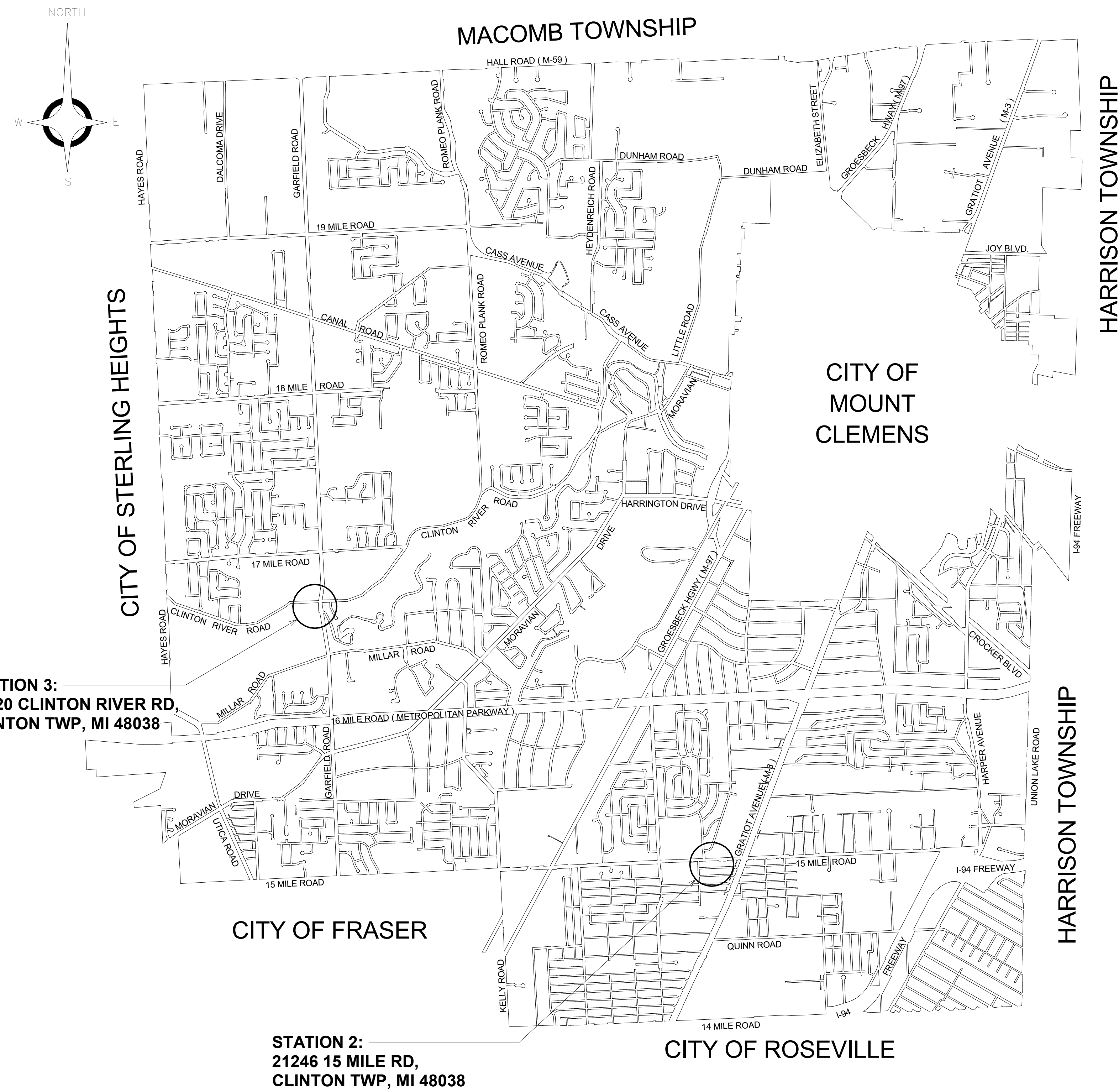


Charter Township of Clinton



Macomb County, Michigan CLINTON TWP. FIRE STATION RENOVATIONS



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STATION 3:
16720 CLINTON RIVER RD,
CLINTON TWP, MI 48038

STATION 2:
21246 15 MILE RD,
CLINTON TWP, MI 48038

"I HEREBY CERTIFY THESE PLANS HAVE BEEN PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH ACT 240, PUBLIC ACTS OF 1937 AS AMENDED- STATE OF MICHIGAN."

JASON ARLOW, AIA # 1301054547

DATE



ANDERSON, ECKSTEIN AND WESTRICK, INC.

CIVIL ENGINEERS SURVEYORS ARCHITECTS
51301 Schoenherr Road Phone 586 726 1234
Shelby Township Michigan 48315 Fax 586 726 8780
www.aewinc.com

ENGINEERING STRONG COMMUNITIES

10/18/2024 BID ISSUE
DATE SUBMITTALS/REVISIONS

PROJECT NAME:

CLINTON TWP. FIRE STATION RENOVATIONS

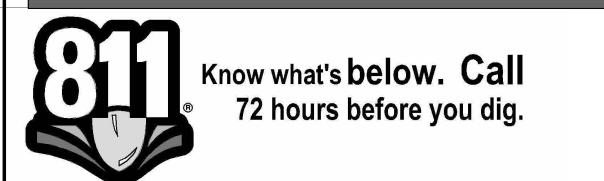
SHEET TITLE:

ADA

CLIENT:

CLINTON TOWNSHIP

<input type="checkbox"/> PRELIMINARY	<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> RECORD
DRAWN BY:	CHECKED BY:	DATE:
Author	Checker	03/01/2023
SCALE: AS NOTED		



UTILITY INFORMATION, AS SHOWN, INDICATES APPROXIMATE LOCATIONS AND TYPES OF EXISTING FACILITIES ONLY, AS DISCLOSED BY RECORDS PROVIDED TO THIS FIRM FROM THE VARIOUS UTILITY COMPANIES. NO GUARANTEE IS GIVEN OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF.

PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING OVERHEAD AND UNDERGROUND UTILITIES (IN CONFLICT WITH THE CONSTRUCTION OF THESE PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD. DURING THE CONSTRUCTION, THE CONTRACTOR SHALL PROTECT AND SUPPORT ALL UTILITIES THAT ARE ENCOUNTERED. (ALL COSTS FOR UTILITY LOCATION VERIFICATION, SUPPORT AND PROTECTION SHALL BE INCLUDED IN THE PROPOSED PAY ITEM CONFLICTING WITH THAT UTILITY).

DURING CONSTRUCTION, THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN OPERATING NEAR ANY AND ALL OVERHEAD AND/OR BURIED UTILITIES.

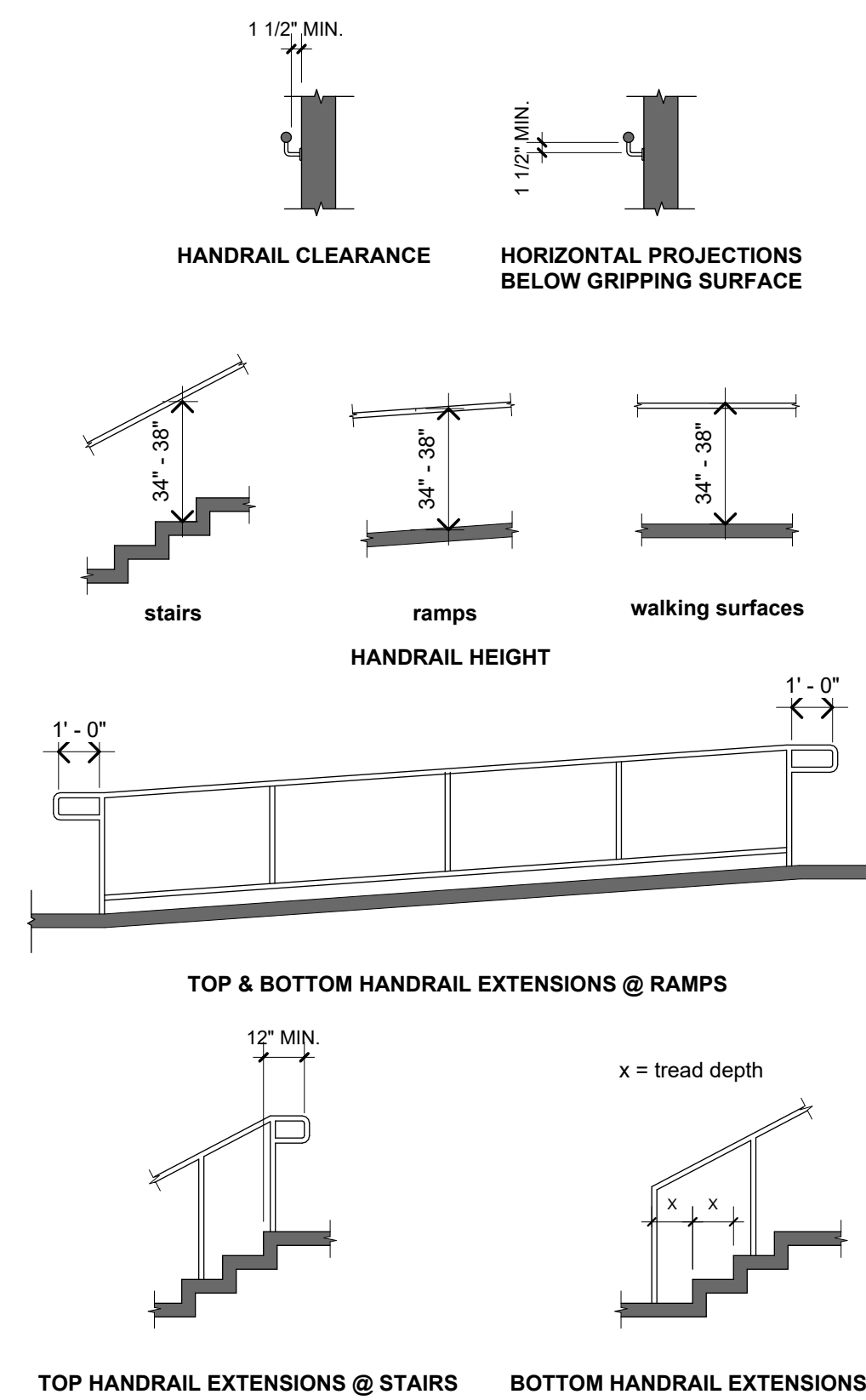
PROJECT NO.

0242-0451

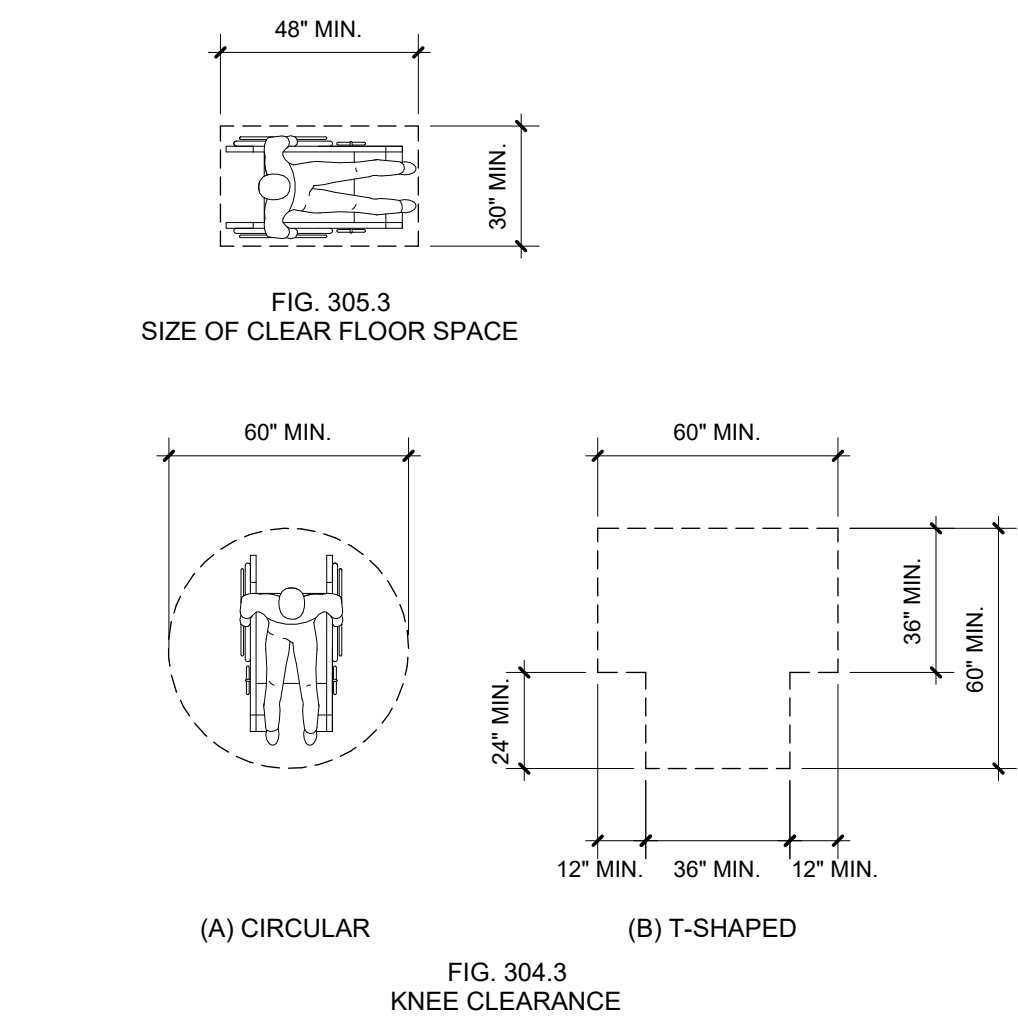
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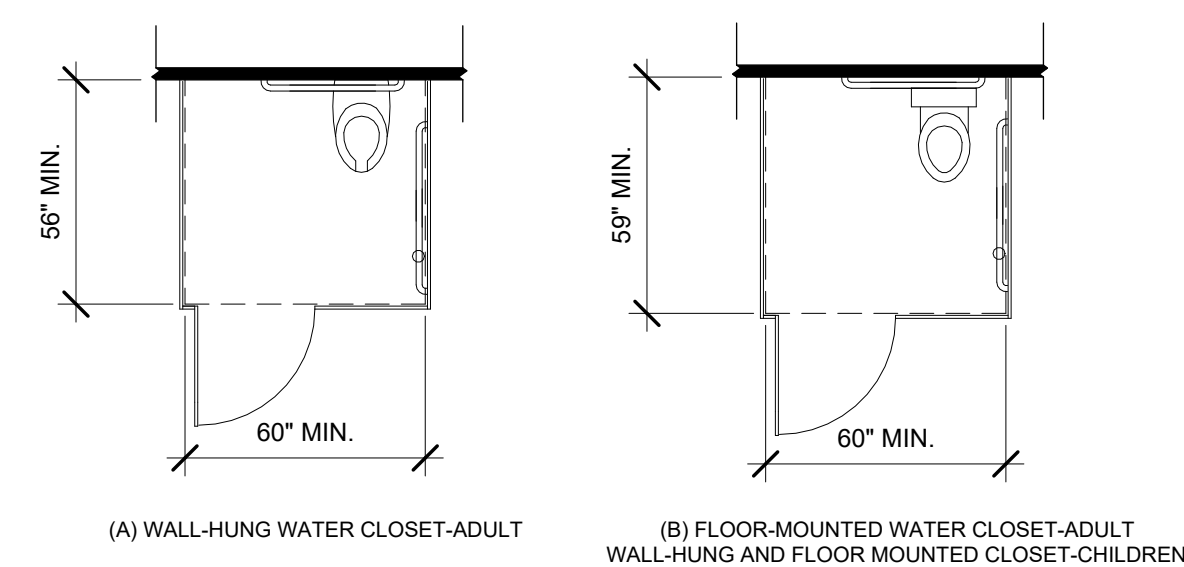
A021



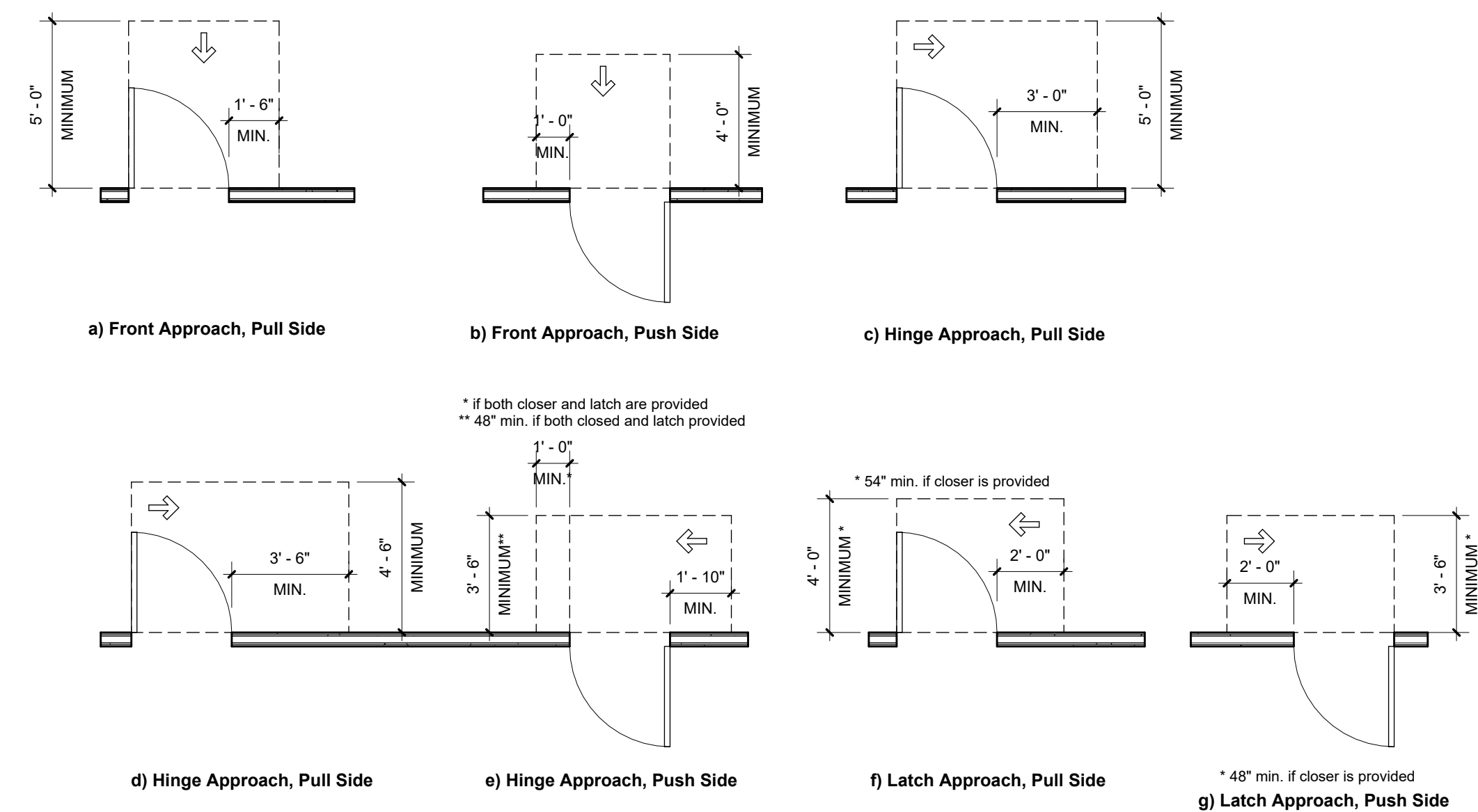
ADA REFERENCE - HANDRAIL DETAILS



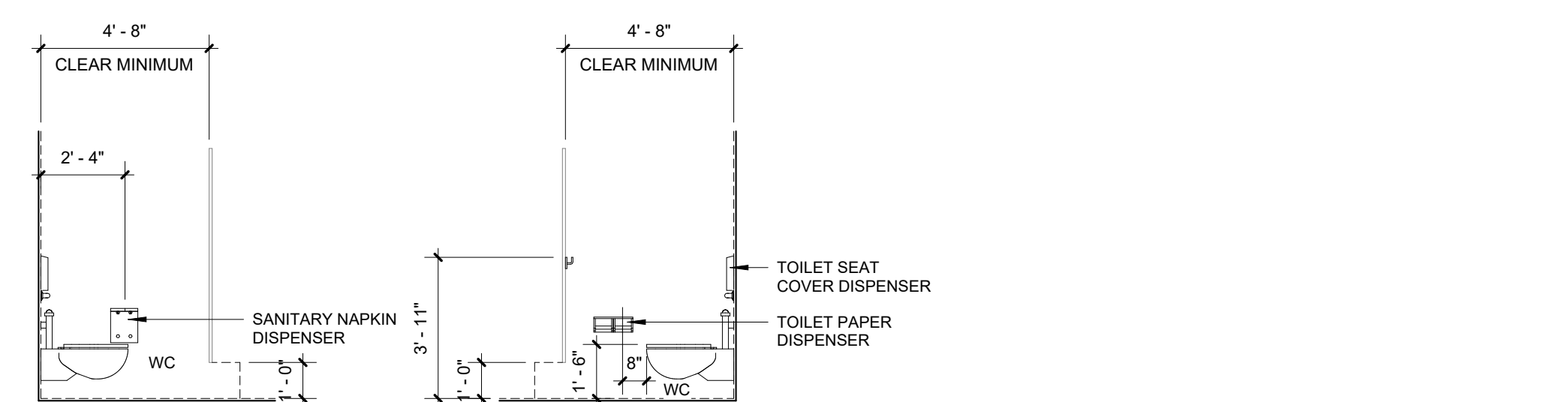
TURNING SPACE & CLEARANCE SPACE



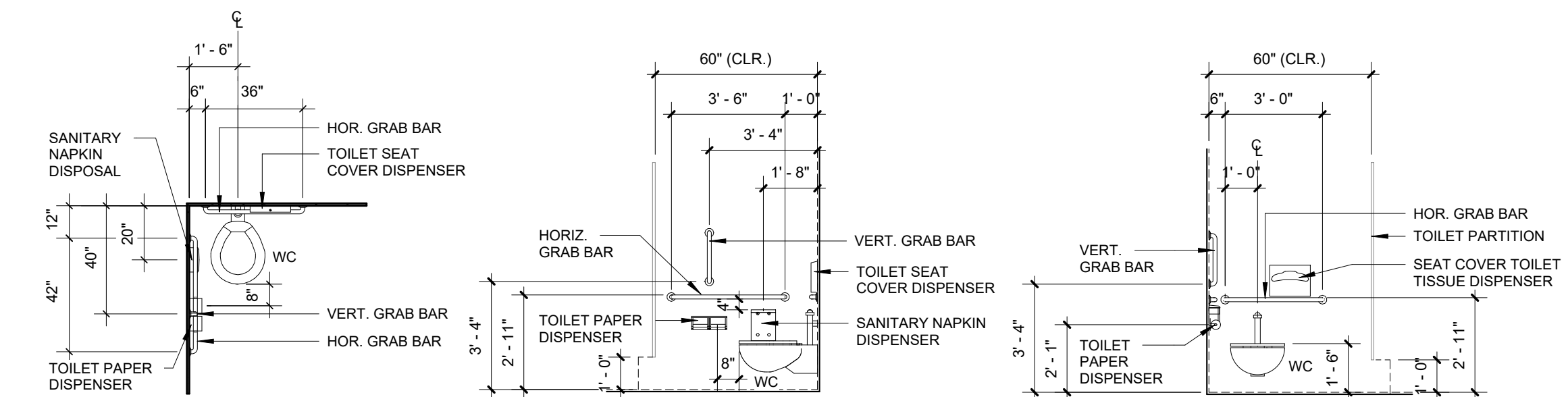
WHEELCHAIR ACCESSIBLE TOILET COMPARTMENTS



MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS



STANDARD TOILET STALL - MOUNTING HEIGHTS AND DETAILS



ADA ACCESSIBLE TOILET STALL - MOUNTING HEIGHTS AND DETAILS

TOILET STALLS MOUNTING HEIGHTS

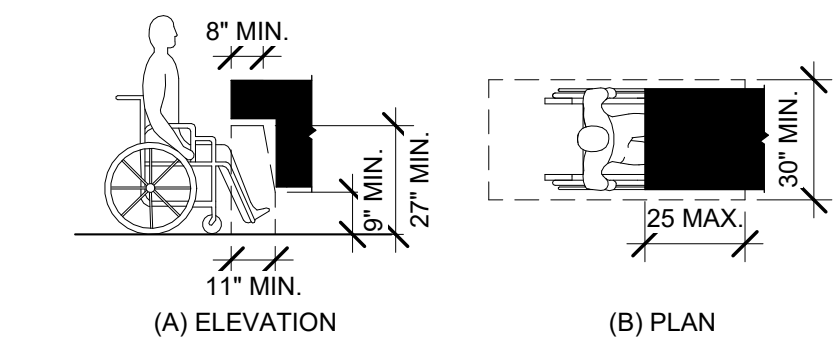


FIG. 306.3 KNEE CLEARANCE

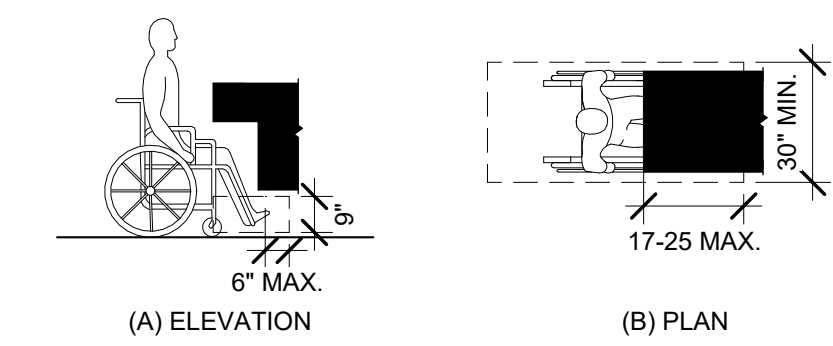


FIG. 306.2 TOE CLEARANCE

KNEE CLEARANCE

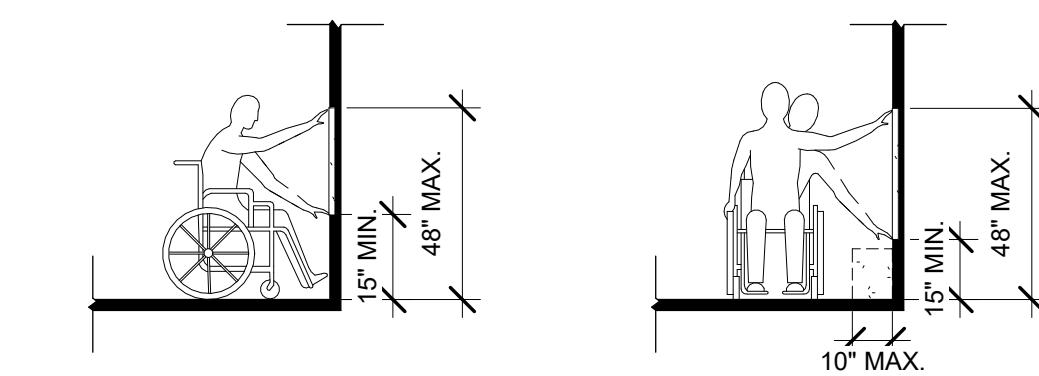


FIG. 308.2.1 UNOBSTRUCTED FORWARD REACH

FIG. 308.3.1 UNOBSTRUCTED SIDE REACH

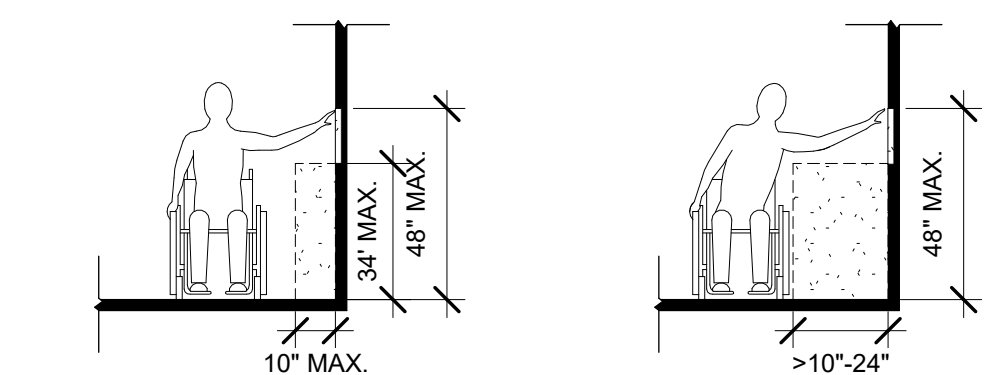


FIG. 308.3.1 OBSTRUCTED HIGH FORWARD REACH

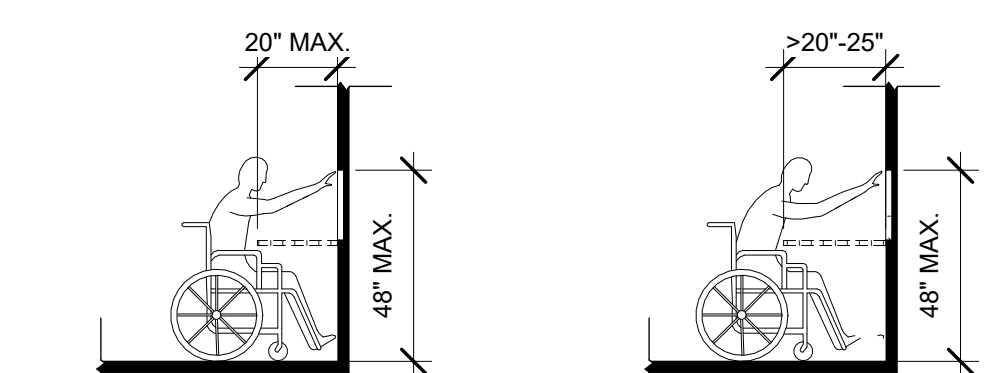
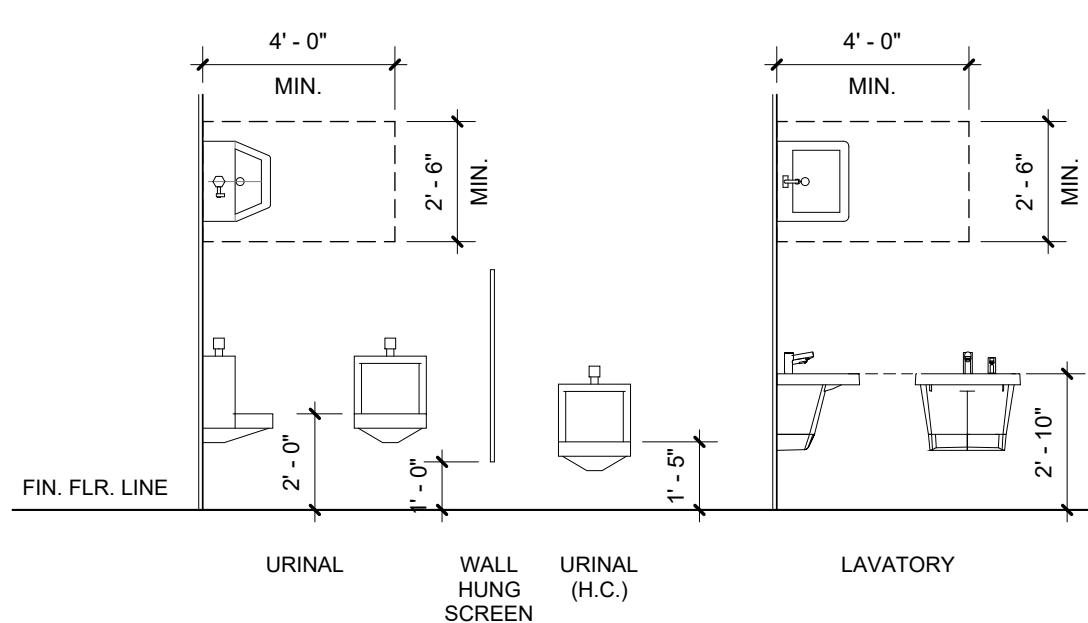


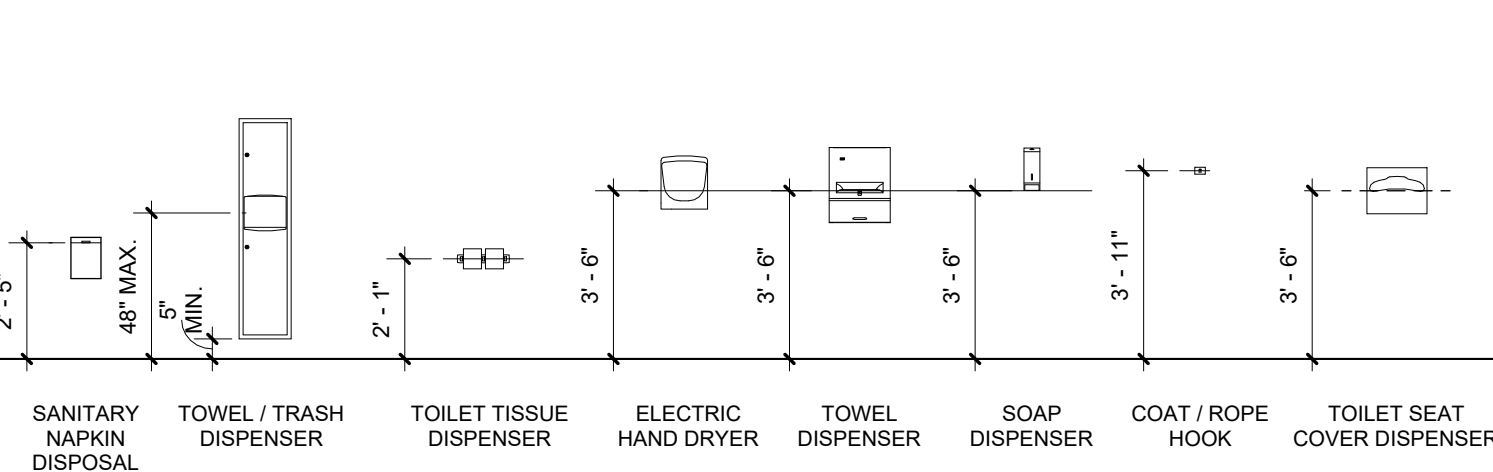
FIG. 308.2.2 OBSTRUCTED HIGH FORWARD REACH

REACH RANGES



GENERAL INFO. - STANDARD MOUNTING HEIGHTS

NOTE: CONCEALED BLOCKING TO EXTEND MIN. 6\"/>



GENERAL INFO. - STANDARD MOUNTING HEIGHTS

GENERAL TRADES SPECIFICATIONS

DIVISION 1 - GENERAL REQUIREMENTS :

- ALL WORK SHALL COMPLY WITH STATE AND LOCAL BUILDING CODES AS THEY APPLY.
- ALL PROVISIONS OF "DIVISION 0" BIDDING REQUIREMENTS, CONTRACTS, FORMS AND CONDITIONS OF CONTRACT AND "DIVISION 1" - GENERAL REQUIREMENTS, FORM A PART OF EACH DIVISION GIVEN ON THIS DRAWING SHEET.
- CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS, FEES AND INSPECTIONS.
- CONTRACTOR IS REQUIRED TO CARY WORKERS, LIABILITY, AND BUILDERS RISK INSURANCE POLICIES.
- CONTRACTORS AND SUBCONTRACTORS SHALL PROVIDE ALL WORK SHOWN IN ANY PART OF THE DOCUMENTS, I.E. HAND DRYER SHOWN ON ARCHITECTURAL DRAWINGS MUST BE WIRED BY THE ELECTRICIAN WHETHER IT IS OR IS NOT SHOWN ON THE ELECTRICAL DRAWINGS.
- CONTRACTOR SHALL PROVIDE A MIN. 2 YEAR WARRANTY ON ALL MATERIAL, EQUIPMENT AND WORK PERFORMED.

DIVISION 3 - CONCRETE :

DIVISION 4 - MASONRY :

DIVISION 5 - METALS :

- LIGHT-GAUGE METAL FRAMING- COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE MICHIGAN BUILDING CODE AND THE AMERICAN IRON AND STEEL INSTITUTE 'S' SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS 'THE CENTER FOR COLD-FORMED STEEL STRUCTURES 'TECHNICAL BULLETIN VOL. 2 NO. 1, 1996 AND AIAI SPECIFICATION PROVISIONS FOR SCREW CONNECTIONS.
 - COLD-FORMED METAL FRAMING SHALL BE OF THE SIZE, GAUGE AND SECTION PROPERTIES AS REQUIRED FOR THE SPECIFIC LOADING CONDITION AND CONFORM TO ASTM A653. ALL FRAMING 16 GAUGE AND HEAVIER SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI. ALL FRAMING 18 GAUGE AND LIGHTER SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI. ALL FRAMING SHALL BE HOT DIPPED GALVANIZED (G-90) IN ACCORDANCE WITH ASTM A524.
 - WELDING OF LIGHT-GAUGE METAL FRAMING SHALL NOT BE PERMITTED.
 - ALL LIGHT-GAUGE METAL FRAMING SHALL BE SAW CUT, SQUARE AND TRUE. CUTTING OF FRAMING WITH A TORCH WILL NOT BE PERMITTED.
 - NO SPLICES WILL BE PERMITTED IN ANY FRAMING UNLESS SHOWN OR NOTED ON DRAWINGS.
 - CONNECTIONS FOR LIGHT-GAUGE FRAMING SHALL BE AS MANUFACTURED BY THE STEEL NETWORK, INC. OR APPROVED EQUAL.

DIVISION 6 - CARPENTRY :

- PLASTIC LAMINATE MILLWORK- HIGH-PRESSURE DECORATIVE LAMINATE ADHERED FULLY TO MEDIUM-DENSITY PARTICLEBOARD (ANSI A208.1 GRADE M2 or BETTER) WITH ADHESIVE RECOMMENDED BY THE LAMINATE MANUFACTURER TO SUIT APPLICATION. ASSEMBLE WITH CONCEALED CONNECTORS. INCLUDE LAMINATE AT ALL EXPOSED SURFACES. APPROVED LAMINATE MANUFACTURER: PIONITE, WILSON ART, FORMICA, NEVAMAR OR APPROVED EQUAL. SPECIFIC MODEL NO. AS SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD FINISH SELECTIONS.
- SOLID SURFACE COUNTERTOP- CORIAN SOLID SURFACE AS MANUFACTURED BY DUPONT CORP. COLOR TO BE SELECTED BY ARCHITECT. FORM EDGES AND BACKSPASH AS INDICATED ON DRAWINGS.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION :

- WATERPROOFING MEMBRANE- PLIABLE SHEET-APPLIED POLYETHYLENE WATERPROOFING MEMBRANE FOR USE BEHIND MORTAR BED IN TILED SHOWERS. APPROVED MANUFACTURER/ MODEL: SCHLUTER-KERDI AS MANUFACTURED BY SHLUTER SYSTEMS INC. OR APPROVED EQUAL.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION :

- REFER TO "MATERIAL AND INSTALLATION NOTES" ON DRAWINGS.
- MEMBRANE ROOFING SHALL BE 15 YEAR 60 MIL. FULLY ADHERED EPDM. APPROVED MANUFACTURERS AS FOLLOWS (OR APPROVED EQUAL):
 - FIRESTONE
 - CARLISLE
- SHINGLE ROOFING SHALL BE ARCHITECTURAL GRADE DIMENSIONAL 300 LB SEAL DOWN SHINGLE OVER 15# FELT. PROVIDE BITHUTHENE "ICE DAM" AT ALL EVES AND VALLEYS. APPROVED MANUFACTURERS AS FOLLOWS (OR APPROVED EQUAL):
 - GAF
 - OWENS CORNING
- BASE DAMPPROOFING SHALL BE 20 MIL FLEXIBLE PLASTIC.
- LINTEL FLASHING SHALL BE 2 OUNCE COPPER BONDED TO 3 OUNCE WATER- PROOFED KRAFT PAPER OR EQUAL BY AN APPROVED MANUFACTURER.
- CAULK DOOR AND WINDOW FRAMES AT MASONRY WALLS. CAULK COMPOUND SHALL BE AN ELASTIC, WATERPROOF ADHESIVE FROM AN APPROVED MANUFACTURER. COLOR SELECTION BY ARCHITECT.
- INSULATION:
 - ROOF INSULATION MIN. (R = 38)
 - PERIMETER FOUNDATION INSULATION: 2" EXPANDED POLYSTYRENE OR APPROVED EQUAL INSTALLED BY FOUNDATION CONTRACTOR.
 - STUD WALL INSULATION (MIN.) R = 20
 - ISO BOARD CONTINUOUS ABOVE METAL DECK (MIN.) R = 25
- ROOF CURBS SHALL BE PRE - FAB CURBS USING MIN. 18 GA. GALVANIZED STEEL, WITH FULLY MITERED AND WELDED CORNERS. CURBS TO BE INSULATED WITH 1 1/2" RIGID INSULATION AND FACTORY INSTALLED WOOD NAILERS. HEIGHT TO BE 24 INCHES ABOVE ROOF AS DETAILS. CURB SHALL BE LEVEL AT THE TOP.
- TYVEK (BY DUPONT) AIR INFILTRATION BARRIER OVER ALL EXTERIOR SHEATHING.

DIVISION 8 - OPENINGS :

- HOLLOW METAL DOOR FRAMES- 18 GA. (MIN.) STEEL WITH ZINC COATING AND FACTORY BAKED -ON PRIMER. CONFORM TO REQUIREMENTS OF ANSI A208.8 FABRICATE TO SUIT MASONRY WALL, CONCRETE (4 IN. HEAD MEMBER) AT MASONRY WALLS, AND WITH HOLES FOR SILENCERS. APPROVED MANUFACTURERS : STEELCRAFT, CURRIES OR APPROVED EQUAL. (MUST BE MEMBER OF STEEL DOOR INSTITUTE). COORDINATE DOORS WITH FINISH HARDWARE.
- COORDINATE DOORS WITH FINISHED HARDWARE.
- ALL LOCKS SHALL BE MASTER KEYED AND KEYS ALIKE, AS DIRECTED BY OWNER AND ARCHITECT. COORDINATE WITH EXISTING KEY SYSTEM.
- INTERIOR WOOD DOORS: 1 3/4" INCHES THICK, SOLID CORE CONSTRUCTION, 5- PLY, WHITE OAK VENEER PLAIN SLICED W/ PAIR MATCHED GRAIN, PRE-FINISHED STAINED FROM MANUFACTURERS STANDARD COLORS. APPROVED MANUFACTURERS AS FOLLOWS (OR APPROVED EQUAL):
 - ALGOMA HARDWOODS
 - MANSFIELD DOOR SYSTEMS
 - MOHAWK

HARDWARE:

- CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS AND NOTIFY ARCHITECT IMMEDIATELY IF THAT WHICH EXISTS DIFFERS FROM THAT WHICH IS SHOWN ON DRAWINGS.
- ALL WORK TO COMPLY WITH CURRENT FEDERAL, STATE AND LOCAL CODES, LAWS AND ORDINANCES. THE REQUIREMENTS OF ICC/ANSI A117.1 AND THE AMERICANS WITH DISABILITIES ACT (ADA) ARE TO BE FULLY SATISFIED. ALL WORK SHALL MEET THE MOST STRINGENT REQUIREMENTS OF BOTH INCLUDING, BUT NOT LIMITED TO CLEARANCES, LIMITATIONS, ACCESSORIES, ETC.
- THESE DRAWINGS ARE PREPARED IN ACCORDANCE WITH THE LIMITED SERVICES FOR WHICH THE ARCHITECT WAS CONTRACTED. THE ARCHITECT MAKES NO REPRESENTATION THAT THE INTERPRETATION OF THESE DOCUMENTS WILL RESULT IN COMPLETE COMPLIANCE WITH THE ADA.
- ALL DOORS REQUIRED TO BE LABELED SHALL BE SET IN LABELED FRAMES AND IDENTIFIED WITH UL LABEL AND BE PROVIDED WITH APPROVED SELF-CLOSING DEVICES AND POSITIVE LATCHING HARDWARE.
- ALL DESIGNATED EXIT DOORS SHALL BE EQUIPPED WITH THE REQUIRED EGRESS HARDWARE.
- FURNISH HARDWARE AS SCHEDULED WITHOUT SUBSTITUTION, NO ALTERNATES WILL BE APPROVED.
- PROVIDE COMBINATED CYLINDERS AND CUT KEYS, KEYED TO NEW MASTER SYSTEM. INCLUDE KEY CONFERENCE AND KEY SYSTEM SCHEDULE. FURNISH A KEY CYLINDER AND TWO CUT KEYS FOR EACH LOCKING DEVICE. SPECIFIED, PLUS FOUR MASTER KEYS.
- FURNISH AND PROVIDE ALL NECESSARY REINFORCEMENTS, BRACKETS, FASTENERS, SPACERS AND FILLERS TO PROVIDE A COMPLETE FUNCTIONING OPENING.
- PROVIDE COMPLETE SHOP DRAWINGS, SUBMITTALS AND CUT SHEETS COMPLYING WITH DHI PRESCRIBED METHODS AND VERTICAL. FORMAT DOUBLE SPACED HARDWARE SCHEDULE.

HARDWARE SETS:

HARDWARE SET 1 - PRIVACY SET W/ INDICATOR (LOCK / UNLOCK)			
3	EA.	BUTT HINGE BB81 4 1/2" X 4 1/2" NRP	260 PBB
1	EA.	PRIVACY SET MR 279 BJSJ	32D PDQ
1	EA.	WALL STOP 1407	260 DON JO

HARDWARE SET 2 - PRIVACY SET W/ INDICATOR (LOCK / UNLOCK) + CLOSER			
3	EA.	BUTT HINGE BB51 4 1/2" X 4 1/2" NRP	32D PBB
1	EA.	PRIVACY SET MR 279 BJSJ	32D PDQ
1	EA.	CLOSER 7101 BC RA REGULAR ARM (FULL SIDE MOUNT)	689 PDQ
1	EA.	KICKPLATE 90 10 X 2" LDW B4E	32D DON JO
1	EA.	WALL STOP 1407	260 DON JO

HARDWARE SET 3 - PUSH / PULL SET (ALWAYS UNLOCKED) + CLOSER			
NEW DOOR IN EXISTING FRAME. MATCH FRAME HAND AND HINGE SIZE / LOCATION. VERIFY EXISTING OPENING AND NOTIFY ARCHITECT IMMEDIATELY IF THAT WHICH EXISTS DIFFERS FROM WHAT IS SPECIFIED BELOW. PATCH-FILL-REPAIR EXISTING PREPS. PREPARE AND INSTALL THE FOLLOWING ITEMS:			
3	EA.	BUTT HINGE BB81 4 1/2" X 4 1/2" NRP	260 PBB
1	EA.	PULL PLATE 7137 (MOUNT PRIOR TO PUSH PLATE)	32D DON JO
1	EA.	PUSH PLATE 71 (MOUNT OVER PULL FASTENERS)	32D DON JO
1	EA.	CLOSER 7101 BC RA REGULAR ARM (FULL SIDE MOUNT)	689 PDQ
1	EA.	KICKPLATE 90 10 X 2" LDW B4E	32D DON JO
1	EA.	WALL STOP OR FLOOR STOP - 1407 OR 1441 -TYPE AS REQUIRED	260 DON JO

DIVISION 9 - FINISHES :

- GYPSUM BOARD SHALL BE 5/8" THICK MANUFACTURED BY UNITED STATES GYPSUM COMPANY OR EQUAL. USE WATER RESISTANT GREEN BOARD IN TOILET ROOMS AND CEMENT BOARD IN SHOWERS AS SCHEDULED ON DRAWINGS. USE 5/8" TYPE "X" FIRECODE BOARD WHERE NOTED.
 - METAL TRIM - L - TRIM MOLDING BY FRY REGLET OR APPROVED EQUAL
 - Elastomeric EXPANSION JOINT COVER - 75 FWG-DRYWALL BY BALCO, INC. OR APPROVED EQUAL.
- CEMENTITIOUS BACKER BOARD- HIGH-DENSITY CEMENTITIOUS, GLASS-FIBER REINFORCED, THICKNESS 5/8" . FOR USE AT ALL TILE LOCATIONS. USE COATED GLASS-FIBER TAPE AT JOINTS AND CORNERS. INSTALL PER BACKER BOARD MANUFACTURER INSTRUCTIONS. PAIR WITH SHEET MEMBRANE WATERPROOFING IN SHOWERS. APPROVED MODEL MANUFACTURER:
 - DUROCK BRAND CEMENT BOARD BY USG CORP. OR APPROVED EQUAL.
- PAINT FINISHES SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. APPROVED MANUFACTURER'S :
 - SHERWIN WILLIAMS
 - BENJAMIN MOORE
 - GLODDEN
 - PITTSBURGH PAINTS
 - PRATT & LAMBERT
- ACOUSTIC CEILING PANEL SYSTEM-
 - ACOUSTIC CEILING PANEL - WET-FORMED MINERAL FIBER, 2' x 2' x 3/4" PANEL WITH TEGULAR EDGE. COLOR- WHITE. MINIMUM NRC/ CAC VALUE OF 0.69/ 40. APPROVED MANUFACTURER/ MODEL: ARMSTRONG 'ULTIMA' TEGULAR
 - METAL GRID- METAL EXPOSED-TEE SYSTEM, INTERMEDIATE-DUTY, 15/16" PROFILE, 1 5/8" HIGH, POWDER COAT FINISH, COLOR- WHITE. APPROVED MANUFACTURER/ MODEL: ARMSTRONG 'PRELUDE XL' ACOUSTICAL SUSPENSION SYSTEM OR APPROVED EQUAL.
- HARD TILE :
INSTALL ALL TILE PER THE LATEST TCI HANDBOOK, INCLUDING BUT NOT LIMITED TO SHOWER LINERS, BACKING MATERIAL, AND RECOMMENDED USES. APPROVED MANUFACTURE AS FOLLOWS (OR APPROVED EQUAL):
 - CROSSVILLE
 - STONEPEAK
- FLOORING :
 - LUXURY VINYL TILE :
 - LVT - 1: SHAW INLET, STYLE NO. 0926V, PLANKS. COLOR AS PER ARCHITECT / OR OWNER APPROVAL
 - CERAMIC TILE :
 - CT, BEAVER TILE MILESTONE REVIVAL, IVORY, 12"x24" TILES OR APPROVE EQUAL
- RESILIENT BASE:
 - GROUT:
 - FLOORS- MODIFIED EPOXY EMULSION TYPE. APPROVED MANUFACTURER/ MODEL: 'CUSTOM BUILDING PRODUCTS 100% SOLIDS EPOXY GROUT' OR APPROVED EQUAL
 - WALLS- POLYMER-MODIFIED PORTLAND CEMENT GROUT, SANDED. APPROVED MANUFACTURER/ MODEL: 'CUSTOM BUILDING PRODUCTS POLYBLEND SANDED TILE GROUT' OR APPROVED EQUAL
 - COLOR- SELECTED BY ARCHITECT FROM MANUFACTURER 'S STANDARD COLOR SELECTIONS
 - 4" HIGH, VUCANIZED THERMOSET RUBBER. COLOR SELECTED BY ARCHITECT FROM MANUFACTURER 'S STANDARD COLOR SELECTIONS. APPROVED MANUFACTURER/ MODEL: 'ROPPE CORPORATION PINNACLE RUBBER BASE' OR APPROVED EQUAL.

DIVISION 10 - SPECIALTIES :

- TOILET COMPARTMENTS AND URINAL SCREENS - SOLID, MOLDED THERMOSET, WATERPROOF, HIGH-DENSITY POLYETHYLENE (HDPE) PLASTIC PANELS, DOORS AND PLASTERS. FLOOR MOUNTED, HEADRAIL - BRACED COMPARTMENTS AND SCREENS, COLOR SELECTED FROM MANUFACTURERS STANDARD COLORS BY THE ARCHITECT. TYPICAL DOOR WIDTH TO BE 24 IN. DOORS AT ACCESSIBLE STALLS TO BE 36 IN. AND OUTSWINGING. URINAL SCREENS WALL - MOUNTED AND CANTILEVERED WITH CONTINUOUS EXTRUDED, CLEAR-ANODIZED ALUMINUM BRACKET, FULL HEIGHT OF SCREEN. PLASTER SHOES TO BE FORMED STAINLESS STEEL. MANUFACTURERS STANDARD HEIGHT TO CONCEAL FLOOR FASTENINGS. HARDWARE TO BE SATIN CHROME-PLATED, NON-FERROUS CAST METAL OR ALUMINUM AND INCLUDE GRAVITY-TYPE ADJUSTABLE PIVOT HINGES (TWO PER DOOR), NYLON BEARINGS, THUMBTURN DOOR LATCH WITH EXTERIOR EMERGENCY ACCESS FEATURE, DOOR STRIKE AND KEEPER WITH RUBBER BUMPER, AND DOOR PULL FOR OUT-SWINGING DOORS. APPROVED MANUFACTURER: HADRIAN, INC. OR APPROVED EQUAL.
- TOILET ROOM ACCESSORIES :
 - TOILET PAPER HOLDER- COMMERCIAL TOILET PAPER DISPENSER, SURFACE-MOUNTED, STAINLESS STEEL WITH SATIN FINISH. APPROVED MANUFACTURER: BOBRICK B-2688 OR APPROVED EQUAL.
 - SANITARY NAPKIN DISPOSAL- COMMERCIAL RESTROOM SANITARY NAPKIN DISPOSAL, SURFACE-MOUNTED, STAINLESS STEEL. APPROVED MANUFACTURER: BOBRICK B-270 OR APPROVED EQUAL.
 - MIRRORS - SHALL HAVE ONE-PIECE, TYPE 304 STAINLESS STEEL FRAME WITH INTEGRAL STIFFENERS AND BEVELD FRONT TO HOLD FRAME TIGHT AGAINST MIRROR. GALVANIZED STEEL BACK TO HAVE INTEGRAL HANGING BRACKETS FOR MOUNTING ON CONCEALED WALL HANGERS. GLASS TO BE TEMPERED. APPROVED MANUFACTURER:
 - BOBRICK B-290 OR APPROVED EQUAL
 - GRAB BARS - STAINLESS STEEL TYPE 304, WALL THICKNESS NOT LESS THAN 0.05 INCH, CONCEALED MOUNTING, 1-1/2" CLEARANCE BETWEEN WALL SURFACE AND INSIDE FACE OF BAR, SATIN-FINISH WITH PEENED GRIPPING SURFACE, OUTSIDE DIAMETER OF 1-1/2". APPROVED MANUFACTURER:
 - HORIZONTAL- BOBRICK B-6806.99 X 36" OR APPROVED EQUAL.
 - HORIZONTAL- BOBRICK B-6806.99 X 42" OR APPROVED EQUAL.
 - VERTICAL- BOBRICK B-6806.99 X 18" OR APPROVED EQUAL.
 - TOWEL HOOK - SURFACE MOUNTED, STAINLESS STEEL WITH SATIN FINISH. APPROVED MANUFACTURER:
 - BOBRICK B-6777 OR APPROVED EQUAL.
 - ROBE HOOK - SURFACE MOUNTED, STAINLESS STEEL WITH SATIN FINISH. APPROVED MANUFACTURER:
 - BOBRICK B-76727 OR APPROVED EQUAL.
- PLAQUE IDENTIFICATION SIGNS FOR INTERIOR APPLICATION SHALL BE STANDARD 6"x6" SIZE WITH RADUSED CORNERS, .080" THICK BACK- PLATE LAMINATED TO FACEPLATE SURFACE. BACKPLATE BACKGROUND AS SELECTED BY ARCHITECT. TYPE SPF AS MANUFACTURED BY ASI SIGN SYSTEM OR APPROVED EQUAL.
- MILLWORK :
 - SOLID SURFACE COUNTERTOPS AND SILLS - CORIAN SOLID-SURFACE, COLOR TO BE SELECTED BY ARCHITECT.
 - PLASTIC LAMINATE MILLWORK- EXPOSED CABINET EXTERIORS TO BE THERMOFUSED PLASTIC LAMINATE. COLOR: WILSONART 'S' "A/E. ELM 7966K-12 SOFT GRAIN FINISH. CONCEALED HINGES TO BE COMMERCIAL GRADE 120 DEGREE PIVOT OVERLAY STYLE. SPRING-LOADED SELF-CLOSE FEATURE AND 3-WAY ALIGNMENT ADJUSTMENTS. DOOR AND DRAWER PULLS TO BE SELECTED BY THE ARCHITECT FROM THE MANUFACTURER'S STANDARD LINE. APPROVED MANUFACTURER:
 - TMI SYSTEMS DESIGN GROUP.
 - STEVENS CABINET COMPANY OR APPROVED EQUAL.



ANDERSON, ECKSTEIN AND WESTRICK, INC.

CIVIL ENGINEERS SURVEYORS ARCHITECTS

51301 Schoenherr Road Phone 586 726 1234
Shelby Township Fax 586 726 8780
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www.aewinc.com

ENGINEERING STRONG COMMUNITIES

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DATE	SUBMITTALS/REVISIONS	DATE	SUBMITTALS/REVISIONS

PROJECT NAME:

CLINTON TWP. FIRE STATION RENOVATIONS

SHEET TITLE:

SPECIFICATIONS

CLIENT:

CLINTON TOWNSHIP

<input type="checkbox"/> PRELIMINARY	<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> RECORD
DRAWN BY:	CHECKED BY:	DATE:
LD	Checker	FEBRUARY 2024
SCALE:		
AS NOTED		



Know what's below. Call 72 hours before you dig.

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PROJECT NO.

0242-0451

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SHEET NO.

A031

ELECTRICAL SPECIFICATIONS

ELECTRICAL TRADES SPECIFICATION :

- THE GENERAL CONDITIONS AND SPECIAL CONDITIONS OF THE SPECIFICATIONS SHALL GOVERN. GENERAL CONDITIONS AND SPECIAL CONDITIONS REQUIREMENTS RELATED, BUT NOT LIMITED TO, RUBBISH REMOVAL, CUTTING AND PATCHING, OBTAINING AND PAYING FOR REQUIRED LICENSES AND PERMITS, REPLACEMENT OF DAMAGED OR STOLEN EQUIPMENT AND SYSTEMS, COMPLIANCE WITH ALL NATIONAL, STATE AND LOCAL CODES, SHALL APPLY.
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- ENTIRE INSTALLATION SHALL BE PERFORMED IN A FIRST - CLASS WORK-MAN-LIKE MANNER. THE COMPLETED SYSTEMS SHALL BE FULLY OPERATIONAL. ACCEPTANCE BY THE OWNER SHALL BE A CONDITION OF THE CONTRACT. ALL WORK SHALL BE COORDINATED WITH EXISTING CONDITIONS IN ORDER TO AVOID INTERFERENCES, PRESERVE MAXIMUM HEADROOM AND AVOID OMISSIONS.
- ALL WIRING SHALL BE IN CONDUIT, RIGID OR THIN WALL AS PERMITTED BY CODE. CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. WHERE EXPOSED, RUN IN STRAIGHT LINES PARALLEL AND/OR PERPENDICULAR TO BUILDING CONSTRUCTION.
- ELECTRICAL CONDUITS SHALL BE RIGID GALVANIZED ASA C80.1 FOR SERVICE ENTRANCE, PANEL FEEDERS AND UNDERGROUND OR IN CONCRETE ENCASEMENT. THINWALL ASA C80.3 FOR BRANCH CIRCUITS, OUTDOOR UNDERGROUND SHALL BE PVC, SCHEDULE 40, WITH CONTINUOUS GROUND.
- ALL CONDUIT FITTINGS SHALL BE GALVANIZED. ONLY GLAND TYPE, RAIN AND CONCRETE TIGHT, THREADED CONNECTORS AND COUPLINGS ARE APPROVED FOR USE WITH THIN WALL CONDUIT.
- PROVIDE AND INSTALL COMPLETE EMPTY CONDUIT SYSTEM FOR TELEPHONE OUTLETS AS INDICATED ON DRAWINGS. CONDUITS SHALL BE TERMINATED AT TELEPHONE BACKBOARD WITH FIBER BUSHINGS.
- CONTRACTOR SHALL INCLUDE ALL MISCELLANEOUS ITEMS REQUIRED TO COMPLETE THE WORK, INCLUDING BUT NOT LIMITED TO, THE FOLLOWING : MOVING AND RIGGING OF MATERIAL AND EQUIPMENT, ALL HANGERS, SUPPORTS, ANCHORS, EXPANSION MEANS, CONDUIT, WIRE, FITTINGS AND SLEEVES.
- CONTRACTOR SHALL INCLUDE ALL TESTING, ADJUSTING & BALANCING AND COORDINATION BETWEEN TRADES. CIRCUITS SHALL BE PROPERLY BALANCED ACROSS PHASES.
- PRIOR TO ORDERING EQUIPMENT, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS IN QUADRUPLICATE FOR APPROVAL.
- ALL MATERIALS USED SHALL BE NEW AND BEAR THE U.L. LABEL, WHERE SUCH SERVICE AND LABEL ARE REGULARLY PROVIDED; AND BE OF THE APPROPRIATE NEMA STANDARD.
- CONTRACTOR SHALL NOT SCALE DRAWINGS FOR DIMENSIONS, BUT SHALL CONTACT PROJECT ARCHITECT FOR ALL DIMENSIONAL DATA. FIELD VERIFY DIMENSIONS AND CONDITIONS PRIOR TO ROUGH - IN.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL TESTS AND INSPECTIONS NECESSARY TO DETERMINE THAT ALL WIRING INSTALLED UNDER THIS SPECIFICATION IS IN SATISFACTORY CONDITION AND SHALL BE PERFORMED TO THE SATISFACTION OF THE ELECTRICAL INSPECTOR OF THE LOCAL AUTHORITY AND ALL OTHERS HAVING JURISDICTION OVER THE ELECTRICAL WORK.
- ELECTRICAL CONTRACTOR SHALL DELIVER THE CERTIFICATES OF INSPECTION AND FINAL APPROVAL TO THE ARCHITECT AS A REQUIREMENT FOR FINAL PAYMENT.
- ELECTRICAL CONTRACTOR SHALL GUARANTEE IN WRITING ALL WORK IN CONNECTION WITH HIS ELECTRICAL CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF COMPLETION OF HIS WORK AT NO COST TO THE OWNER.
- DISCONNECT SWITCHES SHALL BE VISIBLE BLADE, QUICK - MAKE, QUICK - BREAK UNIT WITH PROVISIONS FOR PADLOCKING. SWITCHES SHALL BE SQUARE D, F.P.E., G.E. OR WESTINGHOUSE, OF THE NEMA CLASS AND MATERIAL REQUIRED. LIGHTING AND RECEPTACLE PANELS SHALL BE CIRCUIT BREAKER TYPE WITH THERMAL MAGNETIC TRIP - FREE TRIP - INDICATING, INVERSE TIME COMMON TRIP 1 CIRCUIT BREAKERS EQUIPPED WITH SILVER ALLOY CONTACTS AND QUICK - MAKE, QUICK - BREAK MECHANISM. CIRCUIT BREAKERS SHALL BE BOLTED TYPE AND RATED 10,000 A.I.C. MINIMUM (120V) 14,000 A.I.C. (277V). PANELS SHALL BE SQUARE D "WQDD" AND NEHB PANEL BOARDS, G.E. OR WESTINGHOUSE.
- FURNISH AND INSTALL ALL WIRING AND CONNECTIONS TO ALL MOTORS SHOWN ON THE PLANS. FURNISH AND INSTALL DISCONNECT SWITCHES FOR ALL MOTORS. DISCONNECTING MEANS MUST COMPLY WITH THE NATIONAL ELECTRICAL CODE. ALL MANUAL AND MAGNETIC MOTOR STARTERS SHALL BE SQUARE D CLASS 8536/8538 OR EQUAL, WITH 120 VOLT OPERATION COILS WITH AUXILIARY CONTACTS WHEN REQUIRED FOR CONTROL FUNCTIONS. MOTORS 1/4 HP AND SMALLER THAT ARE NOT UNDER AUTOMATIC CONTROL SHALL BE CONTROLLED WITH SQUARE D CLASS 2510 MANUAL STARTERS OR EQUAL.
- DISCONNECT SWITCHES FOR MOTORS RATED 1/3 HP AND LESS MAY BE A GENERAL USE SWITCH. DISCONNECT SWITCHES FOR MOTORS 1/2 HP AND LARGER SHALL BE FUSED HEAVY-DUTY SWITCHES SIMILAR TO SQUARE D TYPE H HEAVY - DUTY LINE OR G.E. TH WITH FRONT - MOUNTED HANDLE OR EQUAL. USE RAIN TIGHT OUTDOORS.
- WIRE AND CABLE SHALL BE COPPER WITH 98% CONDUCTIVITY AND SHALL MEET THE TESTS, AND STANDARDS SET FORTH BY NEMA, UL AND IPCEA. WIRE SHALL BE COPPER TYPE THHN OR XHHN.
- ELECTRIC SYSTEM GROUNDING SHALL IN ALL INSTANCES COMPLY WITH THE MINIMUM REQUIREMENTS OF THE NATIONAL ELECTRIC CODE. METAL ENCLOSURES SHALL BE BONDED TOGETHER AND GROUNDED TO THE BUILDING GROUND SYSTEM.
- CONTRACTOR SHALL VERIFY EXACT LOCATION AND MOUNTING HEIGHTS OF ALL OUTLETS WITH ARCHITECT PRIOR TO INSTALLATION.
- ELECTRICAL SERVICE SHALL BE AS INDICATED ON DRAWINGS.
- MANUAL MOTOR STARTERS WITH OVERLOAD PROTECTION SHALL BE USED FOR FRACTIONAL HORSEPOWER MOTORS, ALLEN BRADLEY BULLETIN 600.
- MINIMUM SIZE OF OUTLET BOXES SHALL BE 4" SQUARE, 1 1/2" DEEP, SUITABLY SECURED FOR THEIR PARTICULAR APPLICATION.
- ALL SWITCH PLATES, RECEPTACLE PLATES, ETC., TO SATIN FINISH, STAINLESS STEEL UNLESS OTHERWISE REQUIRED BY ARCHITECT.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL FIXTURES AND LAMPS INCLUDING REPLACEMENTS UNTIL FINAL ACCEPTANCE OF COMPLETED WORK. FLUORESCENT LAMPS SHALL BE COOL WHITE (34 WATT POWER SAVER TYPE) FIXTURES SHALL BEAR THE U.L. LABEL AND BE INSTALLED IN FULL COMPLIANCE WITH APPLICABLE CODES. BALLASTS SHALL BE UL - ETL - CMB CERTIFIED HIGH POWER FACTOR, SOUND RATED "A", THERMALLY PROTECTED. UPON COMPLETION OF WORK, ALL FIXTURES SHALL BE CLEANED AND LEFT FREE FROM ALL FOREIGN MATERIAL, DUST, ETC. WITH FUNCTIONING LAMPS. ALL PLASTIC COMPONENTS SHALL BE VIRGIN ACRYLIC. FIXTURES SHALL BE SUPPORTED FROM BUILDING STRUCTURE, NOT CEILING. FIXTURES IN FURRED SPACES SHALL BE CONNECTED BY MEANS OF FLEXIBLE CONDUIT AND AF WIRE TO OUTLET BOX INDEPENDENT OF FIXTURE.
- ALL SERVICE WORK MUST CONFORM TO UTILITY COMPANY REQUIREMENTS. CONTACT UTILITY COMPANIES, VERIFY AND CORRELATE SERVICES AND PAY ALL UTILITY COMPANY CHARGES FOR EXTENSIONS, TRANSFORMERS, METERS, ETC.
- PROVIDE GROUND FAULT INTERRUPTERS FOR OUTLETS IN TOILET ROOMS AND AT EXTERIOR OF BUILDING AS REQUIRED BY STATE AND LOCAL CODES.
- FURNISH AND INSTALL WALL PLATES FOR ALL WIRING DEVICES AND TELEPHONE OUTLETS. IN ALL FINISHED AREAS OF THE BUILDING, PLATES SHALL BE STAINLESS STEEL .040 SATIN FINISH US 32D AS MANUFACTURED BY HUBBELL, OR APPROVED EQUAL.
- GANG PLATES SHALL BE USED BY ALL GANG MOUNTED DEVICES.
- NO BOXES SHALL BE LEFT UNCOVERED UNLESS SPECIFICALLY INDICATED.
 - DUPLEX RECEPTACLE 20A - 125V
 - FLOOR DUPLEX OUTLET
 - WEATHERPROOF CONVENIENCE OUTLET
 - OUTLET 3 WIRE W/GROUND 20A-208V
 - SINGLE POLE TOGGLE SWITCH 20A-120V DOUBLE POLE TOGGLE SWITCH
 - THREE-WAY TOGGLE SWITCH
 - SINGLE POLE TOGGLE SWITCH WITH PILOT LIGHT

SPECIAL NATIONAL ELECTRIC CODE (NEC) NOTES :

- PROPER WORKING CLEARANCE MUST BE PROVIDED AND MAINTAINED ABOUT ALL ELECTRICAL EQUIPMENT ESPECIALLY MAIN SERVICE EQUIPMENT, ALL PANELS, DISCONNECTS, TRANSFORMERS, ETC. THEY SHALL BE LOCATED IN DEDICATED SPACES. NO FOREIGN PIPES, DUCTS OR EQUIPMENT PERMITTED IN THESE DEDICATED SPACES. NEC 110-16, TABLE 110-16A AND 384-4.
- STANDARD RECEPTACLES INSTALLED ON 20 AMP BRANCH CIRCUITS SHALL BE OF THE GROUNDING TYPE. NEC 210-7.
- ASSUME MINIMUM STANDARDS - 20 AMP BREAKER CIRCUITS, #12 COPPER 90 DEG. C. TYPE CONDUCTORS, 1/2" CONDUIT, ETC. ANYTHING LARGER OR DIFFERENT SHALL BE SO NOTED. NEC 240-3, 240-6, TABLE 310-16 AND CHAPTER 9 TABLE 3A.
- ALL WIRING (ELECTRICAL, TELEPHONE, ETC.) IN DUCTS, PLENUMS OR OTHER SPACE USED FOR ENVIRONMENTAL AIR SHALL BE INSTALLED IN PROPER RACEWAYS OR CABLES SPECIFICALLY LISTED FOR THE USE. NEC 300 - 22(B) AND (C).
- ALL LAMPS FOR TEMPORARY LIGHTING SHALL BE PROTECTED BY A SUITABLE FIXTURE OR LAMPHOLDER WITH A GUARD. NEC 305 - 4(F).
- ALL TEMPORARY 125 VOLT, SINGLE PHASE, 15 AND 20 AMP RECEPTACLE OUTLETS SHALL HAVE GFCI PROTECTION. NEC 305-6.
- FIXTURES IN WET, DAMP OR CORROSIVE LOCATIONS OR IN DUCTS OR HOODS SHALL BE SUITABLE FOR SUCH LOCATIONS AND SO MARKED. NEC 410-4(A), (B), AND (C).
- ALL FLUORESCENT FIXTURES INSTALLED INDOORS SHALL HAVE THERMAL PROTECTION INTEGRAL WITH THE BALLAST. NEC 410-73(E).
- PROPER THERMAL OVERLOAD PROTECTION SHALL BE REQUIRED FOR ALL MOTORS. NEC 430-31.
- THE DISCONNECTING MEANS FOR MOTORS SHALL BE A MOTOR-CIRCUIT SWITCH RATED IN HORSEPOWER, A CIRCUIT BREAKER, OR A MOLDED CASE SWITCH (NON-AUTOMATIC CIRCUIT INTERRUPTER) AND FOR A CORD AND PLUG-CONNECTED MOTOR, A HORSE - POWER RATED ATTACHMENT PLUG AND RECEPTACLE. NEC 430-109 AND EX. 5.
- PROPER WIRING METHODS SHALL BE REQUIRED IN PLACES OF ASSEMBLY OF 100 OR MORE PERSONS. NON-METALLIC SHEATHED (ROMEX) CABLE SHALL NOT BE PERMITTED. NEC 518-1, 518 - 2 AND 518 - 4.
- ALL BATTERY BACK-UP EXIT AND EMERGENCY LIGHTS SHALL BE FED FROM THE SAME CIRCUIT AS NORMAL LIGHTING IN THEIR RESPECTIVE AREAS AND BE CONNECTED AHEAD OF ANY LOCAL SWITCHES. NEC700-16, 700 - 17 AND 700 - 12(F). BATTERY BACK - UP EXIT AND EMERGENCY LIGHTS CANNOT FEED FROM CIRCUITS OTHER THAN THE NORMAL LIGHTING IN THEIR RESPECTIVE AREAS. INCLUDE LOCK-OPEN DEVICES.
- MAIN SERVICE DISCONNECTING MEANS SHALL BE PERMANENTLY MARKED TO IDENTIFY IT AS A SERVICE DISCONNECTING MEANS. NEC 230 - 70(B).
- ALL SERVICE ENTRANCE AND/OR FEEDER CONDUCTORS NOTED SHALL BE 90 DEG. C. COPPER TYPE MINIMUM FOR PROPER CAPACITY. NEC 230 - 42(A), 215 - 2 AND TABLE 310 - 16.
- PROPER TYPE AND SIZE OF SERVICE GROUNDING CONDUCTOR REQUIRED WITH CONNECTION TO BOTH THE METAL UNDERGROUND WATER PIPING SYSTEM AND A SUPPLEMENTAL ELECTRODE. NEC 250 - 23(A), 250 - 81, 250 - 83 AND TABLE 250 - 94.
- CONTINUOUS LOADS SHALL NOT EXCEED 80% OF THE RATING OF THE BRANCH CIRCUIT. NEC 210 - 22(C) AND 384 - 16.
- LIGHTING FIXTURE SCHEDULE SEE LIGHTING PLAN FOR SCHEDULE.
- SMOKE DETECTORS, HEAT SENSORS AND ALARMS CEILING SMOKE DETECTORS (BY OWNER).
- DUCT SMOKE DETECTORS THE DUCT DETECTORS SHALL BE SERIES DDP PHOTO - ELECTRIC TYPE WITH RATE COMPENSATED / FIXED SENSITIVITY CIRCUITRY TO DETECT BOTH FAST AND SLOW BURNING FIRES. THE DETECTOR SHALL COME COMPLETE WITH SEALED HOUSING AND SAMPLING TUBES. THE DETECTORS SHALL BE 4 - WIRE TYPE WITH AN ISOLATED 24VDC POWER FEED REQUIREMENT TO INSURE RELIABLE OPERATION OF THE AUXILIARY CONTROL RELAY. A POWER SUPERVISORY RELAY SHALL BE PROVIDED FOR EACH ZONE OF DUCT DETECTORS. DETECTORS SHALL BE WIRED TO THE RESPECTIVE FAN CONTROL FOR SHUT - DOWN UPON ALARM. LOCATE DETECTOR IN SUPPLY DUCT NEAR EACH OF THE TWO (2) FURNACES AND WITHIN THE FURNACE ROOM. FURNISH AND INSTALL BY THE ELECTRICAL CONTRACTOR. COORDINATE WITH HVAC CONTRACTOR.

MECHANICAL SPECIFICATIONS

OVERALL PLUMBING SPECIFICATIONS :

- COMPLY WITH STATE AND LOCAL PLUMBING CODES, OSHA AND MICHIGAN CONSTRUCTION CODE AND OBTAIN AND PAY FOR ALL PERMITS, SERVICES AND FEES.
- WATER SERVICE : REFER TO DRAWINGS FOR WATER SERVICE BY PLUMBING CONTRACTOR.
- NATURAL GAS SERVICE : REFER TO DRAWINGS FOR NATURAL GAS SERVICE BY PLUMBING CONTRACTOR.
- SANITARY AND STORM SEWERS : REFER TO DRAWINGS FOR SANITARY AND STORM SERVICE BY PLUMBING CONTRACTOR.
- WATER PIPING : INTERIOR WATER PIPING TO BE COPPER TYPE "M" ABOVE FLOOR AND TYPE "L" BELOW FLOOR AND UNDERGROUND. INSULATE HOT AND COLD WATER ABOVE FLOOR WITH 1" FIBERGLASS WITH FRJ JACKET. JOINTS BELOW FLOOR ARE NOT PERMITTED.
- SANITARY PIPING : SERVICE - WEIGHT CAST IRON (OR SCHEDULE 40 PVC AS PERMITTED BY CODE) TO FIVE FOOT OUTSIDE OF BUILDING BY PLUMBING CONTRACTOR.
- GENERAL PLUMBING FIXTURE SCHEDULE : FURNISH STOPS FOR EACH FIXTURE. REFER TO MICHIGAN CONSTRUCTION CODE FOR SPECIAL MOUNTING HEIGHTS OF FIXTURES FOR USE BY PHYSICALLY HANDICAPPED PERSONS.
- CHLORINATION : ON COMPLETION OF INSTALLING THE WATER SYSTEM, THE PLUMBING CONTRACTOR SHALL HAVE BACTERIOLOGICAL SAMPLES OF THE WATER FROM THE SYSTEM TESTED BY THE MICHIGAN DEPARTMENT OF HEALTH. IF WATER IS DETERMINED TO BE UNSAFE, THE CONTRACTOR SHALL CHLORINATE THE SYSTEM USING ACCEPTABLE METHODS AND FLUSH UNTIL THE SYSTEM IS PROVEN SAFE BY FURTHER TESTING. VERIFY NEED FOR CHLORINATION WITH LOCAL INSPECTOR.
- GUARANTEE : THE PLUMBING CONTRACTOR SHALL PROVIDE A WRITTEN GUARANTEE OF THE ENTIRE SYSTEM FOR A PERIOD OF (1) ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
- ROOF SUMP SHALL BE GALVANIZED CAST IRON DOME. PROVIDE UNDER DECK CLAMP, SUMP RECEIVER AND EXTENSION. PROVIDE NO - HUB ADAPTERS WHERE REQUIRED. CONTRACTOR TO PROVIDE EXTENSION TO MATCH ROOF INSULATION EQUAL TO J.R. SMITH 1010 - ERC6 OR MIFAB R1200-EU-12.
- OVERFLOW SUMPS EQUAL TO JR SMITH 1070 - ERC6 OR MIFAB R1200 - EU - 12 - W.
- CLEANOUTS ON 100 FT. INTERVALS (50' FOR 4" OR SMALLER) FOR SANITARY AND STORM PIPING, AT END BRANCHES, STACKS, AND AT 90 DEGREE BENDS. LOCATE IN WALL WHERE POSSIBLE.
- PROVIDE BACKFLOW PREVENTERS WHERE REQUIRED BY LOCAL BOARD OF HEALTH OR PLUMBING CODES.

HEATING AND AIR CONDITIONING SPECIFICATIONS :

- GENERAL : COMPLY WITH MICHIGAN CONSTRUCTION CODE, OSHA, AND LOCAL CODES, AND OBTAIN AND PAY FOR ALL PERMITS AND FEES.
- INSTALLATION : INSTALL ALL EQUIPMENT IN STRICT ACCORD WITH MANUFACTURER'S INSTRUCTIONS. REFER TO EQUIPMENT SCHEDULES FOR ADDITIONAL INFORMATION.
- GAS PIPING : BLACK STEEL, SCHEDULE 40. INCLUDE SHUT OFF VALVES AT EACH PIECE OF EQUIPMENT REQUIRING GAS. ALL GAS PIPING 2 1/2" AND ABOVE SHALL BE WELDED CONSTRUCTION.
- WIRING : ALL CONTROL WIRING BY THIS CONTRACTOR, POWER WIRING BY ELECTRICAL CONTRACTOR. ALL CONDUIT WORK BY ELECTRICAL CONTRACTOR.
- DUCTS : GALVANIZED STEEL DUCTWORK (ABOVE FLOOR) 0" TO 12" - 26 GAUGE, 13" TO 30" - 24 GAUGE, 31" TO 40" - 22 GAUGE, 44" AND ABOVE - 20 GAUGE. WHERE SQUARE TURNS ARE NECESSARY IN RETURN AIR DUCTWORK, TURNING VANES SHALL BE USED. ALL DUCTS BELOW CONCRETE FLOORS SHALL BE PEABODY SPUNSTRAND FIBERGLASS AIRDUCT DISTRIBUTED BY MICHIGAN AIR PRODUCTS OF ROYAL OAK, MI. OR SOLID PVC 441 PIPE, WITH PVC FITTINGS AND CONNECTIONS, BY AIR DISTRIBUTION COMPANY OF GARY INDIANA, DISTRIBUTED BY BEHLER - YOUNG OF SAGINAW, MI. ALL CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ALL DUCTWORK ABOVE FLOOR TO BE INSULATED INTERNALLY WITH 1/2" FIBERGLASS AERO FLEX. DUCT SIZES SHOWN TO BE INSIDE OF INSULATION.
- FLUES: METALBESTOS OR EQUAL. CLASS "B".
- FIRE DAMPERS : ASTM E-152 FOR ONE HOUR RATING. SUBMIT SHOP DRAWINGS FOR APPROVAL.
- THERMOSTATS (ELECTRIC) : KEY OPERATED WITH INDICATING THERMOMETER. TO CONTROL BURNER ON HEATING CYCLE AND CONDENSER ON COOLING. INSTALL HEATING-COOLING CHANGE-OVER SWITCH. CONTROL WIRING IN RETURN AIR PLENUMS SHALL BE RUN IN METALLIC CONDUIT OR FIRE RATED CABLE. ALL CONDUIT WORK BY ELECTRICAL CONTRACTOR.
- EXHAUST FANS : REFER TO SCHEDULE OF EXHAUST FANS ON MECHANICAL PLANS.
- FURNACES, AIR HANDLER UNITS AND CONDENSING UNITS : REFER TO SCHEDULE OF HVAC EQUIPMENT ON MECHANICAL PLANS. ON - OFF SUB - BASE ACCESSORY, NON COMBUSTIBLE COMPONENTS AND MATCHED COOLING COILS AND CONDENSING UNITS.
- CONDENSING UNITS SHALL BE COMPLETE WITH TIME GUARD DEVICE TO PREVENT SHORT CYCLING, INDOOR FAN RELAY CRANKCASE HEATER AND RELAY HIGH AND LOW PRESSURE SWITCHES, SINGLE-SPEED CONDENSER AIR FAN, TWO-POLE CONTACTOR, FULLY CHARGED TUBING PACKAGES.
- REFRIGERANT PIPING : ALL REFRIGERANT PIPING, BOTH SUCTION AND LIQUID LINES, SHALL BE TYPE "L" HARD DRAWN COPPER REFRIGERATION TUBE, SEALED WITH WROUGHT COPPER SWEAT FITTINGS, SILVER SOLDERING, TEST AT 300 PSI. INSULATE WITH 1/2" ARMAFLEX.
- LOUVERS, DIFFUSERS AND REGISTERS (HVAC) : REFER TO SCHEDULE AND NOTES ON MECHANICAL PLAN.
- TESTING, ADJUSTING, AND BALANCING: CONTRACTOR WILL EMPLOY AND PAY FOR SERVICES OF AN INDEPENDENT FIRM TO PERFORM TESTING, ADJUSTING AND BALANCING.
- GUARANTEE : CONTRACTOR SHALL GUARANTEE ENTIRE SYSTEM FOR A PERIOD OF (1) YEAR FROM DATE OF FINAL ACCEPT



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ENGINEERING STRONG COMMUNITIES

10/18/2024	BID ISSUE
DATE	SUBMITTALS/REVISIONS

PROJECT NAME:

**CLINTON TWP. FIRE
STATION
RENOVATIONS**

SHEET TITLE:

SPECIFICATIONS

CLIENT:

CLINTON TOWNSHIP

<input checked="" type="checkbox"/> PRELIMINARY	<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> RECORD
DRAWN BY: LD	CHECKED BY: Checker	DATE: FEBRUARY 2024
SCALE: AS NOTED		



Know what's below. Call
72 hours before you dig.

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PROJECT NO.

0242-0451

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SHEET NO.

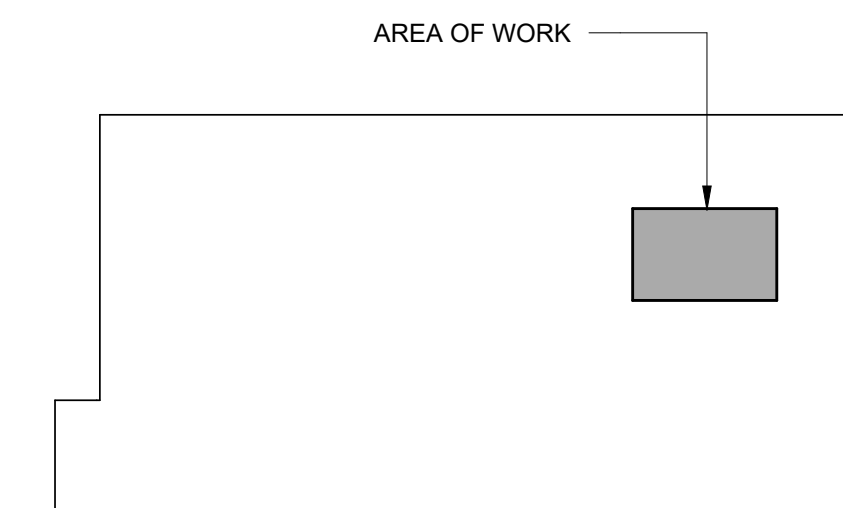
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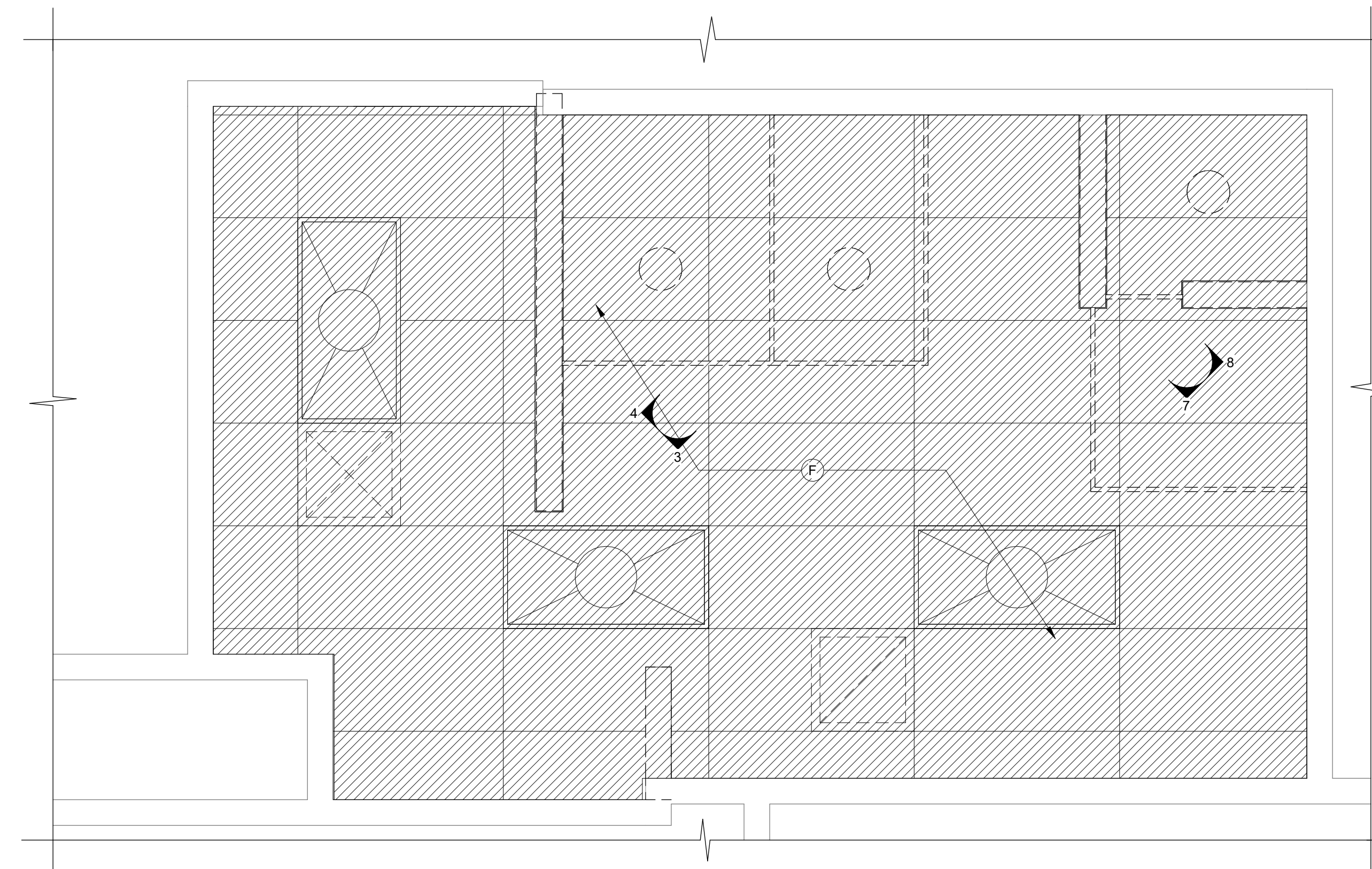
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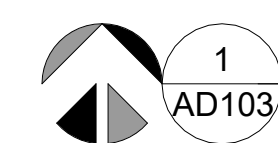
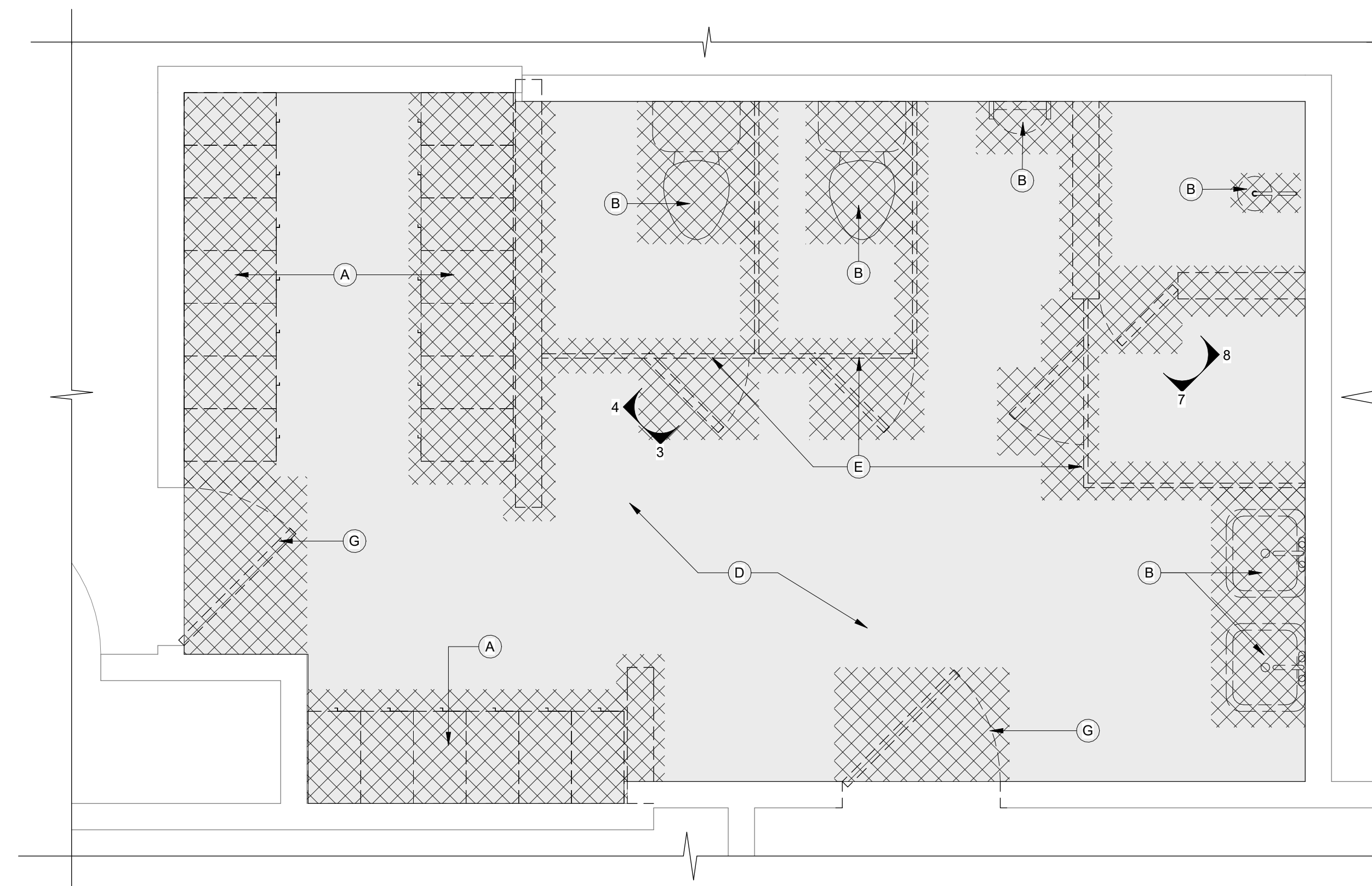
ENGINEERING STRONG COMMUNITIES



KEY PLAN
NORTH



2
AD103 1/2" = 1'-0"
DEMO REFLECTED CEILING PLAN @ TOILET / LOCKERS



1
AD103 1/2" = 1'-0"
DEMO FLOOR PLAN @ TOILET / LOCKERS

GENERAL NOTES :

1. VERIFY ALL EXISTING DIMENSION IN FIELD. NOTIFY ARCHITECT OF ANY DISCREPANCY.

DEMOLITION PLAN KEYNOTES :

- (A) REMOVE LOCKERS AND 4" CONCRETE/TILE BASE
- (B) REMOVE PLUMBING FIXTURES & ACCESSORIES COMPLETE. CONTRACTOR TO COORDINATE WITH OWNER ALTERNATIVE PLUMBING FACILITIES DURING CONSTRUCTION IN STATIONS 2 & 3.
- (C) NOT USED
- (D) DEMOLISH EXISTING TILE FLOOR, BASE AND 49" HIGH WAINSCOT, PREPARE SURFACES FOR NEW TILE.
- (E) REMOVE EXISTING PARTITIONS, PREPARE DAMAGED SURFACES AS NECESSARY FOR NEW WORK
- (F) REMOVE CEILING, LIGHTS AND MECHANICAL EQUIPMENT COMPLETE
- (G) REMOVE EXISTING DOOR, PREPARE FRAME FOR NEW DOOR. EXIST. WOOD TRANSOM PANEL TO REMAIN (PAINT). SALVAGE DOOR HARDWARE AND RETURN TO OWNER

DEMOLITION PLAN LEGEND :

- EXISTING WALL TO REMAIN
- EXISTING WALL TO BE REMOVED (SEE DEMO PLAN)
- EXISTING FLOOR FINISH AND CEILING TO BE REMOVED

BID ALTERNATE:
PROVIDE BID ALTERNATE FOR PORTABLE RESTROOM AND SHOWER UNIT FOR USE DURING PLUMBING CONSTRUCTION AS NECESSARY. CONTRACTOR TO COORDINATE USE OF FACILITIES FOR OWNER.

10/18/2024	BID ISSUE
DATE	SUBMITTALS/REVISIONS

PROJECT NAME:

CLINTON TWP. FIRE STATION RENOVATIONS

SHEET TITLE:

FIRE STATION No. 2 & 3 DEMOLITION PLANS - TOILET/LOCKERS ROOM

CLIENT:

CLINTON TOWNSHIP

<input checked="" type="checkbox"/> PRELIMINARY	<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> RECORD
DRAWN BY: ARD	CHECKED BY: MM	DATE: OCTOBER 2024
SCALE: AS NOTED		



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PROJECT NO.

0242-0451

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SHEET NO.

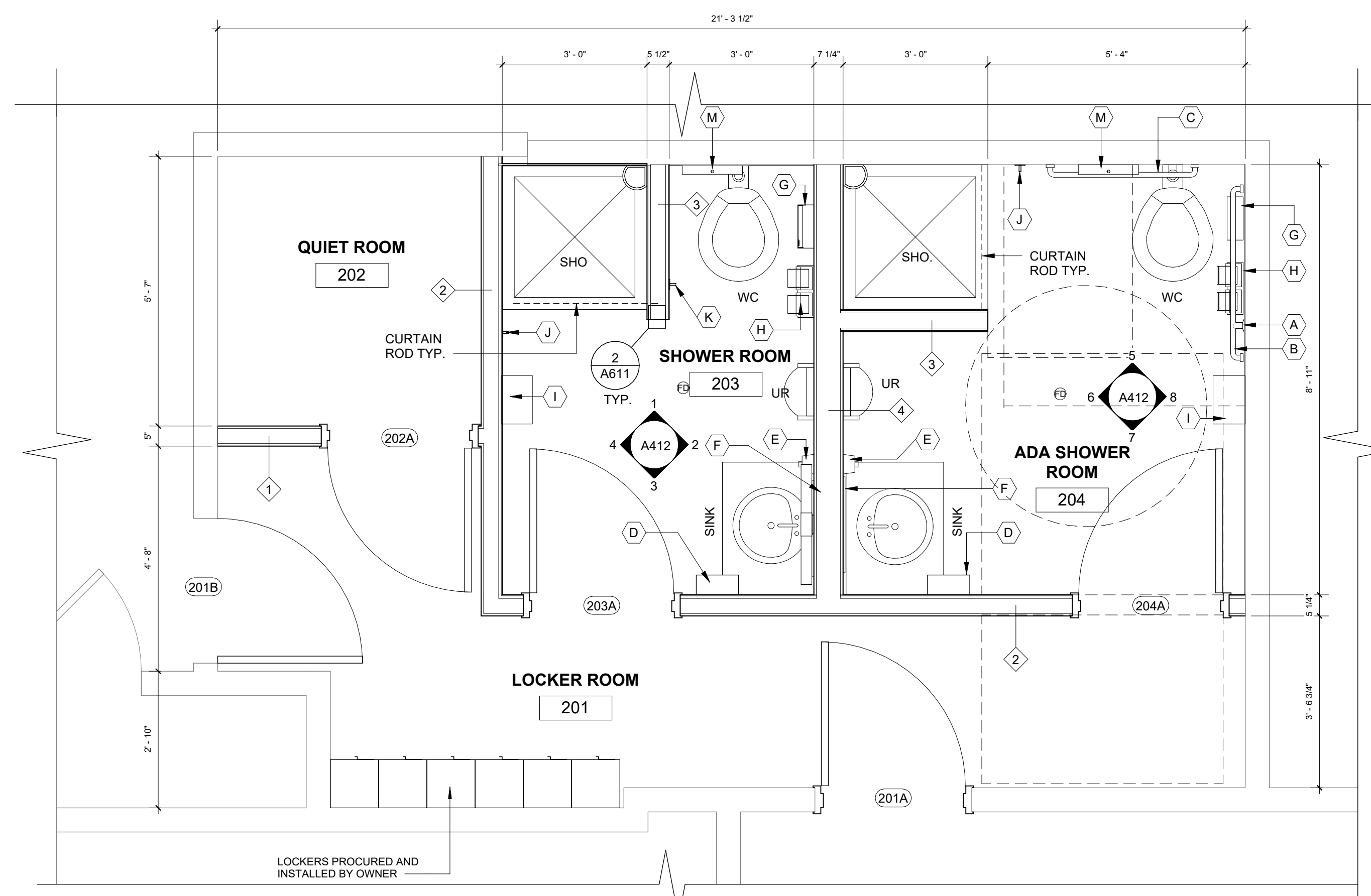
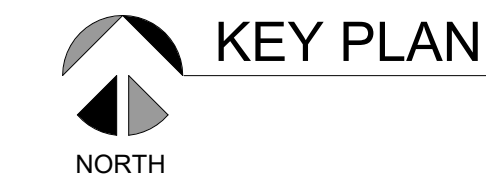
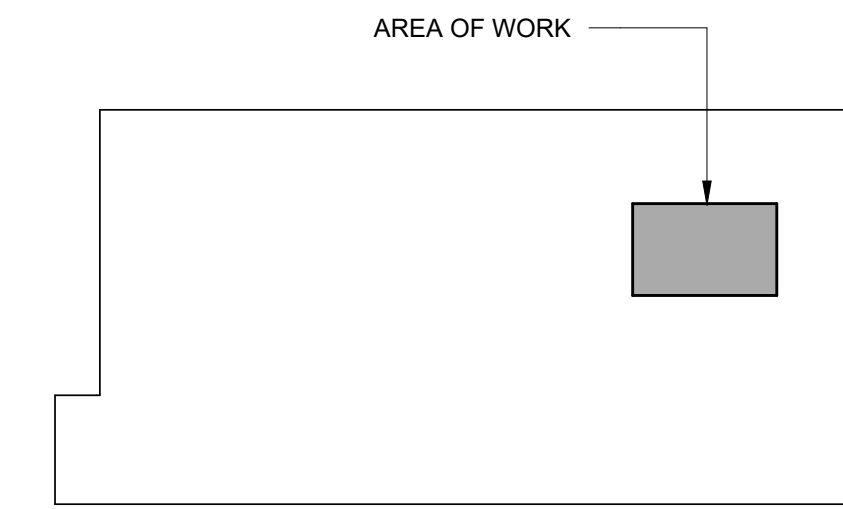
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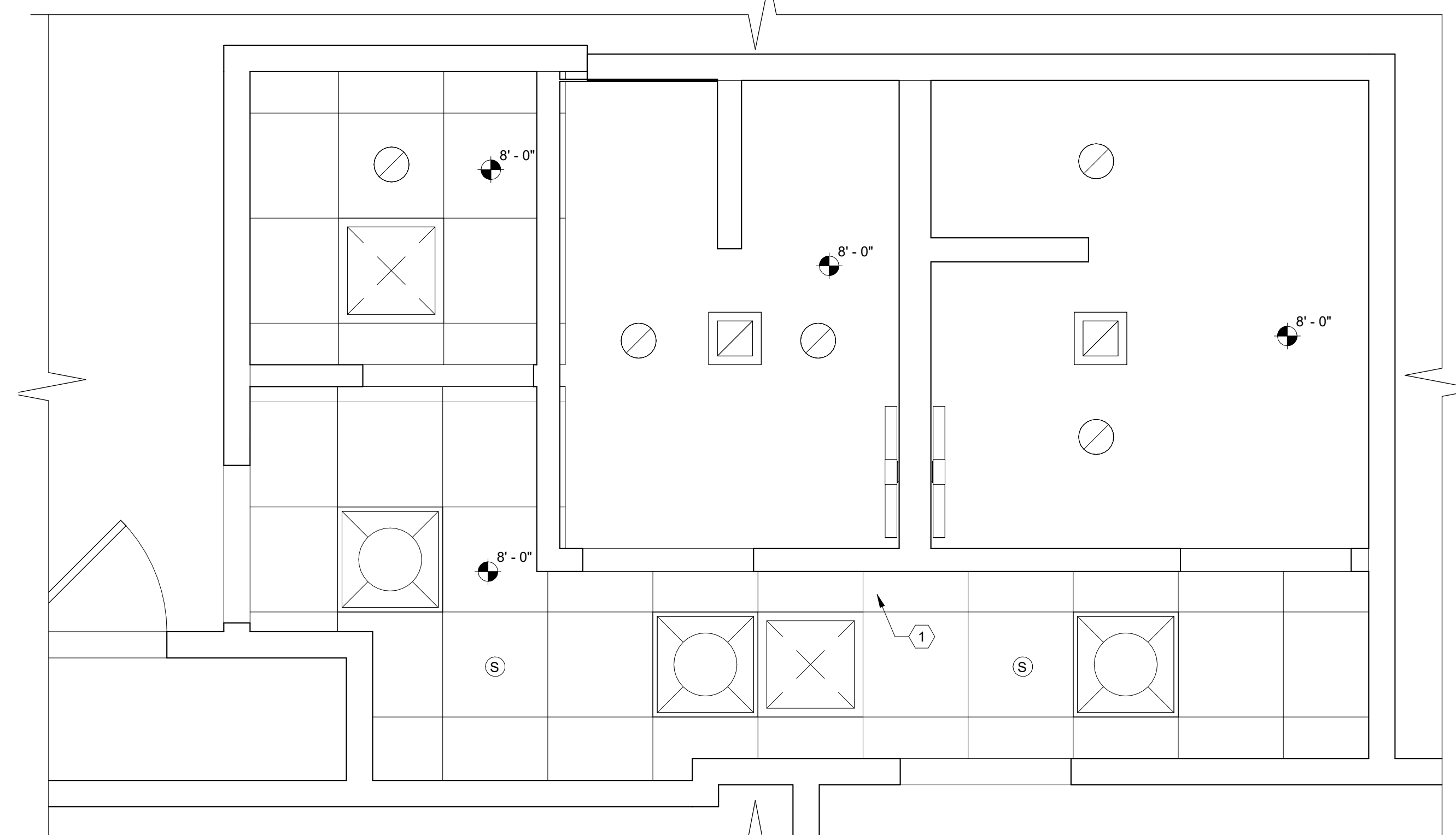
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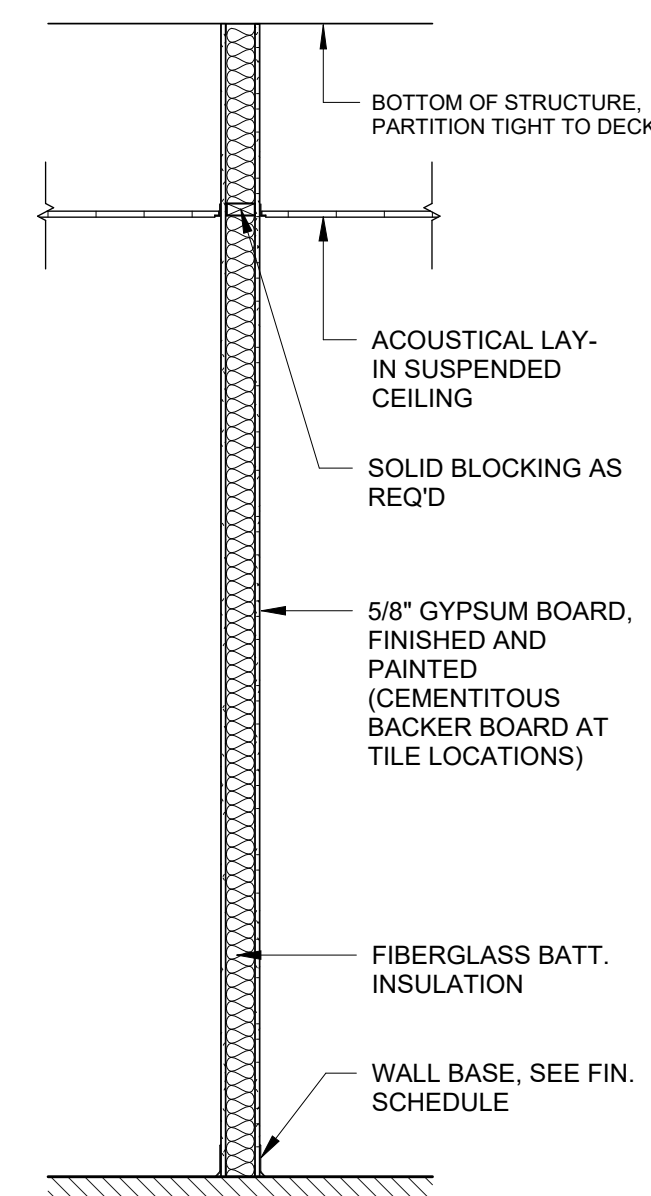
ENGINEERING STRONG COMMUNITIES



1 FIRST FLOOR PLAN
A101 1/2" = 1'-0"



9 REFLECTED CEILING PLAN
A101 1/2" = 1'-0"



3 TYP. INTERIOR PARTITION
A101 1/2" = 1'-0"

PARTITION TYPES

1	5/8" GYP. BOARD, 3 5/8" METAL STUDS @ 16" O.C. W/ SOUND INSULATION, 5/8" GYP. BOARD, SEE ROOM FIN. SCHEDULE	
2	1/4" PORCELAIN CERAMIC TILE, 5/8" GREEN BOARD, 3 5/8" METAL STUDS @ 16" O.C. W/ SOUND INSULATION, 5/8" GYP. BOARD (SEE ROOM FIN. SCHEDULE)	
3	1/4" PORCELAIN CERAMIC TILE, 5/8" GREEN BOARD, 3 5/8" METAL STUDS @ 16" O.C. W/ SOUND INSULATION, 5/8" GREEN BOARD, 1/4" PORCELAIN CERAMIC TILE (SEE RM. FIN. SCHEDULE)	
4	1/4" PORCELAIN CERAMIC TILE, 5/8" GREEN BOARD, 6" METAL STUDS @ 16" O.C. W/ SOUND INSULATION, 5/8" GREEN BOARD, 1/4" PORCELAIN CERAMIC TILE (SEE RM. FIN. SCHEDULE)	

TOILET ACCESSORIES LEGEND :

A	18" VERTICAL GRAB BAR	G	SANITARY NAPKIN DISPOSAL
B	42" HORIZONTAL GRAB BAR	H	TOILET PAPER HOLDER
C	36" HORIZONTAL GRAB BAR	I	TRASH RECEPTACLE - OWNER PROVIDED, CONTRACTOR INSTALL
D	PAPER TOWEL DISPENSER - OWNER PROVIDED, CONTRACTOR INSTALL	J	TOWEL HOOK
E	SOAP DISPENSER	K	ROBE HOOK
F	MIRROR	L	SHOWER SOAP HOLDER
		M	SET COVER DISPENSER

CEILING LEGEND :

	24" X 24" SUSP. ACOUSTICAL LAY-IN CEILING
	GYPSUM BOARD CEILING, PAINTED
	2'x4' LED LIGHT RECESSED FIXTURE
	2'x4' LED (NIGHT LIGHT) W/ BATTERY BACK-UP
	2'x2' LED LIGHT RECESSED FIXTURE
	RETURN AIR GRILLE
	CEILING DIFFUSER
	EXIT LIGHT - CEILING MOUNTED - ARROWS AS INDICATED ON PLAN (SHADED AREA INDICATES FACE(S) OF FIXTURE), SEE ELECTRICAL PLAN

REFLECTED CEILING NOTES :

- 1 ADD SHUT OFF VALVES FOR NEW SHOWERS

10/18/2024	BID ISSUE
DATE	SUBMITTALS/REVISIONS

PROJECT NAME:

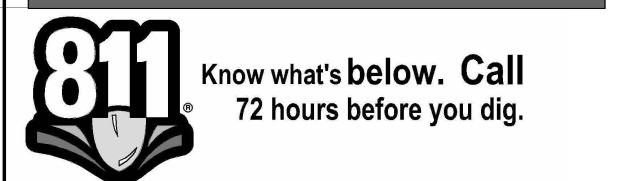
CLINTON TWP. FIRE STATION RENOVATIONS

SHEET TITLE:

FIRE STATION 2 & 3 FLOOR AND REFLECTED CEILING PLANS @ TOILET / LOCKER

CLIENT: CLINTON TOWNSHIP

<input checked="" type="checkbox"/>	PRELIMINARY	<input type="checkbox"/>	CONSTRUCTION	<input type="checkbox"/>	RECORD
DRAWN BY:	MM	CHECKED BY:	MM	DATE:	OCTOBER 2024
SCALE:	AS NOTED				



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PROJECT NO. 0242-0451

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SHEET NO.

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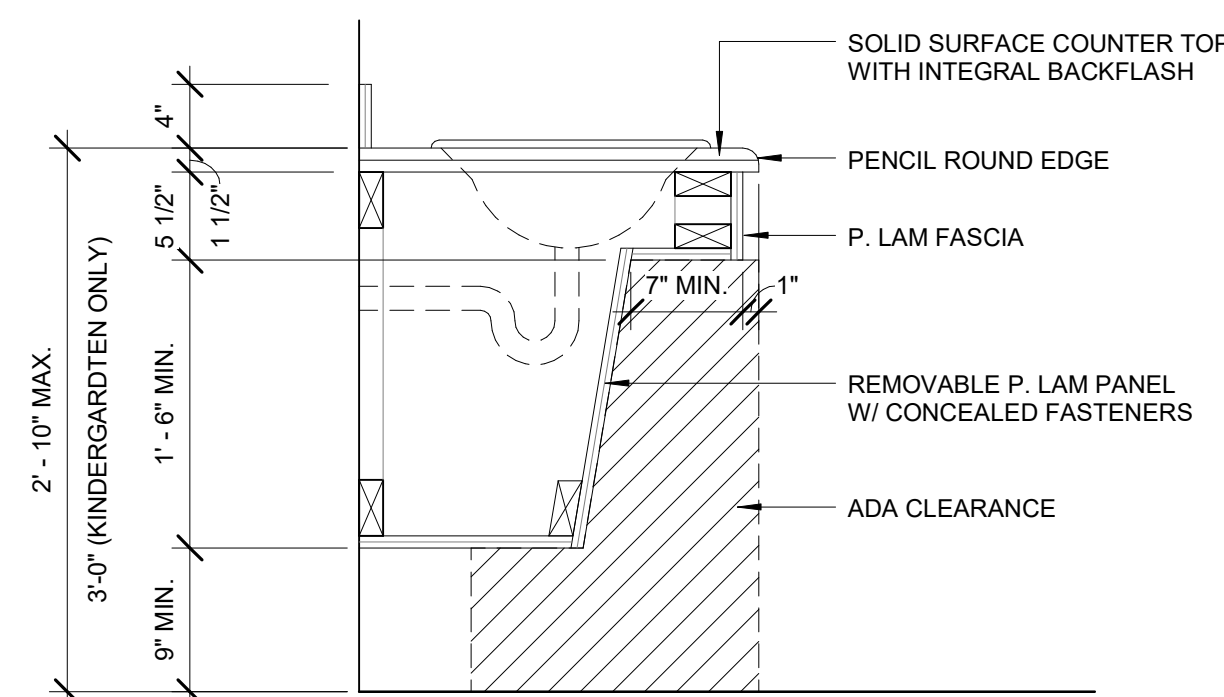


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ENGINEERING STRONG COMMUNITIES

DOOR SCHEDULE														
Rm. No.	Location	Door			Frame			Detail			HW Set	Comments		
		Width	Height	Thickness	DR. Elev.	DR. Material	Finish	Frame Type	Frame Material	Finish			Jamb	Sill
201A	LOCKER ROOM	3'-0"	7'-0"	1 3/4"	A	WOOD	STAIN	ETR	ETR	PAINT	EXIST.	EXIST.	3	TRANSOM PANEL TO REMAIN (PAINT)
201B	LOCKER ROOM	3'-0"	6'-8"	1 3/4"	A	WOOD	STAIN	ETR	ETR	PAINT	EXIST.	EXIST.	3	TRANSOM PANEL TO REMAIN (PAINT)
202A	QUIET ROOM	3'-0"	7'-0"	1 3/4"	A	WOOD	STAIN	1	HM	PAINT	3/A600		1	
203A	SHOWER ROOM	3'-0"	7'-0"	1 3/4"	B	WOOD	STAIN	1	HM	PAINT	3/A600	3/A600	5/A611	2
204A	ADA SHOWER ROOM	3'-0"	7'-0"	1 3/4"	B	WOOD	STAIN	1	HM	PAINT	3/A600	ETR	5/A611	2

ROOM FINISH SCHEDULE														
RM. NUMBER	LOCATION	FLOOR FIN.	BASE FIN.	WALLS								CEILING		COMMENTS
				N. MATERIAL	N. FINISH	E. MATERIAL	E. FINISH	S. MATERIAL	S. FINISH	W. MATERIAL	W. FINISH	CEILING MATERIAL	CEILING FIN.	
201	LOCKER ROOM	LVT	RB	GYP	PT-1	ETR	PT-1	ETR	PT-1	ETR	PT-1	ACT	-	
202	QUIET ROOM	LVT	RB	ETR	PT-1	GYP	PT-1	GYP	PT-1	ETR	PT-1	ACT	-	
203	SHOWER ROOM	CT	CT	ETR	PT-1/CT	GYP	PT-1/CT	GYP	PT	GYP	PT-1/CT	GYP	PT-2	CERAMIC TILE FROM FINISH FLOOR UP TO 5'-4"
204	ADA SHOWER ROOM	CT	CT	ETR	PT-1/CT	GYP	PT-1/CT	GYP	PT	GYP	PT-1/CT	GYP	PT-2	CERAMIC TILE FROM FINISH FLOOR UP TO 5'-4"



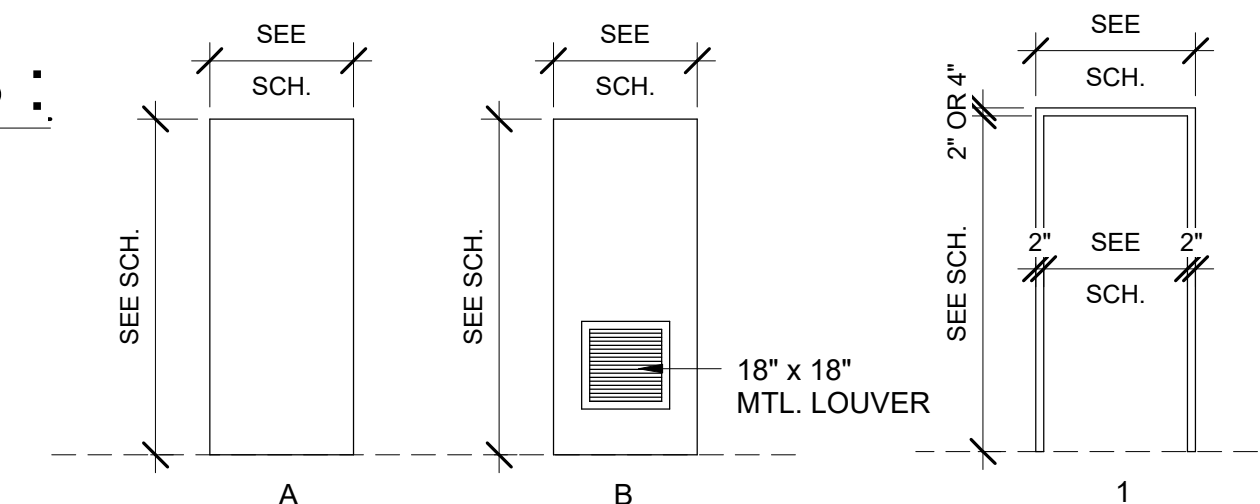
9 TYP. LAVATORY SECTION DETAIL
 1" = 1'-0"

TOILET ACCESSORIES LEGEND :

- (A) 18" VERTICAL GRAB BAR
- (B) 42" HORIZONTAL GRAB BAR
- (C) 36" HORIZONTAL GRAB BAR
- (D) PAPER TOWEL DISPENSER - OWNER PROVIDED, CONTRACTOR INSTALL
- (E) SOAP DISPENSER
- (F) MIRROR
- (G) SANITARY NAPKIN DISPOSAL
- (H) TOILET PAPER HOLDER
- (I) TRASH RECEPTACLE - OWNER PROVIDED, OWNER INSTALLED
- (J) TOWEL HOOK
- (K) ROBE HOOK
- (L) SHOWER SOAP HOLDER
- (M) SEAT COVER DISPENSER

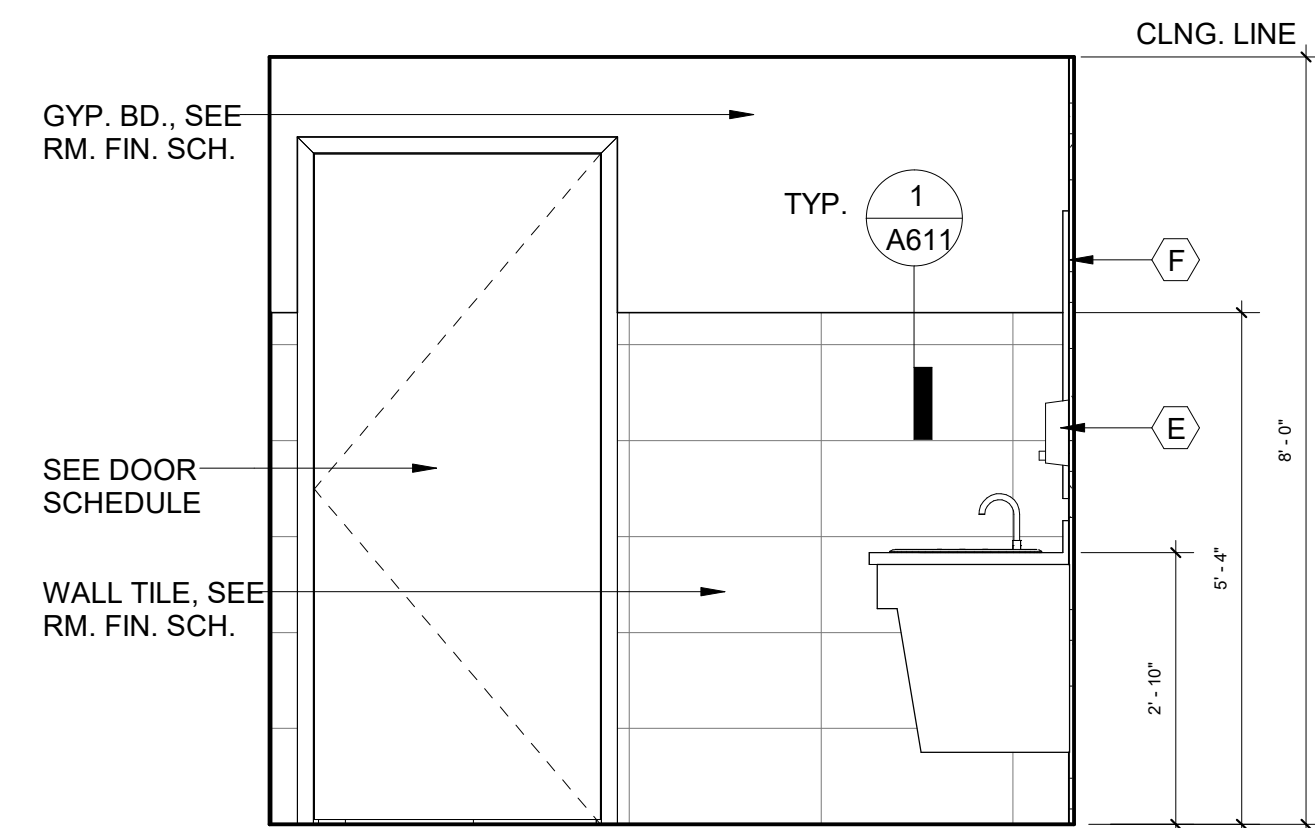
ROOM FINISH ABBREVIATIONS :

- VCT VINYL TILE FLOOR FINISH - WATERPROOF. SEE SPEC'S
- CT CERAMIC TILE, SEE SPEC'S
- RB RUBBER BASE, SEE SPEC'S
- PT-1 GYPSUM BOARD PAINT FINISH, SEE SPEC'S
- PT-2 GYPSUM BOARD PAINT FINISH - TOILET, SEE SPEC'S
- PT-3 MASONRY PAINT FINISH, SEE SPEC'S
- GB GYPSUM BOARD, SPEC'S
- ACT LAY-IN ACOUSTIC TILE, SEE SPEC'S
- ETR EXISTING TO REMAIN

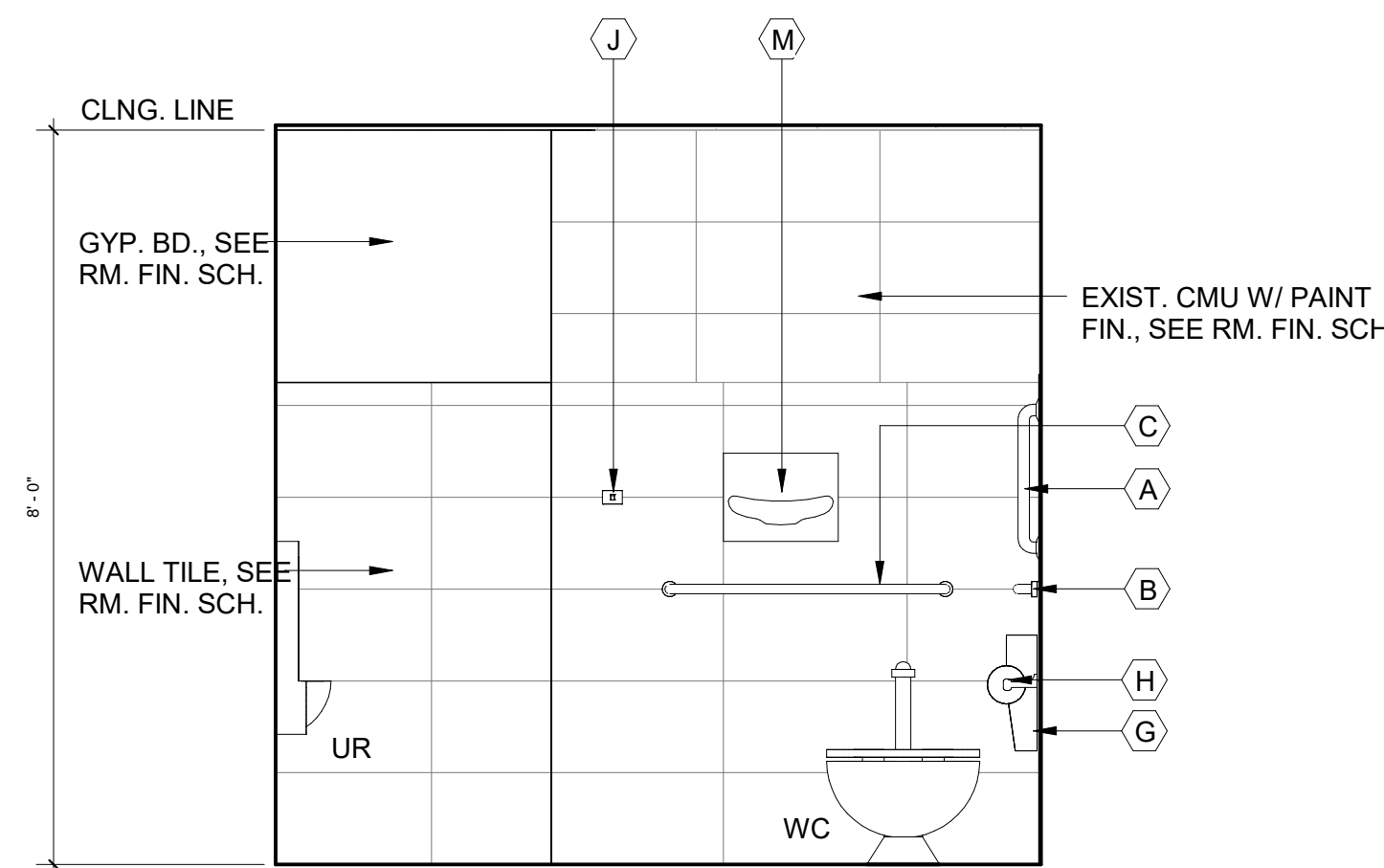


DOOR ELEVATIONS
 SCALE: 1/4"=1'-0"

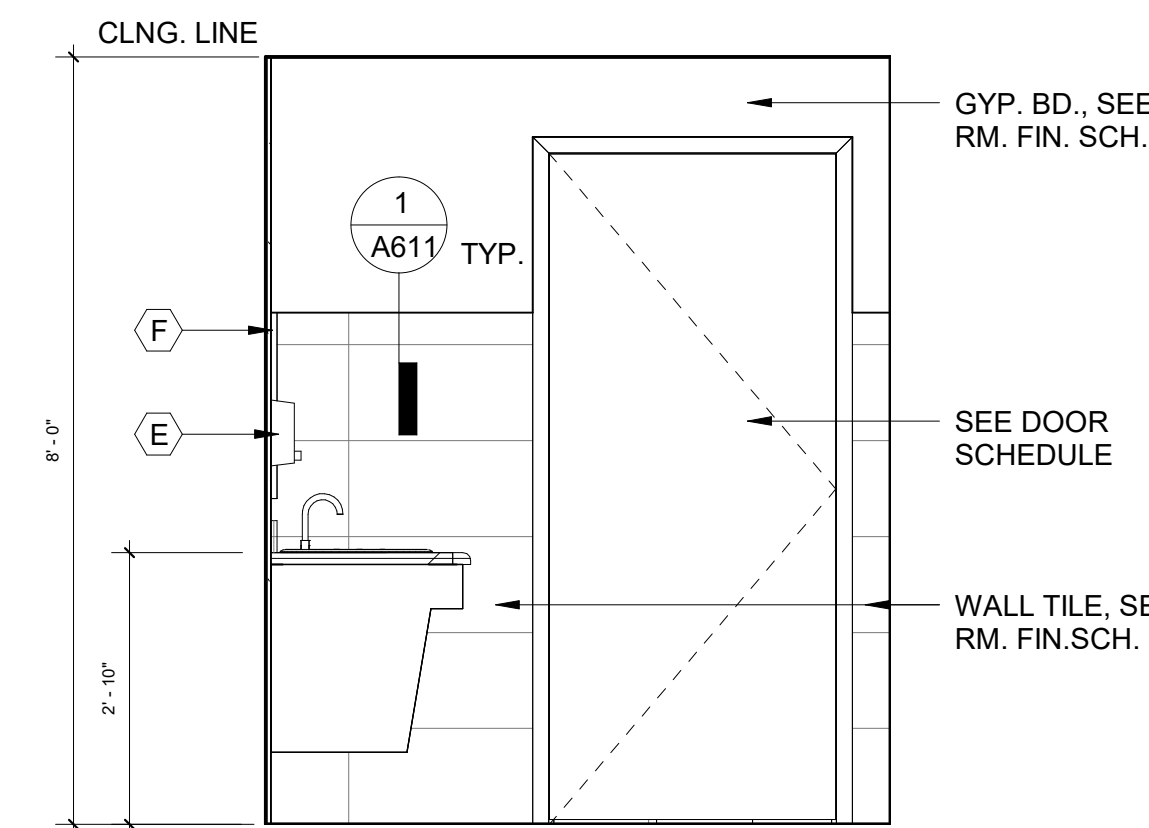
FRAME TYPES
 SCALE: 1/4"=1'-0"



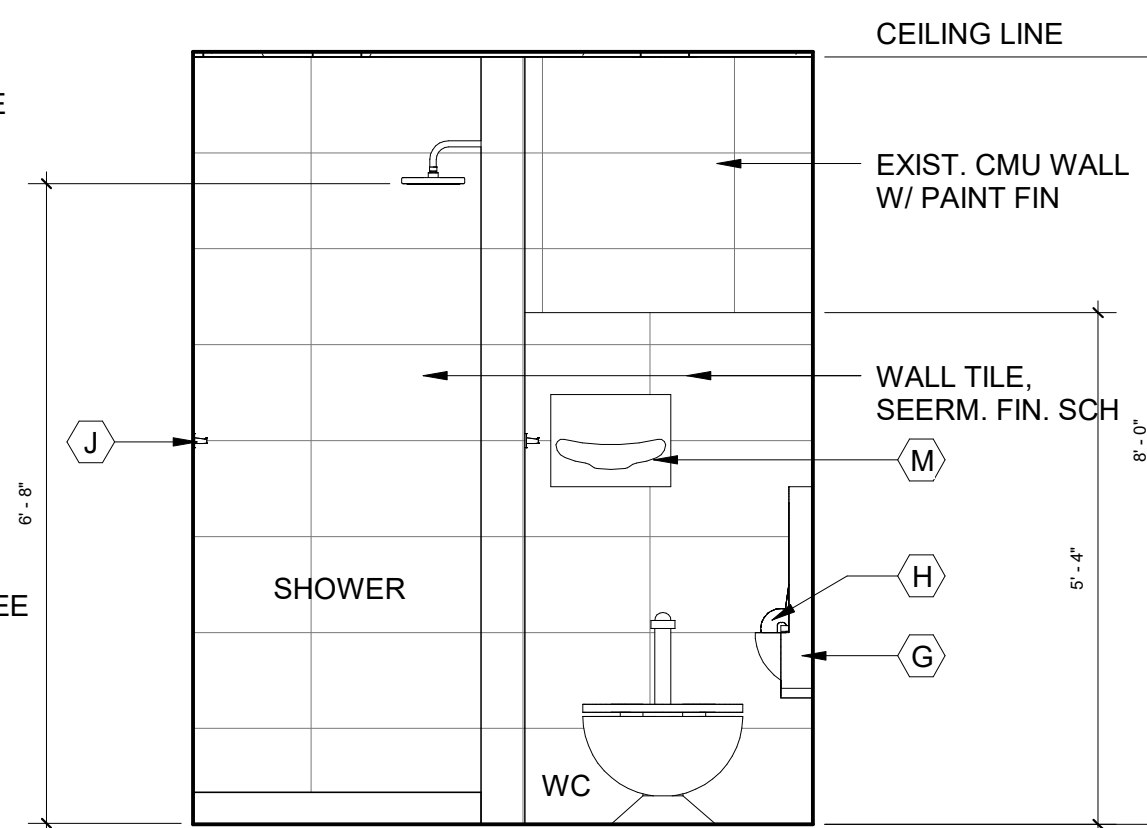
7 INTER. ELEV. C @ ADA SHOWER
 1/2" = 1'-0"



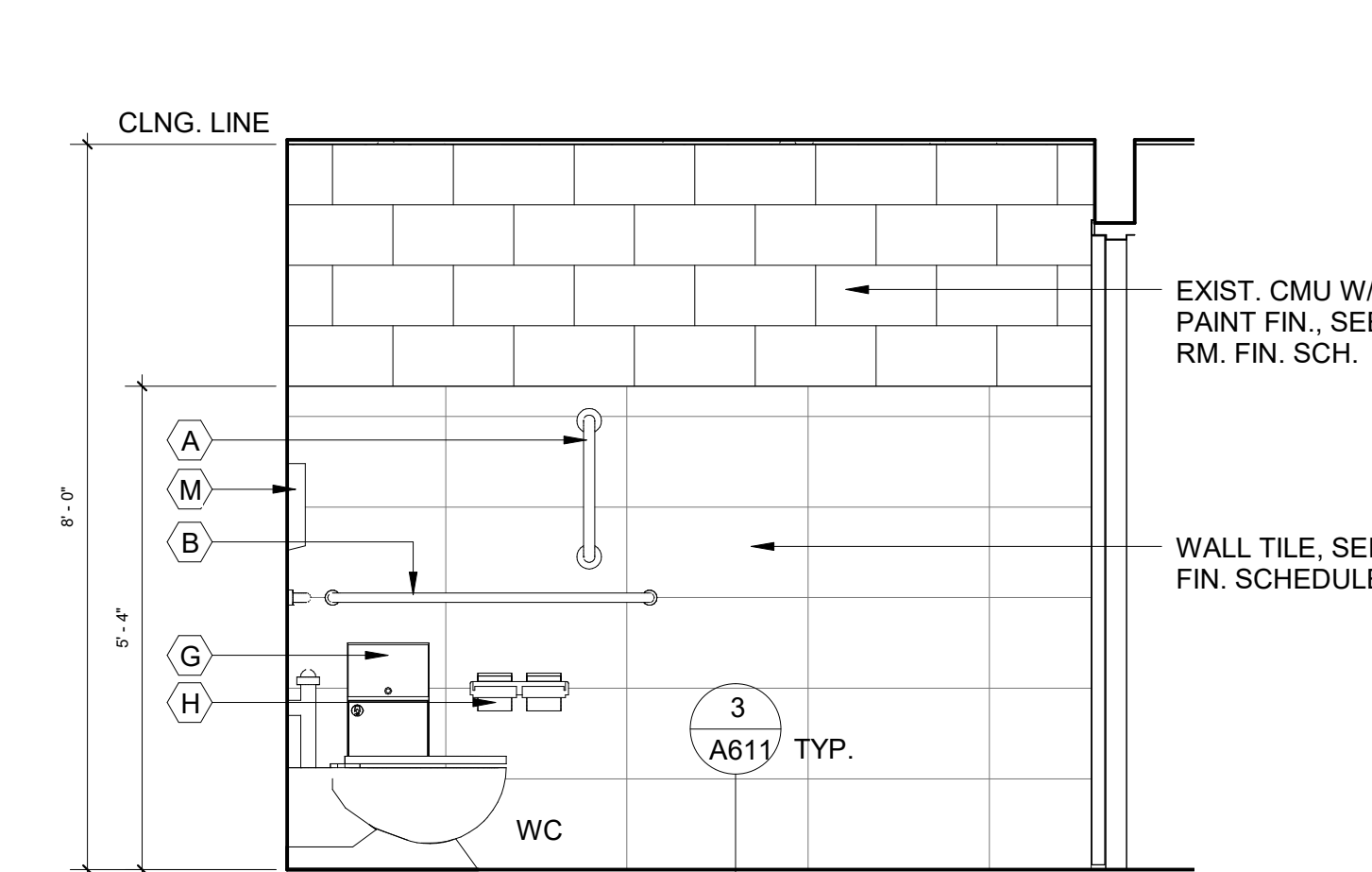
5 INTER. ELEV. A @ ADA SHOWER RM.
 1/2" = 1'-0"



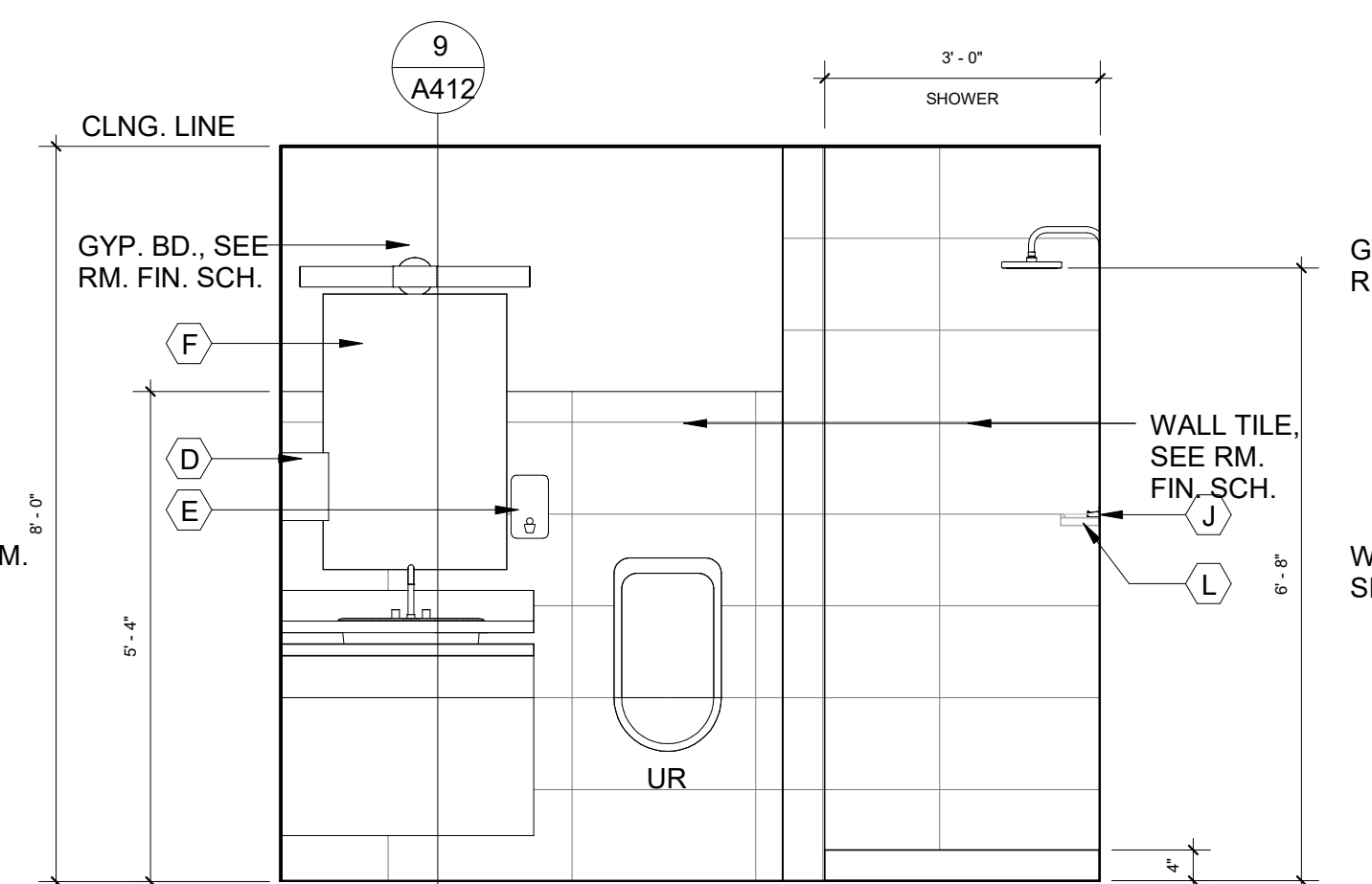
3 INTER. ELEV. C @ SHOWER RM.
 1/2" = 1'-0"



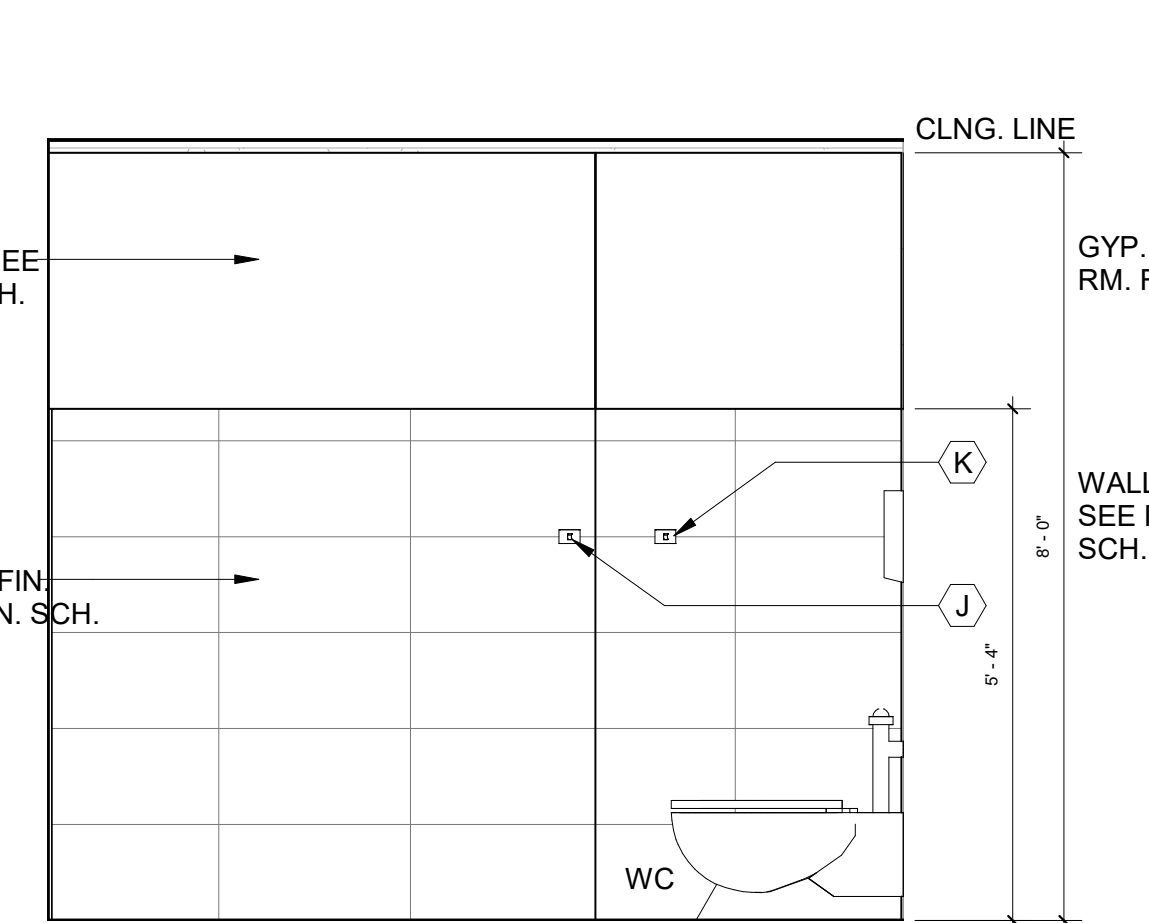
1 INTER. ELEV. A @ SHOWER RM.
 1/2" = 1'-0"



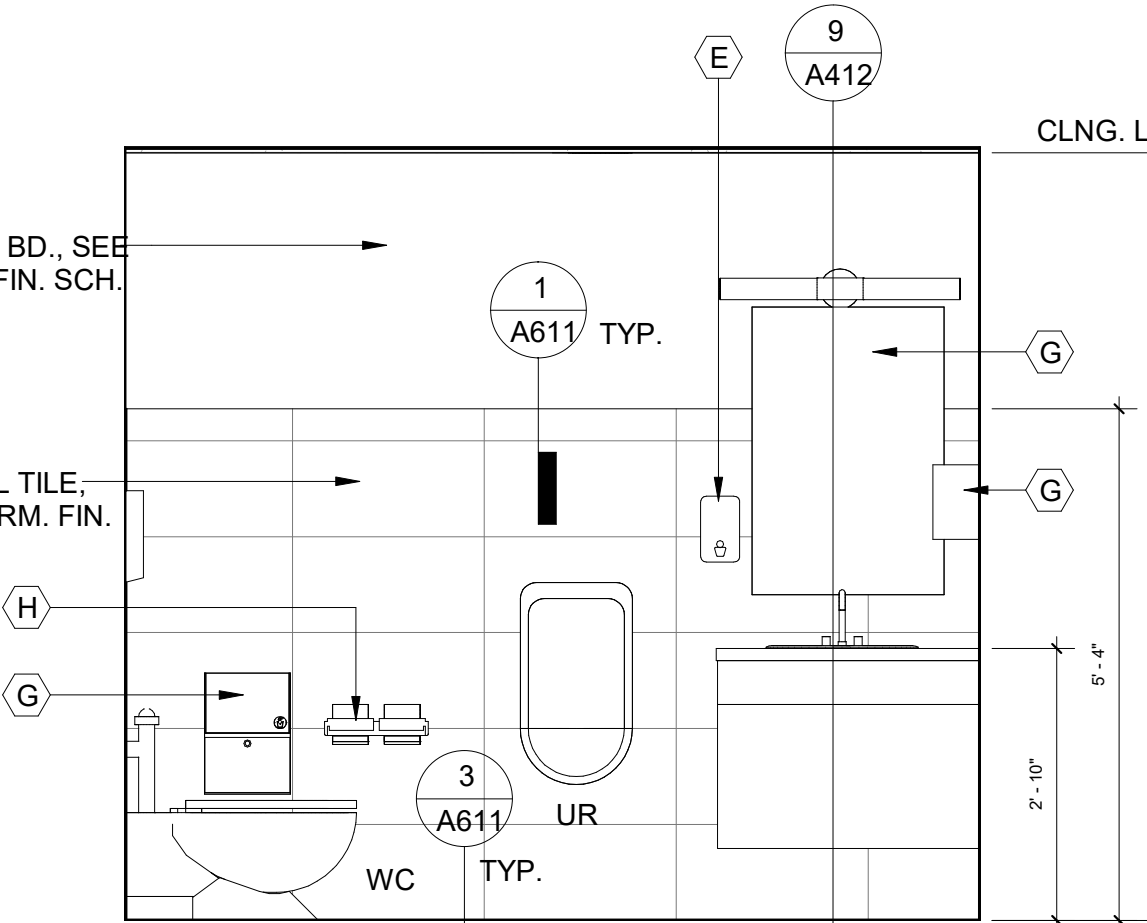
8 INTER. ELEV. D @ ADA SHOWER RM.
 1/2" = 1'-0"



6 INTER. ELEV. B @ ADA SHOWER RM.
 1/2" = 1'-0"



4 INTER. ELEV. D @ SHOWER RM.
 1/2" = 1'-0"



2 INTER. ELEV. B @ SHOWER RM.
 1/2" = 1'-0"

CLINTON TWP. FIRE STATION RENOVATIONS

FIRE STATION 2 & 3- INTERIOR ELEVATIONS AND ROOM FINISH SCHEDULE

CLIENT: CLINTON TOWNSHIP

<input type="checkbox"/> PRELIMINARY	<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> RECORD
DRAWN BY: ARD	CHECKED BY: MM	DATE: OCTOBER 2024
SCALE: AS NOTED		



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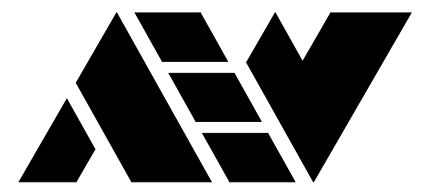
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PROJECT NO. 0242-0451

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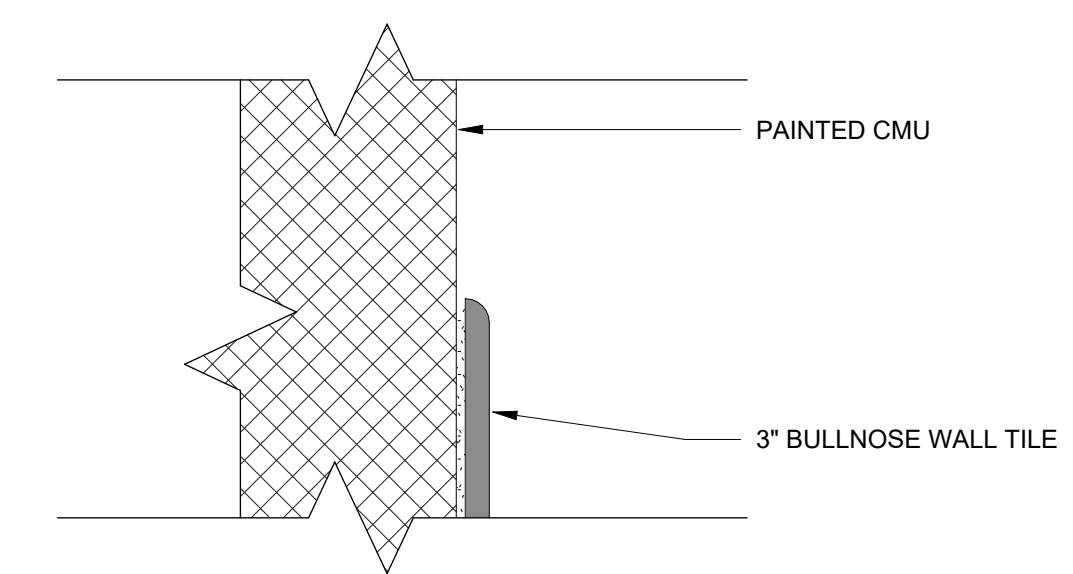
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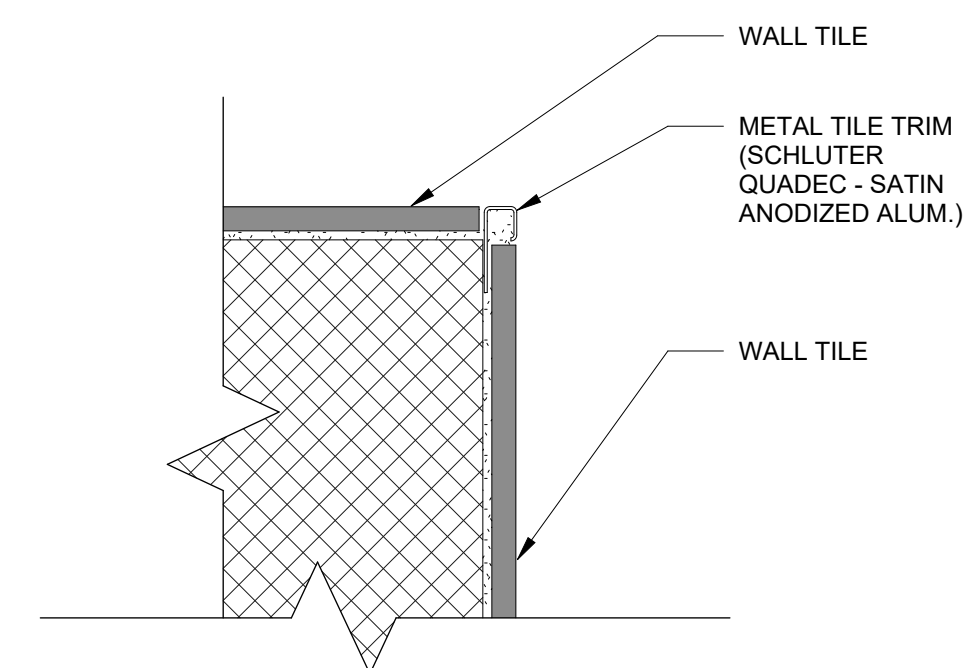
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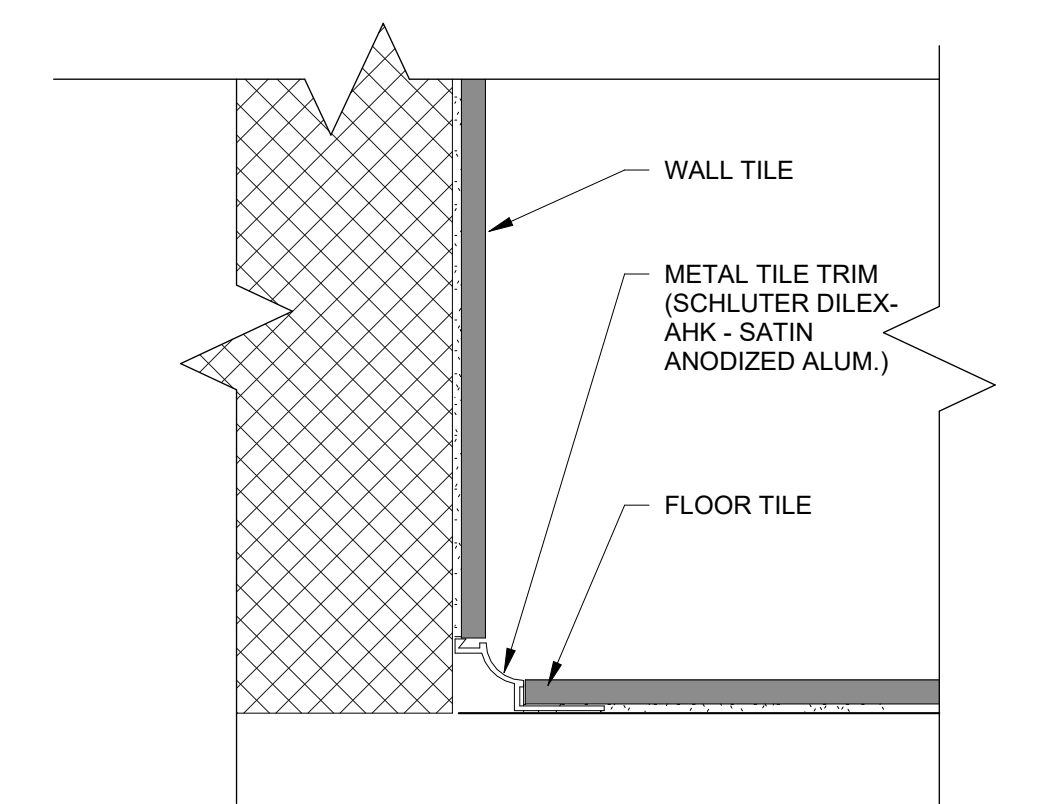
ENGINEERING STRONG COMMUNITIES



1 TYPICAL TILE DETAIL AT TOP OF TILE
A611 6" = 1'-0"



2 TYPICAL TILE DETAIL AT CORNER
A611 6" = 1'-0"



3 TYPICAL TILE BASE DETAIL
A611 6" = 1'-0"

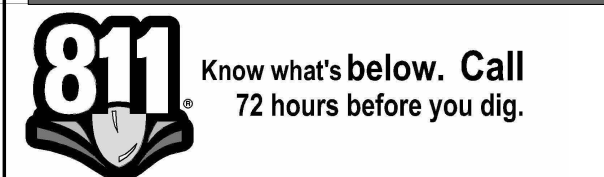
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DATE	SUBMITTALS/REVISIONS
PROJECT NAME:	

CLINTON TWP. FIRE STATION RENOVATIONS

ROOM FINISH SCHEDULE

CLIENT: CLINTON TOWNSHIP

<input checked="" type="checkbox"/> PRELIMINARY	<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> RECORD
DRAWN BY: Author	CHECKED BY: Checker	DATE: OCTOBER 2024
SCALE: AS NOTED		



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PROJECT NO. 0242-0451

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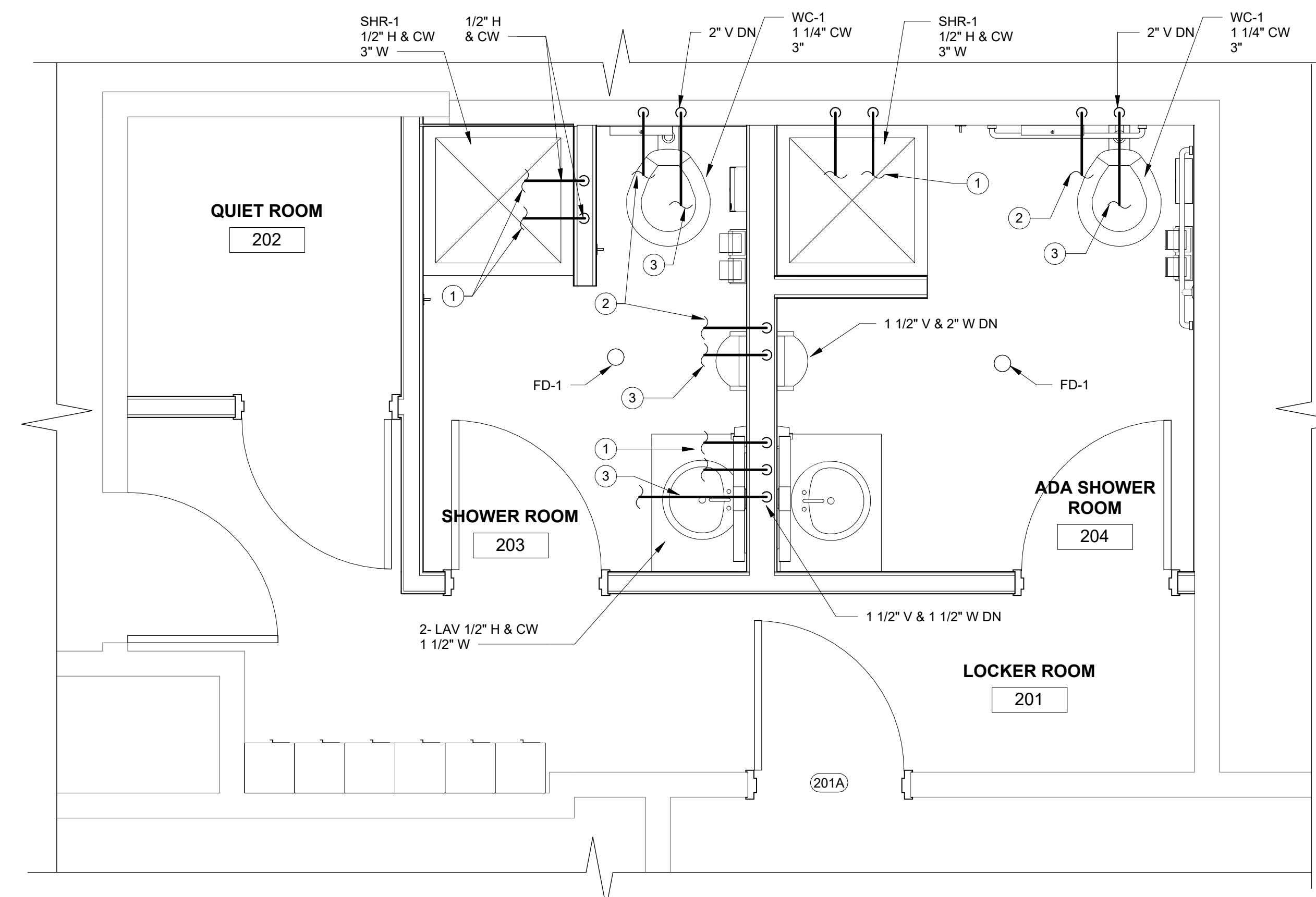
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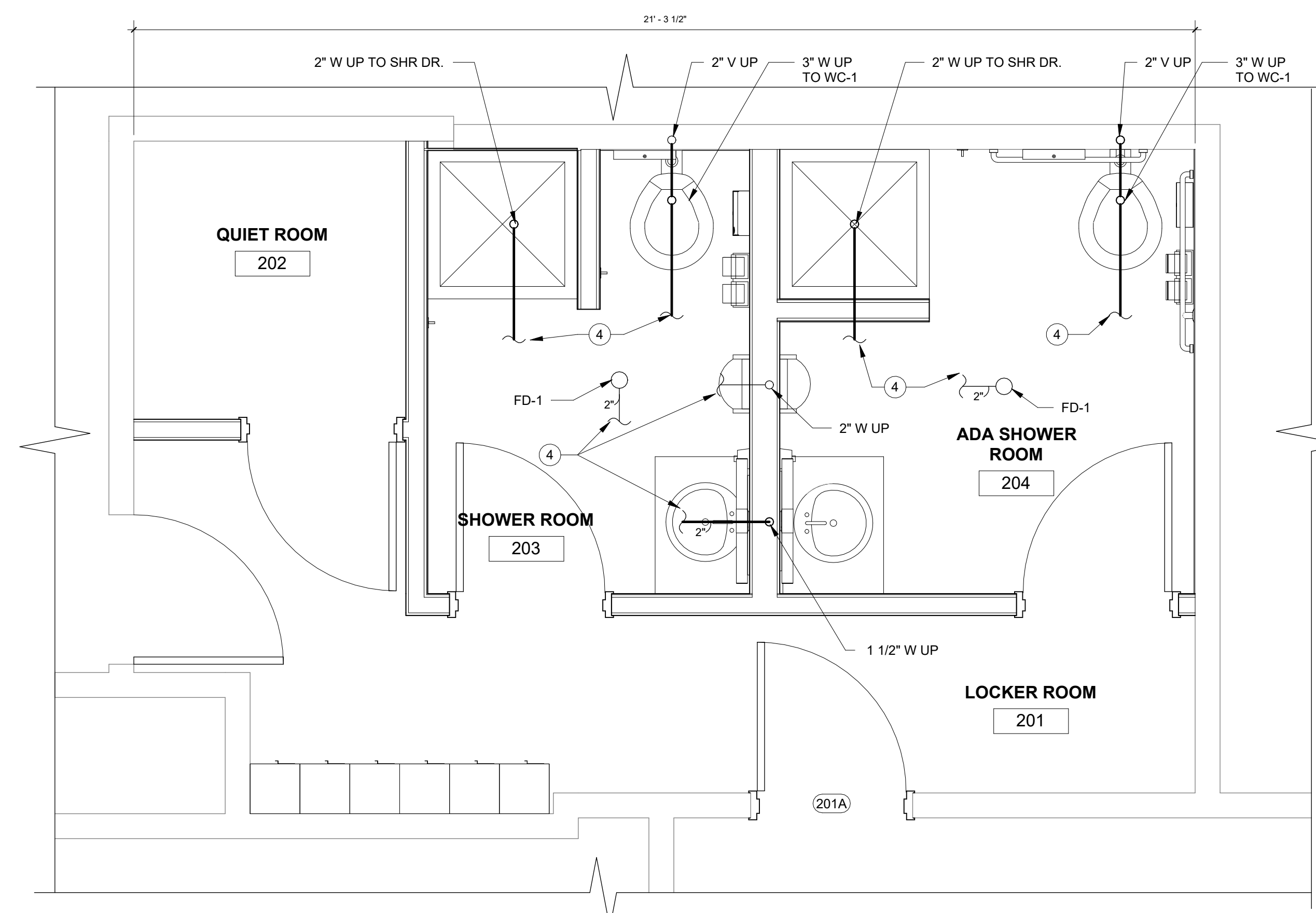
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ENGINEERING STRONG COMMUNITIES



2 FIRST FLOOR PLAN- PLUMBING NEW WORK
P101 1/2" = 1'-0"



1 FIRST FLOOR PLAN- UNDERGROUND PLUMBING
P101 1/2" = 1'-0"

MECHANICAL NEW WORK KEYNOTES :

- ① H & CW CONNECT TO EXISTING
- ② CW CONNECT TO EXISTING
- ③ VENT CONNECT TO EXISTING

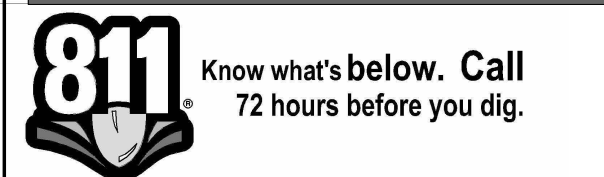
10/18/2024	BID ISSUE
DATE	SUBMITTALS/REVISIONS
PROJECT NAME:	

CLINTON TWP. FIRE STATION RENOVATIONS

STATION 2 & 3 PLUMBING FLOOR PLANS

CLIENT: CLINTON TOWNSHIP

<input type="checkbox"/> PRELIMINARY	<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> RECORD
DRAWN BY: AGP	CHECKED BY: MLB	DATE: OCTOBER 2024
SCALE: AS NOTED		



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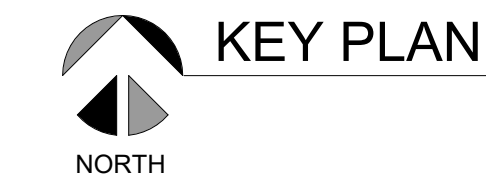
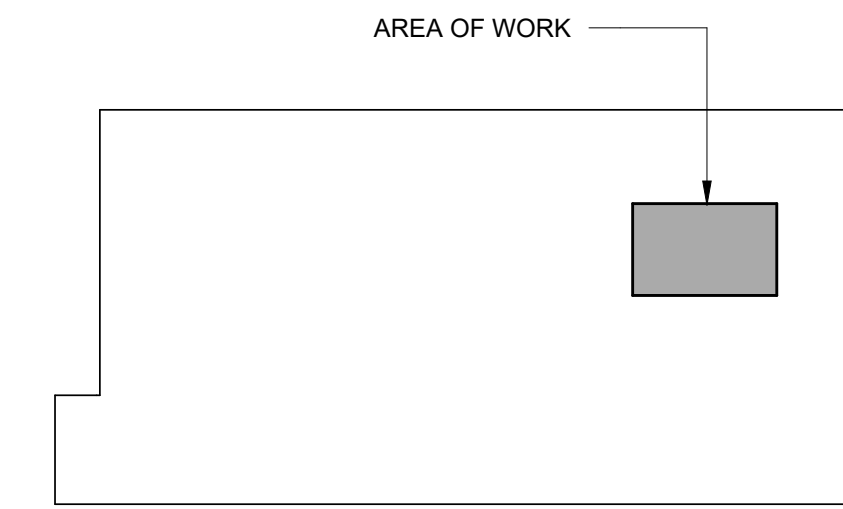
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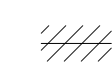
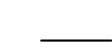
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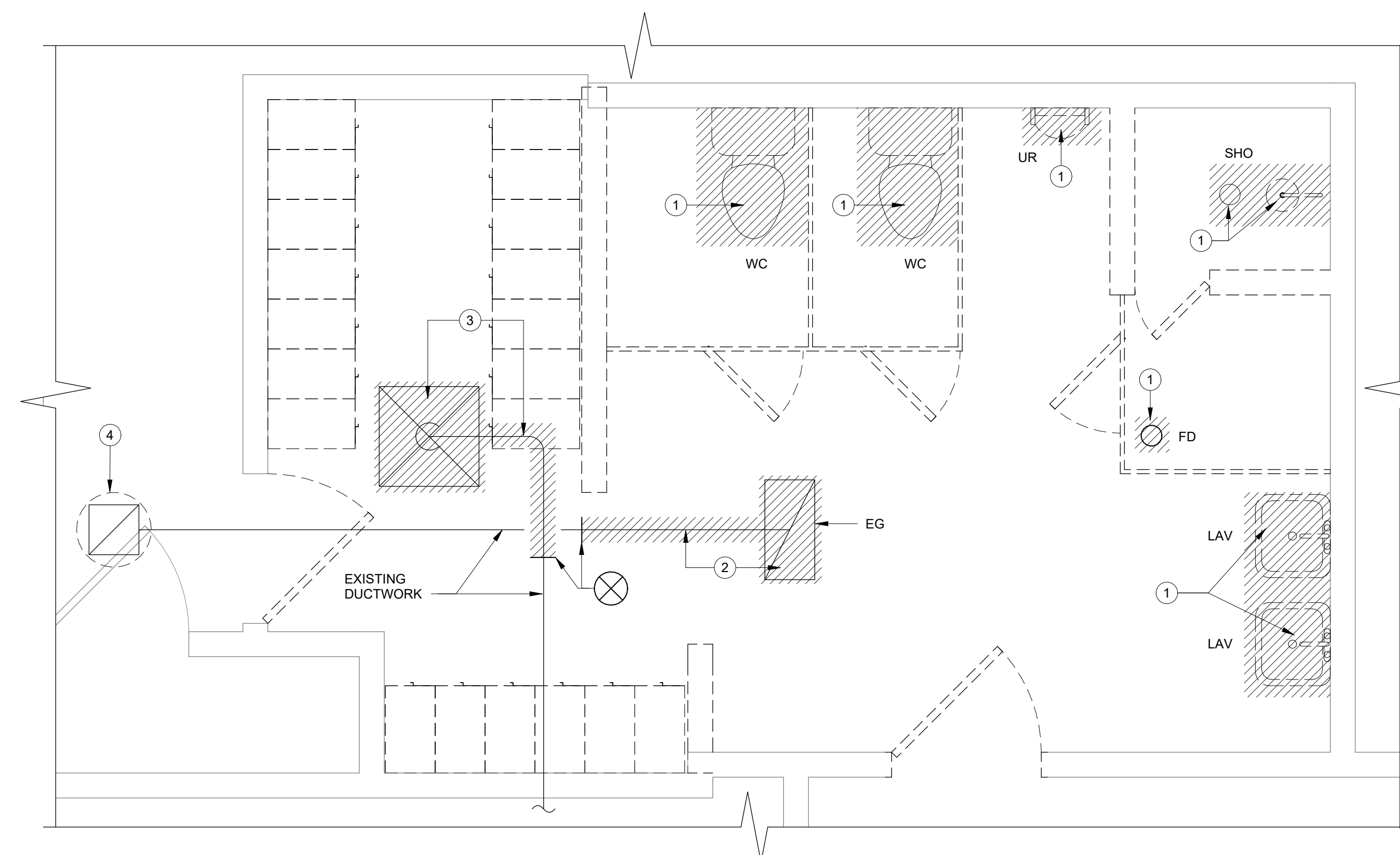


DEMOLITION PLAN LEGEND :

-  EXTENT OF DEMOLITION WORK
-  NEW WORK CONNECT OT EXISTING
-  DEMOLITION WORK
-  NEW WORK

DEMOLITION PLAN KEYNOTES :

- ① REMOVE EXISTING PLUMBING FIXTURE PLUMBING. CAP PLUMBING IN FLOOR AND CEILING.
- ② REMOVE CEILING EXHAUST GRILLE (EG) AND CONNECTED DUCTWORK AS NOTED.
- ③ REMOVE EXISTING CEILING SUPPLY DIFFUSER (CD) AND CONNECTED DUCTWORK AS NOTED.
- ④ REMOVE EXISTING ROOF EXHAUST FAN. ROOF FAN SHALL BE REPLACED. SEE NEW WORK.



MECHANICAL FLOOR PLAN - DEMO

1/2" = 1'-0"

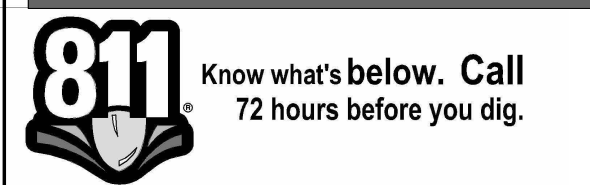
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DATE	SUBMITTALS/REVISIONS
PROJECT NAME:	

CLINTON TWP. FIRE STATION RENOVATIONS

FIRE STATION 2 & 3 MECHANICAL FLOOR PLAN - DEMO @ TOILET / LOCKERS ROOM

CLIENT: CLINTON TOWNSHIP

<input checked="" type="checkbox"/> PRELIMINARY	<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> RECORD
DRAWN BY: AGP	CHECKED BY: MLB	DATE: OCTOBER 2024
SCALE: AS NOTED		



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PROJECT NO. 0242-0451

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SHEET NO. MD101



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Shelby Township Fax 586 726 8780
Michigan 48315
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ENGINEERING STRONG COMMUNITIES

10/18/2024	BID ISSUE
DATE	SUBMITTALS/REVISIONS

PROJECT NAME:

**CLINTON TWP. FIRE
STATION
RENOVATIONS**

SHEET TITLE:

**FIRE STATION No. 2
& 3 - HVAC FLOOR
PLAN**

CLIENT:

CLINTON TOWNSHIP

<input checked="" type="checkbox"/> PRELIMINARY	<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> RECORD
DRAWN BY: AGP	CHECKED BY: MLB	DATE: OCTOBER 2024
SCALE: AS NOTED		



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PROJECT NO.

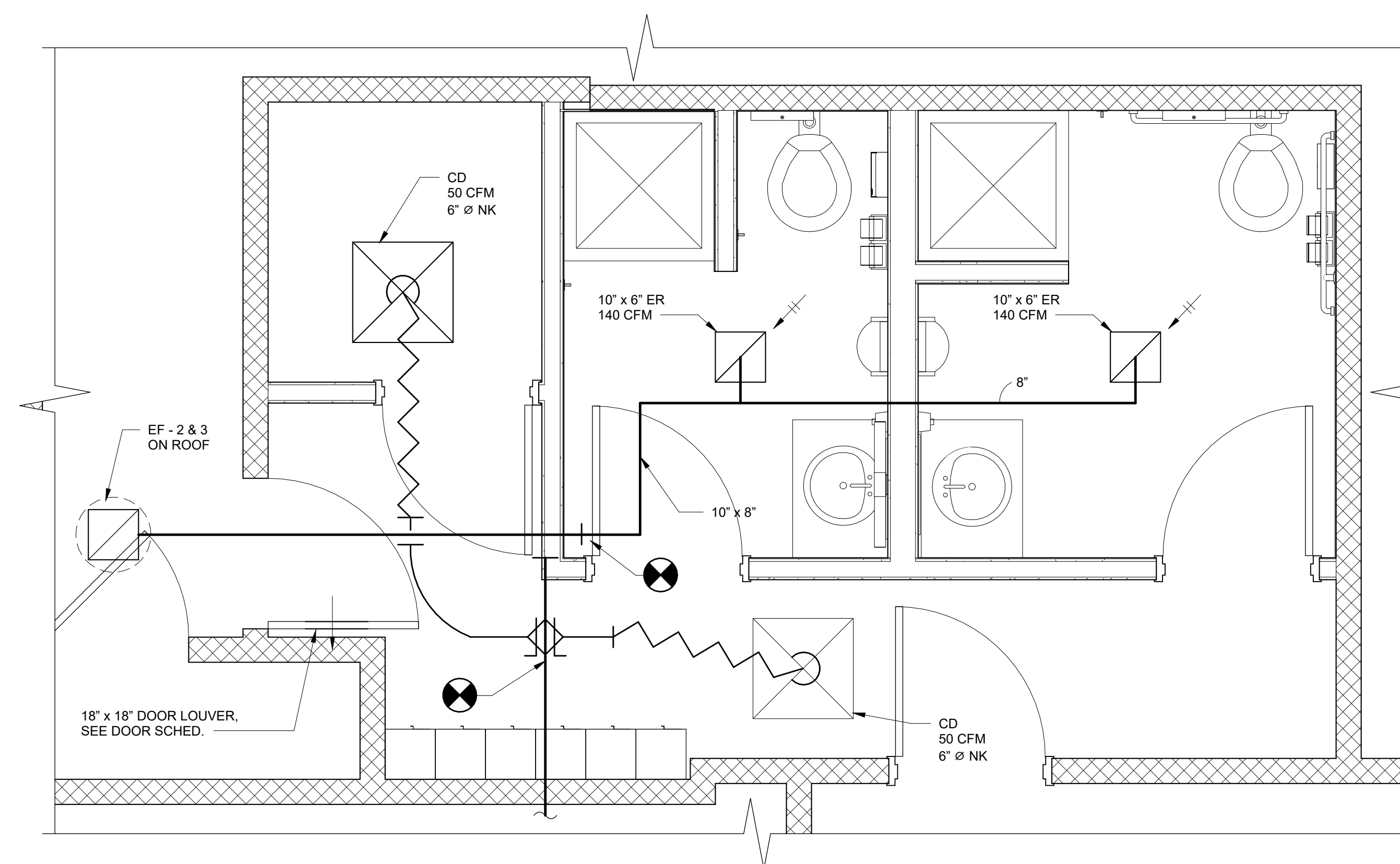
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SHEET NO.

M101

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1 FIRST FLOOR PLAN- HVAC FLOOR PLAN
M101 1/2" = 1'-0"



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DRAWING INDEX table with columns SHEET # and DESCRIPTION. Rows include E100 ELECTRICAL GENERAL INFORMATION, E101 FIRE STATION 4 ELECTRICAL PLANS, E102 FIRE STATIONS 2&3 ELECTRICAL PLANS, ED101 FIRE STATION 4 ELECTRICAL DEMOLITION PLAN, ED102 FIRE STATION 2&3 ELECTRICAL DEMOLITION PLAN, E300 SPECIFICATIONS AND DETAILS.

LUMINAIRE SCHEDULE table with columns FIXTURE SYMBOL, FIXTURE TAG, DESCRIPTION, MANUFACTURER(S), LAMP SOURCE, WATTS. Rows include (A) 2'x2' LOW PROFILE TROFFER EDGE LIT FLAT PANEL LED LUMINAIRE, (B) 6" DIAMETER HIGH BRIGHTNESS LIGHT EMITTING DIODES (LED'S) RECESS MOUNTED LED DOWNLIGHT, (BB) SAME AS TYPE B IN EVERYWU EXCEPT WITH LOWER LUMEN PACKAGE AT 2000 LUMENS, (BL) SAME AS TYPE BB IN EVERYWU EXCEPT WITH SHOWER LENS, (C) 24" LONG ABOVE MIRROR VANITY FIXTURE, (#E) SAME AS TYPE # EXCEPT WITH A BUILT-IN EMERGENCY BATTERY PACK.

LIGHTING SYMBOL LIST

Table mapping lighting symbols to descriptions: LIGHT FIXTURE - CEILING/GRID MOUNT, LIGHT FIXTURE - INTERIOR WALL MOUNT LINEAR, LIGHT FIXTURE - DOWNLIGHT WITH WALLWASH DIST., LIGHT FIXTURE - INTERIOR WALL SCENCE, LIGHT FIXTURE - INTERIOR SURFACE MOUNT, LIGHT FIXTURE - INTERIOR WALL MOUNTED, LIGHT FIXTURE - INTERIOR PENDANT MOUNT, LIGHT FIXTURE - INTERIOR PENDANT MOUNT CYLINDER, TRACK AND TRACK MOUNTED LIGHT FIXTURES, EXIT LIGHT - CEILING MOUNTED, EXIT LIGHT - WALL MOUNTED, EMERGENCY LIGHT FIXTURE - EMERGENCY BATTERY UNIT, EMERGENCY LIGHT FIXTURE - BATTERY UNIT/EXIT SIGN, LIGHT FIXTURE - EXTERIOR POLE MOUNT TYPE, LIGHT FIXTURE - EXTERIOR WALL MOUNT TYPE, LIGHT FIXTURE - EXTERIOR POST TOP TYPE, LIGHT FIXTURE - EXTERIOR BOLLARD TYPE.

NOTES: 1. LIGHTING SYMBOLS AS INDICATED ON PLANS ARE NOT DRAWN TO SCALE UNLESS NOTED OTHERWISE.

LIGHTING CONTROLS LEGEND

Table mapping lighting control symbols to descriptions: SWITCH SINGLE POLE, OCCUPANCY SENSOR SWITCH, VACANCY SENSOR SWITCH, LOW VOLTAGE DIMMER SWITCH, VACANCY DIMMER SENSOR SWITCH, CEILING MOUNTED OCCUPANCY SENSOR, CEILING MOUNTED VACANCY SENSOR, SWITCH THREE-WAY, SINGLE POLE KEY SWITCH.

POWER SYMBOL LIST

Table mapping power symbols to descriptions: CONDUIT DOWN, CONDUIT UP, CONTACTOR, DISCONNECT SWITCH - NON FUSED, DISCONNECT SWITCH - FUSED, DISCONNECT SWITCH - COMB. MOTOR STARTER, ELECTRICAL PANEL - 208/240 VOLTS, ELECTRICAL PANEL - 480 VOLTS, GROUNDING ROD, GROUND, GROUNDING BAR, JUNCTION BOX, JUNCTION BOX WITH HARDWIRED CONNECTION, METER, MOTOR - SINGLE PHASE, MOTOR - THREE PHASE, MOTOR RATED SWITCH, POWER RECEPTACLE - SIMPLEX TYPE, POWER RECEPTACLE - DUPLEX TYPE, POWER RECEPTACLE - USB/DUPLEX COMBO. DEVICE, POWER RECEPTACLE - QUADRUPLX TYPE, POWER RECEPTACLE - RECESSED FLOOR TYPE, POWER RECEPTACLE - SPECIALTY TYPE, SURGE PROTECTION DEVICE, TIME CLOCK, TRANSFORMER (REFER TO SCHEDULES FOR INFO), VARIABLE SPEED DRIVE.

NOTES: 1. ALL DEVICE RATINGS/SIZES SHALL BE COORDINATED WITH PLANS AND SCHEDULES.

AUXILIARY SYST. SYMBOL LIST

Table mapping auxiliary system symbols to descriptions: CAMERA, CARD READER, COMMUNICATIONS DEVICE - 6" ABOVE COUNTER, COMMUNICATIONS DEVICE - FLOOR, COMMUNICATIONS DEVICE - WALL, MAGNETIC DOOR HOLDER, PUSH BUTTON, SPEAKER, WALL CLOCK - SINGLE FACE, WALL CLOCK - DOUBLE FACE, WALL CLOCK AND SPEAKER UNIT.

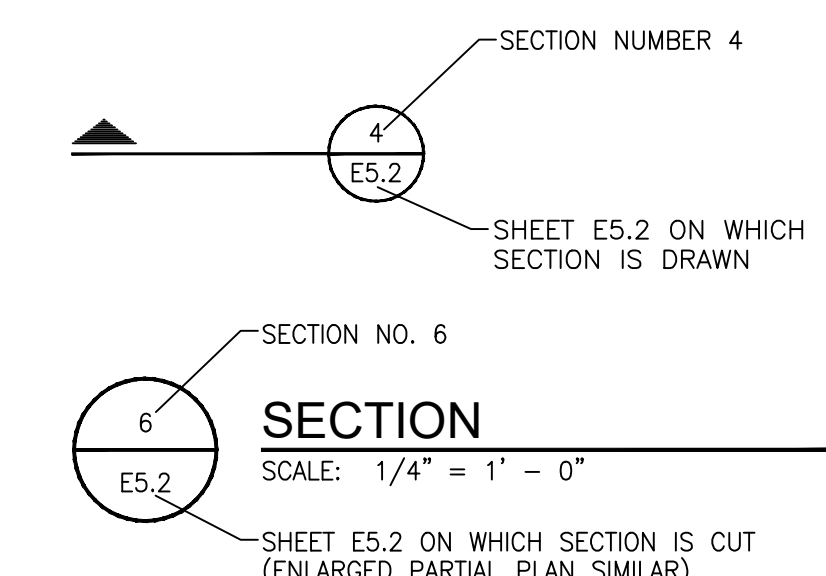
NOTES: 1. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR BOX AND CONDUIT FOR ALL DEVICES INDICATED. 2. LOW VOLTAGE CONTRACTOR SHALL PROVIDE EXACT SPECIFICATIONS AND LOCATIONS OF ALL DEVICES.

ELECTRICAL ABBREVIATIONS

Table mapping electrical abbreviations to descriptions: AFF ABOVE FINISHED FLOOR, A AMPERE, AF AMPERE FUSE/AMPERE FRAME, AWG AMERICAN WIRE GAUGE, AT AMPERE TRIP, ATS AUTOMATIC TRANSFER SWITCH, AIC AVAILABLE INTERRUPTING CURRENT (AMPS), C CONDUIT OR CEILING MOUNTED, CB CIRCUIT BREAKER, CU COPPER, CT CURRENT TRANSFORMER, DIA DIAMETER, DISC DISCONNECT, EMT ELECTRICAL METALLIC TUBING, EWC ELECTRIC WATER COOLER, EPO EMERGENCY POWER OFF, (E) EXISTING ELECTRICAL EQUIPMENT OR WORK, FA FIRE ALARM, FACP FIRE ALARM CONTROL PANEL, FLA FULL LOAD AMPS, F FUSE, G/GRD GROUND, GFCI/GFI GROUND FAULT CIRCUIT INTERRUPTER, HOA HAND-OFF-AUTO, HP HORSEPOWER, IG ISOLATED GROUND, KV KILOVOLT, KVA KILOVOLT AMPERE, KW KILOWATT, KWH KILOWATT HOUR, LP LIGHTING PANEL, MCB MAIN CIRCUIT BREAKER, MDP MAIN DISTRIBUTION PANEL, MLO MAIN LUG ONLY, MAX MAXIMUM, MIN MINIMUM, NEC NATIONAL ELECTRICAL CODE, NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION, N/NEU NEUTRAL, NF NON-FUSIBLE, NC NORMALLY CLOSED, NO NORMALLY OPEN, NIC NOT IN CONTRACT, OF/CI OWNER FURNISHED / CONTRACTOR INSTALLED, OF/OI OWNER FURNISHED / OWNER INSTALLED, PH. OR Ø PHASE, P POLE, PF POWER FACTOR, PVC POLYVINYL CHLORIDE (PLASTIC), (R) RELOCATED EXISTING ELECTRICAL EQUIPMENT, (RR) REMOVE AND REINSTALL, RMC RIGID METALLIC CONDUIT, RP RECEPTACLE PANEL, SPEC/SPECS SPECIFICATIONS, TBB TELEPHONE BACKBOARD, TYP. TYPICAL, UC UNDER COUNTER, UL UNDERWRITERS LABORATORIES, UPS UNINTERRUPTIBLE POWER SUPPLY, USB UNIVERSAL SERIAL BUS, V VOLT, VA VOLT AMPERE, W WATT, WG WIRE GUARD, WP WEATHERPROOF, XFMR TRANSFORMER.

DRAWING NOTATION

Table mapping drawing notation symbols to descriptions: LIGHTING FIXTURE TAG, CONSTRUCTION KEY NOTE NUMBER 1, DEMOLITION KEY NOTE NUMBER 1, FEEDER SIZE TAG (REFER TO FEEDER SCHEDULE ON THIS SHEET), EQUIPMENT DESIGNATION (I.E. EXHAUST FAN NUMBER 1), EXISTING DEVICES OR EQUIPMENT, NEW OR MODIFIED DEVICES OR EQUIPMENT, NEW OR MODIFIED UNDERGROUND WIRING, EXISTING SYSTEM COMPONENT TO BE REMOVED.



APPLICABLE CODES AND REGULATIONS table with columns YEAR and CODE. Rows include 2015 MICHIGAN BUILDING CODE, 2015 MICHIGAN ENERGY CODE, 2014 MICHIGAN ELECTRICAL CODE RULES, PART 8, 2017 NATIONAL ELECTRICAL CODE (NFPA 70), 2013 NFPA 20, 2013 NFPA 72, 2012 NFPA 101, 2013 NFPA 110, 2009 ICC A117.1 ACCESSIBLE AND USABLE BUILDINGS & FACILITIES.

LUMINAIRE SCHEDULE GENERAL NOTES

- 1. REFER TO ELECTRICAL SPECIFICATIONS FOR MORE INFORMATION.
2. ALL LIGHT FIXTURES SHALL BE UL LABELED.
3. FIRST MANUFACTURER LISTED IS BASIS OF DESIGN. OTHER MANUFACTURERS LISTED ARE APPROVED MANUFACTURERS.
4. ELECTRICAL TRADES SHALL PROVIDE COMPLETE SUBMITTALS (SHOP DRAWINGS) ON ALL LIGHT FIXTURES, LAMPS, CONTROLS AND ACCESSORIES, ETC. REFER TO SPECIFICATION FOR SUBMITTAL FORMAT AND PROCESS.
5. ALL LUMINAIRES AND CONTROLS SHALL COMPLY WITH THE MICHIGAN UNIFORM ENERGY CODE AND ASHRAE 90.1.

Table with columns DATE and SUBMITTALS/REVISIONS. Row 1: 10/18/2024, BID ISSUE.

CLINTON TWP. FIRE STATION RENOVATIONS

ELECTRICAL NOTES

CLIENT: CLINTON TOWNSHIP
Legend: PRELIMINARY, CONSTRUCTION, RECORD
DRAWN BY: MLB, CHECKED BY: MLB, DATE: AUGUST 2023
SCALE: AS NOTED

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PROJECT NO. 0242-0417

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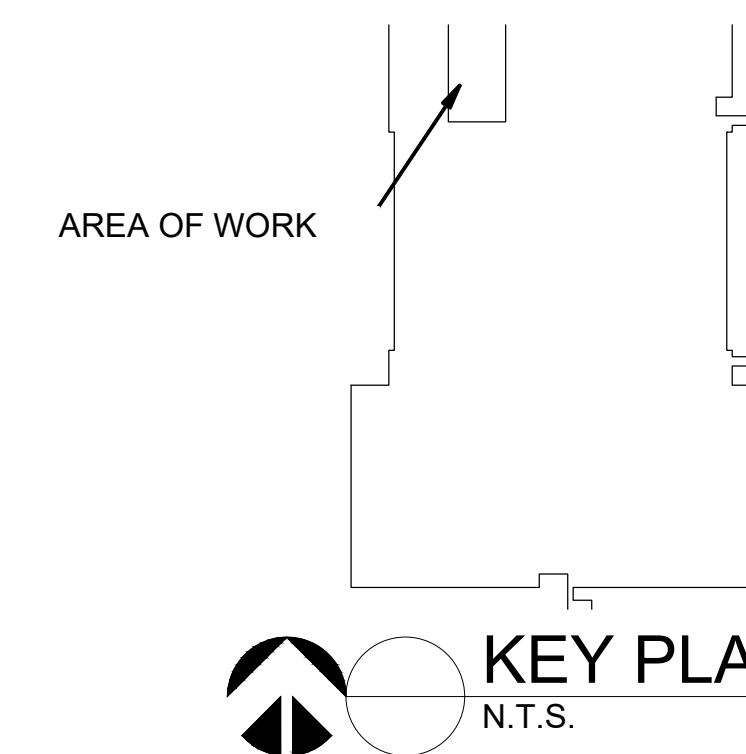
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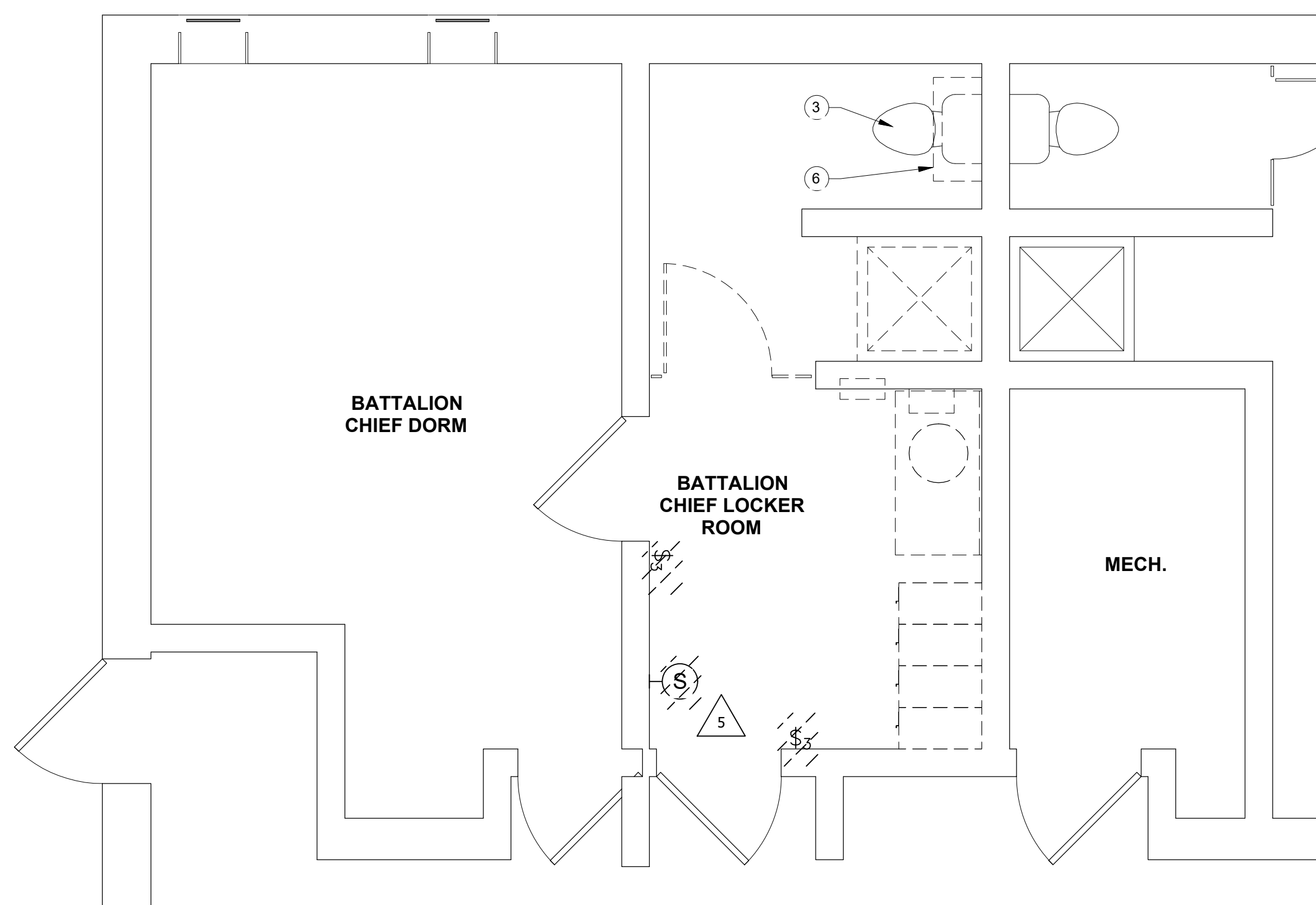
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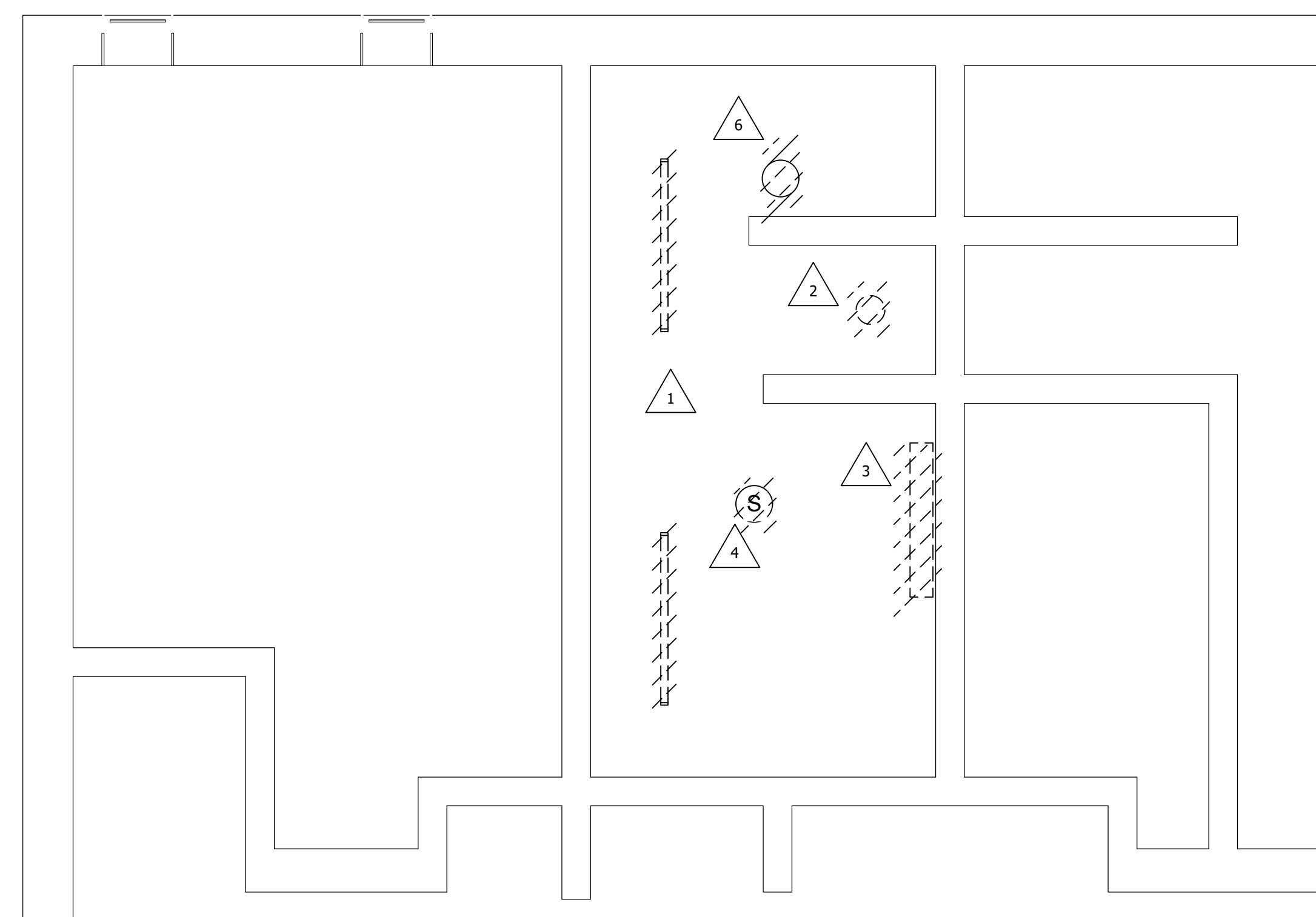
ENGINEERING STRONG COMMUNITIES



KEY PLAN
N.T.S.



1 DEMO POWER PLAN
DE101 3/8" = 1'-0"



2 DEMO- LIGHTING PLAN
DE101 3/8" = 1'-0"

GENERAL DEMOLITION NOTES	
A	THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF WORK TO BE PERFORMED. THE EXACT EXTENT OF DEMOLITION SHALL BE DETERMINED BY THE NEW WORK.
B	ANY INTERRUPTIONS OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE SO AS NOT TO INTERFERE WITH THE PRESENT BUILDING'S OPERATION.
C	PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING SITE CONDITIONS, SYSTEMS, AND UTILITIES. NOTIFY DESIGN PROFESSIONAL OF ANY INTERFERENCES OR DISCREPANCIES.
D	ALL ITEMS INDICATED WITH CROSS-HATCHING SHALL BE REMOVED COMPLETE WITH ALL RELATED ITEMS INCLUDING HANGARS, SUPPORTS, INSULATION, CONTROLS, ETC. CAP ALL OPEN ENDED PIPES AND DUCTS.
E	THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED. ALL ITEMS REMOVED SHALL BE LEGALLY DISPOSED OF. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXISTING RELOCATED AND OWNER PROVIDED EQUIPMENT.
F	VERIFY DEPTH, SIZE, LOCATIONS, AND CONDITIONS OF EXISTING UTILITIES IN THE FIELD. INCLUDING POINTS OF CONNECTION PRIOR TO STARTING ANY WORK.
G	ALL ITEMS ON DEMOLITION PLAN SHALL BE CONSIDERED EXISTING UNLESS OTHERWISE NOTED. ALL WORK INDICATED ON PLANS HAS BEEN LOCATED PER EXISTING DRAWINGS AND/OR FIELD OBSERVATION AND REQUIRES FIELD VERIFICATION.
H	ALL EXISTING WORK TO REMAIN SHALL BE PROTECTED FROM DAMAGE. WHERE DUCT WORK PIPE INSULATION HAS BEEN DAMAGED DURING DEMOLITION, THE CONTRACTOR SHALL REPAIR INSULATION AS REQUIRED TO MATCH EXISTING.

DEMOLITION KEYED NOTES	
1	EXISTING 2"x4" LED STRIP SURFACE MOUNTED LIGHT FIXTURES AND SWITCHING TO BE REMOVED. REMOVE CONDUIT AND WIRING BACK TO JUNCTION BOX, EXISTING CIRCUIT TO REMAIN AND BE RE-USED FOR NEW LIGHTING.
2	EXISTING 6" ROUND RECESSED LIGHT FIXTURES AND SWITCHING TO BE REMOVED. REMOVE CONDUIT AND WIRING BACK TO JUNCTION BOX, EXISTING CIRCUIT TO REMAIN AND BE RE-USED FOR NEW LIGHTING.
3	EXISTING WALL MOUNTED VANITY FIXTURE TO BE REMOVED COMPLETE, REMOVE CONDUIT AND WIRING BACK TO SOURCE.
4	EXISTING RECESSED SPEAKER TO BE REMOVED, PROTECT WIRE FOR NEW SPEAKERS TO BE INSTALLED IN NEW CEILING.
5	EXISTING WALL MOUNTED RECESSED SPEAKER TO BE REMOVED. PROTECT WIRE TO BE RECONNECTED TO NEW SPEAKER, TO BE RE-INSTALLED IN NEW CEILING.
6	EXISTING EXHAUST FAN BEING REMOVED BY MECHANICAL TRADES, EC TO DISCONNECT AND PROTECT CIRCUIT TO BE USED FOR NEW FAN, REFER TO NEW WORK PLANS.

10/18/2024	BID ISSUE
DATE	SUBMITTALS/REVISIONS

PROJECT NAME:

CLINTON TWP. FIRE STATION RENOVATIONS

SHEET TITLE:

COMMAND LOCKER ELECTRICAL DEMO PLANS

CLIENT: CLINTON TWP.

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DRAWN BY: FA	CHECKED BY: JRA	DATE: DECEMBER 2023
SCALE: AS NOTED		

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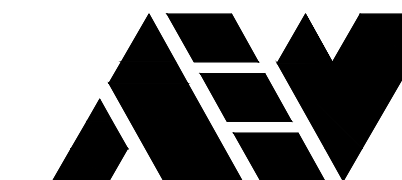
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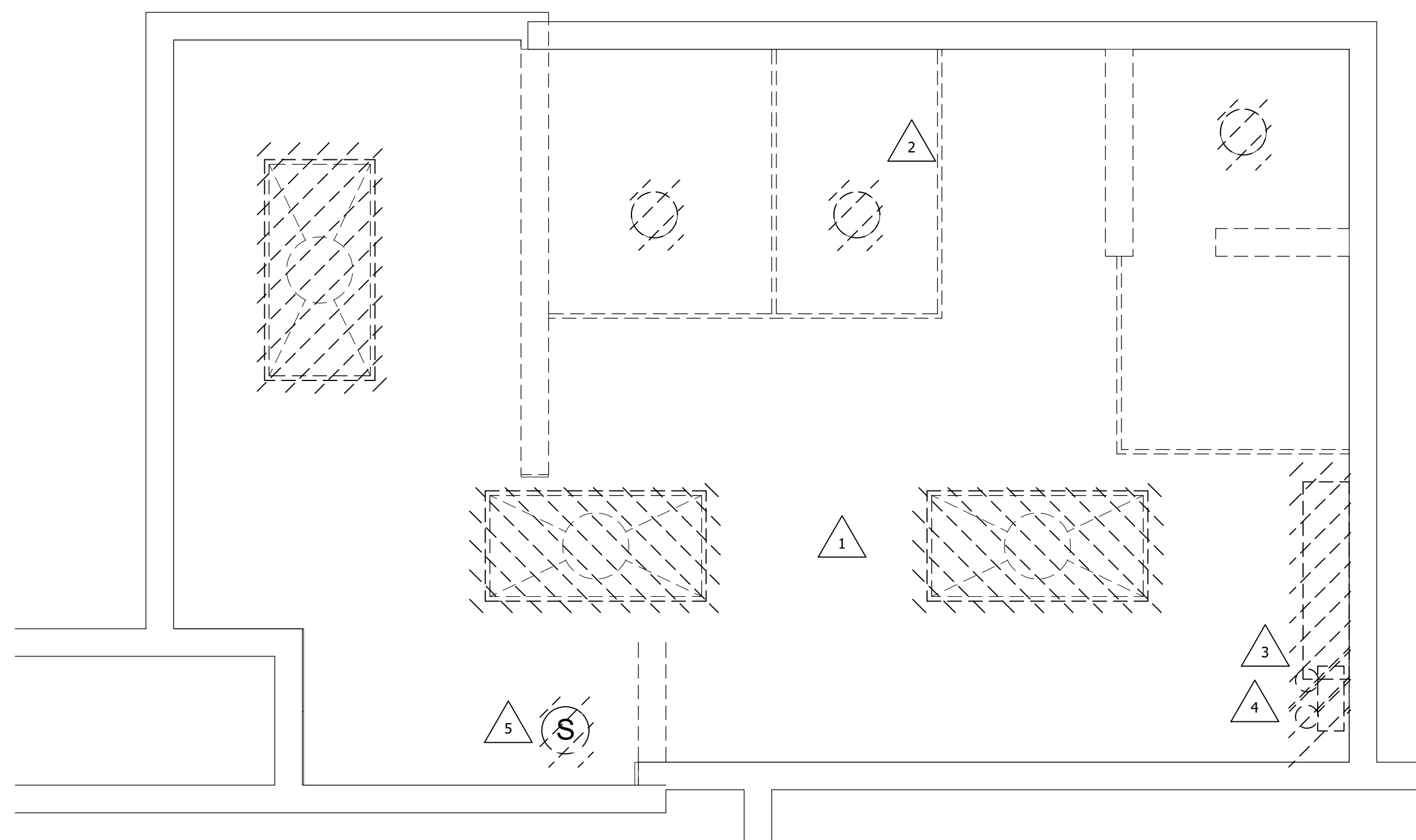
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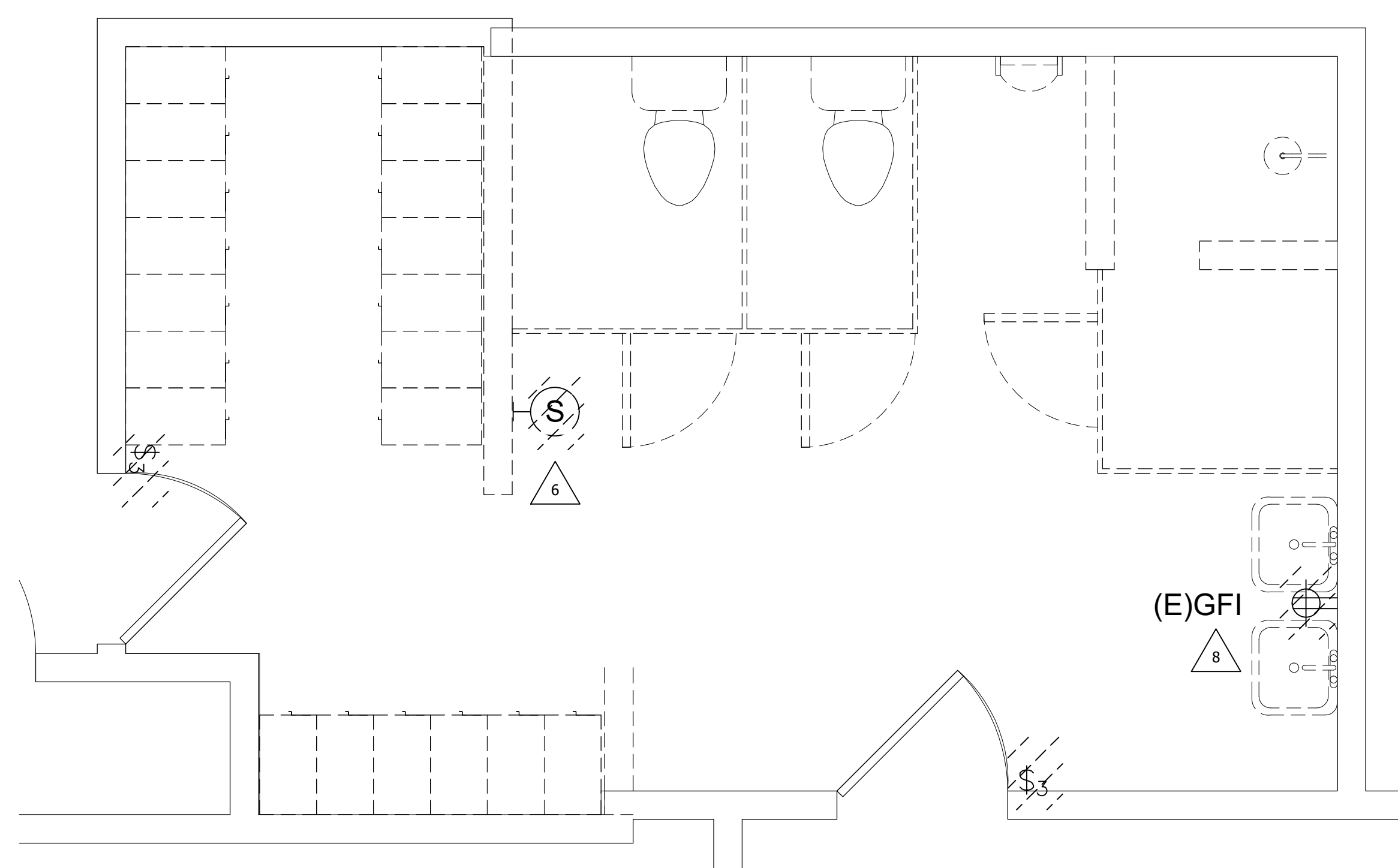
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G	ALL ITEMS ON DEMOLITION PLAN SHALL BE CONSIDERED EXISTING UNLESS OTHERWISE NOTED. ALL WORK INDICATED ON PLANS HAS BEEN LOCATED PER EXISTING DRAWINGS AND/OR FIELD OBSERVATION AND REQUIRES FIELD VERIFICATION.
H	ALL EXISTING WORK TO REMAIN SHALL BE PROTECTED FROM DAMAGE. WHERE DUCT WORK PIPE INSULATION HAS BEEN DAMAGED DURING DEMOLITION, THE CONTRACTOR SHALL REPAIR INSULATION AS REQUIRED TO MATCH EXISTING.

DEMOLITION KEYED NOTES	
1	EXISTING 2X4 LED FLAT PANEL RECESSED LIGHT FIXTURES AND SWITCHING TO BE REMOVED. REMOVE CONDUIT AND WIRING BACK TO JUNCTION BOX, EXISTING CIRCUIT TO REMAIN AND BE RE-USED FOR NEW LIGHTING.
2	EXISTING 6" ROUND RECESSED LIGHT FIXTURES AND SWITCHING TO BE REMOVED. REMOVE CONDUIT AND WIRING BACK TO JUNCTION BOX, EXISTING CIRCUIT TO REMAIN AND BE RE-USED FOR NEW LIGHTING.
3	EXISTING WALL MOUNTED VANITY FIXTURE TO BE REMOVED COMPLETE, REMOVE CONDUIT AND WIRING BACK TO SOURCE.
4	EXISTING EMERGENCY FIXTURE TO BE REMOVED COMPLETE, REMOVE CONDUIT AND WIRING BACK TO SOURCE.
5	EXISTING SPEAKER LOCATED ABOVE CEILING TO BE REMOVED, WIRE TO BE PROTECTED, TO FEED NEW SPEAKER IN NEW CEILING.
6	EXISTING WALL MOUNTED RECESSED SPEAKER TO BE REMOVED. PROTECT WIRE TO BE RECONNECTED TO NEW SPEAKER, REFER TO NEW SPEAKER IN NEW CEILING.
7	EXISTING EXHAUST FAN BEING REMOVED BY MECHANICAL TRADES, EC TO DISCONNECT AND PROTECT CIRCUIT TO BE USED FOR NEW FAN, REFER TO NEW WORK PLANS.
8	EXISTING GFI RECEPTACLE TO BE REMOVED, EXISTING CIRCUIT TO BE REUSED FOR NEW RECEPTACLES, REFER TO NEW PLANS.



2 LIGHTING DEMOLITION PLAN
ED102 1/2" = 1'-0"



1 POWER DEMOLITION PLAN
ED102 1/2" = 1'-0"

10/18/2024 BID ISSUE
DATE SUBMITTALS/REVISIONS

PROJECT NAME:

CLINTON TWP. FIRE STATION RENOVATIONS

GENERAL ELECTRICAL DEMO PLANS

CLIENT: CLINTON TOWNSHIP

<input checked="" type="checkbox"/> PRELIMINARY	<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> RECORD
DRAWN BY: JRA	CHECKED BY: JRA	DATE: DECEMBER 2023
SCALE: AS NOTED		

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PROJECT NO. 0242-0417

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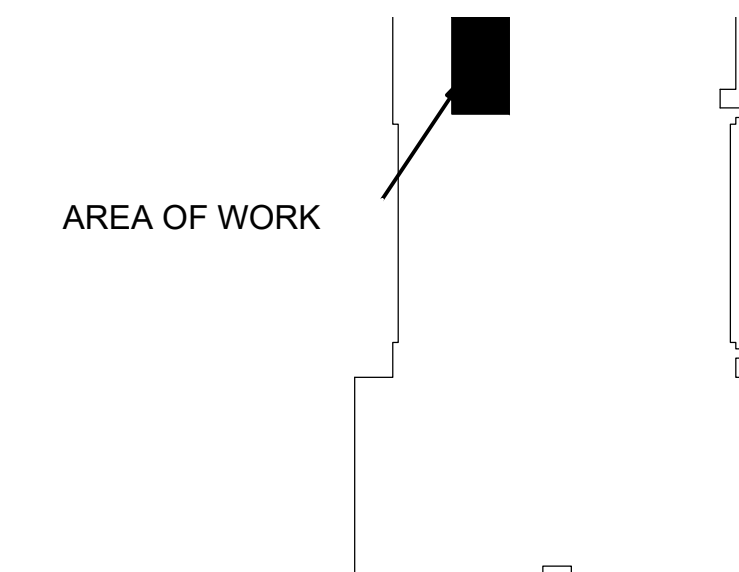
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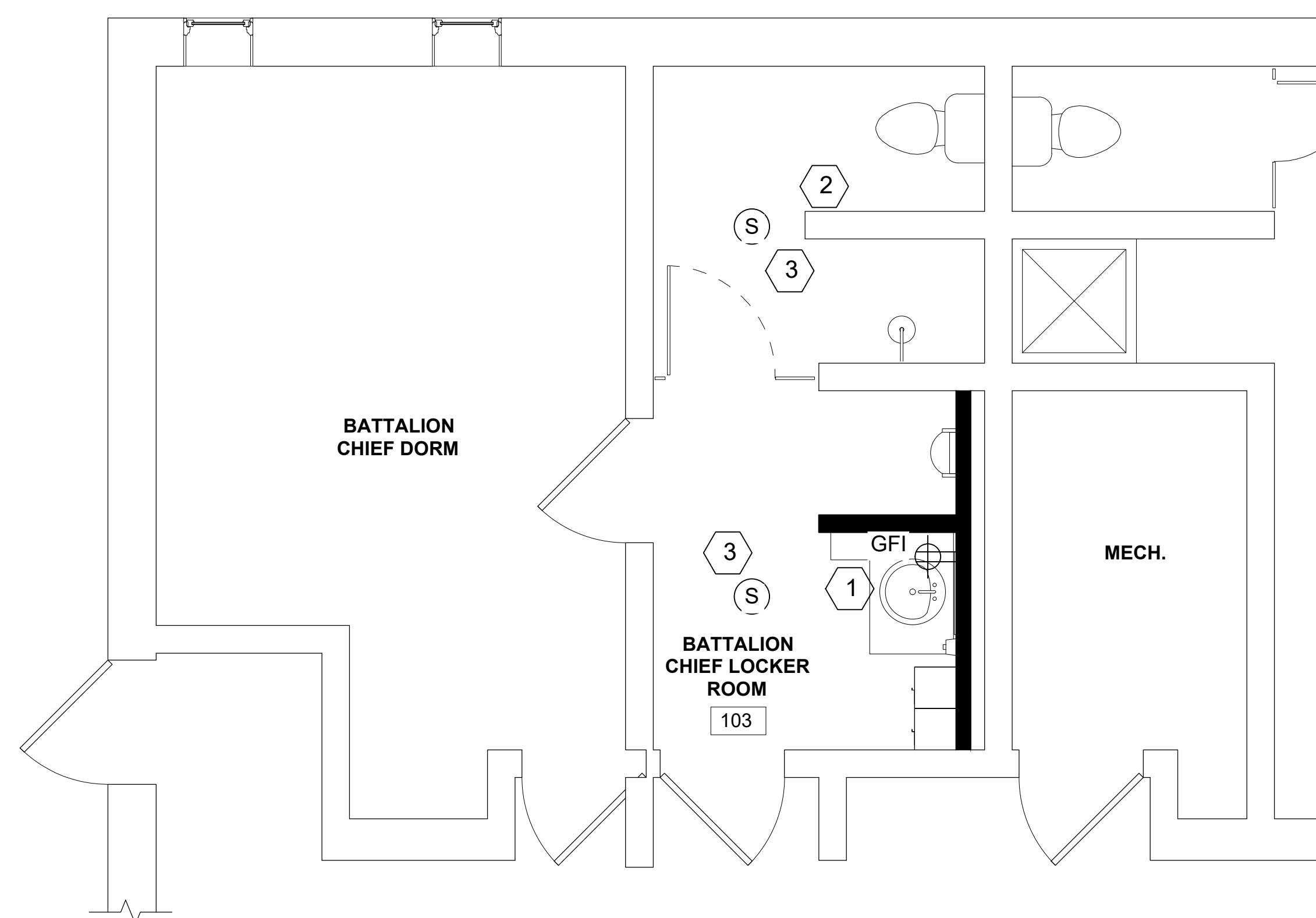
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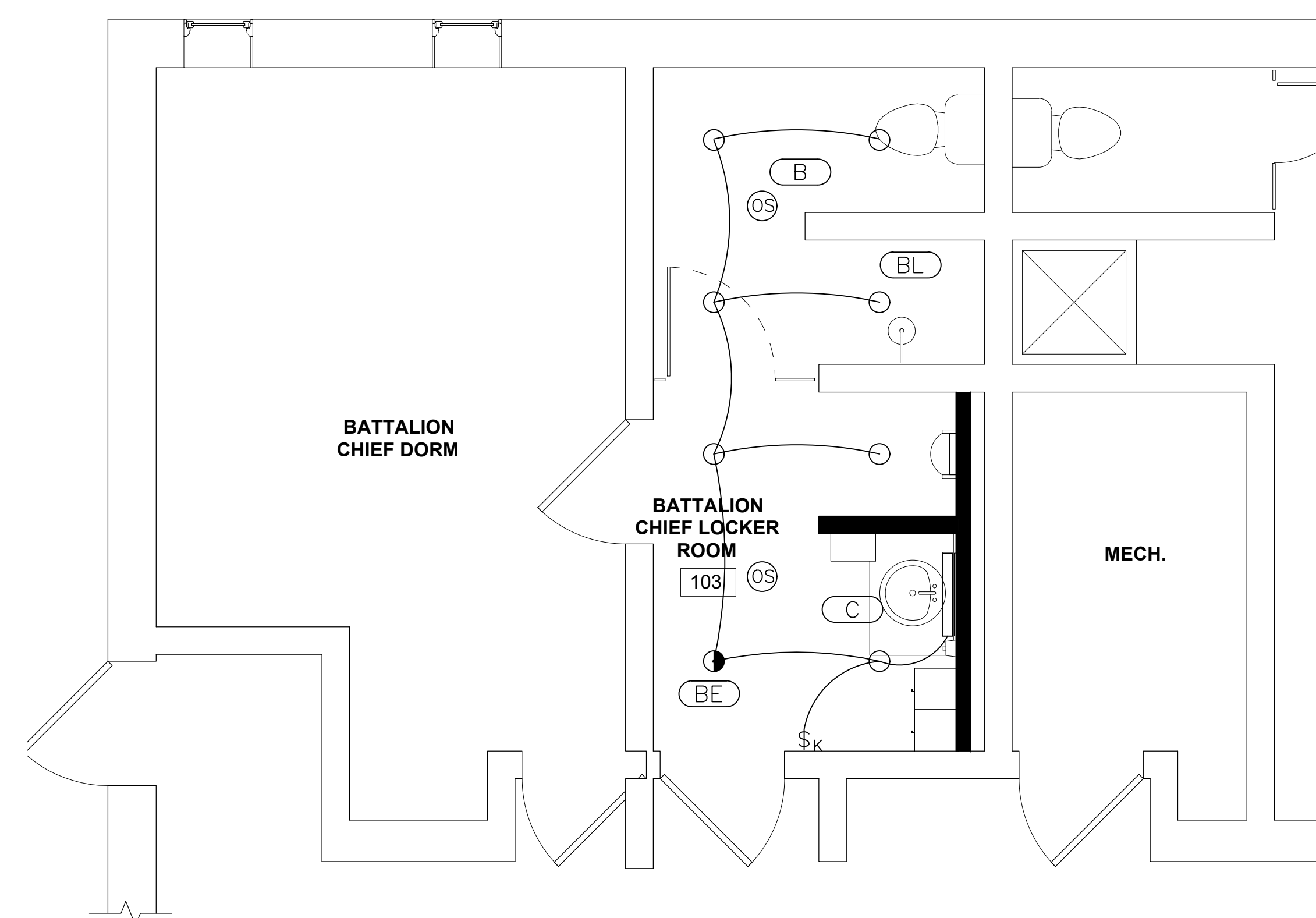
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KEY PLAN
N.T.S.



2 POWER PLAN
E102 3/8" = 1'-0"



3 LIGHTING PLAN
E102 3/8" = 1'-0"

ELECTRICAL GENERAL NOTES	
A	REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL LIGHTING FIXTURES UNLESS OTHERWISE NOTED.
B	ANY 120 VOLT BRANCH CIRCUIT FEEDER LONGER THAN 120'-0" TO LAST DEVICE SHALL BE SIZED TO THE NEXT LARGER STANDARD AWG SIZE. E.C. SHALL FIELD VERIFY ALL LENGTHS OF FEEDERS
C	SEE LIGHT FIXTURE SCHEDULE SHEET E100. ALL ELECTRICAL DEVICES ON THIS SHEET SHALL BE NEW UNLESS OTHERWISE NOTED.
D	WHERE MORE THEN ONE LIGHT SWITCH IS INDICATED TO BE INSTALLED AT THE SAME LOCATION, THEY SHALL BE GROUPED UNDER ONE COMMON FACEPLATE.
E	ELECTRICAL CONTRACTOR SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE, LIFE SAFETY CODE AND APPLICABLE STATE AND LOCAL CODES AND ORDINANCES.
F	ELECTRICAL EQUIPMENT AND WIRING SHALL BE NEW AND SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED.
G	WIRING SHALL BE IN CONDUIT. CONDUIT SHALL BE 3/4" CONDUIT MINIMUM. CONDUITS IN FINISHED AREAS SHALL BE CONCEALED

#	NEW POWER WORK KEYED NOTES
1	NEW GFCI RECEPTACLE TO BE MOUNTED AS SHOWN, AND ARE CONNECTED TO EXISTING RECEPTACLE CIRCUIT BEING AVAILABLE FROM DEMO WORK, UPDATE PANEL SCHEDULE.
2	CONNECT NEW EXHAUST FAN EF-4 1/6HP 120V TO EXISTING CIRCUIT AVAILABLE FROM DEMO OF EXISTING FAN. FAN SHALL BE CONTROLLED FROM OCCUPANCY SENSOR LIGHT SWITCH.
3	NEW CEILING MOUNTED 8" ROUND SPEAKER. (ONE FROM EACH BUILDING SOUND SYSTEMS) CONNECT TO EXISTING SPEAKER CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED TO NEW LOCATION. VERIFY EXACT LOCATION IN THE FIELD WITH OWNER. NEW SPEAKER SHALL BE BY "JBL SPAKER" OR EQUAL.

#	NEW LIGHTING WORK KEYED NOTES
1	NEW FIXTURES TYPE "A" TO BE CONNECTED/CIRCUITED TO EXISTING CIRCUIT AVAILABLE FROM DEMOLITION. CONTROL THRU CEILING MOUNTED OCCUPANCY SENSOR. COORDINATE PLACEMENT OF SENSORS WITH LIGHTING CONTROLS SUPPLIER.
2	NEW LIGHT FIXTURES TO BE CONNECT TO EXISTING CIRCUIT BEING AVAILABLE FROM DEMOLITION WORK. ALL CONDUIT, WIRING AND CONTROLS SHALL BE NEW AS SHOWN.

10/18/2024	BID ISSUE
DATE	SUBMITTALS/REVISIONS

PROJECT NAME:

CLINTON TWP. FIRE STATION RENOVATIONS

SHEET TITLE:

COMMAND ELECTRICAL PLANS

CLIENT: **CLINTON TWP.**

<input checked="" type="checkbox"/> PRELIMINARY	<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> RECORD
DRAWN BY: JRA	CHECKED BY: JRA	DATE: DECEMBER 2023
SCALE: AS NOTED		

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PROJECT NO. 0242-0408

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SHEET NO.

E101

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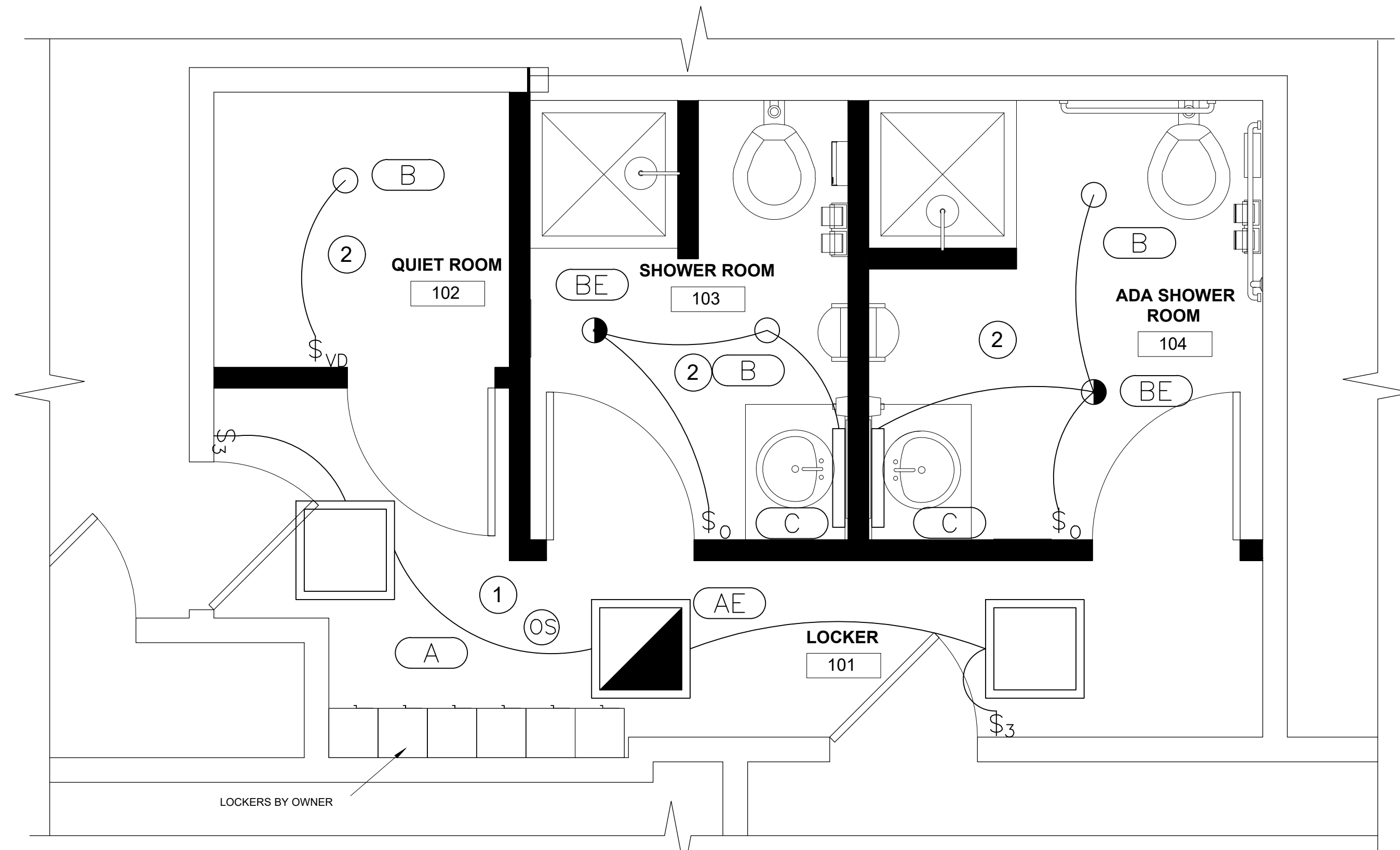
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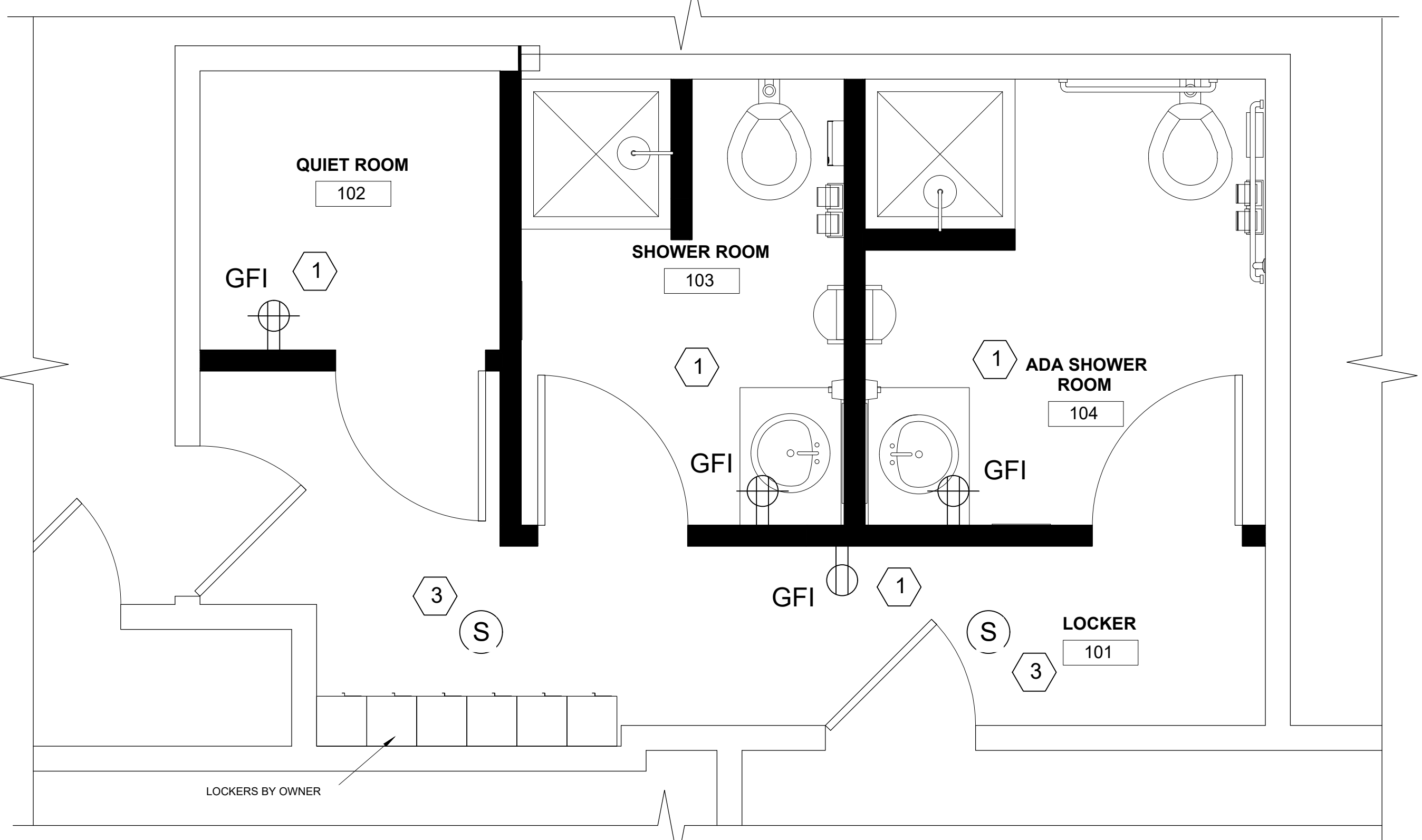
ENGINEERING STRONG COMMUNITIES



6 KEY PLAN
 E102 N.T.S.



1 LIGHTING PLAN
 E102 1/2" = 1'-0"



1 NEW POWER PLAN
 E102 1/2" = 1'-0"

ELECTRICAL GENERAL NOTES

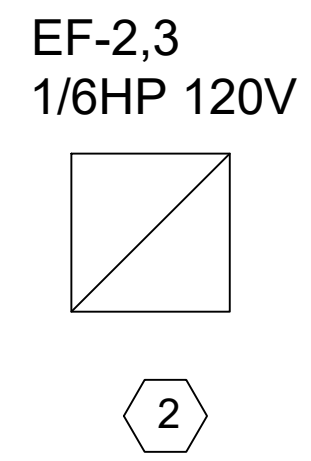
A	REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL LIGHTING FIXTURES UNLESS OTHERWISE NOTED.
B	ANY 120 VOLT BRANCH CIRCUIT FEEDER LONGER THAN 120'-0" TO LAST DEVICE SHALL BE SIZED TO THE NEXT LARGER STANDARD AWG SIZE. E.C. SHALL FIELD VERIFY ALL LENGTHS OF FEEDERS
C	SEE LIGHT FIXTURE SCHEDULE SHEET E100. ALL ELECTRICAL DEVICES ON THIS SHEET SHALL BE NEW UNLESS OTHERWISE NOTED.
D	WHERE MORE THEN ONE LIGHT SWITCH IS INDICATED TO BE INSTALLED AT THE SAME LOCATION, THEY SHALL BE GROUPED UNDER ONE COMMON FACEPLATE.
E	ELECTRICAL CONTRACTOR SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE, LIFE SAFETY CODE AND APPLICABLE STATE AND LOCAL CODES AND ORDINANCES.
F	ELECTRICAL EQUIPMENT AND WIRING SHALL BE NEW AND SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED.
G	WIRING SHALL BE IN CONDUIT. CONDUIT SHALL BE 3/4" CONDUIT MINIMUM. CONDUITS IN FINISHED AREAS SHALL BE CONCEALED

NEW LIGHTING WORK KEYED NOTES

1	NEW FIXTURES TYPE "A" TO BE CONNECTED/CIRCUITED TO EXISTING CIRCUIT AVAILABLE FROM DEMOLITION. CONTROL THRU CEILING MOUNTED OCCUPANCY SENSOR. COORDINATE PLACEMENT OF SENSORS WITH LIGHTING CONTROLS SUPPLIER.
2	NEW LIGHT FIXTURES TO BE CONNECT TO EXISTING CIRCUIT BEING AVAILABLE FROM DEMOLITION WORK. ALL CONDUIT, WIRING AND CONTROLS SHALL BE NEW AS SHOWN.

NEW POWER WORK KEYED NOTES

1	NEW GFCI RECEPTACLE TO BE MOUNTED AS SHOWN, AND ARE CONNECTED TO EXISTING RECEPTACLE CIRCUIT BEING AVAILABLE FROM DEMO WORK, UPDATE PANEL SCHEDULE.
2	CONNECT NEW EXHAUST FAN EF-2,3 1/6HP 120V TO EXISTING CIRCUIT AVAILABLE FROM DEMO OF EXISTING FAN. FAN SHALL BE CONTROLLED FROM EITHER ROOM OCCUPANCY SENSOR LIGHT SWITCH.
3	NEW CEILING MOUNTED 8" ROUND SPEAKER. (ONE FROM EACH BUILDING SOUND SYSTEMS) CONNECT TO EXISTING SPEAKER CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED TO NEW LOCATION. VERIFY EXACT LOCATION IN THE FIELD WITH OWNER. NEW SPEAKER SHALL BE BY "JBL SPEAKER" OR EQUAL.



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PROJECT NAME:

CLINTON TWP. FIRE STATION RENOVATIONS

SHEET TITLE:

GENERAL ELECTRICAL PLANS

CLIENT: CLINTON TOWNSHIP

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DRAWN BY: MLB	CHECKED BY:	DATE: AUGUST 2023
SCALE: AS NOTED		

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PROJECT NO. 0242-0417

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SHEET NO.

E102

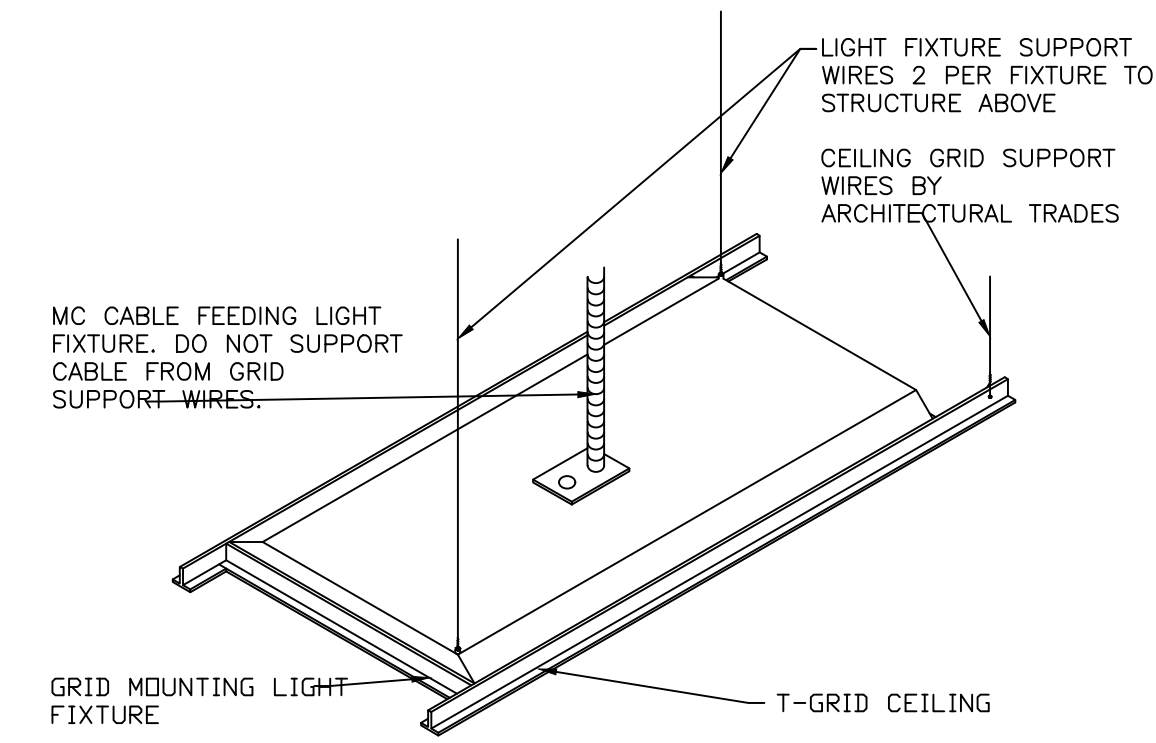
ELECTRICAL SPECIFICATIONS

ELECTRICAL TRADES SPECIFICATION

- THE GENERAL CONDITIONS AND SPECIAL CONDITIONS OF THE SPECIFICATIONS SHALL GOVERN. GENERAL CONDITIONS AND SPECIAL CONDITIONS REQUIREMENTS RELATED, BUT NOT LIMITED TO, RUBBISH REMOVAL, CUTTING AND PATCHING, OBTAINING AND PAYING FOR REQUIRED LICENSES AND PERMITS, REPLACEMENT OF DAMAGED OR STOLEN EQUIPMENT AND SYSTEMS, COMPLIANCE WITH ALL NATIONAL, STATE AND LOCAL CODES, SHALL APPLY.
- THE GENERAL CONDITIONS AND SPECIAL CONDITIONS OF THE SPECIFICATIONS SHALL GOVERN. GENERAL CONDITIONS AND SPECIAL CONDITIONS REQUIREMENTS RELATED, BUT NOT LIMITED TO, RUBBISH REMOVAL, CUTTING AND PATCHING, OBTAINING AND PAYING FOR REQUIRED LICENSES AND PERMITS, REPLACEMENT OF DAMAGED OR STOLEN EQUIPMENT AND SYSTEMS, COMPLIANCE WITH ALL NATIONAL, STATE AND LOCAL CODES, SHALL APPLY.
- ENTIRE INSTALLATION SHALL BE PERFORMED IN A FIRST-CLASS WORK-MAN-LIKE MANNER. THE COMPLETED SYSTEMS SHALL BE FULLY OPERATIONAL; ACCEPTANCE BY THE OWNER SHALL BE A CONDITION OF THE CONTRACT. ALL WORK SHALL BE COORDINATED WITH EXISTING CONDITIONS IN ORDER TO AVOID INTERFERENCES, PRESERVE MAXIMUM HEADROOM AND AVOID OMISSIONS.
- ALL WIRING SHALL BE IN CONDUIT, RIGID OR THIN WALL AS PERMITTED BY CODE. CONDUIT SHALL BE CONCEALED WHERE POSSIBLE; WHERE EXPOSED, RUN IN STRAIGHT LINES PARALLEL AND/OR PERPENDICULAR TO BUILDING CONSTRUCTION.
- ELECTRICAL CONDUITS SHALL BE RIGID GALVANIZED ASA C80.1 FOR SERVICE ENTRANCE, PANEL FEEDERS AND UNDERGROUND OR IN CONCRETE ENCASEMENT. THINWALL ASA C80.3 FOR BRANCH CIRCUITS, OUTDOOR UNDERGROUND SHALL BE PVC, SCHEDULE 40, WITH CONTINUOUS GROUND.
- ALL CONDUIT FITTINGS SHALL BE GALVANIZED. ONLY GLAND TYPE, RAIN AND CONCRETE TIGHT, THREADED CONNECTORS AND COUPLINGS ARE APPROVED FOR USE WITH THINWALL CONDUIT.
- PROVIDE AND INSTALL COMPLETE EMPTY CONDUIT SYSTEM FOR TELEPHONE OUTLETS AS INDICATED ON DRAWINGS. CONDUITS SHALL BE TERMINATED AT TELEPHONE BACKBOARD WITH FIBER BUSHINGS.
- CONTRACTOR SHALL INCLUDE ALL MISCELLANEOUS ITEMS REQUIRED TO COMPLETE THE WORK, INCLUDING BUT NOT LIMITED TO, THE FOLLOWING: MOVING AND RIGGING OF MATERIAL AND EQUIPMENT, ALL HANGERS, SUPPORTS, ANCHORS, EXPANSION MEANS, CONDUIT, WIRE, FITTINGS AND SLEEVES.
- CONTRACTOR SHALL INCLUDE ALL TESTING, ADJUSTING & BALANCING AND COORDINATION BETWEEN TRADES. CIRCUITS SHALL BE PROPERLY BALANCED ACROSS PHASES.
- PRIOR TO ORDERING EQUIPMENT, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS IN QUADRUPPLICATE FOR APPROVAL.
- ALL MATERIALS USED SHALL BE NEW AND BEAR THE U.L. LABEL, WHERE SUCH SERVICE AND LABEL ARE REGULARLY PROVIDED; AND BE OF THE APPROPRIATE NEMA STANDARD.
- CONTRACTOR SHALL NOT SCALE DRAWINGS FOR DIMENSIONS, BUT SHALL CONTACT PROJECT ARCHITECT FOR ALL DIMENSIONAL DATA. FIELD VERIFY DIMENSIONS AND CONDITIONS PRIOR TO ROUGH-IN.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL TESTS AND INSPECTIONS NECESSARY TO DETERMINE THAT ALL WIRING INSTALLED UNDER THIS SPECIFICATION IS IN SATISFACTORY CONDITION AND SHALL BE PERFORMED TO THE SATISFACTION OF THE ELECTRICAL INSPECTOR OF THE LOCAL AUTHORITY AND ALL OTHERS HAVING JURISDICTION OVER THE ELECTRICAL WORK.
- ELECTRICAL CONTRACTOR SHALL DELIVER THE CERTIFICATES OF INSPECTION AND FINAL APPROVAL TO THE ARCHITECT AS A REQUIREMENT FOR FINAL PAYMENT.
- ELECTRICAL CONTRACTOR SHALL GUARANTEE IN WRITING ALL WORK IN CONNECTION WITH HIS ELECTRICAL CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF COMPLETION OF HIS WORK AT NO COST TO THE OWNER.
- DISCONNECT SWITCHES SHALL BE VISIBLE BLADE, QUICK-MAKE, QUICK-BREAK UNIT WITH PROVISIONS FOR PADLOCKING. SWITCHES SHALL BE SQUARE D, F.P.E., G.E. OR WESTINGHOUSE, OF THE NEMA CLASS AND MATERIAL REQUIRED. LIGHTING AND RECEPTACLE PANELS SHALL BE CIRCUIT BREAKER TYPE WITH THERMAL MAGNETIC, TRIP-FREE, TRIP-INDICATING, INVERSE TIME COMMON TRIP CIRCUIT BREAKERS EQUIPPED WITH SILVER ALLOY CONTACTS AND QUICK-MAKE, QUICK-BREAK MECHANISM. CIRCUIT BREAKERS SHALL BE SOLID TYPE AND RATED 10,000 A.I.C. MINIMUM (120V) 14,000 A.I.C. (277V). PANELS SHALL BE SQUARE D "WOOD" AND NEHB PANEL BOARDS, G.E. OR WESTINGHOUSE.
- FURNISH AND INSTALL ALL WIRING AND CONNECTIONS TO ALL MOTORS SHOWN ON THE PLANS. FURNISH AND INSTALL DISCONNECT SWITCHES FOR ALL MOTORS. DISCONNECTING MEANS MUST COMPLY WITH THE NATIONAL ELECTRICAL CODE. ALL MANUAL AND MAGNETIC MOTOR STARTERS SHALL BE SQUARE D CLASS 8536/8538 OR EQUAL. WITH 120 VOLT OPERATION COILS WITH AUXILIARY CONTACTS WHEN REQUIRED FOR CONTROL FUNCTIONS. MOTORS 1/4 HP AND SMALLER THAT ARE NOT UNDER AUTOMATIC CONTROL SHALL BE CONTROLLED WITH SQUARE D CLASS 2510 MANUAL STARTERS OR EQUAL.
- DISCONNECT SWITCHES FOR MOTORS RATED 1/3 HP AND LESS MAY BE A GENERAL USE SWITCH. DISCONNECT SWITCHES FOR MOTORS 1/2 HP AND LARGER SHALL BE FUSED HEAVY-DUTY SWITCHES SIMILAR TO SQUARE D TYPE H HEAVY-DUTY LINE OR G.E. TH WITH FRONT-MOUNTED HANDLE OR EQUAL. USE RAIN TIGHT OUTDOORS.
- WIRE AND CABLE SHALL BE COPPER WITH 98% CONDUCTIVITY AND SHALL MEET THE TESTS, AND STANDARDS SET FORTH BY NEMA, UL AND IPCEA. WIRE SHALL BE COPPER TYPE THHN OR XHHN.
- GROUND SYSTEM.
- CONTRACTOR SHALL VERIFY EXACT LOCATION AND MOUNTING HEIGHTS OF ALL OUTLETS WITH ARCHITECT PRIOR TO INSTALLATION.
- ELECTRICAL SERVICE SHALL BE AS INDICATED ON DRAWINGS.
- MANUAL MOTOR STARTERS WITH OVERLOAD PROTECTION SHALL BE USED FOR FRACTIONAL HORSEPOWER MOTORS, ALLEN BRADLEY BULLETIN 600.
- MINIMUM SIZE OF OUTLET BOXES SHALL BE 4" SQUARE, 1 1/2" DEEP, SUITABLY SECURED FOR THEIR PARTICULAR APPLICATION.
- ALL SWITCH PLATES, RECEPTACLE PLATES, ETC., TO SATIN FINISH, STAINLESS STEEL UNLESS OTHERWISE REQUIRED BY ARCHITECT.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL FIXTURES AND LAMPS INCLUDING REPLACEMENTS UNTIL FINAL ACCEPTANCE OF COMPLETED WORK. FLUORESCENT LAMPS SHALL BE COOL WHITE (34 WATT POWER SAVER TYPE). FIXTURES SHALL BEAR THE U.L. LABEL AND BE INSTALLED IN FULL COMPLIANCE WITH APPLICABLE CODES. BALLASTS SHALL BE UL - ETL - CMB CERTIFIED HIGH POWER FACTOR, SOUND RATED "A", THERMALLY PROTECTED. UPON COMPLETION OF WORK, ALL FIXTURES SHALL BE CLEANED AND LEFT FREE FROM ALL FOREIGN MATERIAL, DUST, ETC., WITH FUNCTIONING LAMPS. ALL PLASTIC COMPONENTS SHALL BE VIRGIN ACRYLIC. FIXTURES SHALL BE SUPPORTED FROM BUILDING STRUCTURE, NOT CEILING. FIXTURES IN FURRED SPACES SHALL BE CONNECTED BY MEANS OF FLEXIBLE CONDUIT AND AF WIRE TO OUTLET BOX INDEPENDENT OF FIXTURE.
- ALL SERVICE WORK MUST CONFORM TO UTILITY COMPANY REQUIREMENTS. CONTACT UTILITY COMPANIES, VERIFY AND CORRELATE SERVICES AND PAY ALL UTILITY COMPANY CHARGES FOR EXTENSIONS, TRANSFORMERS, METERS, ETC.
- PROVIDE GROUND FAULT INTERRUPTERS FOR OUTLETS IN TOILET ROOMS AND AT EXTERIOR OF BUILDING AS REQUIRED BY STATE AND LOCAL CODES.
- FURNISH AND INSTALL WALL PLATES FOR ALL WIRING DEVICES AND TELEPHONE OUTLETS. IN ALL FINISHED AREAS OF THE BUILDING, PLATES SHALL BE STAINLESS STEEL. 040 SATIN FINISH US 32D AS MANUFACTURED BY HUBBELL, OR APPROVED EQUAL.
- GANG PLATES SHALL BE USED BY ALL GANG MOUNTED DEVICES.
- NO BOXES SHALL BE LEFT UNCOVERED UNLESS SPECIFICALLY INDICATED.
 - DUPLEX RECEPTACLE 20A - 125V
 - FLOOR DUPLEX OUTLET
 - WEATHERPROOF CONVENIENCE OUTLET
 - OUTLET 3 WIRE W/GROUND 20A-208V
 - SINGLE POLE TOGGLE SWITCH 20A-120V DOUBLE POLE TOGGLE SWITCH
 - THREE-WAY TOGGLE SWITCH
 - SINGLE POLE TOGGLE SWITCH WITH PILOT LIGHT

SPECIAL NATIONAL ELECTRIC CODE (NEC) NOTES:

- PROPER WORKING CLEARANCE MUST BE PROVIDED AND MAINTAINED ABOUT ALL ELECTRICAL EQUIPMENT ESPECIALLY MAIN SERVICE EQUIPMENT, ALL PANELS, DISCONNECTS, TRANSFORMERS, ETC. THEY SHALL BE LOCATED IN DEDICATED SPACES. NO FOREIGN PIPES, DUCTS OR EQUIPMENT PERMITTED IN THESE DEDICATED SPACES. NEC 110-16, TABLE 110-16A AND 384-4.
- STANDARD RECEPTACLES INSTALLED ON 20 AMP BRANCH CIRCUITS SHALL BE OF THE GROUNDING TYPE. NEC 210-7.
- ASSUME MINIMUM STANDARDS - 20 AMP BREAKER CIRCUITS, #12 COPPER 90 DEG. C. TYPE CONDUCTORS, 1/2" CONDUIT, ETC. ANYTHING LARGER OR DIFFERENT SHALL BE SO NOTED. NEC 240-3, 240-6, TABLE 310-16 AND CHAPTER 9 TABLE 3A.
- ALL WIRING (ELECTRICAL, TELEPHONE, ETC.) IN DUCTS, PLENUMS OF OTHER SPACE USED FOR ENVIRONMENTAL AIR SHALL BE INSTALLED IN PROPER RACEWAYS OR CABLES SPECIFICALLY LISTED FOR THE USE. NEC 300-22(B) AND (C).
- ALL LAMPS FOR TEMPORARY LIGHTING SHALL BE PROTECTED BY A SUITABLE FIXTURE OR LAMPHOLDER WITH A GUARD. NEC 305-4(F).
- ALL TEMPORARY 125 VOLT, SINGLE PHASE, 15 AND 20 AMP RECEPTACLE OUTLETS SHALL HAVE GFCI PROTECTION. NEC 305-6.
- FIXTURES IN WET, DAMP OR CORROSIVE LOCATIONS OR IN DUCTS OR HOODS SHALL BE SUITABLE FOR SUCH LOCATIONS AND SO MARKED. NEC 410-4(A), (B), AND (C).
- ALL FLUORESCENT FIXTURES INSTALLED INDOORS SHALL HAVE THERMAL PROTECTION INTEGRAL WITHIN THE BALLAST. NEC 410-73(E).
- PROPER THERMAL OVERLOAD PROTECTION SHALL BE REQUIRED FOR ALL MOTORS. NEC 430-31.
- THE DISCONNECTING MEANS FOR MOTORS SHALL BE A MOTOR-CIRCUIT SWITCH RATED IN HORSEPOWER, A CIRCUIT BREAKER, OR A MOLDED CASE SWITCH (NON-AUTOMATIC CIRCUIT INTERRUPTER) AND FOR A CORD AND PLUG-CONNECTED MOTOR, A HORSEPOWER RATED ATTACHMENT PLUG AND RECEPTACLE. NEC 430-109 AND EX. 5.
- PROPER WIRING METHODS SHALL BE REQUIRED IN PLACES OF ASSEMBLY OF 100 OR MORE PERSONS. NON-METALLIC SHEATHED (ROMEX) CABLE SHALL NOT BE PERMITTED. NEC 518-1, 518-2 AND 518-4.
- ALL BATTERY BACK-UP EXIT AND EMERGENCY LIGHTS SHALL BE FED FROM THE SAME CIRCUIT AS NORMAL LIGHTING IN THEIR RESPECTIVE AREAS AND BE CONNECTED AHEAD OF ANY LOCAL SWITCHES. NEC 700-16, 700-17 AND 700-12(F). BATTERY BACK-UP EXIT AND EMERGENCY LIGHTS CANNOT FEED FROM CIRCUITS OTHER THAN THE NORMAL LIGHTING IN THEIR RESPECTIVE AREAS. INCLUDE LOCK-OPEN DEVICES.
- MAIN SERVICE DISCONNECTING MEANS SHALL BE PERMANENTLY MARKED TO IDENTIFY IT AS A SERVICE DISCONNECTING MEANS. NEC 230-70(B).
- ALL SERVICE ENTRANCE AND/OR FEEDER CONDUCTORS NOTED SHALL BE 90 DEG. C. COPPER TYPE MINIMUM FOR PROPER CAPACITY. NEC 230-42(A), 215-2 AND TABLE 310-16.
- PROPER TYPE AND SIZE OF SERVICE GROUNDING CONDUCTOR REQUIRED WITH CONNECTION TO BOTH THE METAL UNDERGROUND WATER PIPING SYSTEM AND A SUPPLEMENTAL ELECTRODE. NEC 250-23(A), 250-81, 250-83 AND TABLE 250-94.
- CONTINUOUS LOADS SHALL NOT EXCEED 80% OF THE RATING OF THE BRANCH CIRCUIT. NEC 210-22(C) AND 384-16.
- LIGHTING FIXTURE SCHEDULE SEE LIGHTING PLAN FOR SCHEDULE
- SMOKE DETECTORS, HEAT SENSORS AND ALARMS CEILING SMOKE DETECTORS (BY OWNER).
- DUCT SMOKE DETECTORS THE DUCT DETECTORS SHALL BE SERIES DDP PHOTO-ELECTRIC TYPE WITH RATE COMPENSATED FIXED SENSITIVITY CIRCUITRY TO DETECT BOTH FAST AND SLOW BURNING FIRES. THE DETECTOR SHALL COME COMPLETE WITH SEALED HOUSING AND SAMPLING TUBES. THE DETECTORS SHALL BE 4-WIRE TYPE WITH AN ISOLATED 24VDC POWER FEED REQUIREMENT TO INSURE RELIABLE OPERATION OF THE AUXILIARY CONTROL RELAY. A POWER SUPERVISORY RELAY SHALL BE PROVIDED FOR EACH ZONE OF DUCT DETECTORS. DETECTORS SHALL BE WIRED TO THE RESPECTIVE FAN CONTROL FOR SHUT-DOWN UPON ALARM. LOCATE DETECTOR IN SUPPLY DUCT NEAR EACH OF THE TWO (2) FURNACES AND WITHIN THE FURNACE ROOM. FURNISH AND INSTALL BY THE ELECTRICAL CONTRACTOR. COORDINATE WITH HVAC CONTRACTOR.

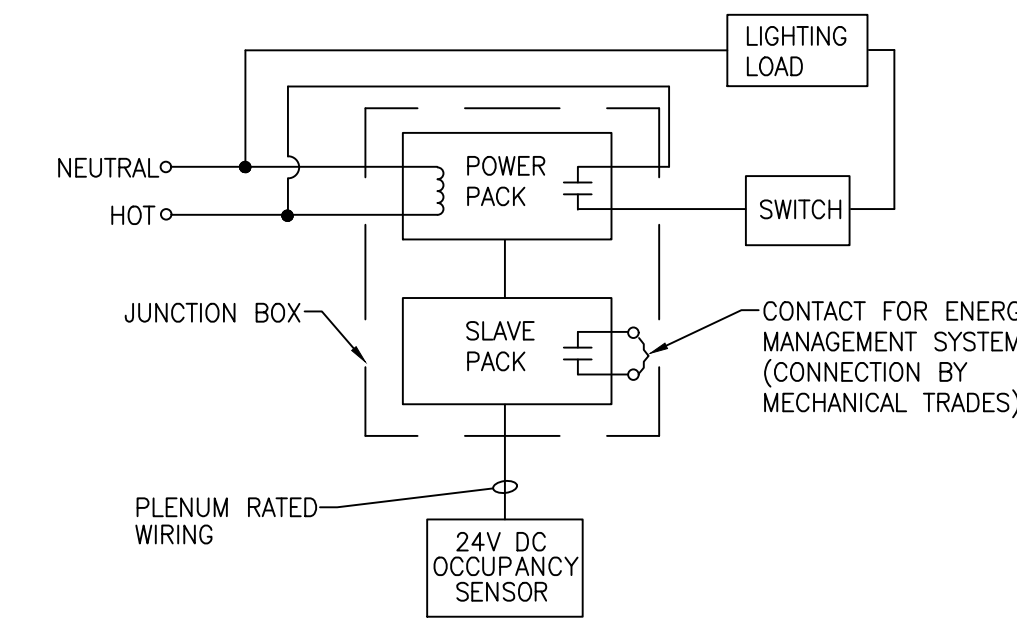


T-GRID FIXTURE MOUNTING DETAIL

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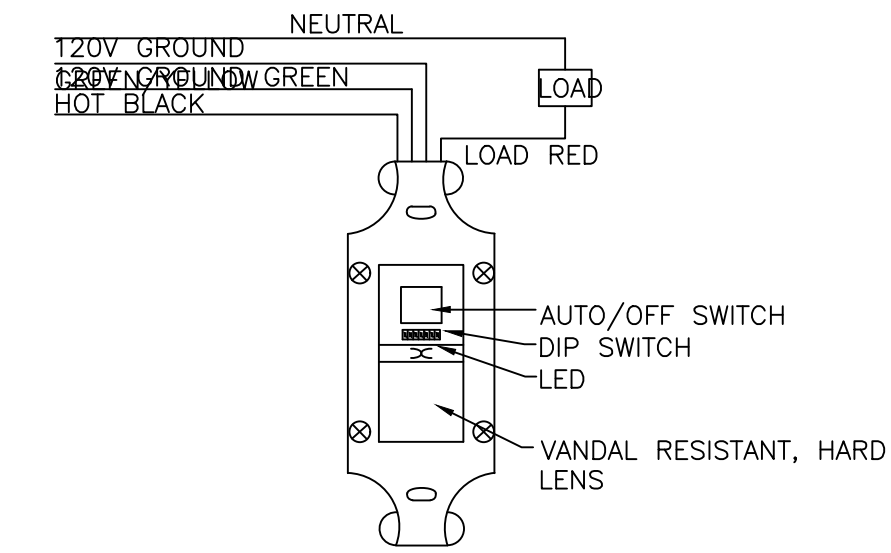
ELECTRICAL FIXTURES

- PENDANT MOUNTED FIXTURES SHALL BE DIRECTLY SUPPORTED FROM THE STRUCTURE ABOVE USING A 9 GAUGE WIRE OR AN APPROVED ALTERNATE SUPPORT WITHOUT USING THE CEILING SUSPENSION SYSTEM FOR DIRECT SUPPORT.
- TANDEM FIXTURES MAY UTILIZE COMMON WIRES.



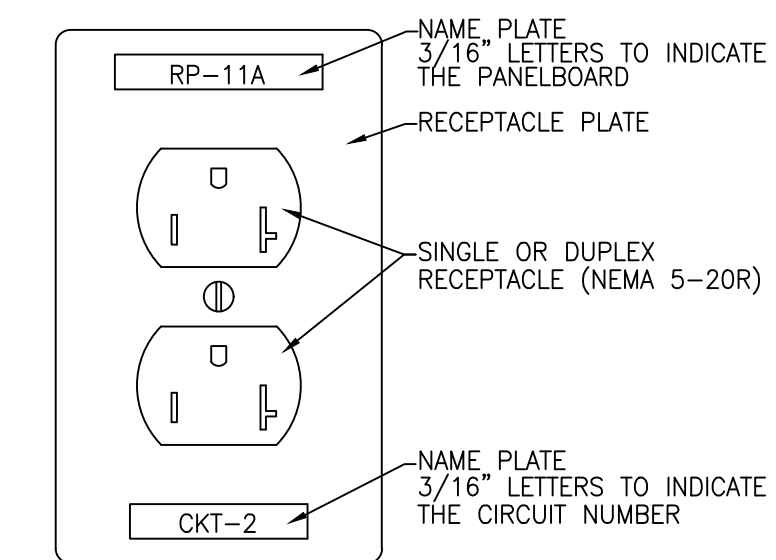
CEILING MOUNTED OCCUPANCY SENSOR DETAIL

NO SCALE



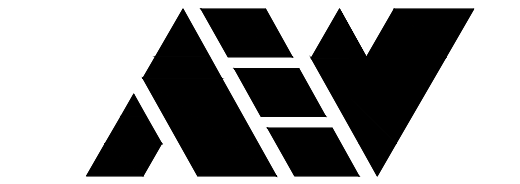
OFFICE VACANCY SENSOR SCHEMATIC

NO SCALE



DETAIL OF BRANCH CIRCUIT NUMBER ON RECEPTACLE PLATE

NO SCALE



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ENGINEERING STRONG COMMUNITIES

10/18/2024	BID ISSUE
DATE	SUBMITTALS/REVISIONS

PROJECT NAME:

CLINTON TWP. FIRE STATION RENOVATIONS

SHEET TITLE:

ELECTRICAL SCHEDULES

CLIENT:

CLINTON TOWNSHIP

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