

KILGORE COLLEGE

STARK HALL R.R.
RENOVATION607 ELDER STREET
KILGORE, TX 75662

PROJECT SUMMARY

REGULATORY

LEGAL JURISDICTION: CITY OF KILGORE, TEXAS

BUILDING CODE: 2012 IBC

BUILDING INFORMATION

TOTAL BUILDING AREA: 41,500 s.f.

AREA OF REMODEL: ±2,300 s.f.

OCCUPANT LOAD: 175 PERSONS

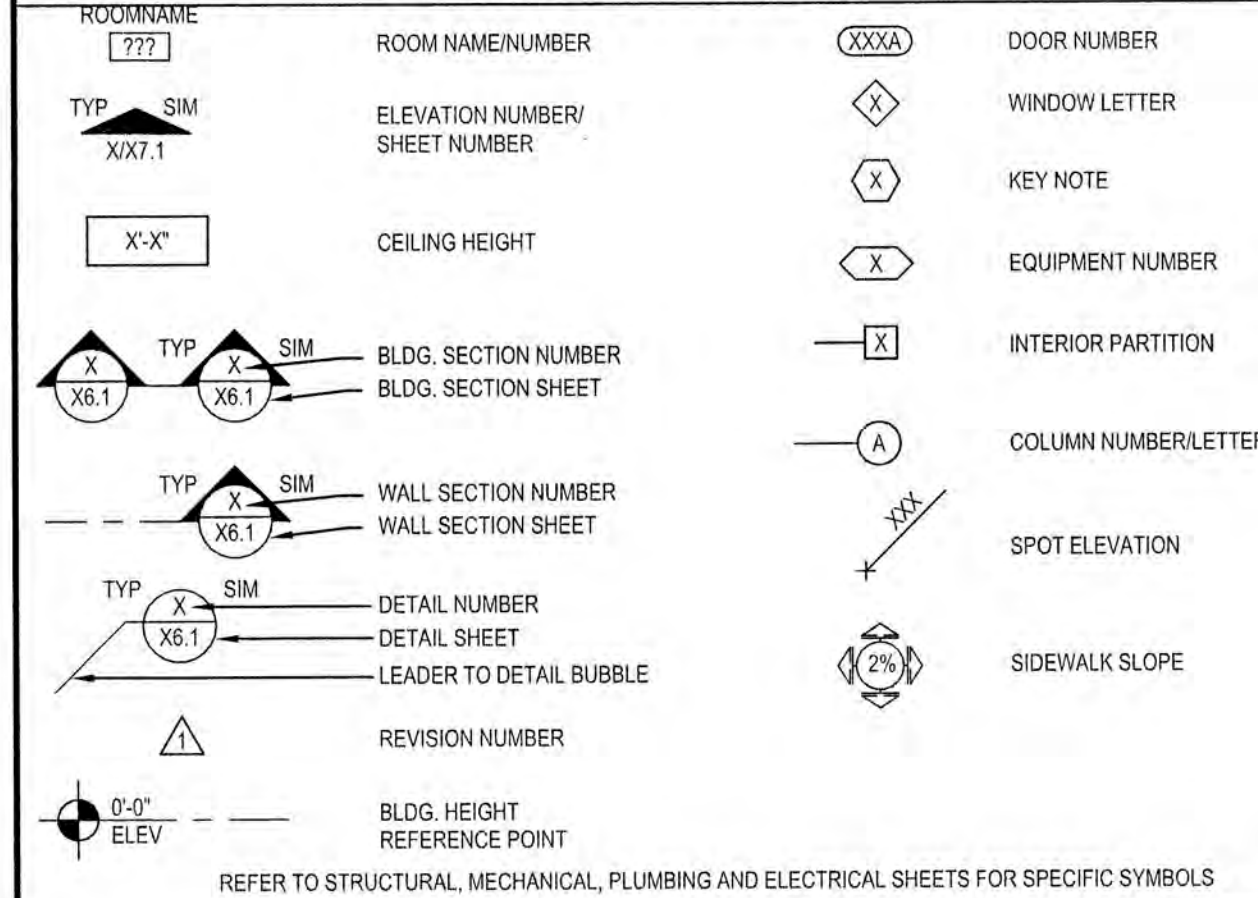
OCCUPANCY: RESIDENTIAL R-2

TYPE CONSTRUCTION: I-B

SUMMARY

RENOVATION TO CONVERT EXISTING COLLEGIATE RESIDENCE HALL GROUP RESTROOMS / SHOWERS TO (4) SINGLE USER RESTROOM / SHOWERS & (4) HANDICAPPED ACCESSIBLE SINGLE USER RESTROOM / SHOWERS ON EACH OF (7) RESIDENT FLOORS, AND RELATED MECHANICAL, ELECTRICAL, AND PLUMBING IMPROVEMENTS. RENOVATION OF EXISTING FIRST FLOOR RESTROOMS FOR HANDICAPPED ACCESSIBILITY.

GENERAL DRAWING SYSTEMS



PROJECT GENERAL NOTES

- ALL WORK SHALL CONFORM TO THE 2012 INTERNATIONAL BUILDING CODE AND ALL OTHER APPLICABLE CODES, STANDARDS, AND REGULATIONS OF THE CITY OF KILGORE, TEXAS AND COUNTY OF GREGG, TEXAS.
- IT IS INTENDED THAT A COMPLETE OCCUPIABLE BUILDING PROJECT IS PROVIDED.
- THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION (A.I.A. A201 LATEST EDITION) ARE A PART OF THESE CONTRACT DOCUMENTS. A COPY IS ON FILE AT THE ARCHITECT'S OFFICE.
- INFORMATION SHOWN ON THESE DRAWINGS ARE TYPICALLY DRAWN TO SCALE. SOME INFORMATION MAY BE SHOWN NOT TO SCALE AND IS TYPICALLY NOTED AS SUCH. IF A DIMENSION IS NOT SHOWN IT IS PREFERRED THAT THE CONTRACTOR CONTACT JOHNSON & PACE TO OBTAIN THE REQUIRED INFORMATION. SCALING THESE DRAWINGS TO OBTAIN INFORMATION IS PERFORMED AT THE CONTRACTORS SOLE RISK.
- VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD. ANY DISCREPANCIES IN THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO STARTING WORK.
- PROVIDE EACH SUBCONTRACTOR WITH A COMPLETE DRAWING SET, APPROVED FOR CONSTRUCTION, AT TIME OF CONSTRUCTION. GRAPHIC AND WRITTEN INFORMATION ON DRAWINGS SHALL BE COORDINATED WITH ALL TRADES PRIOR TO CONSTRUCTION.
- GC SHALL SUPPLY AND INSTALL ALL ASPECTS OF THE PROJECT DESCRIBED IN THIS DRAWING SET UNLESS OTHERWISE NOTED. SEE SCOPE OF WORK FOR EXCEPTIONS.
- SHOULD THE DRAWINGS OR SPECIFICATIONS CONFLICT WITHIN THEMSELVES, OR WITH EACH OTHER, THE REQUIREMENT WITH THE GREATEST QUANTITY AND/OR THE HIGHEST QUALITY SHALL PREVAIL. THE DECISION OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE SYSTEM BEING INSTALLED SHALL BE FINAL.

VICINITY MAP



GENERAL CONDITIONS

- THE DRAWINGS AND SPECIFICATIONS DESCRIBE THE COMPLETE PROJECT TO BE CONSTRUCTED BUT MAY NOT DESCRIBE EVERY CONDITION. THE GENERAL CONTRACTOR IS REQUIRED TO BE THOROUGHLY FAMILIAR WITH THE PROJECT AND CONTRACT DOCUMENTS AND IS REQUIRED TO IDENTIFY ANY DISCREPANCIES OR OMISSIONS OF STANDARD CONSTRUCTION PRACTICES IN THE DRAWINGS, SPECIFICATIONS, SITE, EXISTING CONDITIONS, UTILITIES AND LOCAL BUILDING CODES AND REPORT THEM TO THE OWNER FOR RESOLUTION PRIOR TO BEGINNING THE CONSTRUCTION CONTRACT. FAILURE TO DO SO SHALL PLACE THE BURDEN OF ANY ADDITIONAL COSTS, BECAUSE OF SUCH DISCREPANCIES OR OMISSIONS, UPON THE GENERAL CONTRACTOR. ADDITIONAL WORK REQUIRED BY THE DESIGNER / ARCHITECT OR OWNER AFTER THE START OF CONSTRUCTION SHALL NOT BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- RESPONSIBILITY OF CONTRACTORS: EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL HIS WORK OF EVERY DESCRIPTION AND IN CONNECTION WITH HIS CONTRACT. HE SHALL SPECIFICALLY AND EXPLICITLY ASSUME AND DOES SO ASSUME ALL RISKS FOR DAMAGE OR INJURY FROM WHATEVER CAUSE TO PROPERTY OR PERSONS OR PROPERTY WHEREVER LOCATED, RESULTING FROM ANY ACTION OR OPERATION UNDER THE CONTRACT OR IN CONNECTION WITH HIS WORK. EACH CONTRACTOR WILL BE HELD RESPONSIBLE FOR EXECUTION OF SATISFACTORY AND COMPLETE WORK IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS AND ANY BULLETINS, ADDENDA, ETC. WHICH MAY BE ISSUED DURING THE TIME OF BIDDING.
- THE ARCHITECT / ENGINEER WILL NOT HAVE CONTROL OVER, CHARGE OF, OR RESPONSIBILITY FOR, THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR THE SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, SINCE THESE ARE SOLELY THE CONTRACTOR'S RIGHTS AND RESPONSIBILITY.
- THE GENERAL CONTRACTOR SHALL VERIFY SIZE, LOCATION AND CHARACTERISTICS OF ALL WORK AND EQUIPMENT SUPPLIED BY THE OWNER OR OTHERS, WITH THE MANUFACTURER OR SUPPLIER PRIOR TO THE START OF RELATED WORK.
- ALL SUBSTITUTIONS REQUESTED BY THE GENERAL CONTRACTOR MUST BE APPROVED BY THE OWNER OR ARCHITECT PRIOR TO INSTALLATION. NO SUBSTITUTIONS WILL BE PART OF THE INITIAL BID PROCESS. PLANS MUST BE BID AS SPECIFIED.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF DAMAGE DONE TO OWNER'S PROPERTY BY PERSONS IN HIS EMPLOY OR IN THE EMPLOY OF HIS SUBCONTRACTORS.
- THE GENERAL CONTRACTOR SHALL SEE THAT ALL SUBCONTRACTORS RECEIVE CURRENT AND COMPLETE SETS OF WORKING DRAWINGS OR ASSUME FULL RESPONSIBILITY FOR COORDINATION.
- CONTRACTOR SHALL COMPLETE ALL WORK IN A NEAT AND WORKMANLIKE MANNER IN COMPLIANCE WITH ALL STATE, NATIONAL OR LOCAL CODES, AND SECURE THE NECESSARY PERMITS AND "GREEN TAGS".
- THE CONTRACTOR SHALL MAINTAIN THE PREMISES IN A CLEAN AND ORDERLY FASHION DURING THE ENTIRE CONSTRUCTION PERIOD, REMOVING ALL TRASH AND DEBRIS ON A DAILY BASIS.
- THE GENERAL CONTRACTOR SHALL PROVIDE THE OWNER OR OWNER'S REPRESENTATIVE WITH ALL PERTINENT OPERATION, MAINTENANCE AND WARRANTY INFORMATION AT THE COMPLETION OF PROJECT.
- PROMPTLY AFTER AWARD OF CONTRACT, CONTRACTOR MUST PREPARE AND SUBMIT TO THE OWNER ESTIMATED CONSTRUCTION PROGRESS SCHEDULES FOR THE WORK, WITH SUB-SCHEDULES OF RELATED ACTIVITIES WHICH ARE ESSENTIAL TO ITS PROGRESS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL BLOCKING OR ANCHOR HARDWARE NECESSARY TO INSTALL MILLWORK AND TRADE DRESS ITEMS, WHETHER INDICATED ON PLANS OR NOT.
- THE GENERAL CONTRACTOR SHALL PROVIDE, PAY FOR AND MAINTAIN ANY AND ALL TEMPORARY FACILITIES AND/OR UTILITIES REQUIRED FOR CONSTRUCTION UNTIL TIME OF SUBSTANTIAL COMPLETION, INCLUDING BUT NOT LIMITED TO:
 - POWER AND LIGHTING: EXISTING POWER SERVICE (IF AVAILABLE) MAY BE USED.
 - WATER SERVICE: EXISTING WATER SERVICE (IF AVAILABLE) MAY BE USED.
 - SANITARY FACILITIES: A MINIMUM OF (1) PORTABLE TOILET SHALL BE MADE AVAILABLE FOR THE USE OF WORKMEN, ARCHITECT AND OWNER.
 - BARRIERS: TEMPORARY FENCING SHALL BE INSTALLED TO PREVENT UNAUTHORIZED ENTRY AND TO PROTECT EXISTING FACILITIES AND ADJACENT PROPERTIES FROM DAMAGE DURING CONSTRUCTION.
 - PARKING: A TEMPORARY PARKING AREA SHALL BE ARRANGED TO ACCOMMODATE CONSTRUCTION PERSONNEL.
 - FIELD OFFICE AND STORAGE: PORTIONS OF THE WORK AREA MAY BE UTILIZED AS A FIELD OFFICE AND STORAGE PROVIDING THAT THEY DO NOT INTERFERE WITH OWNER'S USE OF THE REST OF THE FACILITY AND SHALL BE PROMPTLY REMOVED UPON SUBSTANTIAL COMPLETION OF PROJECT. SECURITY OF OFFICE AND STORAGE FACILITIES IS THE CONTRACTOR'S RESPONSIBILITY.
- CONTRACT SHALL NOT BE CONSIDERED TO HAVE BEEN FULLY EXECUTED SATISFACTORILY UNTIL THE FOLLOWING HAS BEEN ESTABLISHED:
 - OWNER HAS ACCEPTED CONSTRUCTION AS BEING SATISFACTORY.
 - OWNER'S FIELD REPRESENTATIVE OR OWNER HAS ACCEPTED CONSTRUCTION AS BEING SATISFACTORY.
 - CITY BUILDING DEPARTMENT OR AUTHORITY HAVING JURISDICTION HAS ISSUED AN UNQUALIFIED CERTIFICATE OF OCCUPANCY.
 - LIEN RELEASES FROM GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS HAVE BEEN SUBMITTED TO OWNER.

CODE SUMMARY

IBC - INTERNATIONAL BUILDING CODE 2012 - BUILDING CHARACTERISTICS SUMMARY

FEATURE	PARAGRAPH	INDICATED OR PROVIDED	REQUIRED OR NEEDED
USE:		COLLEGIATE RESIDENCE HALL	DORMITORY
CONFIGURATION:		EIGHT (8) STORIES AT + PENTHOUSE	
AREA:		5,000 SF PER FLOOR + 1,500 SF PENTHOUSE = 41,500 SF	
MATERIALS:		MASONRY, CAST-IN-PLACE CONCRETE, AND PRECAST SLAB	
OCCUPANCY CLASSIFICATION:	310.4	RESIDENTIAL GROUP R-2	NO OCCUPIED FLOOR > 75' ABV. GRADE
SPECIAL REQUIREMENTS:	403	NOT APPLICABLE	AUTOMATIC SPRINKLER SYSTEM
	420.4	IN ACCORDANCE WITH 903.2.8	SMOKE DETECTION / FIRE ALARM
	420.3	IN ACCORDANCE WITH 907.2.9	FRAME, WALLS, FLOOR: 2-HR RATED
CONSTRUCTION:	601 TABLE	APPARENTLY TYPE I-B	FOR R-2 OCCUPANCY
ALLOWABLE AREA:	503 TABLE	UNLIMITED	FOR R-2 OCCUPANCY
ALLOWABLE STORIES:	503 TABLE	ELEVEN (11)	SPRINKLERS REQUIRED FOR R2
FIRE PROTECTION:	903.2.8	NOT PROVIDED	SMOKE DET. + FIRE ALARM REQUIRED
FIRE PROTECTION:	907.2.9	PROVIDED	CLASS 1 HOSE CONNECTION REQUIRED
FIRE PROTECTION:	905.4	PROVIDED	RESIDENTIAL - 200 SF / OCCUPANT
OCCUPANT LOAD:	1004.1.2 TABLE	25 RESIDENTS PER FLOOR	

IEBC - INTERNATIONAL EXISTING BUILDING CODE 2012 - REVIEW SUMMARY

FEATURE	PARAGRAPH	INDICATED OR PROVIDED	REQUIRED OR NEEDED
COMPLIANCE METHOD	301.1.2	WORK AREA COMPLIANCE METHOD	322 SF WORK + 50% OF 5,000 SF
CLASSIFICATION OF WORK	504	ALTERATION - LEVEL 2	COMPLY REQUIREMENTS OF IBC 2012
NEW BLDG. ELEMENTS & MATLS	702	PROVIDED (RE: SPECS)	MAINTAIN EXIST. LEVEL OF PROTECTION
FIRE PROTECTION	703	MAINTAINED	PER TAS 2012 FOR RENOVATIONS
MEANS OF EGRESS	704	MAINTAINED	NO ROOF WORK NEEDED
STRUCTURAL	705	PROVIDED (RE: DRAWINGS)	NEW WINDOWS & PLUMBING FIXTURES
ENERGY CONSERVATION	707	NOT APPLICABLE	COMPLY WITH 801.1, NONE INDICATED
SPECIAL USE AND OCCUPANCY	802	NOT APPLICABLE	EXISTING VERTICAL OPENINGS
NEW BLDG. ELEMENTS & MATLS	802.2.1.11	EXISTING COMPLIES	SPRINKLERS NOT REQUIRED, SEE 504
AUTOMATIC SPRINKLER SYSTEM	804.2	NOT APPLICABLE	OPENINGS 50' O.C. EACH SIDE
GROUPS - R-2...	804.2.2	EXISTING COMPLIES	NOT REQUIRED: TABLE 903.2.11.6
WINDOWLESS STORY	804.2.3	NOT APPLICABLE	SPRINKLERS NOT REQUIRED
OTHER REQUIRED SUPERVISION	804.2.4	NOT APPLICABLE	WORK AREA LOCATED > 50' ABV.
STANDPIPES	804.3	EXISTING COMPLIES	REQUIRED
FIRE ALARM AND DETECTION	804.4	EXISTING COMPLIES	REQUIRED GROUP R AND I-1
OCCUPANCY REQUIREMENTS	804.4.1	EXISTING COMPLIES	
SMOKE ALARMS	804.4.3	IN SLEEPING ROOMS	
MEANS OF EGRESS	805	EXISTING COMPLIES	TWO FROM EACH FLOOR
NUMBER OF EXITS	805.3	NO REQUIREMENT	NO REQUIREMENT, SEE 504
EGRESS DOORWAYS	805.4	NO REQUIREMENT	NO REQUIREMENT, SEE 504
PANIC HARDWARE	805.4.4	NO REQUIREMENT	COMPLY WITH 805.10
OPENINGS IN CORRIDOR WALLS	805.5	PROVIDED (RE: DRAWINGS)	NONE INDICATED
DEAD END CORRIDORS	805.6	PROVIDED (RE: DRAWINGS)	REQUIRED
MEANS OF EGRESS LIGHTING	805.7	PROVIDED (RE: DRAWINGS)	COMPLY WITH 805.9
EXIT SIGNS	805.8	PROVIDED (RE: DRAWINGS)	COMPLY WITH 805.10
HANDRAILS	805.9	EXISTING COMPLIES	NO CODE REQUIREMENT
GUARDS	805.10	PROVIDED (RE: DRAWINGS)	PER IBC 2012
ACCESSIBILITY	806	PROVIDE PER TAS	COMPLY WITH NFPA 70
STRUCTURAL	807	INTENTS AT NEW OPENINGS	COMPLY WITH IMC
ELECTRICAL	808.1	PROVIDED (RE: DRAWINGS)	COMPLY WITH IPC
MECHANICAL	809	PROVIDED (RE: DRAWINGS)	NEW CONSTRUCTION ONLY
PLUMBING	810	PROVIDED (RE: DRAWINGS)	
ENERGY CONSERVATION	811	PROVIDED (RE: DRAWINGS)	
OCCUPANCY	1001	NOT APPLICABLE	OWNERSHIP, USE AND CLASSIFICATION UNCHANGED

SHEET INDEX

GENERAL:

G0.1	COVER SHEET
G0.2	ACCESSIBILITY GUIDELINES
G0.3	ACCESSIBILITY GUIDELINES
G0.4	SPECIFICATIONS
G0.5	SPECIFICATIONS
G0.6	SPECIFICATIONS
G0.7	SPECIFICATIONS
G0.8	SPECIFICATIONS
G0.9	BID ALTERNATES

STRUCTURAL:

S1.1	NEW & EXPANDED OPENING LINTEL SUPPORT PLANS & DETAILS
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ARCHITECTURAL:

A1.1	ARCHITECTURAL SITE PLAN & BUILDING SECTION
A2.1	DEMOLITION PLANS, PARTITION LAYOUT PLAN & FLOOR PLANS - FLOORS 1 THRU 8
A2.2	ENLARGED PLAN, INTERIOR ELEVATIONS, SCHEDULES & DETAILS

MECHANICAL:

M0.0	MECHANICAL LEGEND & GENERAL NOTES
M1.1	1st FLOOR MECHANICAL PLAN
M1.2	2nd THRU 8th FLOOR MECHANICAL PLAN
M1.3	ROOF MECHANICAL PLAN
M3.0	MECHANICAL SCHEDULES & DETAILS

PLUMBING:

P0.0	PLUMBING LEGEND & GENERAL NOTES
P1.0	DOMESTIC WATER PLAN
P2.0	SANITARY SEWER PLAN

ELECTRICAL:

E0.0	ELECTRICAL LEGEND & GENERAL NOTES
E1.0	POWER PLAN
E1.1	ROOF ELECTRICAL PLAN
E2.0	LIGHTING PLAN

DEMOLITION NOTES

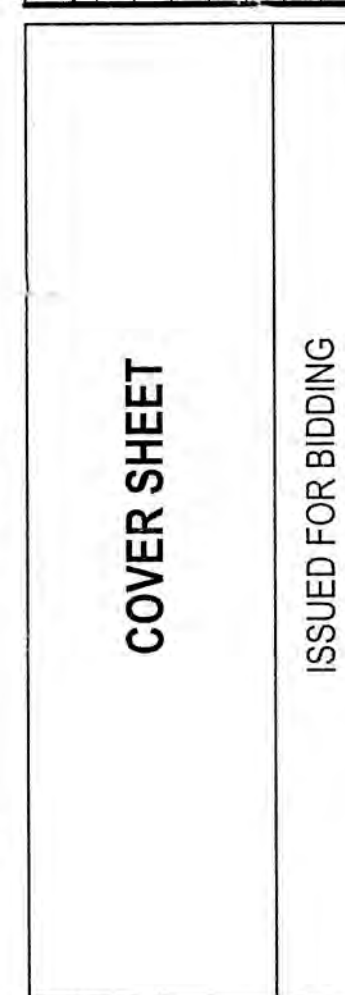
- CONTRACTOR SHALL VISIT SITE AND BE FAMILIAR WITH EXISTING CONDITIONS, INCLUDING BUT NOT LIMITED TO EXISTING DIMENSIONS, EQUIPMENT, LOCATIONS, SIZES, QUANTITIES, AND MATERIALS.
- EXISTING CONSTRUCTION IS SHOWN BASED UPON ONSITE OBSERVATIONS. DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS THAT AFFECT NEW WORK SHALL BE REPORTED TO THE ARCHITECT / ENGINEER / PROJECT MANAGER PRIOR TO PROCEEDING WITH WORK.
- DEMOLITION WORK SHALL BE SELECTIVE AND PLANNED TO MINIMIZE REMOVALS TO ONLY THE EXTENT REQUIRED FOR INSTALLATION OF NEW WORK AND FOR REPAIR AND PATCHING OF NEW FINISHES SO THAT COMPLETED WORK IS LIKE NEW AND INDISTINGUISHABLE FROM EXISTING.
- ALL DEMOLITION, INTERRUPTION OR PENETRATION OF ASSEMBLIES-TO-REMAIN SHALL BE MINIMIZED AS MUCH AS POSSIBLE AND PERFORMED IN A MANNER THAT WILL ENSURE THE INTEGRITY OF THE ASSEMBLY.
- COMPLY WITH ALL STATE AND LOCAL ENVIRONMENTAL REQUIREMENTS INCLUDING BUT NOT LIMITED TO ADDRESSING OF ASBESTOS MATERIALS AND MOLD GROWTH IN THE BUILDING IF AND WHERE THEY EXIST. ANY REQUIRED ASBESTOS AND MOLD GROWTH ABATEMENT SHALL BE PERFORMED BY LICENSED ENTITIES AND IS NOT PART OF THIS CONTRACT. COORDINATE WITH OWNER TO OBTAIN CURRENT REPORT OF INVESTIGATION AND REMEDIATION. PROCEED WITH DEMOLITION AND CONSTRUCTION ONLY AFTER ABATEMENT WORK IS COMPLETED, INSPECTED AND CERTIFIED.
- CONTRACTOR SHALL COORDINATE EXACT SIZES AND LOCATIONS FOR MECHANICAL, PLUMBING, AND ELECTRICAL PENETRATIONS REQUIRED FOR NEW WORK WITH EACH RESPECTIVE TRADE.
- CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF TEMPORARY SHORING AND BRACING REQUIRED FOR DEMOLITION.
- EXISTING CONSTRUCTION ADJACENT TO DEMOLITION WORK SHALL BE PATCHED AND REPAIRED TO MATCH ORIGINAL CONDITION.
- DEMOLITION, AS NOTED, CONSIDERS OF COMPLETE REMOVAL OF THE LISTED ITEMS, RELATED FASTENERS, AND ATTACHMENT MATERIALS LEAVING A CLEAN SURFACE READY TO RECEIVE NOTED MATERIALS OR SCHEDULED FINISHES.
- UNLESS NOTED OR SPECIFIED OTHERWISE, MATERIALS SHALL BE REMOVED FROM SITE AND DISPOSED OF AT CONTRACTOR'S EXPENSE. DISPOSAL SHALL COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL GUIDELINES.
- PRECAUTIONS SHALL BE TAKEN TO SEPARATE THE GENERAL PUBLIC FROM DEMOLITION AND TO PROTECT THEIR HEALTH AND SAFETY.
- CONTRACTOR SHALL INVESTIGATE EACH WALL SUBJECT TO DEMOLITION TO DETERMINE IF IT IS USED FOR BEARING. COORDINATE WITH CONSTRUCTION SEQUENCE AND PROVIDE SHORING AT ANY WALL CARRYING STRUCTURAL LOAD TO PREVENT COLLAPSE UNTIL NEW STRUCTURE IS IN PLACE.
- OWNER RESERVES FIRST RIGHT TO RETAIN AND KEEP ANY EXISTING ITEMS REMOVED AS A PART OF THE DEMOLITION WORK. CONTRACTOR SHALL VERIFY ANY AND ALL ITEMS TO BE SALVAGED AND RE-USED OR KEPT BY OWNER PRIOR TO PERFORMING ANY DEMOLITION.
- CONTRACTOR SHALL PERFORM ALL DEMOLITION NECESSARY TO PROVIDE CONSTRUCTION AND / OR INSTALL NEW WORK INDICATED, WHETHER SAID DEMOLITION IS INDICATED ON DRAWINGS OR NOT.

PROJECT DIRECTORY

OWNER	STRUCTURAL ENGINEER
KILGORE COLLEGE 1100 BROADWAY KILGORE, TEXAS 75662 903-983-8101	JOHNSON & PACE INCORPORATED 1201 NW LOOP 281 SUITE 100 LONGVIEW, TEXAS 75604 903-753-0663 Office 903-753-8803 Fax
ARCHITECT	MECH. / ELEC. ENGINEER
JOHNSON & PACE INCORPORATED 1201 NW LOOP 281 SUITE 100 LONGVIEW, TEXAS 75604 903-753-0663 Office 903-753-8803 Fax	JOHNSON & PACE INCORPORATED 1201 NW LOOP 281 SUITE 100 LONGVIEW, TEXAS 75604 903-753-0663 Office 903-753-8803 Fax

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KILGORE, TX 75662

NO.	REVISION	DATE
1	ISSUED FOR PERMIT	06/29/2022
2	ISSUED FOR BIDDING	07/22/2022

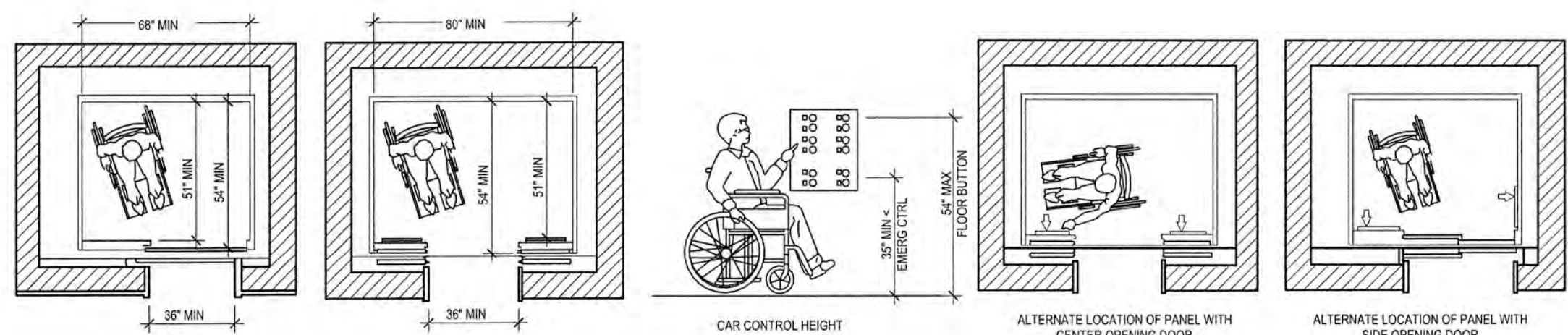


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1	ISSUED FOR BIDDING	07/22/2022

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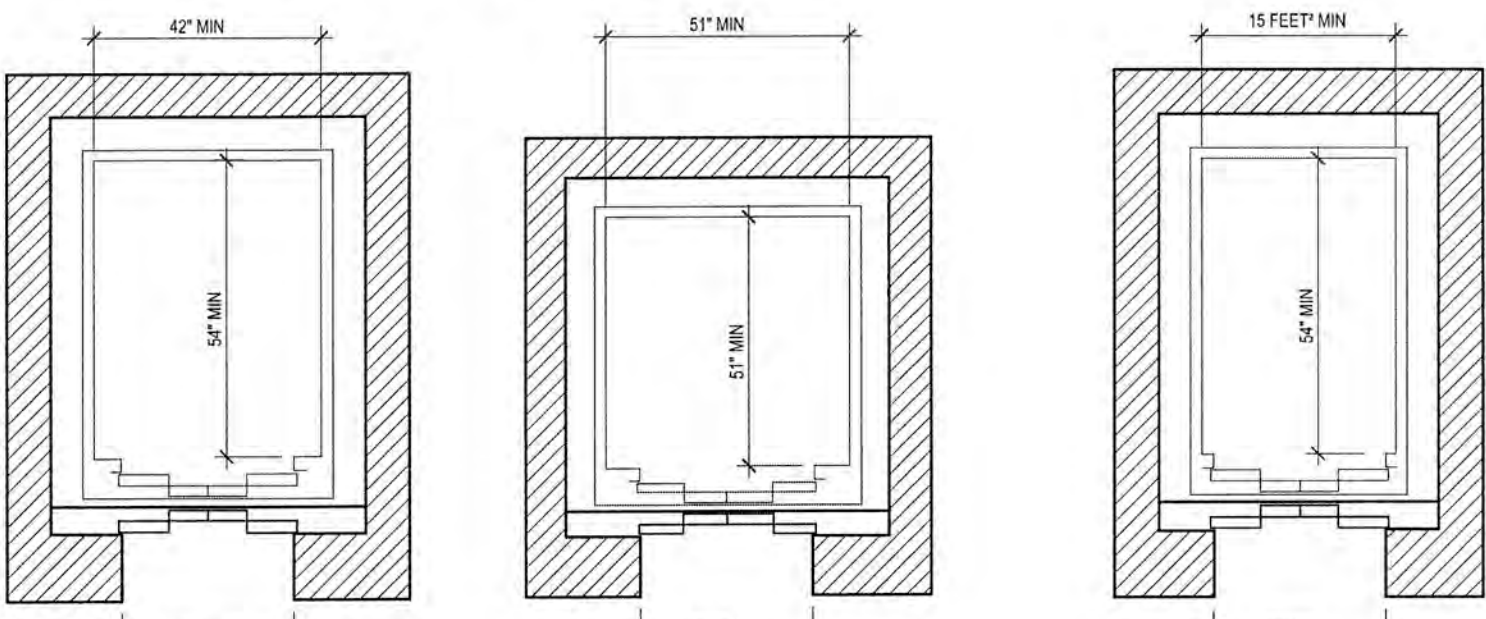
Drawn by: J. Johnson
Checked by: J. Johnson
Approved by: J. Johnson
Date: 7/18/2022 1:55:27 AM
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ELEVATOR CLEARANCES

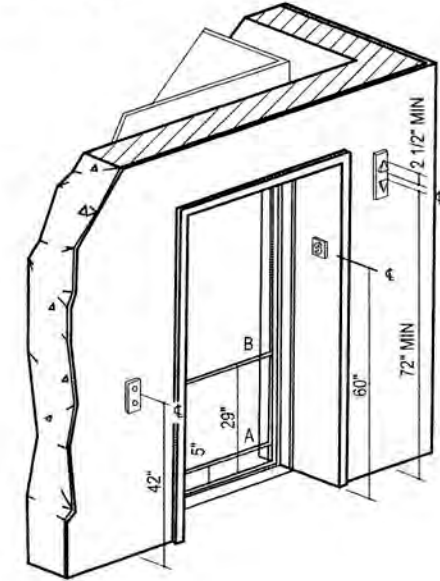


MINIMUM DIMENSIONS OF ELEVATOR CARS

CAR CONTROLS

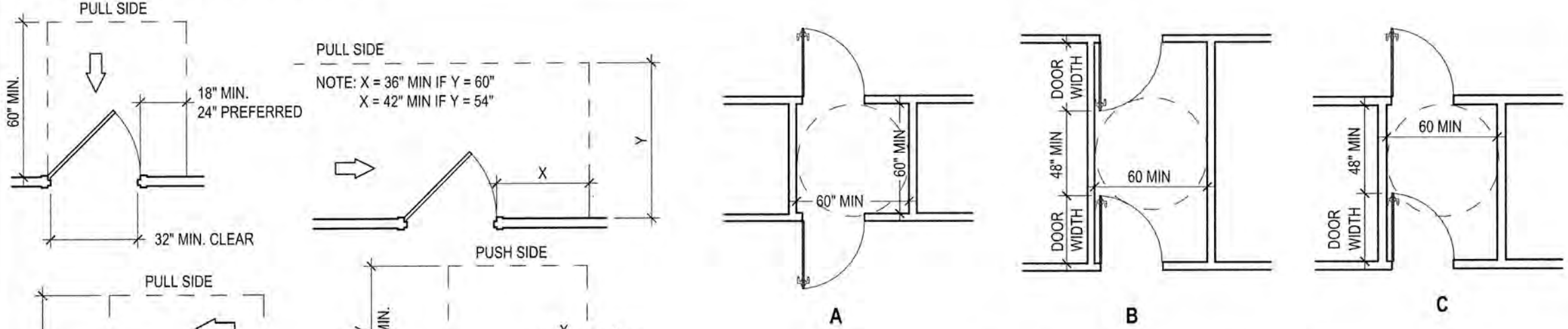


DIMENSIONS OF LIMITED USE/LIMITED APPLICATION (LULA) ELEVATOR CARS

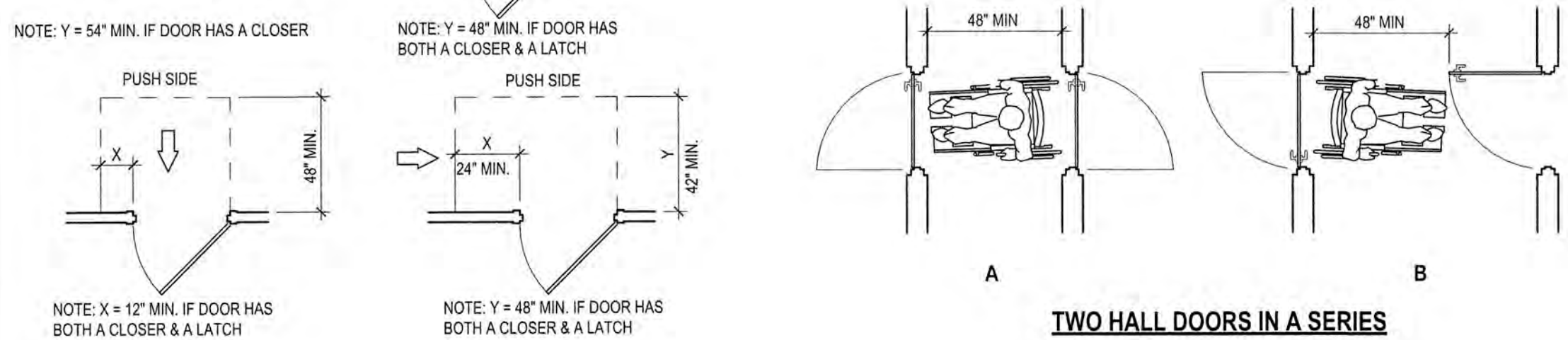


HOISTWAY AND ELEVATOR ENTRANCES

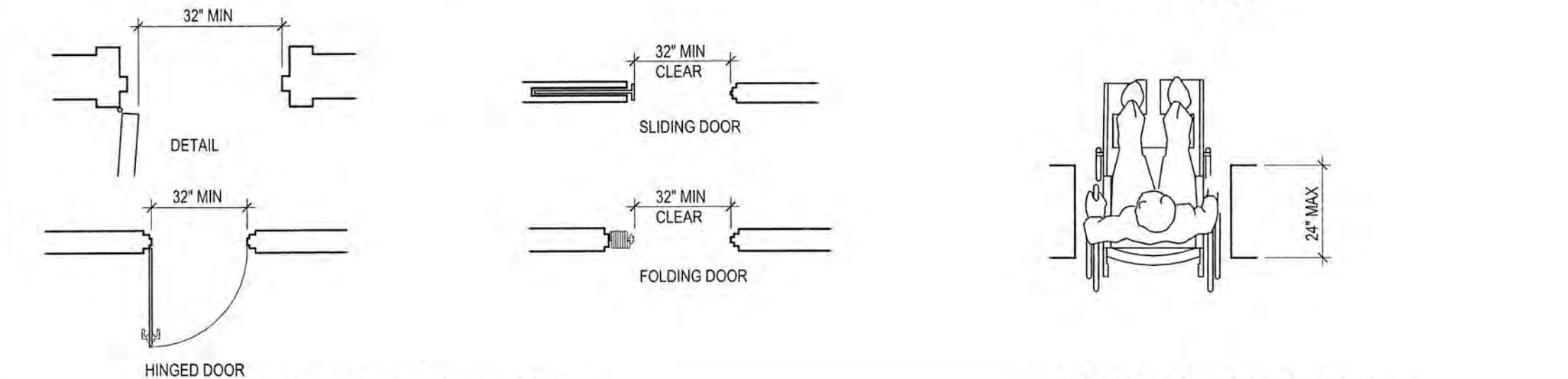
DOOR CLEARANCES



TWO ROOM DOORS IN A SERIES



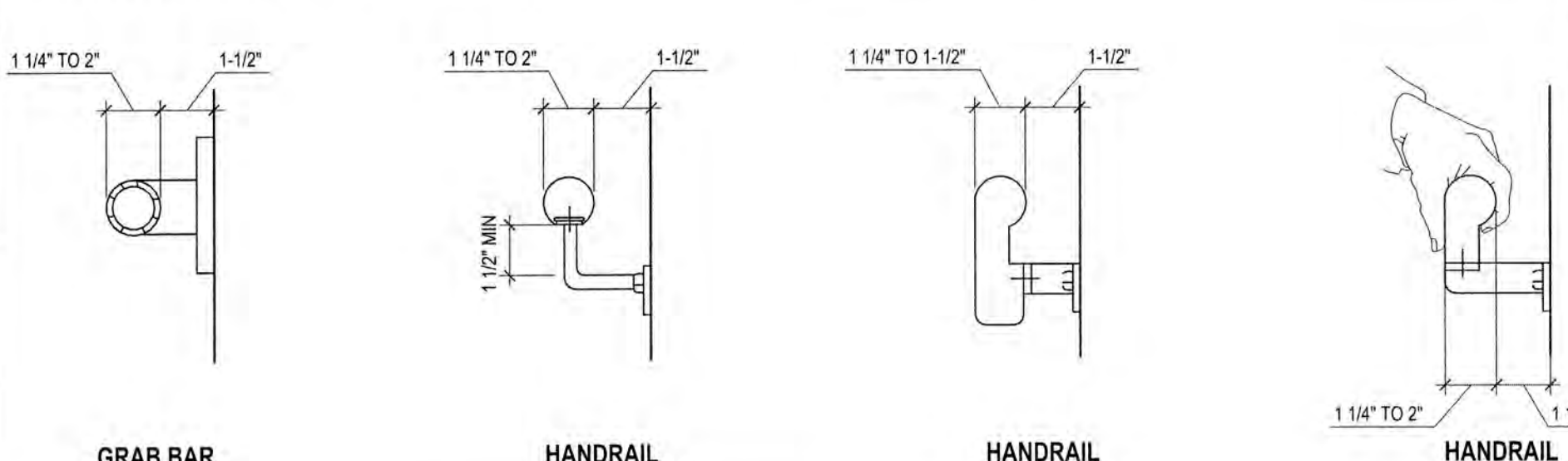
TWO HALL DOORS IN A SERIES
FIG.26



MAXIMUM DOOR WAY WIDTH

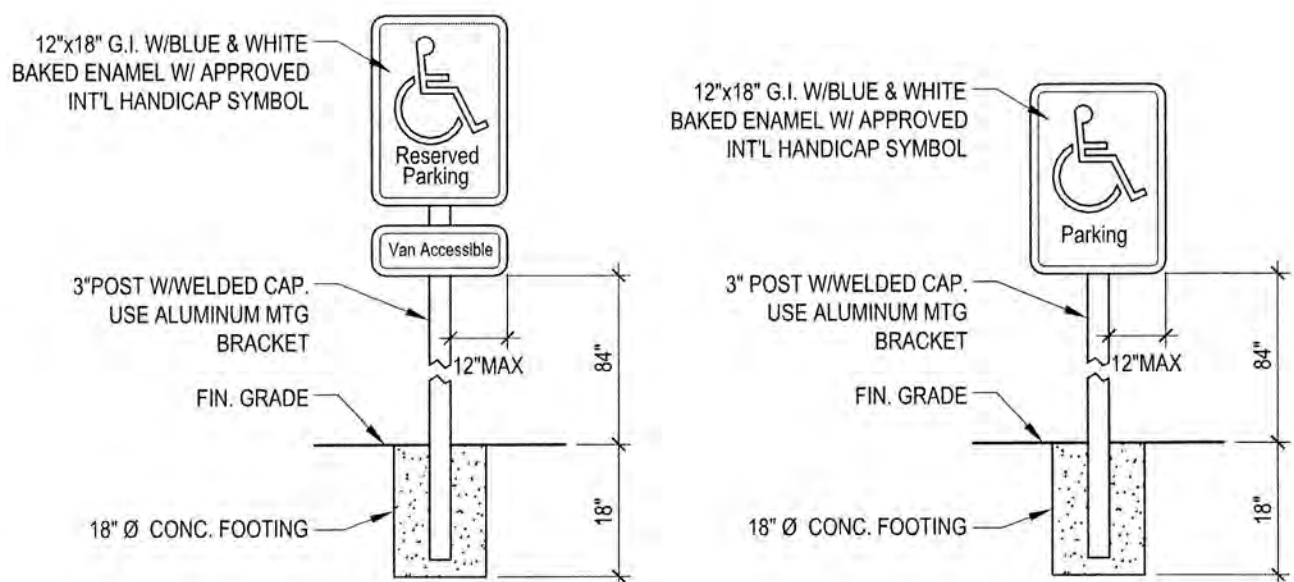
MAXIMUM DOOR WAY DEPTH

HANDRAILS / GRAB BARS

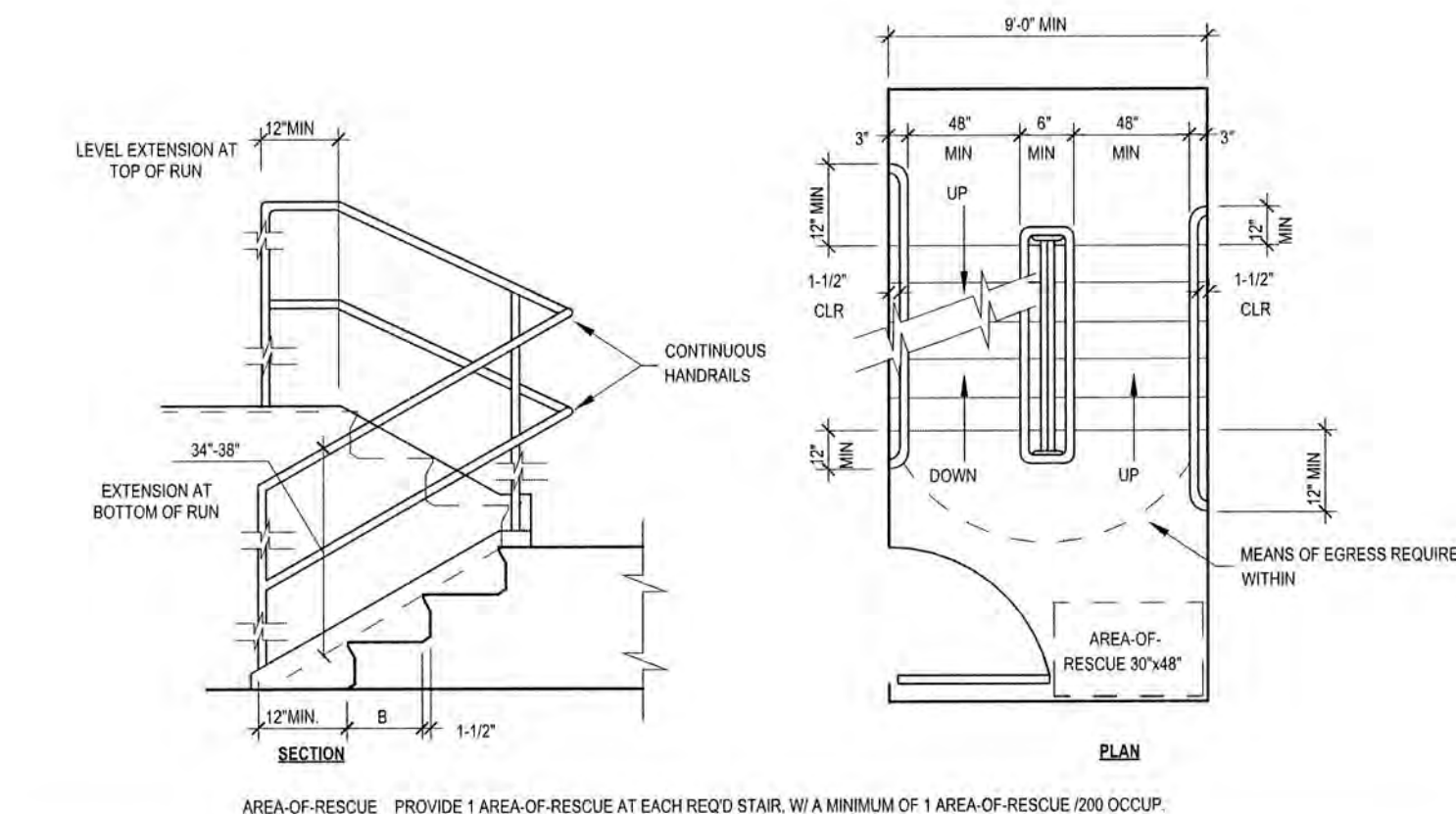


STRENGTH
RAIL MATERIAL AND SUPPORTS SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT A 250 POUND POINT LOAD AT ANY POINT ALONG RAIL.

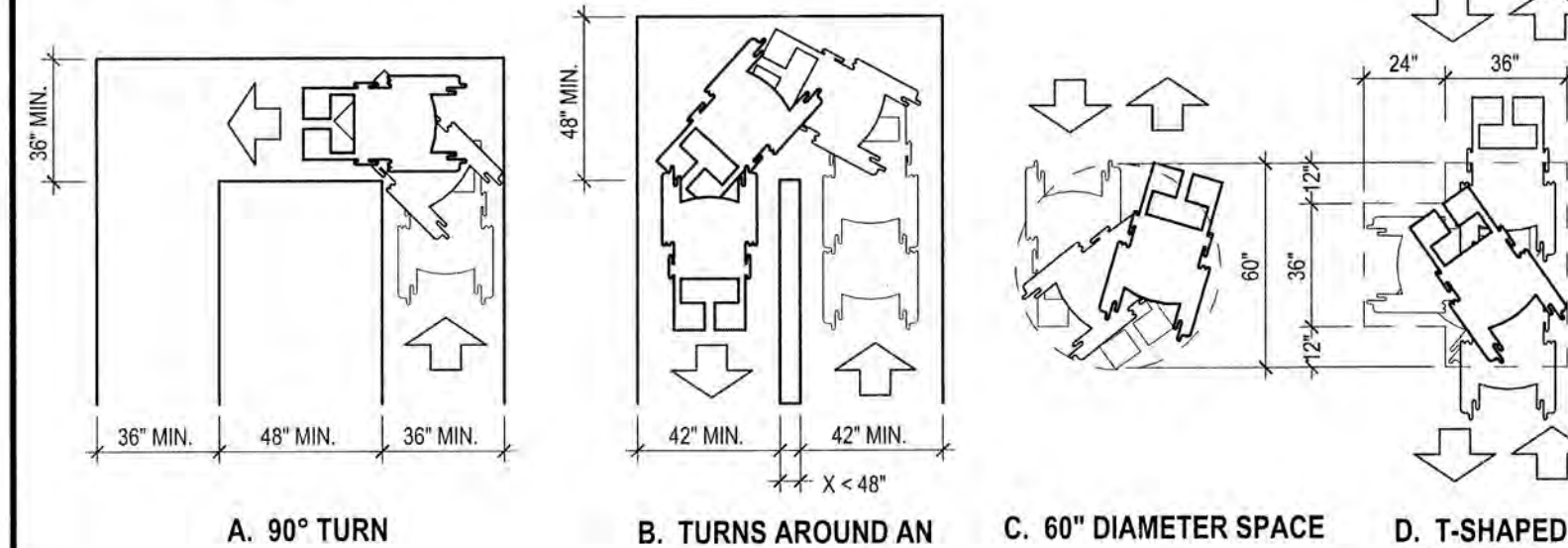
ACCESSIBLE PARKING SIGNAGE



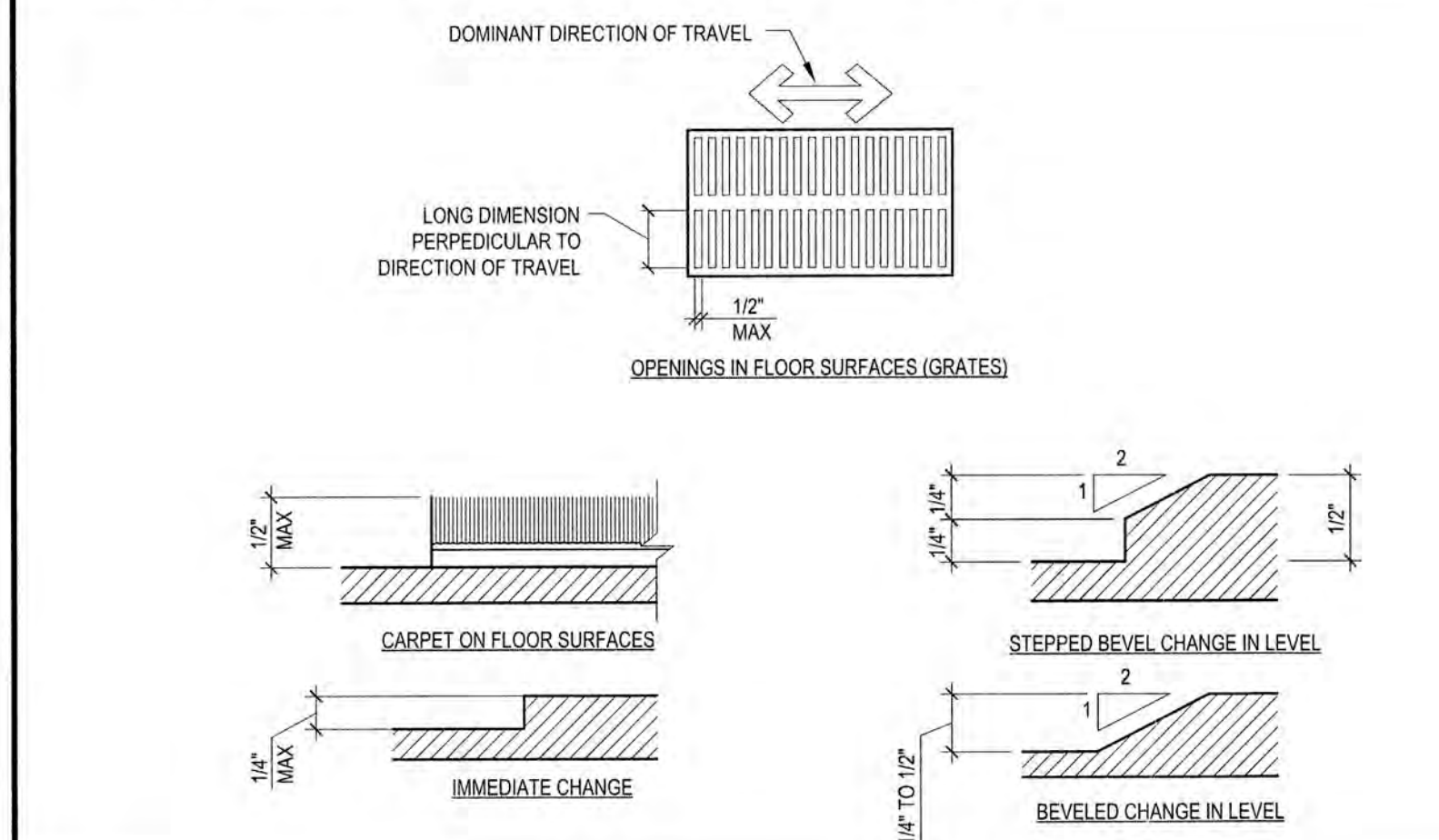
STAIR REQUIREMENTS



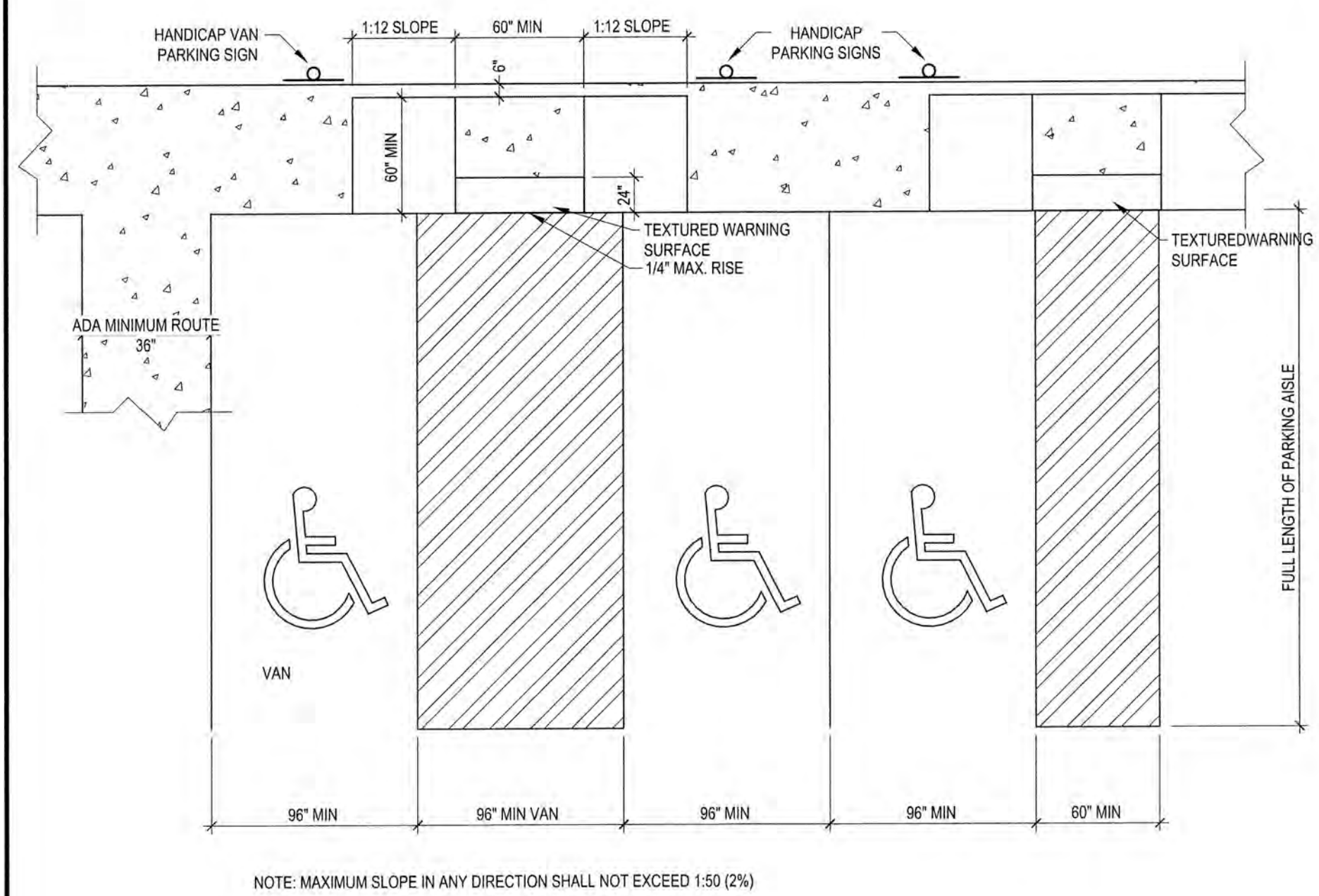
MINIMUM TURNING SPACES



FLOOR SURFACES AND LEVEL CHANGES



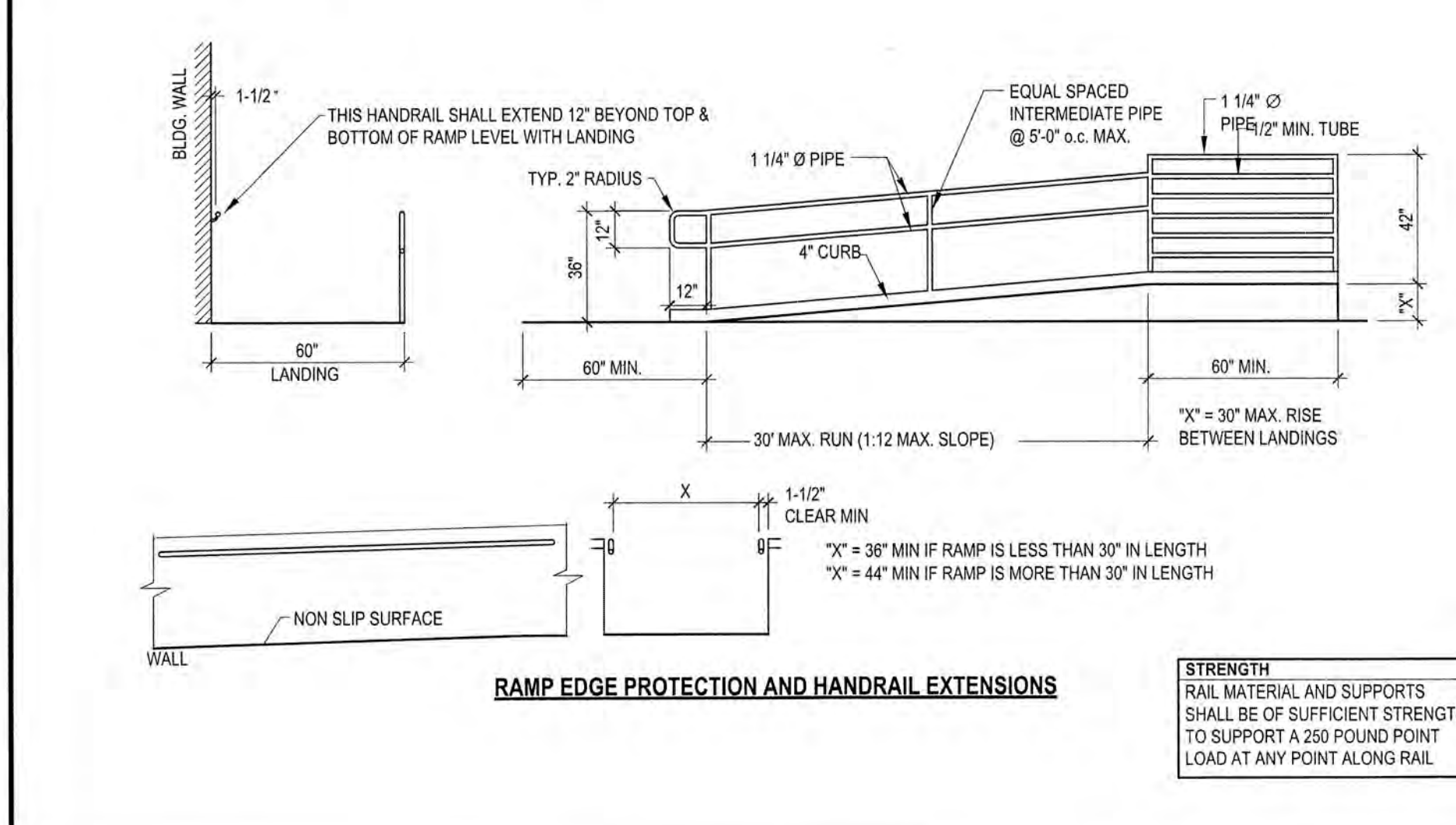
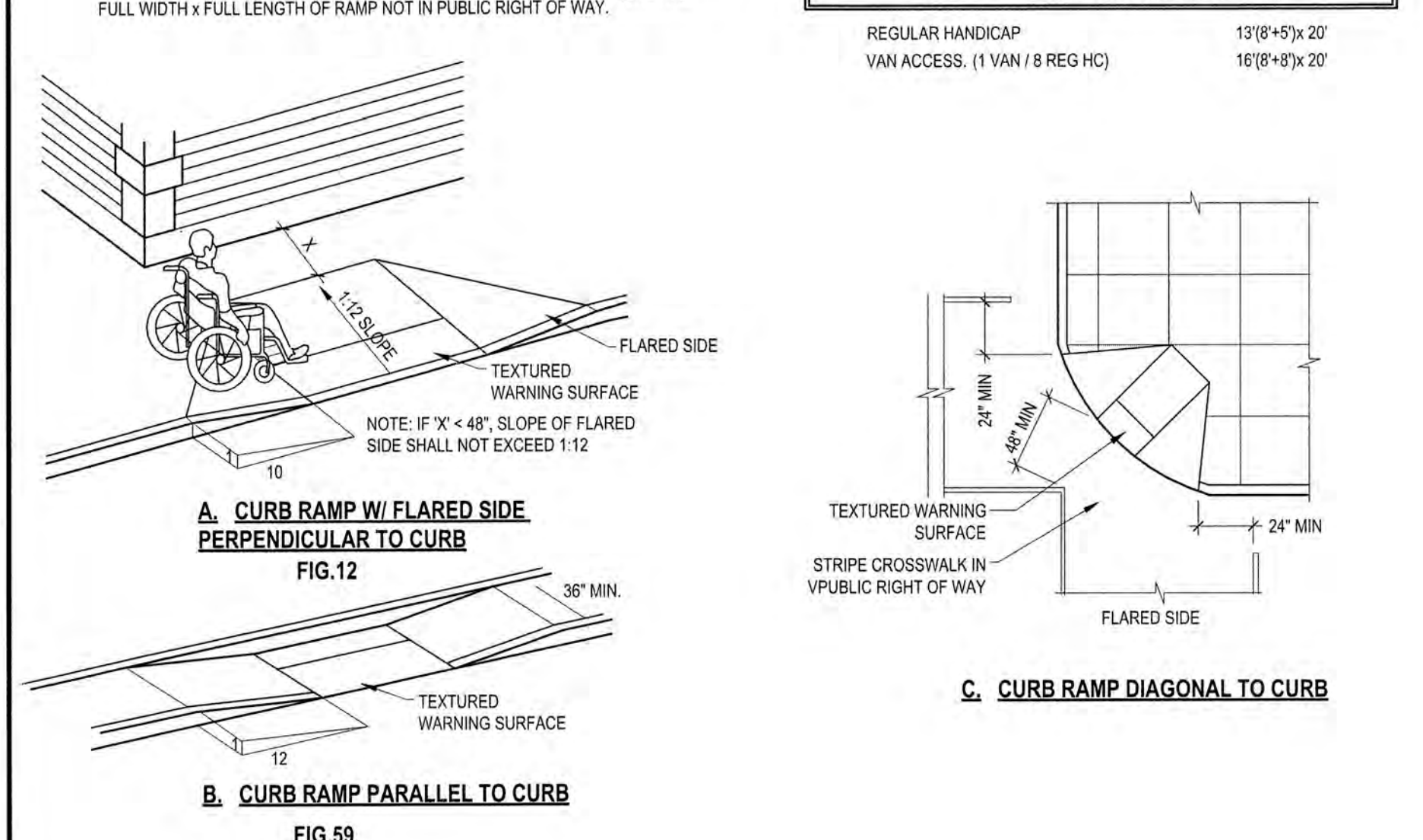
PARKING AND RAMP DETAILS



NOTE: MAXIMUM SLOPE IN ANY DIRECTION SHALL NOT EXCEED 1:50 (2%)

PARKING SPACES			
TOTAL	REQD HC	TOTAL	REQD HC
1-25	1 (VAN)	151-200	5 + 1 VAN
26-50	1 + 1 VAN	201-300	6 + 1 VAN
51-75	2 + 1 VAN	301-400	7 + 1 VAN
76-100	3 + 1 VAN	401-500	8 + 1 VAN
101-150	4 + 1 VAN	501-1000	2 % OF TOTAL
1001+	20 + 1 FOR EACH 100 OVER 1000		

REGULAR HANDICAP: 13'(8'5\"/>



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REV	REVISIONS	DATE
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ACCESSIBILITY GUIDELINES

DATE: 07/22/2022	SCALE: D/C	SECTION: 1
DESIGNED BY: JCT	DRAWN BY: D/C	SHEET NO: G0.3

CSI DIVISION 23 05 - COMMON WORK RESULTS FOR HVAC	
PART 1 - GENERAL	
1.1 SUMMARY	THIS SECTION INCLUDES THE FOLLOWING: 1. PIPING MATERIALS AND INSTALLATION INSTRUCTIONS COMMON TO MOST PIPING SYSTEMS. 2. DIELECTRIC FITTINGS. 3. MECHANICAL SLEEVE SEALS. 4. SLEEVES. 5. ESCUTCHEONS. 6. GROUT. 7. HVAC DEMOLITION. 8. EQUIPMENT INSTALLATION REQUIREMENTS COMMON TO EQUIPMENT SECTIONS. 9. CONCRETE BASES. 10. SUPPORTS AND ANCHORAGES.
1.2 DEFINITIONS	A. FINISHED SPACES: SPACES OTHER THAN MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, FURRED SPACES, PIPE AND DUCT CHASES, UNHEATED SPACES IMMEDIATELY BELOW ROOF, SPACES ABOVE CEILINGS, UNEXCAVATED SPACES, CRAWLSPACES, AND TUNNELS. B. EXPOSED, INTERIOR INSTALLATIONS: EXPOSED TO VIEW INDOORS. C. EXPOSED, EXTERIOR INSTALLATIONS: EXPOSED TO VIEW OUTDOORS OR SUBJECT TO OUTDOOR AMBIENT TEMPERATURES AND WEATHER CONDITIONS. EXAMPLES INCLUDE ROOFTOP LOCATIONS. D. CONCEALED, INTERIOR INSTALLATIONS: CONCEALED FROM VIEW AND PROTECTED FROM PHYSICAL CONTACT BY BUILDING OCCUPANTS. EXAMPLES INCLUDE ABOVE CEILINGS AND CHASES. E. CONCEALED, EXTERIOR INSTALLATIONS: CONCEALED FROM VIEW AND PROTECTED FROM WEATHER CONDITIONS AND PHYSICAL CONTACT BY BUILDING OCCUPANTS BUT SUBJECT TO OUTDOOR AMBIENT TEMPERATURES. EXAMPLES INCLUDE INSTALLATIONS WITHIN UNHEATED SHELTERS.
1.3 SUBMITTALS	A. WELDING CERTIFICATES.
1.4 QUALITY ASSURANCE	A. STEEL SUPPORT WELDING: QUALIFY PROCESSES AND OPERATORS ACCORDING TO AWS D1.1, "STRUCTURAL WELDING CODE-STEEL." B. STEEL PIPE WELDING: QUALIFY PROCESSES AND OPERATORS ACCORDING TO ASME BOILER AND PRESSURE VESSEL CODE: SECTION IX, "WELDING AND BRAZING QUALIFICATIONS." COMPLY WITH PROVISIONS IN ASME B31 SERIES, "CODE FOR PRESSURE PIPING." C. CERTIFY THAT EACH WELDER HAS PASSED AWS QUALIFICATION TESTS FOR WELDING PROCESSES INVOLVED AND THAT CERTIFICATION IS CURRENT. D. ELECTRICAL CHARACTERISTICS FOR HVAC EQUIPMENT: EQUIPMENT OF HIGHER ELECTRICAL CHARACTERISTICS MAY BE FURNISHED PROVIDED SUCH PROPOSED EQUIPMENT IS APPROVED IN WRITING AND CONNECTING ELECTRICAL SERVICES, CIRCUIT BREAKERS, AND CONDUIT SIZES ARE APPROPRIATELY MODIFIED. IF MINIMUM ENERGY RATINGS OR EFFICIENCIES ARE SPECIFIED, EQUIPMENT SHALL COMPLY WITH REQUIREMENTS.
PART 2 - PRODUCTS	
2.1 JOINING MATERIALS	A. PIPE-FLANGE GASKET MATERIALS: ASME B16.21, NONMETALLIC, FLAT, ASBESTOS-FREE, 1/8-INCH MAXIMUM THICKNESS UNLESS THICKNESS OR SPECIFIC MATERIAL IS INDICATED. B. PLASTIC, PIPE-FLANGE GASKET, BOLTS, AND NUTS: TYPE AND MATERIAL RECOMMENDED BY PIPING SYSTEM MANUFACTURER, UNLESS OTHERWISE INDICATED. C. SOLDER FILLER METALS: ASTM B 32 LEAD-FREE ALLOYS. INCLUDE WATER-FLUSHABLE FLUX ACCORDING TO ASTM B 813. D. BRAZING FILLER METALS: AWS A5.8, BCUP SERIES OR BAG1, UNLESS OTHERWISE INDICATED. E. WELDING FILLER METALS: COMPLY WITH AWS D10.12. F. SOLVENT CEMENTS FOR JOINING PLASTIC PIPING: 1. CPVC PIPING: ASTM F 493. 2. PVC PIPING: ASTM D 2964. INCLUDE PRIMER ACCORDING TO ASTM F 656.
2.2 DIELECTRIC FITTINGS	A. DESCRIPTION: COMBINATION FITTING OF COPPER ALLOY AND FERROUS MATERIALS WITH THREADED, SOLDER-JOINT, PLAIN, OR WELD-NECK END CONNECTIONS THAT MATCH PIPING SYSTEM MATERIALS. B. INSULATING MATERIAL: SUITABLE FOR SYSTEM FLUID, PRESSURE, AND TEMPERATURE. C. DIELECTRIC UNIONS: FACTORY-FABRICATED, UNION ASSEMBLY, FOR 250-PSIG MINIMUM WORKING PRESSURE AT 180 DEG F. D. DIELECTRIC FLANGES: FACTORY-FABRICATED, COMPANION-FLANGE ASSEMBLY, FOR 150- OR 300-PSIG MINIMUM WORKING PRESSURE AS REQUIRED TO SUIT SYSTEM PRESSURES. E. DIELECTRIC COUPLINGS: GALVANIZED-STEEL COUPLING WITH INERT AND NONCORROSIVE, THERMOPLASTIC LINING; THREADED ENDS; AND 300-PSIG MINIMUM WORKING PRESSURE AT 225 DEG F. F. DIELECTRIC NIPPLES: ELECTROPLATED STEEL NIPPLE WITH INERT AND NONCORROSIVE, THERMOPLASTIC LINING; PLAIN, THREADED, OR GROOVED ENDS; AND 300-PSIG MINIMUM WORKING PRESSURE AT 225 DEG F.
2.3 MECHANICAL SLEEVE SEALS	A. DESCRIPTION: MODULAR SEALING ELEMENT UNIT, DESIGNED FOR FIELD ASSEMBLY, TO FILL ANNULAR SPACE BETWEEN PIPE AND SLEEVE. B. SEALING ELEMENTS: EPDM INTERLOCKING LINKS SHAPED TO FIT SURFACE OF PIPE. INCLUDE TYPE AND NUMBER REQUIRED FOR PIPE MATERIAL AND SIZE OF PIPE. C. PRESSURE PLATES: STAINLESS STEEL. INCLUDE TWO FOR EACH SEALING ELEMENT. D. CONNECTING BOLTS AND NUTS: STAINLESS STEEL OF LENGTH REQUIRED TO SECURE PRESSURE PLATES TO SEALING ELEMENTS. INCLUDE ONE FOR EACH SEALING ELEMENT.
2.4 SLEEVES	A. GALVANIZED-STEEL SHEET, 0.0239-INCH MINIMUM THICKNESS; ROUND TUBE CLOSED WITH WELDED LONGITUDINAL JOINT. B. STEEL PIPE: ASTM A 53, TYPE E, GRADE B, SCHEDULE 40, GALVANIZED, PLAIN ENDS. C. CAST IRON: CAST OR FABRICATED "WALL PIPE" EQUIVALENT TO DUCTILE-IRON PRESSURE PIPE, WITH PLAIN ENDS AND INTEGRAL WATERSTOP, UNLESS OTHERWISE INDICATED. D. STACK SLEEVE FITTINGS: MANUFACTURED, CAST-IRON SLEEVE WITH INTEGRAL CLAMPING FLANGE. INCLUDE CLAMPING RING AND BOLTS AND NUTS FOR MEMBRANE FLASHING. 1. UNDERDECK CLAMP: CLAMPING RING WITH SET SCREWS. E. MOLDED PVC, PERMANENT, WITH NAILING FLANGE FOR ATTACHING TO WOODEN FORMS. F. PVC PIPE: ASTM D 1785, SCHEDULE 40. G. MOLDED PE: REUSABLE, PE, TAPERED CLIP SHAPED, AND SMOOTH-OUTER SURFACE WITH NAILING FLANGE FOR ATTACHING TO WOODEN FORMS.

CSI DIVISION 23 05 - COMMON WORK RESULTS FOR HVAC	
2.5 ESCUTCHEONS	A. DESCRIPTION: MANUFACTURED WALL AND CEILING ESCUTCHEONS AND FLOOR PLATES, WITH AN ID TO CLOSELY FIT AROUND PIPE, TUBE, AND INSULATION OF INSULATED PIPING AND AN OD THAT COMPLETELY COVERS OPENING. B. ONE-PIECE, DEEP-PATTERN TYPE: DEEP-DRAWN, BOX-SHAPED BRASS WITH POLISHED CHROME-PLATED FINISH. C. ONE-PIECE, CAST-BRASS TYPE: WITH SET SCREW. 1. FINISH: POLISHED CHROME. D. SPLIT-CASTING, CAST-BRASS TYPE: WITH CONCEALED HINGE AND SET SCREW. 1. FINISH: POLISHED CHROME.
2.6 GROUT	A. DESCRIPTION: ASTM C 1107, GRADE B, NONSHRINK AND NONMETALLIC, DRY HYDRAULIC-CEMENT GROUT. 1. CHARACTERISTICS: POST-HARDENING, VOLUME-ADJUSTING, NONSTAINING, NONCORROSIVE, NONGASEOUS, AND RECOMMENDED FOR INTERIOR AND EXTERIOR APPLICATIONS. 2. DESIGN MIX: 5000-PSI, 28-DAY COMPRESSIVE STRENGTH. 3. PACKAGING: PREMIXED AND FACTORY PACKAGED.
PART 3 - EXECUTION	
3.1 HVAC DEMOLITION	A. REFER TO DIVISION 01 SECTION "CUTTING AND PATCHING" AND DIVISION 02 SECTION "SELECTIVE STRUCTURE DEMOLITION" FOR GENERAL DEMOLITION REQUIREMENTS AND PROCEDURES. B. DISCONNECT, DEMOLISH, AND REMOVE HVAC SYSTEMS, EQUIPMENT, AND COMPONENTS INDICATED TO BE REMOVED. 1. PIPING TO BE REMOVED: REMOVE PORTION OF PIPING INDICATED TO BE REMOVED AND CAP OR PLUG REMAINING PIPING WITH SAME OR COMPATIBLE PIPING MATERIAL. 2. PIPING TO BE ABANDONED IN PLACE: DRAIN PIPING AND CAP OR PLUG PIPING WITH SAME OR COMPATIBLE PIPING MATERIAL. 3. DUCTS TO BE REMOVED: REMOVE PORTION OF DUCTS INDICATED TO BE REMOVED AND PLUG REMAINING DUCTS WITH SAME OR COMPATIBLE DUCTWORK MATERIAL. 4. DUCTS TO BE ABANDONED IN PLACE: CAP OR PLUG DUCTS WITH SAME OR COMPATIBLE DUCTWORK MATERIAL. 5. EQUIPMENT TO BE REMOVED: DISCONNECT AND CAP SERVICES AND REMOVE EQUIPMENT. 6. EQUIPMENT TO BE REMOVED AND REINSTALLED: DISCONNECT AND CAP SERVICES AND REMOVE, CLEAN, AND STORE EQUIPMENT; WHEN APPROPRIATE, REINSTALL, RECONNECT, AND MAKE EQUIPMENT OPERATIONAL. 7. EQUIPMENT TO BE REMOVED AND SALVAGED: DISCONNECT AND CAP SERVICES AND REMOVE EQUIPMENT AND DELIVER TO OWNER. C. IF PIPE, INSULATION, OR EQUIPMENT TO REMAIN IS DAMAGED IN APPEARANCE OR IS UNSERVICEABLE, REMOVE DAMAGED OR UNSERVICEABLE PORTIONS AND REPLACE WITH NEW PRODUCTS OF EQUAL CAPACITY AND QUALITY.
3.2 PIPING SYSTEMS - COMMON REQUIREMENTS	A. INSTALL PIPING ACCORDING TO THE FOLLOWING REQUIREMENTS AND DIVISION 23 SECTIONS SPECIFYING PIPING SYSTEMS. B. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON COORDINATION DRAWINGS. C. INSTALL PIPING IN CONCEALED LOCATIONS, UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS. D. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE. E. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL. F. INSTALL PIPING TO PERMIT VALVE SERVICING. G. INSTALL PIPING AT INDICATED SLOPES. H. INSTALL PIPING FREE OF SAGS AND BENDS. I. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. J. INSTALL PIPING TO ALLOW APPLICATION OF INSULATION. K. SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE. L. INSTALL ESCUTCHEONS FOR PENETRATIONS OF WALLS, CEILINGS, AND FLOORS. M. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR AND ROOF SLABS. N. ABOVEGROUND, EXTERIOR-WALL PIPE PENETRATIONS: SEAL PENETRATIONS USING SLEEVES AND MECHANICAL SLEEVE SEALS. SELECT SLEEVE SIZE TO ALLOW FOR 1-INCH ANNULAR CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLING MECHANICAL SLEEVE SEALS. 1. INSTALL STEEL PIPE FOR SLEEVES SMALLER THAN 6 INCHES IN DIAMETER. 2. INSTALL CAST-IRON "WALL PIPES" FOR SLEEVES 6 INCHES AND LARGER IN DIAMETER. 3. MECHANICAL SLEEVE SEAL INSTALLATION: SELECT TYPE AND NUMBER OF SEALING ELEMENTS REQUIRED FOR PIPE MATERIAL AND SIZE. POSITION PIPE IN CENTER OF SLEEVE. ASSEMBLE MECHANICAL SLEEVE SEALS AND INSTALL IN ANNULAR SPACE BETWEEN PIPE AND SLEEVE. TIGHTEN BOLTS AGAINST PRESSURE PLATES THAT CAUSE SEALING ELEMENTS TO EXPAND AND MAKE WATERTIGHT SEAL. O. UNDERGROUND, EXTERIOR-WALL PIPE PENETRATIONS: INSTALL CAST-IRON "WALL PIPES" FOR SLEEVES. SEAL PIPE PENETRATIONS USING MECHANICAL SLEEVE SEALS. SELECT SLEEVE SIZE TO ALLOW FOR 1-INCH ANNULAR CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLING MECHANICAL SLEEVE SEALS. 1. MECHANICAL SLEEVE SEAL INSTALLATION: SELECT TYPE AND NUMBER OF SEALING ELEMENTS REQUIRED FOR PIPE MATERIAL AND SIZE. POSITION PIPE IN CENTER OF SLEEVE. ASSEMBLE MECHANICAL SLEEVE SEALS AND INSTALL IN ANNULAR SPACE BETWEEN PIPE AND SLEEVE. TIGHTEN BOLTS AGAINST PRESSURE PLATES THAT CAUSE SEALING ELEMENTS TO EXPAND AND MAKE WATERTIGHT SEAL. P. FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT PIPE PENETRATIONS. SEAL PIPE PENETRATIONS WITH FIRESTOP MATERIALS. REFER TO DIVISION 07 SECTION "PENETRATION FIRESTOPPING" FOR MATERIALS. Q. VERIFY FINAL EQUIPMENT LOCATIONS FOR ROUGHING-IN. R. REFER TO EQUIPMENT SPECIFICATIONS IN OTHER SECTIONS OF THESE SPECIFICATIONS FOR ROUGHING-IN REQUIREMENTS.

CSI DIVISION 23 05 - COMMON WORK RESULTS FOR HVAC	
3.3 PIPING JOINT CONSTRUCTION	A. JOIN PIPE AND FITTINGS ACCORDING TO THE FOLLOWING REQUIREMENTS AND DIVISION 23 SECTIONS SPECIFYING PIPING SYSTEMS. B. REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. BEVEL PLAIN ENDS OF STEEL PIPE. C. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPE AND FITTINGS BEFORE ASSEMBLY. D. SOLDERED JOINTS: APPLY ASTM B 813, WATER-FLUSHABLE FLUX, UNLESS OTHERWISE INDICATED. TO TUBE END, CONSTRUCT JOINTS ACCORDING TO ASTM B 828 OR CDAS' "COPPER TUBE HANDBOOK," USING LEAD-FREE SOLDER ALLOY COMPLYING WITH ASTM B 32. E. BRAZED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS'S "BRAZING HANDBOOK," "PIPE AND TUBE" CHAPTER, USING COPPER-PHOSPHORUS BRAZING FILLER METAL COMPLYING WITH AWS A5.8. F. THREADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS ACCORDING TO ASME B1.20.1. CUT THREADS FULL AND CLEAN USING SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE BURRS AND RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS: 1. APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS UNLESS DRY SEAL THREADING IS SPECIFIED. 2. DAMAGED THREADS: DO NOT USE PIPE OR PIPE FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED. DO NOT USE PIPE SECTIONS THAT HAVE CRACKED OR OPEN WELDS. G. WELDED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS D10.12, USING QUALIFIED PROCESSES AND WELDING OPERATORS ACCORDING TO PART 1 "QUALITY ASSURANCE" ARTICLE. H. FLANGED JOINTS: SELECT APPROPRIATE GASKET MATERIAL, SIZE, TYPE, AND THICKNESS FOR SERVICE APPLICATION. INSTALL GASKET CONCENTRICALLY POSITIONED. USE SUITABLE LUBRICANTS ON BOLT THREADS. I. PLASTIC PIPING SOLVENT-CEMENT JOINTS: CLEAN AND DRY JOINING SURFACES. JOIN PIPE AND FITTINGS ACCORDING TO THE FOLLOWING: 1. COMPLY WITH ASTM F 402, FOR SAFE-HANDLING PRACTICE OF CLEANERS, PRIMERS, AND SOLVENT CEMENTS. 2. CPVC PIPING: JOIN ACCORDING TO ASTM D 2846/D 2846M APPENDIX. 3. PVC PRESSURE PIPING: JOIN SCHEDULE NUMBER ASTM D 1785, PVC PIPE AND PVC SOCKET FITTINGS ACCORDING TO ASTM D 2872. JOIN OTHER-THAN-SCHEDULE-NUMBER PVC PIPE AND SOCKET FITTINGS ACCORDING TO ASTM D 2855. 4. PVC NONPRESSURE PIPING: JOIN ACCORDING TO ASTM D 2855. J. PLASTIC PRESSURE PIPING GASKETED JOINTS: JOIN ACCORDING TO ASTM D 3139. K. PLASTIC NONPRESSURE PIPING GASKETED JOINTS: JOIN ACCORDING TO ASTM D 3212. L. PE PIPING HEAT-FUSION JOINTS: CLEAN AND DRY JOINING SURFACES BY WIPING WITH CLEAN CLOTH OR PAPER TOWELS. JOIN ACCORDING TO ASTM D 2857. 1. PLAIN-END PIPE AND FITTINGS: USE BUTT FUSION. 2. PLAIN-END PIPE AND SOCKET FITTINGS: USE SOCKET FUSION. M. FIBERGLASS BONDED JOINTS: PREPARE PIPE ENDS AND FITTINGS, APPLY ADHESIVE, AND JOIN ACCORDING TO PIPE MANUFACTURERS' WRITTEN INSTRUCTIONS.
3.4 PIPING CONNECTIONS	A. MAKE CONNECTIONS ACCORDING TO THE FOLLOWING, UNLESS OTHERWISE INDICATED: 1. INSTALL UNIONS, IN PIPING NPS 2 AND SMALLER, ADJACENT TO EACH VALVE AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. 2. INSTALL FLANGES, IN PIPING NPS 2-1/2 AND LARGER, ADJACENT TO VALVES AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. 3. DRY PIPING SYSTEMS: INSTALL DIELECTRIC UNIONS AND FLANGES TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS. 4. WET PIPING SYSTEMS: INSTALL DIELECTRIC COUPLING AND NIPPLE FITTINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.
3.5 EQUIPMENT INSTALLATION - COMMON REQUIREMENTS	A. INSTALL EQUIPMENT TO ALLOW MAXIMUM POSSIBLE HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS ARE NOT INDICATED. B. INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS IN EXPOSED INTERIOR SPACES, UNLESS OTHERWISE INDICATED. C. INSTALL HVAC EQUIPMENT TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF COMPONENTS. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS. EXTEND GREASE FITTINGS TO ACCESSIBLE LOCATIONS. D. INSTALL EQUIPMENT TO ALLOW RIGHT OF WAY FOR PIPING INSTALLED AT REQUIRED SLOPE.
3.6 CONCRETE BASES	A. CONCRETE BASES: ANCHOR EQUIPMENT TO CONCRETE BASE ACCORDING TO EQUIPMENT MANUFACTURERS' WRITTEN INSTRUCTIONS AND ACCORDING TO SEISMIC CODES AT PROJECT. 1. CONSTRUCT CONCRETE BASES OF DIMENSIONS INDICATED, BUT NOT LESS THAN 4 INCHES LARGER IN BOTH DIRECTIONS THAN SUPPORTED UNIT. 2. INSTALL DOWEL RODS TO CONNECT CONCRETE BASE TO CONCRETE FLOOR, UNLESS OTHERWISE INDICATED, INSTALL DOWEL RODS ON 18-INCH CENTERS AROUND THE FULL PERIMETER OF THE BASE. 3. INSTALL EPOXY-COATED ANCHOR BOLTS FOR SUPPORTED EQUIPMENT THAT EXTEND THROUGH CONCRETE BASE, AND ANCHOR INTO STRUCTURAL CONCRETE FLOOR. 4. PLACE AND SECURE ANCHORAGE DEVICES. USE SUPPORTED EQUIPMENT MANUFACTURERS' SETTING DRAWINGS, TEMPLATE, DIAGRAMS, INSTRUCTIONS, AND DIRECTIONS FURNISHED WITH ITEMS TO BE EMBEDDED. 5. INSTALL ANCHOR BOLTS TO ELEVATIONS REQUIRED FOR PROPER ATTACHMENT TO SUPPORTED EQUIPMENT. 6. INSTALL ANCHOR BOLTS ACCORDING TO ANCHOR-BOLT MANUFACTURERS' WRITTEN INSTRUCTIONS. 7. USE 3000-PSI, 28-DAY COMPRESSIVE-STRENGTH CONCRETE AND REINFORCEMENT AS SPECIFIED IN DIVISION 03 SECTION "CAST-IN-PLACE."
3.7 ERECTION OF METAL SUPPORTS AND ANCHORAGES	A. REFER TO DIVISION 05 SECTION "METAL FABRICATIONS" FOR STRUCTURAL STEEL. B. CUT, FIT, AND PLACE MISCELLANEOUS METAL SUPPORTS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION TO SUPPORT AND ANCHOR HVAC MATERIALS AND EQUIPMENT. C. FIELD WELDING: COMPLY WITH AWS D1.1.

CSI DIVISION 23 05 - COMMON WORK RESULTS FOR HVAC	
3.8 ERECTION OF WOOD SUPPORTS AND ANCHORAGES	A. CUT, FIT, AND PLACE WOOD GROUNDS, NAILERS, BLOCKING, AND ANCHORAGES TO SUPPORT, AND ANCHOR HVAC MATERIALS AND EQUIPMENT. B. SELECT FASTENER SIZES THAT WILL NOT PENETRATE MEMBERS IF OPPOSITE SIDE WILL BE EXPOSED TO VIEW OR WILL RECEIVE FINISH MATERIALS. TIGHTEN CONNECTIONS BETWEEN MEMBERS. INSTALL FASTENERS WITHOUT SPLITTING WOOD MEMBERS. ATTACH TO SUBSTRATES AS REQUIRED TO SUPPORT APPLIED LOADS.
3.9 GROUTING	A. MIX AND INSTALL GROUT FOR HVAC EQUIPMENT BASE BEARING SURFACES, PUMP AND OTHER EQUIPMENT BASE PLATES, AND ANCHORS. B. CLEAN SURFACES THAT WILL COME INTO CONTACT WITH GROUT. C. PROVIDE FORMS AS REQUIRED FOR PLACEMENT OF GROUT. D. AVOID AIR ENTRAPMENT DURING PLACEMENT OF GROUT. E. PLACE GROUT, COMPLETELY FILLING EQUIPMENT BASES. F. PLACE GROUT ON CONCRETE BASES AND PROVIDE SMOOTH BEARING SURFACE FOR EQUIPMENT. G. PLACE GROUT AROUND ANCHORS. H. CURE PLACED GROUT.



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REVISIONS		DATE	BY	DATE
0	ISSUED FOR PERMIT	GWF	06/29/22	
1	ISSUED FOR BIDDING	GWF	07/22/2022	

SPECIFICATIONS		ISSUED FOR BIDDING
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WJ
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DATE: 07/22/2022	SCALE: 1
DESIGNED BY: WJ	REVISION NO: 1
DRAWN BY: GWF	
CHECKED BY: WJ	
DATE: 07/22/2022	

CSI DIVISION 22 05 00 - COMMON WORK RESULTS FOR PLUMBING	
PART 1 - GENERAL	
1.1 SUMMARY SEE EDITING INSTRUCTION NO. 3 IN THE EVALUATIONS FOR DISCUSSION ABOUT HOW THIS SECTION SUPPLEMENTS OTHER DIVISION 22 SECTIONS. A. THIS SECTION INCLUDES THE FOLLOWING:	
1. PIPING MATERIALS AND INSTALLATION INSTRUCTIONS COMMON TO MOST PIPING SYSTEMS. 2. TRANSITION FITTINGS. 3. DIELECTRIC FITTINGS. 4. MECHANICAL SLEEVE SEALS. 5. SLEEVES. 6. ESCUTCHEONS. 7. GROUT. 8. PLUMBING DEMOLITION. 9. EQUIPMENT INSTALLATION REQUIREMENTS COMMON TO EQUIPMENT SECTIONS. 10. PAINTING AND FINISHING. 11. CONCRETE BASES. 12. SUPPORTS AND ANCHORAGES.	
1.2 DEFINITIONS	
A. FINISHED SPACES: SPACES OTHER THAN MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, FURRED SPACES, PIPE CHASES, UNHEATED SPACES IMMEDIATELY BELOW ROOF, SPACES ABOVE CEILINGS, UNEXCAVATED SPACES, CRAWLSPACES, AND TUNNELS. B. EXPOSED, INTERIOR INSTALLATIONS: EXPOSED TO VIEW Indoors. EXAMPLES INCLUDE FINISHED OCCUPIED SPACES AND MECHANICAL EQUIPMENT ROOMS. C. EXPOSED, EXTERIOR INSTALLATIONS: EXPOSED TO VIEW OUTDOORS OR SUBJECT TO OUTDOOR AMBIENT TEMPERATURES AND WEATHER CONDITIONS. EXAMPLES INCLUDE ROOFTOP LOCATIONS. D. CONCEALED, INTERIOR INSTALLATIONS: CONCEALED FROM VIEW AND PROTECTED FROM PHYSICAL CONTACT BY BUILDING OCCUPANTS. EXAMPLES INCLUDE ABOVE CEILINGS AND IN CHASES. E. CONCEALED, EXTERIOR INSTALLATIONS: CONCEALED FROM VIEW AND PROTECTED FROM WEATHER CONDITIONS AND PHYSICAL CONTACT BY BUILDING OCCUPANTS BUT SUBJECT TO OUTDOOR AMBIENT TEMPERATURES. EXAMPLES INCLUDE INSTALLATIONS WITH UNHEATED SHELTERS. F. THE FOLLOWING ARE INDUSTRY ABBREVIATIONS FOR PLASTIC MATERIALS: 1. ABS: ACRYLONITRILE-BUTADIENE-STYRENE PLASTIC. 2. CPVC: CHLORINATED POLYVINYL CHLORIDE PLASTIC. 3. PE: POLYETHYLENE PLASTIC. 4. PVC: POLYVINYL CHLORIDE PLASTIC. G. THE FOLLOWING ARE INDUSTRY ABBREVIATIONS FOR RUBBER MATERIALS: 1. EPDM: ETHYLENE-PROPYLENE-DIENE TERPOLYMER RUBBER. 2. NBR: ACRYLONITRILE-BUTADIENE RUBBER.	
1.3 SUBMITTALS	
A. PRODUCT DATA: FOR THE FOLLOWING: 1. TRANSITION FITTINGS. 2. DIELECTRIC FITTINGS. 3. MECHANICAL SLEEVE SEALS. 4. ESCUTCHEONS. B. WELDING CERTIFICATES.	
1.4 QUALITY ASSURANCE	
A. STEEL SUPPORT WELDING: QUALIFY PROCESSES AND OPERATORS ACCORDING TO AWS D1.1, "STRUCTURAL WELDING CODE-STEEL." B. STEEL PIPE WELDING: QUALIFY PROCESSES AND OPERATORS ACCORDING TO ASME BOILER AND PRESSURE VESSEL CODE, SECTION IX, "WELDING AND BRAZING QUALIFICATIONS". 1. COMPLY WITH PROVISIONS IN ASME B31 SERIES, "CODE FOR PRESSURE PIPING." 2. CERTIFY THAT EACH WELDER HAS PASSED AWS QUALIFICATION TESTS FOR WELDING PROCESSES INVOLVED AND THAT CERTIFICATION IS CURRENT. C. ELECTRICAL CHARACTERISTICS FOR PLUMBING EQUIPMENT: EQUIPMENT OF HIGHER ELECTRICAL CHARACTERISTICS MAY BE FURNISHED PROVIDED SUCH EQUIPMENT IS APPROVED IN WRITING AND CONNECTING ELECTRICAL SERVICES, CIRCUIT BREAKERS, AND CONDUIT SIZES ARE APPROPRIATELY MODIFIED. IF MINIMUM ENERGY RATINGS OR EFFICIENCIES ARE SPECIFIED, EQUIPMENT SHALL COMPLY WITH REQUIREMENTS.	
1.5 DELIVERY, STORAGE, AND HANDLING	
A. DELIVER PIPES AND TUBES WITH FACTORY-APPLIED END CAPS. MAINTAIN END CAPS THROUGH SHIPPING, STORAGE, AND HANDLING TO PREVENT PIPE END DAMAGE AND TO PREVENT ENTRANCE OF DIRT, DEBRIS, AND MOISTURE. B. STORE PLASTIC PIPES PROTECTED FROM DIRECT SUNLIGHT. SUPPORT TO PREVENT SAGGING AND BENDING.	
1.6 COORDINATION	
A. ARRANGE FOR PIPE SPACES, CHASES, SLOTS, AND OPENINGS IN BUILDING STRUCTURE DURING PROGRESS OF CONSTRUCTION, TO ALLOW FOR PLUMBING INSTALLATIONS. B. COORDINATE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SET SLEEVES INPOURED-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED. C. COORDINATE REQUIREMENTS FOR ACCESS PANELS AND DOORS FOR PLUMBING ITEMS REQUIRING ACCESS THAT ARE CONCEALED BEHIND FINISHED SURFACES. ACCESS PANELS AND DOORS ARE SPECIFIED IN DIVISION 08 SECTION "ACCESS DOORS AND FRAMES."	
PART 2 - PRODUCTS	
A. ROOF CURBS: GALVANIZED-STEEL SHEET, WITH MITERED AND WELDED CORNERS, 1-1/2-INCH- THICK, RIGID FIBERGLASS INSULATION ADHERED TO INSIDE WALLS; AND 1-1/2-INCH WOOD NAILER, SIZE AS REQUIRED TO FIT ROOF OPENING AND VENTILATOR PIPE AND FLANGES AND NUTS: ASME B18.2.1, CARBON STEEL, UNLESS OTHERWISE INDICATED. B. PLASTIC, PIPE-FLANGE GASKET, BOLTS, AND NUTS: TYPE AND MATERIAL RECOMMENDED BY PIPING SYSTEM MANUFACTURER, UNLESS OTHERWISE INDICATED. C. SOLDER FILLER METALS: ASTM B 32, LEAD-FREE ALLOYS, INCLUDE WATER-FLUSHABLE FLUX ACCORDING TO ASTM B 813. D. BRAZING FILLER METALS: AWS A5.8, BCUP SERIES, COPPER-PHOSPHORUS ALLOYS FOR GENERAL DUTY BRAZING, UNLESS OTHERWISE INDICATED; AND AWS A5.8, BAG1, SILVER ALLOY FOR REFRIGERANT PIPING, UNLESS OTHERWISE INDICATED. E. WELDING FILLER METALS: COMPLY WITH AWS D10.12 FOR WELDING MATERIALS APPROPRIATE FOR WALL THICKNESS AND CHEMICAL ANALYSIS OF STEEL PIPE BEING WELDED. F. SOLVENT CEMENTS FOR JOINING PLASTIC PIPING: 1. ABS PIPING: ASTM D 2235. 2. CPVC PIPING: ASTM F 493. 3. PVC PIPING: ASTM D 2864, INCLUDE PRIMER ACCORDING TO ASTM F 656. 4. PVC TO ABS PIPING TRANSITION: ASTM D 3138. G. FIBERGLASS PIPE ADHESIVE: AS FURNISHED OR RECOMMENDED BY PIPE MANUFACTURER.	

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2.2 TRANSITION FITTINGS	
A. AWWA TRANSITION COUPLINGS: SAME SIZE AS, AND WITH PRESSURE RATING AT LEAST EQUAL TO AND WITH ENDS COMPATIBLE WITH, PIPING TO BE JOINED. 1. MANUFACTURERS: a. CASCADE WATERWORKS MFG. CO. b. DRESSER INDUSTRIES, INC.; DMD DIV. c. FORD METER BOX COMPANY, INCORPORATED (THE), PIPE PRODUCTS DIV. d. JCI INDUSTRIES. e. SMITH-BLAIR, INC. f. VIKING JOHNSON. 2. UNDERGROUND PIPING NPS 1-1/2 AND SMALLER: MANUFACTURED FITTING OR COUPLING. 3. UNDERGROUND PIPING NPS 2 AND LARGER: AWWA C219, METAL SLEEVE-TYPE COUPLING. 4. ABOVEGROUND PRESSURE PIPING: PIPE FITTING. B. PLASTIC-TO-METAL TRANSITION FITTINGS: CPVC AND PVC ONE-PIECE FITTING WITH MANUFACTURER'S SCHEDULE 80 EQUIVALENT DIMENSIONS, ONE END WITH THREADED BRASS INSERT, AND ONE SOLVENT-CEMENT-JOINT END. 1. MANUFACTURERS: a. NIBCO INC. OR EQUAL. 2. FLEXIBLE TRANSITION COUPLINGS FOR UNDERGROUND NONPRESSURE DRAINAGE PIPING: ASTM C 1173 WITH ELASTOMERIC SLEEVE, ENDS SAME SIZE AS PIPING TO BE JOINED, AND CORROSION-RESISTANT METAL BAND ON EACH END. 1. MANUFACTURERS: a. CASCADE WATERWORKS MFG. CO. b. FERROD, INC. c. MISSION RUBBER COMPANY. d. PLASTIC ODDITIES, INC.	
2.3 DIELECTRIC FITTINGS	
A. DESCRIPTION: COMBINATION FITTING OF COPPER ALLOY AND FERROUS MATERIALS WITH THREADED, SOLDER-JOINT, PLAIN, OR WELD-NECK CONNECTIONS THAT MATCH PIPING SYSTEM MATERIALS. B. INSULATING MATERIAL: SUITABLE FOR SYSTEM FLUID, PRESSURE, AND TEMPERATURE. C. DIELECTRIC UNIONS: FACTORY-FABRICATED, UNION ASSEMBLY, FOR 250-PSIG MINIMUM WORKING PRESSURE AT 180 DEG F. 1. MANUFACTURERS: a. CAPITOL MANUFACTURING CO. b. CENTRAL PLASTICS COMPANY. c. EPIQUE, INC. d. EPOC SALES, INC. e. HART INDUSTRIES, INTERNATIONAL, INC. f. WATTS INDUSTRIES, INC.; WATER PRODUCTS DIV. g. ZURN INDUSTRIES, INC.; WILKINS DIV. D. DIELECTRIC FLANGES: FACTORY-FABRICATED, COMPANION-FLANGE ASSEMBLY, FOR 150- OR 300-PSIG MINIMUM WORKING PRESSURE AS REQUIRED TO SUIT SYSTEM PRESSURE. 1. MANUFACTURERS: a. CAPITOL MANUFACTURING CO. b. CENTRAL PLASTICS COMPANY. c. EPOC SALES, INC. d. WATTS INDUSTRIES, INC.; WATER PRODUCTS DIV. E. DIELECTRIC-FLANGE KITS: COMPANION-FLANGE ASSEMBLY FOR FIELD ASSEMBLY. INCLUDE FLANGES, FULL-FACE-OR RING-TYPE NEOPRENE OR PHENOLIC GASKET, PHENOLIC OR POLYETHYLENE BOLT SLEEVES, PHENOLIC WASHERS, AND STEEL BACKING WASHERS. 1. MANUFACTURERS: a. ADVANCE PRODUCTS & SYSTEMS, INC. b. CALPICO, INC. c. CENTRAL PLASTICS COMPANY. d. PIPELINE SEAL AND INSULATOR, INC. 2. SEPARATE COMPANION FLANGES AND STEEL BOLTS AND NUTS SHALL HAVE 150- OR 300-PSIG MINIMUM WORKING PRESSURE WHERE REQUIRED TO SUIT SYSTEM PRESSURE. F. DIELECTRIC COUPLINGS: GALVANIZED-STEEL COUPLING WITH INERT AND NONCORROSIVE, THERMOPLASTIC LINING; THREADED ENDS; AND 300-PSIG MINIMUM WORKING PRESSURE AREAS. 1. MANUFACTURERS: a. CALPICO, INC. b. LOCHINVAR CORP. G. DIELECTRIC NIPPLES: ELECTROPLATED STEEL NIPPLE WITH INERT AND NONCORROSIVE, THERMOPLASTIC LINING; PLAIN, THREADED, OR GROOVED ENDS; AND 300-PSIG MINIMUM WORKING PRESSURE AT 225 DEG F. 1. MANUFACTURERS: a. PERFECTION CORP. b. PRECISION PLUMBING PRODUCTS, INC. c. SIOUX CHIEF MANUFACTURING CO., INC. d. TETALIC CO. OF AMERICA.	
2.4 MECHANICAL SLEEVE SEALS	
A. DESCRIPTION: MODULAR SEALING ELEMENT UNIT, DESIGNED FOR FIELD ASSEMBLY, TO FILL ANNULAR SPACE BETWEEN PIPE AND SLEEVE. 1. MANUFACTURERS: a. ADVANCE PRODUCTS & SYSTEMS, INC. b. CALPICO, INC. c. METRAFLEX CO. d. PIPELINE SEAL AND INSULATOR, INC. 2. SEALING ELEMENTS: EPDM OR NBR INTERLOCKING LINKS SHAPED TO FIT SURFACE OF PIPE. INCLUDE TYPE AND NUMBER REQUIRED FOR PIPE MATERIAL AND SIZE OF PIPE. 3. PRESSURE PLATES: PLASTIC, CARBON STEEL, OR STAINLESS STEEL. INCLUDE TWO FOR EACH PENETRATION. 4. CONNECTING BOLTS AND NUTS: STAINLESS STEEL OF LENGTH REQUIRED TO SECURE PRESSURE PLATES TO SEALING ELEMENTS. INCLUDE ONE FOR EACH SEALING ELEMENT.	
2.5 SLEEVES	
A. GALVANIZED-STEEL SHEET: 0.0239-INCH MINIMUM THICKNESS; ROUND TUBE CLOSED WITH WELDED LONGITUDINAL JOINT. B. STEEL PIPE: ASTM A 53, TYPE E, GRADE B, SCHEDULE 40, GALVANIZED, PLAIN ENDS. C. CAST IRON: CAST OR FABRICATED "WALL PIPE" EQUIVALENT TO DUCTILE-IRON PRESSURE PIPE, WITH PLAIN ENDS AND INTEGRAL WATERSTOP, UNLESS OTHERWISE INDICATED.	

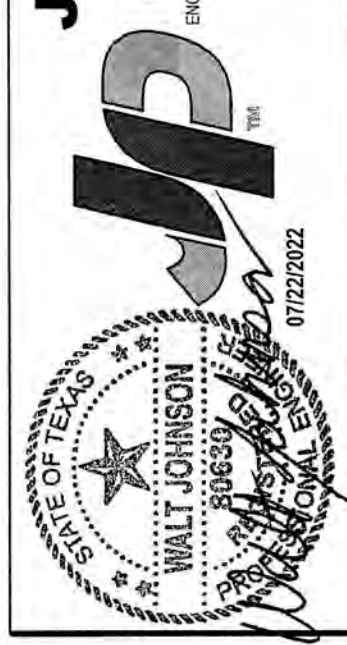
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D. STACK SLEEVE FITTINGS: MANUFACTURED, CAST-IRON SLEEVE WITH INTEGRAL CLAMPING FLANGE. INCLUDE CLAMPING RING AND BOLTS AND NUTS FOR MEMBRANE FLASHING. 1. UNDERDECK CLAMP: CLAMPING RING WITH SET SCREWS. E. MOLDED PVC PERMANENT, WITH NAILING FLANGE FOR ATTACHING TO WOODEN FORMS. F. PVC PIPE: ASTM D 1785, SCHEDULE 40. G. MOLDED PE: REUSABLE, PE, TAPERED-CUP SHAPED, AND SMOOTH-OUTER SURFACE WITH NAILING FLANGE FOR ATTACHING TO WOODEN FORMS.	
2.6 ESCUTCHEONS	
A. DESCRIPTION: MANUFACTURED WALL AND CEILING ESCUTCHEONS AND FLOOR PLATES, WITH AN OD TO CLOSELY FIT AROUND PIPE, TUBE, AND INSULATION OF INSULATED PIPING AND AN OD THAT COMPLETELY COVERS OPENING. B. ONE-PIECE, DEEP-PATTERN TYPE: DEEP-DRAWN, BOX-SHAPED BRASS WITH POLISHED CHROME-PLATED FINISH. C. ONE-PIECE, CAST-BRASS TYPE: WITH SET SCREW. 1. FINISH: POLISHED CHROME-PLATED AND ROUGH BRASS. D. SPLIT-CASTING, CAST-BRASS TYPE: WITH CONCEALED HINGE AND SET SCREW. 1. FINISH: POLISHED CHROME-PLATED AND ROUGH BRASS. E. ONE-PIECE, STAMPED-STEEL TYPE: WITH SET SCREW OR SPRING AND CHROME-PLATED FINISH. F. SPLIT-PLATE, STAMPED-STEEL TYPE: WITH CONCEALED OR EXPOSED RIVET HINGE, SET SCREW OR SPRING CLIPS, AND CHROME-PLATED FINISH. G. ONE-PIECE, FLOOR-PLATE TYPE: CAST-IRON FLOOR PLATE. H. SPLIT-CASTING, FLOOR-PLATE TYPE: CAST BRASS WITH CONCEALED HINGE AND SET SCREW.	
2.7 GROUT	
A. DESCRIPTION: ASTM C 1107, GRADE B, NONSHRINK AND NONMETALLIC, DRY HYDRAULIC-CEMENT GROUT. 1. CHARACTERISTICS: FAST-HARDENING, VOLUME-ADJUSTING, NONSTAINING, NONCORROSIVE, NONGASEOUS, AND RECOMMENDED FOR INTERIOR AND EXTERIOR APPLICATIONS. 2. DESIGN MIX: 5000-PSI, 28-DAY COMPRESSIVE STRENGTH. 3. PACKAGING: PREMIXED AND FACTORY PACKAGED.	
PART 3 - EXECUTION	
3.1 PLUMBING DEMOLITION	
A. REFER TO DIVISION 01 SECTION "CUTTING AND PATCHING" AND DIVISION 02 SECTION "SELECTIVE STRUCTURE DEMOLITION" FOR GENERAL DEMOLITION REQUIREMENTS AND PROCEDURES. B. DISCONNECT, DEMOLISH, AND REMOVE PLUMBING SYSTEMS, EQUIPMENT, AND COMPONENTS INDICATED TO BE REMOVED. 1. PIPING TO BE REMOVED: REMOVE PORTION OF PIPING INDICATED TO BE REMOVED AND CAP OR PLUG REMAINING PIPING WITH SAME OR COMPATIBLE PIPING MATERIAL. 2. PIPING TO BE ABANDONED IN PLACE: DRAIN PIPING AND CAP OR PLUG PIPING WITH SAME OR COMPATIBLE PIPING MATERIAL. 3. EQUIPMENT TO BE REMOVED: DISCONNECT AND CAP SERVICES AND REMOVE EQUIPMENT. 4. EQUIPMENT TO BE REMOVED AND REINSTALLED: DISCONNECT AND CAP SERVICES AND REMOVE, CLEAN, AND STORE EQUIPMENT; WHEN APPROPRIATE, REINSTALL, RECONNECT, AND MAKE EQUIPMENT OPERATIONAL. 5. EQUIPMENT TO BE REMOVED AND SALVAGED: DISCONNECT AND CAP SERVICES AND REMOVE EQUIPMENT AND DELIVER TO OWNER. C. IF PIPE, INSULATOR, OR EQUIPMENT TO REMAIN IS DAMAGED IN APPEARANCE OR IS UNSERVICEABLE, REMOVE DAMAGED OR UNSERVICEABLE PORTIONS AND REPLACE WITH NEW PRODUCTS OF EQUAL CAPACITY AND QUALITY.	
3.2 PIPING SYSTEMS - COMMON REQUIREMENTS	
A. INSTALL PIPING ACCORDING TO THE FOLLOWING REQUIREMENTS AND DIVISION 22 SECTIONS SPECIFYING PIPING SYSTEMS. B. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON COORDINATION DRAWINGS. C. INSTALL PIPING IN CONCEALED LOCATIONS, UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS. D. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE. E. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL. F. INSTALL PIPING TO PERMIT VALVE SERVICING. G. INSTALL PIPING AT INDICATED SLOPES. H. INSTALL PIPING FREE OF SAGS AND BENDS. I. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. J. INSTALL PIPING TO ALLOW APPLICATION OF INSULATION. K. SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE. L. INSTALL ESCUTCHEONS FOR PENETRATIONS OF WALLS, CEILINGS, AND FLOORS ACCORDING TO THE FOLLOWING: 1. NEW PIPING: a. PIPING WITH FITTING OR SLEEVE PROTRUDING FROM WALL: ONE-PIECE, DEEP-PATTERN TYPE. b. CHROME-PLATED PIPING: ONE-PIECE, CAST-BRASS TYPE WITH POLISHED CHROME-PLATED FINISH. c. INSULATED PIPING: ONE-PIECE, STAMPED-STEEL TYPE WITH SPRING CLIPS. d. BARE PIPING AT WALL AND FLOOR PENETRATIONS IN FINISHED SPACES: ONE-PIECE, CAST-BRASS TYPE WITH POLISHED CHROME-PLATED FINISH. e. BARE PIPING AT WALL AND FLOOR PENETRATIONS IN FINISHED SPACES: ONE-PIECE, CAST-BRASS TYPE WITH POLISHED CHROME-PLATED FINISH. f. BARE PIPING AT CEILING PENETRATIONS IN FINISHED SPACES: ONE-PIECE OR SPLIT-PLATE, STAMPED-STEEL TYPE OR SPLIT-PLATE, STAMPED-STEEL TYPE WITH CONCEALED HINGE AND SET SCREW. g. BARE PIPING IN UNFINISHED SERVICE SPACES: ONE-PIECE, CAST-BRASS TYPE WITH POLISHED CHROME-PLATED OR ROUGH-BRASS FINISH.	

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I. BARE PIPING IN UNFINISHED SERVICE SPACES: ONE-PIECE, STAMPED-STEEL TYPE WITH CONCEALED OR EXPOSED RIVET HINGE AND SET SCREW OR SPRING CLIPS. J. BARE PIPING IN EQUIPMENT ROOMS: ONE-PIECE, CAST-BRASS TYPE. K. BARE PIPING IN EQUIPMENT ROOMS: ONE-PIECE, STAMPED-STEEL TYPE WITH SET SCREW OR SPRING CLIPS. L. BARE PIPING AT FLOOR PENETRATIONS IN EQUIPMENT ROOMS: ONE-PIECE, FLOOR-PLATE TYPE. 2. EXISTING: a. CHROME-PLATED PIPING: SPLIT-CASTING, CAST-BRASS TYPE WITH CHROME-PLATED FINISH. b. INSULATED PIPING: SPLIT-PLATE, STAMPED-STEEL TYPE WITH CONCEALED OR EXPOSED-RIVET HINGE AND SPRING CLIPS. c. BARE PIPING AT WALL AND FLOOR PENETRATIONS IN FINISHED SPACES: SPLIT-CASTING, CAST-BRASS TYPE WITH CHROME-PLATED FINISH. d. BARE PIPING AT CEILING PENETRATIONS IN FINISHED SPACES: SPLIT-PLATE, STAMPED-STEEL TYPE WITH CONCEALED HINGE AND SET SCREW. e. BARE PIPING AT WALL AND FLOOR PENETRATIONS IN FINISHED SPACES: SPLIT-CASTING, CAST-BRASS TYPE WITH CHROME-PLATED FINISH. f. BARE PIPING AT CEILING PENETRATIONS IN FINISHED SPACES: SPLIT-PLATE, STAMPED-STEEL TYPE WITH CONCEALED HINGE AND SET SCREW. g. BARE PIPING IN UNFINISHED SERVICE SPACES: SPLIT-CASTING, CAST-BRASS TYPE WITH POLISHED CHROME-PLATED OR ROUGH-BRASS FINISH. h. BARE PIPING IN UNFINISHED SERVICE SPACES: SPLIT-PLATE, STAMPED-STEEL TYPE WITH CONCEALED OR EXPOSED-RIVET HINGE AND SET SCREW OR SPRING CLIPS. i. BARE PIPING IN EQUIPMENT ROOMS: SPLIT-CASTING, CAST-BRASS TYPE. j. BARE PIPING IN EQUIPMENT ROOMS: SPLIT-PLATE, STAMPED-STEEL TYPE WITH SET SCREW OR SPRING CLIPS. k. BARE PIPING AT FLOOR PENETRATIONS IN EQUIPMENT ROOMS: SPLIT-CASTING, FLOOR-PLATE TYPE. 1. CUT SLEEVES TO LENGTH FOR MOUNTING FLUSH WITH BOTH SURFACES. a. EXCEPTION: EXTEND SLEEVES INSTALLED IN FLOORS OF MECHANICAL EQUIPMENT AREAS OR OTHER WET AREAS 2 INCHES ABOVE FINISHED FLOOR LEVEL. EXTEND CAST-IRON SLEEVE FITTINGS BELOW FLOOR SLAB AS REQUIRED TO SECURE CLAMPING RING IF RING IS SPECIFIED. 2. INSTALL SLEEVES IN NEW WALLS AND SLABS AS NEW WALLS AND SLABS ARE CONSTRUCTED. 3. INSTALL SLEEVES THAT ARE LARGE ENOUGH TO PROVIDE 1/4-INCH ANNULAR CLEAR SPACE BETWEEN SLEEVE AND PIPE OR PIPE INSULATION. USE THE FOLLOWING SLEEVE MATERIALS: a. PVC OR STEEL PIPE SLEEVES: FOR PIPES SMALLER THAN NPS 6. b. STEEL SHEET SLEEVES: FOR PIPES NPS 6 AND LARGER, PENETRATING GYPSUM-BOARD PARTITIONS. c. STACK SLEEVE FITTINGS: FOR PIPES PENETRATING FLOORS WITH MEMBRANE WATERPROOFING. SECURE FLASHING BETWEEN CLAMPING FLANGES. INSTALL SECTION OF CAST-IRON SOIL PIPE TO EXTEND SLEEVE TO 2 INCHES ABOVE FINISHED FLOOR LEVEL. REFER TO DIVISION 07 SECTION "SHEET METAL FLASHING AND TRIM" FOR FLASHING. d. EXCEPT FOR UNDERGROUND WALL PENETRATIONS, SEAL ANNULAR SPACE BETWEEN SLEEVE AND PIPE OR PIPE INSULATION USING GREASE SEALANTS. APPROPRIATE FOR SIZE, DEPTH, AND LOCATION OF JOINT. REFER TO DIVISION 07 SECTION "JOINT SEALANTS" FOR MATERIALS AND INSTALLATION. e. ABOVEGROUND, EXTERIOR-WALL PIPE PENETRATIONS: SEAL PENETRATIONS USING SLEEVES AND MECHANICAL SLEEVE SEALS. SELECT SLEEVE SIZE TO ALLOW FOR 1-INCH ANNULAR CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLING MECHANICAL SLEEVE SEALS. 1. INSTALL STEEL PIPE FOR SLEEVES SMALLER THAN 6 INCHES IN DIAMETER. 2. INSTALL CAST-IRON "WALL PIPES" FOR SLEEVES 6 INCHES AND LARGER IN DIAMETER. 3. MECHANICAL SLEEVE SEAL INSTALLATION: SELECT TYPE AND NUMBER OF SEALING ELEMENTS REQUIRED FOR PIPE MATERIAL AND SIZE. POSITION PIPE IN CENTER OF SLEEVE. ASSEMBLE MECHANICAL SLEEVE SEALS AND INSTALL IN ANNULAR SPACE BETWEEN PIPE AND SLEEVE. TIGHTEN BOLTS AGAINST PRESSURE PLATES THAT CAUSE SEALING ELEMENTS TO EXPAND AND MAKE WATERTIGHT SEAL. R. UNDERGROUND, EXTERIOR-WALL PIPE PENETRATIONS: INSTALL CAST-IRON "WALL PIPES" FOR SLEEVES. SEAL PIPE PENETRATIONS USING MECHANICAL SLEEVE SEALS. SELECT SLEEVE SIZE TO ALLOW FOR 1-INCH ANNULAR CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLING MECHANICAL SLEEVE SEALS. 1. MECHANICAL SLEEVE SEAL INSTALLATION: SELECT TYPE AND NUMBER OF SEALING ELEMENTS REQUIRED FOR PIPE MATERIAL AND SIZE. POSITION PIPE IN CENTER OF SLEEVE. ASSEMBLE MECHANICAL SLEEVE SEALS AND INSTALL IN ANNULAR SPACE BETWEEN PIPE AND SLEEVE. TIGHTEN BOLTS AGAINST PRESSURE PLATES THAT CAUSE SEALING ELEMENTS TO EXPAND AND MAKE WATERTIGHT SEAL. S. FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT PIPE PENETRATIONS. SEAL PIPE PENETRATIONS WITH FIRESTOP MATERIALS. REFER TO DIVISION 07 SECTION "PENETRATION FIRESTOPPING" FOR MATERIALS. T. VERIFY FINAL EQUIPMENT LOCATIONS FOR ROUGHING-IN.	

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U. REFER TO EQUIPMENT SPECIFICATIONS IN OTHER SECTIONS OF THESE SPECIFICATIONS FOR ROUGHING-IN REQUIREMENTS.	
3.3 PIPING JOINT CONSTRUCTION	
A. JOIN PIPE AND FITTINGS ACCORDING TO THE FOLLOWING REQUIREMENTS AND DIVISION 22 SECTIONS SPECIFYING PIPING SYSTEMS. B. REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. C. BEVEL FLAN ENDS OF STEEL PIPE. D. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPE AND FITTINGS BEFORE ASSEMBLY. E. SOLDERED JOINTS: APPLY ASTM B 813, WATER-FLUSHABLE FLUX, UNLESS OTHERWISE INDICATED, TO TUBE END. CONSTRUCT JOINTS ACCORDING TO ASTM B 828 OR CDA'S "COPPER TUBE HANDBOOK," USING LEAD-FREE SOLDER ALLOY COMPLYING WITH ASTM B 32. F. BRAZED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS'S "BRAZING HANDBOOK," "PIPE AND TUBE" CHAPTER, USING COPPER-PHOSPHORUS BRAZING FILLER METAL COMPLYING WITH AWS A5.8. G. THREADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS ACCORDING TO ASME B1.20.1. CUT THREADS FULL AND CLEAN USING SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE BURRS AND RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS: 1. APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS UNLESS DRY SEAL THREADING IS SPECIFIED. 2. DAMAGED THREADS: DO NOT USE PIPE OR PIPE FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED. DO NOT USE PIPE SECTIONS THAT HAVE CRACKED OR OPEN WELDS. H. WELDED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS D10.1, USING QUALIFIED PROCESSES AND WELDING OPERATORS ACCORDING TO PART 1 "QUALITY ASSURANCE" ARTICLE. I. FLANGED JOINTS: SELECT APPROPRIATE GASKET MATERIAL, SIZE, TYPE, AND THICKNESS FOR SERVICE APPLICATION. INSTALL GASKET CENTRICALLY POSITIONED. USE SUITABLE LUBRICANTS ON BOLT THREADS. J. PLASTIC PIPING SOLVENT-CEMENT JOINTS: CLEAN AND DRY JOINING SURFACES. JOIN PIPE AND FITTINGS ACCORDING TO THE FOLLOWING: 1. COMPLY WITH ASTM F 402 FOR SAFE-HANDLING PRACTICE OF CLEANERS, PRIMERS, AND SOLVENT CEMENTS. 2. ABS PIPING: JOIN ACCORDING TO ASTM D 2235 AND ASTM D 2681 APPENDIXES. 3. CPVC PIPING: JOIN ACCORDING TO ASTM D 2846/D 2846M APPENDIX. 4. PVC PIPING: JOIN ACCORDING TO ASTM D 1785, PVC PIPE AND PVC SOCKET FITTINGS ACCORDING TO ASTM D 2672. JOIN OTHER-THAN-SCHEDULE-NUMBER PVC PIPE AND SOCKET FITTINGS ACCORDING TO ASTM D 2855. 5. PVC NONPRESSURE PIPING: JOIN ACCORDING TO ASTM D 2855. 6. PVC TO ABS NONPRESSURE TRANSITION FITTINGS: JOIN ACCORDING TO ASTM D 3138 APPENDIX. K. PLASTIC PRESSURE PIPING GASKETED JOINTS: JOIN ACCORDING TO ASTM D 3138. L. PLASTIC NONPRESSURE PIPING GASKETED JOINTS: JOIN ACCORDING TO ASTM D 3138. M. FUSION, FIBERGLASS BONDED JOINTS: PREPARE PIPE ENDS AND FITTINGS, APPLY ADHESIVE, AND JOIN ACCORDING TO PIPE MANUFACTURER'S WRITTEN INSTRUCTIONS.	
3.4 PIPING CONNECTIONS	
A. MAKE CONNECTIONS ACCORDING TO THE FOLLOWING, UNLESS OTHERWISE INDICATED: 1. INSTALL UNIONS, IN PIPING NPS 2 AND SMALLER, ADJACENT TO EACH VALVE AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. 2. INSTALL FLANGES, IN PIPING NPS 2-1/2 AND LARGER, ADJACENT TO FLANGED VALVES AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. 3. DRY PIPING SYSTEMS: INSTALL DIELECTRIC UNIONS AND FLANGES TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS. 4. WET PIPING SYSTEMS: INSTALL DIELECTRIC COUPLING AND NIPPLE FITTINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.	
3.5 EQUIPMENT INSTALLATION - COMMON REQUIREMENTS	
A. INSTALL EQUIPMENT TO ALLOW MAXIMUM POSSIBLE HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS ARE NOT INDICATED. B. INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS IN EXPOSED INTERIOR SPACES, UNLESS OTHERWISE INDICATED. C. INSTALL PLUMBING EQUIPMENT TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF COMPONENTS. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS. EXTEND GREASE FITTINGS TO ACCESSIBLE LOCATIONS. D. INSTALL EQUIPMENT TO ALLOW RIGHT-OF-WAY FOR PIPING INSTALLED AT REQUIRED SLOPE.	
3.6 PAINTING	
A. PAINTING OF PLUMBING SYSTEMS, EQUIPMENT, AND COMPONENTS IS SPECIFIED IN DIVISION 09 SECTIONS "INTERIOR PAINTING" AND "EXTERIOR PAINTING". B. DAMAGE AND TOUCHUP: REPAIR MARRED AND DAMAGED FACTORY-PAINTED FINISHES WITH MATERIALS AND PROCEDURES TO MATCH ORIGINAL FACTORY FINISH.	

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3.7 CONCRETE BASES	
A. CONCRETE BASES: ANCHOR EQUIPMENT TO CONCRETE BASE ACCORDING TO EQUIPMENT MANUFACTURER'S WRITTEN INSTRUCTIONS AND ACCORDING TO SEISMIC CODES AT PROJECT. 1. CONSTRUCT CONCRETE BASES OF DIMENSIONS INDICATED, BUT NOT LESS THAN 4 INCHES LARGER IN BOTH DIRECTIONS THAN SUPPORTED UNIT. 2. INSTALL DOWEL RODS TO CONNECT CONCRETE BASE TO CONCRETE FLOOR, UNLESS OTHERWISE INDICATED. INSTALL DOWEL RODS ON 18-INCH CENTERS AROUND THE FULL PERIMETER OF THE BASE. 3. INSTALL EPOXY-COATED ANCHOR BOLTS FOR SUPPORTED EQUIPMENT THAT EXTEND THROUGH CONCRETE FLOOR, AND ANCHOR INTO STRUCTURAL CONCRETE FLOOR. 4. PLACE AND SECURE ANCHORAGE DEVICES. USE SUPPORTED EQUIPMENT MANUFACTURER'S SETTING DRAWINGS, TEMPLATES, DIAGRAMS, INSTRUCTIONS, AND DIRECTIONS FURNISHED WITH ITEMS TO BE EMBEDDED. 5. INSTALL ANCHOR BOLTS TO ELEVATIONS REQUIRED FOR PROPER ATTACHMENT TO SUPPORTED EQUIPMENT. 6. INSTALL ANCHOR BOLTS ACCORDINGS TO ANCHOR-BOLT MANUFACTURER'S WRITTEN INSTRUCTIONS. 7. USE 3000-PSI, 28-DAY COMPRESSIVE-STRENGTH CONCRETE AND REINFORCEMENT AS SPECIFIED IN DIVISION 03 SECTION "CAST-IN-PLACE CONCRETE."	
3.8 ERECTION OF METAL SUPPORTS AND ANCHORAGES	
A. REFER TO DIVISION 05 SECTION "METAL FABRICATIONS" FOR STRUCTURAL STEEL. B. CUT, FIT, AND PLACE MISCELLANEOUS METAL SUPPORTS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION TO SUPPORT AND ANCHOR PLUMBING MATERIALS AND EQUIPMENT. C. FIELD WELDING: COMPLY WITH AWS D1.1.	
3.9 ERECTION OF WOOD SUPPORTS AND ANCHORAGES	
A. CUT, FIT, AND PLACE WOOD GROUNDS, NAILERS, BLOCKING, AND ANCHORAGES TO SUPPORT, AND ANCHOR PLUMBING MATERIALS AND EQUIPMENT. B. SELECT FASTENER SIZES THAT WILL NOT PENETRATE MEMBERS IF OPPOSITE SIDE WILL BE EXPOSED TO VIEW OR WILL RECEIVE FINISH MATERIALS. TIGHTEN CONNECTIONS BETWEEN MEMBERS. INSTALL FASTENERS WITHOUT SPLITTING WOOD MEMBERS. C. ATTACH TO SUBSTRATES AS REQUIRED TO SUPPORT APPLIED LOADS.	
3.10 GROUTING	
A. MIX AND INSTALL GROUT FOR PLUMBING EQUIPMENT BASE BEARING SURFACES, PUMP AND OTHER EQUIPMENT BASE PLATES, AND ANCHORS. B. CLEAN SURFACES THAT WILL COME INTO CONTACT WITH GROUT. C. PROVIDE FORMS AS REQUIRED FOR PLACEMENT OF GROUT. D. AVOID AIR ENTRAPMENT DURING PLACEMENT OF GROUT. E. PLACE GROUT, COMPLETELY FILLING EQUIPMENT BASES. F. PLACE GROUT ON CONCRETE BASES AND PROVIDE SMOOTH BEARING SURFACE FOR EQUIPMENT. G. PLACE GROUT AROUND ANCHORS. H. CURE PLACED GROUT.	

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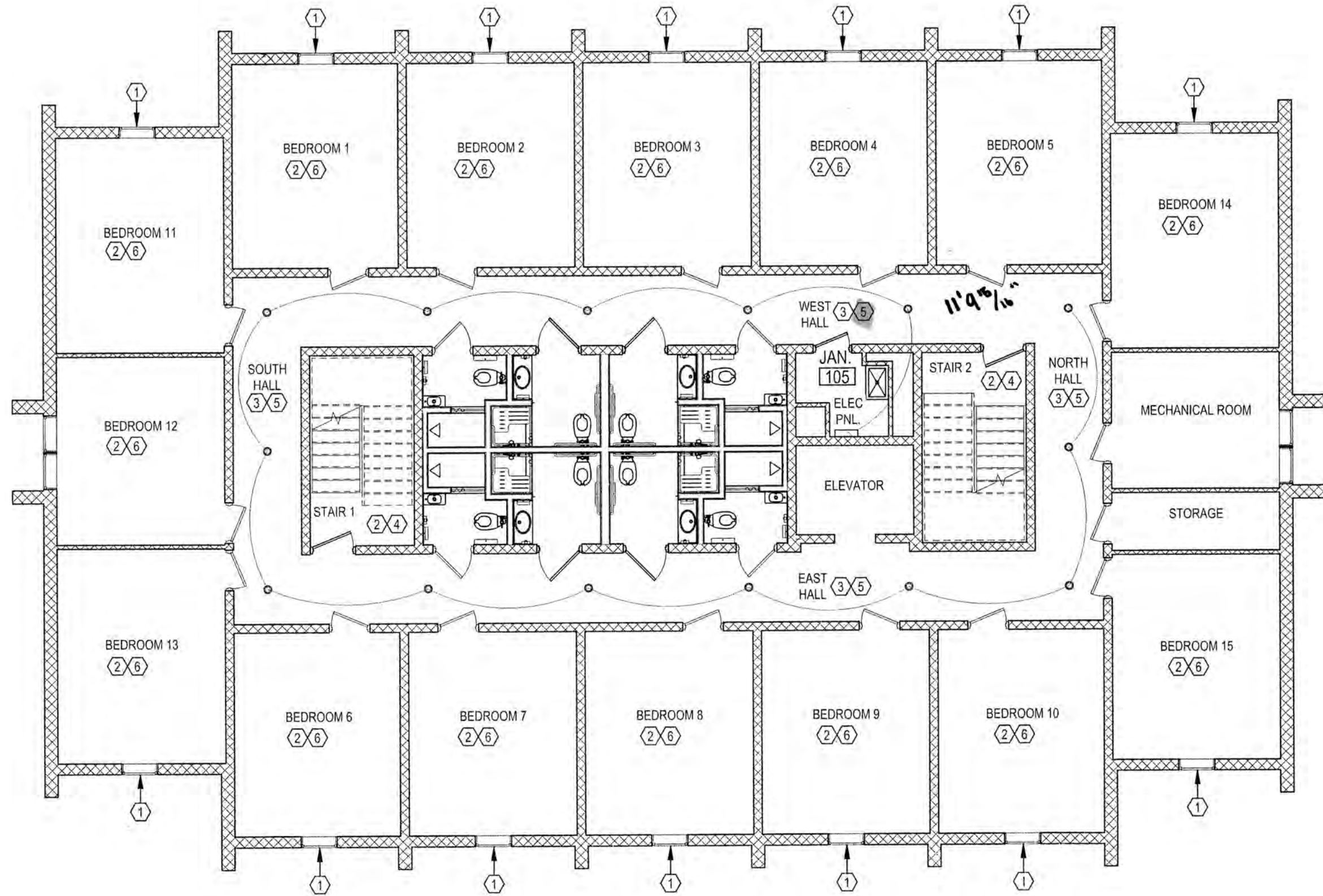
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WLJ ENGINEERING INC.
Firm No. 9968
903-762-6599
walt@wljengineering.com
7674 Cherokee Trace
Gilmer, Texas 75644

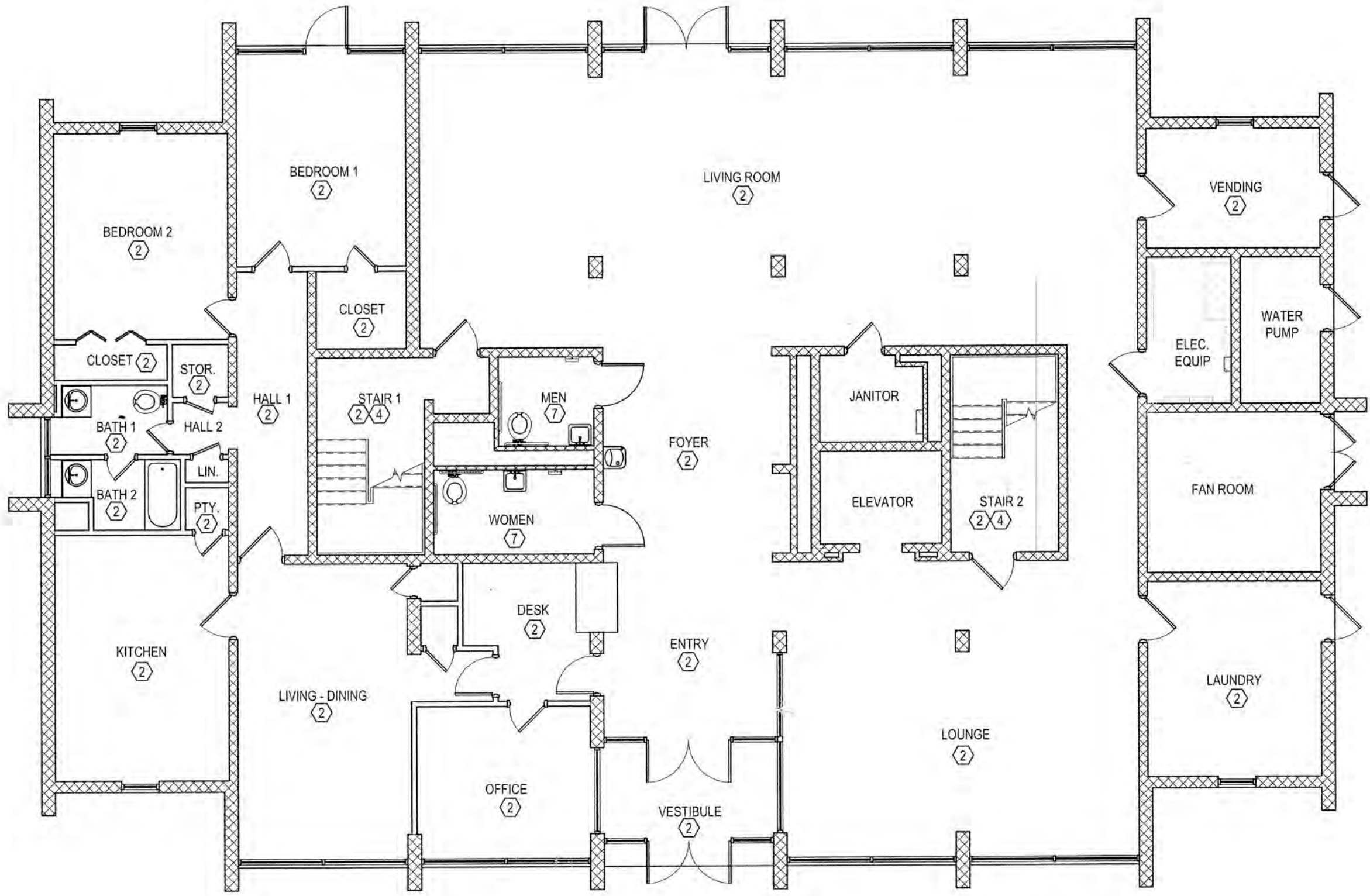
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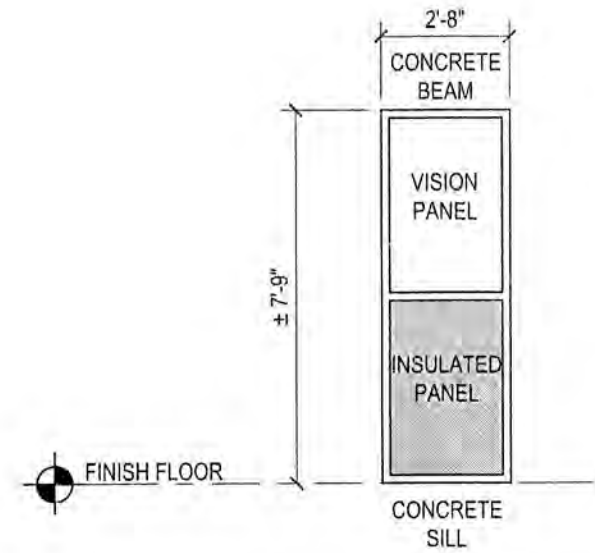
2 BID ALTERNATES - FLOORS 2 THRU 8
SCALE: 1/8" = 1'-0"



1 BID ALTERNATES - FIRST FLOOR
SCALE: 1/8" = 1'-0"



3 TYPICAL RESIDENT ROOM WINDOW
SCALE: NTS



- BID ALTERNATES 1-7**
- REGLAZE WINDOWS:**
 - REPLACE SINGLE PANE VISION GLAZING IN EACH OF THE (15) RESIDENT ROOMS ON FLOORS 2 THRU 8 (TOTAL 105 WINDOWS) WITH 2015 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) COMPLIANT DOUBLE PANE GLAZING.
 - VISION PANEL COMPRISES ABOUT HALF THE AREA OF A TYPICAL WINDOW, THE LOWER HALF OF WHICH IS AN INSULATED SPANDREL PANEL WHICH WILL REMAIN OVERALL WINDOW SIZE IS 32"x43" SUCH THAT THE VISION PANEL FILLS A FINISHED OPENING OF ABOUT 28"x44". WINDOW FRAME APPEARS TO BE CLEAR ANODIZED ALUMINUM.
 - REPLACE VISION PANEL WITH 1" THICK INSULATED GLAZING PANEL, REMOVE INTERIOR STOPS, MODIFY FRAME TO RECEIVE THICKER PANEL, AND INSTALL NEW STOPS AS NECESSARY FOR DRY SEAL.
 - GASKETED INSTALLATION FROM INTERIOR OF BUILDING. MATCH EXISTING FINISHES AND COLORS.
 - FIELD VERIFY ALL EXISTING CONDITIONS AND FINISHES PRIOR TO BIDDING.
 - PAINT BUILDING INTERIOR:**
 - ON FLOORS 1 THRU 8 INCLUDING LOBBY, RESIDENT ROOMS, OFFICES, STAIRWELLS, ETC., PAINT ALL EXISTING INTERIOR BUILDING SURFACES THAT ARE NOT ALREADY SCHEDULED FOR PAINTING IN BASE BID.
 - SURFACES TO PAINT: REFER TO 1/G0.6 AND 2/G0.6 FOR SPACES TO BE PAINTED, WALL LOCATIONS AND LENGTHS, DOORS AND FRAMES, AND ASSUMED SURFACES (MASONRY OR DRYWALL). REFER TO 1/A1.0 FOR WALL HEIGHTS. CEILINGS IN HALLS ARE GENERALLY DRYWALL. CEILINGS IN RESIDENT ROOMS ARE CONCRETE. CEILINGS OF GROUND FLOOR ROOMS ARE SUSPENDED ACOUSTICAL PANELS (DO NOT PAINT SUSPENDED ACOUSTICAL CEILINGS). MASONRY SURFACES NOT ALREADY PAINTED ARE TO REMAIN UNFINISHED.
 - PREPARE AND PAINT MASONRY, DRYWALL, DRYWALL CEILING, CONCRETE CEILING AND METAL DOOR AND FRAME SURFACES IN ACCORDANCE WITH BASE BID PAINT SPECIFICATION.
 - ASSUME THAT BASIC FURNITURE WILL NOT HAVE BEEN REMOVED FROM ROOM PRIOR TO PAINTING. PROTECT EXISTING FLOOR COVER AND WALL BASE FROM PAINT.
 - FIELD VERIFY ALL EXISTING CONDITIONS AND FINISHES PRIOR TO BIDDING.
 - HALLWAY FLOORS:**
 - REMOVE EXISTING CARPET FROM HALLWAYS (±810 s.f. PER FLOOR) ON RESIDENT FLOORS 2 THRU 8 TO EXPOSE EXISTING TERRAZZO BENEATH. CARPET APPEARS TO BE SELF-ADHERING CARPET TILES.
 - EMPLOY TRADESMEN EXPERIENCED IN REFURBISHING TERRAZZO FLOORING.
 - ASSUMING THAT THE EXISTING TERRAZZO IS UNDAMAGED, REMOVE ADHESIVE AND OTHER SUBSTANCES FROM FLOOR WITH GRINDER. POLISH FLOOR WITH SUCCESSIVE PASSES OF 800, 1500, AND 2000 GRIT POWDER AND THOROUGHLY DRY. APPLY SEALER.
 - FIELD VERIFY ALL EXISTING CONDITIONS AND FINISHES PRIOR TO BIDDING.
 - REPAIR STAIR TREADS:**
 - IN BOTH STAIRWELLS, REMOVE CRACKED / DAMAGED CONCRETE FROM EXISTING METAL PANS AND REPLACE WITH NEW CONCRETE. PROTECT TREAD LEAD EDGE FROM DAMAGE DURING REMOVALS. CLEAN NEW CONCRETE FROM ADJACENT FINISHED SURFACES AND TOUCH UP ADJACENT FINISHES.
 - TYPICAL TREAD APPEARS TO BE ABOUT 12" DEEP x 44" WIDE x 1-1/2" THICK.
 - PROVIDE LUMP SUM PRICE TO REPAIR 80 TREADS AND A PER-TREAD UNIT PRICE FOR ADDITIONAL TREADS.
 - FIELD VERIFY ALL EXISTING CONDITIONS AND FINISHES PRIOR TO BIDDING.
 - REPLACE HALLWAY LIGHTING:**
 - REMOVE EXISTING WALL MOUNT LIGHT FIXTURES FROM EACH HALLWAY ON FLOORS 2-8 (ABOUT 10 FIXTURES PER FLOOR, ABANDON CIRCUIT, AND COVER BOXES WITH BLANK DEVICE PLATE TO RECEIVE WALL PAINT.
 - PROVIDE 14 NEW LIGHTTOLIER #57R SLIMSURFACE LED DOWNLIGHTS ON EACH OF FLOORS 2-8 AS INDICATED ON 2/G0.6. DOWNLIGHTS SHALL BE ON NEW DIMMABLE POWER CIRCUIT RUN TO NEW ELECTRICAL PANEL INSTALLED UNDER BASE BID IN JANITOR 105 ON EACH FLOOR.
 - FIELD VERIFY ALL EXISTING CONDITIONS AND FINISHES PRIOR TO BIDDING.
 - NEW CEILING FANS:**
 - REPLACE EXISTING SURFACE MOUNTED LIGHT FIXTURE IN EACH OF THE (15) RESIDENT ROOMS ON FLOORS 2 THRU 8 WITH NEW CEILING FAN & LIGHT KIT (105 TOTAL FANS).
 - RE-USE EXISTING SWITCHED ELECTRICAL CIRCUIT TO SERVE NEW FANS / LIGHTS.
 - PROVIDE HUNTER "DEMPSEY" LOW PROFILE WITH LED LIGHT 52" LAMPS, HAND HELD REMOTE TO CONTROL FANS SPEED AND DIM LIGHT. PROVIDE MANUFACTURER RECOMMENDED KIT FOR MOUNTING UNIT TO CONCRETE SUBSTRATE.
 - LOBBY RESTROOM FINISHES:**
 - REMOVE EXISTING FLOOR & CEILING FINISHES FROM FIRST FLOOR LOBBY RESTROOMS (RE: 2/G0.6).
 - IN ADDITION TO WORK SPECIFIED IN BASE BID, PROVIDE NEW FINISHES IN LOBBY RESTROOMS THAT MATCH RESIDENT RESTROOMS, I.E. UNGLAZED TILE FLOOR, GLAZE TILE WALLS, PAINTED SUSPENDED GYPSUM CEILING WITH ACCESS HATCH.
 - FIELD VERIFY ALL EXISTING CONDITIONS AND FINISHES PRIOR TO BIDDING.

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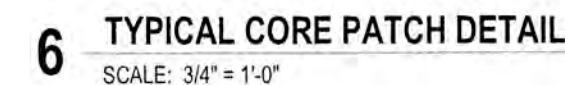




PROVIDE SOLID BEARING UNDER LINTELS.



1. CUT 3 1/2" DEEP SLOT INTO ONE SIDE OF EXISTING BRICK WALL.
2. INSERT 4" LEG OF 16x4x3/8 ANGLE INTO SLOT.
3. CUT 4" DEEP SLOT INTO OPPOSITE SIDE OF EXISTING BRICK WALL.
4. INSERT 3 1/2" LEG OF 16x4x3/8 ANGLE INTO SLOT.
5. FIELD DRILL EXISTING BRICK WALL TO INSTALL 3/4"Ø THREADED RODS.
6. FASTEN 3/16"x3"x3" WASHER PLATES AND NUTS SNUG TIGHT ON EACH SIDE OF WALL.
7. CUT AND REMOVE EXISTING BRICK WALL BELOW LINE WHEN SHOWN ON ARCH. DEMOLITION DETAILS.
8. REPEAT PROCESS AT NEXT OPENING LOCATION.

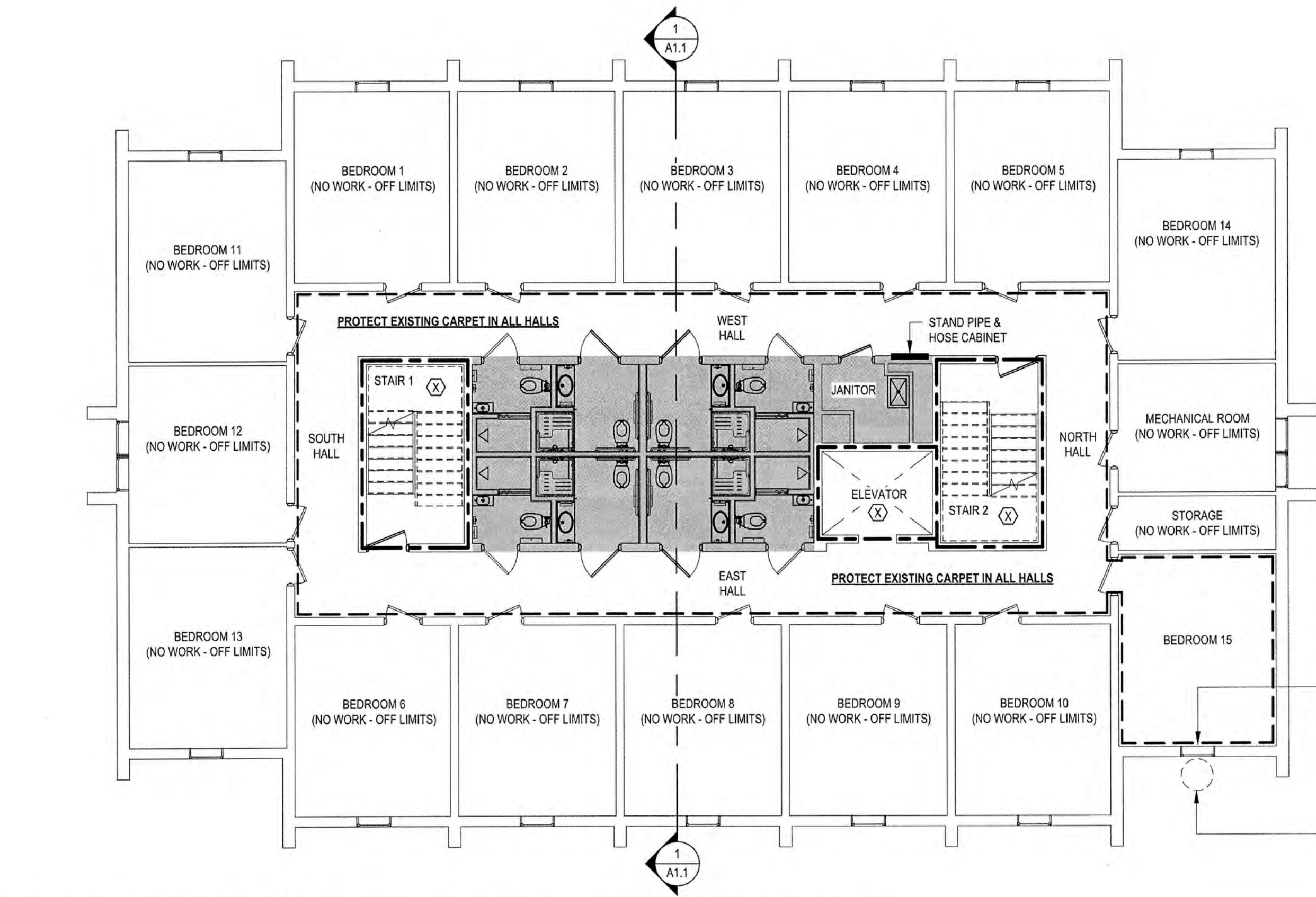


1. CUT 3 1/2" DEEP SLOT INTO ONE SIDE OF EXISTING BRICK WALL.
2. INSERT 4" LEG OF L6x4x3/8 ANGLE INTO SLOT.
3. CUT 3 1/2" DEEP SLOT INTO OPPOSITE SIDE OF EXISTING BRICK-FACED CMU WALL.
4. INSERT 4" LEG OF L6x4x3/8 ANGLE INTO SLOT.
5. FIELD DRILL EXISTING WALL TO INSTALL 3/4"Ø THREADED RODS.
6. FASTEN 3/16"x3"x3" WASHER PLATES AND NUTS SNIUG TIGHT ON EACH SIDE OF WALL.
7. CUT AND REMOVE EXISTING BRICK-FACED CMU WALL BELOW LINE# AS REQ. FOR DUCT PENETRATIONS.
8. FLASH AND SEAL WEATHER TIGHT.

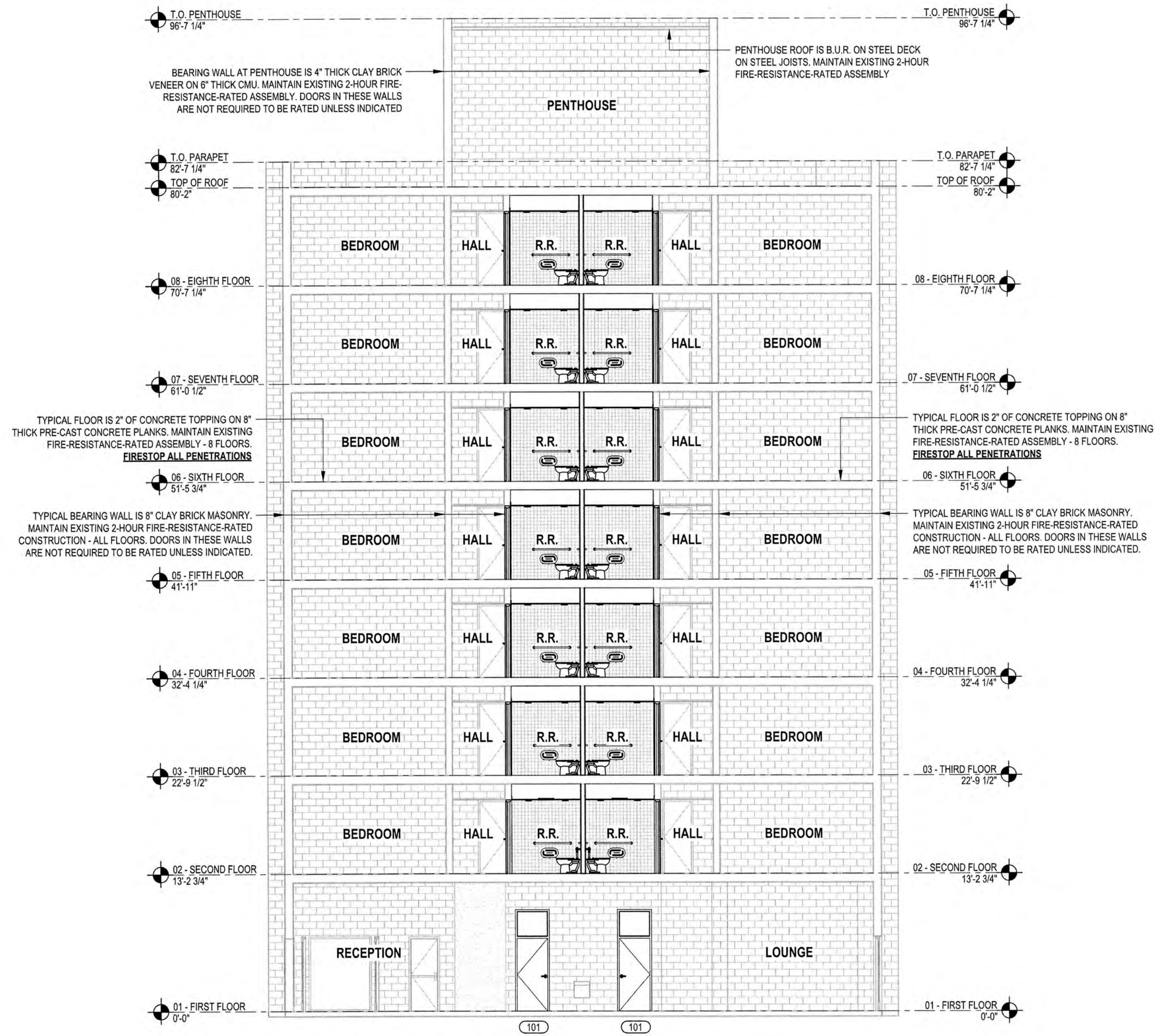


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2 TYPICAL FLOOR KEY & FIRE PROTECTION PLAN REFER TO 1/A1.1 FOR ADDITIONAL FIRE RESISTANT-RATED ASSEMBLIES
SCALE: 1/8" = 1'-0"



1 BUILDING SECTION FOR REFERENCE ONLY AND FIRE PROTECTION
SCALE: 1/8" = 1'-0"



3 ARCHITECTURAL SITE PLAN
SCALE: 1" = 40'-0"

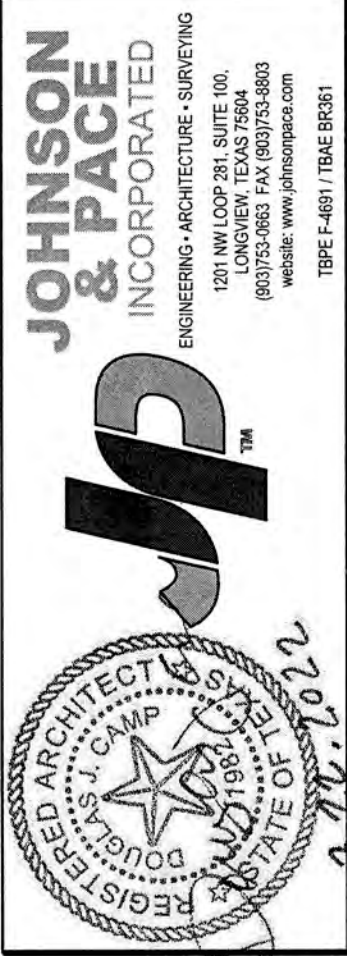
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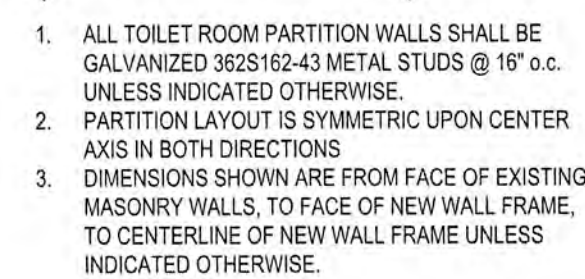
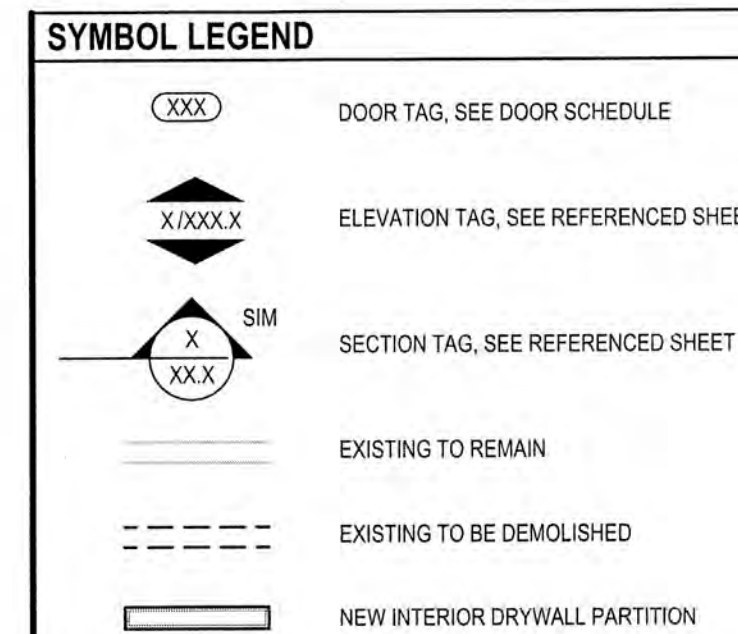
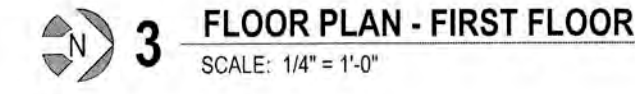
ARCHITECTURAL SITE PLAN & BUILDING SECTION

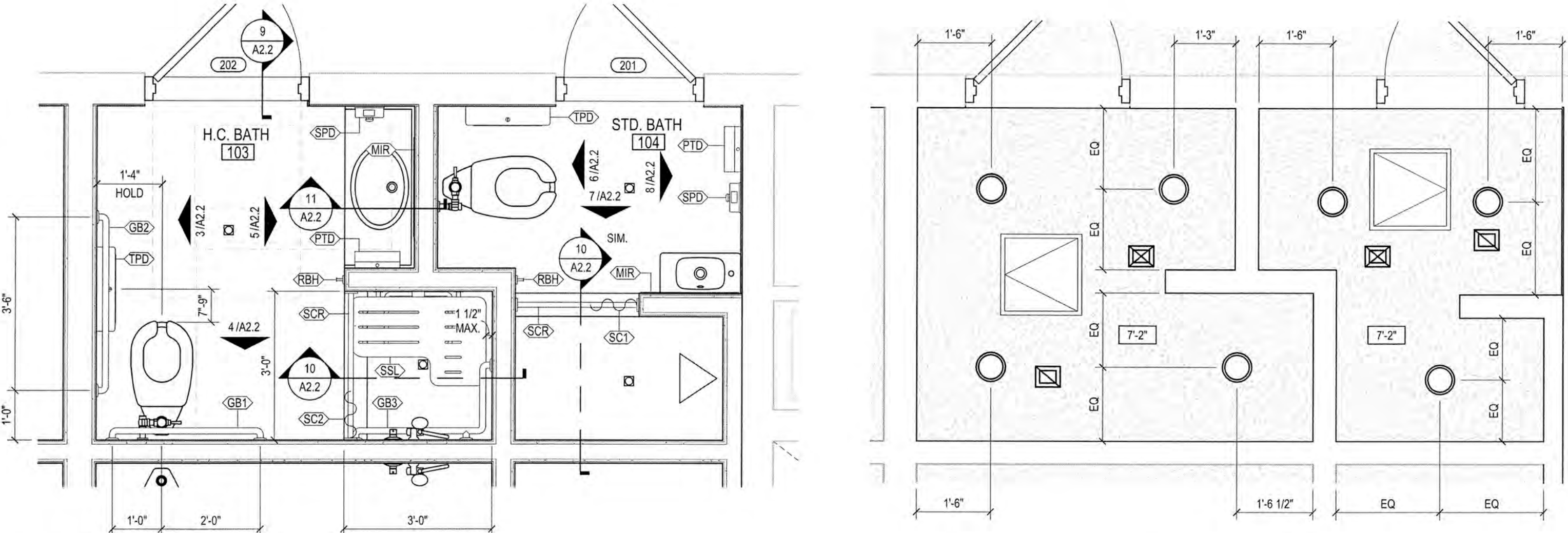
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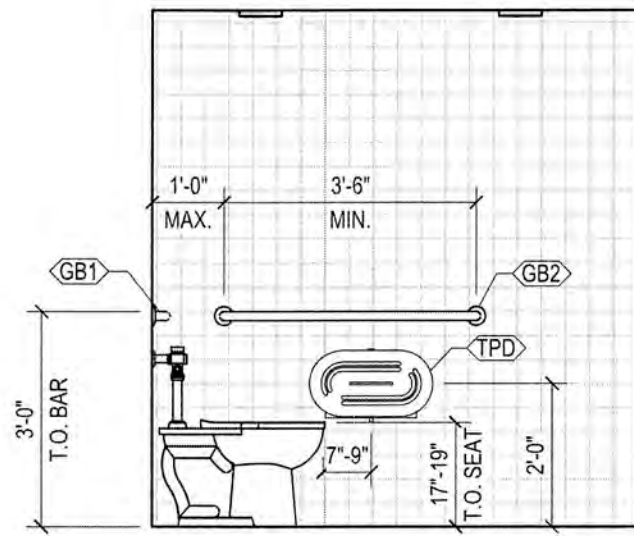




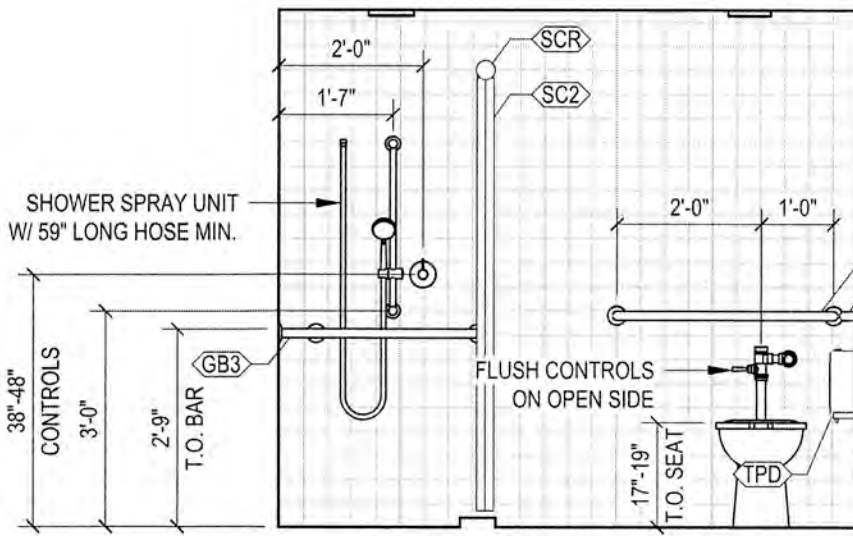


1 ENLARGED TYPICAL TOILET ROOMS FLOOR PLAN
SCALE: 1/2" = 1'-0"

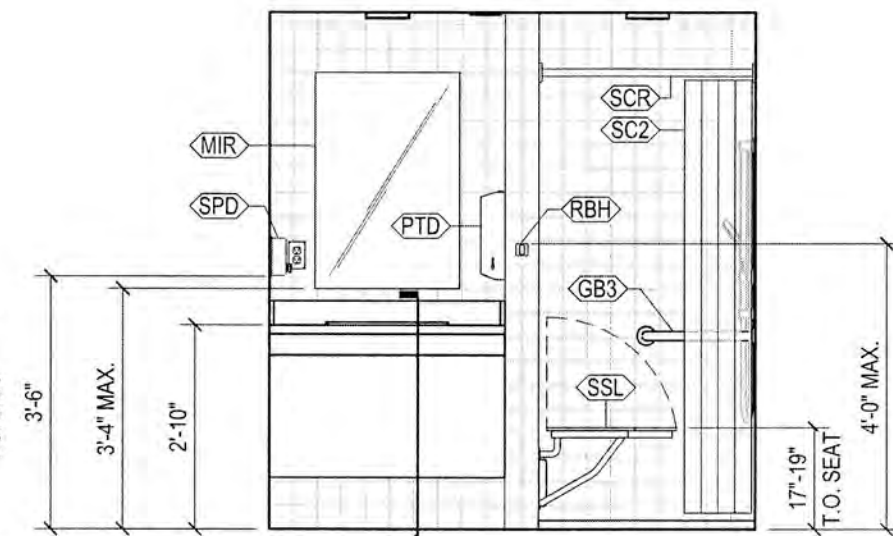
2 ENLARGED TYPICAL TOILET ROOMS CEILING PLAN
SCALE: 1/2" = 1'-0"



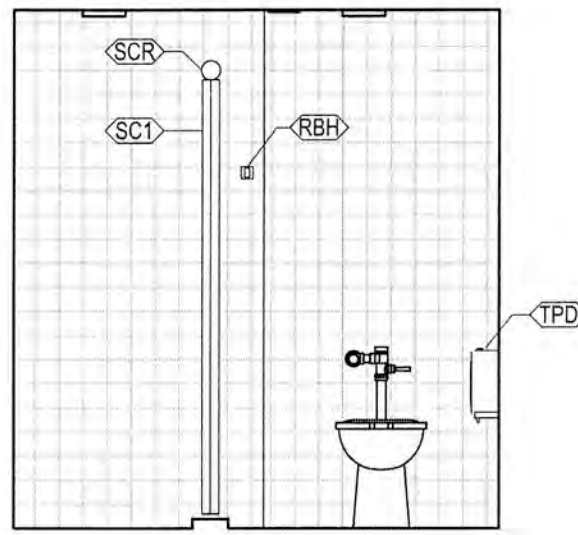
3 H.C. BATH (TOILET)
SCALE: 3/8" = 1'-0"



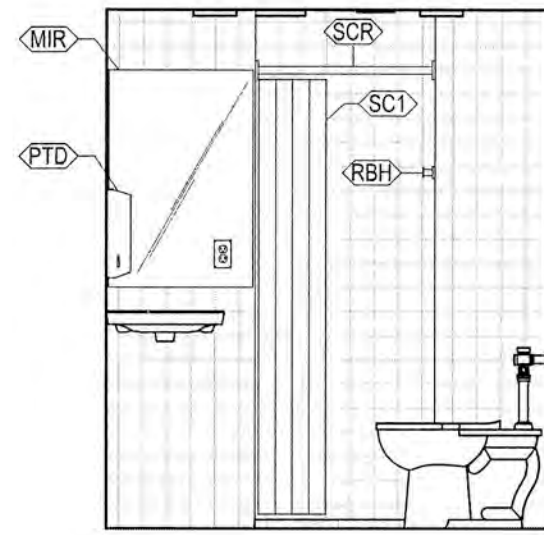
4 H.C. BATH (SHOWER)
SCALE: 3/8" = 1'-0"



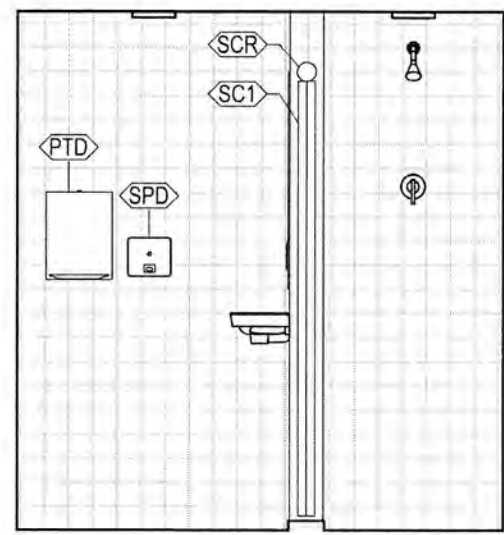
5 H.C. BATH (LAVATORY)
SCALE: 3/8" = 1'-0"



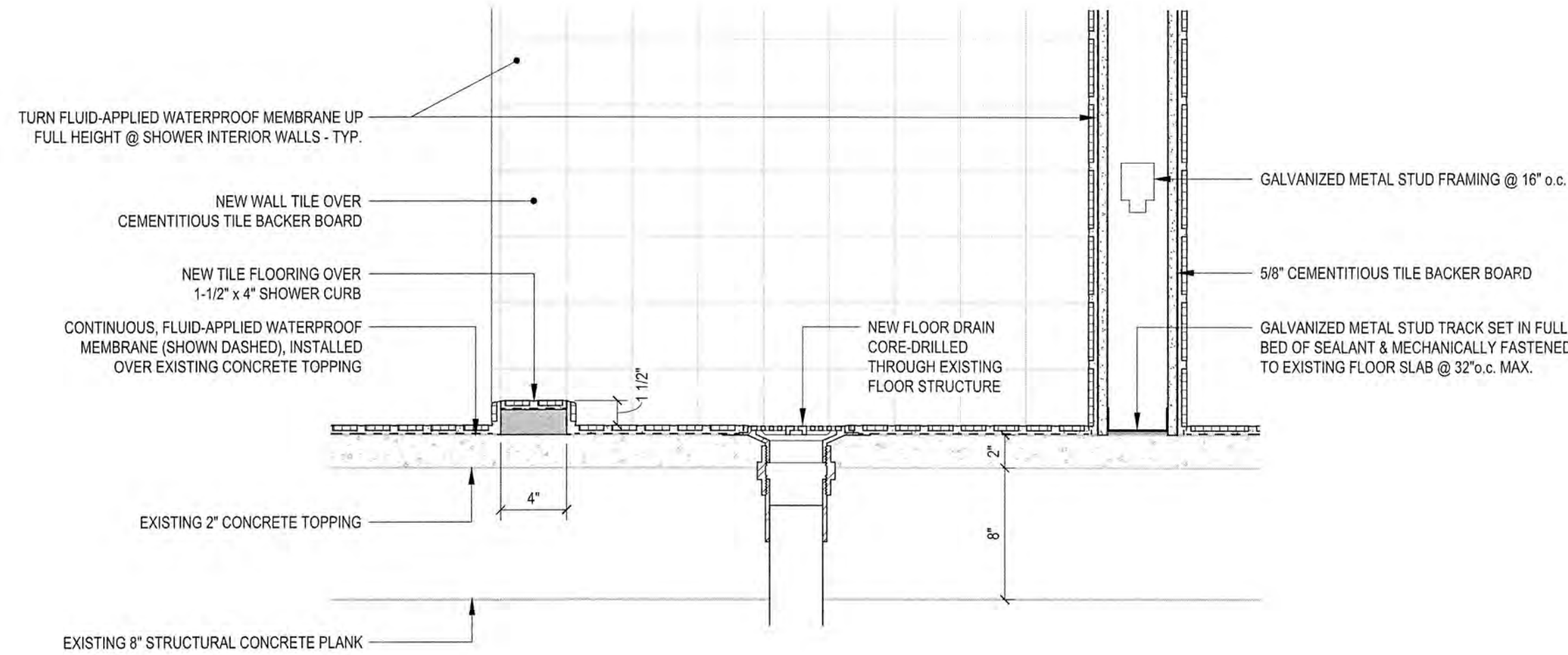
6 STD. BATH (TOILET)
SCALE: 3/8" = 1'-0"



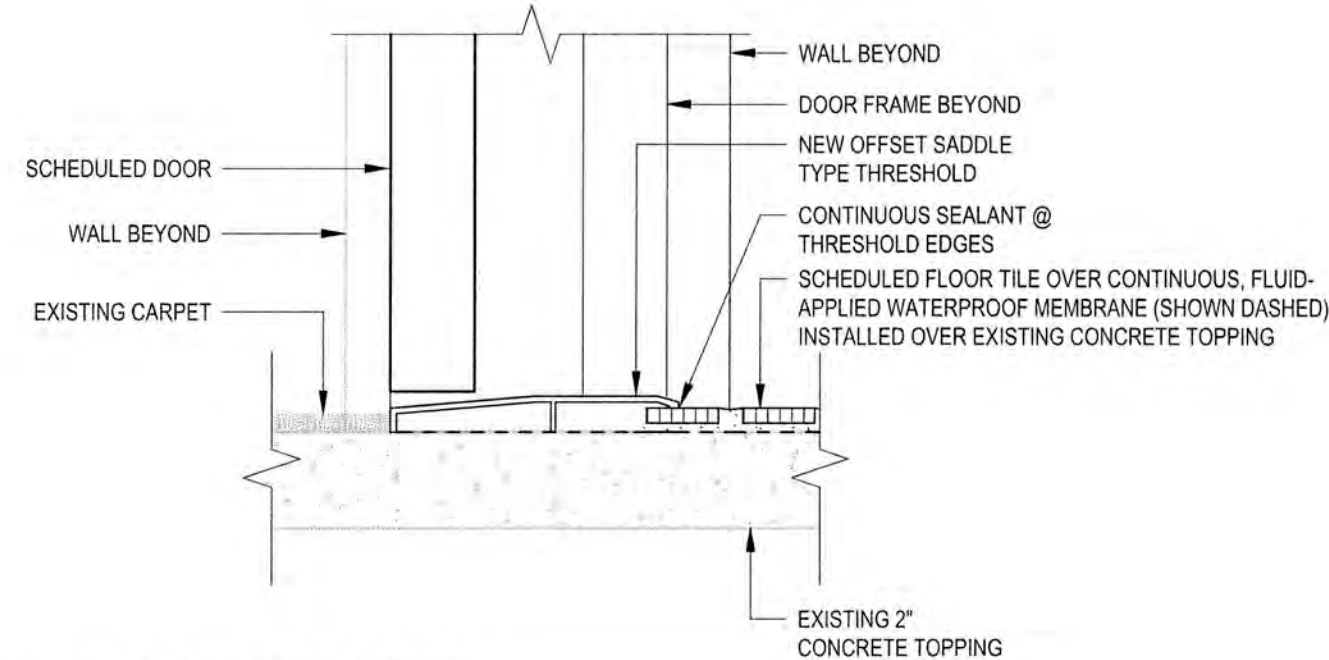
7 STD. BATH (LAVATORY)
SCALE: 3/8" = 1'-0"



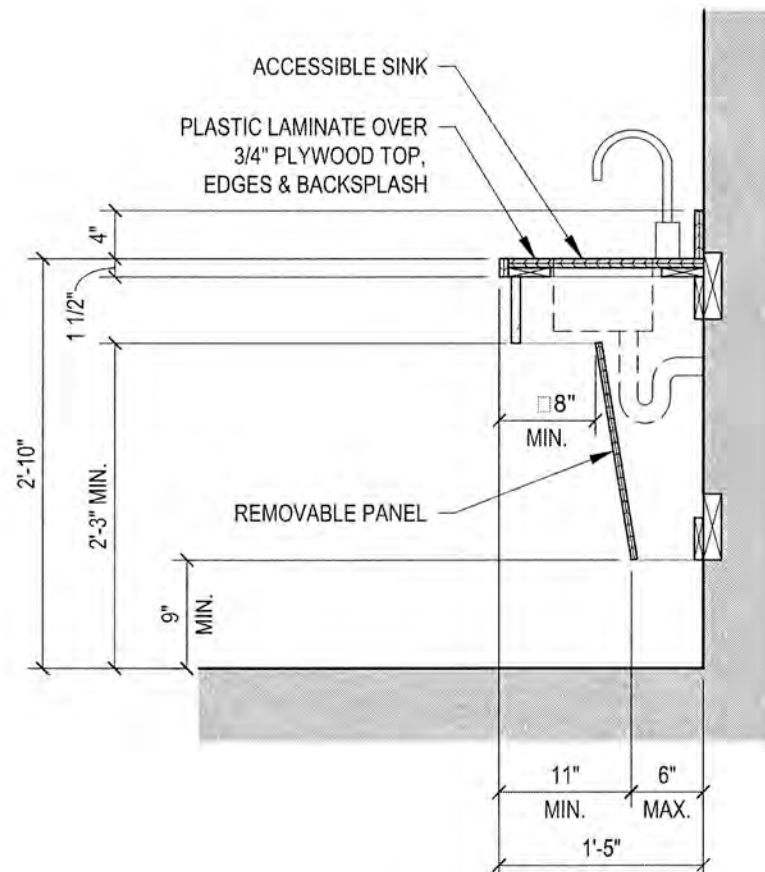
8 STD. BATH (SHOWER)
SCALE: 3/8" = 1'-0"



10 TYPICAL SECTION @ SHOWER
SCALE: 1 1/2" = 1'-0"



9 TYPICAL THRESHOLD DETAIL
SCALE: 3" = 1'-0"



11 TYPICAL ACCESSIBLE KNEESPACE
SCALE: NTS

CEILING SYMBOL LEGEND

- X-X' CEILING HEIGHT TAG
- MOISTURE RESISTANT GYPSUM BOARD ON METAL SUSPENSION SYSTEM TYPICAL
- SURFACE MOUNTED LIGHT FIXTURE, SEE LIGHTING PLAN(S)
- EXHAUST GRILLE, SEE MECHANICAL PLAN(S)
- SUPPLY AIR GRILLE, SEE MECHANICAL PLAN(S)

DOOR SCHEDULE

MARK	OPENING	THICKNESS	MATERIAL	FINISH	TYPE	FRAME			HARDWARE	MARK	COMMENTS
						FRAME MATERIAL	FINISH	TYPE			
101	3'-0"	7'-0"	1 3/4"	INSULATED H.M.	PAIN	A	HOLLOW METAL	PAINT	2	LR	101 FIRST FLOOR RESTROOMS
201	2'-8"	7'-0"	1 3/4"	INSULATED H.M.	PAIN	A	HOLLOW METAL	PAINT	1	LR,SH,TH	201 STANDARD BATHING ROOMS
202	3'-0"	7'-0"	1 3/4"	INSULATED H.M.	PAIN	A	HOLLOW METAL	PAINT	1	LR,SH,TH	202 HANDICAPPED BATHING ROOMS

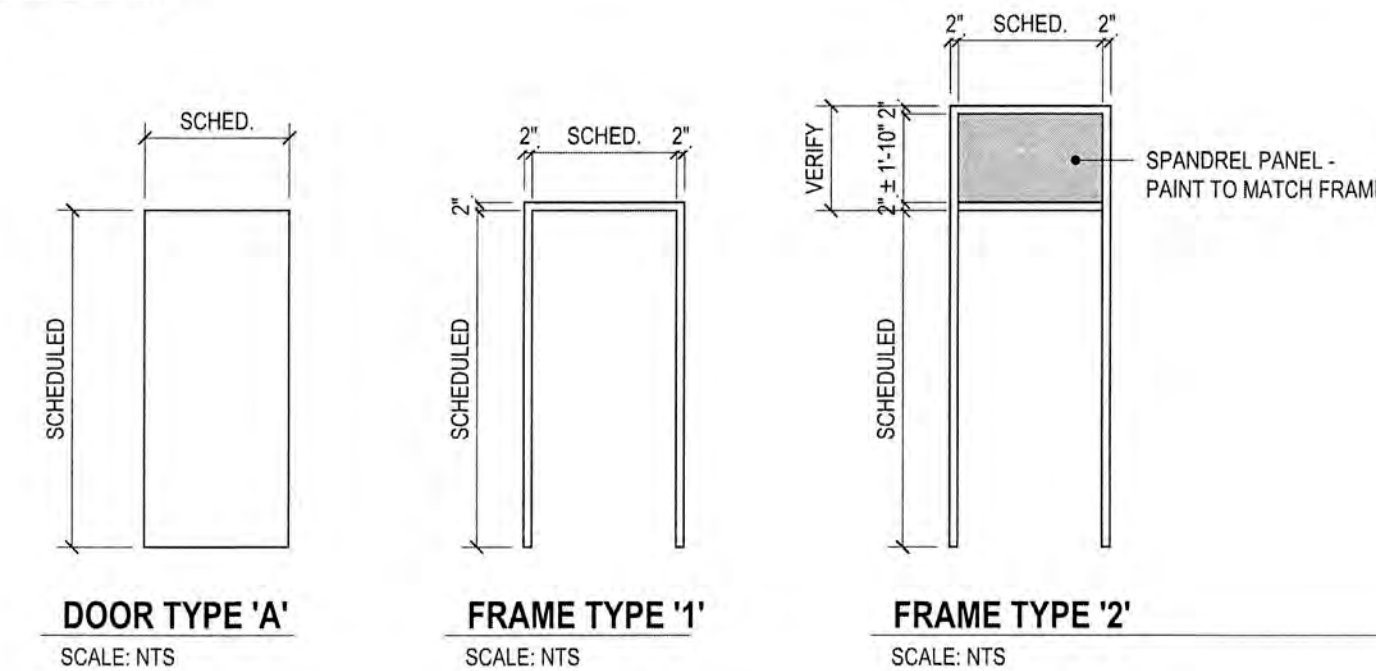
NOTES:

- PROVIDE HINGES, SILENCERS AND STOPS FOR EACH DOOR UNLESS INDICATED OTHERWISE.
- COORDINATE HARDWARE INDICATED WITH OWNER AND CITY REQUIREMENTS.
- HARDWARE PROVIDER TO FULLY COORDINATE KEYING WITH OWNER.

HARDWARE KEY:

- LP LATCH SET - PASSAGE FUNCTION (ANSI F75) LEVER HANDLE
- LR LATCH SET - PRIVACY FUNCTION (ANSI F76) LEVER HANDLE
- MFR ALL HARDWARE NOT OTHERWISE LISTED IS PROVIDED BY THE MANUFACTURER (SEE SECTION 084115 FOR ALUMINUM ENTRANCE DOORS)
- SH SPRING HINGE (1 PER DOOR)
- TH THRESHOLD - ADA COMPLIANT AND FOR MOISTURE PROTECTION

DOOR & FRAME TYPES:



ROOM FINISH AND AREA SCHEDULE

ROOM NUMBER	ROOM NAME	FINISH				ROOM DATA				ROOM NUMBER
		FLOOR	BASE	WALL	CEILING	CEILING HEIGHT	These values are accurate in most cases, they are provided for your own risk, as a courtesy of the owner.			
							Perimeter	Area		
001	R.R.	B	F	H	M	EXISTING	34'-10"	69 SF	617 CF	001
002	R.R.	B	F	H	M	EXISTING	26'-3"	43 SF	386 CF	002
101	STD. BATH	A	D	G	K	7'-2"	29'-2"	34 SF	236 CF	101
102	H.C. BATH	A	D	G	K	7'-2"	32'-4"	48 SF	330 CF	102
103	H.C. BATH	A	D	G	K	7'-2"	32'-4"	48 SF	330 CF	103
104	STD. BATH	A	D	G	K	7'-2"	29'-2"	34 SF	236 CF	104
105	JAN.	B	E	H	M	EXISTING	26'-3"	43 SF	386 CF	105
106	STD. BATH	A	D	G	K	7'-2"	29'-2"	34 SF	236 CF	106
107	H.C. BATH	A	D	G	K	7'-2"	32'-4"	48 SF	330 CF	107
108	H.C. BATH	A	D	G	K	7'-2"	32'-4"	48 SF	330 CF	108
109	STD. BATH	A	D	G	K	7'-2"	29'-2"	34 SF	236 CF	109

FINISH KEY:

- FLOOR
 - A CERAMIC TILE
 - B EXISTING FLOOR TO REMAIN
 - C RESERVED
- BASE
 - D 4" CERAMIC TILE COVE BASE
 - E NO BASE - WALL FINISH EXTENDS TO FLOOR
 - F EXISTING BASE TO REMAIN
- WALLS
 - G FULL HEIGHT CERAMIC TILE
 - H PAINT EXISTING WALL SURFACES
 - J RESERVED
- CEILING
 - K MOISTURE RESISTANT GYPSUM BOARD ON METAL SUSPENSION GRID
 - L NEW GYPSUM BOARD ON EXISTING METAL SUSPENSION GRID
 - M PAINT EXISTING CEILING SURFACE

RESTROOM ACCESSORY SCHEDULE

MARK	MANUFACTURER	MODEL	DESCRIPTION
GB1	American Specialties Inc.	3801-36	Snap Flange (1-1/2" O.D.) Smooth - Straight Grab Bar, 36"
GB2	American Specialties Inc.	3801-42	Snap Flange (1-1/2" O.D.) Smooth - Straight Grab Bar, 42"
GB3	American Specialties Inc.	3874	Snap Flange (1-1/2" O.D.) Smooth - Horizontal Grab Bar, 18-1/8" x 33-1/8"
MIR	American Specialties Inc.	8287	24"x36" Mirror - Frameless - Polished Plate Glass - 1/4" Thick
PTD	American Specialties Inc.	0210	Paper Towel Dispenser - Multi, C-Fold - Surface Mounted
RBH	American Specialties Inc.	7340-S	Robe Hook - Single - Satin Stainless Steel - Surface Mounted
SC1	American Specialties Inc.	1200-V36 + 1200-SHU x 6	Shower Curtain - 8 Ga. White Vinyl - 36"W x 72"H + 6 Shower Curtain Hooks (1200-V36 + 1200-SHU x 6)
SC2	American Specialties Inc.	1200-V42 + 1200-SHU x 7	Shower Curtain - 8 Ga. White Vinyl - 42"W x 72"H + 7 Shower Curtain Hooks (1200-V42 + 1200-SHU x 7)
SCR	American Specialties Inc.	1204-2 + 1204-1	Shower Curtain Rod - 1-1/4" Dia. Bar, Stainless Steel + Shower Curtain Rod End Flanges - One Pair
SPD	American Specialties Inc.	9343	Profile™ - Soap Dispenser - Liquid - Surface Mounted
SSL	American Specialties Inc.	8206-L	Folding Shower Seat - L-Shaped, Left Hand, ADA - Solid Phenolic, White - 33"W
SSR	American Specialties Inc.	8206-R	Folding Shower Seat - L-Shaped, Right Hand, ADA - Solid Phenolic, White - 33"W
TPD	American Specialties Inc.	0039	Toilet Tissue Dispenser - Low Profile, Jumbo Roll - Surface Mounted

MECHANICAL ABBREVIATIONS					
A/C	AIR CONDITIONING	EAT	ENTERING AIR TEMPERATURE	NO	NORMALLY OPEN; NUMBER
AC	ACETYLENE			NTS	NOT TO SCALE
ADA	AMERICANS WITH DISABILITIES ACT	EER	ENERGY EFFICIENCY RATIO	OA	OUTSIDE AIR
AFF	ABOVE FINISHED FLOOR	EFF	EFFICIENCY	OD	OUTSIDE DIAMETER
AFG	ABOVE FINISHED GRADE	EMCS	ENERGY MONITORING AND CONTROL SYSTEM	P	POLE
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	EWV	ELECTRIC WATER COOLER	PH	PHASE
AR	ARGON	EWT	ENTERING WATER TEMPERATURE	PSI	POUNDS PER SQUARE INCH
ARCH	ARCHITECTURE / ARCHITECTURAL	F	FAHRENHEIT	RA	RETURN AIR
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS	FLA	FULL LOAD AMPS	RPM	REVOLUTIONS PER MINUTE
		FPM	FEET PER MINUTE	SA	SUPPLY AIR
		FT	FEET, FOOT	SEER	SEASONAL ENERGY EFFICIENCY RATIO
BAS	BUILDING AUTOMATION SYSTEM	GAL	GALLON	SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOC.
BFF	BELOW FINISHED FLOOR	GPM	GALLONS PER MINUTE		
BFG	BELOW FINISHED GRADE	HP	HORSEPOWER	SP	STATIC PRESSURE
BG	BELOW GRADE	HTG	HEATING	SQ FT	SQUARE FEET
BSB	BRANCH SELECTOR BOX	HVAC	HEATING, VENTILATING, AND AIR CONDITIONING	SS	SANITARY SEWER; STAINLESS STEEL
BTUH	BRITISH THERMAL UNIT PER HOUR	HW	DOMESTIC HOT WATER	T-STAT	THERMOSTAT
C	CELSIUS	HWR	DOMESTIC HOT WATER RETURN	TAS	TEXAS ACCESSIBILITY STANDARD
CA	COMPRESSED AIR	HZ	HERTZ	UON	UNLESS OTHERWISE NOTED
CD	CONDENSATE DRAIN	IN	INCHES	V	VOLT / VENT
CFM	CUBIC FEET PER MINUTE	KW	KILOWATT	V	VOLT / VENT
CHW	CHILLED WATER	LAT	LEAVING AIR TEMPERATURE	VAV	VARIABLE AIR VOLUME
CHWR	CHILLED WATER RETURN	LWT	LEAVING WATER TEMPERATURE	VD	VOLUME DAMPER
CHWS	CHILLED WATER SUPPLY	MBH	THOUSAND BTUH	VFD	VARIABLE FREQUENCY DRIVE
CO	CARBON MONOXIDE	MCA	MINIMUM CIRCUIT AMPACITY	VTR	VENT THRU ROOF
CO2	CARBON DIOXIDE	MCB	MAIN CIRCUIT BREAKER	W	WATT / WASTE
COP	COEFFICIENT OF PERFORMANCE	MIN	MINIMUM	WB	WET BULB
CU	CONDENSING UNIT	MLO	MAIN LUG ONLY	WC	WATER COLUMN
CW	CONDENSER WATER	MOCP	MAXIMUM OVERCURRENT PROTECTION	WG	WATER GAUGE
DB	DRY BULB	NC	NORMALLY CLOSED; NOISE CRITERIA		
dB	DECIBELS	NF	NON-FUSED		
DCW	DOMESTIC COLD WATER	NFPA	NATIONAL FIRE PROTECTION ASSOC.		
DOC	DIRECT DIGITAL CONTROL	NG	NATURAL GAS		
DW	DOMESTIC WATER				
DX	DIRECT EXPANSION				
EA	EXHAUST AIR				

MECHANICAL NOTES:	
1.	THE HVAC SYSTEM SHOWN ON THE DRAWINGS IS ONLY DIAGRAMMATIC. ALL ITEMS REQUIRED TO MAKE THE SYSTEM COMPLETE AND IN SAFE WORKING ORDER SHALL BE PROVIDED. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES. EQUIPMENT SHOWN ON THE FLOOR PLANS AND ELEVATIONS ILLUSTRATE THE ARRANGEMENT AND SPACE ALLOCATIONS. THE CONTRACTOR SHALL VERIFY THE SPACE REQUIREMENTS FOR EACH SYSTEM COMPONENT USING MANUFACTURER CERTIFIED SHOP DRAWINGS AND MAKE THE NECESSARY ADJUSTMENTS IN EQUIPMENT PLACEMENT AND CONNECTION IN ORDER TO ACCOMMODATE THE EXACT EQUIPMENT TO BE INSTALLED.
2.	CONTRACTOR IS RESPONSIBLE FOR FILING/PAYING FOR PERMITS AND CERTIFICATES OF INSPECTION THAT PERTAIN TO WORK DONE BY CONTRACTOR. CONTRACTOR SHALL DELIVER COPIES OF ALL PERMITS AND CERTIFICATES OF INSPECTION TO OWNER/CONSTRUCTION MANAGER.
3.	CONTRACTOR SHALL PROVIDE JOB SPECIFIC SUBMITTALS ON ALL SCHEDULED EQUIPMENT AND MISCELLANEOUS DEVICES INSTALLED UNDER THIS SCOPE OF WORK. SUBMITTALS SHALL INCLUDE BUT NOT BE LIMITED TO PRODUCT DATA, DIMENSIONED DRAWINGS, PERFORMANCE DATA, ELECTRICAL DATA, CERTIFICATIONS.
4.	THE HVAC SYSTEM SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL ENERGY CONSERVATION CODE, AND ANY OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK.
5.	ALL WORK AND MATERIALS SHALL BE GUARANTEED FREE FROM DEFECTS FOR A MINIMUM PERIOD OF ONE YEAR UNLESS NOTED OTHERWISE IN SCHEDULES OR SPECIFICATIONS. THE WARRANTY PERIOD SHALL BEGIN AT THE DATE OF BENEFICIAL OCCUPANCY OF THE FACILITY.
6.	AT THE COMPLETION OF THE JOB, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A COMPLETE SET OF AS-BUILDS, OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND SHALL INSTRUCT OWNER'S MAINTENANCE PERSONNEL ON ALL OPERATING PROCEDURES.
7.	ALL ROOF AND WALL PENETRATIONS MADE UNDER THIS SCOPE OF WORK SHALL BE MADE AND FLASHED BY THIS CONTRACTOR UNLESS NOTED OTHERWISE.
8.	UNLESS NOTED OTHERWISE, ALL HANGERS, RODS, ANGLES, STRUT CHANNELS, ATTACHMENTS, ANCHORS, STRAPS, BOLTS, NUTS, WASHERS AND SCREWS SHALL BE GALVANIZED OR BE OF SIMILAR MATERIAL AS COMPONENT BEING SUPPORTED. ALL ALL-THREAD RODS SHALL HAVE EXCESS LENGTH CUT OFF TO A MAXIMUM LENGTH OF 1" ABOVE/BELOW ATTACHMENT.
9.	ALL EQUIPMENT SHALL BE INSTALLED AS PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
10.	AIR HANDLING EQUIPMENT SHALL NOT BE OPERATED WITHOUT SPECIFIED AIR FILTRATION IN PLACE. ALL FILTERS SHALL BE REPLACED PRIOR TO AIR BALANCE.
11.	INSTALL COMMERCIAL GRADE, FIRE RESISTANT, FLEXIBLE DUCT CONNECTORS AT ALL PIECES OF MOTORIZED AIR HANDLING EQUIPMENT.
12.	ALL DUCTWORK AND PIPING SHALL BE INSTALLED PARALLEL/PERPENDICULAR TO BUILDING COLUMN LINES UNLESS NOTED OTHERWISE.
13.	ALL DUCTWORK SHALL BE G-90 GALVANIZED SHEET METAL AND SHALL COMPLY WITH THE LATEST EDITION OF SMACNA LOW PRESSURE +/- 2" W.G. DUCT CONSTRUCTION STANDARDS UNLESS NOTED OTHERWISE.
14.	ALL BRANCH DUCT TAKE-OFFS SHALL BE INSTALLED AS SHOWN ON MECHANICAL DETAIL SHEETS.
15.	ALL DUCT DIMENSIONS SHOWN ON PLANS ARE INTERNAL UNLESS NOTED OTHERWISE.
16.	ALL RECTANGULAR DUCT ELBOWS SHALL BE LONG RADIUS OR BE INSTALLED WITH TURNING VANES.
17.	ALL ROUND DUCT ELBOWS SHALL BE RADIUS ELBOWS.
18.	AFTER THE DUCTWORK IS INSTALLED AND SEALED, AND BEFORE IT IS INSULATED, A TRAVERSE SHALL BE PERFORMED AS NEAR THE FAN AS POSSIBLE. THAT VALUE SHALL BE COMPARED TO THE TOTAL AIRFLOW AS MEASURED AT THE GRILLES. THIS TEST SHALL BE PERFORMED BEFORE THE INSULATION IS APPLIED AND IS NOT PART OF THE FINAL TEST AND BALANCE. THIS TEST DOES NOT NEED TO BE PERFORMED BY THE TEST AND BALANCE CONTRACTOR.
19.	PROVIDE AND INSTALL SMOKE DETECTORS IN THE RETURN AIR PLENUM OF EACH UNIT AHEAD OF THE FRESH AIR INTAKE AS APPLICABLE BY CODE.
20.	ALL INDOOR SUPPLY, RETURN, OUTSIDE AIR DUCTS, AND ANY INDOOR DUCTS SERVING AN ENERGY RECOVERY UNIT SHALL BE INSULATED WITH 2", 1 P.C.F., R-6 FOIL FACED DUCT WRAP. ALL SEAMS AND JOINTS SHALL BE STAPLED. A VAPOR BARRIER OF 3" WIDE U.L. LISTED FOIL TAPE SHALL BE APPLIED TO ALL SEAMS AND JOINTS.
21.	ALL OUTDOOR SUPPLY, RETURN DUCTS, AND ANY OUTDOOR DUCTS SERVING AN ENERGY RECOVERY UNIT SHALL BE INSULATED WITH MINIMUM R-8 FOIL FACED, RIGID BOARD INSULATION AND WRAPPED WITH AN ALUMINUM JACKET. A VAPOR BARRIER SHALL BE APPLIED TO ALL INSULATION SEAMS AND JOINTS WITH 3" WIDE U.L. LISTED FOIL TAPE. ALL SEAMS AND JOINTS OF ALUMINUM JACKET SHALL BE SEALED WITH SILICONE CAULKING AS PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
22.	PROVIDE AND INSTALL FIRE/SMOKE DAMPERS AS REQUIRED BY THE INTERNATIONAL MECHANICAL CODE. INSTALL LOW LEAK ACCESS DOORS WITH VISION PANEL AT EACH DAMPER IN ACCESSIBLE LOCATION TO ALLOW FOR MAINTENANCE, INSPECTION AND TESTING. PROVIDE 3"x3" RED VINYL LABEL FOR EACH ACCESS DOOR WITH MINIMUM 1" WHITE LETTERS "FIRE/SMOKE DAMPER ACCESS".
23.	DUCT RUN OUTS TO DIFFUSERS SHALL BE THE SAME SIZE AS THE DIFFUSER NECK UNLESS NOTED OTHERWISE.
24.	R-8 INSULATED FLEX DUCT SHALL BE INSTALLED AT EACH CEILING DIFFUSER/GRILLE. FLEX DUCT SHALL NOT EXCEED 5' IN LENGTH (U.N.O.) AND SHALL NOT MAKE ANY BENDS GREATER THAN 30", FLEX DUCT SHALL NOT PENETRATE THROUGH ANY ROOF, FLOOR OR WALLS AND SHALL BE INSTALLED FREE OF KINKS AND SAGS.
25.	INSULATE BACK PANS OF ALL CEILING MOUNT GRILLES/DIFFUSERS WITH R-6 FOIL FACED DUCT WRAP. A VAPOR BARRIER SHALL BE APPLIED TO ALL SEAMS AND JOINTS USING 3" WIDE U.L. LISTED FOIL TAPE.
26.	PAINT THE INSIDE OF ALL GALVANIZED RETURN/EXHAUST AIR GRILLE BOOTHS FLAT BLACK SO THAT NO METAL IS VISIBLE FROM INSIDE ROOM.
27.	HVAC CONTRACTOR SHALL HIRE AN INDEPENDENT CERTIFIED BALANCE CONTRACTOR TO PROVIDE A COMPLETE AIR AND HYDRONIC BALANCE OF ALL SYSTEMS AT THE END OF THE PROJECT. BALANCE REPORT SHALL INCLUDE BUT NOT BE LIMITED TO EQUIPMENT NAME PLATE DATA, MODEL NUMBER, SERIAL NUMBER, MOTOR DATA, FAN RPM, BELT/S/PULLEY SIZES, TOTAL AIRFLOW, FILTER A.P.D., COIL A.P.D, TOTAL SYSTEM STATIC PRESSURE, AIRFLOW AT EACH GRILLE, TOTAL OUTSIDE AIRFLOW, TOTAL WATER FLOW, TOTAL W.P.D.
28.	SEAL ALL DUCT AND PIPE PENETRATIONS THROUGH FIRE/SMOKE BARRIERS AS PER I.M.C.
29.	SEAL ALL DUCTS WITH U.L. 181 WATER BASED FIBER REINFORCED DUCT SEALER TO MEET SEAL CLASS 'A' PER THE LATEST EDITION OF SMACNA "HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE".
30.	ALL FRESH AIR INTAKES MUST BE AT LEAST 10' FROM SEWER VENTS, EXHAUST OUTLETS, AND ADJACENT BUILDINGS OR PROPERTY LINES UNLESS NOTED OTHERWISE.
31.	PROVIDE AND INSTALL VOLUME DAMPERS FOR ALL SUPPLY, RETURN AND EXHAUST DUCT RUN OUTS TO DIFFUSERS/GRILLES. THE DAMPERS SHALL BE LOCATED AS NEAR AS POSSIBLE TO THE BRANCH TAKE OFF. ALL DAMPERS SHALL BE CONSTRUCTED WITH 3/8" CONTINUOUS ROD, 1 1/2" STAND-OFF AND LOCKING QUAD.
32.	PROVIDE AND INSTALL A MANUAL VOLUME DAMPER AND MOTORIZED DAMPER IN EACH OUTSIDE AIR BRANCH DUCT SERVING A FAN COIL UNIT/FURNACE.
33.	CONTRACTOR SHALL INCLUDE CONDENSATE DRAIN PIPING TO EACH HVAC UNIT. ALL CONDENSATE DRAIN PIPING SHALL BE INSULATED WITH MINIMUM 3/4" THICK ARMAFLEX PIPE INSULATION WITH GLUED SEAMS AND JOINTS.
34.	PROVIDE AND INSTALL DIELECTRIC UNIONS AND/OR FLANGES AT ALL PIPING MATERIAL TRANSITIONS TO DISSIMILAR MATERIAL.
35.	ALL PIPING SHALL BE SUPPORTED AS PER ASME B31 CODE. VERTICAL PIPING SHALL BE SUPPORTED AT EACH FLOOR LEVEL WITH PIPE RISER CLAMPS.
36.	PROVIDE AND INSTALL PIPING IDENTIFICATION WITH PREFORMED PLASTIC PIPE WRAPS EQUAL TO CRAFTMARK "SPECIMARK" CONFORMING TO ASME (ANSI) 2007 SCHEME FOR THE IDENTIFICATION OF PIPING SYSTEMS. LABELS SHALL CONTAIN SYSTEM AND FLOW DIRECTION. LABELS SHALL BE PLACED IN EACH ROOM, AT MAXIMUM 50' INTERVALS, NEAR EACH VALVE AND AT EACH BRANCH.
37.	PROVIDE AND INSTALL 4"x24" VINYL DUCT LABELS WITH 2 1/4" LETTERS FOR ALL DUCT SYSTEMS. LABELS SHALL BE BLUE WITH WHITE LETTERS FOR SUPPLY AIR, GREEN WITH WHITE LETTERS FOR ALL RETURN AIR, MAKE UP AIR, EXHAUST AIR, RELIEF AIR AND OUTSIDE AIR. LABELS SHALL BE INSTALLED IN EACH ROOM, AT MAXIMUM SPACING OF 50' AND ON EACH SIDE OF WALL PENETRATIONS. DO NOT LABEL EXPOSED DUCT UNLESS DIRECTED BY ARCHITECT.
38.	PROVIDE AND INSTALL ENGRAVED PLASTIC NAME PLATES FOR EACH PIECE OF MECHANICAL EQUIPMENT. NAME PLATE SHALL INCLUDE AS APPLICABLE: UNIT I.D., MOTOR VOLTAGE, PHASE, H.P., DESIGN AIRFLOW, DESIGN STATIC, SIZE AND QUANTITY OF FILTERS, NOMINAL TONNAGE, NOMINAL BTU (KW) INPUT, RATED GAS PRESSURE, DESIGN WATER FLOW, DESIGN HEAD. LETTERS SHALL BE A MINIMUM HEIGHT OF 3/8".
39.	ALL REFRIGERANT PIPING SHALL BE TYPE 'L' HARD DRAWN 'ACR' COPPER PIPING AND SHALL BE INSTALLED USING CONTINUOUS NITROGEN PURGE. PIPING SHALL BE INSTALLED ON STRUT CHANNEL TRAPEZE PIPE HANGERS AND SHALL BE CLAMPED DIRECTLY TO STRUT CHANNEL WITH PIPE CLAMPS. PIPE CLAMPS SHALL NOT PENETRATE PIPE INSULATION.
40.	ALL REFRIGERANT PIPING INSTALLED INSIDE WALL CAVITY SHALL BE TYPE 'L' ANNEALED 'ACR' AND BE INSTALLED IN A CONTINUOUS SCHEDULE 40 PVC PIPE SLEEVE. TERMINATE SLEEVE 4" BEYOND PIPING EXIT OF WALL CAVITY. NO JOINTS SHALL BE ALLOWED INSIDE SLEEVE.
41.	INSULATE ALL REFRIGERANT PIPING WITH 1" THICK ARMAFLEX PIPE INSULATION WITH GLUED SEAMS AND JOINTS.
42.	ALL OUTDOOR REFRIGERANT PIPING INSULATION SHALL BE WRAPPED WITH AN ALUMINUM JACKET. ALL SEAMS AND JOINTS OF ALUMINUM JACKET SHALL BE SEALED WITH SILICONE CAULKING AS PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
43.	ALL THERMOSTATS OR OPERABLE CONTROLS SHALL BE INSTALLED AT 48" A.F.F. UNLESS NOTED OTHERWISE.
44.	MECHANICAL CONTRACTOR SHALL PROVIDE LOW VOLTAGE WIRING, TRANSFORMERS, ETC FOR HVAC CONTROLS. COORDINATE ALL LINE VOLTAGE REQUIREMENTS WITH ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL MAKE ALL FINAL LINE VOLTAGE CONNECTIONS.

MECHANICAL LEGEND AND SYMBOLS			
	SUPPLY AIR DIFFUSER - ARROWS INDICATE PATTERN	12"Ø	ROUND DUCTWORK SIZE (INCHES)
	RETURN/TRANSFER AIR GRILLE	12x12	RECTANGULAR DUCTWORK SIZE (INCHES). FIRST NUMBER IS SIDE SHOWN
	EXHAUST GRILLE		FLEXIBLE DUCT (5'-0" MAXIMUM LENGTH)
	SUPPLY AIR PLENUM SLOT DIFFUSER		DUCTWORK SIZE TRANSITIONS
	THERMOSTAT ("X" INDICATES UNIT CONTROLLED)		TAP, PROVIDE MANUAL BALANCING DAMPER
	MOTORIZED DAMPER		DIFFUSER/GRILLE/REGISTER LABEL: "A" - TYPE/DESIGNATION "200" - AIRFLOW (CFM)
	MANUAL VOLUME (BALANCE) DAMPER		MECHANICAL EQUIPMENT
	FD - FIRE DAMPER		MECHANICAL EQUIPMENT ABOVE

SHEET INDEX	
M0.0	MECHANICAL LEGEND & GENERAL NOTES
M1.1	1st FLOOR MECHANICAL PLAN
M1.2	2nd THRU 8th FLOOR MECHANICAL PLAN
M1.3	ROOF MECHANICAL PLAN
M3.0	MECHANICAL SCHEDULES & DETAILS

IMPORTANT INFORMATION	
SHOULD THE DRAWINGS OR SPECIFICATIONS CONFLICT WITHIN THEMSELVES, OR WITH EACH OTHER, THE REQUIREMENT WITH THE GREATEST QUANTITY AND/OR THE HIGHEST QUALITY SHALL PREVAIL. THE DECISION OF THE ENGINEER OF RECORD FOR THE SYSTEM BEING INSTALLED SHALL BE FINAL.	
ALL WRITTEN NOTES ON THIS SHEET AND ALL OTHER SHEETS CONTAINED IN THESE PLANS SHALL BE READ AND UNDERSTOOD BY THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS. IT IS THE RESPONSIBILITY OF ALL CONTRACTORS TO COORDINATE WITH EACH OTHER TO DELIVER COMPLETE, FUNCTIONING SYSTEMS AS SHOWN IN THESE PLANS.	



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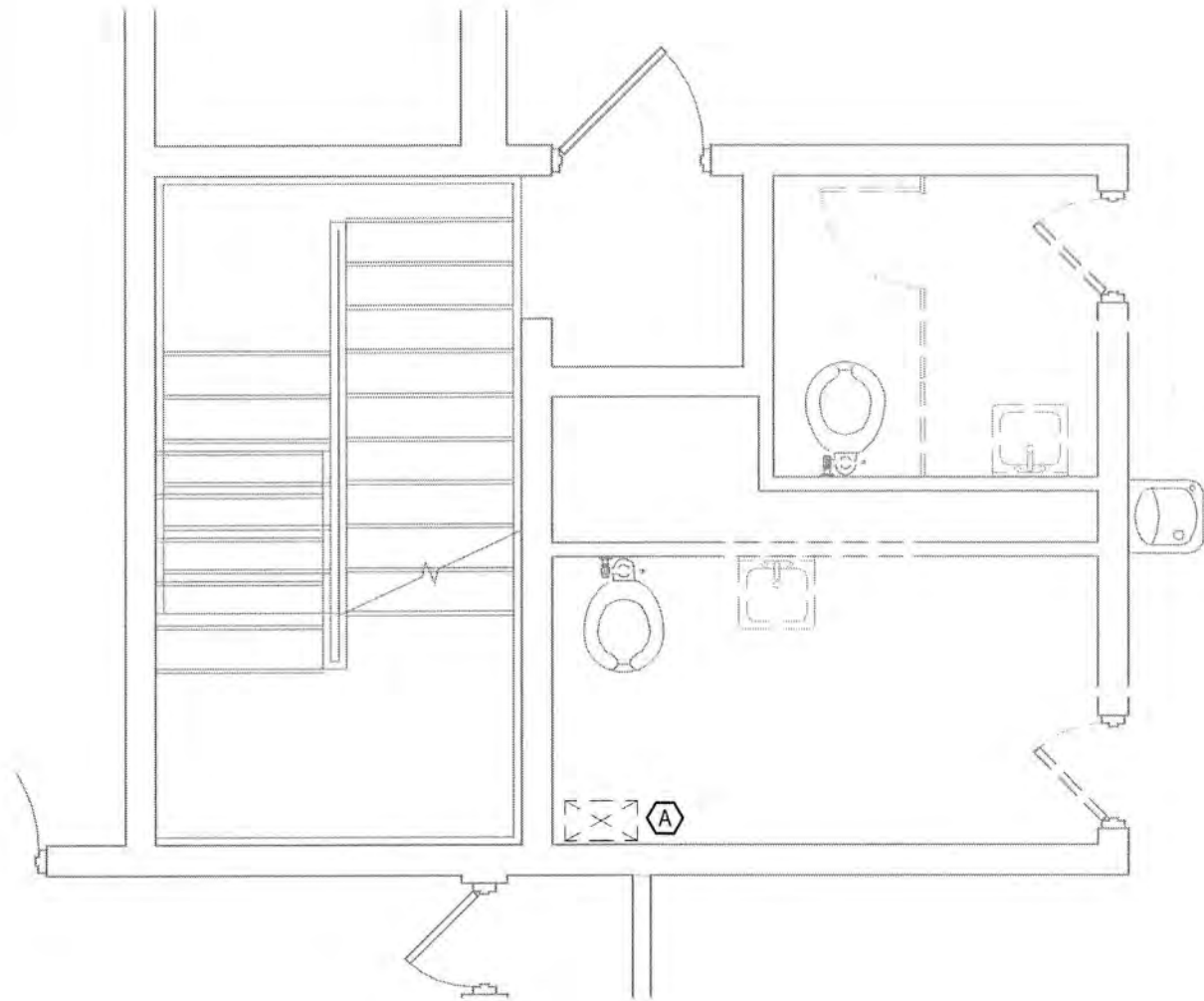
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1	ISSUED FOR BIDDING	07/22/2022

MECHANICAL LEGEND & GENERAL NOTES	
ISSUED FOR BIDDING	

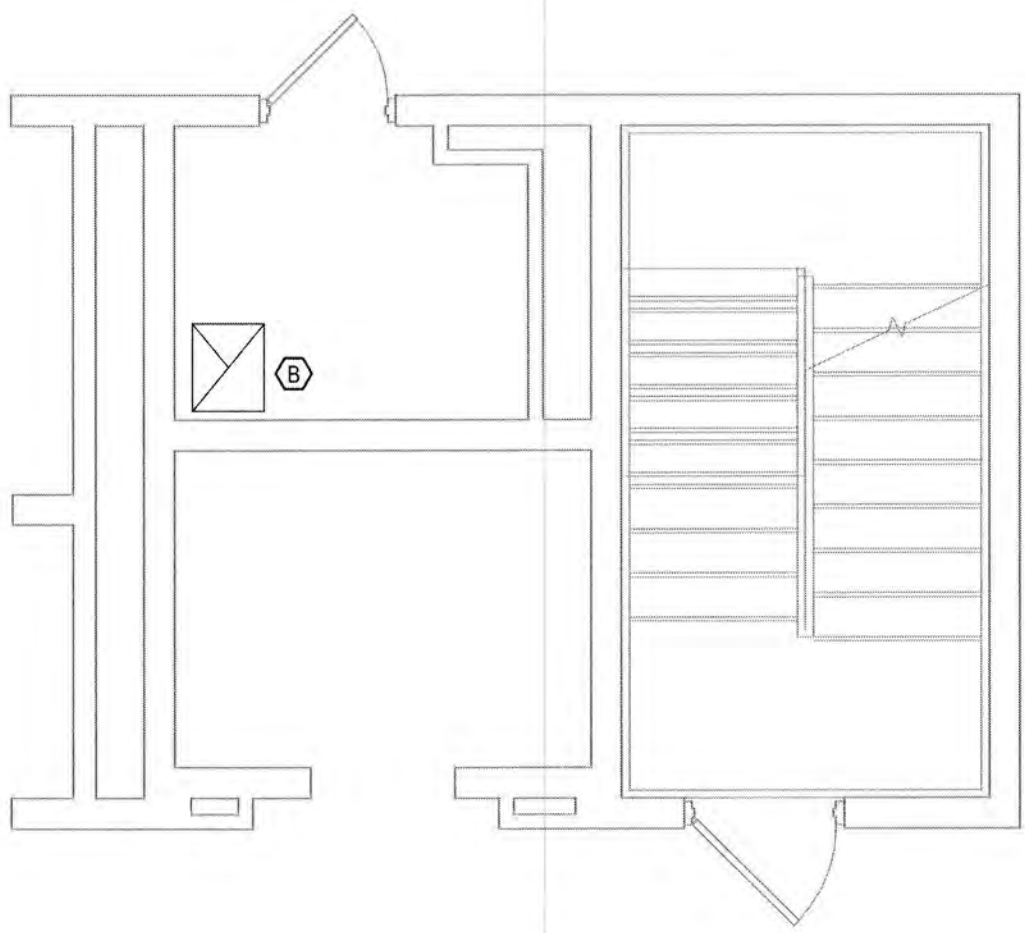
ISSUE DATE	07/22/2022
SCALE	12" = 1'-0"
APPROVED BY	WJ
CHECKED BY	WJ
DESIGNED BY	WJ
SHEET NO.	1

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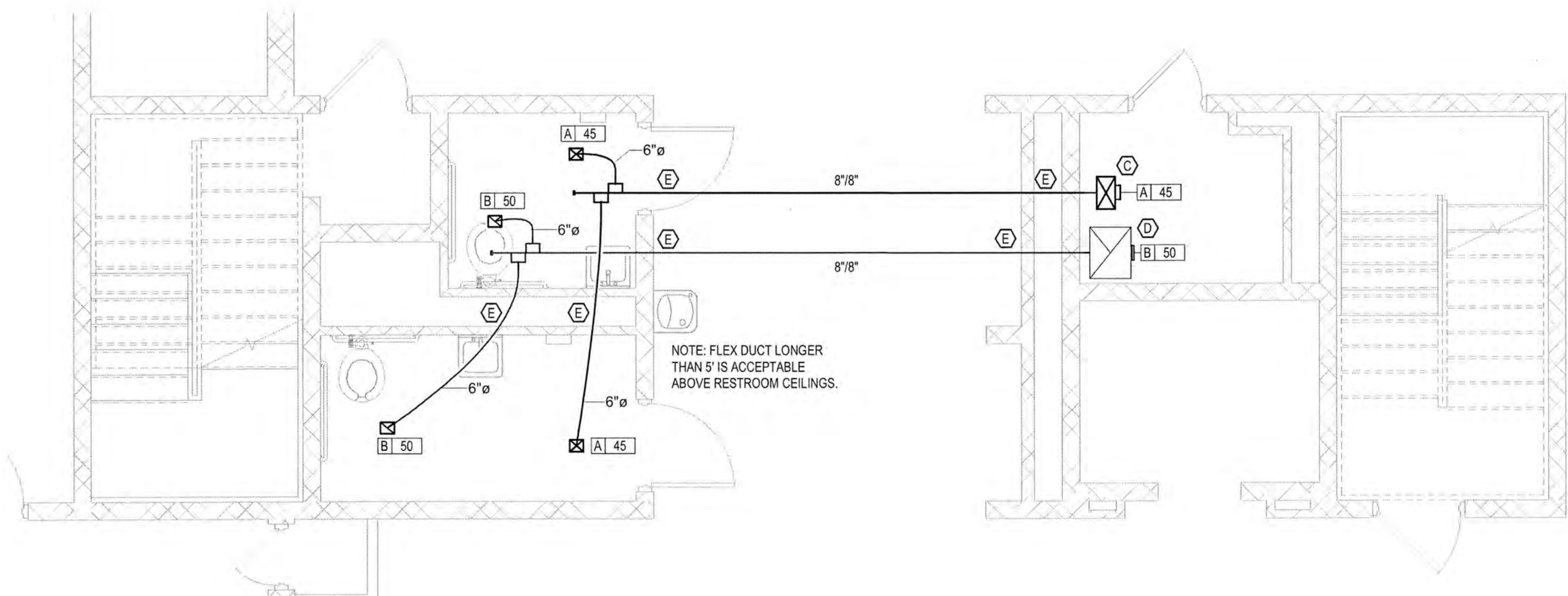
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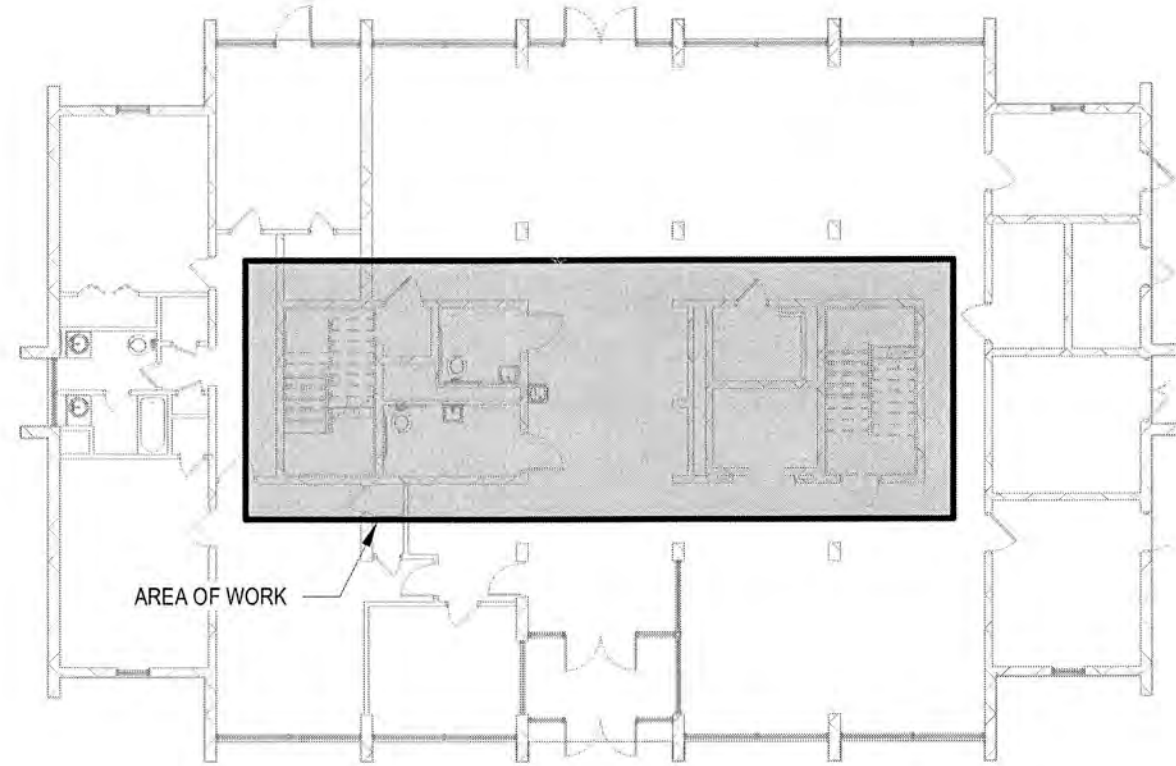
2 1st FLOOR MECHANICAL PLAN - DEMOLITION
SCALE: 1/4" = 1'-0"



1 1st FLOOR KEY PLAN
SCALE: 1/16" = 1'-0"



3 1st FLOOR MECHANICAL PLAN - COMPLETED
SCALE: 1/4" = 1'-0"



1 1st FLOOR KEY PLAN
SCALE: 1/16" = 1'-0"

- MECHANICAL NOTES**
- 1 REFER TO M0.0 FOR GENERAL NOTES AND LEGEND.
 - 2 ROUTING OF DUCTWORK SHOWN IS DIAGRAMMATIC AND IS NOT SHOWN IN EXACT LOCATIONS. CONTRACTOR SHALL INSTALL DUCTWORK WITH THE LEAST AMOUNT OF SPACE USED AS POSSIBLE.
 - 3 ALL DUCTWORK SHALL BE MOUNTED AS HIGH AS POSSIBLE UNLESS OTHERWISE NOTED. CONTRACTOR SHALL COORDINATE DUCTWORK LAYOUT WITH ALL OTHER DISCIPLINES TO AVOID INTERFERENCES.
 - 4 DUCTWORK SHALL BE INSTALLED PARALLEL TO BUILDING LINE UNLESS NOTED OTHERWISE.
 - 5 PROVIDE MANUAL DAMPER AT ALL BRANCH TAKE-OFFS.

- TAG NOTES**
- A EXISTING EXHAUST AIR DUCT TO BE REMOVED.
 - B EXISTING EXHAUST AIR DUCT TO REMAIN.
 - C NEW MAKE-UP AIR DUCT DOWN FROM ROOF. REFER TO ELEVATION (11M3.0) FOR SIZING AND ROUTING. FURNISH & INSTALL GRILLE PER SCHEDULE.
 - D EXISTING EXHAUST AIR DUCT DOWN FROM ROOF. REFER TO ELEVATION (11M3.0) FOR SIZE AND ROUTING INFORMATION. FURNISH & INSTALL GRILLE PER SCHEDULE.
 - E NEW DUCTWORK TO BE ROUTED THRU OR AROUND EXISTING CMU WALLS AS NEEDED. FIELD VERIFY EXISTING CONDITIONS.

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07/22/2022

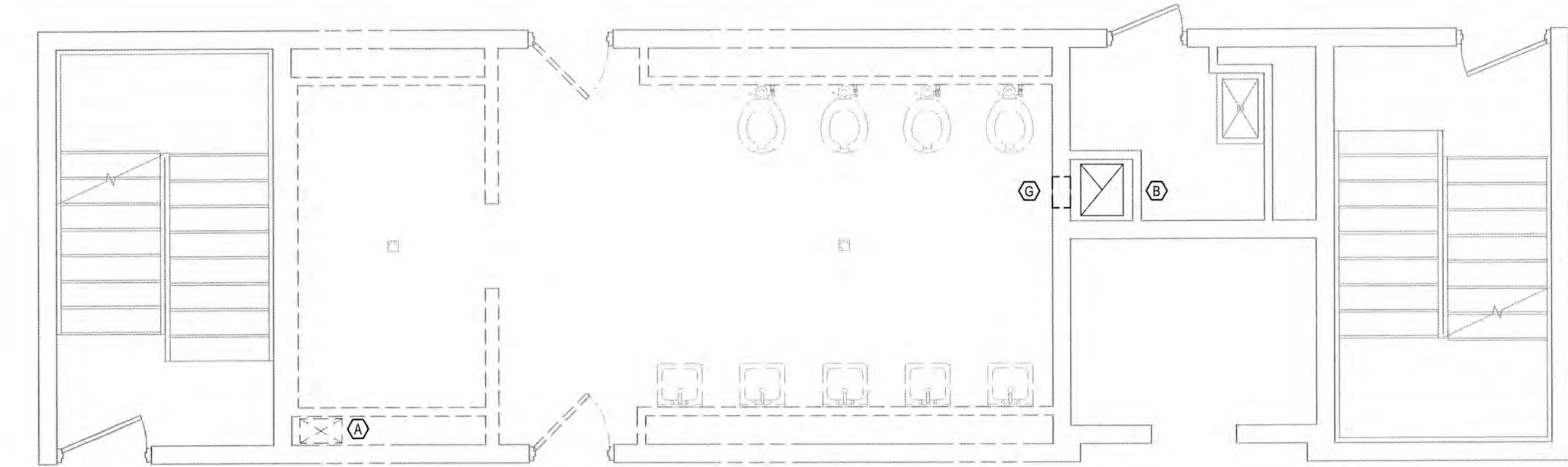
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1	ISSUED FOR BIDDING	GWJ	GWJ	07/22/2022

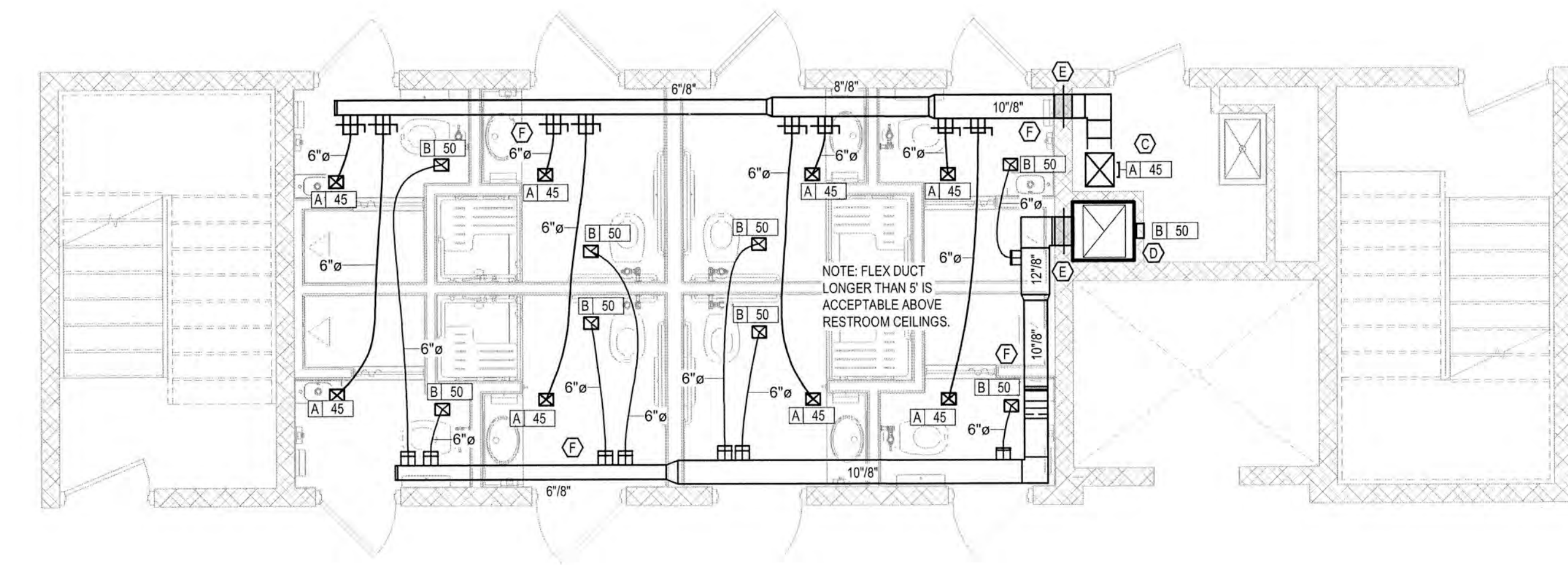
1st FLOOR MECHANICAL PLAN
ISSUED FOR BIDDING

JOB NO.	DATE	CHECKED BY	APPROVED BY	SCALE	VERSION NO.
2084-008	07/22/2022	GWJ	WJL	As Indicated	1

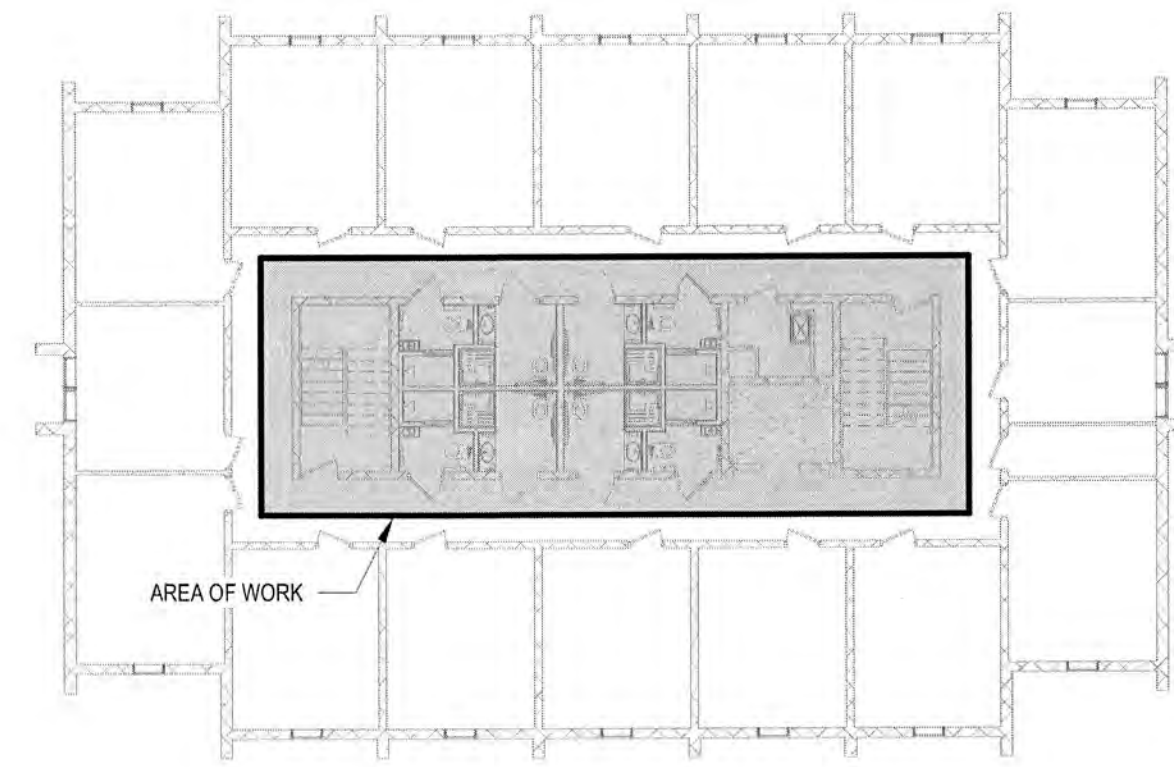
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2 2nd THRU 8th FLOOR - MECHANICAL PLAN - DEMOLITION
SCALE: 1/4" = 1'-0"



4 2nd THRU 8th FLOOR - MECHANICAL PLAN - COMPLETED
SCALE: 1/4" = 1'-0"



1 2nd THRU 8th FLOOR - KEY PLAN
SCALE: 1/16" = 1'-0"

MECHANICAL NOTES	
1	REFER TO M0.0 FOR GENERAL NOTES AND LEGEND.
2	ROUTING OF DUCTWORK SHOWN IS DIAGRAMMATIC AND IS NOT SHOWN IN EXACT LOCATIONS. CONTRACTOR SHALL INSTALL DUCTWORK WITH THE LEAST AMOUNT OF SPACE USED AS POSSIBLE.
3	ALL DUCTWORK SHALL BE MOUNTED AS HIGH AS POSSIBLE UNLESS OTHERWISE NOTED. CONTRACTOR SHALL COORDINATE DUCTWORK LAYOUT WITH ALL OTHER DISCIPLINES TO AVOID INTERFERENCES.
4	DUCTWORK SHALL BE INSTALLED PARALLEL TO BUILDING LINE UNLESS NOTED OTHERWISE.
5	PROVIDE MANUAL DAMPER AT ALL BRANCH TAKE-OFFS.

TAG NOTES	
A	EXISTING EXHAUST AIR DUCT TO BE REMOVED.
B	EXISTING EXHAUST AIR DUCT TO REMAIN.
C	NEW MAKE-UP AIR DUCT DOWN FROM ROOF. REFER TO ELEVATION FOR SIZING AND ROUTING
D	EXISTING EXHAUST AIR DUCT DOWN FROM ROOF. REFER TO ELEVATION FOR SIZE AND ROUTING INFORMATION. FURNISH & INSTALL GRILLE PER SCHEDULE.
E	NEW DUCTWORK TO BE ROUTED THRU EXISTING CMU WALLS AS NEEDED. INSTALL WITH FIRE DAMPER WITH A 1-1/2 HOUR RATING. FIELD VERIFY EXISTING CONDITIONS. FURNISH & INSTALL GRILLE PER SCHEDULE.
F	CEILING SPACE IS TIGHT. COORDINATE WITH OTHER TRADES TO ENSURE INSTALLATION.
G	AIR DEVICE IN WALL TO BE REMOVED AND HOLE TO BE PATCHED.



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DRAWN BY	GWJ	APPROVED BY	WJ
CHECKED BY	WJ	SCALE	As indicated
REVISION NO.	M1.2	REVISION	1

2nd THRU 8th FLOOR MECHANICAL PLAN

ISSUED FOR BIDDING

REVISIONS	
NO.	DESCRIPTION
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1	ISSUED FOR BIDDING

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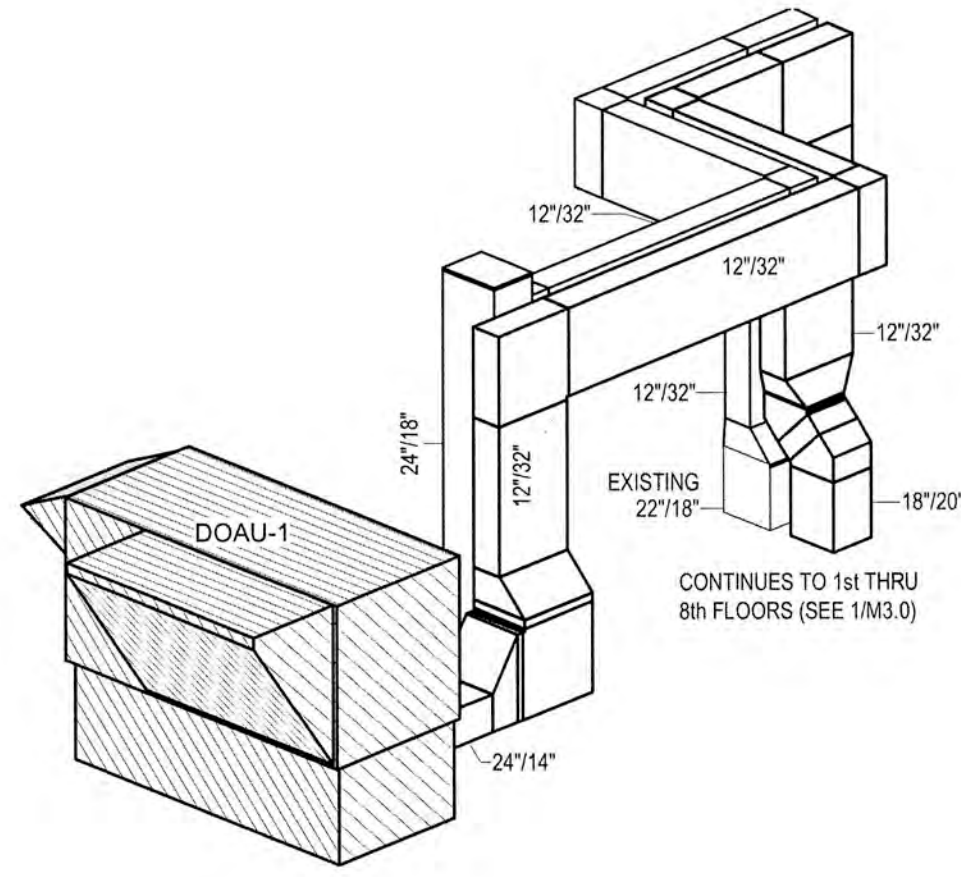
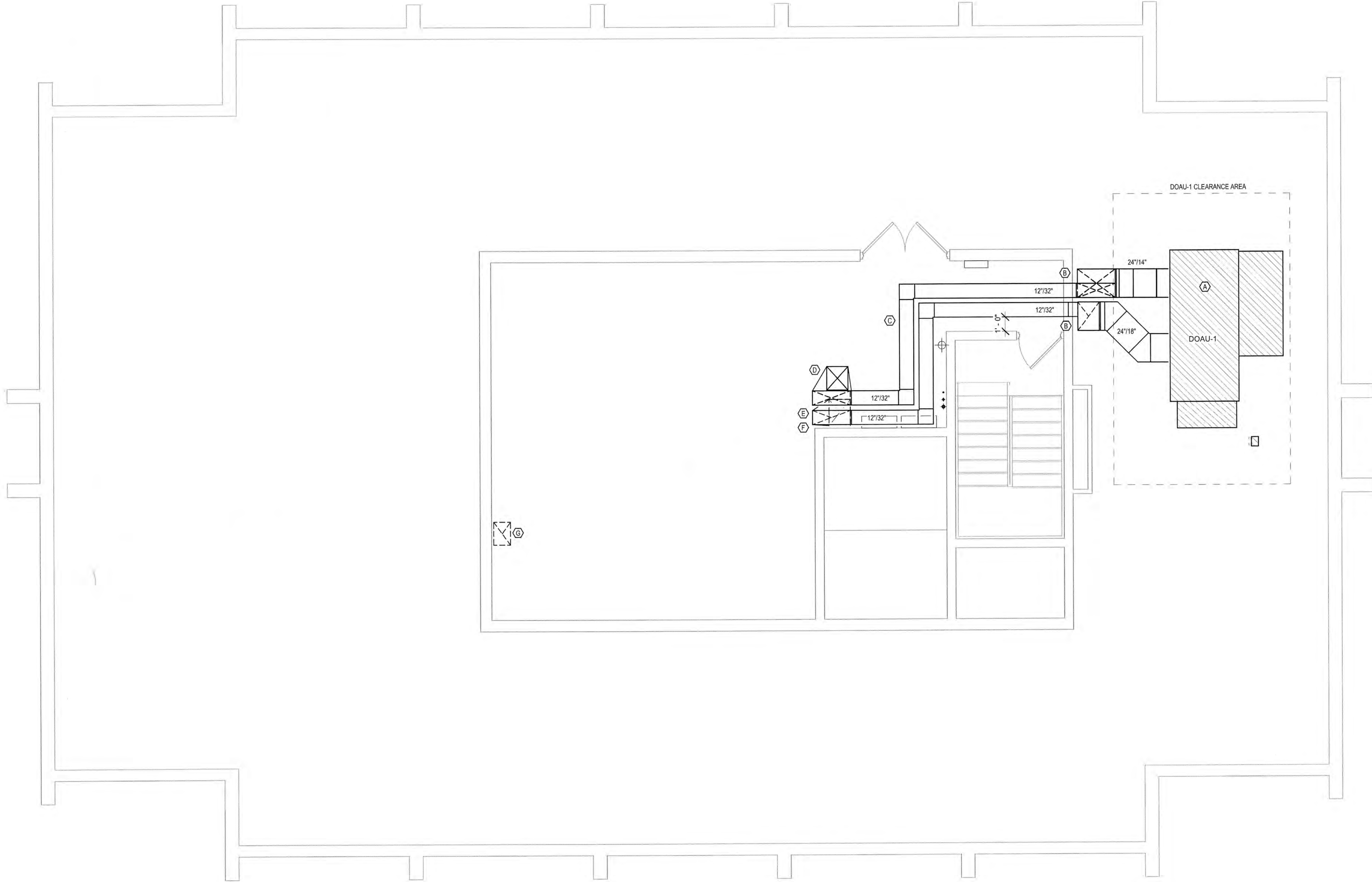


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1

ROOF MECHANICAL PLAN
SCALE: 1/4" = 1'-0"



2 MECHANICAL ROOFTOP ISOMETRIC
SCALE: NTS

- MECHANICAL NOTES**
- 1 REFER TO M0.0 FOR GENERAL NOTES AND LEGEND.
 - 2 ROUTING OF DUCTWORK SHOWN IS DIAGRAMMATIC AND IS NOT SHOWN IN EXACT LOCATIONS. CONTRACTOR SHALL INSTALL DUCTWORK WITH THE LEAST AMOUNT OF SPACE USED AS POSSIBLE.
 - 3 ALL DUCTWORK SHALL BE MOUNTED AS HIGH AS POSSIBLE UNLESS OTHERWISE NOTED. CONTRACTOR SHALL COORDINATE DUCTWORK LAYOUT WITH ALL OTHER DISCIPLINES TO AVOID INTERFERENCES.
 - 4 DUCTWORK SHALL BE INSTALLED PARALLEL TO BUILDING LINE UNLESS NOTED OTHERWISE.
 - 5 PROVIDE MANUAL DAMPER AT ALL BRANCH TAKE-OFFS.

- TAG NOTES**
- A DEDICATED OUTSIDE AIR UNIT (DOAU-1), MOUNTED ON ROOF. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. REFER TO 2/M1.3 FOR ADDITIONAL INFORMATION.
 - B EXHAUST AND MAKE-UP AIR DUCTS THRU EXTERIOR WALL.
 - C EXHAUST AND MAKE-UP AIR DUCTS OVERHEAD. FIELD VERIFY LOCATIONS OF EXISTING PIPING AND STRUCTURE.
 - D NEW MAKE-UP AIR DUCT THRU FLOOR. REFER TO ELEVATION (1/M3.0) FOR SIZE AND ROUTING.
 - E NEW EXHAUST AIR DUCT TO CONNECT TO EXISTING AIR DUCT. REFER TO ELEVATION (1/M3.0) FOR ADDITIONAL INFORMATION.
 - F EXISTING EXHAUST FAN ON ROOF TO BE REMOVED AND HOLE THRU ROOF TO BE CAPPED WEATHER TIGHT.
 - G EXISTING EXHAUST AIR DUCT TO BE REMOVED. EXHAUST FAN ON ROOF TO BE REMOVED AND CAPPED WEATHER TIGHT.



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SHEET NO.	2024-008	DATE	07/22/2022
DESIGNED BY	WJL	APPROVED BY	WJL
DRAWN BY	WJL	SCALE	1/4" = 1'-0"
SHEET NO.	M1.3	REVISION NO.	1

ROOF MECHANICAL PLAN	
ISSUED FOR BIDDING	

REVISIONS	
NO.	DESCRIPTION
0	ISSUED FOR PERMIT
1	ISSUED FOR BIDDING

KILGORE COLLEGE
STARK HALL R.R. RENOVATION
607 ELDER STREET
KILGORE, TX 75662



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DATA SCHEDULE NOTES:

1. DIGITAL SCROLL COMPRESSOR
2. ELECTRIC HEAT WITH SCR CONTROL
3. DIRTY FILTER ALARM
4. DOUBLE WALL CONSTRUCTION
5. SINGLE POINT POWER CONNECTION
6. FACTORY MOUNTED AND WIRED W/FS
7. LOW AMBIENT CONTROL
8. MODULATING HOT GAS REHEAT
9. VARIABLE SPEED RIGID RECOVERY WHEEL
10. BUILDING AUTOMATIC CONTROL (BAS) INTERFACE
11. INTEGRATE DATA INTO EXISTING FACILITY BAS. COORDINATE POINTS LIST WITH FACILITY BAS PERSONNEL.
12. SMOKE DETECTOR
13. CONDENSATE DRAIN PAN OVERFLOW SWITCH
14. NON-FUSED DISCONNECT FOR FIELD INSTALLATION
15. VOLTAGE/PHASE MONITOR
16. COLLARIAL GUARDS
17. INTERNAL FANMOTOR RECOVERY ISOLATORS
18. MICROPROCESSOR CONTROLLER WITH DIGITAL DISPLAY
19. DUCT MOUNTED SUPPLY AIR DEW POINT/TEMP SENSOR FOR FIELD INSTALLATION
20. FACTORY INSTALLED OUTSIDE AIR, EXHAUST AIR TEMPERATURE AND HUMIDITY SENSORS
21. 36" TALL, INSULATED HORIZONTAL DISCHARGE CURB
22. PIPE CONDENSATE DRAIN TO LOCATION SHOWN ON PLANS.
23. FACTORY START-UP
24. ACCEPTABLE ALTERNATE MANUFACTURERS: DAIKIN, TRANE

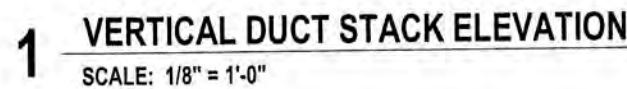
1. DUAL SUPPLY AND EXHAUST FAN SHALL RUN CONTINUOUSLY DURING NORMAL BUILDING OPERATION OR AS REQUIRED BY OWNER.
2. DUAL SUPPLY FAN SHALL BE CONSTANT FLOW AND SHALL DELIVER A SET AIRFLOW FROM EACH AREA REQUIRING OUTSIDE AIR AS SHOWN ON PLANS.
3. DUAL EXHAUST FAN SHALL BE CONSTANT FLOW AND SHALL EXHAUST A SET AIRFLOW FROM EACH AREA REQUIRING EXHAUST AS SHOWN ON PLANS.
4. EXHAUST FAN SHALL BE CONSTANT FLOW AND SHALL EXHAUST AIR AND EXHAUST ENTERING AIR TEMPERATURE AND HUMIDITY ACROSS ENERGY RECOVERY WHEEL AND SHALL MODULATE WHEEL SPEED TO MAINTAIN OPTIMUM ENERGY RECOVERY.
5. COMPRESSOR SHALL MODULATE TO DELIVER LAT COOL COOLING COIL AS SCHEDULED.
6. GAS REHEAT COIL SHALL BE REQUIRED TO REHEAT DISCHARGE AIR TO DELIVER NEUTRAL AIR AS SCHEDULED (55°F-72°F).
7. WHEN OUTDOOR AIR TEMPERATURES ARE BELOW DISCHARGE AIR TEMPERATURE SETPOINT AND DO NOT REQUIRE DEMONSTRATION OF THE SYSTEM CYCLE, THE OFF LINE ELECTRIC FAN SHALL BE REQUIRED TO MAINTAIN DESIRED DISCHARGE AIR TEMPERATURE SETPOINT AS SCHEDULED (55°F-72°F).

TECO METAL PRODUCTS

- RN-B, EXT., 3000 CFM
- 14 GAUGE GALVANIZED STEEL
- 1.5" INSULATION ON WALLS
- 1" INSULATION ON FLOOR
- TURNING VANES IN SUPPLY SECTION
- TERMINATION STRIP WITH 1" X 4" WOOD NAILER

NOTES

1. UNITS SHALL BE FURNISHED WITH APPROPRIATE FRAMES, ETC. FOR SIDEWALL OR CEILING MOUNTING.
2. FINISH / PAINT COLOR SHALL BE AS DETERMINED BY OWNER'S REPRESENTATIVE.
3. SOUND VALUES SHALL NOT EXCEED 30 NC (ROOM), UNLESS OTHERWISE NOTED.
4. PROVIDE ALL NECESSARY ACCESSORIES FOR COMPLETE INSTALLATION.

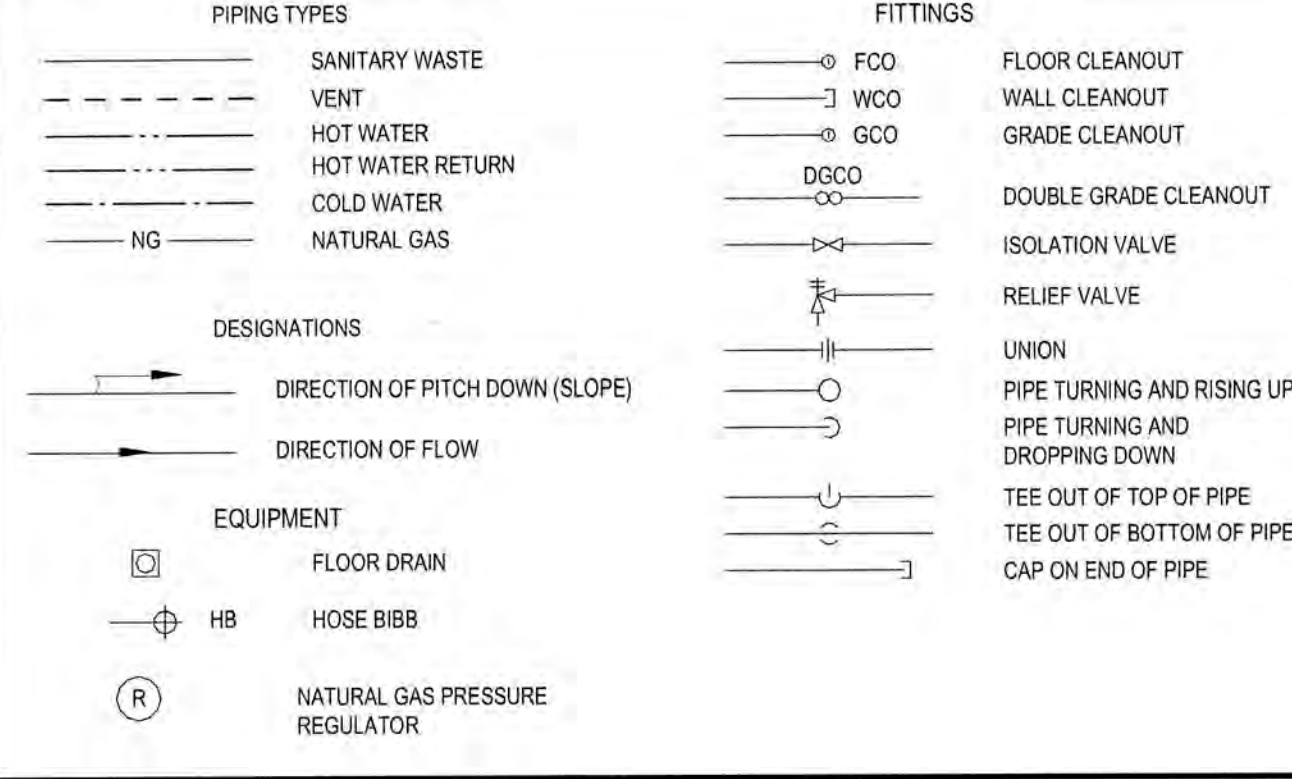


PLUMBING ABBREVIATIONS				
A/C	AIR CONDITIONING	EAT	ENTERING AIR TEMPERATURE	NO NORMALLY OPEN, NUMBER
AC	ACETYLENE			NTS NOT TO SCALE
ADA	AMERICANS WITH DISABILITIES ACT	EER	ENERGY EFFICIENCY RATIO	OA OUTSIDE AIR
AFF	ABOVE FINISHED FLOOR	EFF	EFFICIENCY	OD OUTSIDE DIAMETER
AFG	ABOVE FINISHED GRADE	EMCS	ENERGY MONITORING AND CONTROL SYSTEM	P POLE
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	EWG	ELECTRIC WATER COOLER	PH PHASE
AR	ARGON	EWI	ENTERING WATER TEMPERATURE	RA RETURN AIR
ARCH	ARCHITECTURE / ARCHITECTURAL	F	FAHRENHEIT	RPM REVOLUTIONS PER MINUTE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS	FLA	FULL LOAD AMPS	SA SUPPLY AIR
		FPM	FEET PER MINUTE	SEER SEASONAL ENERGY EFFICIENCY RATIO
BAS	BUILDING AUTOMATION SYSTEM	FT	FEET, FOOT	SEER SEASONAL ENERGY EFFICIENCY RATIO
		GAL	GALLON	SMACNA SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOC.
BFF	BELOW FINISHED FLOOR	GPM	GALLONS PER MINUTE	
BFG	BELOW FINISHED GRADE	HP	HORSEPOWER	SP STATIC PRESSURE
BG	BELOW GRADE	HTG	HEATING	SQ FT SQUARE FEET
BSB	BRANCH SELECTOR BOX	HVAC	HEATING, VENTILATING, AND AIR CONDITIONING	SS SANITARY SEWER; STAINLESS STEEL
BTUH	BRITISH THERMAL UNIT PER HOUR	HW	DOMESTIC HOT WATER	T-STAT THERMOSTAT
C	CELSIUS	HWR	DOMESTIC HOT WATER RETURN	TAS TEXAS ACCESSIBILITY STANDARD
CA	COMPRESSED AIR	HZ	HERTZ	UON UNLESS OTHERWISE NOTED
CD	CONDENSATE DRAIN	IN	INCHES	V VOLT / VENT
CFM	CUBIC FEET PER MINUTE	KW	KILOWATT	VAV VARIABLE AIR VOLUME
CHW	CHILLED WATER	LAT	LEAVING AIR TEMPERATURE	VD VOLUME DAMPER
CHWR	CHILLED WATER RETURN	LWT	LEAVING WATER TEMPERATURE	VFD VARIABLE FREQUENCY DRIVE
CHWS	CHILLED WATER SUPPLY	MBH	THOUSAND BTUH	VTR VENT THRU ROOF
CO	CARBON MONOXIDE	MCA	MINIMUM CIRCUIT AMPACITY	W WATT / WASTE
CO2	CARBON DIOXIDE	MCB	MAIN CIRCUIT BREAKER	WB WET BULB
COP	COEFFICIENT OF PERFORMANCE	MIN	MINIMUM	WC WATER COLUMN
		MLO	MAIN LUG ONLY	WG WATER GAUGE
CJ	CONDENSING UNIT	MOCP	MAXIMUM OVERCURRENT PROTECTION	
CW	CONDENSER WATER	NC	NORMALLY CLOSED; NOISE CRITERIA	
DB	DRY BULB	NF	NON-FUSED	
dB	DECIBELS	NFPA	NATIONAL FIRE PROTECTION ASSOC.	
DCW	DOMESTIC COLD WATER	NG	NATURAL GAS	
DDC	DIRECT DIGITAL CONTROL			
DW	DOMESTIC WATER			
DX	DIRECT EXPANSION			
EA	EX-HAUST AIR			

PLUMBING NOTES:

- THE PLUMBING SYSTEM SHOWN ON THE DRAWINGS IS ONLY DIAGRAMMATIC. ALL ITEMS REQUIRED TO MAKE THE SYSTEM COMPLETE AND IN SAFE WORKING ORDER SHALL BE PROVIDED. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES AND UTILITIES. EQUIPMENT SHOWN ON THE FLOOR PLANS AND ELEVATIONS ILLUSTRATE THE ARRANGEMENT AND SPACE ALLOCATIONS. THE CONTRACTOR SHALL VERIFY THE SPACE REQUIREMENTS FOR EACH SYSTEM COMPONENT USING MANUFACTURER CERTIFIED SHOP DRAWINGS AND MAKE THE NECESSARY ADJUSTMENTS IN EQUIPMENT PLACEMENT AND CONNECTION IN ORDER TO ACCOMMODATE THE EXACT EQUIPMENT TO BE INSTALLED.
- CONTRACTOR IS RESPONSIBLE FOR FILING/PAYING FOR PERMITS AND CERTIFICATES OF INSPECTION THAT PERTAIN TO WORK DONE BY CONTRACTOR. CONTRACTOR SHALL DELIVER COPIES OF ALL PERMITS AND CERTIFICATES OF INSPECTION TO OWNER/CONSTRUCTION MANAGER.
- CONTRACTOR SHALL PROVIDE JOB SPECIFIC SUBMITTALS ON ALL SCHEDULED EQUIPMENT, MISCELLANEOUS VALVES, ACCESSORIES AND DEVICES INSTALLED UNDER THIS SCOPE OF WORK. SUBMITTALS SHALL INCLUDE BUT NOT BE LIMITED TO PRODUCT DATA, DIMENSIONED DRAWINGS, PERFORMANCE DATA, ELECTRICAL DATA, CERTIFICATIONS.
- THE PLUMBING SYSTEM SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE INTERNATIONAL PLUMBING CODE, INTERNATIONAL FUEL GAS CODE, INTERNATIONAL ENERGY CONSERVATION CODE AND ANY OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK.
- ALL WORK AND MATERIALS SHALL BE GUARANTEED FREE FROM DEFECTS FOR A MINIMUM PERIOD OF ONE YEAR UNLESS NOTED OTHERWISE IN SCHEDULES OR SPECIFICATIONS. THE WARRANTY PERIOD SHALL BEGIN AT THE DATE OF BENEFICIAL OCCUPANCY OF THE FACILITY.
- AT THE COMPLETION OF THE JOB, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A COMPLETE SET OF AS-BUILTS, OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND SHALL INSTRUCT OWNER'S MAINTENANCE PERSONNEL ON ALL OPERATING PROCEDURES.
- ALL UTILITIES SHALL BE FIELD VERIFIED FOR LOCATION BY THE PLUMBING CONTRACTOR PRIOR TO INSTALLATION OF ANY PLUMBING SYSTEMS.
- CLEAN-OUTS SHALL BE INSTALLED AS REQUIRED BY INTERNATIONAL PLUMBING CODE. CLEAN-OUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE. COORDINATE ALL CLEAN-OUT LOCATIONS WITH OWNER PRIOR TO INSTALLATION.
- ALL PIPING PENETRATIONS THROUGH PARTITIONS AND FLOORS SHALL BE SLEEVED AND PATCHED TO MAINTAIN PARTITION AND FLOOR FIRE/SMOKE RATINGS.
- ALL ROOF AND WALL PENETRATIONS MADE UNDER THIS SCOPE OF WORK SHALL BE MADE AND FLASHED BY THIS CONTRACTOR UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL EQUIPMENT WITH OTHER TRADES PRIOR TO INSTALLATION.
- COORDINATE ALL FLOOR PENETRATIONS WITH OWNERS REPRESENTATIVE PRIOR TO CONSTRUCTION.
- UNLESS NOTED OTHERWISE, ALL HANGERS, RODS, ANGLES, STRUT CHANNELS, ATTACHMENTS, ANCHORS, STRAPS, BOLTS, NUTS, WASHERS AND SCREWS SHALL BE GALVANIZED OR BE OF SIMILAR MATERIAL AS COMPONENT BEING SUPPORTED. ALL ALL-THREAD RODS SHALL HAVE EXCESS LENGTH CUT OFF TO A MAXIMUM LENGTH OF 1" ABOVE/BELow ATTACHMENT.
- ALL PIPING VERTICAL PIPING SHALL BE SUPPORTED AT BASE AND AT EACH FLOOR LEVEL.
- ALL PIPING SHALL BE INSTALLED PARALLEL/PERPENDICULAR TO BUILDING COLUMN LINES UNLESS NOTED OTHERWISE.
- INSTALL PIPING SUPPORTS WITHIN 12" OF EACH ELBOW AND FITTING OR FITTING GROUP.
- INSTALL UNIONS/FLANGE CONNECTIONS AT VALVES AND AT CONNECTIONS TO EQUIPMENT.
- ALL SEWER VENTS MUST BE AT LEAST 10' FROM ANY OUTSIDE AIR INTAKE AND OPERABLE WINDOW UNLESS NOTED OTHERWISE.
- PROVIDE AND INSTALL DIELECTRIC UNIONS AND/OR FLANGES AT ALL PIPING MATERIAL TRANSITIONS TO DISSIMILAR MATERIAL.
- PROVIDE AND INSTALL PIPING IDENTIFICATION WITH PREFORMED PLASTIC PIPE WRAPS EQUAL TO CRAFTMARK "SPECIMARK" CONFORMING TO ASME (ANSI) 2007 SCHEME FOR THE IDENTIFICATION OF PIPING SYSTEMS. LABELS SHALL CONTAIN SYSTEM AND FLOW DIRECTION. LABELS SHALL BE PLACED IN EACH ROOM, AT MAXIMUM 60' INTERVALS, NEAR EACH VALVE AND AT EACH BRANCH.
- PROVIDE AND INSTALL ENGRAVED PLASTIC NAME PLATES FOR EACH PIECE OF PLUMBING EQUIPMENT. NAME PLATE SHALL INCLUDE AS APPLICABLE: UNIT I.D., MOTOR VOLTAGE, PHASE, H.P., DESIGN WATER FLOW, DESIGN HEAD, NOMINAL BTU INPUT (KW) AND RATED GAS PRESSURE. LETTERS SHALL BE A MINIMUM OF 3/8".
- PROVIDE 1/2" HOT AND COLD WATER TO EACH FIXTURE AS REQUIRED U.N.O.. INSTALL ISOLATION VALVES AT EACH PIPING BRANCH TO FIXTURE UNLESS NOTED OTHERWISE.
- PROVIDE INDIRECT WASTE CONNECTORS AS REQUIRED BY CODE.
- VACUUM BREAKERS ARE REQUIRED ON JANITOR'S SINK, HOSE BIBBS, SHOWERS THAT HAVE HOSES AND ANY OTHER FIXTURE THAT IS CAPABLE OF RECEIVING HOSES.
- ALL HORIZONTAL WATER PIPING SHOWN ON THIS PLAN IS ROUTED ABOVE CEILING UNLESS NOTED OTHERWISE.
- INSTALL ONE-PIECE, DEEP PATTERN TYPE ESCUTCHEONS AT ALL PIPING PENETRATIONS THROUGH INTERIOR WALLS, CEILINGS, AND FLOORS THAT ARE EXPOSED AND/OR CONCEALED IN MILLWORK.
- INSTALL ALL WASTE AND VENT RISERS AS TIGHT AS POSSIBLE TO STRUCTURE.
- FURNISH TRAP GUARDS ON FLOOR DRAINS NOT SPECIFIED TO BE INSTALLED WITH AN AUTOMATIC TRAP PRIMER.
- MAKE CHANGES IN DIRECTION FOR STORM DRAIN, SANITARY SEWER AND VENT PIPING USING APPROPRIATE FITTINGS AS PER INTERNATIONAL PLUMBING CODE. CHANGES IN DIRECTION OF FLOW GREATER THAN 90 DEGREES SHALL NOT BE PERMITTED. ONLY STANDARD SIZES OF PIPE AND FITTINGS SHALL BE INSTALLED. REDUCING DRAINAGE PIPE SIZES IN THE DIRECTION OF FLOW SHALL NOT BE PERMITTED.
- BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED AS REQUIRED PER THE PLUMBING CODE AND LOCAL CODES.
- CONTRACTOR SHALL TEST ALL WATER, GAS, SANITARY SEWER AND VENT PIPING AS PER THE INTERNATIONAL PLUMBING CODE AND AUTHORITY HAVING JURISDICTION FOR A PERIOD OF 24 HOURS PRIOR TO FLOOR, CEILING, AND WALL COVER UP AND PRIOR TO INSTALLING PIPE INSULATION AS APPLICABLE.
- PROVIDE WATER HAMMER ARRESTERS AT FIXTURES AS REQUIRED BY CODE.
- ALL PIPING, FITTINGS, VALVES AND PIPING SPECIALTIES SHALL HAVE A PRESSURE RATING GRATER THAN OR EQUAL TO MAXIMUM POSSIBLE SYSTEM PRESSURE.
- ALL HOT AND COLD WATER PIPING SHALL BE INSULATED WITH INSULATION EQUAL TO OWENS CORNING "ASJ MAX" JACKETED FIBERGLASS PIPE INSULATION WITH MASTIC VAPOR BARRIER APPLIED ON ALL SEAMS AND JOINTS. INSTALL PVC COVERED FITTING INSULATION AT ALL FITTINGS AND VALVES. ALL INSULATION MATERIALS INSTALLED INDOORS SHALL HAVE A FLAME-SPREAD INDEX AND SMOKE DEVELOPED INDEX OF LESS THAN 25/50. ALL INSULATION MATERIALS INSTALLED OUTDOORS SHALL HAVE A FLAME-SPREAD INDEX AND SMOKE DEVELOPED INDEX OF LESS THAN 75/150.
- PIPING INSTALLED WITH IN THE BUILDING THERMAL ENVELOPE SHALL BE AS FOLLOWS: INSULATION THICKNESS FOR HOT WATER PIPING ≤ 140°F AND ≤ 1 1/2" NPS, AND ALL COLD WATER PIPING SHALL BE 1" THICK. INSULATION THICKNESS FOR ALL HOT WATER PIPING ≥ 2" NPS AND ≤ 140°F SHALL BE 1 1/2" THICK. INSULATION THICKNESS FOR ALL HOT WATER PIPING ≤ 200°F AND ≥ 141°F SHALL BE 2" THICK.
- PIPING INSTALLED EXTERIOR TO THE BUILDING THERMAL ENVELOPE SHALL BE AS FOLLOWS: INSULATION THICKNESS FOR HOT WATER PIPING ≤ 140°F AND ≤ 1 1/2" NPS, AND ALL COLD WATER PIPING SHALL BE 2" THICK. INSULATION THICKNESS FOR ALL HOT WATER PIPING ≥ 2" NPS AND ≤ 140°F SHALL BE 2 1/2" THICK. INSULATION THICKNESS FOR ALL HOT WATER PIPING ≤ 200°F AND ≥ 141°F SHALL BE 3" THICK.
- ALL PIPING INSULATION INSTALLED OUTDOORS AND EXPOSED TO THE WEATHER SHALL BE INSTALLED WITH AN ALUMINUM JACKET. INSTALL JACKET WITH 2" OVERLAP AT ALL SEAMS AND JOINTS IN A MANNER TO SHED WATER. SEAL ALL END JOINTS WITH WEATHER PROOF SEALANT AS RECOMMENDED BY MANUFACTURER. SECURE JACKET WITH STAINLESS STEEL BANDS AND BAND CLAMPS. BANDS SHALL BE INSTALLED AT MAXIMUM INTERVALS OF 12" O.C. AND AT END JOINTS.
- ALL STORM DRAIN PIPING INSIDE BUILDING WITHIN 15' OF ROOF DRAIN OR TO THE FIRST VERTICAL DROP (WHICH EVER IS GREATER) SHALL BE INSULATED WITH 1" THICK INSULATION EQUAL TO OWENS CORNING "ASJ MAX" JACKETED FIBERGLASS PIPE INSULATION WITH MASTIC VAPOR BARRIER APPLIED ON ALL SEAMS AND JOINTS. INSTALL PVC COVERED FITTING INSULATION AT ALL FITTINGS.
- ALL ISOLATION/SHUT-OFF VALVES OTHER THAN INDIVIDUAL FIXTURE STOPS SHALL BE LEAD FREE, TWO PIECE, THREADED, FULL PORT BALL VALVES WITH STAINLESS STEEL BALL AND TRIM.
- ALL ROOF TOP PIPING SUPPORTS SHALL BE EQUAL TO MAPA PRODUCTS MT-8S OR MT-2R SERIES PIPE SUPPORTS WITH 1/2" RUBBER PADS.
- ALL DOMESTIC WATER INSTALLED UNDERGROUND SHALL BE BY ONE OF THE FOLLOWING MATERIALS: TYPE "K" ANNEALED COPPER WITH BRAZED JOINTS, CROSS-LINKED POLYETHYLENE TUBING (PEXUPONOR), SCHEDULE 40 POLYVINYL CHLORIDE TUBING (PVC) WITH SOLVENT WELDED JOINTS AND FITTINGS, SCHEDULE 40 CHLORINATED POLYVINYL CHLORIDE TUBING (CPVC) WITH SOLVENT WELDED JOINTS AND FITTINGS.
- ALL DOMESTIC WATER PIPING INSTALLED UNDER BUILDING SLAB SHALL BE BY ONE OF THE FOLLOWING MATERIALS: TYPE "K" ANNEALED COPPER, CROSS-LINKED POLYETHYLENE TUBING (PEXUPONOR). PIPING UNDER BUILDING SLAB SHALL BE CONTINUOUS. NO JOINTS SHALL BE PERMITTED UNDER BUILDING SLAB.
- ALL DOMESTIC WATER INSTALLED ABOVE GROUND SHALL BE BY ONE OF THE FOLLOWING MATERIALS: TYPE "L" HARD DRAWN COPPER WITH SOLDERED JOINTS AND FITTINGS, CROSS-LINKED POLYETHYLENE TUBING (PEXUPONOR), SCHEDULE 40 POLYVINYL CHLORIDE TUBING (PVC) WITH SOLVENT WELDED JOINTS AND FITTINGS, SCHEDULE 40 CHLORINATED POLYVINYL CHLORIDE TUBING (CPVC) WITH SOLVENT WELDED JOINTS AND FITTINGS.
- ALL STORM DRAIN PIPING, SANITARY SEWER AND VENT PIPING ABOVE GROUND SHALL BE BY ONE OF THE FOLLOWING MATERIALS: NO-HUB CAST IRON SOIL PIPE AND FITTINGS WITH HEAVY DUTY SHIELDED COUPLINGS, SCHEDULE 40 PVC DWV PIPE AND SOLVENT WELDED FITTINGS AND JOINTS.
- ALL STORM DRAIN PIPING, SANITARY SEWER AND VENT PIPING BELOW GROUND SHALL BE SCHEDULE 40 PVC DWV PIPE AND SOLVENT WELDED FITTINGS AND JOINTS.
- ALL NATURAL GAS PLUG VALVES SHALL BE CAST IRON, LUBRICATED, FULL PORT, 1/4 TURN WRENCH OPERATED PLUG VALVES WITH 200 PSI WOG RATINGS AND SHALL MEET ALL APPLICABLE ASME/ANSI STANDARDS FOR SYSTEM PRESSURE.
- ALL NATURAL GAS BALL VALVES SHALL BE THREADED BRONZE/BRASS BALL VALVES WITH 1/4 TURN LEVER AND SHALL MEET ALL ASME/ANSI STANDARDS FOR SYSTEM PRESSURE.
- ALL NATURAL GAS APPLIANCE SHUT-OFF VALVES SHALL BE LOCATED WITHIN 72" OF APPLIANCE AND SHALL BE EASILY ACCESSIBLE.
- ALL NATURAL GAS PIPING TO REGULATORS AND APPLIANCES SHALL BE INSTALLED WITH A MINIMUM 6" SEDIMENT TRAP/DRIp LEG.
- ALL ABOVE GROUND NATURAL GAS PIPING ≤ 5 PSI AND ≤ 2 1/2" NPS SHALL BE SCHEDULE 40 STEEL PIPE WITH THREADED FITTINGS AND JOINTS.
- ALL ABOVE GROUND NATURAL GAS PIPING > 5 PSI OR > 2 1/2" NPS SHALL BE SCHEDULE 40 STEEL PIPE WITH WELDED AND/OR FLANGED FITTINGS AND JOINTS.
- ALL NATURAL GAS PIPING INSTALLED UNDER GROUND SHALL BE POLYETHYLENE WITH HEAT-FUSION JOINTS AND FITTINGS. ALL RISERS OUT OF GROUND SHALL BE ANODELESS RISERS. ALL UNDERGROUND PIPING SHALL BE INSTALLED WITH TRACER WIRE AND WARNING TAPE.
- NATURAL GAS PIPING WITH SYSTEM PRESSURE > 5 PSI SHALL NOT BE PERMITTED INSIDE OF BUILDING UNLESS NOTED OTHERWISE.
- INSTALL STRAINER / SCREEN ON INLET OF EACH PRESSURE REGULATOR AND AUTOMATIC OR ELECTRICALLY OPERATED VALVE.
- ALL OUTDOOR NATURAL GAS PIPING SHALL BE PAINTED YELLOW WITH HEAVY DUTY INDUSTRIAL GRADE PAINT.
- ALL COMPRESSED AIR PIPING SHALL BE SCHEDULE 40 STEEL PIPE AND FITTINGS. FOR PIPING ≤ 2 1/2" NPS, FITTINGS AND JOINTS SHALL BE THREADED. FOR PIPING > 2 1/2" NPS, FITTINGS AND JOINTS SHALL BE WELDED AND/OR FLANGED.

PLUMBING SYMBOLS AND LEGENDS



SHEET INDEX

P0.0	PLUMBING LEGEND & GENERAL NOTES
P1.0	DOMESTIC WATER PLAN
P2.0	SANITARY SEWER PLAN

IMPORTANT INFORMATION

SHOULD THE DRAWINGS OR SPECIFICATIONS CONFLICT WITHIN THEMSELVES, OR WITH EACH OTHER, THE REQUIREMENT WITH THE GREATEST QUANTITY AND/OR THE HIGHEST QUALITY SHALL PREVAIL. THE DECISION OF THE ENGINEER OF RECORD FOR THE SYSTEM BEING INSTALLED SHALL BE FINAL.

ALL WRITTEN NOTES ON THIS SHEET AND ALL OTHER SHEETS CONTAINED IN THESE PLANS SHALL BE READ AND UNDERSTOOD BY THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS. IT IS THE RESPONSIBILITY OF ALL CONTRACTORS TO COORDINATE WITH EACH OTHER TO DELIVER COMPLETE, FUNCTIONING SYSTEMS AS SHOWN IN THESE PLANS.



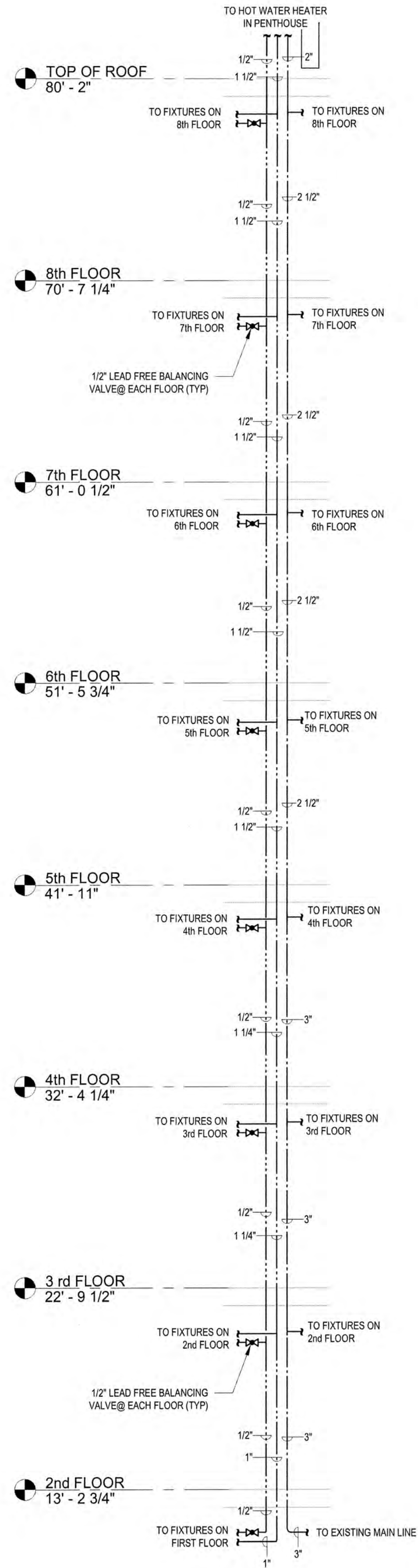
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REVISIONS		DATE
NO.	DESCRIPTION	BY
0	ISSUED FOR PERMIT	GWJ 06/29/22
1	ISSUED FOR BIDDING	GWJ 07/22/2022

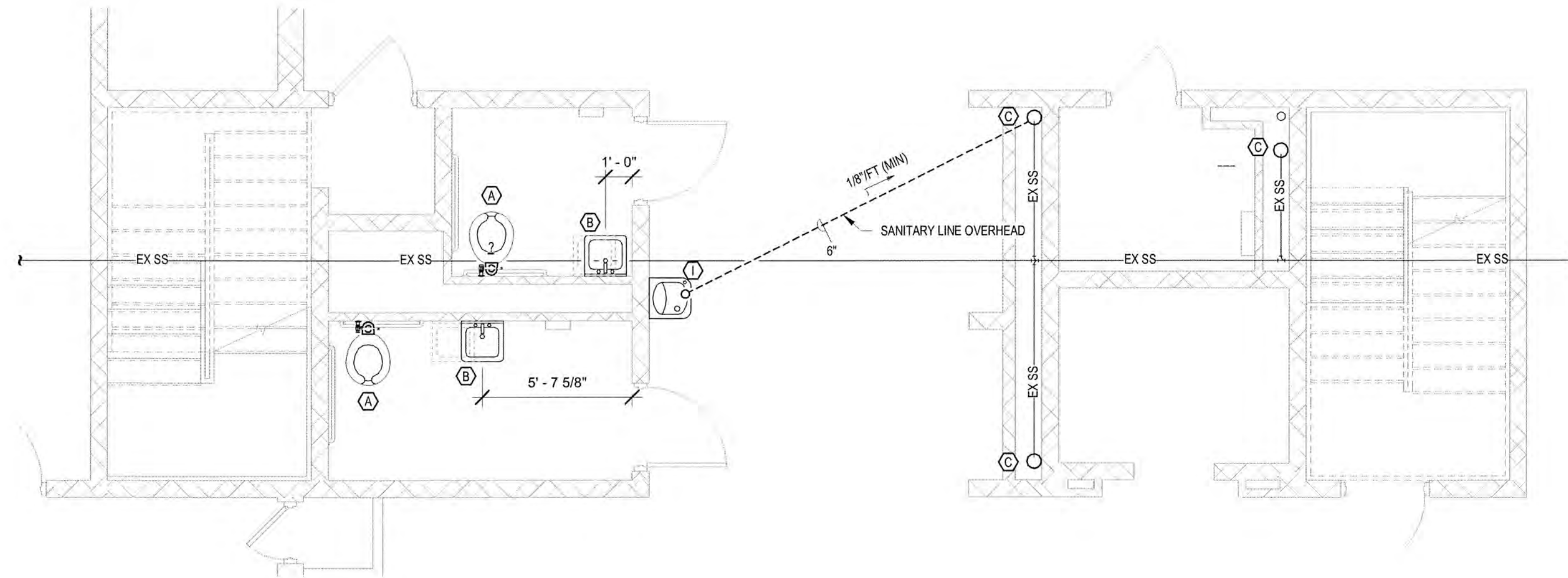
PLUMBING LEGEND & GENERAL NOTES

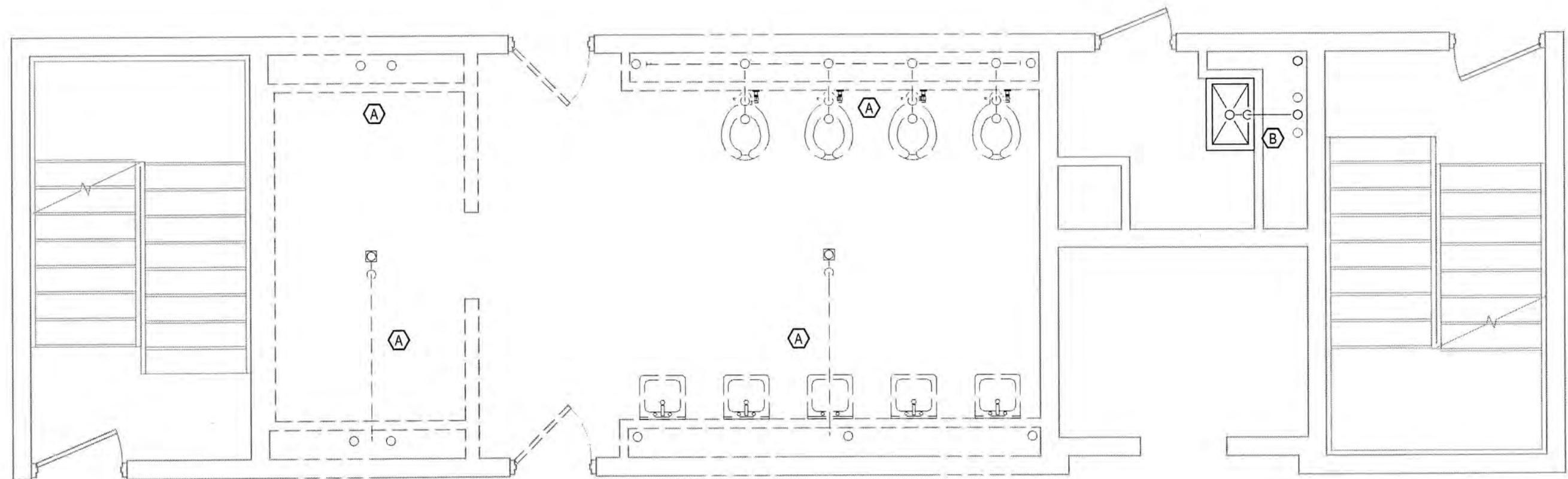
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204-008	07/22/2022
DESIGNED BY	APPROVED BY
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GWJ	WLJ
SHEET NO.	RECORD NO.
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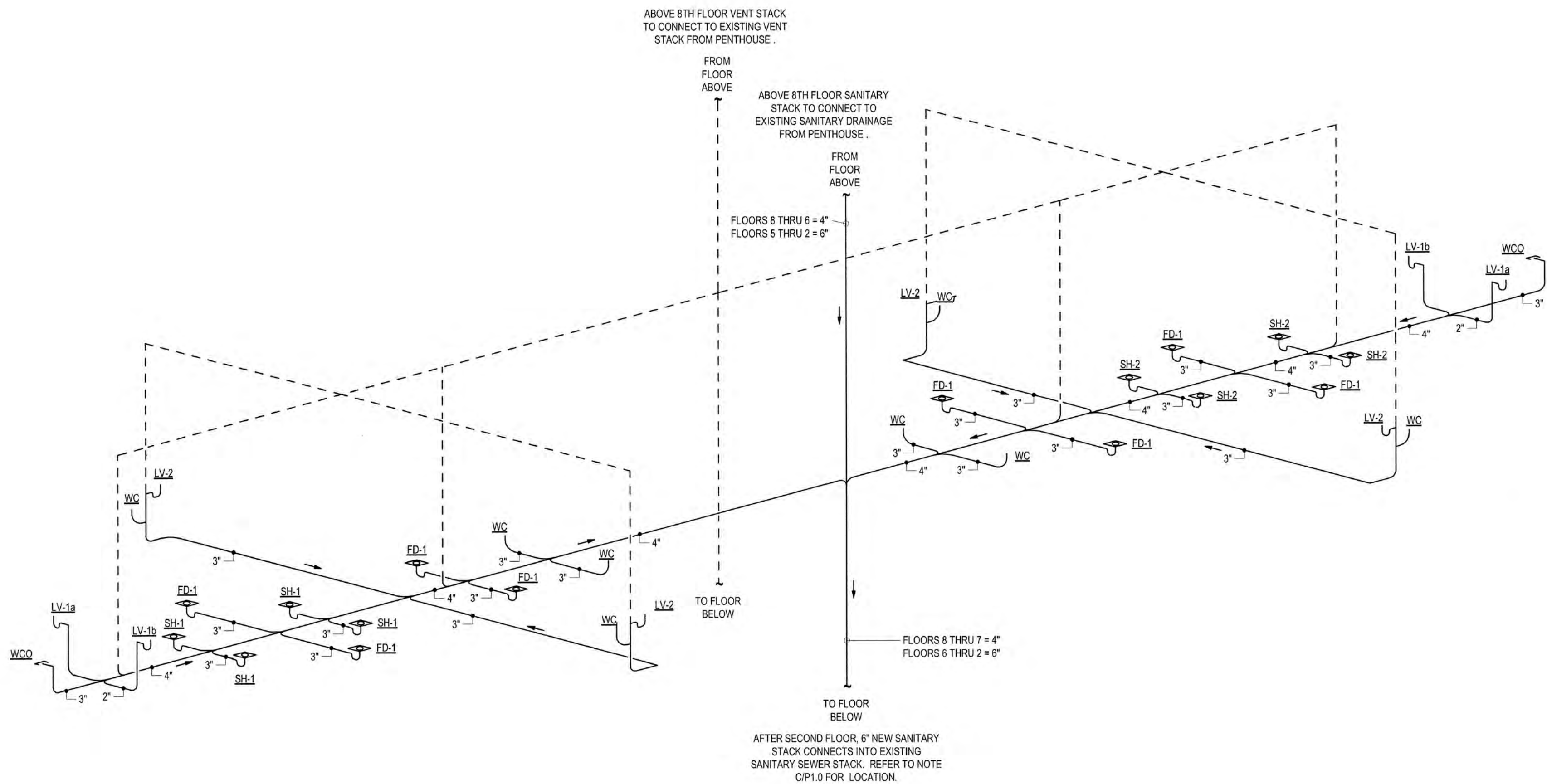


3 DOMESTIC WATER STACK ELEVATION
SCALE: 1/4" = 1'-0"

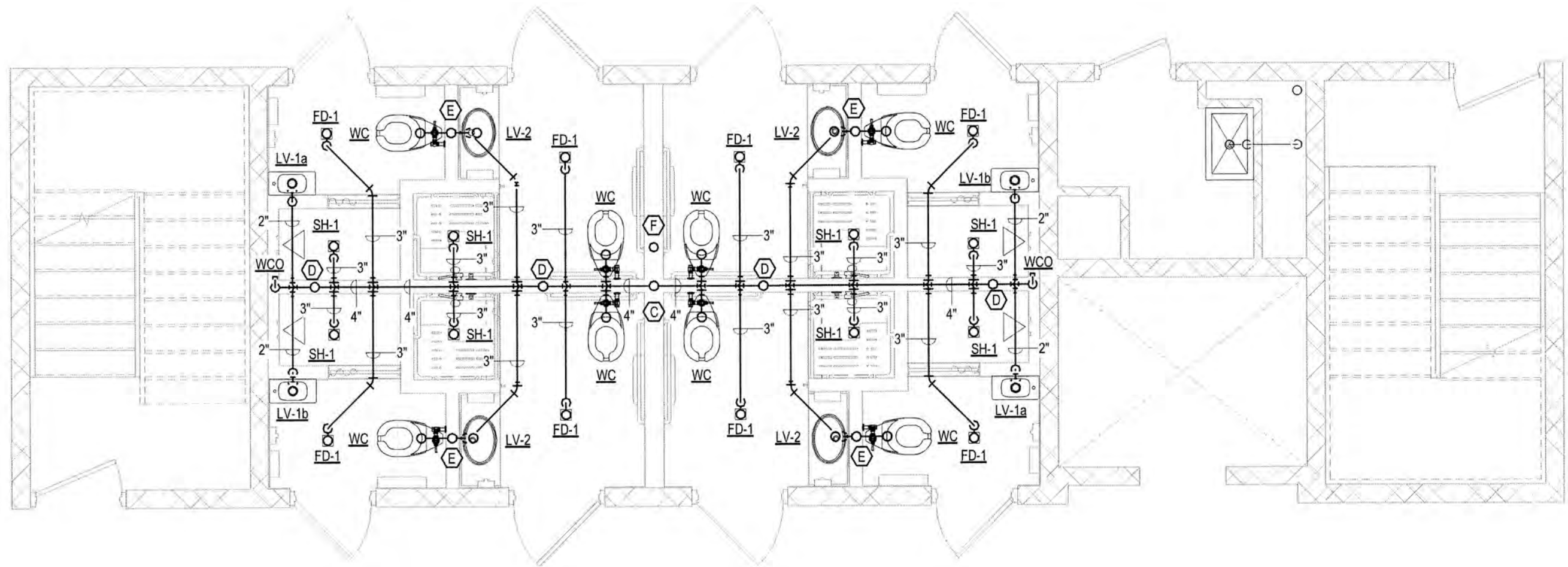




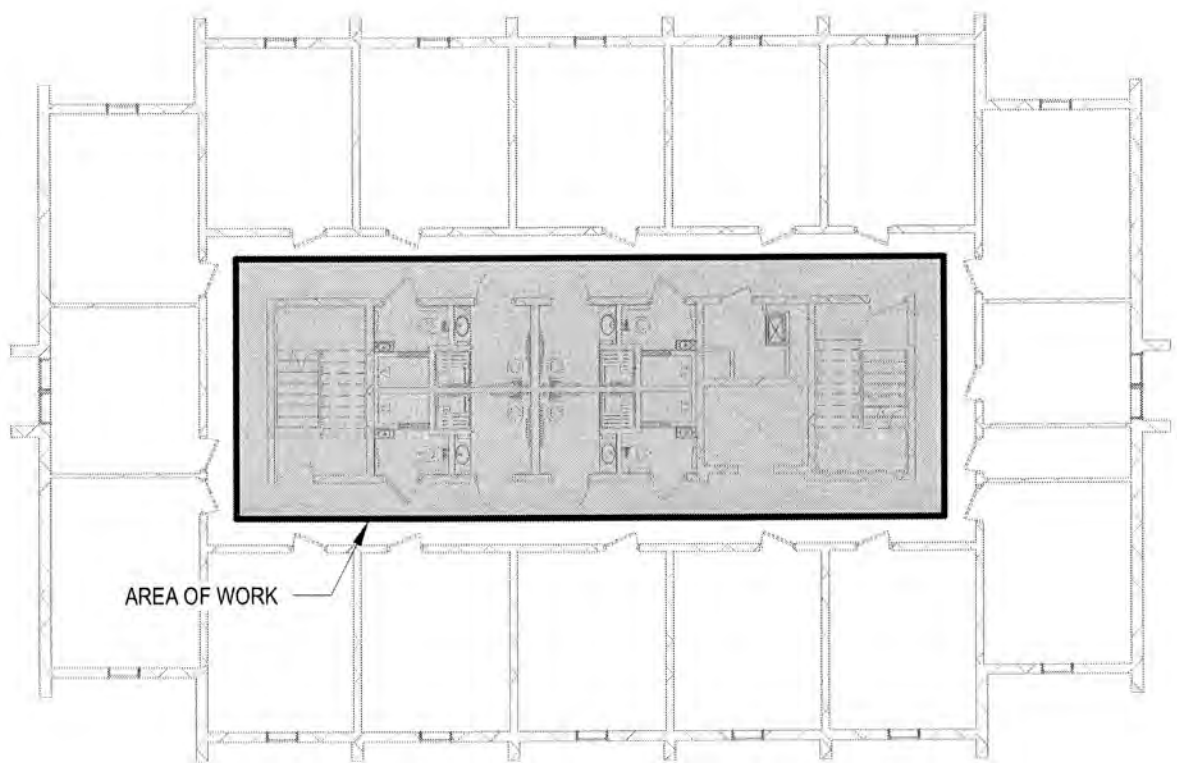
1 2nd THRU 8th FLOOR - SANITARY SEWER - DEMOLITION
SCALE: 1/4" = 1'-0"



4 SANITARY SEWER RISER (TYPICAL FLOORS 2 THRU 8)
SCALE: NTS



2 2nd THRU 8th FLOOR - SANITARY SEWER - COMPLETED
SCALE: 1/4" = 1'-0"



3 2nd THRU 8th FLOOR - KEY PLAN
SCALE: 1/16" = 1'-0"

PLUMBING FIXTURE SCHEDULE								
MARK	DESCRIPTION	MANUFACTURER	MODEL	REMARKS	CONNECTION SIZE			
					W	V	CW	HW
FD-1	3" FLOOR DRAIN	ZURN	FD-2280-PV3-ST	FINISHED AREA FLOOR DRAIN W/ SQUARE TOP, PVC HUB, AND TRAP PRIMER CONNECTION	3"	2"		
LV-1a	WALL HUNG LAVATORY	KOHLER	K-80179-R	WALL-MOUNT, VITREOUS CHINA, RIGHT HANDED, RECTANGULAR BASIN WITH OVERFLOW. SINGLE FAUCET HOLE ON LEFT SIDE. FAUCET: DELTA, #534LF-HGM-PP	1 1/2"	2"	1/2"	1/2"
LV-1b	WALL HUNG LAVATORY	KOHLER	K-80179-L	WALL-MOUNT, VITREOUS CHINA, LEFT HANDED, RECTANGULAR BASIN WITH OVERFLOW. SINGLE FAUCET HOLE ON LEFT SIDE. FAUCET: DELTA, #534LF-HGM-PP	1 1/2"	2"	1/2"	1/2"
LV-2	LAVATORY	CARAGREEN	DURAT SINK - OVAL II	LAVATORY WITH INTEGRATED COUNTERTOP. REFER TO ARCHITECTURAL FOR DIMENSIONS. PROVIDE WITH SINGLE FAUCET MOUNTED TO SIDE OF SINK. FAUCET: DELTA, #534LF-HGM-PP. PROVIDE WITH OPTIONAL OVERFLOW.	1 1/2"	2"	1/2"	1/2"
SH-1	SHOWER	ZURN	Z7121-SS-LH-DV2P-HW	SHOWER HEAD: SINGLE HANDLE PRESSURE BALANCING MIXING SHOWER UNIT WITH VOLUME CONTROL, DRAIN: ZURN, FD-2280-PV3-ST	3"	2"	1/2"	1/2"
WC	WATER CLOSET	AMERICAN STANDARD	2854.128	ADA ACCESSIBLE, FLOOR MOUNTED, ELONGATED FLUSHOMETER VALVE TOILET, 1.28 GPM, VITREOUS CHINA, SEAT: AMERICAN STANDARD #5901.100	3"	2"	1"	

- PLUMBING NOTES**
- REFER TO P10.0 FOR GENERAL NOTES AND LEGEND.
 - ROUTING OF PIPING SHOWN IS DIAGRAMMATIC AND IS NOT SHOWN IN EXACT LOCATIONS. CONTRACTOR SHALL INSTALL PIPING WITH THE LEAST AMOUNT OF SPACE USED AS POSSIBLE.
 - ALL PIPING SHALL BE MOUNTED AS HIGH AS POSSIBLE UNLESS NOTED OTHERWISE. CONTRACTOR SHALL COORDINATE PIPING LAYOUT WITH ALL OTHER DISCIPLINES TO AVOID INTERFERENCES.
 - PIPING SHALL BE INSTALLED PARALLEL TO BUILDING LINE UNLESS NOTED OTHERWISE.
 - PROVIDE ISOLATION VALVE AT ALL DOMESTIC WATER BRANCH TAKE-OFFS.
 - PROVIDE TRAP PRIMER SYSTEM FOR ALL FLOOR DRAINS

- TAG NOTES**
- EXISTING SANITARY AND FIXTURES TO BE REMOVED
 - EXISTING SANITARY AND FIXTURES TO REMAIN.
 - MAIN STACK. REFER TO RISER DIAGRAM FOR ADDITIONAL INFORMATION. REFER TO I/P1.0 FOR CONTINUATION.
 - CIRCUIT VENT LINE. REFER TO RISER DIAGRAM (4/P2.0) FOR ADDITIONAL INFORMATION.
 - COMMON VENT LINE. REFER TO RISER DIAGRAM (4/P2.0) FOR ADDITIONAL INFORMATION.
 - VENT STACK UP THRU BUILDING. REFER TO RISER (4/P2.0)

REVISIONS		
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0	ISSUED FOR PERMIT	06/29/22
1	ISSUED FOR BIDDING	07/22/2022

SANITARY SEWER PLAN	
ISSUED FOR BIDDING	

2004-008	07/22/2022	1
DRAWN BY: GWJ	CHECKED BY: WLJ	SCALE: As Indicated
SHEET NO. P2.0	REVISION NO. 1	

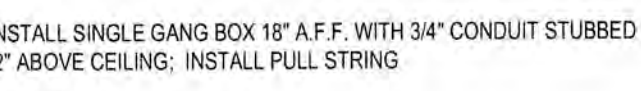
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07/22/2022

**KILGORE COLLEGE
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ELECTRICAL ABBREVIATIONS				
A	AMPERE	G	GROUND	
AFF	ABOVE FINISHED FLOOR	GA	GAUGE	NF NON-FUSED
AIC	AMPERES INTERRUPTING CAPACITY	GFI/GFCI	GROUND FAULT INTERRUPTER	NO NORMALLY OPEN, NUMBER
AL	ALUMINUM	HDG	HOT DIPPED GALVANIZED	NTS NOT TO SCALE
AMPS	AMPERES	HP	HORSEPOWER	OD OUTSIDE DIAMETER
C	CONDUIT	HZ	HERTZ	P POLE
CB	CIRCUIT BREAKER	ID	INTERNAL DIAMETER	PH PHASE
CPB	CONCRETE PULL BOX	IG	ISOLATED GROUND	PR PAIR SHIELDED CABLE
CS	COMBINATION STARTER	JB, J	JUNCTION BOX	PVC POLYVINYL CHLORIDE CONDUIT
CT	CURRENT TRANSFORMER	KVA	KILOVOLT-AMPERE	SS STAINLESS STEEL
CTC/CIC	CENTER TO CENTER	KW	KILOWATT	TVSS TRANSIENT VOLTAGE SURGE SUPPRESSION
EGC	EQUIPMENT GROUNDING CONDUCTOR	LED	LIGHT EMITTING DIODE	UON UNLESS OTHERWISE NOTED
EWC	ELECTRIC WATER COOLER	MCB	MAIN CIRCUIT BREAKER	UPS UNINTERRUPTIBLE POWER SUPPLY
F & I	FURNISH & INSTALL	MH	MAN-HOLE	V VOLT
FT	FEET	MLO	MAIN LUGS ONLY	W WATT
		NC	NORMALLY CLOSED	WP WEATHERPROOF
				XFMR TRANSFORMER

ELECTRICAL NOTES:	
1.	THE ELECTRICAL SYSTEM SHOWN ON THE DRAWINGS IS ONLY DIAGRAMMATIC. ALL ITEMS REQUIRED TO MAKE THE SYSTEM COMPLETE AND IN SAFE WORKING ORDER SHALL BE PROVIDED. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES. EQUIPMENT SHOWN ON THE FLOOR PLANS AND ELEVATIONS ILLUSTRATE THE ARRANGEMENT AND SPACE ALLOCATIONS. THE CONTRACTOR SHALL VERIFY THE SPACE REQUIREMENTS FOR EACH SYSTEM COMPONENT USING MANUFACTURER CERTIFIED SHOP DRAWINGS AND MAKE THE NECESSARY ADJUSTMENTS IN EQUIPMENT PLACEMENT AND CONNECTION IN ORDER TO ACCOMMODATE THE EXACT EQUIPMENT TO BE INSTALLED.
2.	CONTRACTOR IS RESPONSIBLE FOR FILING/PAYING FOR PERMITS AND CERTIFICATES OF INSPECTION THAT PERTAIN TO WORK DONE BY CONTRACTOR. CONTRACTOR SHALL DELIVER COPIES OF ALL PERMITS AND CERTIFICATES OF INSPECTION TO OWNER/CONSTRUCTION MANAGER. CONTRACTOR SHALL DELIVER TO OWNER/CONSTRUCTION MANAGER ALL EQUIPMENT MANUALS (MAINTENANCE, INSTALLATION, USER, ETC.) FOR EQUIPMENT INSTALLED BY CONTRACTOR.
3.	CONTRACTOR SHALL PROVIDE JOB SPECIFIC SUBMITTALS ON ALL SCHEDULED EQUIPMENT AND ALL DEVICES, PANELS AND FIXTURES, INSTALLED UNDER THIS SCOPE OF WORK. SUBMITTALS SHALL INCLUDE BUT NOT BE LIMITED TO PRODUCT DATA, DIMENSIONED DRAWINGS, PERFORMANCE DATA, ELECTRICAL DATA, CERTIFICATIONS.
4.	THE ELECTRICAL SYSTEM SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK.
5.	COORDINATE WORK WITH ALL OTHER TRADES AND DRAWINGS TO DETERMINE THE INTERFACE REQUIREMENTS NECESSARY TO PROPERLY INTEGRATE ALL MAJOR BUILDING SYSTEMS, MECHANICAL, PLUMBING, ELECTRICAL, FIRE ALARM, LOW VOLTAGE AND SPRINKLER SYSTEMS.
6.	THE ELECTRICAL EQUIPMENT INCLUDING BUT NOT LIMITED TO CONDUIT, WIRE, BOXES AND FITTINGS SHALL BE NEW AND SHALL MEET NEMA AND ANSI STANDARDS AND BEAR THE U.L. LABEL.
7.	ALL WORK AND MATERIALS SHALL BE GUARANTEED FREE FROM DEFECTS FOR A MINIMUM PERIOD OF ONE YEAR UNLESS NOTED OTHERWISE. THE WARRANTY PERIOD SHALL BEGIN AT THE DATE OF BENEFICIAL OCCUPANCY OF THE FACILITY.
8.	AT THE COMPLETION OF THE JOB, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A COMPLETE SET OF AS-BUILTS, OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND SHALL INSTRUCT OWNER'S MAINTENANCE PERSONNEL ON ALL OPERATING PROCEDURES.
9.	ALL ROOF AND WALL PENETRATIONS MADE UNDER THIS SCOPE OF WORK SHALL BE MADE AND FLASHED BY THIS CONTRACTOR.
10.	ALL HANGERS, RODS, ANGLES, STRUT CHANNELS, ATTACHMENTS, ANCHORS, STRAPS, BOLTS, NUTS, WASHERS AND SCREWS SHALL BE GALVANIZED OR BE OF SIMILAR MATERIAL AS COMPONENT BEING SUPPORTED. ALL ALL-THREAD RODS SHALL HAVE EXCESS LENGTH CUT OFF TO A MAXIMUM LENGTH OF 1" ABOVE/BELOW ATTACHMENT.
11.	ELECTRICAL CONTRACTOR SHALL VERIFY METERING REQUIREMENTS AND SUPPLY SERVICE WITH UTILITY COMPANY.
12.	ALL WIRING DEVICES SHALL BE COMMERCIAL RATED FOR MINIMUM OF 20 AMPS.
13.	SURGE PROTECTION SHALL BE PER NEC.
14.	VERIFY LOCATION AND POWER REQUIREMENTS FOR ALL PLUMBING AND HVAC EQUIPMENT.
15.	PROVIDE POWER AND/OR 24 VAC TRANSFORMERS FOR ALL LOW-VOLTAGE SYSTEMS.
16.	TYPICAL MOUNTING HEIGHT OF 120V RECEPTACLES NOT LOCATED ABOVE COUNTERS SHALL BE 22" A.F.F. TO THE TOP OF BOX UNLESS NOTED OTHERWISE.
17.	TYPICAL MOUNTING HEIGHT FOR ALL SWITCHES AND THERMOSTATS SHALL BE 48" A.F.F. TO TOP OF BOX UNLESS NOTED OTHERWISE.
18.	ELECTRICAL CONTRACTOR SHALL VERIFY LOCATIONS OF ALL WALL CABINETS, KITCHEN TABLES AND EQUIPMENT IN ORDER TO LOCATE RECEPTACLES. SEE MILLWORK ELEVATIONS AND/OR VENDOR DRAWINGS.
19.	SEE MECHANICAL PLANS FOR THERMOSTAT LOCATIONS.
20.	PROVIDE PULL WIRE IN ALL EMPTY CONDUITS.
21.	FURNISH ALL NECESSARY SLEEVES, INSERTS AND GROUTING FOR ALL WORK PASSING THROUGH OR ATTACHING TO WALLS, FLOORS AND/OR CEILINGS.
22.	SEAL ALL CONDUITS AT TERMINATIONS THAT RUN BELOW THE SLAB TO MAKE THEM WATER TIGHT.
23.	ALL JUNCTION BOXES SHALL BE ACCESSIBLE FOR FUTURE SERVICE PER NEC. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES AND POINTS OF ACCESS.
24.	CONDUIT SHALL NOT BE ROUTED EXPOSED IN FINISHED AREAS UNLESS NOTED OTHERWISE.
25.	CONDUITS SHALL NOT BE INSTALLED HORIZONTALLY IN SLAB OR STRUCTURAL FOOTINGS.
26.	ALL CONDUITS BELOW GRADE SHALL BE PVC WITH RIGID STEEL LONG SWEEP ELBOWS.
27.	ALL BELOW GRADE GROUNDING CONNECTIONS SHALL BE EXOTHERMIC - NO EXCEPTIONS.
28.	A SEPARATE INSULATED GROUNDING CONDUCTOR SHALL BE PULLED WITH THE CIRCUIT CONDUCTORS FOR GROUNDING WHETHER OR NOT INDICATED ON THE DRAWINGS. METAL RACEWAY OR CABLE ARMOR OR SHEATH SHALL NOT BE USED AS AN EQUIPMENT GROUNDING CONDUCTOR.
29.	ALL NON-DEDICATED RECEPTACLES WITHIN 6' OF ANY PLUMBING FIXTURE AND/OR SINK SHALL BE EQUIPPED WITH GFI.
30.	ALL GFI RECEPTACLES SHALL BE CONNECTED SO THAT OTHER DEVICES ON THE SAME CIRCUIT AS GFI RECEPTACLES DO NOT DE-ENERGIZE UPON TRIPPING.
31.	PROVIDE DISCONNECTS FOR ALL MECHANICAL EQUIPMENT THAT IS NOT PROVIDED INTEGRAL TO THE EQUIPMENT.
32.	PROVIDE AND INSTALL RELAY TO SHUT DOWN POWER OF ALL AIR HANDLERS BY ACTIVATION OF ANY DUCT SMOKE DETECTOR AND FIRE ALARM SYSTEM. COORDINATE WITH MECHANICAL CONTRACTOR.
33.	ELECTRICAL CONTRACTOR SHALL VERIFY BREAKER REQUIREMENTS FOR ALL HVAC EQUIPMENT BEFORE ORDERING PANELS AND DISCONNECT SWITCHES.
34.	VERIFY EXACT POWER REQUIREMENTS, CONNECTION TYPE AND NEMA CONFIGURATION OF ALL OUTLETS REQUIRED FOR OWNER FURNISHED EQUIPMENT PRIOR TO ROUGH IN.
35.	ELECTRICAL CONTRACTOR SHALL MAKE FINAL ELECTRICAL CONNECTIONS TO ALL OWNER PROVIDED EQUIPMENT.
36.	ELECTRICAL CONTRACTOR SHALL INSTALL ALL LAMPS.
37.	ELECTRICAL CONTRACTOR SHALL PROVIDE ALL OUTLET BOXES FOR LOW VOLTAGE SYSTEMS AND SHALL STUB CONDUIT 12" ABOVE CEILING.
38.	ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING ALL CONDUIT AND CABLE PENETRATIONS THROUGH FIRE RATED PARTITIONS.
39.	120V CIRCUITS GREATER THAN 50' BUT LESS THAN 100' BETWEEN BREAKER PANEL AND FIRST DEVICE SHALL BE WIRED WITH #10 AWG BETWEEN PANEL AND FIRST DEVICE.
40.	120V CIRCUITS GREATER THAN 100' BETWEEN BREAKER PANEL AND FIRST DEVICE SHALL BE WIRED WITH #8 AWG BETWEEN PANEL AND FIRST DEVICE.
41.	CONTRACTORS NEED TO MAKE SITE VISIT PRIOR TO BID. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL CONDITIONS.
42.	ALL PANEL BOARDS AND LOAD CENTERS SHALL RECEIVE ENGRAVED NAME PLATES WITH PANEL DESIGNATION, VOLTAGE, PHASE, NUMBER OF WIRES AND A TYPED DIRECTORY FOR PANEL BRANCH CIRCUIT IDENTIFICATION.
43.	ALL PANEL BOARDS, LOAD CENTERS AND ASSOCIATED EQUIPMENT LOCATED OUTSIDE OF A CONDITIONED SPACE SHALL BE NEMA 3R.
44.	OCCUPANCY SENSOR LOCATIONS AND QUANTITIES SHOWN ON DRAWINGS ARE DIAGRAMMATIC ONLY. CONTRACTOR SHALL PROVIDE LIGHTING SYSTEM CONTROLS LAYOUT AS PER LIGHTING VENDOR TO ASSURE COMPLETE COVERAGE OF ALL AREAS. LIGHTING CONTROLS LAYOUT SHALL INCLUDE BUT NOT BE LIMITED TO LOCATIONS OF SWITCHES, OCCUPANCY SENSORS, OCCUPANCY SENSOR MANUAL BYPASS SWITCHES, VACANCY SENSORS AND LIGHTING FIXTURES. COORDINATE INSTALLATION WITH HVAC GRILLE LAYOUT.

ELECTRICAL LEGENDS AND SYMBOLS	
GENERAL	
	CIRCUIT BREAKER
	TRANSFORMER
	PANEL BOARD WITH PANEL NAME
	HOMERUN WITH PANEL BOARD CKT
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION MOTOR STARTER W/ DISCONNECT SWITCH
	MOTOR STARTER
	JUNCTION BOX
	LIGHTING CONTACTOR
	SWITCHED POWER
	CONTINUOUS POWER
RECEPTACLES	
	DUPLEX
	QUAD
	STANDARD 120V - 18" AFF
	208-240V - 18" AFF
	STANDARD 120V - AC = ABOVE COUNTER BC = BELOW COUNTER EV = EAVE GFI = GROUND FAULT INTERRUPTER WP = WEATHERPROOF GFI XX" = MOUNTED AT XX" AFF
	FLOOR-MOUNTED STANDARD 120V
	CEILING-MOUNTED STANDARD 120V
	DATA/TELEPHONE PORT -
	INSTALL SINGLE GANG BOX 18" A.F.F. WITH 3/4" CONDUIT STUBBED 12" ABOVE CEILING; INSTALL PULL STRING
	FLOOR MOUNTED DATA PORT
	CEILING MOUNTED DATA PORT
SWITCHES	
	SINGLE POLE SWITCH
	3-WAY SWITCH
	4-WAY SWITCH
	SWITCH-DIMMER
	SWITCH-VACANCY SENSOR, COMBINATION PIR/ULTRA SONIC, MANUAL ON/AUTOMATIC OFF
	SWITCH-DIMMER-VACANCY SENSOR, COMBINATION PIR/ULTRA SONIC, MANUAL ON/AUTOMATIC OFF
	SWITCH-VACANCY SENSOR, COMBINATION PIR/ULTRA SONIC, AUTOMATIC ON/AUTOMATIC OFF, MANUAL OVERRIDE SWITCH
	WALL/CEILING OCCUPANCY SENSOR, COMBINATION PIR/ ULTRA SONIC, AUTOMATIC ON/OFF
	WALL/CEILING VACANCY SENSOR, COMBINATION PIR/ULTRA SONIC, AUTOMATIC OFF
	PHOTOCELL
ELECTRICAL SHEET INDEX	
E0.0	ELECTRICAL LEGEND & GENERAL NOTES
E1.0	POWER PLAN
E1.1	ROOF ELECTRICAL PLAN
E2.0	LIGHTING PLAN
IMPORTANT INFORMATION	
SHOULD THE DRAWINGS OR SPECIFICATIONS CONFLICT WITHIN THEMSELVES, OR WITH EACH OTHER, THE REQUIREMENT WITH THE GREATEST QUANTITY AND/OR THE HIGHEST QUALITY SHALL PREVAIL. THE DECISION OF THE ENGINEER OF RECORD FOR THE SYSTEM BEING INSTALLED SHALL BE FINAL.	
ALL WRITTEN NOTES ON THIS SHEET AND ALL OTHER SHEETS CONTAINED IN THESE PLANS SHALL BE READ AND UNDERSTOOD BY THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS. IT IS THE RESPONSIBILITY OF ALL CONTRACTORS TO COORDINATE WITH EACH OTHER TO DELIVER COMPLETE, FUNCTIONING SYSTEMS AS SHOWN IN THESE PLANS.	



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ELECTRICAL LEGEND & GENERAL NOTES

DATE: 07/22/2022	SCALE: 1/2" = 1'-0"	REVISION: 1
DESIGNED BY: WJL	CHECKED BY: WJL	DATE: 07/22/2022
DRAWN BY: GWJ	DATE: 07/22/2022	E0.0

File Path: F:\Projects\2024 Kilgore College\2024-003 Stark Hall Renovation\CAUTION\2024-001 - Stark Hall - MEP Set.dwg
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Panel Name: LV2

Location: JAN 105
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4
Main: 100 A MLO

CKT	Circuit Description	Trip	Trip	Circuit Description	CKT
1	RCPT BATH 101	20 A	20 A	RCPT BATH 108	2
3	RCPT BATH 102	20 A	20 A	RCPT BATH 109	4
5	RCPT BATH 103	20 A	20 A	LIGHTS	6
7	RCPT BATH 104	20 A			8
9	RCPT BATH 106	20 A			10
11	RCPT BATH 107	20 A			12

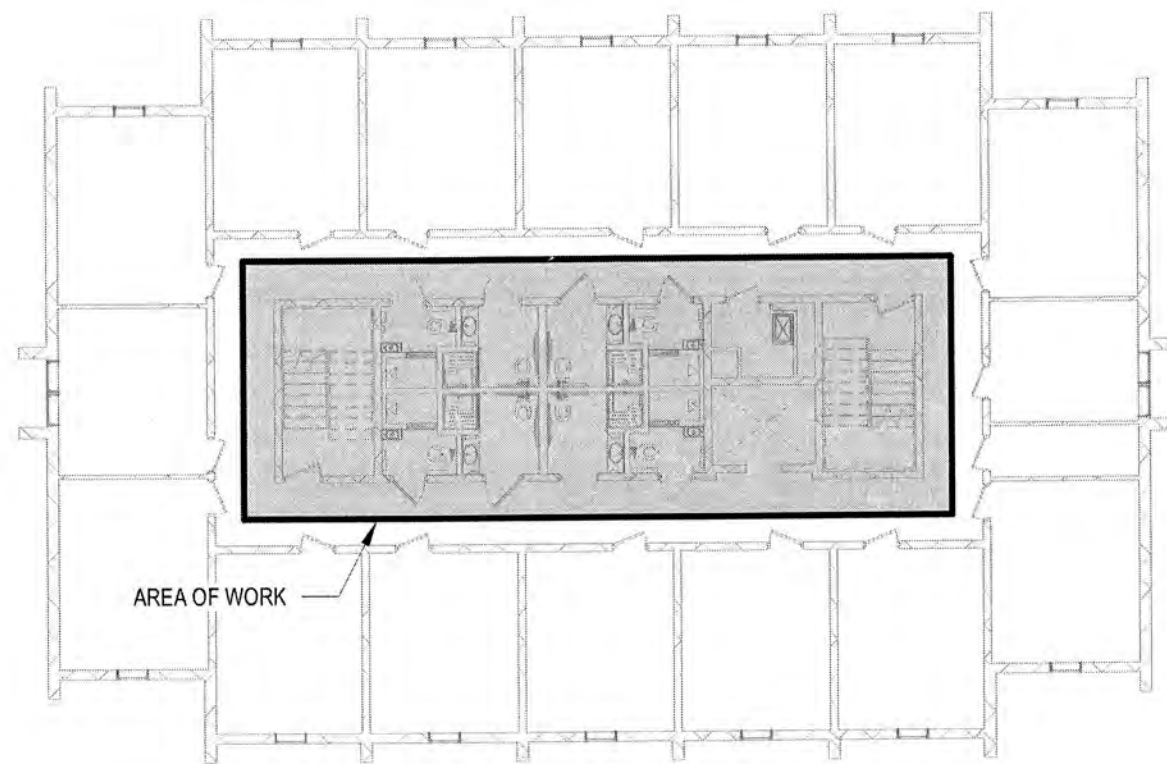
* PANEL DESIGNATION IS UNIQUE FOR EACH FLOOR. FLOORS 2 THRU 8 WILL EACH HAVE A NEW PANEL SIMILAR TO THIS. 2ND FLOOR = LV2, 3RD FLOOR = LV3, 4TH FLOOR = LV4, ETC

Panel Name: LVDP

Location: JAN 30
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4
Main: 225 A MLO

CKT	Circuit Description	Trip	Trip	Circuit Description	CKT
1,3,5	LV2	60 A	60 A	LV6	2,4,8
7,9,11	LV3	60 A	60 A	LV7	8,10,12
13,15,17	LV4	60 A	60 A	LV8	14,16,18
19,21,23	LV5	60 A			20
					22
					24



2 2nd THRU 8th FLOOR - KEY PLAN
SCALE: 1/16" = 1'-0"

POWER NOTES

- 1 REFER TO E0.0 FOR GENERAL NOTES AND LEGEND.
- 2 COORDINATE ALL WORK WITH MECHANICAL SYSTEMS, ROUTING CONDUIT AS HIGH AS POSSIBLE.
- 3 REFER TO MECHANICAL CONTRACTOR FOR EXACT LOCATIONS OF EQUIPMENT.
- 4 CONTRACTOR SHALL VERIFY ALL POWER REQUIREMENT OF EQUIPMENT BEFORE INSTALLATION OF CONDUIT, BREAKER OR WIRING.

TAG NOTES

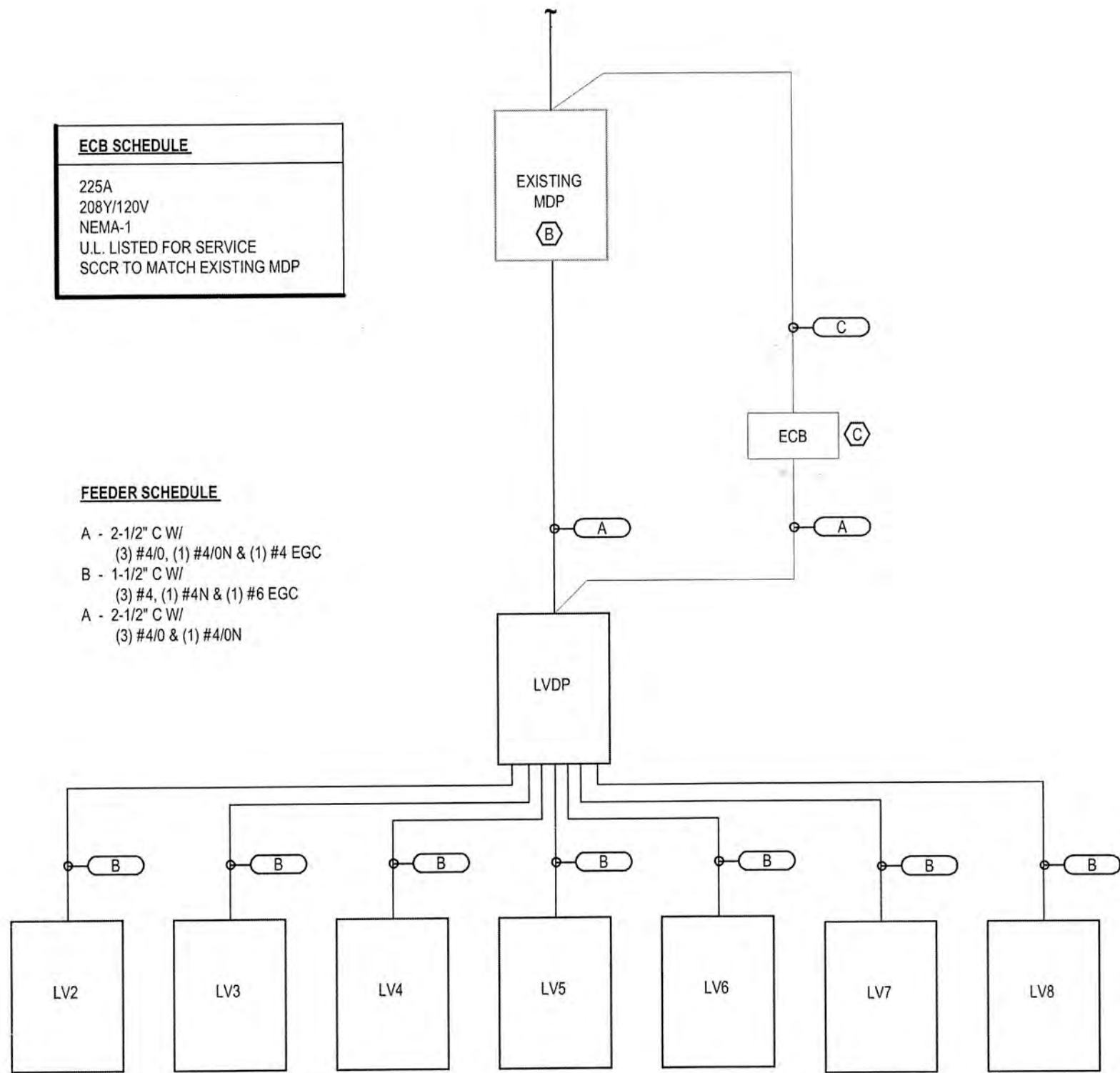
- A FURNISH & INSTALL NEW 120/208V 3PH PANEL.
- B FURNISH & INSTALL NEW 225A/3P BREAKER IN EXISTING MSB TO FEED NEW PANEL LVDP. IF BREAKER NOT AVAILABLE FROM SQUARE D, FURNISH AND INSTALL NEW 225A/3P ECB AND FEED FROM LINE SIDE OF MSB. TAP CONDUCTOR MUST BE 10' OR LESS. ECB SHALL HAVE SAME VOLTAGE & FAULT CURRENT RATINGS AS EXISTING MSB. REFER TO TAG NOTE 'C' FOR ECB LOCATION.
- C ECB FOR ALTERNATE CONDITION. SEE NOTE 'B'.

ECB SCHEDULE

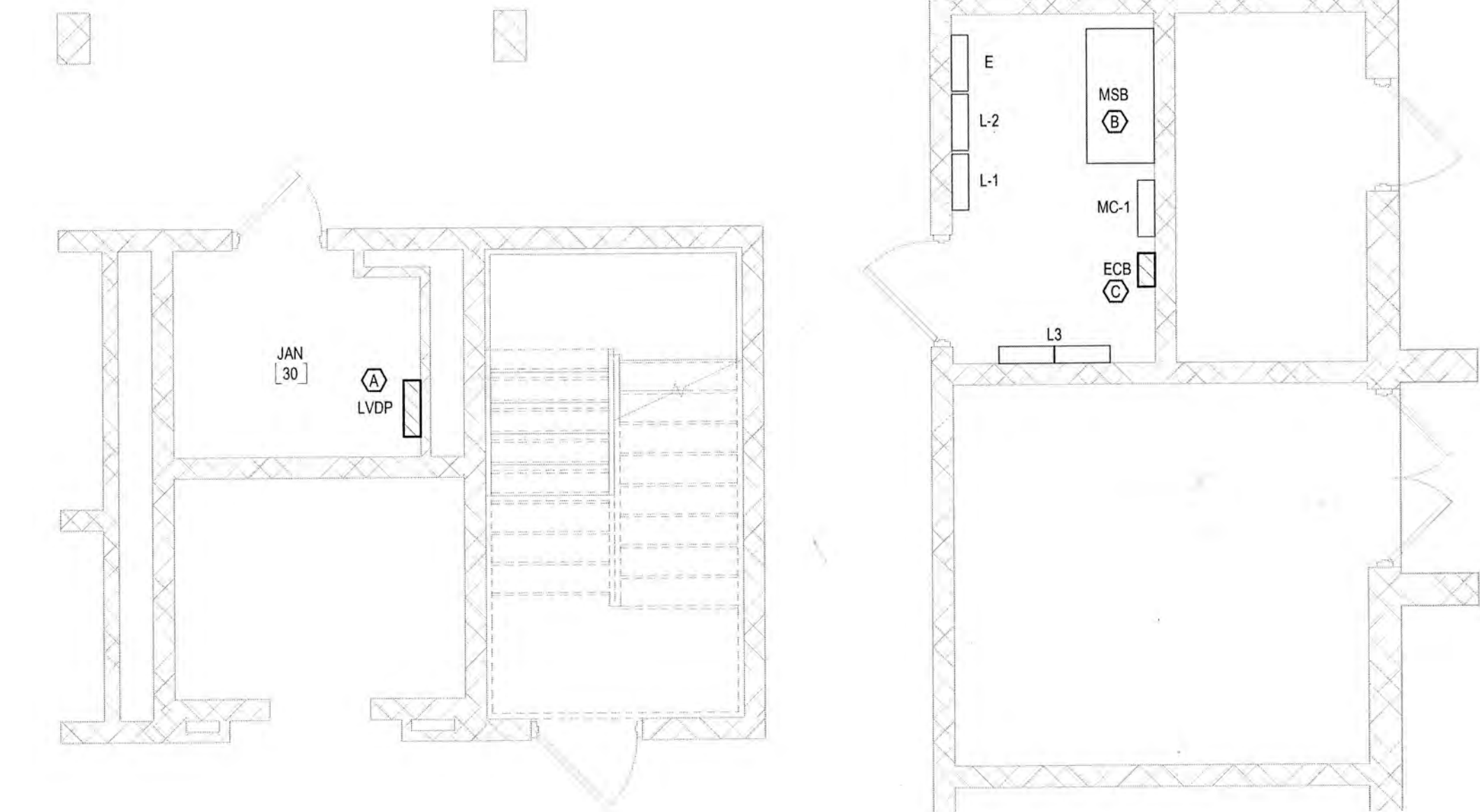
225A
208V/120V
NEMA-1
U.L. LISTED FOR SERVICE
SCCR TO MATCH EXISTING MDP

FEEDER SCHEDULE

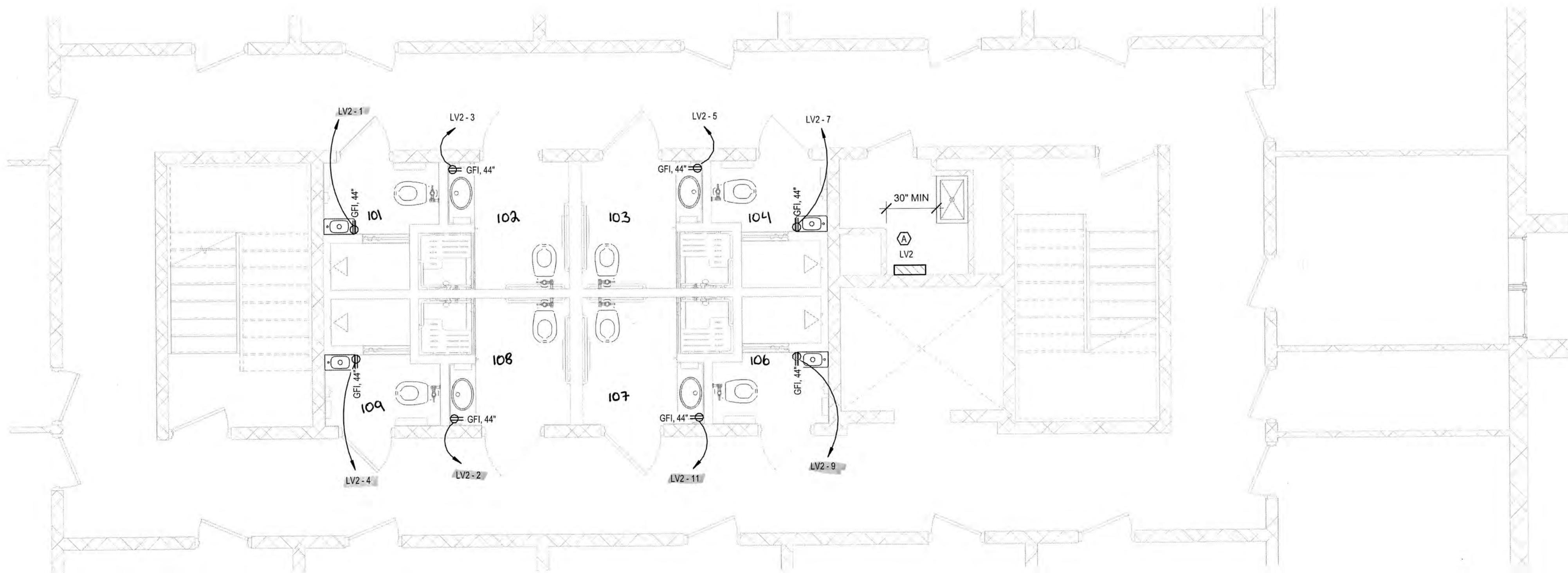
A - 2-1/2" C WI
(3) #4/0, (1) #4/0N & (1) #4 EGC
B - 1-1/2" C WI
(3) #4, (1) #4N & (1) #6 EGC
A - 2-1/2" C WI
(3) #4/0 & (1) #4/0N



4 ONE-LINE DIAGRAM
SCALE: NTS



3 1st FLOOR MAIN ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"



1 2nd FLOOR - ELECTRICAL
SCALE: 1/4" = 1'-0"



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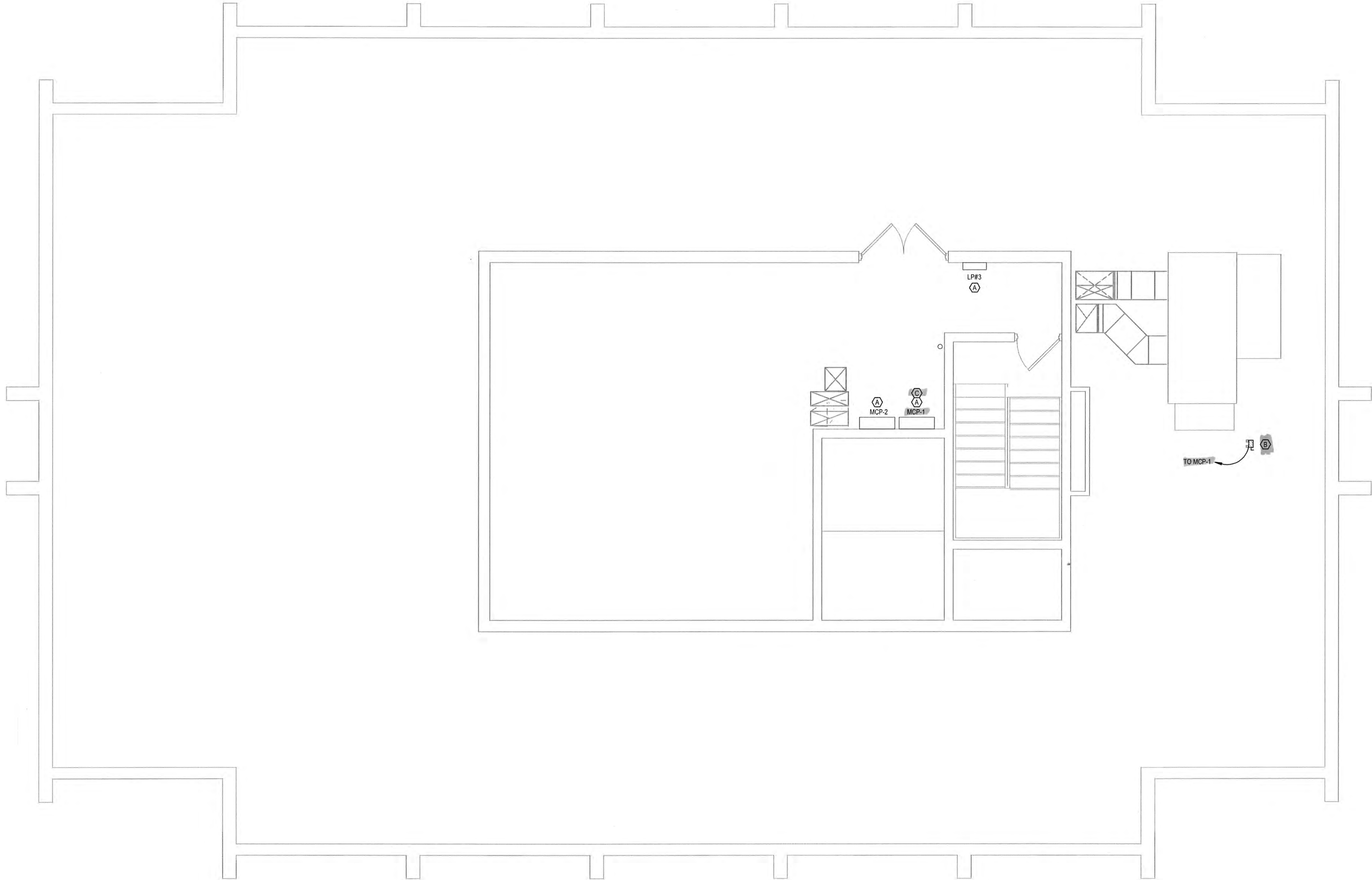
POWER PLAN	
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DESIGNED BY	WJL	As indicated
DRAWN BY	WJL	
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DATE		

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1 ROOF ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"



- POWER NOTES**
- REFER TO E0.0 FOR GENERAL NOTES AND LEGEND.
 - COORDINATE ALL WORK WITH MECHANICAL SYSTEMS, ROUTING CONDUIT AS HIGH AS POSSIBLE.
 - REFER TO MECHANICAL CONTRACTOR FOR EXACT LOCATIONS OF EQUIPMENT.
 - CONTRACTOR SHALL VERIFY ALL POWER REQUIREMENT OF EQUIPMENT BEFORE INSTALLATION OF CONDUIT, BREAKER OR WIRING.

- TAG NOTES**
- A EXISTING 120/208V 3PH ELECTRICAL PANEL TO REMAIN
- B FURNISH & INSTALL NEW 208V 3PH DISCONNECT TO SERVE DOAU-1, MOUNTED ON UNISTRUT RACK, COORDINATE WITH MECHANICAL CONTRACTOR FOR COMPLETE INSTALLATION.
- C FURNISH & INSTALL NEW 175A/3P BREAKER IN EXISTING PANEL MCP-1 TO SERVE POWER TO NEW DEDICATED OUTDOOR AIR UNIT (DOAU-1). COORDINATE WITH MECHANICAL CONTRACTOR.

B: (3) 2/0 (1) 2/0 (1) #6
(Roof)

Kyle's
taggot

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GWJ	WJL	WJL	E1.1
GWJ	WJL	WJL	1

ROOF ELECTRICAL PLAN

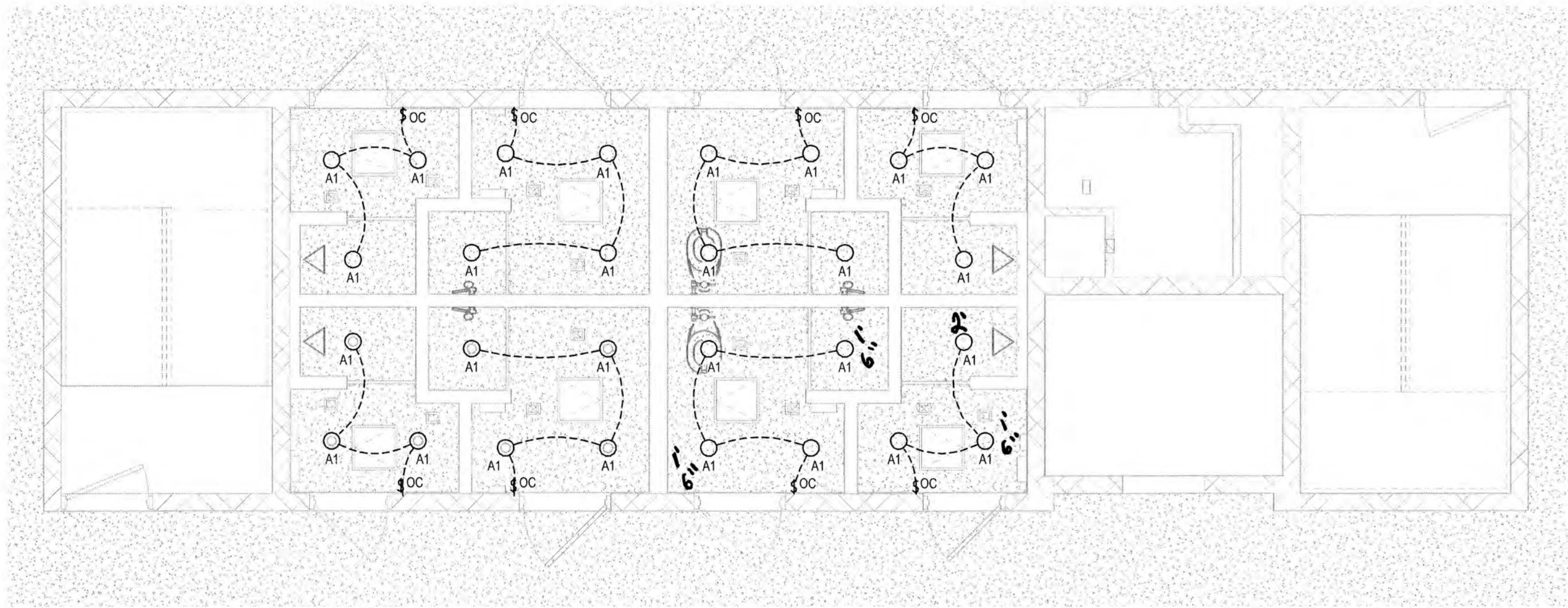
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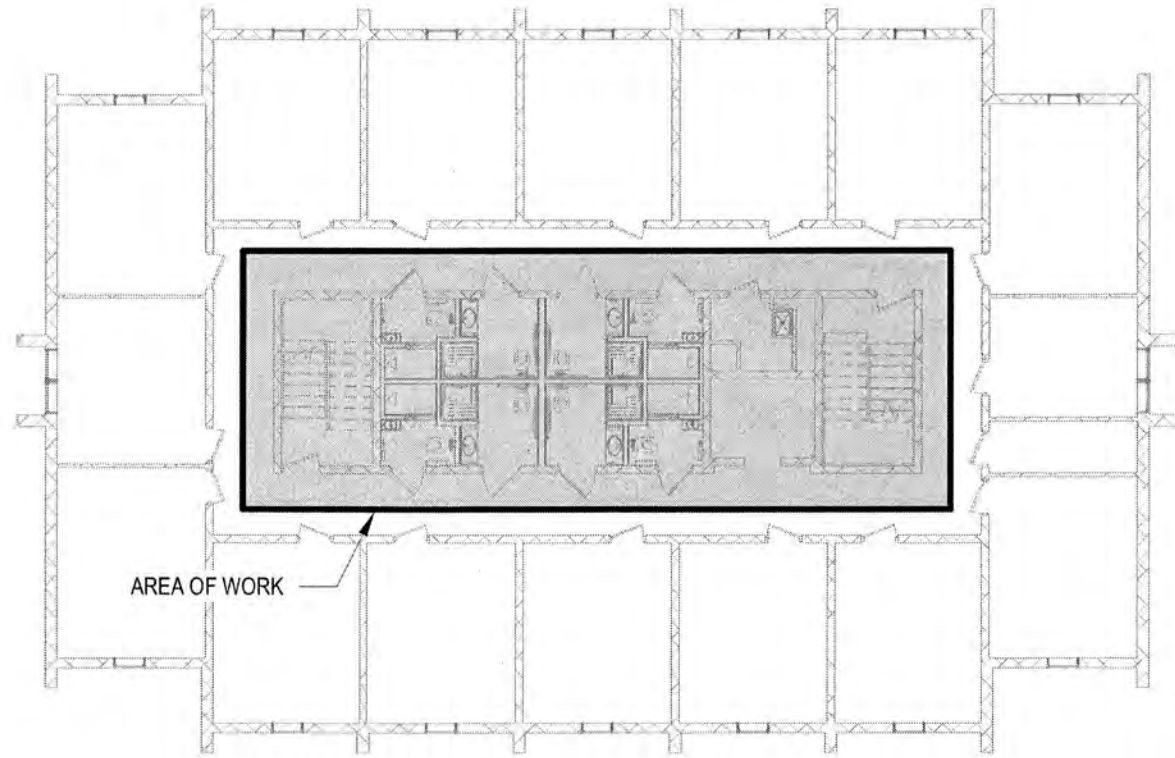
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TYPE: F-4891 / TIME: 8/8/01

STATE OF TEXAS
Professional Engineer
W. J. Johnson
No. 10639
Exp. 07/22/2022



1 2nd THRU 8th FLOOR LIGHTING PLAN
SCALE: 1/4" = 1'-0"

LIGHT FIXTURE SCHEDULE					
MARK	VOLTS	LAMPS	MANUFACTURER	MODEL	DESCRIPTION
A1	120 V	LED	LIGHTOLIER	STR-8-40K-10	7" DIA. LED SURFACE MOUNTED LUMINAIRE WITH THE APPEARANCE OF A RECESSED DOWNLIGHT.



2 2nd THRU 8th FLOOR - KEY PLAN
SCALE: 1/16" = 1'-0"

LIGHTING NOTES	
1	REFER TO E0.0 FOR GENERAL NOTES & LEGEND.
2	COORDINATE FIXTURE LAYOUT WITH CEILING GRID, HVAC DEVICES, AND COMMUNICATION / SECURITY DEVICES.
3	COORDINATE FINAL FIXTURE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLAN.

LIGHTING CIRCUITS	
LV2-6	- LIGHTS IN 2nd FLOOR RESTROOMS
LV3-6	- LIGHTS IN 3rd FLOOR RESTROOMS
LV4-6	- LIGHTS IN 4th FLOOR RESTROOMS
LV5-6	- LIGHTS IN 5th FLOOR RESTROOMS
LV6-6	- LIGHTS IN 6th FLOOR RESTROOMS
LV7-6	- LIGHTS IN 7th FLOOR RESTROOMS
LV8-6	- LIGHTS IN 8th FLOOR RESTROOMS

W
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ISSUE DATE	07/22/2022
2024-008	2024-008
DRAWN BY	GWJ
CHECKED BY	WLJ
APPROVED BY	WLJ
SCALE	As Indicated
SHEET NO.	E2.0
SECTION NO.	1

REVISIONS	
NO.	DESCRIPTION
0	ISSUED FOR PERMIT
1	ISSUED FOR BIDDING

LIGHTING PLAN	
ISSUED FOR BIDDING	

KILGORE COLLEGE
STARK HALL R.R. RENOVATION
607 ELDER STREET
KILGORE, TX 75602

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