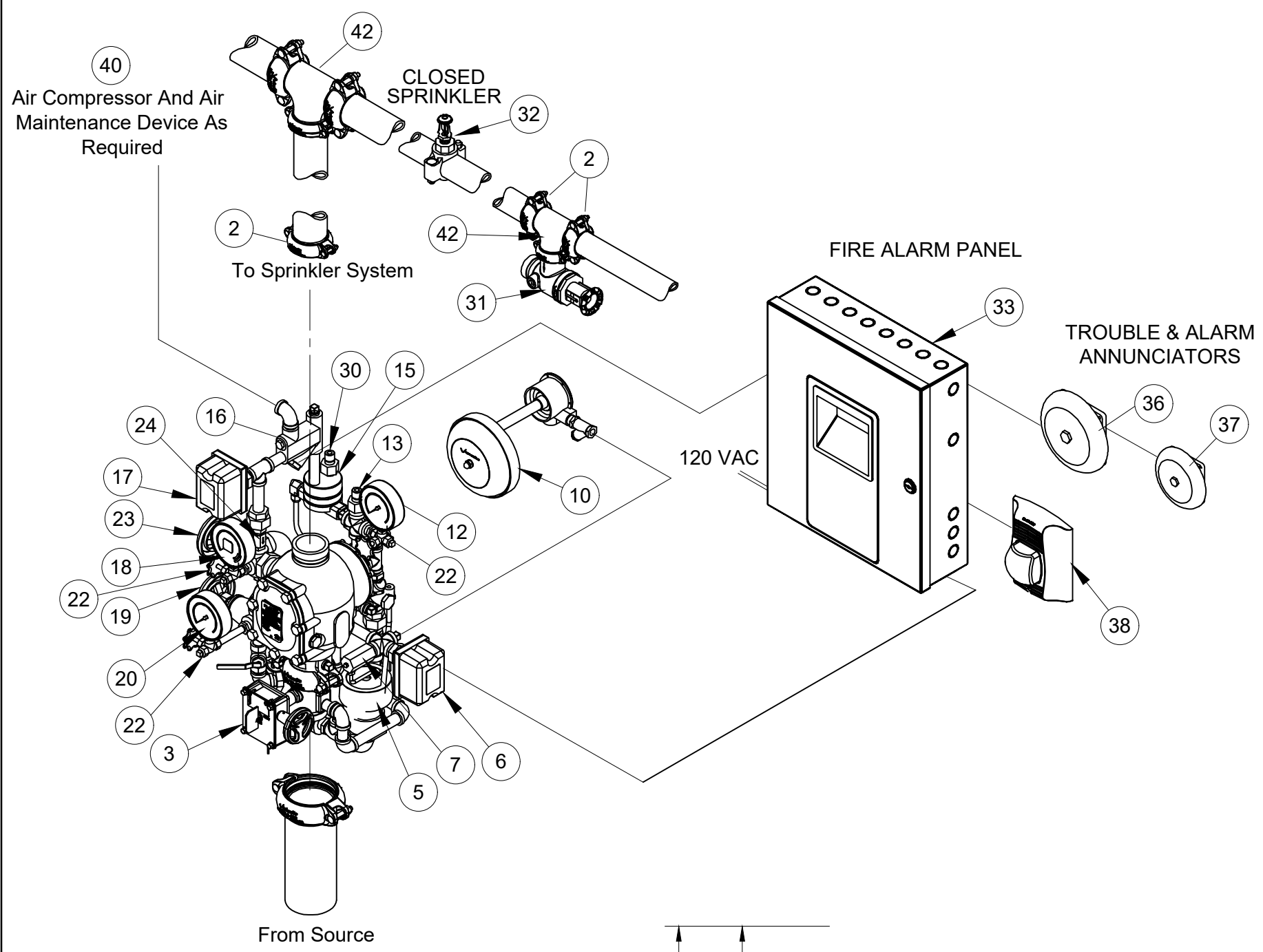
PRODUCT LEGEND	
1	STRAINER (1/2-INCH NPT)
2	SPRING-LOADED, SOFT-SEATED CHECK VALVE
3	RESTRICTOR (1/2-INCH NPT)(1/8 RESTRICTOR)
4	PRESSURE SWITCH
5	UNLOADER VALVE
6	PRESSURE SWITCH ISOLATION BALL VALVE (NORMALLY OPEN-LOCKABLE)
7	SLOW-FILL BALL VALVE (NORMALLY OPEN)
8	SWING CHECK (1/2-INCH NPT)
9	FAST FILL BALL VALVE (NORMALLY CLOSED)
10	STAINLESS STEEL BRAIDED FLEX HOSE (1/2-INCH NPT MALE X FEMALE)
11	STAINLESS STEEL BRAIDED FLEX HOSE (1/2-INCH NPT MALE X FEMALE)
12	AIR COMPRESSOR
13	FIRELOCK NXT DEVICE
SEE VICTAULIC SUBMITTAL NUMBER 30.22	

2 DRY SYSTEM - AIR MAINTENANCE ASSEMBLY SERIES 7C7
SCALE: NONE



NOTE:
1) NOT REQUIRED WHERE FULL FORWARD FLOW TEST MAY BE ACCOMPLISHED THROUGH STANDPIPE SYSTEM.
2) FLOW TEST HEADER SHALL BE 4" MINIMUM SIZE FOR UP TO TWO (2) ANGLE VALVES. MINIMUM 6" FOR THREE (3) - FOUR (4) VALVES.
3) ANGLE VALVES SHALL BE LISTED FOR FIRE PROTECTION USE AND MAY BE GROOVED OR THREADED INLET.
4) TEST HEADER SHALL BE SUPPORTED AND BRACED.

3 BACKFLOW PREVENTER SPRINKLER SYSTEM FORWARD FLOW TEST ASSEMBLY
SCALE: NONE



NOTES:
1. EQUIPMENT BASED ON VICTAULIC.
2. * OPTIONAL EQUIPMENT.

1 DRY VALVE ASSEMBLY - VICTAULIC FIRELOCK NXT
SCALE: NONE

PRODUCT LEGEND	
1	Series 768 Firelock NXT Dry Valve (see Submittal 30.80) With Optional Vic Quick Riser
2	FireLock Rigid Couplings 005, 009, 009V
3	Series 705 Butterfly Valve (Optional)
4	Drain Swing Check Valve
5	Drip Cup
6	System Sensor EPS10-2 Alarm Pressure Switch
7	Series 729 Drip Check Valve
8	Diaphragm-Charge-Line Ball Valve (Normally Open)
9	3-in-1 Strainer/Check/Restrictor Assembly
10	Series 760 Water Motor Alarm (Optional)
11	Alarm Test Ball Valve
12	Diaphragm-Charge-Line Pressure Gauge (0-300psi/0-2068kPa)
13	Series 749 Auto Drain
14	Series 746-LPA Dry Accelerator Assembly (Optional)(Not Shown)
15	Series 776 Low-Pressure Actuator
16	Air Manifold
17	EPS-45-2V Supervisory Switch (Optional)
18	System Pressure Gauge (0-80 psi/0-552kPa with Retard)
19	Water Supply Main Drain Valve - Flow Test
20	Water Supply Pressure Gauge (0-300psi/0-2068kPa)
21	Drain Connection Kit (Optional)
22	Gauge Valve
23	System Main Drain Valve
24	Series 748 Ball Check Valve
25	n/a
26	Air Feed Valve Assembly (Not Shown)
27	System Air Line Strainer (Not Shown)
28	n/a
29	n/a
30	Auto Vent for 776 Low Pressure Actuator
31	Series 720 Testmaster
32	Upright Sprinkler - Victaulic Model V2703/V2704
33	System Sensor PDRP 2001 Control Panel
34	n/a
35	n/a
36	8" Supervisory Bell: System Sensor SSM24-8, 24VDC, Polarized
37	6" Trouble Bell: System Sensor SS24-6, 24VDC, Polarized
38	Horn/Strobe: (Waterflow) System Sensor P1224MC (RED), 24VDC, Polarized
39	n/a
40	Air Maintenance Device Victaulic 757/757P with pressure switch
41	(Optional Series 75D Water Column Drain Kit) not shown
42	Firelock Tee 002
SEE VICTAULIC PUBLICATION 10.01 FOR DETAILS OF APPROVALS UL/FM APPROVED NYC MEA-248-98-E Volume 3	

LIBERTY PLAZA SUITES

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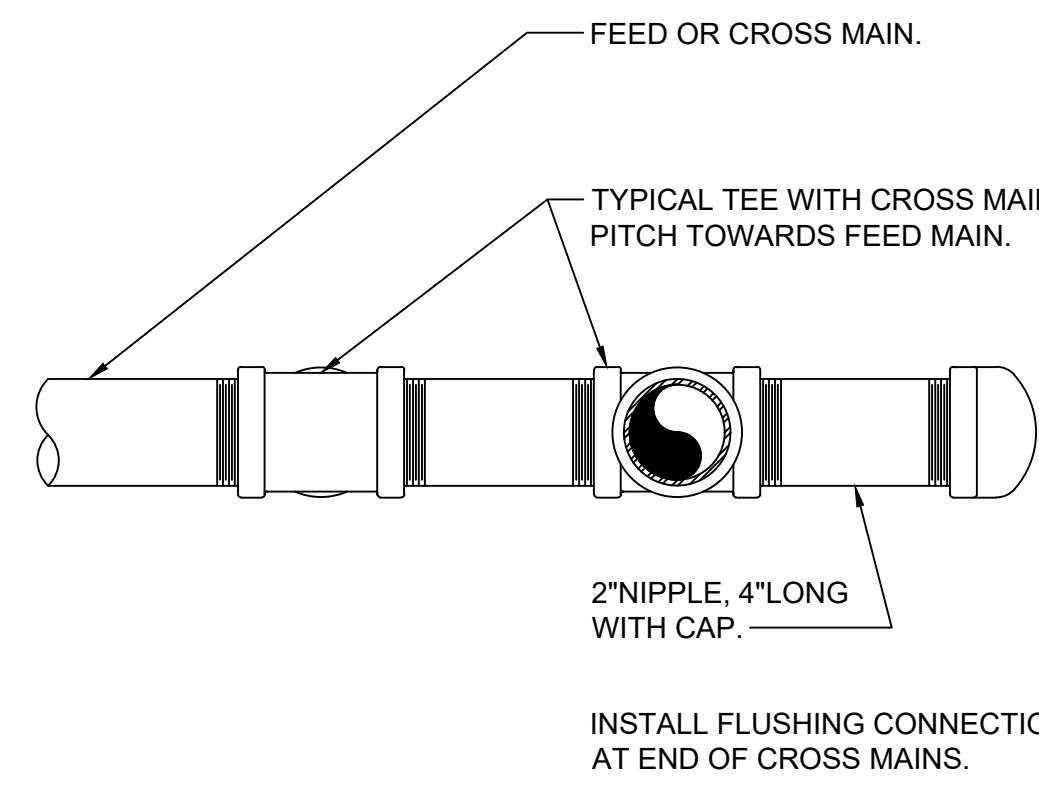
SEAL

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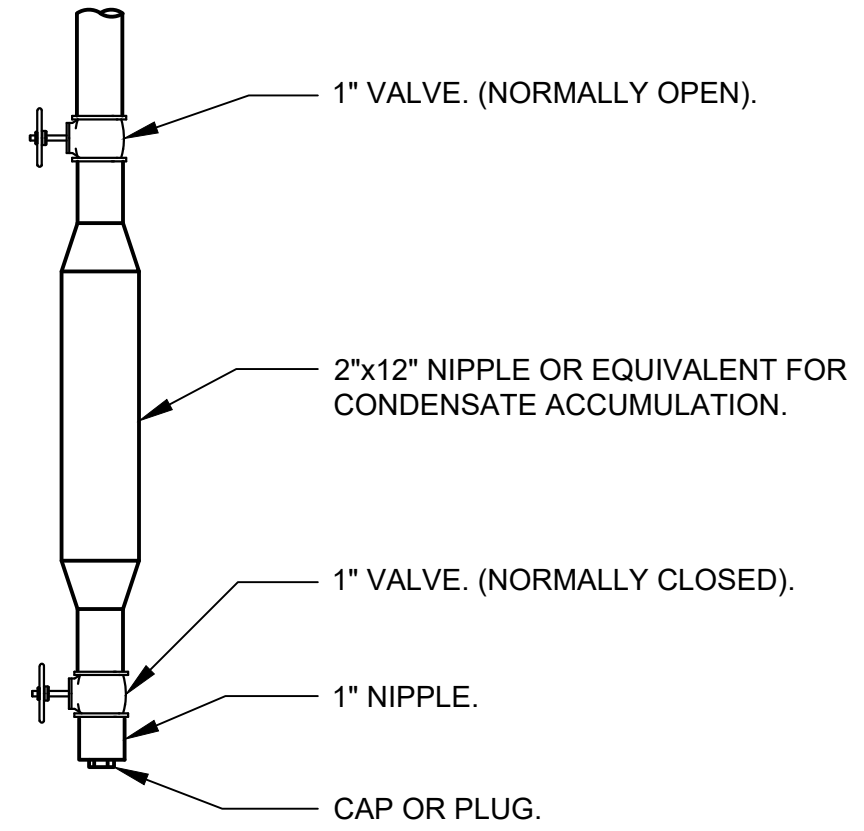
DATE: AUGUST 12, 2020
PROJECT NO: NDM0001.00
DRAWN BY: HLD
CHECKED BY: RJ
SCALE: AS NOTED

DRAWING TITLE
SPRINKLER DETAILS
1 OF 3

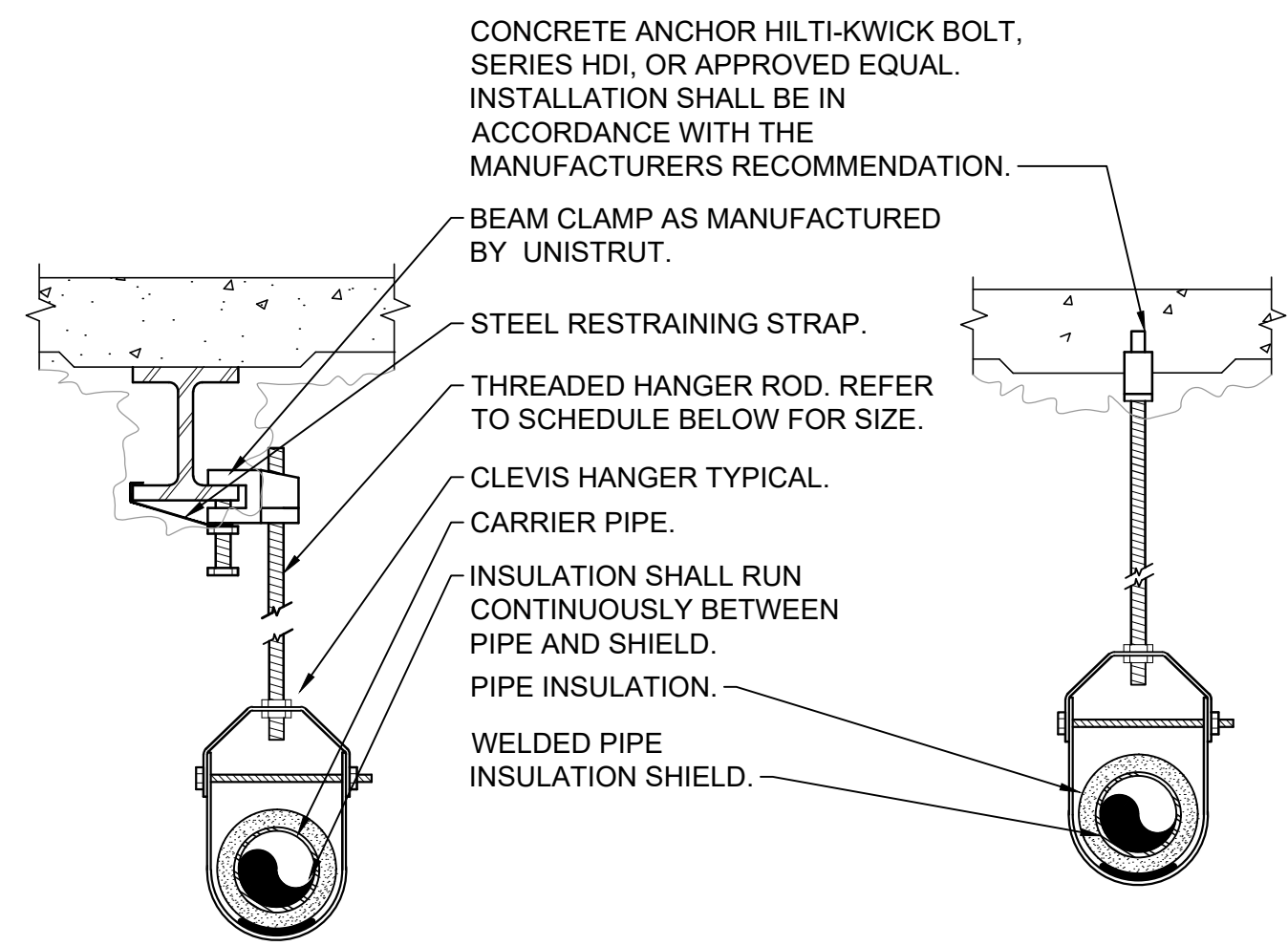
SHEET NO.
SP7.1



7 TYPICAL FLUSHING CONNECTION
SCALE: NONE



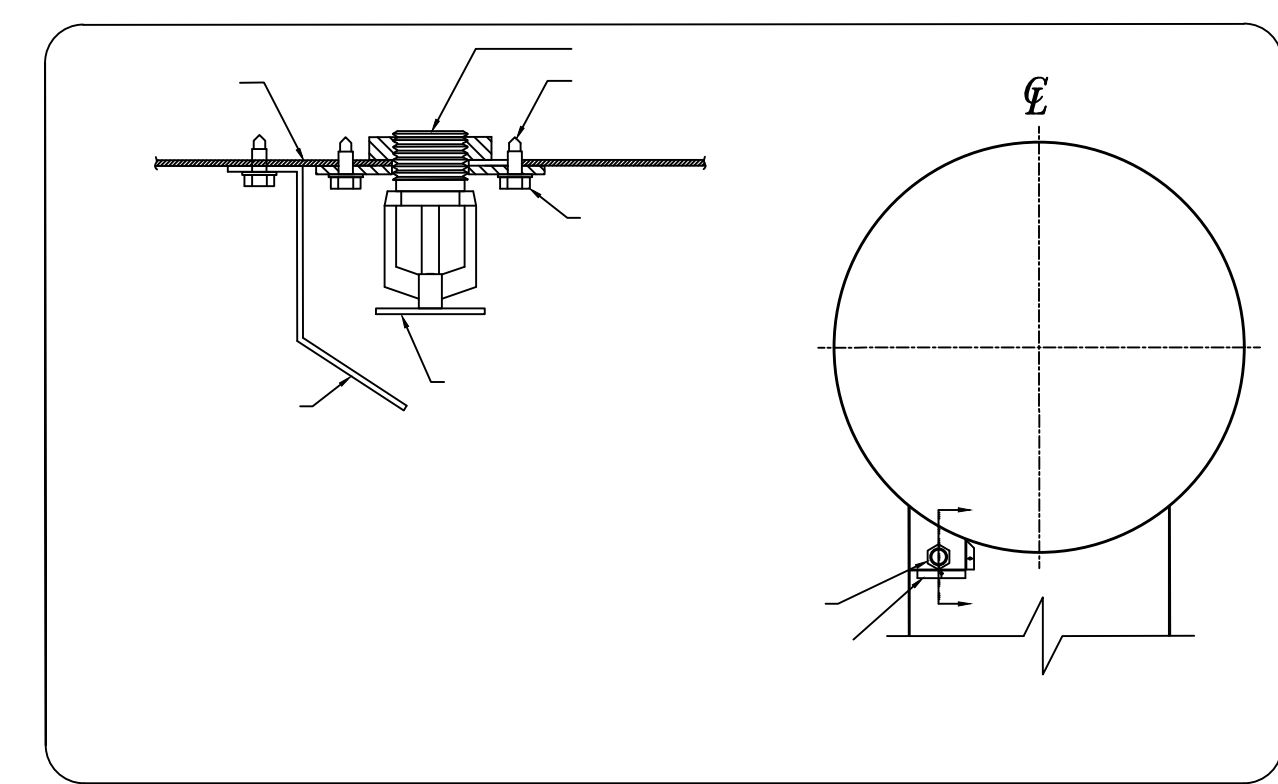
6 DRY SYSTEM LOW POINT DRAIN
SCALE: NONE



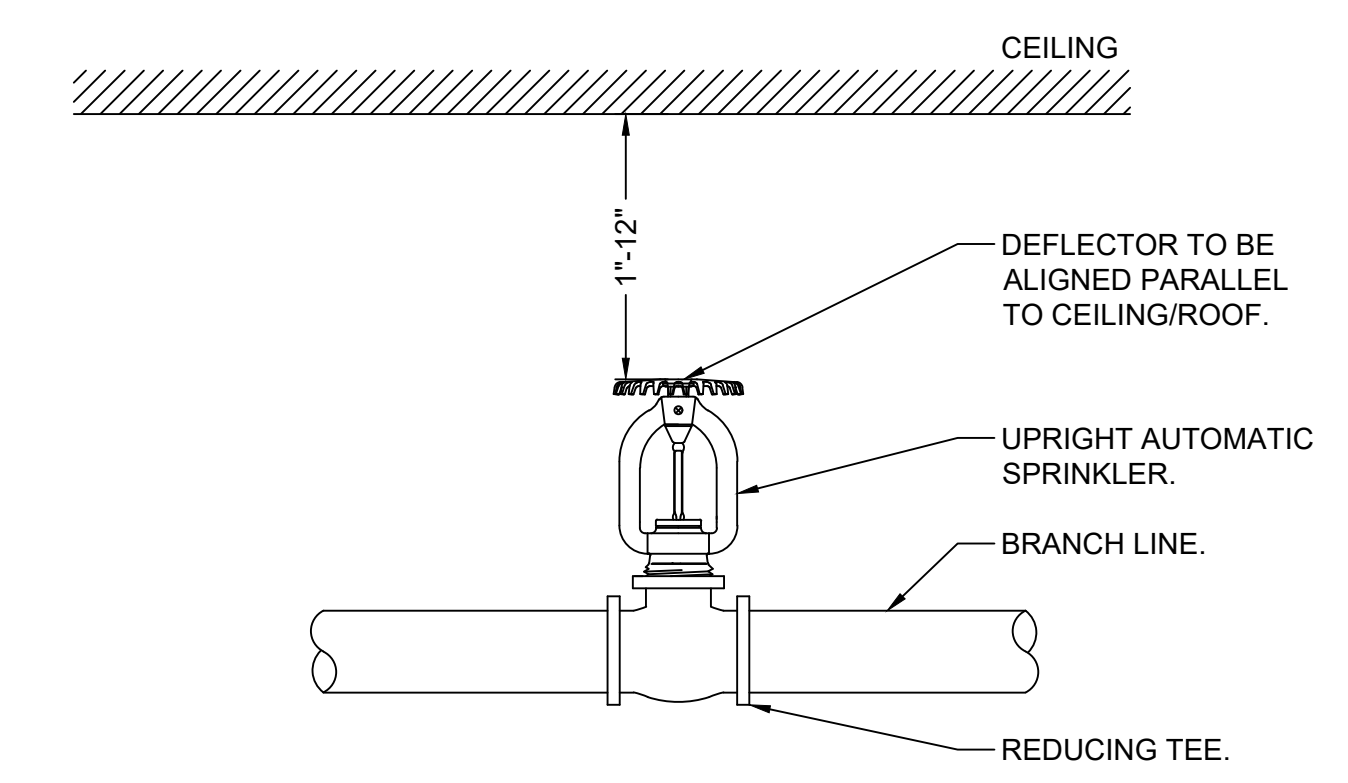
PIPE HANGER SCHEDULE				
PIPE DIA.	3/4"-2"	2 1/2"-3"	4"-5"	6" 8"-12"
HANGER DIA.	3/8"	1/2"	5/8"	3/4" 7/8"

- NOTES:**
- CLEVIS HANGERS WITH WELDED INSULATION SHIELDS SIMILAR TO RAUCH FIG. 100SH ON ALL PIPES LARGER THAN 1".
 - FOR PIPES 1" OR SMALLER, A BAND HANGER WITH INSULATION SHIELD MAY BE USED SIMILAR TO RAUCH FIG. NO. 1ASH.
 - FOR NON-INSULATED PIPE, INSULATION SHIELDS MAY BE OMITTED.
 - ALL PIPE HANGERS SHALL BE GALVANIZED STEEL OR FACTORY PAINTED BLACK WITH ENAMEL.
 - FOR NON FERROUS PIPING WITHOUT INSULATION, ALL HANGERS SHALL BE COPPER PLATED OR FURNISHED WITH A DI-ELECTRIC BETWEEN PIPE AND HANGERS.
 - WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF HANGER INSTALLATION SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.
 - ALL ANCHORS AND INSERTS SHALL HAVE NEW YORK CITY BOARD OF STANDARD AND APPEALS, (BSA) APPROVAL.

5 PIPE HANGER DETAIL
SCALE: NONE



4 TRASH CHUTE SPRINKLER DETAIL
SCALE: NONE



3 TYPICAL UPRIGHT SPRINKLER
SCALE: NONE

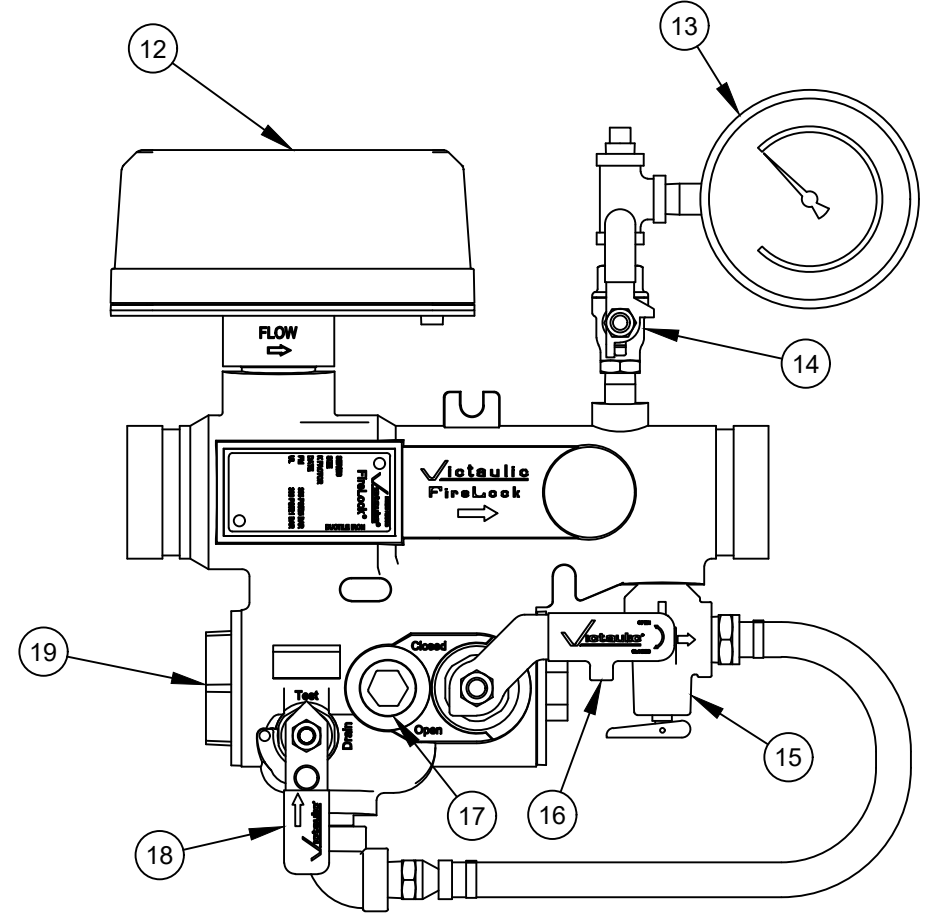
SPRINKLER HEAD SCHEDULE									
SYM.	TYPE	LOCATION	FINISH	MANUF.	MODEL	HEAD TEMP.	MAX CLG. TEMP	ORIFICE	K-FACTOR
⊗	CONCEALED	FINISHED AREAS PER PLANS	COVER PLATE COLOR PER ARCHITECT	RELIABLE	G5-56	165°F	100°F	1/2"	5.6
○	UPRIGHT	EXPOSED AREAS PER PLANS	CHROME PLATED	RELIABLE	F1FR	165°F	100°F	1/2"	5.6
○	UPRIGHT	MECHANICAL ROOMS	NATURAL BRONZE	RELIABLE	GFR	212°F	150°F	1/2"	5.6
RESIDENTIAL SPRINKLER HEADS WITHIN DWELLING UNITS									
⊗	CONCEALED	FINISHED AREAS PER PLANS	COVER PLATE COLOR PER ARCHITECT	RELIABLE	RC-43/49	165°F	100°F	3/8" 7/16"	4.3/4.9

NOTES:

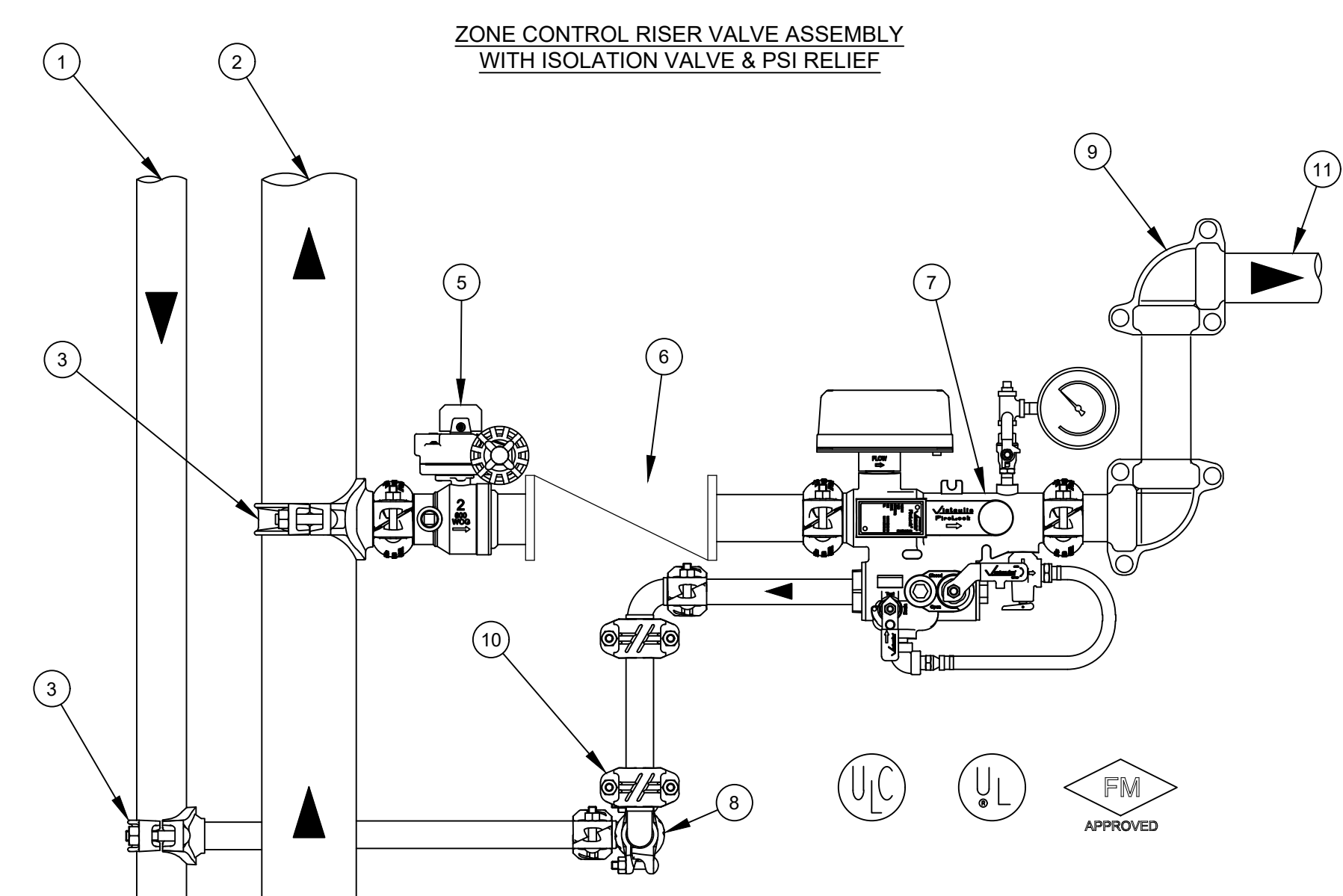
- SPRINKLER HEADS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS
- PROVIDE METAL WIRE GUARDS WHERE SPRINKLERS ARE SUBJECT TO DAMAGE, SUCH AS SPRINKLER HEADS LOCATED UNDER MECHANICAL DUCTS IN MECHANICAL EQUIPMENT ROOMS WHEN LOCATED LOWER THAN 7'-0" AFF AND HEADS IN TRASH CHUTE.
- ALL SPRINKLER HEADS THROUGHOUT THE PROJECT AREA SHALL BE OF THE ORDINARY TEMPERATURE RATING EXCEPT AS FOLLOWS:
 - SPRINKLER HEADS LOCATED CLOSE TO HEATERS, HOT WATER PIPING OR LOW-PRESSURE BLOW-OFF VALVE SHALL BE OF THE TEMPERATURE RATING AS REQUIRED BY NFPA-13.
 - ALL HEAT GENERATING EQUIPMENT WHICH CAN AFFECT THE TEMPERATURE RATING OF THE SPRINKLER HEADS SHALL BE CLEARLY IDENTIFIED ON THE SHOP DRAWINGS PRIOR TO SUBMISSION FOR APPROVAL.

2 SPRINKLER HEAD SCHEDULE
SCALE: NONE

PRODUCT LEGEND	
1	DRAIN RISER
2	RISER
3	VIC MECHANICAL TEE STYLE 920N
4	VIC THREADED REDUCER No. 52
5	VIC FIRELOCK BALL VALVE SERIES 728 WITH TAMPER SWITCH
6	CHECK VALVE
7	VIC FIRELOCK ZONE CONTROL RISER MODULE SERIES 747MP
8	VIC FIRELOCK 90 DEG ELBOW No. 001
9	VIC IR FIRELOCK 90 DEG ELBOW No. 101
10	VIC FIRELOCK EZ RIGID COUPLING STYLE 009 (OR) RIGID COUPLING STYLE 005
11	TO SPRINKLER SYSTEM
12	UL LISTED FM APPROVED FLOW SWITCH (SYSTEM SENSOR MODEL WFDT)
13	PRESSURE GAUGE
14	ISOLATION VALVE FOR GAUGE
15	PRESSURE RELIEF VALVE
16	SHUT OFF VALVE (HANDLE ON BOTH SIDES)
17	SITE GLASS (VISIBLE FROM BOTH SIDES)
18	TEST AND DRAIN VALVE (HANDLE ON BOTH SIDES)
19	THREADED DRAIN CONNECTION
SEE VICTAULIC SUBMITTAL NUMBER 10.96	



1 SPRINKLER ZONE CONTROL RISER MODULE WITH PSI RELIEF
SCALE: NONE



- NOTES:**
- DETAIL BASED ON VICTAULIC MODEL 747MP OR APPROVED EQUAL.
 - REFER TO VICTAULIC SUBMITTAL 10.96 FOR ADDITIONAL DETAILS.
 - FIRELOCK ZONE CONTROL RISER MODULE W/ PSI RELIEF CAN BE MOUNTED IN THE HORIZONTAL OR VERTICAL UPFLOW POSITION

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DRAWN BY:	HLD
CHECKED BY:	RJ
SCALE:	AS NOTED

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TOWN OF MT. PLEASANT, NY

DRAWING TITLE
SPRINKLER DETAILS
2 OF 3

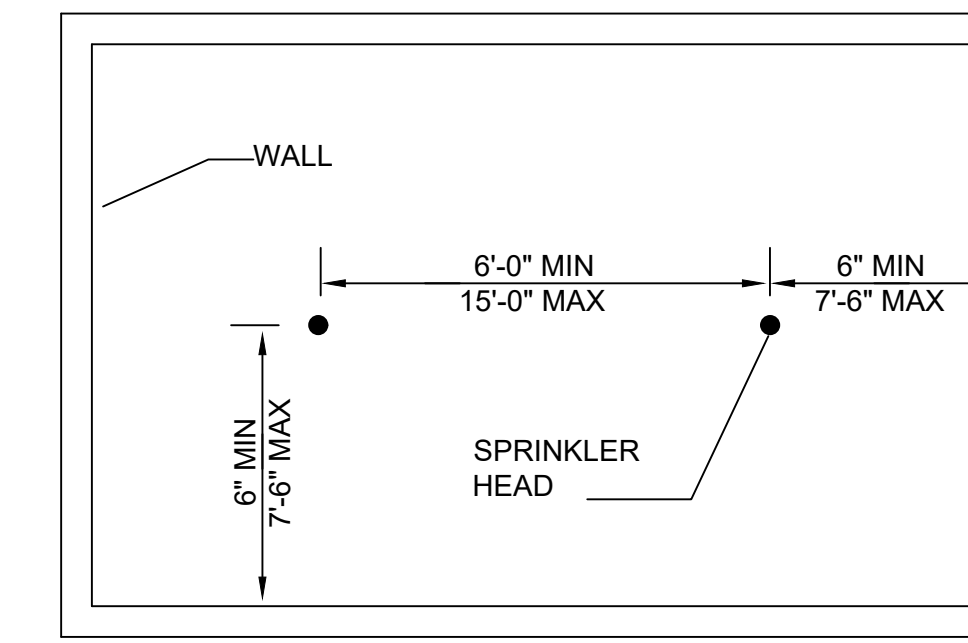
SHEET NO.
SP7.2

SPRINKLER HEAD SCHEDULE									
SYM.	TYPE	LOCATION	FINISH	MANUF.	MODEL	HEAD TEMP.	MAX CLG. TEMP	ORIFICE	K-FACTOR
⊙	CONCEALED	FINISHED AREAS PER PLANS	COVER PLATE COLOR PER ARCHITECT	RELIABLE	G5-56	165°F	100°F	1/2"	5.6
○	UPRIGHT	EXPOSED AREAS PER PLANS	CHROME PLATED	RELIABLE	F1FR	165°F	100°F	1/2"	5.6
○	UPRIGHT	MECHANICAL ROOMS	NATURAL BRONZE	RELIABLE	GFR	212°F	150°F	1/2"	5.6
RESIDENTIAL SPRINKLER HEADS WITHIN DWELLING UNITS									
⊙	CONCEALED	FINISHED AREAS PER PLANS	COVER PLATE COLOR PER ARCHITECT	RELIABLE	RC-43/49	165°F	100°F	3/8" 7/16"	4.3/4.9
SPRINKLER HEAD SCHEDULE - PARKING GARAGE LEVELS									
○	UPRIGHT - DRY	EXPOSED/PARKING AREAS PER PLANS	CHROME PLATED	RELIABLE	F3QR56	155°F	100°F	1"	5.6

NOTES:

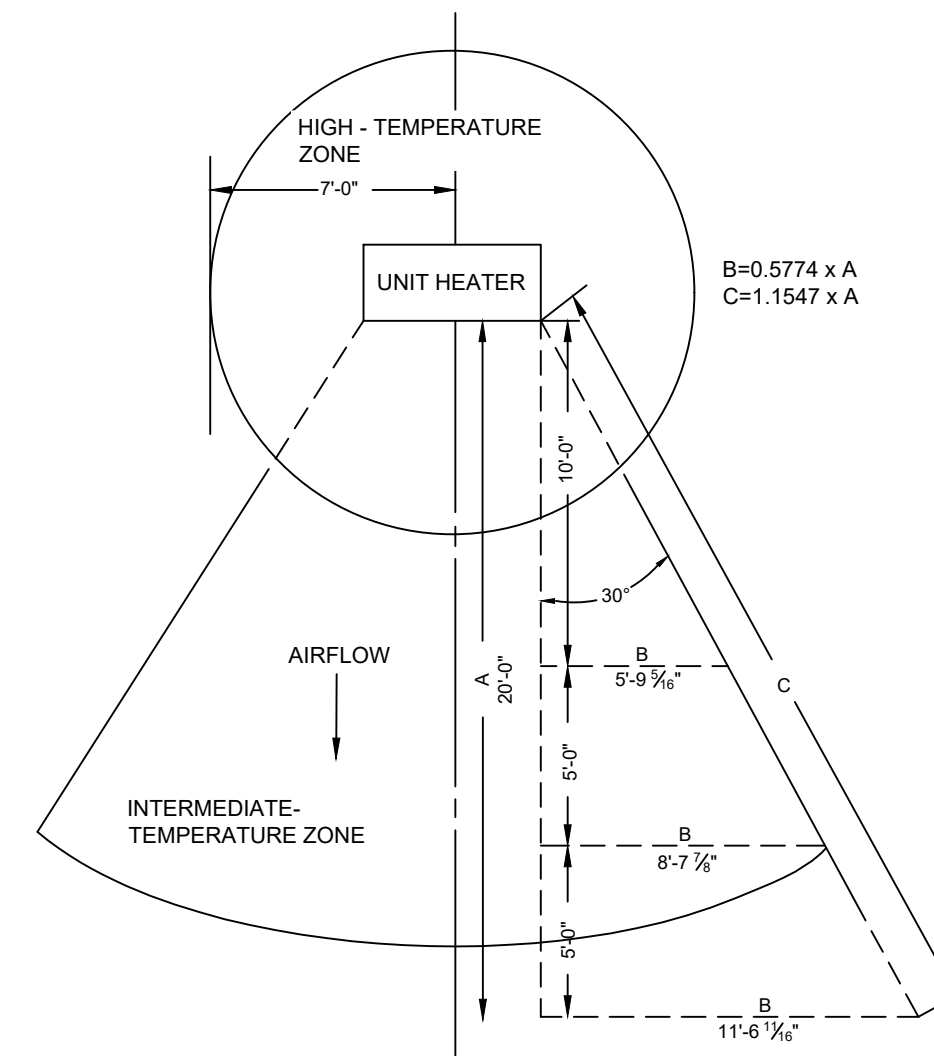
- SPRINKLER HEADS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE METAL WIRE GUARDS WHERE SPRINKLERS ARE SUBJECT TO DAMAGE, SUCH AS SPRINKLER HEADS LOCATED UNDER MECHANICAL DUCTS IN MECHANICAL EQUIPMENT ROOMS WHEN LOCATED LOWER THAN 7'-0" AFF AND HEADS IN TRASH CHUTE.
- ALL SPRINKLER HEADS THROUGHOUT THE PROJECT AREA SHALL BE OF THE ORDINARY TEMPERATURE RATING EXCEPT AS FOLLOWS:
 - SPRINKLER HEADS LOCATED CLOSE TO HEATERS, HOT WATER PIPING OR LOW-PRESSURE BLOW-OFF VALVE SHALL BE OF THE TEMPERATURE RATING AS REQUIRED BY NFPA-13.
 - ALL HEAT GENERATING EQUIPMENT WHICH CAN AFFECT THE TEMPERATURE RATING OF THE SPRINKLER HEADS SHALL BE CLEARLY IDENTIFIED ON THE SHOP DRAWINGS PRIOR TO SUBMISSION FOR APPROVAL.

6 SPRINKLER HEAD SCHEDULE
SCALE: NONE

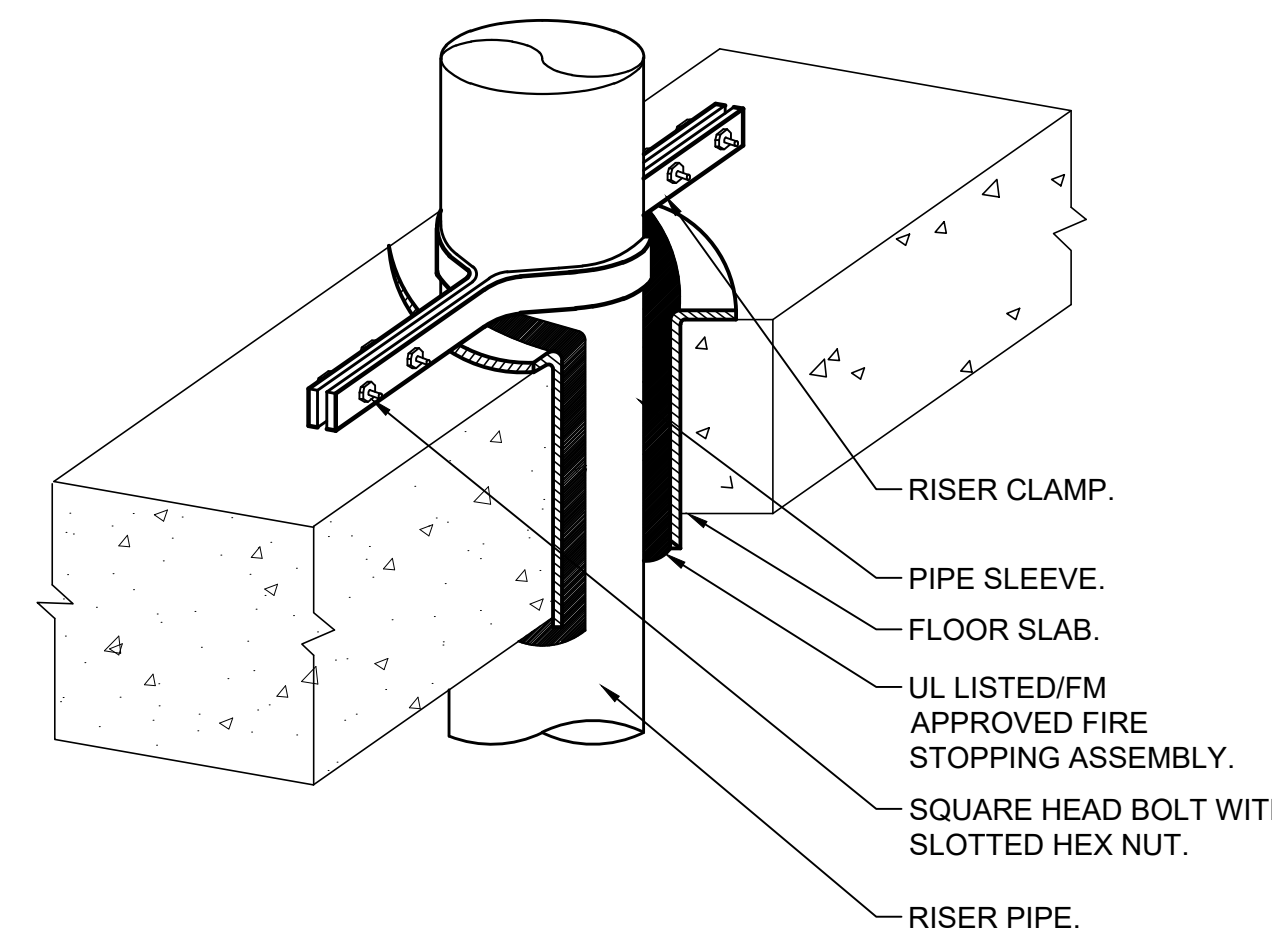


	MAX AREA PER HEAD	DENSITY PER 1500 SQ. FT.
LIGHT HAZARD	225 SQ. FT.	0.10 GPM/SQ. FT.
ORDINARY HAZARD	130 SQ. FT.	0.16 GPM/SQ. FT.

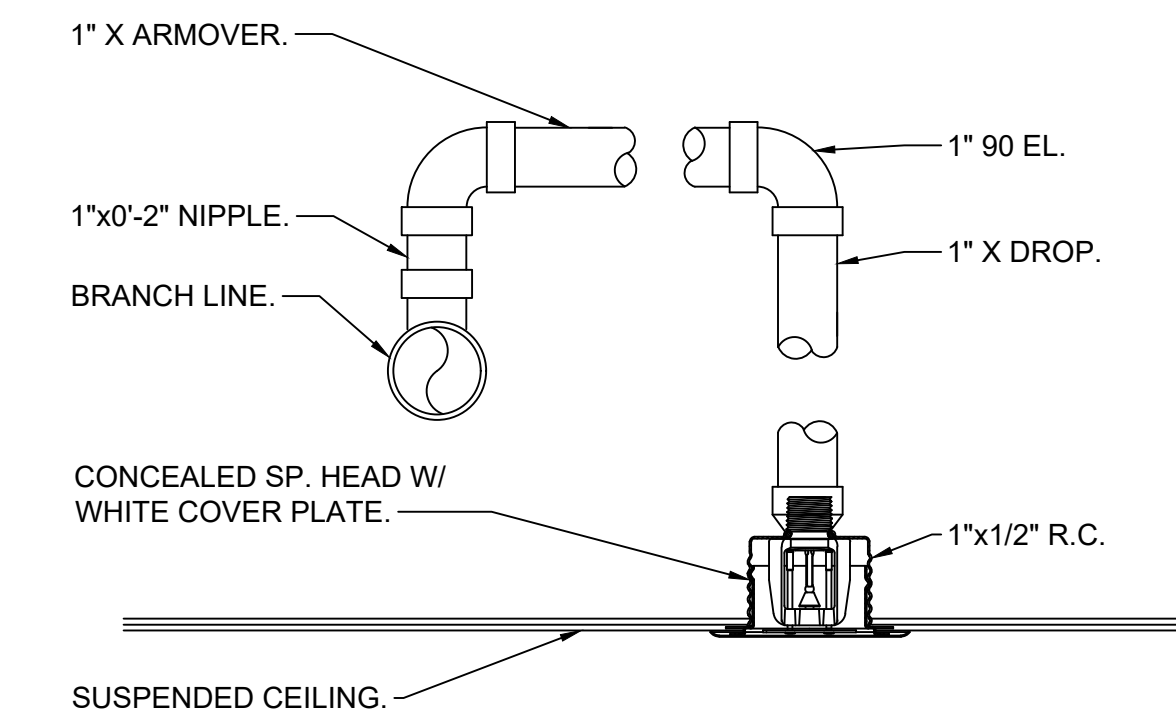
3 SPRINKLER HEAD SPACING CRITERIA
SCALE: NONE



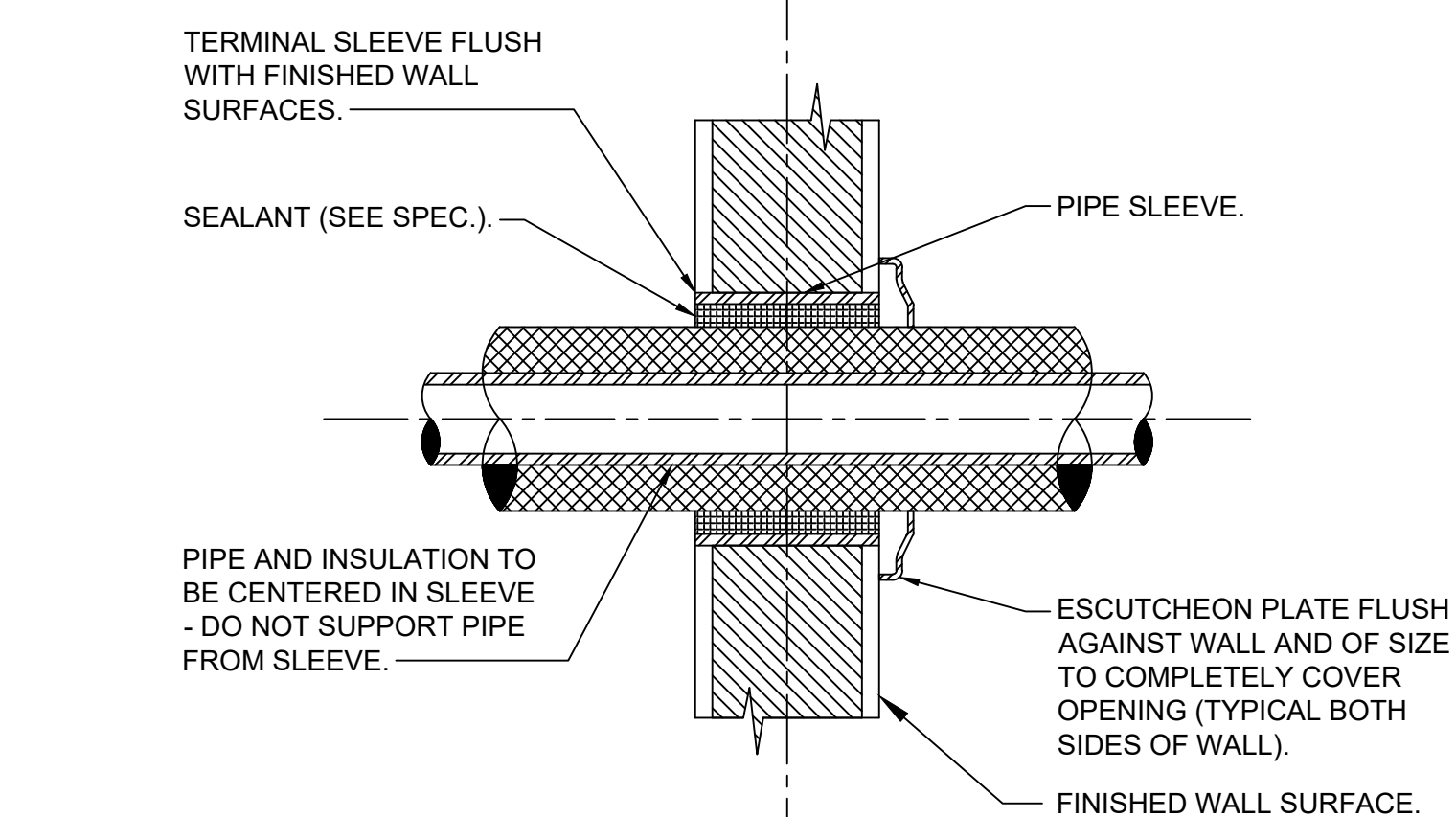
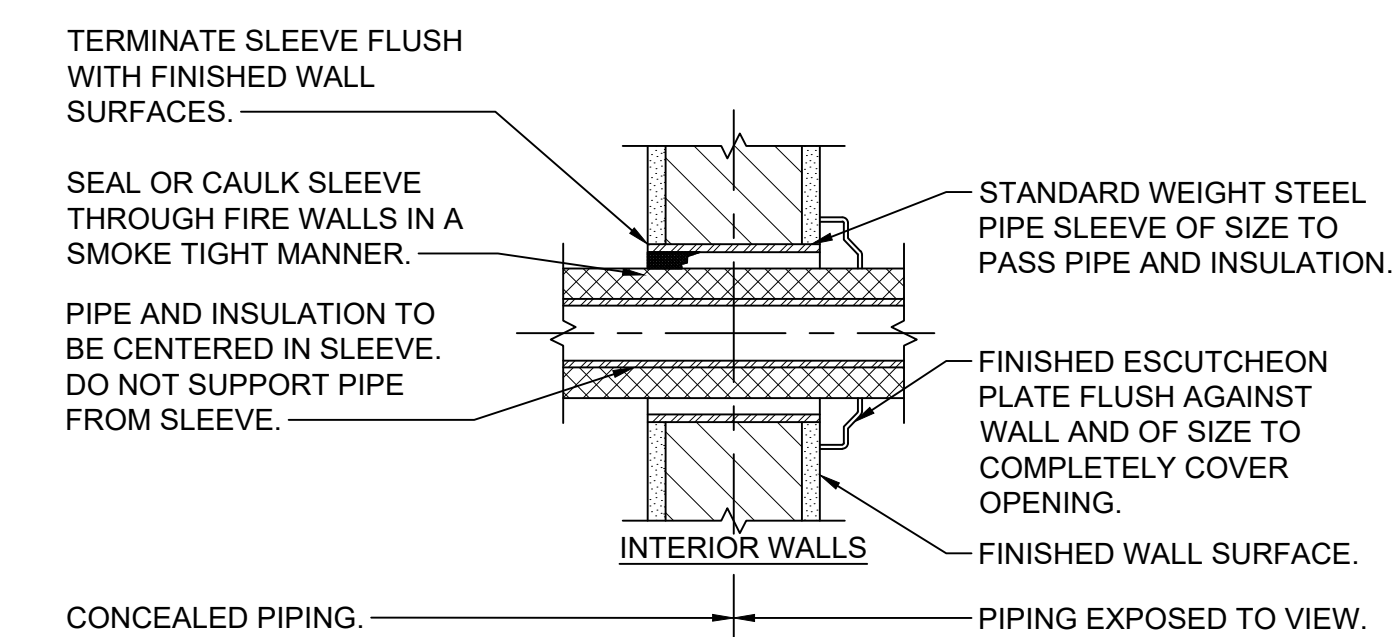
5 SPRINKLER TEMP ZONES AT UNIT HEATERS
SCALE: NONE



4 PIPE PENETRATION DETAIL
SCALE: NONE



2 TYPICAL CONCEALED PENDENT SPRINKLER
SCALE: NONE



1 PIPE WALL SLEEVE DETAIL
SCALE: NONE

LIBERTY PLAZA SUITES

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NO.	REVISION/ISSUE	DATE
4	ISSUED FOR PRICING	03-16-2021
3	ISSUED FOR PERMIT	03-12-2021
2	ISSUED FOR PROGRESS 90%	03-05-2021
1	ISSUED FOR PROGRESS	02-19-2021

SEAL	

PROJECT
LIBERTY PLAZA SUITES
500 COMMERCE ST.
TOWN OF MT. PLEASANT, NY

DATE:	AUGUST 12, 2020
PROJECT NO.:	NDIM0001.00
DRAWN BY:	HLD
CHECKED BY:	RJ
SCALE:	AS NOTED

DRAWING TITLE
SPRINKLER DETAILS
3 OF 3

SHEET NO.
SP7.3