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OUTLINE SPECIFICATIONS

011000 SUMMARY

- Contractor shall verify all existing conditions and drawing dimensions prior to commencing any work. Any inconsistencies shall be reported to the Architect in writing prior to commencing work. Failure to report inconsistencies will relieve Architect and Owner from any claim for additional work required related to the inconsistency.
- Under no circumstances shall these drawings be used for shop drawings.
- Work noted as "NOC" is not part of this contract and will be handled by the Owner under separate contract.
- Work not indicated on a part of the drawings, but reasonably implied to be similar to that shown at corresponding pieces, shall be repeated.
- In case of conflict between the General Notes, Specifications, and Drawings, the most stringent requirements shall govern unless Architect instructs otherwise.
- Not all details, equipment, systems, or materials sections are included in the documents. The Contractor shall base their bid on the supplied information, and shall include any additional details, equipment, systems, or material required to deliver a complete and finished product to the Owner that are reasonably and normally included in a completed project of similar scope, in compliance with all laws, codes and ordinances.
- Do not scale the drawings. Rely on written dimensions as given.
- All interior dimensions shown on the plans are from face of stud unless otherwise noted. Exterior wall dimensions are from interior face of stud to exterior face of sheathing. Otherwise, all dimensions are from interior face of exterior wall to face of stud. Dimensions shown on floor plans, sections, elevations, and details are to face of stud, masonry, or concrete grilles, unless otherwise noted.
- All dimensions shown on the plans to accessible relevel building features/furniture are to face of finish material (both floors and walls). Make special note of dimensions indicated as "clear" or "below finished floor".
- Contractor shall obtain and maintain access on site to copies of all relevant code resources for reference. Editions shall be per the current version of the Virginia Construction Code (indicated in the code summary) and referenced standards per the Virginia Construction Code.

012100 ALLOWANCES

- Lump sum allowances, unit-cost allowances, and quantity allowances shall include cost to Contractor of specific products and materials under allowance and shall include taxes, freight, and delivery to project site. Unless otherwise indicated, Contractor's costs for receiving and handling at project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the contract sum and not part of the allowance.
- Contingency allowances are to provide an equitable way to reimburse Contractor for unknown costs associated with unforeseen events or systems during construction. Contractor's overhead, profit, and related costs for products and equipment under the contingency allowance are included in the allowance. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs. All project closedout, credit unused amounts remaining in the contingency allowance to Owner.

012200 UNIT PRICES

- Unit price is an amount incorporated into the agreement, applicable during the duration of the work as a price per unit of measurement for materials, equipment, or services, or a portion of the work, to be deducted from the contract sum or added by appropriate modification, if the scope of work or estimated quantities of work required by the contract documents are increased or decreased. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to contractor.
- Agreements between Contractor and Owner shall include an agreed unit price for removal of unsatisfactory soil and replacement with satisfactory soil material. Unsatisfactory soil excavation and disposal off-site and replacement with satisfactory fill material or engineered fill from off-site, as required.
- Agreements between Contractor and Owner shall include an agreed unit price for removal of unsatisfactory mass rock and replacement with satisfactory mass material. Mass rock excavation and disposal off-site and replacement with satisfactory fill material or engineered fill from off-site, as required.

012300 ALTERNATES

- No Alternates are proposed.

012500 SUBSTITUTIONS

- Proposed substitutions must be clarified and explained to the Owner and/or Architect whether they are for cause or convenience. Substitutions for cause are changes proposed by Contractor that are required due to changed project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms. Substitutions for convenience are changes proposed by Contractor or Owner that are not required in order to meet other project requirements but may offer advantage to Contractor or Owner.
- Substitutions for specified products shall be equal to those specified in composition, physical properties, color and texture and appearance, and environmental qualities. All substitutions shall be submitted to the Architect and/or Owner for review and approval prior to construction.
- Substitutions for specified materials and products shall be made only with prior approval from the Owner and/or Architect.
- Substitution requests shall be made in writing a minimum of 30 days before material is to be installed. Request will provide documentation that substituted product complies with all specified properties and performance of original component or material.
- Any cost savings will be returned to the Owner.
- No increase to cost will be allowed except with prior approval from the Owner and/or Architect.

012600 PAYMENT PROCEDURES

- Schedule of Values consistent with the Schedule of Values with preparation of Contractor's construction schedule. Arrange Schedule of Values consistent with format of AIA document G703.
- Review the Schedule of Values during change orders or construction change directives result in a change in the contract sum. Include at least one separate line item for each change order and construction change directive.
- Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and Contractor Manager and paid for by Owner. The date for each progress payment is indicated in the agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

013000 ADMINISTRATIVE REQUIREMENTS (MEANS AND METHODS)

- Balzer & Associates and their professional consultants will not have control of and will not be responsible for construction means, methods, sequences, or for safety precautions in connection with the work on this project or for the acts or omissions of the Contractor, Subcontractor, or any other persons performing any of the work on this project.
- Contractor shall be responsible for all construction means, methods, techniques, sequences, and procedures and for safety precautions and programs as they relate to the work of this project.

013100 SHOP DRAWINGS AND SUBMITTALS

- Shop drawings for materials shall be submitted to the Engineer/Architect and/or Owner for review prior to the start of fabrication or commencement of work.
- A list of proposed shop drawing submittals with a schedule of required approval dates shall be submitted to the Architect within ten (10) days of issuance of contract. Balzer & Associates shall have a minimum of ten (10) working days to review all shop drawings and submittals.
- Contractor shall provide three (3) printed copies of submittals and shop drawings or a digital copy. Digital copies are preferred.
- No portion of the contract drawings may be reproduced for submittal as shop drawings unless authorized by Balzer & Associates, in writing.
- Shop drawings shall bear the Contractor's stamp of approval, which shall constitute certification that they have verified all field measurements, construction criteria, materials, and similar data and have checked each drawing for completeness, coordination, and compliance with the contract documents. Unstamped submittals will be rejected without review.
- Changes to shop drawings that are re-submitted must be couched or otherwise clearly indicate the changes that have been made to a previously issued and reviewed drawing.
- Where shop drawings are required, Architect/Engineer shall not be liable for work performed without shop drawings approved by their office.
- On each submittal, clearly indicate deviations from requirements in the contract documents, including minor variations and limitations.
- Shop drawings for sprinkler systems must clearly state they comply with the current adopted version of the National Fire Protection Agency (NFPA) code.
- Shop drawings for fire alarm systems must clearly state they comply with the current adopted version of the National Fire Protection Agency (NFPA) code.

014000 QUALITY REQUIREMENTS

- All materials shall be free from defects impairing strength, durability, or appearance.
- All work shall be coordinated with other trades in order to avoid interference and preserve maximum headroom and clearances.
- Subcontractors, before starting their work shall check and verify their particular related requirements for compliance along with measurements, surface levels, and surface conditions near and about their work. It will be concluded that each Subcontractor understands and knows exactly what will be required. Commencement of work signifies acceptance of existing conditions as satisfactory.
- Layout all portions before beginning construction to prevent errors by discrepancy, all portions will be installed as noted on the drawings. Do not scale the drawings.
- Each Contractor is responsible for first class workmanship and will assume all responsibility for the care and protection of their own work and materials from damage. They will make good any damage to their own or other work caused by themselves or workmen employed by them.

014100 REGULATORY REQUIREMENTS & APPLICABLE CODES

- All construction must comply with all governing codes.
- Contractor will abide by local area standards and related Occupational Safety and Health Administration (OSHA) standards for the safety of their employees on site. Balzer & Associates and their professional consultants will be held harmless by the Owner, Contractor and related awarded trades, on this project for accidents or injuries caused or accrued on this property during the construction of this project.
- All designs, construction, materials, and workmanship shall comply with the governing building code(s), as a minimum level of construction detail and quality. All work included in the construction of this project shall comply with all applicable provisions of the code(s). By commencing construction, contractor acknowledges understanding of the code(s) and agrees to incorporate all required elements, whether indicated within the documents or not.
- All areas shall be accessible in accordance with governing codes and amendments and applicable sections of the current "Accessible and Usable Buildings and Facilities" (ICC A117.1) accessibility guidelines.

014339 MCKUPS

- None.

015000 TEMPORARY WORK

- Contractor shall be responsible for the design, engineering, permitting and erection of all temporary scaffolding, hoists, bracing, form work, sheeting, shoring, and underpinning necessary to perform the work.
- Temporary bracing, sheeting, shoring, and similar temporary work, required to ensure the structural integrity/stability of the existing building, sidewalks, utilities, and similar building elements during construction shall be designed by a professional Engineer licensed in the Commonwealth of Virginia.
- Contractor shall be responsible for all necessary temporary utilities and support facilities necessary to complete the work. All required fees for temporary services shall be included in the contract.
- Provide any necessary temporary construction required to maintain Owner/Tenant/Patron use of the existing property outside of the limits of construction. Work required to maintain temporary egress patterns shall comply with applicable governing building code(s) and current version of "Accessible and Usable Buildings and Facilities" (ICC A117.1) guidelines, unless specifically approved by the local authority having jurisdiction.
- Provide a secure staging and material storage area adjacent to the area of construction. Location shall be coordinated with the Owner's requirements.
- Provide temporary barriers to separate construction areas for public safety around entire perimeter of construction area.
- Provide periodic inspection of temporary barriers, barricades, enclosures, and temporary fencing to ensure their continuity and integrity.

015200 CONSTRUCTION FACILITIES

- The Contractor shall protect all existing or newly installed finish work and surfaces from damage during construction and shall replace and/or repair all damaged surfaces caused by contractor or subcontractor personnel to the satisfaction of the Owner.
- All Contractor and Sub-Contractors performing work on the premises shall be responsible for installing, maintaining, and supervising a reasonable and prudent safety program including but not limited to the isolation of work areas and the prompt removal of any debris or tools which might endanger site visitors and staff of the owner.

017700 EXECUTION AND CLOSURE REQUIREMENTS (SUBSTANTIAL COMPLETION AND FINAL COMPLETION)

- For final clean up and deconstruct, remove debris, rubbish, and waste material from the property to a lawful disposal area as required by local, state, and federal laws, regulations and codes. Failure to comply with these requirements shall be cause for termination of contract. All construction areas shall be left vacuum-clean and free from debris. Clean all dust, dirt, stain, hand marks, paint spots, droppings, and other blemishes. After all other work is completed and just prior to turning the space over to the Owner, the Construction Manager will employ the services of a professional cleaning services to clean and wash down all installed equipment, service areas, and along the cleaning of all glass window/door surfaces prior to occupancy.
- In case of conflict between installed, waste material, litter, and other foreign substances.
- Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- Remove debris and surface dust from limited-access spaces, including rooms, plenums, shafts, trenches, equipment vaults, manholes, elets, and similar spaces.
- Clean flooring, removing debris, dirt, and staining; clean according to manufacturer's recommendations.
- Vacuum and mop concrete.
- Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
- Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other removable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
- Remove labels that are not permanent.
- Remove all mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure. Replace all mechanical system filters with new filters (but before final air balance testing).
- Contractor's list of incomplete items: prepare and submit a list of items to be completed and corrected (Contractor's "Punch List"), indicating the value of each item on the list and reasons why the work is incomplete.
- Advise Owner of pending insurance changeover requirements.
- Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
- Complete start-up and testing of systems and equipment.
- Perform preventive maintenance on equipment used prior to substantial completion.
- Advise Owner of changeover in utility services.
- Advise Owner of changeover in maintenance and walkthrough with local emergency responders.
- Terminate and remove temporary facilities from project site, along with lockups, construction tools, and similar elements.
- Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.

017823 OPERATION AND MAINTENANCE DATA

- Organize warranties and manuals into an orderly sequence based on the sequence of the outline specifications or table of contents of project manual.
- Provide a warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- Warranties in paper form: bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and divide to create 8-12" by 11" inch cover.

017839 PROJECT RECORD DOCUMENTS

- All project completion Contractor shall provide one (1) complete set of as-built drawings indicating all discrepancies, changes, variance and/or deviation from the construction documents, and actual drawings of concealed work, and full collection of warranties and operation instructions, prior to final payment.
- Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
- Accurately record information in an acceptable drawing technique.
- Record data as soon as possible after obtaining it.
- Record and check the marking before enclosing concealed installations.
- Cross-reference record prints to corresponding photographic documentation.
- Types of items requiring marking include, but are not limited to, the following:
 - Dimensional changes to drawings.
 - Revisions to details shown on drawings.
 - Depth of foundations.
 - Locations and depths of underground utilities.
 - Revisions to routing of piping and conduits.
 - Revisions to electrical circuitry.
 - Actual equipment locations.
 - Duct size and routing.
 - Locations of concealed internal utilities.
 - Changes made by change order or change directive.
 - Changes made following architect's written orders.
 - Details not on the original contract drawings.
 - Field records for variable and concealed conditions.
 - Record information on the work that is shown only schematically.
 - Mark important additional information that was either shown schematically or omitted from original drawings.

017900 DEMONSTRATION AND TRAINING

- Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
- Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.

024000 DEMOLITION

- Refer to the demolition plans and general notes for additional notes.

033000 CAST-IN-PLACE CONCRETE (REFER STRUCTURAL NOTES FOR ADDITIONAL INFORMATION)

- Interior slabs shall have vapor barrier to be ASTM E 1745, class A, not less than 15 mils thick. Vapor barrier shall be applied to exterior outside face of exterior walls. All penetrations and seams shall be sealed with membrane manufacturer approved tape and/or sealant. Contractor shall inspect with special inspector (as required) immediately before concrete placement to ensure integrity of membrane.
- Form slabs to be depressed when necessary to accommodate finished floor system with no change in finished floor elevation to adjacent floor systems. Floor materials may include raised wood floor mats, tile, carpet, or similar finishes.

065000 COMMON WORK RESULTS FOR WOODS, PLASTICS, AND COMPOSITES

- Flush metal access panels shall be provided and installed wherever required by code or for the proper operation or maintenance of plumbing, mechanical or electrical equipment, whether or not indicated on the drawings. Coordinate size, location, fire rating, and type of access panels with other work.
- Contractor shall provide and install all egress, locking, blocking, and supporting brackets required for the installation of all casework, toilet accessories and all of floor-mounted or suspended mechanical and electrical equipment.
- All pipes, ducts, and bus ducts, which penetrate walls, ceilings, or floor construction, shall be installed to maintain the fire resistive rating and structural integrity of the assembly.
- All walls shall be adequately braced to resist all horizontal loads from wind, earth, and construction loads during installation and until such time as permanent anchorage is in place. Heavy compression equipment will not be allowed within a distance subtended by a 45-degree angle between the surface of the ground and any footing.

061000 ROUGH WOOD FRAMING (REFER TO STRUCTURAL NOTES FOR ADDITIONAL INFORMATION)

- Wood construction shall conform to the requirements of the American Institute of Timber Construction and the National Forest Products Association (National Design Specification for Wood Construction).
- Contractor to provide wall blocking for all sheathing, equipment, grab bars, mop holders, toolboxes, and similar accessories for firm support. Coordinate with all Contractor, Owner and equipment supplier requirements prior to enclosing framing.
- Wood treatment: pressure treat all sills and plates and any other wood in contact with masonry, concrete or ground, and as shown elsewhere on drawings. Pressure treatment shall comply with AWPA standards C2 and LP-22.
- Fasteners for preservative treated wood shall be hot-dipped zinc coated galvanized steel, stainless steel, silicon bronze, or copper.

072000 THERMAL AND MOISTURE PROTECTION

- Fiberglass batt insulation for concealed installations; kraft-faced thermal batt insulation complying with ASTM C665, type II, class C, with maximum flame spread of 25 and smoke development of 450 or less.
- Fiberglass batt insulation for exposed installations (including any facings), shall have a flame spread rating per current governing code. Insulation shall be FSK (foam) or FSK (poly) faced fiberglass thermal batt insulation complying with the flame spread requirements listed above, or unfaced high density mineral fiber, with strapping as required be held in place.
- Provide 15mil vapor barrier under concrete slab on grade. Seal all joints and penetrations.

081130 METAL DOORS

- Doors to be minimum 2'-0" wide x 7'-0" tall unless otherwise noted.
- Exterior steel doors shall be ANSI/SI-100, grade III, extra heavy duty, minimum 16-gauge galvanized steel faces, seams welded and ground smooth. Label where indicated on schedule. Insulated core, R-5 minimum.
- Doors to be ANSI/SI-100, grade III, extra heavy duty, minimum 18-gauge galvanized faces, seams welded and ground smooth. Label where indicated on schedule.
- Do not paint or conceal labels of fire rated elements.
- Insulated glazing shall be (2) 1/4" thick float glass separated by a 1/2" dehydrated air space complying with ASTM E774. Temper units as required for non-insulated tempered units.
- Non-insulated glazing shall be 1/4" thick, ASTM 1036, type1, quality Q5.
- Tempered glazing shall be 1/4" thick, ASTM 1048, type 1, quality Q5, fully tempered.

081200 METAL FRAMES

- Exterior frames shall be fabricated from 16-gauge galvanized steel. Frames with welded corners for exterior doors, unless instructed by owner otherwise. Provide weatherstripping for exterior doors. All frames to achieve minimum 26-gauge mortar boxes in mortared in frames. Provide all anchorage devices as required for wall type. Anchors to be concealed type. Factory cut doors and frames for hardware installation.
- Interior frames shall be fabricated from 18-gauge. Knock-down type, unless instructed by owner otherwise. Provide sliders on exterior door frames. All frames to achieve minimum 26-gauge mortar boxes in mortared in frames. Provide all anchorage devices as required for wall type. Anchors to be concealed type. Factory cut doors and frames for hardware installation.
- Do not paint or conceal labels of fire rated elements.

081400 WOOD DOORS

- Interior wood doors shall be 1-3/4" thick, 5-ply, crossbanded construction, non-combustible core, premium grade wood face. Factory stain finish with satin polyurethane (matching edge) plain sliced white birch book match. Do not paint or conceal labels of fire rated elements. All doors and frames noted characteristically with fire rating characteristics shall be installed and maintained with clearly identifiable labels with UL information. All labels shall remain unpainted or tarnished.
- Interior non-rated wood doors shall be 1-3/4" thick, 7-ply, crossbanded construction, particle board core, premium grade wood face. Factory stain finish with satin polyurethane (matching edge) plain sliced white birch book match.
- Insulated glazing shall be (2) 1/4" thick float glass separated by a 1/2" dehydrated air space complying with ASTM E774. Temper units as required for non-insulated tempered units.
- Non-insulated glazing shall be 1/4" thick, ASTM 1036, type1, quality Q5.
- Tempered glazing shall be 1/4" thick, ASTM 1048, type 1, quality Q5, fully tempered.

081700 DOOR HARDWARE

- Provide a three (3) year warranty for materials and workmanship.
- Provide "lever style" handles. Hardware shall be heavy duty commercial custom grade. All handles to be permanently mounted to minimum height of 36" above finished floor or 36" above finished floor thresholds to comply with governing accessibility code.
- Unless otherwise noted, all hinges shall be 5-knuckle. Hinge pins in exterior doors shall be non-removable.
- Provide door stops for all openings unless otherwise noted. Wall mounted door stops shall be provided with blocking and their location confirmed based on proposed door hardware. Floor mounted door stops shall be equipped with neers as necessary based on proposed floor finishes and shall be located to ensure adequate clearance between door hardware and face of partition or other obstruction.
- Interior doors shall be equipped with sliders unless otherwise noted.
- Hardware finish shall be identified among manufacturer's standard finishes and selected by Owner and/or Architect. Finishes shall be brushed nickel unless otherwise noted.
- All locks to be master keyed to selected system. Coordinate with Owner for master/sub-master keying.

083000 MIRRORS

- Provide a five (5) year warranty for materials and workmanship.
- Comply with ASTM C1503, manufactured using a copper-free low-lead mirror coating process.
- Provide flat polished mirror edges with aluminum channel hardware.
- Provide concealed mounting hardware system adequate to carry weight of mirror bearing on supporting framing.

092000 GYPSUM BOARD (WALLS AND CEILINGS)

- Gypsum board and wood assemblies shall be secured to studs at spacing indicated by gypsum board manufacturer with fasteners specified by same. Provide steel steel zinc coated by hot dip process trim accessories complying with ASTM C1047. Trim includes corner bead, L-bead, screw heads, and irregularities. Sand smooth. Provide moisture resistant board for all bathing and damp areas, and in laundry and janitor rooms. Provide cementitious board in all wet areas. Provide metal control joints so that linear dimensions between control joints do not exceed 30 feet and total area between control joints do not exceed 900 square feet, "buttered all outside corners and all interior gypsum corners." Subcontractor shall provide a finish level consistent with required fire rating (if any), or finish level 1-4 level of finish is otherwise specified.
- All exposed gypsum board installations shall have a level 4 finish.
- All exposed gypsum board installations scheduled to receive high gloss paint finishes shall have a level 5 finish.
- All concealed gypsum board installations shall have a finish level consistent with required fire rating (if any), or finish level 1-4 level of finish is otherwise specified.

092116-23 GYPSUM BOARD SHAT WALL ASSEMBLIES

- Refer to code summary, life safety plans, building plans, and UL assembly for fire-resistance rating requirements.
- If possible, provide STC rating minimum of 51 based on manufacturers standard installation methods.
- Gypsum shall have fire boards shall be moisture and mold resistant type-X.
- Installation shall be with fustop tracks to allow movement, sound attenuation blankets, and all required trim accessories, screws, track fasteners, removers, and cans as required.

093000 CERAMIC TILE

- Floor and wall tile shall be glazed vitreous or impervious natural clay or porcelain tile, 12"x12"x1/4" (nominal) unless otherwise noted.
- Floor tile and transitions shall be accessibility compliant for slip resistance, with base and cap sizes as noted in drawings.
- Trim shapes shall include all elements necessary to install a complete system and shall include base, bead (bullnose) base cap, surface bullnose base cap, bead (bullnose) wainscot cap, surface bullnose wainscot cap, bead (bullnose) external corner, surface bullnose external corner, covered interior corner, and tapered transitions.
- Thresholds may be granite or marble.
- Provide and install metal edge strips at open ends of tile installations.
- Color selection shall be made by Owner and Contractor from manufacturer's full range.
- Porcelain tile, impervious. Cushion edges.
- Installation in wet areas (shower and toilet rooms) to have a fabric-reinforced, liquid applied, or sheet waterproofing.
- Lay in suspended ceiling systems shall comply with requirements of listed applicable codes.
- Participate with Owner in conducting inspections and walkthrough with local emergency responders.
- Beginning of final installation signifies installer's and manufacturer's acceptance of substrate conditions as required to maintain finish material warranties.

093100 ACOUSTIC CEILING TILE

- Acoustic ceiling tile basic design shall be 24"x24"x3/4" unless otherwise shown in reflected ceiling plans if provided, finished, white, acoustically absorbent, type II with painted finish, NRC = 0.75, AC = 170, CAC = 26, light reflectance = 88%, installed in exposed tile system or equal, 15/16" wide, flat/flush face design, pre-finished white color.
- Washable acoustic ceiling tile to be equal systems bearing matching compatible characteristics of acoustical ceiling tile electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- Suspension system to be intermediate or heavy-duty type as required by ceiling loads due to fixtures and air diffusers. Hang independently of walls, columns, ducts, pipes, and conduit. Non-perforated lay-in tiles in high humidity areas.
- Install in suspended ceiling systems shall comply with requirements of listed applicable codes.
- No tile shall be less than 6" inches in any direction. Rabbit cut regular edge style tiles to match factory rabble.
- Cross runners and all main runners not connected to walls must be interconnected near the free and with a metal strut securely attached to prevent spreading.
- All ceiling wires and conductors shall be run in and cross runners within 8" of ceiling perimeter.
- Hangers wires that are more than 1 in 6 out of plumb shall have counterweighted wires.
- Ceiling grid may be attached to 2 adjacent walls, ceiling must be at least 12 inch free of other walls. If walls run diagonally to ceiling grid system runners, one end of main and cross runners shall be free and a minimum of 1/2 inch clear of wall.
- A set of four, 12-gauge spay wires shall be provided at a spacing not more than 12 feet by 12 feet on center. First set of spay wires shall be located not more than one half the above distances from the perimeter walls. Wires shall be but not permitted unless previously approved.
- All ceiling wires and conductors shall be run in and similar infrastructure must be separated.
- All light fixtures shall be positively attached to the grid to resist a horizontal force equal to the weight of the fixtures.
- Flush or recessed light fixtures and air terminals or services weighing less than 50 pounds may be supported on heavy ceiling grid, but shall be supported by a 12-gauge steel plate. Recessed light fixtures are not acceptable.
- Flush or recessed light fixtures and air terminals or services weighing more than 50 pounds must be independently supported by not less than a 4x4 12-gauge steel plate capable of supporting 4 times the load.
- Revisions to routing of piping and conduits to be made by Owner. Recessed light fixtures are not acceptable.
- Pendant mounted light fixtures shall be supported directly to the structure above with hanger wires through each pendant capable of supporting 4 times the load.
- Provide flush access panels in gypsum board ceiling as required. Paint to match ceiling. Coordinate locations & sizes with mechanical, plumbing, and electrical requirements.
- Provide extra stock of 5% of each acoustical material installed, clearly marked to indicate contents and location used.

096500 RESILIENT FLOORING: VINYL COMPOSITE TILE (VCT)

- Basic-of-design shall be 12"x12", 1/8" thick, class 2, smooth surface, with compatible standard VCT adhesive or equal. Color selection shall be made by Owner and Contractor from manufacturer's full range.
- Product to be resistant to impact, static, and rolling. VCT shall be manufactured in accordance with ASTM specification F1068, class 2, and shall be asbestos-free.
- Tile to be through patterned for carpet construction.
- Product shall offer a limited 5-year commercial warranty against manufacturing defects.
- Provide extra stock of 2% in each color, clearly marked to indicate contents and location used.
- Beginning of final installation signifies installer's and manufacturer's acceptance of substrate conditions as required to maintain finish material warranties.

096513 RESILIENT BASE AND ACCESSORIES

- Provide and install vinyl thermoplastic wall base minimum thickness 1/8" with be formed inside and outside corners. Base shall be 4" high minimum.
- Straight base shall be installed in areas with carpet and/or raised access floors. Cove base shall be installed in areas with resilient floor.
- Accessories to wall base and/or flooring shall include caps, coves, carpet bars, carpet edges, nosing for carpet, nosing for resilient floors, reducer strips, pavers for tile and carpet, and transition strips.
- Provide and install vinyl thermoplastic stair components and accessories. Treads shall have embossed surface patterns with contrasting colors. Nosing style shall be adjustable to cover angles between 60 and 90 degrees. Risers shall be separate.
- Doors and frames: exterior paint for doors and frames; provide 1 coat all surface enamel latex primer and 2 coats all surface latex enamel high gloss. Color per elevations.
- Color selections shall be chosen by Owner from manufacturer's full range.
- Product shall offer a limited 5-year commercial warranty against manufacturing defects.
- Provide extra stock of 2% in each color, clearly marked to indicate contents and location used.

098000 CARPET

- Carpet to be minimum 16 oz. per square yard, accessibility compliant with materials and workmanship warranty for 10 years.
- Carpet tiles shall be 100 percent nylon 6, cut pile, and 24 by 24 inches unless otherwise noted. Color, pattern, and tile arrangement to be selected by Architect and submitted to Owner for approval prior to construction.
- Underlayment to be 1/8" thick, 100% virgin VOC's (volatile organic compounds).
- Provide extra stock of 2% in each color, clearly marked to indicate contents and location used.
- Beginning of final installation signifies installer's and manufacturer's acceptance of substrate conditions as required to maintain finish material warranties.

099000 PAINTS AND COATINGS

- Interior walls and exterior walls of exterior walls shall be painted, consisting of (1) coat of primer and (2) coats of interior finish latex, unless otherwise noted.
- Paints utilized shall meet the following specifications:
 - Exterior paint: utilize alkyl enamel semi-gloss finish paint. Provide one coat primer and two coats finish.
 - Interior paint: utilize paint materials containing 0% VOC's (volatile organic compounds), consisting of (1) coat interior latex primer and (2) coats of latex finish.
 - Doors and frames: exterior paint for doors and frames; provide 1 coat all surface enamel latex primer and 2 coats all surface latex enamel high gloss. Color per elevations.
- Provide extra stock of 2% in each color and type, clearly marked to indicate contents and location used.

014233 PANEL SIGNAGE

- Panel signs with exposed edges shall be solid-sheet sign and returns made from fiberglass, or PVC sheet with surface-applied, relief graphics. Panel sign mounting shall be surface mounted with concealed anchors, adhesive, hook-and-loop, or magnetic tie.
- Field-applied, vinyl-character signs shall be pre-spaced characters die cut from adhesive-backed, weather-resistant vinyl film, field applied to substrate.

012113-17 PHENOLIC-CORE TOILET COMPARTMENTS

- Toilet partitions shall be overhead braced or equal, solid phenolic core with melamine facing on both sides, without visible glue line or seam, with eased edges and with minimum 3/4-inch thick doors and plasters and minimum 1/2-inch thick panels and screens. Provide lateral bracing as recommended by manufacturer.
- Color and pattern as selected by Owner. Unless otherwise indicated, 24-inch-wide swinging doors for standard toilet compartments and 36-inch-wide out-swinging doors with a minimum 30-inch-wide clear opening for compartments indicated to be accessible to people with disabilities.
- Urinal screens to be wall hung. All fasteners to be stainless steel. Plaster shoes and sleeves to be stainless steel, not less than 3 inches high.
- Provide institutional hardware.
 - Hinges: set hinges on in-swinging doors to hold open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors and swing doors in entrance screens to return to fully closed position.
 - Latches and keepers: surface-mounted unit designed for emergency access and with combination rubber-faced door strike and keeper.
 - Door lock: combination hook and rubber-tipped bumper, used to prevent door from hitting compartment-mounted accessories.
 - Door bumper: rubber-tipped bumpers at out-swinging doors or entrance screen doors.
- Doors to be minimum 2'-0" wide x 7'-0" tall unless otherwise noted.

04416 FIRE EXTINGUISHERS

- Portable hand-carried rating dry-chemical type fire extinguishers shall comply with NFPA 10 and UL-rated 4-A-B0-b.c. 10B capacity with standard mounting brackets.
- For fire extinguishers with framed partitions provide and install a finished space between partitions and provide a non-removable cabinet full panel, panel, acrylic door glazing, stainless steel with 1-1/2" square trim. Where cabinets are located in fire rated walls or partitions, provide fire rated cabinets.

113013 RESIDENTIAL APPLIANCES

- All new appliances shall be Energy Star certified if available.
- Unless specified otherwise all appliances shall be provided and installed by the Contractor.
- Panel finishes shall be consistent for all appliances, unless otherwise noted.
- Refrigerator/freezer shall be freestanding, two-door, side-by-side with manufacturer's standard front panel finishes.

125000 FURNISHINGS

- Interior office work (equipment, displays, and similar systems provided by the owner) to be designed by others under separate contract.

123300 CASEWORK

- The casework subcontractor shall provide a complete set of casework shop drawings to the Contractor for review and reference pertaining to the construction of the project. These shop drawings shall be considered as an integral part of the construction documents of the project.
- The fabricator shall be responsible for field verification of all dimensions and site conditions.
- All casework items shall be furnished to the jobsite in prefabricated condition (i.e. stained, sealed, laminated, and similar finish) and shall be ready for installation.
- Provide submittals for color and finish samples.
- Cabinets shall be KCMA A161.1 certified with flush overlay face style construction meeting Architectural Woodworkers Institute (AWI) custom grade standards unless otherwise noted. This includes the structural requirements set forth in the current edition of ANSI/AWI 0641 (adopted by the AWI) for casework frames, doors, shelves, drawers and drawers.
- Exposed cabinet and finishes shall be plastic laminate. Concealed casework surfaces may be finished at the discretion of the fabricator.
- Drawer and door hardware shall be accessibility compliant 4" wire pulls with brushed nickel finish, unless otherwise noted.
- Door hinges shall be 120 degree opening press-in cup, steel nickel plate, three dimensional, independent depth, side and height adjustment concealed self-closing mechanisms.
- Shelf clip hardware shall be angled with riveted pin nickel plated, unless otherwise noted.
- Fabricator shall provide and install door bumpers as required.
- Filler panels shall be provided where a cabinet shroud a return panel. Filler shall also be provided where cabinet lines turn corners, sized such that the door and drawer operation around the corner without interference from the adjoining pieces.
- Surfacing shall be melamine surface laminated plastic. Sheet backing panels shall be of similar material and thickness, without decorative finish. Core material shall be 3/4" thick medium density particleboard; minimum weight 40 lbs per cubic foot. Countertops shall be fabricated in single lengths up to 12'-0", countertops over 12'-0" length shall have hairline joint. All edges of each fixture and booth, sharp, correct for

DESIGN LOAD
SCHEDULE (2021 IBC)

DEAD LOADS:	
FRAMED FLOOR DEAD LOAD:	15 psf
LIVE LOADS:	
SECOND FLOOR LIVE LOAD (OPEN OFFICE):	65 psf
WIND LOAD DESIGN CRITERIA:	
ULTIMATE DESIGN WIND SPEED:	115 mph
NOMINAL DESIGN WIND SPEED:	85 mph
RISK CATEGORY:	II
EXPOSURE:	B
SEISMIC LOADS:	
SITE CLASS:	D
SEISMIC DESIGN CATEGORY:	B
DESIGN ALLOWABLE SOIL BEARING CAPACITY:	
1500 psf (ASSUMED)	

HEADER SCHEDULE

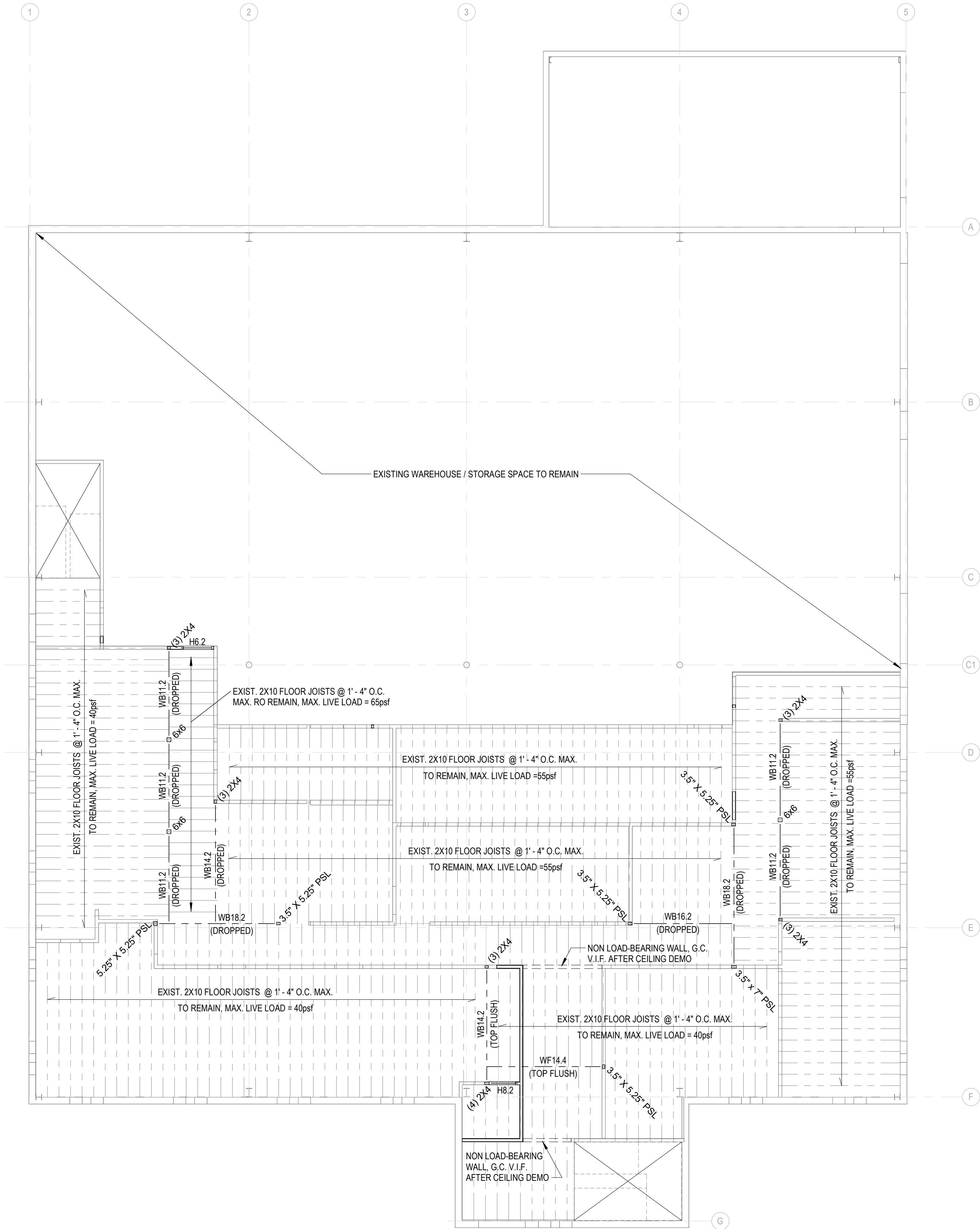
MARK	SIZE	FASTENING	MINIMUM BEARING	REMARKS
H6.2	(2) 2X6	(2) 10d (0.128" X 3") @ 12" O.C.	(1) JACK & (1) KING STUD	DIMENSIONAL LUMBER
H8.2	(2) 2X8	(2) 10d (0.128" X 3") @ 12" O.C. E.F.	(2) JACK & (1) KING STUD	DIMENSIONAL LUMBER

WOOD BEAM SCHEDULE

MARK	SIZE	FASTENING	MINIMUM BEARING	REMARKS
WB11.2	(2) 1-3/4 x 11-7/8 LVL	(2) 1/4" X 3-1/2" SDS @ 16" O.C.	(3) JACK STUD	ENGINEERED WOOD
WB14.2	(2) 1-3/4 x 14 LVL	(2) 1/4" X 3-1/2" SDS @ 16" O.C.	(3) JACK STUD	ENGINEERED WOOD
WB16.2	(2) 1-3/4 x 16 LVL	(2) 1/4" X 3-1/2" SDS @ 16" O.C.	(3) JACK STUD	ENGINEERED WOOD
WB18.2	(2) 1-3/4 x 18 LVL	(3) 1/4" X 3-1/2" SDS @ 16" O.C.	(4) JACK STUD	ENGINEERED WOOD

- GENERAL WOOD FLOOR FRAMING NOTES:**
- DRAWINGS HAVE BEEN PREPARED IN ACCORDANCE WITH THE 2021 INTERNATIONAL BUILDING CODE.
 - DRAWINGS PROVIDED SOLELY FOR THE MODIFICATION OF THE EXISTING SECOND FLOOR FRAMING AND ITS SUPPORTS.
 - EXISTING DIMENSIONAL LUMBER FLOOR JOISTS SHALL REMAIN AS NOTED ON PLAN. EXISTING FLOOR SYSTEM IS APPROVED FOR THE LIVE LOADS NOTED ON EACH SPAN.
 - PROVIDE 24/16 SPAN-RATED 23/32" OSB T&G FLOOR SHEATHING. PANELS TO BE LAID WITH THE LONG DIRECTION PERPENDICULAR TO FLOOR JOISTS AND SHALL BE FASTENED W/ CONSTRUCTION ADHESIVE & SIMPSON WSN/TL (OR EQ.) COLLATED SCREWS @ 6" O.C. ALONG PANEL EDGES & 12" O.C. @ INTERMEDIATE SUPPORTS (6/12 PATTERN). INSTALL BLOCKING AT PANEL EDGES IF/WHERE CALLED OUT ON PLANS. TYPICAL DIAPHRAGM ATTACHMENT THIS LEVEL.
 - REFER TO THE "AMERICAN PLYWOOD ASSOCIATION CONSTRUCTION GUIDE" FOR ADDITIONAL SHEATHING INSTALLATION INFORMATION.
 - UNLESS NOTED OTHERWISE, ALL WOOD CONNECTORS AND HANGERS SHALL BE FASTENED TO ACHIEVE MAXIMUM LOAD CAPACITY. GENERAL CONTRACTOR SHALL CONSULT MANUFACTURER SPECIFICATIONS FOR FASTENER REQUIREMENTS .
 - SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN.

- GENERAL WOOD WALL FRAMING NOTES:**
- ALL NEW LOAD-BEARING WALLS THIS LEVEL TO BE SPF#1/2 OR BETTER 2X4 STUDS AT 16" O.C. MAX. SPACING, U.N.O.
 - EXISTING SLAB AND FOUNDATION HAVE BEEN REVIEWED AND DETERMINED ACCEPTABLE FOR THE FRAMING MODIFICATIONS PROVIDED IN THIS DRAWING.
 - ALL LOAD BEARING WALLS NOTED FOR DEMOLITION SHALL BE REPLACED WITH NEW WOOD FRAMED BEAMS AND POSTS AS SHOWN. SHOULD G.C. DETERMINE ADDITIONAL WALLS NOTED FOR DEMOLITION TO BE LOAD BEARING, CONTACT STRUCTURAL ENGINEER.
 - ALL HEADERS IN 2X6 WOOD FRAMED WALLS NOT LABELED OTHERWISE SHALL BE (2) 2X6.
 - SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN.



1 SECOND FLOOR
S1.01 1/8" = 1'-0"



**BALZER
& ASSOCIATES**
a **Westwood** company

Roanoke / Richmond
New River Valley
Shenandoah Valley
www.balzer.cc
1208 Corporate Circle
Roanoke, VA 24018
540.772.9580



33321 SHENANDOAH AVENUE
INTERIOR RENOVATIONS
FRAMING PLAN

DRAWN BY **WCH**
DESIGNED BY **WCH**
CHECKED BY **MJF**
DATE **06-27-2025**
SCALE **As indicated**
REVISIONS

S1.01
PROJECT NO 0326008.00 /
R0062206.00

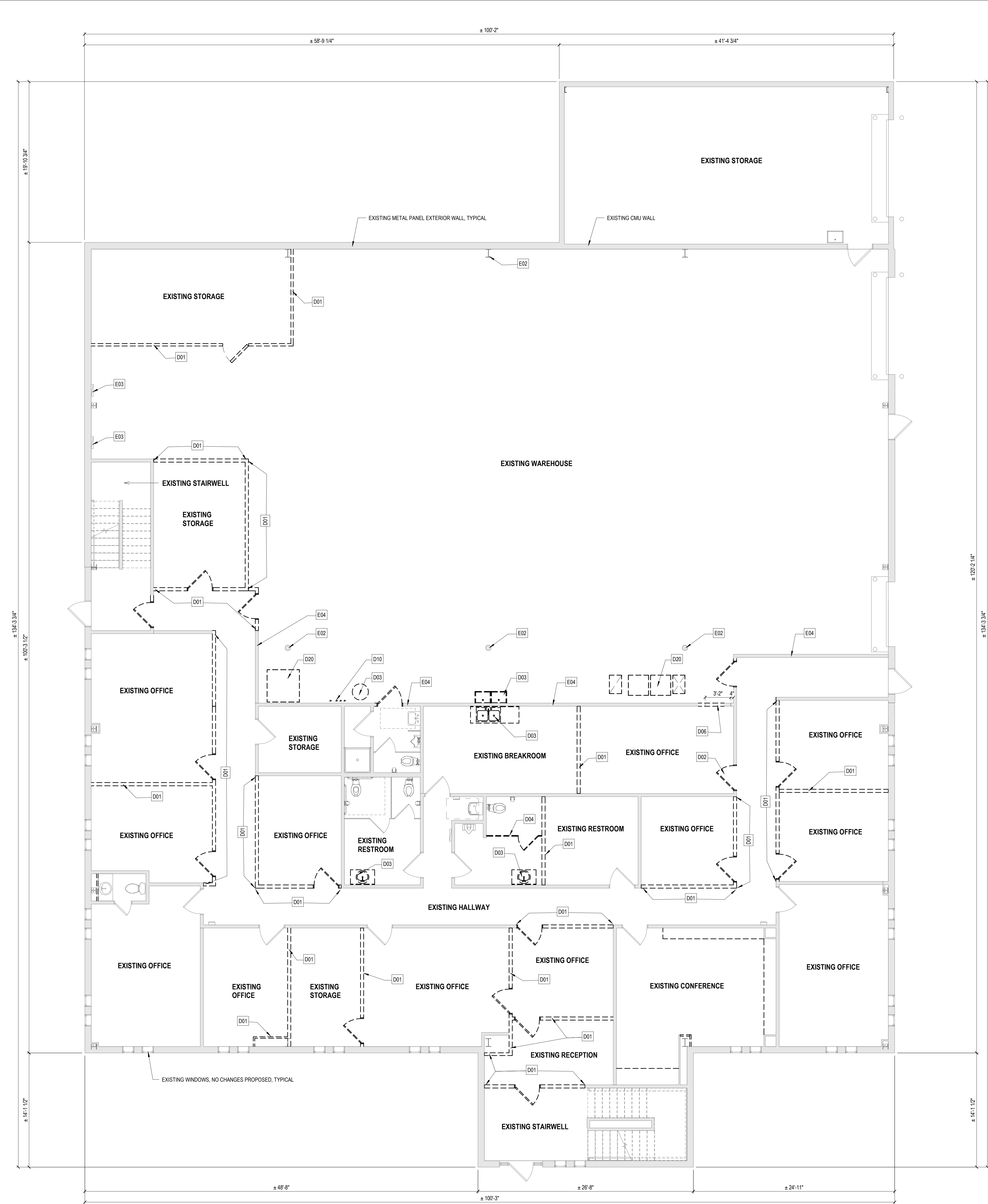
1. THE PROJECT DOES NOT REQUIRE AN ASBESTOS SURVEY BECAUSE IT WAS CONSTRUCTED AFTER JANUARY 1st, 1985.
2. THE PROJECT DOES NOT REQUIRE A LEAD-BASED MATERIAL SURVEY BECAUSE IT WAS CONSTRUCTED AFTER 1978.

1. REPAIR DAMAGES CAUSED TO ADJACENT FACILITIES BY DEMOLITION WORK.
2. REPAIR DRYWALL WHERE CASEWORK AND TRIM ARE REMOVED.
3. MAINTAIN CONTINUITY OF FINISHED SURFACE WITH LIKE QUALITIES AND CONSTRUCTION AND WITH LIKE FINISHES.
4. RESTORE EXPOSED FINISHES OF PATCHED AREAS AND WHERE NECESSARY EXTEND FINISH RESTORATION INTO RETAINED ADJOINING WORK IN A MANNER WHICH WILL ELIMINATE EVIDENCE OF PATCHING AND REFINISHING.
5. DO NOT CUT AND PATCH WORK IN A MANNER THAT WOULD RESULT IN SUBSTANTIAL VISUAL EVIDENCE OF CUT AND PATCH WORK.
6. USE MATERIALS FOR CUTTING AND PATCHING THAT ARE IDENTICAL TO EXISTING MATERIALS.
7. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION AND RESTORATION WORK WITH OWNERS. USE MATERIALS FOR PATCHING THAT ARE IDENTICAL TO EXISTING MATERIALS.

1. OPENINGS TO BE CLOSED IN EXISTING FIRE OR SMOKE WALLS SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION AND TO MAINTAIN THE INTEGRITY OF THE WALL. TYPICAL FOR ALL WORK DONE IN AREAS WHERE NEW WORK IS BEING DONE.

1. THESE DEMOLITION PLAN DRAWINGS ARE INTENDED TO SHOW THE GENERAL CONDITIONS WHICH ARE EXPECTED TO OCCUR. VERIFY ALL CONDITIONS BEFORE PROCEEDING WITH THE DEMOLITION WORK. WHERE DISCREPANCIES INVOLVE STRUCTURAL ITEMS, REPORT SUCH DIFFERENCES AND SECURE INSTRUCTIONS BEFORE PROCEEDING IN THE AFFECTED AREA.
2. DEMOLITION ITEMS SHOWN ARE INTENDED TO BE NON-STRUCTURAL ITEMS ONLY. THE CONTRACTOR SHALL INSPECT ALL ITEMS TO BE DEMOLISHED PRIOR TO DEMOLITION TO ENSURE ITEMS ARE NOT STRUCTURAL ELEMENTS. NOTIFY ARCHITECT/ENGINEER IMMEDIATELY AND PRIOR TO DEMOLITION FOR ANY ITEMS THAT APPEAR TO BE STRUCTURAL/LOAD-BEARING.
3. A PROFESSIONAL ENGINEER SHALL BE CONSULTED IN ALL CASES WHERE CUTTING INTO AN EXISTING STRUCTURAL PORTION OF ANY BUILDING IS EITHER EXPEDIENT OR NECESSARY. PRIOR TO PROCEEDING WITH WORK. PRIOR TO CUTTING INTO STRUCTURAL PORTIONS OF ANY BUILDING SHALL PROVIDE REINFORCEMENT AND/OR SUPPORT SATISFACTORY TO THE PROFESSIONAL ENGINEER.

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ARCHITECT AND COORDINATE INSPECTIONS (IF REQUIRED) BY STATE AGENCIES AND MEET ANY APPLICABLE CODE FOR REUSE OF EXISTING PLUMBING FIXTURES, DIFFUSERS AND DUCTWORK.
2. REMOVE ALL EXISTING NON-COMPLIANT GROUND-FAULT CIRCUIT INTERRUPTED OUTLETS.
3. REMOVE ALL EXISTING BROKEN OR PAINTED OUTLET COVER PLATES.
4. AFTER REMOVAL OF PLUMBING FIXTURES, CAP WASTE LINES BELOW FLOOR SLAB AND SUPPLY LINES ABOVE CEILING.
5. AT ALL AREAS WHERE MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT IS REMOVED, PROPERLY CAP AND TERMINATE ALL UTILITIES AS REQUIRED BY ALL PREVAILING NATIONAL AND LOCAL CODES.



FIRST FLOOR DEMOLITION PLAN
1
D1.01
3/16" = 1'-0"

HAZARDOUS MATERIALS NOTES

ACCORDING TO ROANOKE CITY TAX RECORDS THE PRIMARY BUILDING WAS CONSTRUCTED IN 1992.

GENERAL REPAIR NOTES

- REPAIR DAMAGES CAUSED TO ADJACENT FACILITIES BY DEMOLITION WORK.
- REPAIR DRYWALL WHERE CASEWORK AND TRIM ARE REMOVED.
- MAINTAIN CONTINUITY OF FINISHED SURFACE WITH LIKE QUALITIES AND CONSTRUCTION AND WITH LIKE FINISHES.
- RESTORE EXPOSED FINISHES OF PATCHED AREAS AND WHERE NECESSARY EXTEND FINISH RESTORATION INTO RETAINED ADJOINING WORK IN A MANNER WHICH WILL ELIMINATE EVIDENCE OF PATCHING AND REFINISHING.
- DO NOT CUT AND PATCH WORK IN A MANNER THAT WOULD RESULT IN SUBSTANTIAL VISUAL EVIDENCE OF CUT AND PATCH WORK.
- USE MATERIALS FOR CUTTING AND PATCHING THAT ARE IDENTICAL TO EXISTING MATERIALS.
- THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION AND RESTORATION WORK WITH OWNERS. USE MATERIALS FOR PATCHING THAT ARE IDENTICAL TO EXISTING MATERIALS.

DEMOLITION KEYNOTES

- D01 REMOVE PORTION OF WALL
- D02 REMOVE DOOR, INFILL OPENING
- D03 REMOVE EXISTING PLUMBING FIXTURES AND CAP PIPES WITHIN WALL OR BELOW FLOOR
- D04 REMOVE TOILET PARTITION
- D05 REMOVE FLOOR AND RAILINGS
- D06 REMOVE PORTION OF WALL AS NEEDED FOR NEW DOOR
- D10 REMOVE EXISTING PIPE AS REQUIRED TO INSTALL NEW FIRE BARRIER
- D20 REMOVE EXISTING MECHANICAL EQUIPMENT
- D30 REMOVE EXISTING RAILINGS, TYPICAL

EXISTING MATERIALS KEYNOTES

- E01 EXISTING HVAC EQUIPMENT TO REMAIN
- E02 EXISTING STEEL COLUMN TO REMAIN, TYP
- E03 EXISTING ELECTRICAL PANEL TO REMAIN
- E04 EXISTING NON-FIRE-RATED INTERIOR WALLS, TYPICAL

GENERAL DEMOLITION FINISH NOTES

- PATCH AND REPAIR TO MATCH EXISTING CEILINGS, FLOORS, OR WALL FINISHES. SUPPLIED BY THE OWNER AND BASED ON FIELD INVESTIGATIONS. THE ARCHITECT MAKES NO WARRANTY EITHER EXPRESSED OR IMPLIED, FOR THE ACCURACY OR COMPLETENESS OF THE EXISTING INFORMATION RECORDED. VERIFY ALL EXISTING CONDITIONS. NOTIFY ARCHITECT OF ANY DISCREPANCIES FOR CLARIFICATION PRIOR TO PROCEEDING WITH WORK.
- MOST DEMO ITEMS HAVE BEEN NOTED ON PLAN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DEMOLISH ANY ITEMS NOT NECESSARILY NOTED BUT INTENDED TO BE REMOVED AND PREPARE EXISTING ITEMS TO REMAIN FOR NEW WORK. PROVIDE ALL NECESSARY BARRICADES AND OTHER FORMS OF PROTECTION AS REQUIRED TO PROTECT THE GENERAL PUBLIC FROM INJURY DUE TO DEMO WORK.
- WHERE ITEMS ARE TO BE REMOVED THE CONTRACTOR SHALL BE CAUTIONED NOT TO DAMAGE ITEMS THAT ARE TO BE RETAINED BY THE OWNER OR RELOCATED. ALL EXPOSED OR DAMAGED AREAS, AFTER REMOVAL OF ITEMS, SHALL BE REPAIRED.
- DEMOLITION WORK WILL BE GOVERNED BY THE EXTENT OF THE NEW CONSTRUCTION INVOLVED. CONTRACTOR WILL VERIFY AND COORDINATE DEMOLITION WORK WITH RESPECT TO THE NEW CONSTRUCTION. CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE START OF WORK.
- REMOVAL OF EXISTING EQUIPMENT, PIPING, DUCTS, AND SIMILAR UTILITIES SHALL INCLUDE ALL ANCHORS, HANGERS, AND OTHER ACCESSORIES. AFTER REMOVAL, FLOORS, WALLS, AND CEILINGS SHALL BE FINISHED TO MATCH ADJOINING SURFACES OR SHALL BE PREPARED TO RECEIVE NEW FINISHES AS INDICATED IN THE NEW FINISH SCHEDULE.
- MATCH THICKNESS OF EXISTING WALL AND CEILING FINISH MATERIAL WHERE PATCHING AND REPAIRING IS REQUIRED.
- COORDINATE DEMOLITION PLANS WITH PLANS FOR NEW CONSTRUCTION FOR EXTENT OF REMOVAL. REMOVE ONLY THOSE PORTIONS OF WALLS AND FLOORS NECESSARY TO ACCOMMODATE THE NEW CONSTRUCTION. TAKE REASONABLE CARE IN REMOVAL OF ITEMS TO BE RELOCATED AND REUSED.
- THE CONTRACTOR SHALL CHECK ALL EXISTING CORRIDOR WALLS IN THESE AREAS OF RENOVATION FOR OPENINGS. ANY OPENINGS SHALL BE CLOSED TIGHT AS REQUIRED. TO MATCH EXISTING CONSTRUCTION AND TO MAINTAIN NEW OR EXISTING WALL RATING. THIS IS TYPICAL FOR ALL WORK DONE IN AREAS WHERE RENOVATION IS BEING DONE.
- ALL WALLS SHOWN BY DASHED LINES ARE TO BE REMOVED COMPLETELY, ALONG WITH DOORS AND FRAMES. ELECTRICAL ITEMS, PLUMBING FIXTURES, CASEWORK, AND SIMILAR INFRASTRUCTURE SHALL BE REMOVED FOR CONSTRUCTION ON NEW FLOOR PLANS. GENERALLY, ROOMS OUTSIDE OF THE LIMITS OF CONSTRUCTION ARE NOT TO HAVE ANY WORK DONE IN THEM WITH THE EXCEPTION OF FLOOR OR CEILING TO BE PATCHED OR REPAIRED FOR INSTALLATION OF NEW WORK. THE CONTRACTOR SHALL USE THE EXISTING FLOOR OR CEILING MATERIAL FOR REPAIR. SALVAGED FROM AREAS WHERE EXISTING MATERIALS ARE REMOVED OR ALL THE NEW MATERIAL IN A ROOM, IF NECESSARY, THAT MATCH EXISTING FINISHES.
- ALL EXISTING DIMENSION NOTES ON THIS PLAN ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS PRIOR TO NEW WORK. IF THE CONTRACTOR FINDS ANY DISCREPANCY BETWEEN THE EXISTING CONDITION AND DRAWING, THE CONTRACTOR MUST NOTIFY THE ARCHITECT IMMEDIATELY AND REQUEST CLARIFICATION.
- THE CONTRACTOR MUST REMOVE EXISTING FINISHES AS NECESSARY PRIOR TO THE INSTALLATION OF NEW FINISHES.
- ALL FLOORS AND WALLS OF EXISTING AREAS THAT WILL BE AFFECTED BY CONSTRUCTION PROCEDURES INCLUDING DEBRIS REMOVAL MUST RECEIVE PROTECTION. DUST BARRIERS MUST BE INSTALLED BETWEEN WORK AREAS, UNDISTURBED AREAS, AND OCCUPIED SPACES.
- PROVIDE TEMPORARY SHORING OF EXISTING STRUCTURE ABOVE AS REQUIRED WHERE ANY EXISTING LOAD BEARING ELEMENTS (OR PORTION OF) ARE TO BE REMOVED AS REQUIRED BY FLOOR PLAN. PROVIDE NEW HEADER/STRUCTURE/INFILL PER NEW FLOOR PLAN. REPAIR/PATCH WALLS/FLOOR/CEILING AS REQUIRED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING BUT NOT LIMITED TO: TEMPORARY/PERMANENT BEAMS AND UNTELS; SHORING OF EXISTING CONSTRUCTION; AND FOR SAFETY PRECAUTIONS AND PROGRAMS AS THEY RELATE TO THE WORK OF THIS PROJECT.
- ALL DEMOLISHED MATERIAL SHALL BE REMOVED FROM SITE UNLESS NOTED OTHERWISE.

GENERAL SALVAGE NOTES

- SALVAGE AND REUSE AND/OR RECYCLE MATERIALS AS NOTED IN CONSTRUCTION DRAWINGS AND CONTRACTS.
- COORDINATE WITH THE OWNER'S REPRESENTATIVE THE SALVAGE OF LIGHT FIXTURES, FURNISHINGS, DOORS, AND MISCELLANEOUS EQUIPMENT.
- CARE SHALL BE TAKEN IN REMOVAL OF REUSED ITEMS THAT CAN BE RELOCATED. RETURN TO OWNER ALL OTHER ITEMS.
- ALL ITEMS WHICH ARE HUNG ON WALLS TO BE DEMOLISHED (BULLETIN BOARDS, ILLUMINATORS, FIRE EXTINGUISHERS, OR SIMILAR FURNISHINGS) SHALL BE OFFERED TO THE OWNER. ITEMS NOT DESIRED BY THE OWNER SHALL BE REMOVED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ANY MATERIAL BEING REMOVED THAT ARE TO BE STORED FOR REUSE IN CONSTRUCTION OR FUTURE USE BY THE OWNER.

GENERAL FIRE RATING DEMOLITION NOTES

- OPENINGS TO BE CLOSED IN EXISTING FIRE OR SMOKE WALLS SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION AND TO MAINTAIN THE INTEGRITY OF THE WALL. TYPICAL FOR ALL WORK DONE IN AREAS WHERE NEW WORK IS BEING DONE.

GENERAL STRUCTURAL DEMOLITION NOTES

- THESE DEMOLITION PLAN DRAWINGS ARE INTENDED TO SHOW THE GENERAL CONDITIONS WHICH ARE EXPECTED TO OCCUR. VERIFY ALL CONDITIONS BEFORE PROCEEDING WITH THE DEMOLITION WORK. WHERE DISCREPANCIES INVOLVE STRUCTURAL ITEMS, REPORT SUCH DIFFERENCES AND SECURE INSTRUCTIONS BEFORE PROCEEDING IN THE AFFECTED AREA.
- DEMOLITION ITEMS SHOWN ARE INTENDED TO BE NON-STRUCTURAL ITEMS ONLY. THE CONTRACTOR SHALL INSPECT ALL ITEMS TO BE DEMOLISHED PRIOR TO DEMOLITION TO ENSURE ITEMS ARE NOT STRUCTURAL ELEMENTS. NOTIFY ARCHITECT/ENGINEER IMMEDIATELY AND PRIOR TO DEMOLITION FOR ANY ITEMS THAT APPEAR TO BE STRUCTURAL/LOAD-BEARING.
- A PROFESSIONAL ENGINEER SHALL BE CONSULTED IN ALL CASES WHERE CUTTING INTO AN EXISTING STRUCTURAL PORTION OF ANY BUILDING IS EITHER EXPEDIENT OR NECESSARY. PRIOR TO PROCEEDING WITH WORK. PRIOR TO CUTTING INTO STRUCTURAL PORTIONS OF ANY BUILDING SHALL PROVIDE REINFORCEMENT AND/OR SUPPORT SATISFACTORY TO THE PROFESSIONAL ENGINEER.

GENERAL MECHANICAL, ELECTRICAL AND PLUMBING DEMOLITION NOTES

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ARCHITECT AND COORDINATE INSPECTIONS (IF REQUIRED) BY STATE AGENCIES AND MEET ANY APPLICABLE CODE FOR REUSE OF EXISTING PLUMBING FIXTURES, DIFFUSERS AND DUCTWORK.
- REMOVE ALL EXISTING NON-COMPLIANT GROUND-FAULT CIRCUIT INTERRUPTED OUTLETS.
- REMOVE ALL EXISTING BROKEN OR PAINTED OUTLET COVER PLATES.
- AFTER REMOVAL OF PLUMBING FIXTURES, CAP WASTE LINES BELOW FLOOR SLAB AND SUPPLY LINES ABOVE CEILING.
- AT ALL AREAS WHERE MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT IS REMOVED, PROPERLY CAP AND TERMINATE ALL UTILITIES AS REQUIRED BY ALL PREVAILING NATIONAL AND LOCAL CODES.

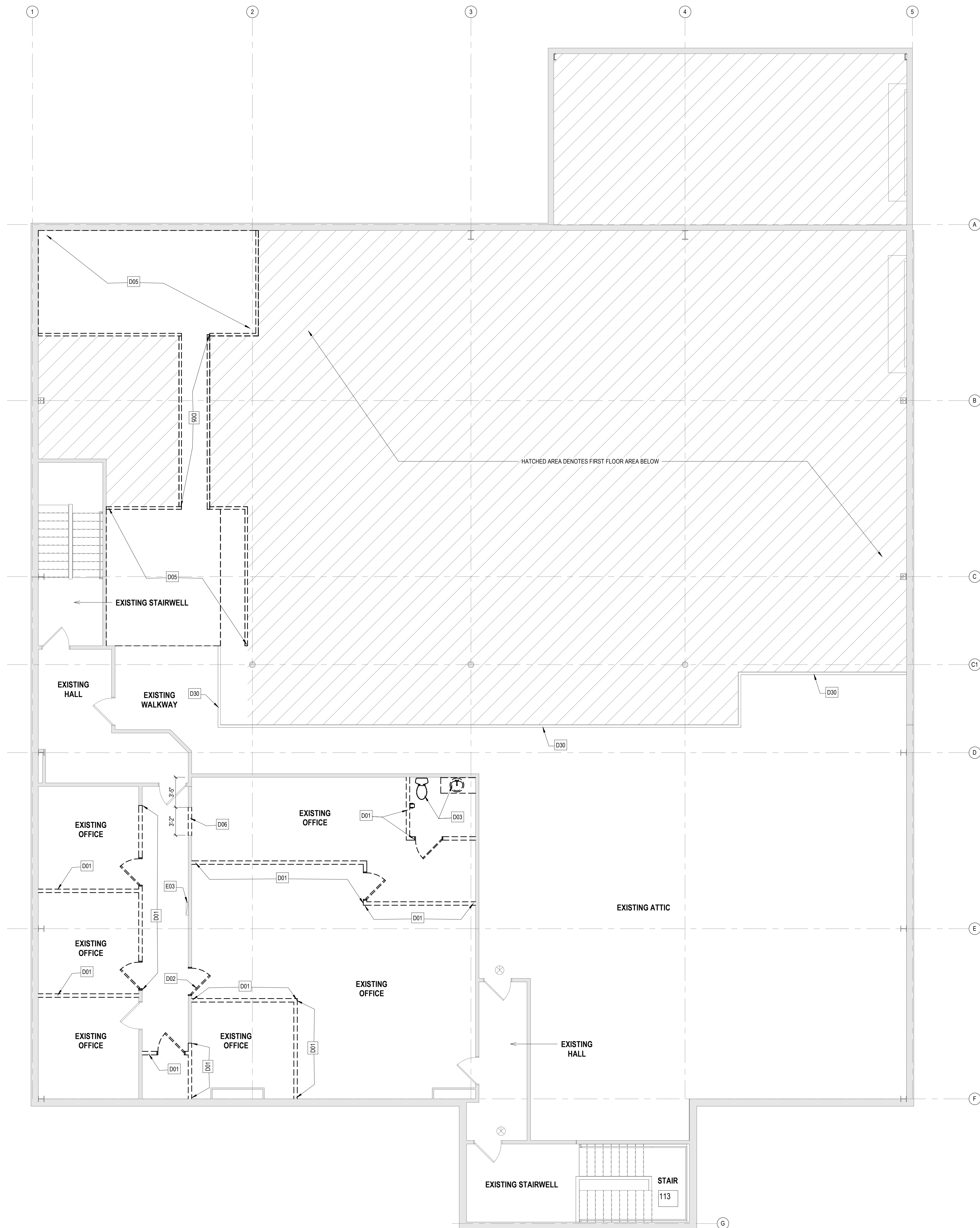
GENERAL DEMOLITION NOTES

- DRAWINGS OF EXISTING CONDITIONS HAVE BEEN COMPILED FROM EXISTING DATA SUPPLIED BY THE OWNER AND BASED ON FIELD INVESTIGATIONS. THE ARCHITECT MAKES NO WARRANTY EITHER EXPRESSED OR IMPLIED, FOR THE ACCURACY OR COMPLETENESS OF THE EXISTING INFORMATION RECORDED. VERIFY ALL EXISTING CONDITIONS. NOTIFY ARCHITECT OF ANY DISCREPANCIES FOR CLARIFICATION PRIOR TO PROCEEDING WITH WORK.
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- MATCH THICKNESS OF EXISTING WALL AND CEILING FINISH MATERIAL WHERE PATCHING AND REPAIRING IS REQUIRED.
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- ALL FLOORS AND WALLS OF EXISTING AREAS THAT WILL BE AFFECTED BY CONSTRUCTION PROCEDURES INCLUDING DEBRIS REMOVAL MUST RECEIVE PROTECTION. DUST BARRIERS MUST BE INSTALLED BETWEEN WORK AREAS, UNDISTURBED AREAS, AND OCCUPIED SPACES.
- PROVIDE TEMPORARY SHORING OF EXISTING STRUCTURE ABOVE AS REQUIRED WHERE ANY EXISTING LOAD BEARING ELEMENTS (OR PORTION OF) ARE TO BE REMOVED AS REQUIRED BY FLOOR PLAN. PROVIDE NEW HEADER/STRUCTURE/INFILL PER NEW FLOOR PLAN. REPAIR/PATCH WALLS/FLOOR/CEILING AS REQUIRED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING BUT NOT LIMITED TO: TEMPORARY/PERMANENT BEAMS AND UNTELS; SHORING OF EXISTING CONSTRUCTION; AND FOR SAFETY PRECAUTIONS AND PROGRAMS AS THEY RELATE TO THE WORK OF THIS PROJECT.
- ALL DEMOLISHED MATERIAL SHALL BE REMOVED FROM SITE UNLESS NOTED OTHERWISE.

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FIBER NETWORK SERVICES
CHANGE-OF-USE & INTERIOR RENOVATIONS
FIRST FLOOR DEMOLITION PLAN
3371 SHENANDOAH AVENUE
ROANOKE, VIRGINIA 24017
DRAWN BY MFK, STC, JR3
DESIGNED BY RWP
CHECKED BY RWP, JR3
DATE 2025-06-27
SCALE As indicated
REVISIONS



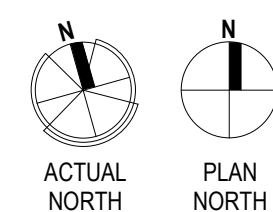
DEMOLITION KEYNOTES

- | | |
|-----|--|
| D01 | REMOVE PORTION OF WALL |
| D02 | REMOVE DOOR, INFILL OPENING. |
| D03 | REMOVE EXISTING PLUMBING FIXTURES AND CAP PIPES WITHIN WALL OR BELOW FLOOR |
| D04 | REMOVE TOILET PARTITION |
| D05 | REMOVE FLOOR AND RAILINGS |
| D06 | REMOVE PORTION OF WALL AS NEEDED FOR NEW DOOR |
| D10 | REMOVE EXISTING PIPE AS REQUIRED TO INSTALL NEW FIRE BARRIER |
| D20 | REMOVE EXISTING MECHANICAL EQUIPMENT |
| D30 | REMOVE EXISTING RAILINGS, TYPICAL |

EXISTING MATERIALS KEYNOTES

- E01 EXISTING HVAC EQUIPMENT TO REMAIN
E02 EXISTING STEEL COLUMN TO REMAIN, TYP
E03 EXISTING ELECTRICAL PANEL TO REMAIN
E04 EXISTING NON-FIRE-RATED INTERIOR
WALLS, TYPICAL

SECOND FLOOR DEMOLITION PLAN



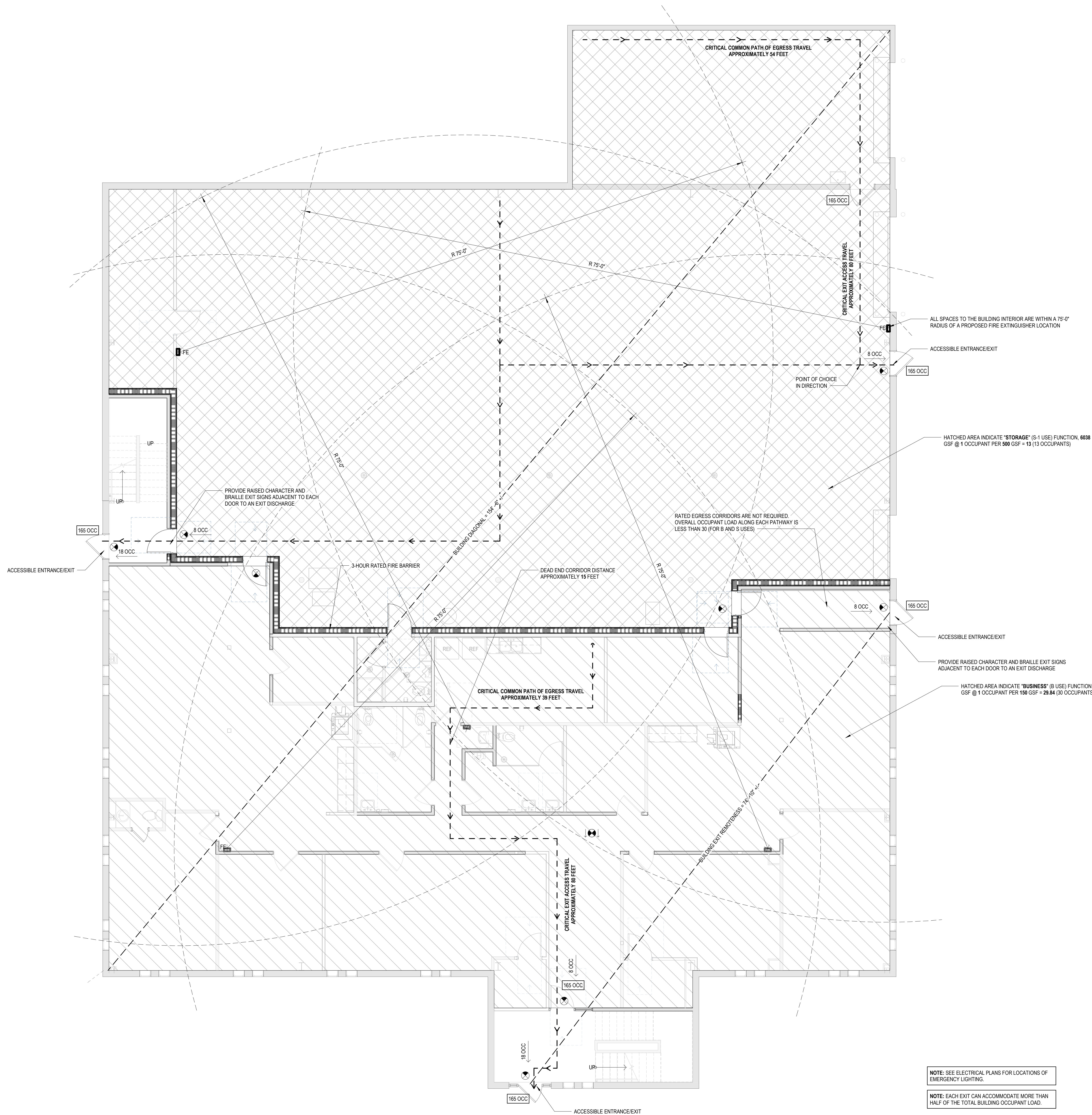
FIRE RATING GENERAL NOTES

1. ALL PIPES, DUCTS AND BUSS DUCTS, WHICH PENETRATE THE WALLS, CEILINGS, OR FLOOR CONSTRUCTION DESIGNATED AS FIRE RATED ASSEMBLIES, SHALL BE INSTALLED SO AS TO MAINTAIN THE FIRE RESISTIVE RATING AND STRUCTURAL INTEGRITY OF THE ASSEMBLY.
2. SEE ELECTRICAL DRAWINGS FOR ALL EMERGENCY LIGHTING, AND SIMILAR ACCESSORIES.
3. SEE CODE ANALYSIS FOR MEANS OF EGRESS REQUIREMENTS.



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NOTE: SEE ELECTRICAL PLANS FOR LOCATIONS OF EMERGENCY LIGHTING.

NOTE: EACH EXIT CAN ACCOMMODATE MORE THAN HALF OF THE TOTAL BUILDING OCCUPANT LOAD.

FIRST FLOOR LIFE SAFETY PLAN

FIBER NETWORK SERVICES
CHANGE-OF-USE & INTERIOR RENOVATIONS
LIFE SAFETY PLAN

3321 SHENANDOAH AVENUE
ROANOKE, VIRGINIA 24017

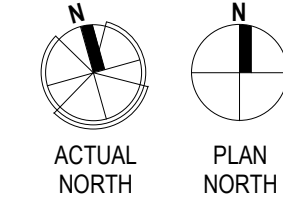
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DESIGNED BY	RWP
CHECKED BY	RWP, JR3
DATE	2025-06-27
SCALE	As indicated
REVISIONS	

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1 FIRST FLOOR RENOVATION PLAN



PLAN TAG 1-4 / W1-4.21 / W1-4.21(-)-(-)

BASIC INTERIOR WOOD FRAMED SYMMETRICAL PARTITION

CEILING LINE

TOP PLATES

SCHEDULED CEILING, SEE REFLECTED CEILING PLAN(S) FOR TYPE AND ELEVATIONS

WOOD STUDS

GYPSUM WALL BOARD EACH SIDE, CONTINUOUS TO TOP OF THE WALL, SECURE TO STUDS WITH NO 8 SCREWS AT 8\"/>

3 1/2\"/>

5/8\"/>

5/8\"/>

FLOOR LINE

WOOD STUDS

PLAN

STRUCTURE	WOOD STUDS, 3-1/2\"/>
TYPE	STANDARD INTERIOR
FINISH	5/8\"/>
FIRE RATING	NONE
STC RATING	NONE
COMMENTS	NONE

TAG 2-4 / W2-4.23 / W2-4.23(-)-(-)

BASIC INTERIOR WOOD FRAMED ASYMMETRICAL FURRING/CHASE

CEILING LINE

TOP PLATES

SCHEDULED CEILING, SEE REFLECTED CEILING PLAN(S) FOR TYPE AND ELEVATIONS

WOOD STUDS/FURRING

3 1/2\"/>

5/8\"/>

5/8\"/>

FLOOR LINE

GYPSUM WALL BOARD, CONTINUOUS TO TOP OF THE WALL, SECURE TO STUDS WITH NO 8 SCREWS AT 8\"/>

PLAN

STRUCTURE	WOOD FURRING, 3-1/2\"/>
TYPE	FURRING / CHASE
FINISH	5/8\"/>
FIRE RATING	NONE
STC RATING	NONE
COMMENTS	NONE

- WALL PRIORITY LEGEND**
- (HIGHEST PRIORITY)
- 1 - 2 HOUR FIRE AND SMOKE WALL
 - 2 - 2 HOUR FIRE AND 2 HOUR SHAFT WALL
 - 3 - 1 HOUR FIRE AND SMOKE WALL
 - 4 - 1 HOUR FIRE WALL
 - 5 - NON-RATED (LOWEST PRIORITY)
- LOWER PRIORITY PARTITION
- HIGHER PRIORITY PARTITION
- GENERAL PARTITION NOTES**
1. INSTALL CONTINUOUS BLOCKING FRAMING AT ALL DROP FRAMED CEILING LEVEL(S) AS REQUIRED.
 2. INSTALL CONTINUOUS BLOCKING FRAMING AT MID-HEIGHT OF ALL STUD WALLS GREATER THAN 10'-0" HIGH AS REQUIRED BASED ON MANUFACTURER SPECIFICATIONS.
 3. ALL PARTITIONS SHALL BE FINISHED PER FINISH SCHEDULE.
 4. ALL STUD WALLS NOT EXTENDED TO UNDERSIDE OF ROOF DECK AND TALLER THAN 8'-0" ABOVE FINISHED FLOOR SHALL BE BRACED AT TOP AT 4'-0" ON CENTER WITH EITHER STUD "KICKERS" OR STUDS EXTENDED UP TO ROOF STRUCTURE FOR ANY WALL GREATER THAN 10'-0" IN LENGTH.
 5. ALL GYPSUM WALL BOARD WALL INTERSECTING EXTERIOR WALLS SHALL BE GLUED TO END STUDS AND SEALED AT WALL JOINT CONTINUOUS WITH ACOUSTICAL SEALANT.
 6. PRESSURE-TREATED BOTTOM PLATE REQUIRED AT ALL WOOD FRAMED WALLS RESTING ON SLAB-ON-GRADE OR CONCRETE AND/OR MASONRY THAT IS IN DIRECT CONTACT WITH GROUND.
 7. INFORMATION ON THE PARTITION SCHEDULE IS TO BE USED IN CONJUNCTION WITH FLOOR PLANS, REFLECTED CEILING PLANS, INTERIOR ELEVATIONS AND SECTIONS.
 8. EXTERIOR ENVELOPE IS NOT SCHEDULED. REFER TO SECTIONS AND DETAILS FOR TYPICAL BUILDING EXTERIOR WALL DESCRIPTION.
 9. ALL SINGLE-LAYER GYPSUM BOARD WALLS CONTINUOUS AND CONTIGUOUS WITH MULTI-LAYER GYPSUM BOARD WALLS SHALL MAINTAIN ONE CONTIGUOUS OUTER LAYER OF GYPSUM BOARD AT THE SAME FACE OF FINISH. STUDS AND FURRING CHANNELS SHALL BE OFFSET ACCORDINGLY.
 10. PARTITION TYPES ARE CONTINUOUS ACROSS DOOR AND WINDOW OPENINGS AND AROUND CORNERS UNLESS OTHERWISE NOTED.

- GENERAL PARTITION DEFLECTION NOTES**
1. ALL STUD WALLS EXTENDED TO UNDERSIDE OF ROOF STRUCTURE (DECK OR JOISTS) SHALL UTILIZE A DEFLECTION-TYPE TOP CONNECTION WHICH ALLOWS ROOF DEFLECTION.
 2. LIMITING HEIGHTS OF GYPSUM BOARD PARTITIONS ARE AS PUBLISHED FOR THE U.S. GYPSUM BOARD PRODUCTS FOR MAXIMUM L/240 DEFLECTION AT 5 PSF LATERAL LOAD. VERIFY ACTUAL LIMITING HEIGHT FOR APPROVED MANUFACTURERS PRODUCTS. WHERE SCHEDULED PARTITION EXCEEDS LIMITING HEIGHT, INSTALLERS SHALL ADD BRACING ELEMENTS (ABOVE CEILING) OR DECREASE STUD SPACING, AND/OR GAUGE AS REQUIRED TO MAINTAIN L/240 DEFLECTION CRITERIA.
 3. INSTALLERS SHALL CONFIRM ALLOWABLE DEFLECTIONS FOR FINISH MATERIALS APPLIED TO STUD PARTITIONS. WHERE ALLOWABLE DEFLECTION OF FINISH MATERIALS IS LESS THAN DEFLECTION OF SCHEDULED PARTITION, STUD SPACING AND/OR GAUGE SHALL BE ADJUSTED TO CONFORM TO FINISH MATERIAL DEFLECTION REQUIREMENTS.
 4. ALLOWABLE DEFLECTION FOR ALL PARTITIONS SCHEDULED TO RECEIVE CERAMIC TILE IS L/360 MAXIMUM.
- GENERAL FIRE RATED PARTITION NOTES**
1. REFER TO UL RATINGS FOR ADDITIONAL NOTES AND/OR REQUIREMENTS.
 2. ALL PIPES, DUCTS, AND/OR EQUIPMENT WHICH PENETRATE FLOOR OR PARTITION CONSTRUCTION SHALL BE INSTALLED SO AS TO MAINTAIN THE FIRE RESISTIVE RATING AND STRUCTURAL INTEGRITY OF THE BUILDING.
- GENERAL MOISTURE RESISTANT PARTITION NOTES**
1. PROVIDE MOISTURE RESISTANT GYPSUM BOARD IN ALL WET OR DAMP SPACES.
 2. MOISTURE RESISTANT GYPSUM BOARD SHALL BE USED AT ALL GYPSUM WALL BOARD PARTITIONS SCHEDULED TO RECEIVE CERAMIC TILE. PARTITIONS IN KITCHEN AREAS, AND AT ALL TOILET ROOM PARTITIONS.
 3. PROVIDE TILE BACKER BOARD IN LIEU OF GYPSUM WALL BOARD BEHIND ALL WALL TILE. SEE INTERIOR DETAILS FOR TILE LOCATIONS.

- GENERAL SOUND TRANSMISSION (STC) NOTES**
1. ALL GYPSUM WALL BOARD CORNER JOINTS SHALL BE SEALED.
 2. WHERE SOUND TRANSMISSION CLASS (STC) RATINGS ARE INDICATED, PROVIDE MATERIALS AND INSTALLATION IDENTICAL IN EVERY RESPECT TO MANUFACTURERS TESTED SYSTEM OF INDICATED RATING.
 3. FOR WALLS EXTENDING TO UNDERSIDE OF STRUCTURE ABOVE, SOUND-RATED INSULATION BLANKETS SHALL BE FULL HEIGHT OF PARTITION. FOR WALLS EXTENDING 6" ABOVE FINISH CEILING, LAY SOUND-RATED BLANKETS 24" FROM EACH SIDE OF PARTITION.
 4. ELECTRICAL OUTLET BOXES IN OPPOSITE FACES OF SOUND-RATED WALLS SHALL BE SEPARATED HORIZONTALLY BY A MINIMUM 24" BACKS AND SIDES OF BOXES TO BE SEALED WITH 1/8" RESILIENT SEALANT AND BACKED WITH 2" MINERAL FIBER INSULATION.
 5. APPROVED PERMANENT AND RESILIENT ACOUSTICAL SEALANT SHALL BE PROVIDED IN SOUND-RATED PARTITIONS ALONG THE JOINT BETWEEN THE FLOOR AND ALL SEPARATE WALLS.

- GENERAL FLOOR PLAN NOTES**
1. REFER TO ACCESSIBLE CLEARANCE INFORMATION FOR DOORS, CASEWORK, SITE WORK AND PLUMBING FIXTURES.
 2. SEE PARTITION SCHEDULE FOR WALLS THAT REQUIRE SOUND ATTENUATION BLANKETS AND/OR SPECIFIC SOUND WALL CONSTRUCTIONS.
 3. SEE FINISH DRAWINGS AND/OR SCHEDULE FOR SPECIFIC FINISH AND SURFACE PREPARATION REQUIREMENTS.
 4. SEE REFLECTED CEILING PLANS FOR SPECIFIC CEILING TYPES, HEIGHTS, DETAILS, LIGHTS, DIFFUSERS, AND SIMILAR CONSTRUCTION.
 5. SEE STRUCTURAL DRAWINGS FOR ANY MISCELLANEOUS FRAMING MEMBERS THAT ARE WITH WALL CONSTRUCTION ABOVE FINISH CEILING. INDICATE REINFORCEMENT REQUIREMENTS FOR CONCRETE BLOCK WALLS, AND SIMILAR STRUCTURAL ELEMENTS.
 6. REFER TO PLUMBING DRAWINGS FOR FLOOR DRAIN LOCATIONS. ENSURE CONCRETE SLAB AND APPLIED FINISHES ARE SLOPED TO DRAIN AS REQUIRED. ENSURE SMOOTH TRANSITIONS.
 7. PROVIDE BLOCKING FOR WALL MOUNTED ACCESSORIES AND EQUIPMENT AS REQUIRED.
 8. PROVIDE 6" STUDS AT WATER CLOSET WET WALLS UNLESS NOTED OTHERWISE.
 9. FRAME ROUGH OPENING SIZE ACCORDINGLY FOR DOORS/OPENINGS NOTED AS FUTURE.

- NEW WORK KEYNOTES**
- N01 NEW 8'-2" X 5'-2" CUBICLE (N01)
 - N02 NEW 9' X 4' STORAGE RACKS (N02)
 - N03 NEW INTERIOR COLUMN, SEE STRUCTURAL PLANS
 - N10 NEW BUILDING MOUNTED ACCESSIBLE PARKING STALL SIGN
 - N11 NEW ACCESSIBLE PARKING STALL AND ACCESS AISLE. INCLUDE A PARKING BLOCK FOR EACH PARKING SPACE.
- EXISTING MATERIALS KEYNOTES**
- E01 EXISTING HVAC EQUIPMENT TO REMAIN
 - E02 EXISTING STEEL COLUMN TO REMAIN, TYP
 - E03 EXISTING ELECTRICAL PANEL TO REMAIN
 - E04 EXISTING NON-FIRE-RATED INTERIOR WALLS, TYPICAL

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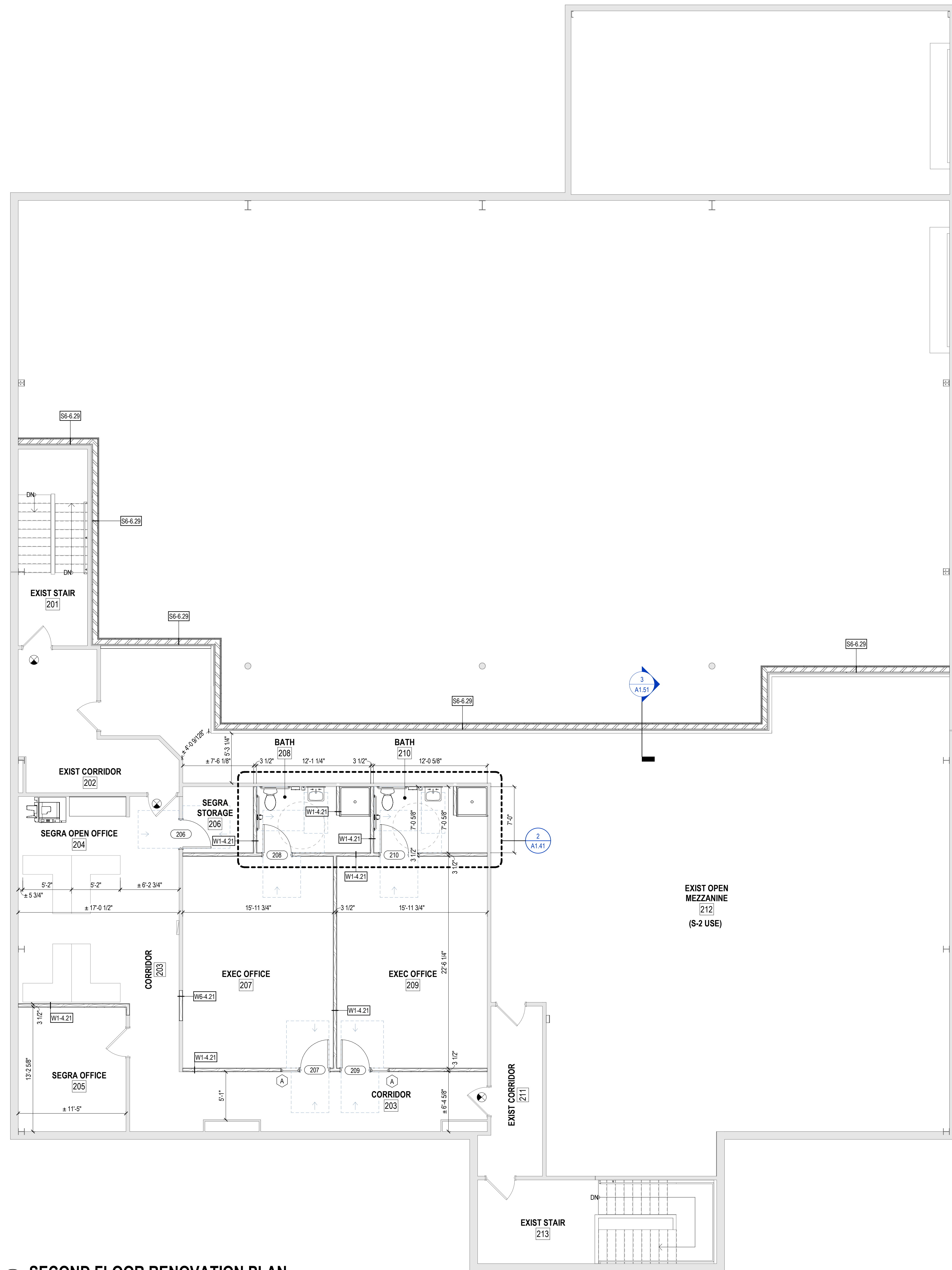
JAMES R. RUHLMAN III
Lic. No. 0401014487
2025-06-27
ARCHITECT

FIBER NETWORK SERVICES
CHANGE-OF-USE & INTERIOR RENOVATIONS
FIRST FLOOR RENOVATION PLAN & PARTITION SCHEDULE

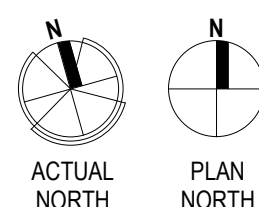
3337 SHENANDOAH AVENUE
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DRAWN BY MFK, STC, JR3
DESIGNED BY RWP
CHECKED BY RWP, JR3
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PROJECT NO 0325009.00



SECOND FLOOR RENOVATION PLAN



ROOM FINISH SCHEDULE

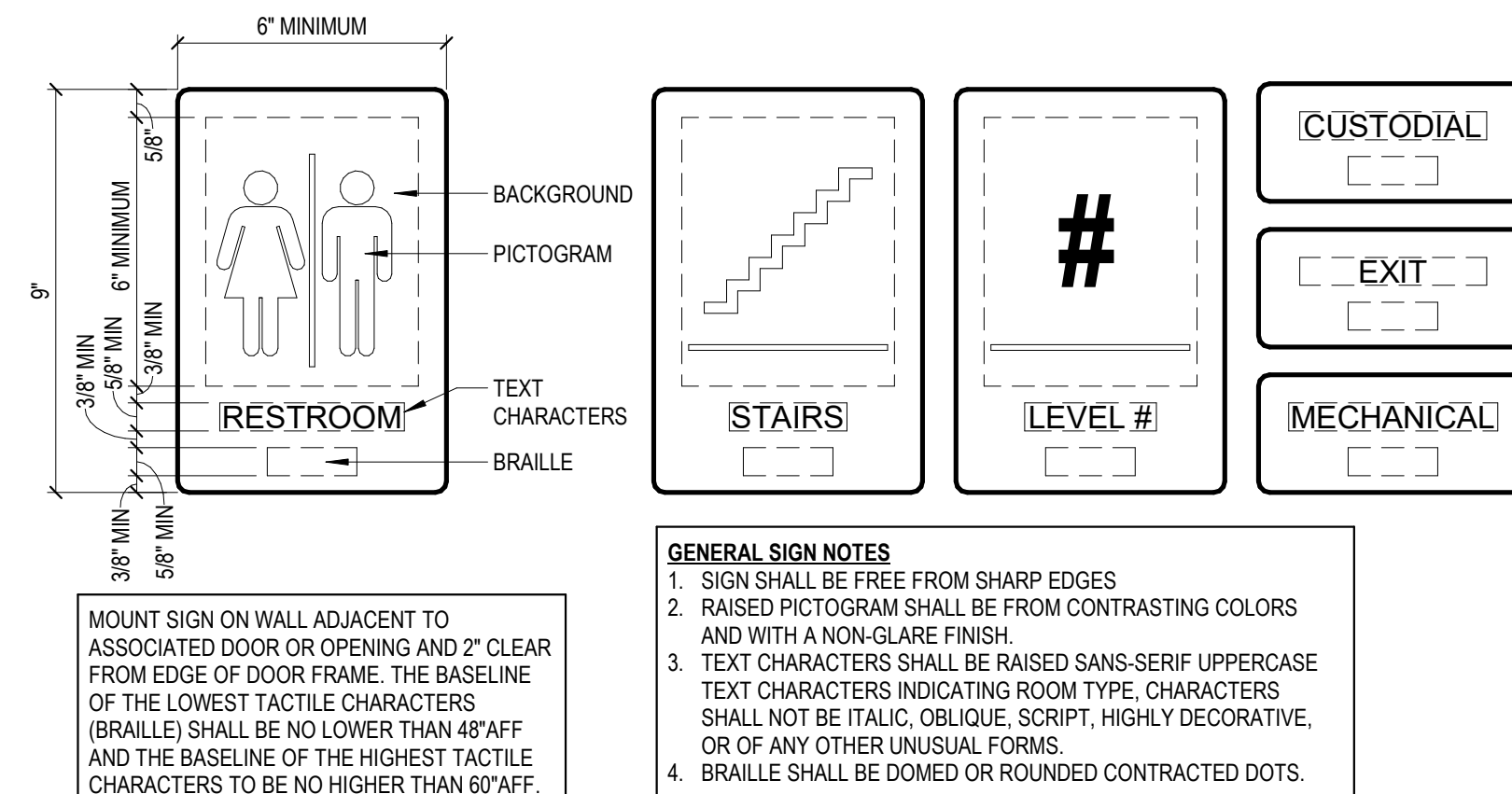
NO	ROOM NAME	FLOOR	BASE	WALL		CEILING		REMARKS
				MTL	FINISH	MTL	FINISH	
101	EXIST STAIR	EXISTING	EXIST	EXIST	PMT	ACT	-	
102	WAREHOUSE STORAGE	CONC	-	EXIST	-	-	-	
103	SECURE STORAGE	CONC	CONC	GWB	PMT	ACT	-	
104	CORRIDOR	LVT	4" VINYL	GWB	PMT	ACT	-	
105	COX OPEN OFFICE	LVT	4" VINYL	EXIST	PMT	ACT	-	
106	COX OFFICE	CPT	4" VINYL	EXIST	PMT	ACT	-	
107	COX OFFICE	CPT	4" VINYL	GWB	PMT	ACT	-	
108	SHARED CONFERENCE ROOM	CPT	4" VINYL	GWB	PMT	ACT	-	
108A	CLOSET	CPT	4" VINYL	GWB	PMT	ACT	-	
109	RECEPTION	LVT	4" VINYL	GWB	PMT	ACT	-	
110	EXIST STAIR	EXISTING	4" VINYL	GWB	PMT	ACT	-	
111	COMCAST OFFICE	CPT	4" VINYL	GWB	PMT	ACT	-	
111A	CLOSET	CPT	4" VINYL	GWB	PMT	ACT	-	
112	COMCAST OFFICE	CPT	4" VINYL	EXIST	PMT	ACT	-	
112	COX STORAGE	LVT	4" VINYL	EXIST	PMT	ACT	-	
113	COMCAST OPEN OFFICE	LVT	4" VINYL	EXIST	PMT	ACT	-	
114	EXIST TOILET	CT	4" VINYL	EXIST	PMT	ACT	-	
115	EXIST WOMEN RR	CT	4" VINYL	EXIST	PMT	ACT	-	
116	BREAK ROOM	CT	4" VINYL	GWB	PMT	ACT	-	
117	EXIST MEN RR	CT	4" VINYL	GWB	PMT	ACT	-	
118	COMCAST STORAGE	CPT	4" VINYL	GWB	PMT	ACT	-	
119	WAREHOUSE MGR.	CPT	4" VINYL	GWB	PMT	ACT	-	
120	COMCAST PRINT/FILE AREA	LVT	4" VINYL	EXIST	PMT	ACT	-	
121	WAREHOUSE STORAGE	CONC	-	EXIST	-	-	-	
122	COX PRINT/FILE AREA	LVT	4" VINYL	GWB	PMT	ACT	-	
201	EXIST STAIR	EXISTING	4" VINYL	EXIST	PMT	ACT	-	
202	EXIST CORRIDOR	LVT	4" VINYL	EXIST	PMT	ACT	-	
203	CORRIDOR	LVT	4" VINYL	GWB	PMT	ACT	-	
204	SEGRA OPEN OFFICE	LVT	4" VINYL	GWB	PMT	ACT	-	
205	SEGRA OFFICE	CPT	4" VINYL	GWB	PMT	ACT	-	
206	SEGRA STORAGE	LVT	4" VINYL	GWB	PMT	ACT	-	
207	EXEC OFFICE	CPT	4" VINYL	GWB	PMT	ACT	-	
208	BATH	CT	4" VINYL	GWB	PMT	ACT	-	
209	EXEC OFFICE	CPT	4" VINYL	GWB	PMT	ACT	-	
210	BATH	CT	4" VINYL	GWB	PMT	ACT	-	
211	EXIST CORRIDOR	LVT	4" VINYL	EXIST	PMT	ACT	-	
212	EXIST OPEN MEZZANINE	EXISTING	-	EXIST	-	-	-	
213	EXIST STAIR	EXISTING	4" VINYL	EXIST	PMT	ACT	-	

GENERAL FINISHES NOTES

1. CONSULT WITH OWNER FOR ALL REQUIRED FINISH COLORS/TEXTURES. OWNER SHALL HAVE CHOICE OF COLOR FROM MANUFACTURER. FULL RANGE OF COLORS FOR ALL FINISHES SPECIFIED.
2. ALL CLOSETS AND AUXILIARY SPACES SHALL HAVE SAME FLOOR AND WALL FINISHES AS ROOMS THEY ARE LOCATED IN, UNLESS NOTED OTHERWISE.
3. PROVIDE SCHEDULE IN SCHEDULE PROVIDE BASE AROUND ROOM PERIMETER, UNLESS NOTED OTHERWISE.
4. INTERIOR WALLS AND INTERIOR FACE OF EXTERIOR WALLS SHALL BE PAINTED, CONSISTING OF (1) COAT OF PRIMER AND (2) COATS OF INTERIOR FINISH LATEX, UNLESS OTHERWISE NOTED.

INTERIOR SIGNAGE NOTES

1. VERIFY ADDITIONAL SIGNAGE REQUIREMENTS WITH THE OWNER.
2. REFER TO CODE SUMMARY FOR ADDITIONAL NOTES.



REGULATORY SIGNS

NOT TO SCALE

1. CEILING PLAN LAYOUTS SHALL BE COORDINATED WITH MECHANICAL, ELECTRICAL, SPRINKLER SYSTEM DRAWINGS, AND OWNER'S REQUIREMENTS. IN THE EVENT OF CONFLICT, THE MECHANICAL, ELECTRICAL, AND SPRINKLER SYSTEM DRAWINGS WILL PREVAIL FOR THEIR SPECIFIC COMPONENTS.
2. SEE ELECTRICAL DRAWINGS BY OTHERS FOR ALL LIGHTING AND ELECTRICAL LAYOUTS AND FUTURE SPECIFICATIONS.
3. ALL LIGHTING FIXTURES SHALL BE SHOWN ON LIGHTING PLANS AND OTHER ELECTRICAL DRAWINGS FOR EMERGENCY EGRESS LIGHTING.
4. CONTRACTOR SHALL COORDINATE WITH MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTOR(S) FOR SCHEDULING AND COORDINATION FOR INSTALLATION OF ALL LIGHTING AND ELECTRICAL COMPONENTS.
5. CEILING HEIGHTS SHOWN ARE APPROXIMATE/ NOMINAL DIMENSIONS. CONTRACTOR SHALL VERIFY EXACT HEIGHT IN FIELD.
6. CONTRACTOR SHALL COORDINATE ACCESS PANEL LOCATIONS AND SIZES, REQUIRED IN ANY HARD CEILING BASED ON ANY MECHANICAL OR ELECTRICAL EQUIPMENT LOCATED ABOVE.
7. REFER TO GENERAL FINISH NOTES AND FINISH SCHEDULES FOR ADDITIONAL INFORMATION.
8. OWNER PROVIDES ALL ELECTRICAL SYSTEM NOT SHOWN.
9. OWNER PROVIDED SECURITY SYSTEM NOT SHOWN.

GENERAL WINDOW NOTES

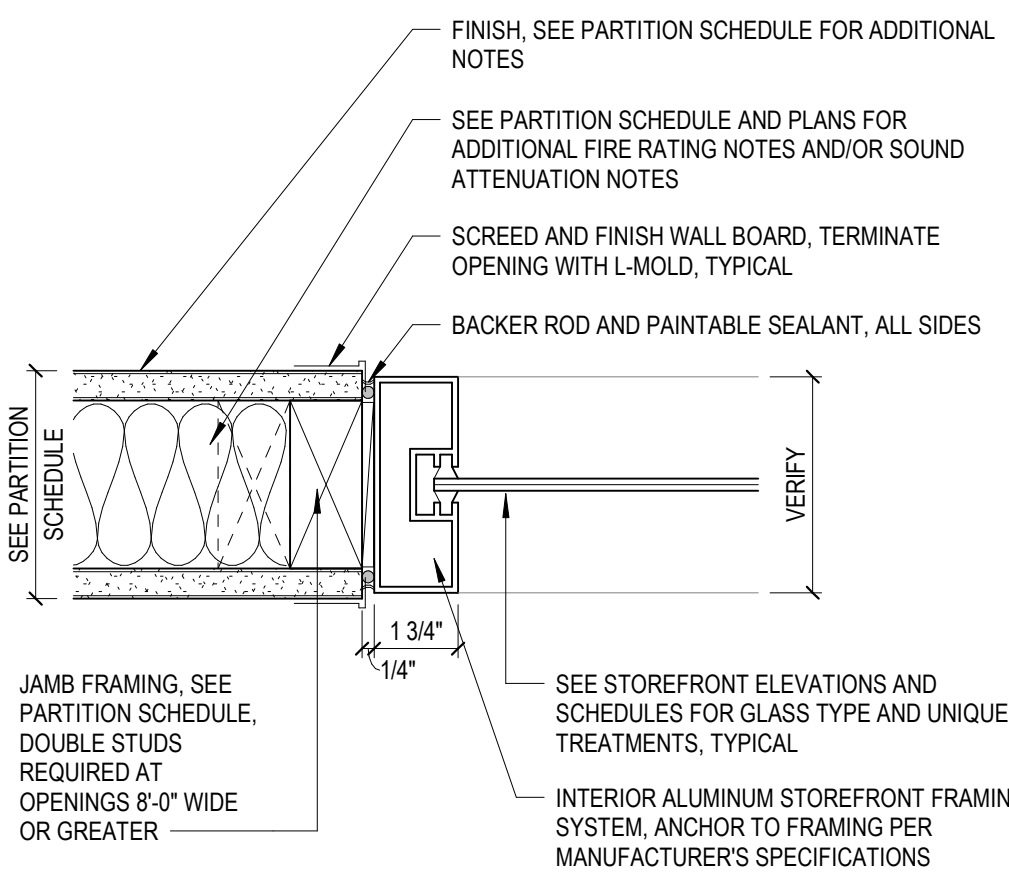
1. REFER TO OUTLINE SPECIFICATIONS FOR ADDITIONAL NOTES.
2. COORDINATE LOCATION AND DIMENSIONS WITH INFORMATION FOUND ON FLOOR PLANS AND ELEVATIONS.
3. ALL DIMENSIONS ARE SCHEMATIC NOMINAL SIZES ONLY. CONSULT WITH MANUFACTURER FOR EXACT WINDOW SELECTION AND ROUGH OPENING INFORMATION.

1. REFER TO DOOR SCHEDULE FOR GLAZING TYPES USED IN DOORS.

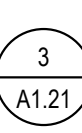
Technical drawing of a window assembly. The drawing shows a cross-section of a window with a frame and a pane. The frame is labeled GL05 and the pane is labeled GL06. The drawing includes various dimensions: a total width of 5'-6", a top-left corner radius of 1'-3 3/4", a top-left corner cutout of 3'-0", a top-right corner radius of 2'-0 3/4", a top-right corner cutout of 1'-3 3/4", a top-right corner radius of 9'-17", a total height of 7'-3", a bottom-left corner radius of 1'-3 3/4", a bottom-left corner cutout of 6'-10 1/4", a bottom-left corner radius of 6'-1", and a bottom-left corner cutout of 1'-3 3/4". The drawing also shows a dashed line indicating a diagonal cutout in the pane.

NOT TO SCALE

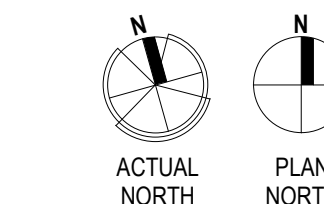
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3
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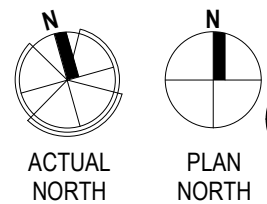
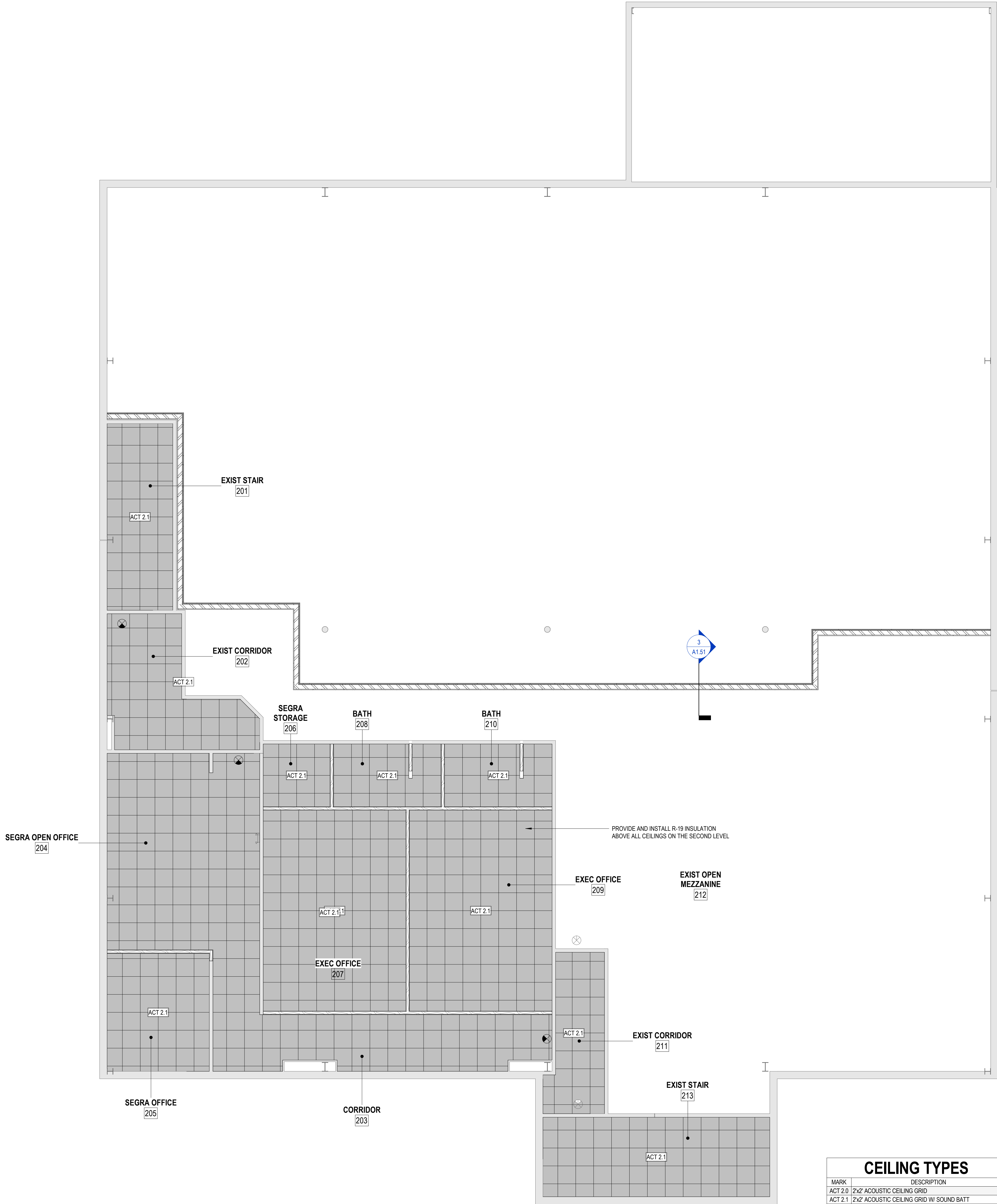
1
A1.21 REF
3/16" = 1'-0"



PROVIDE AND INSTALL R-19 INSULATION
ABOVE HATCHED CEILINGS ON THE FIRST
LEVEL

7/25/25 10:58 AM

N:\BA\Projects\250325009.00\FIBER\DWG\A1.22 SECOND FLOOR REFLECTED CEILING PLAN.dwg 3/1/25 10:58 AM



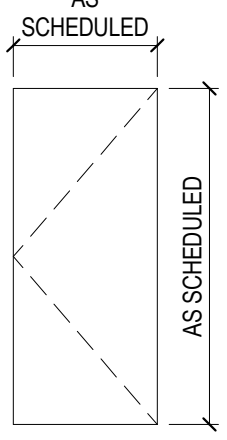
SECOND FLOOR REFLECTED CEILING PLAN

CEILING TYPES

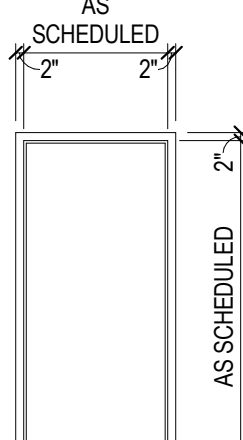
MARK	DESCRIPTION
ACT 2.0	2'X2' ACOUSTIC CEILING GRID
ACT 2.1	2'X2' ACOUSTIC CEILING GRID W/ SOUND BATT

DOOR SCHEDULE

DOOR NO.	WIDTH	HEIGHT	THICKNESS	MATERIAL	LABEL (MIN)	ELEV TYPE	FRAME TYPE	HWDR SET #	REMARKS
101A	3'-0"	7'-0"	0'-1 3/4"	MTL	180 MINUTE	A	1	3	
103A	3'-0"	7'-0"	0'-1 3/4"	MTL	-	A	1	4	
104A	3'-0"	7'-0"	0'-1 3/4"	MTL	180 MINUTE	A	1	5	
105A	3'-0"	7'-0"	0'-1 3/4"	MTL	180 MINUTE	A	1	5	
108A	3'-0"	7'-0"	0'-1 3/4"	WD	-	A	1	4	
109A	3'-0"	7'-0"	0'-1 3/4"	WD	-	A	1	3	
111A	3'-0"	7'-0"	0'-1 3/4"	WD	-	A	1	4	
114A	3'-0"	7'-0"	0'-1 3/4"	MTL	180 MINUTE	A	1	1	PROVIDE CLOSER
119A	3'-0"	7'-0"	0'-1 3/4"	MTL	180 MINUTE	A	1	2	PROVIDE CLOSER
206	3'-0"	7'-0"	0'-1 3/4"	WD	-	A	1	4	
207	3'-0"	7'-0"	0'-1 3/4"	WD	-	A	1	2	
208	3'-0"	7'-0"	0'-1 3/4"	WD	-	A	1	1	
209	3'-0"	7'-0"	0'-1 3/4"	WD	-	A	1	2	
210	3'-0"	7'-0"	0'-1 3/4"	WD	-	A	1	1	



SINGLE DOOR
FLUSH
A



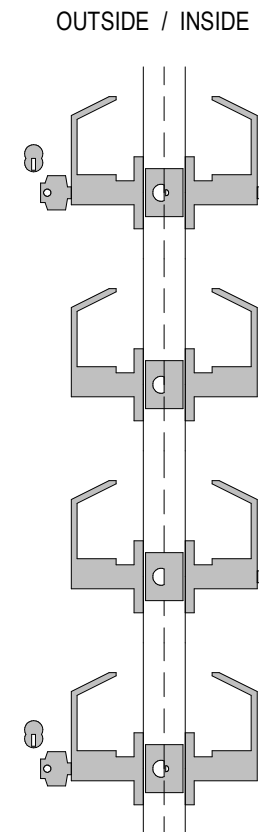
SINGLE DOOR
METAL FRAME FOR
FRAMED PARTITIONS
1

DOOR TYPES

NOT TO SCALE

FRAME TYPES

NOT TO SCALE



FUNCTIONS WITH ANSI CODES AND GENERAL DESCRIPTION

ENTRANCE/OFFICE (ANSI F82)
PUSHING BUTTON INSIDE LEVER LOCKS OUTSIDE LEVER.
TURNING INSIDE LEVER OR OPERATING KEY IN OUTSIDE
LEVER RELEASE BUTTON AUTOMATICALLY. CLOSING DOOR
DOES NOT RELEASE BUTTON. INSIDE LEVER ALWAYS
UNLOCKED.

PASSAGE (ANSI F79)
LATCH BOLT OPERATED BY LEVER OR KNOB FROM EITHER
SIDE AT ALL TIMES.

PRIVACY (ANSI F76A)
LATCH BOLT OPERATED BY LEVER FROM EITHER SIDE.
OUTSIDE LEVER IS LOCKED BY PUSH BUTTON INSIDE AND
UNLOCKED BY EMERGENCY RELEASE, ROTATING LEVER, OR
CLOSING DOOR. INSIDE ALWAYS UNLOCKED. PUSH BUTTON
INSIDE CHANGES INDICATOR DISPLAY STATUS OUTSIDE.

STOREROOM (ANSI F86)
DEADLOCKING LATCH BOLT OPERATED BY KEY IN OUTSIDE
LEVER OR ROTATING INSIDE LEVER. OUTSIDE LEVER IS
ALWAYS LOCKED. INSIDE LEVER ALWAYS UNLOCKED.

ACCESSIBLE DOOR CLEARANCE NOTES

- UNLESS SPECIFICALLY NOTED OR DIMENSIONED OTHERWISE ALL NEW DOORS SHALL BE LOCATED WITH THE DOOR OPENING 4" FROM A PARTITION CORNER (I.E. 2" OF FRAMING AND A 2" DOOR FRAME).
- ALL NEW AND SPECIFICALLY DESIGNATED DOORS SHALL MAINTAIN CLEAR AREAS BASED ON THE APPROACH DIRECTION AND THEIR OPERATIONAL SIDE. REQUIRED CLEAR AREAS MUST BE FREE OF PROJECTIONS AS DESCRIBED BY THE GOVERNING ACCESSIBILITY CODE. THIS INCLUDES WALL MOUNTED ACCESSORIES, PLUMBING FIXTURES, ADJACENT PARTITIONS, CURBS, AND SIMILAR SYSTEMS).
- DIAGRAMS OF RELEVANT REQUIRED CLEARANCES ARE PROVIDED ON THE ACCESSIBILITY REFERENCE PAGE IN THIS DRAWING SET. THIS SET OF ICC ANSI A117.1 STANDARDS HAS BEEN INDICATED HERE FOR GENERAL REFERENCE PURPOSES ONLY. IN NO WAY DOES THIS SHEET REPRESENT ALL APPLICABLE COMPONENTS OF THE ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES NATIONAL STANDARD.

GENERAL DOOR NOTES

- PROVIDE WEATHERSTRIPPING AND DOOR SWEEPS AT ALL EXTERIOR DOORS.
- FINAL DOOR STYLE SELECTIONS, COLOR, AND HARDWARE ARE TO BE DETERMINED. CONTRACTOR SHALL VERIFY AND COORDINATE IN THE FIELD.
- PROVIDE DOOR FRAMES WITH 4" HEADS AT ALL DOORS WITHIN MASONRY WALLS AS REQUIRED TO MAINTAIN COURSING.
- PAINT HOLLOW METAL FRAMES AND DOORS WHERE SCHEDULED WITH 2 FINISH COATS OF HIGH-GLOSS ACRYLIC ENAMEL. REFER TO ELEVATIONS AND FINISH SCHEDULE.
- ALL THRESHOLDS SHALL BE 1/4" MAXIMUM OFFSET, ACCESSIBLE.
- DOOR DETAILS DO NOT DEPICT ALL INTERIOR FINISHES. REFER TO INTERIOR ELEVATIONS AND FINISH MATERIAL SCHEDULE FOR REQUIRED FINISHES.

GENERAL HARDWARE NOTES

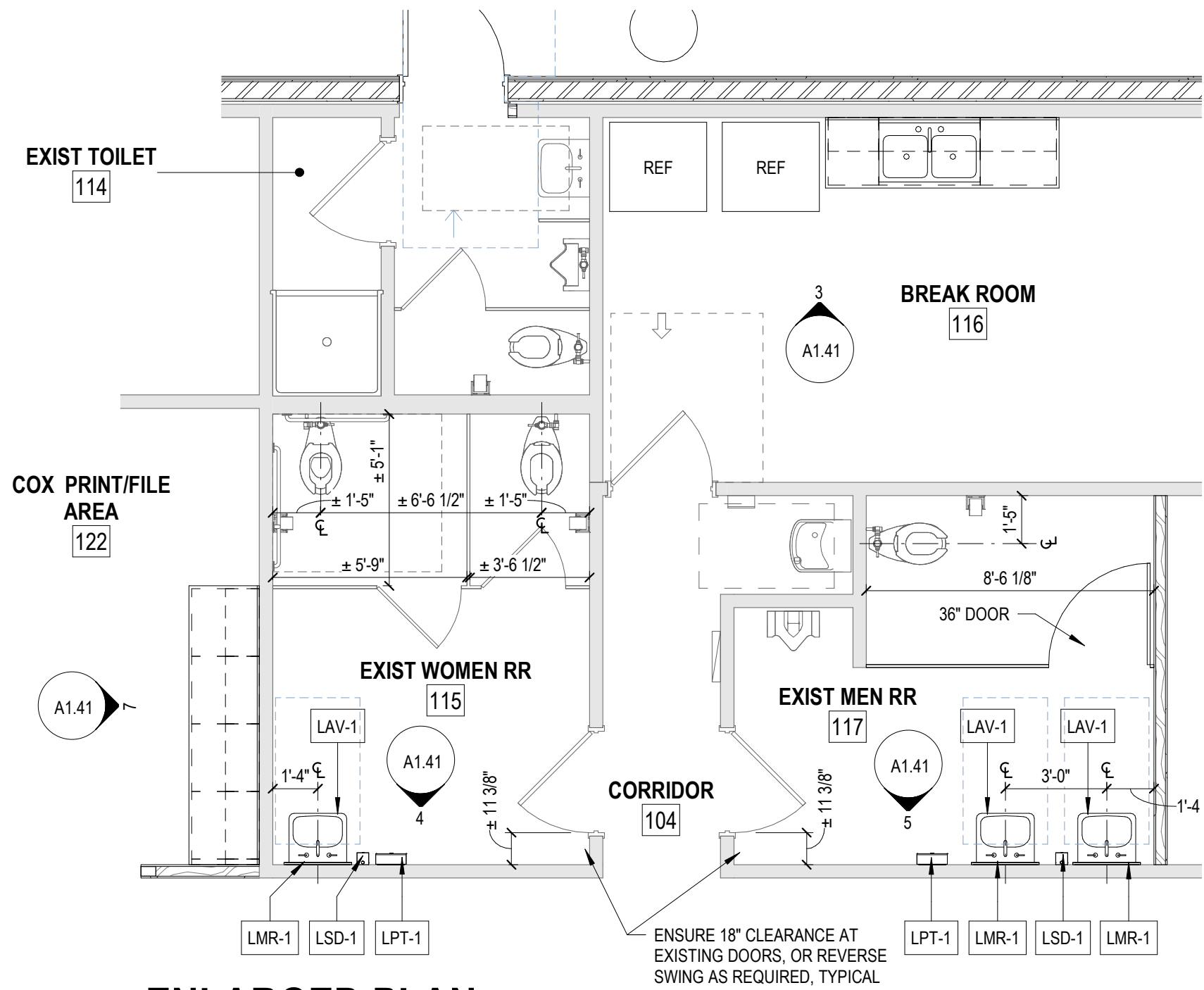
- ALL HARDWARE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
- SEE OUTLINE SPECIFICATIONS FOR REQUIRED FINISHES.
- PROVIDE FRAME SILENCERS AND DOOR STOPS FOR ALL DOORS. STOPS MAY BE FLOOR MOUNTED OR WALL MOUNTED.
- PROVIDE 1 1/2" PAIR HINGES PER LEAF UP TO 7'-0" TALL DOORS. PROVIDE 2" PAIR HINGES PER LEAF FOR DOORS EXCEEDING 7'-0" TALL, UNLESS NOTED OTHERWISE.
- THE MAXIMUM DIMENSION FROM THE TOP OF THE THRESHOLD TO THE EXTERIOR LANDING AT EXTERIOR DOORS SHALL NOT EXCEED 1/2". (VERIFY IN FIELD).
- ADJUST CLOSERS SUCH THAT SWEEP PERIOD FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO AN OPEN POSITION OF 12 DEGREES SHALL BE 5 SECONDS MINIMUM. MAXIMUM OPENING FORCE OF DOORS SHALL BE 5 LBF FOR INTERIOR DOORS, AND 15 LBF FOR EXTERIOR DOORS.
- HARDWARE PROVIDER TO REVIEW HARDWARE SETS, DOOR LOCKING ARRANGEMENTS, OVERALL FUNCTIONALITY ASPECTS & KEYING WITH OWNER AND CONTRACTOR TO COMPLETE HARDWARE ORDER. PROVIDE SAMPLES AS REQUIRED.

HARDWARE SETS

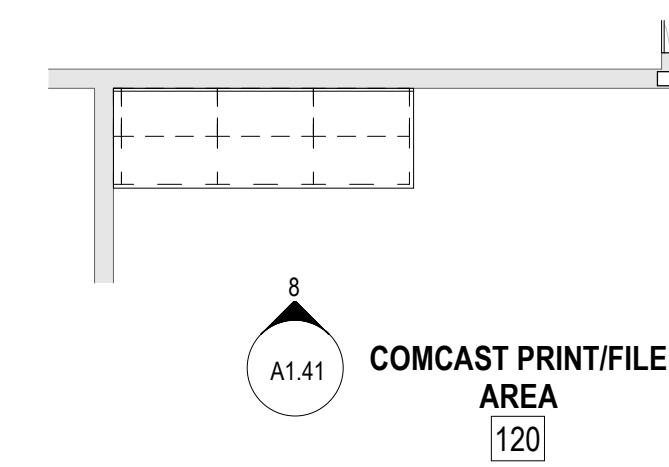
REFER TO DOOR SCHEDULE FOR SIGNAGE REQUIREMENTS

- RESTROOM (SINGLE OCCUPANT)
A. (1-1/2) PAIR HINGES
B. LEVER HANDLE PRIVACY SET (ANSI F76A)
C. (1) SURFACE CLOSER
- MANAGERS OFFICE, ADMIN OFFICE
A. (1-1/2) PAIR HINGES
B. LEVER HANDLE OFFICE SET (ANSI F82)
- INTERIOR EGRESS
A. (1-1/2) PAIR HINGES
B. LEVER HANDLE PASSAGE SET (ANSI F75)
C. (1) SURFACE CLOSER
D. (2) KICKPLATE
- STORAGE/JANITOR CLOSET SINGLE DOOR
A. (1-1/2) PAIR HINGES
B. LEVER HANDLE STOREROOM SET (ANSI F86)
- BUSINESS AREAS FROM WAREHOUSE
A. (1-1/2) PAIR HINGES
B. LEVER HANDLE OFFICE SET (ANSI F82)
C. (1) SURFACE CLOSER
D. (2) KICKPLATE

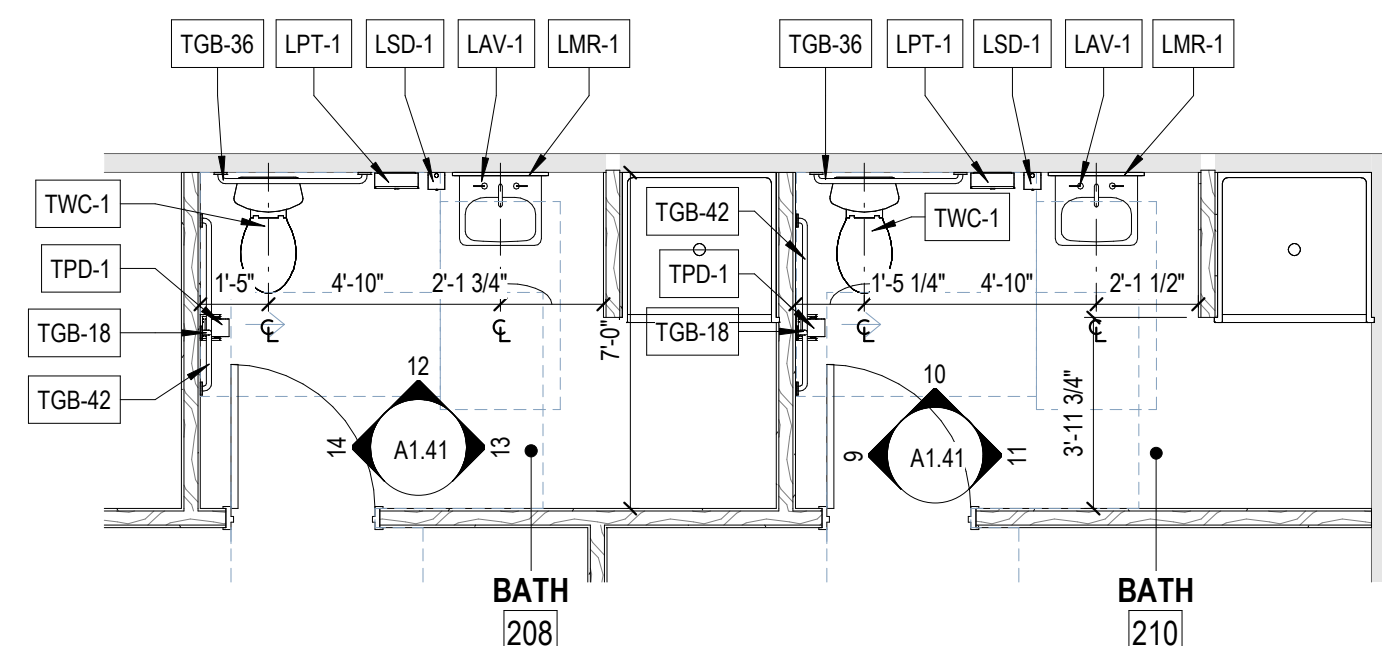
10/25/2025 10:30 AM
N:\BA\p250030203000\01\BANDRAW\A1.41.DWG - PLUSE (10/24/2025 10:30 AM) (PLOT) 337 SHENANDOAH AVENUE, ROANOKE, VA 24017
10/25/2025 10:30 AM



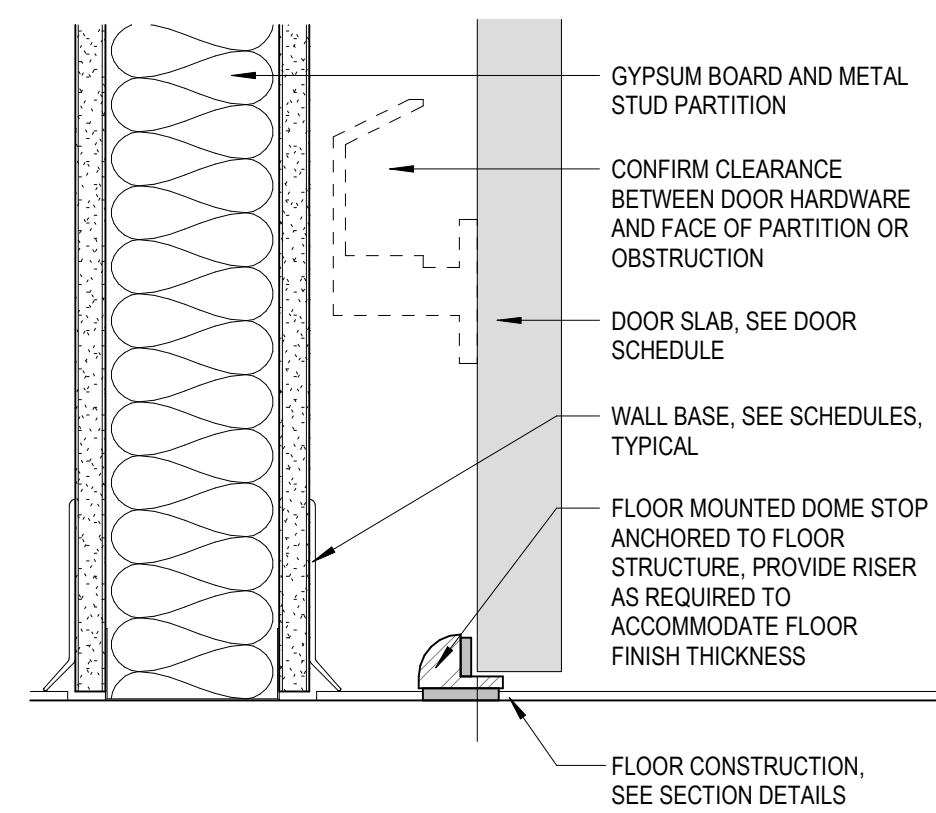
1
A1.41
1/4" = 1'-0"



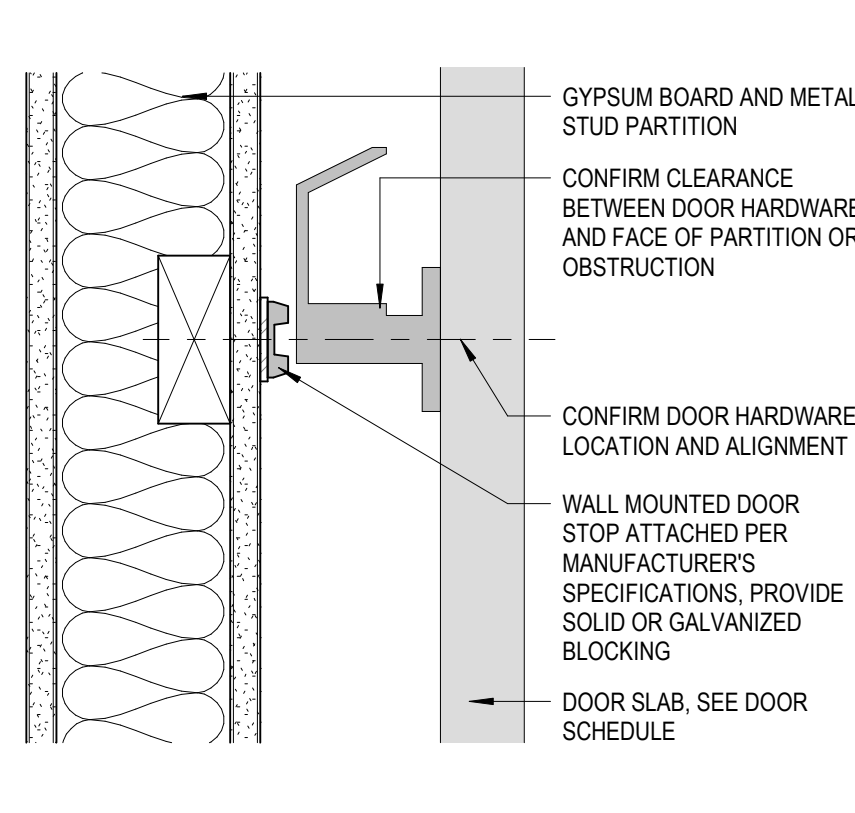
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1/4" = 1'-0"



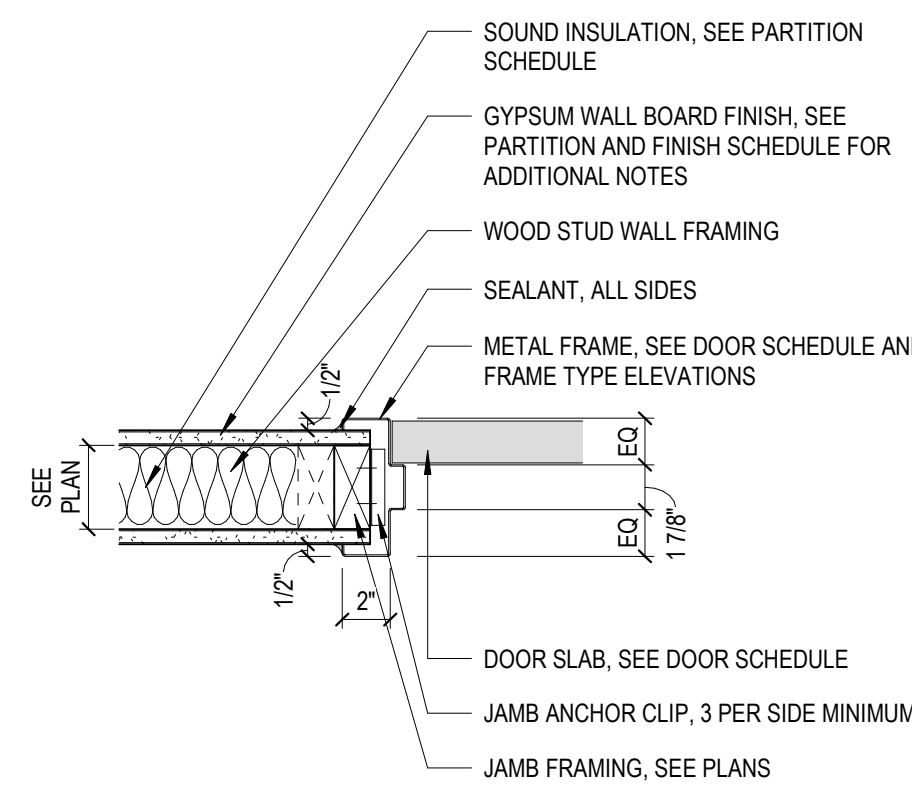
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1/4" = 1'-0"



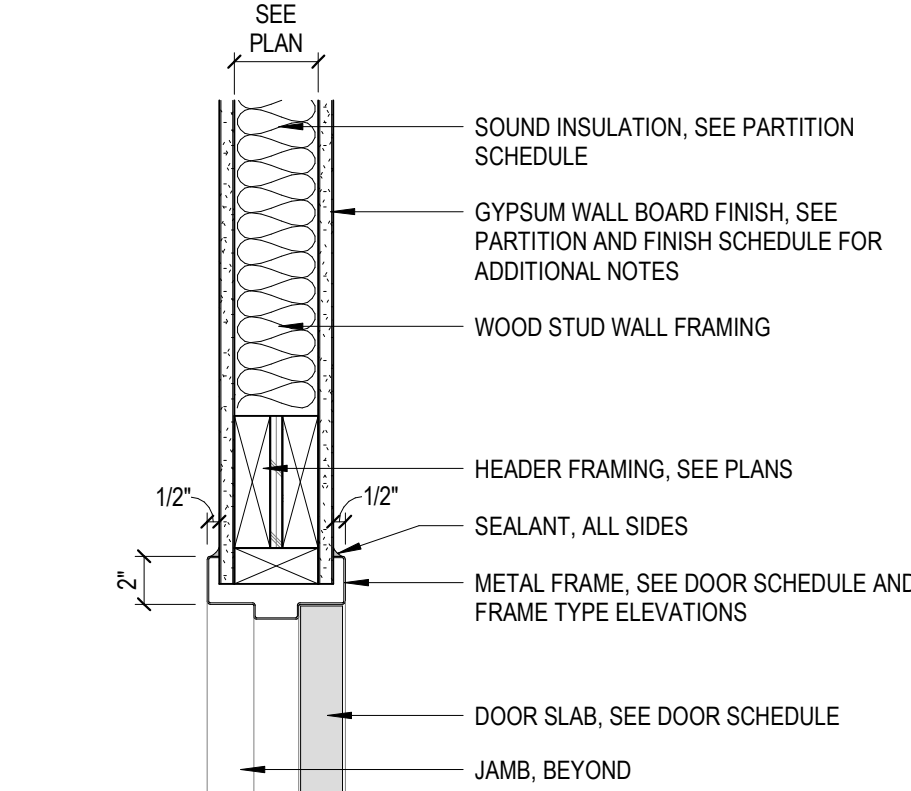
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3" = 1'-0"



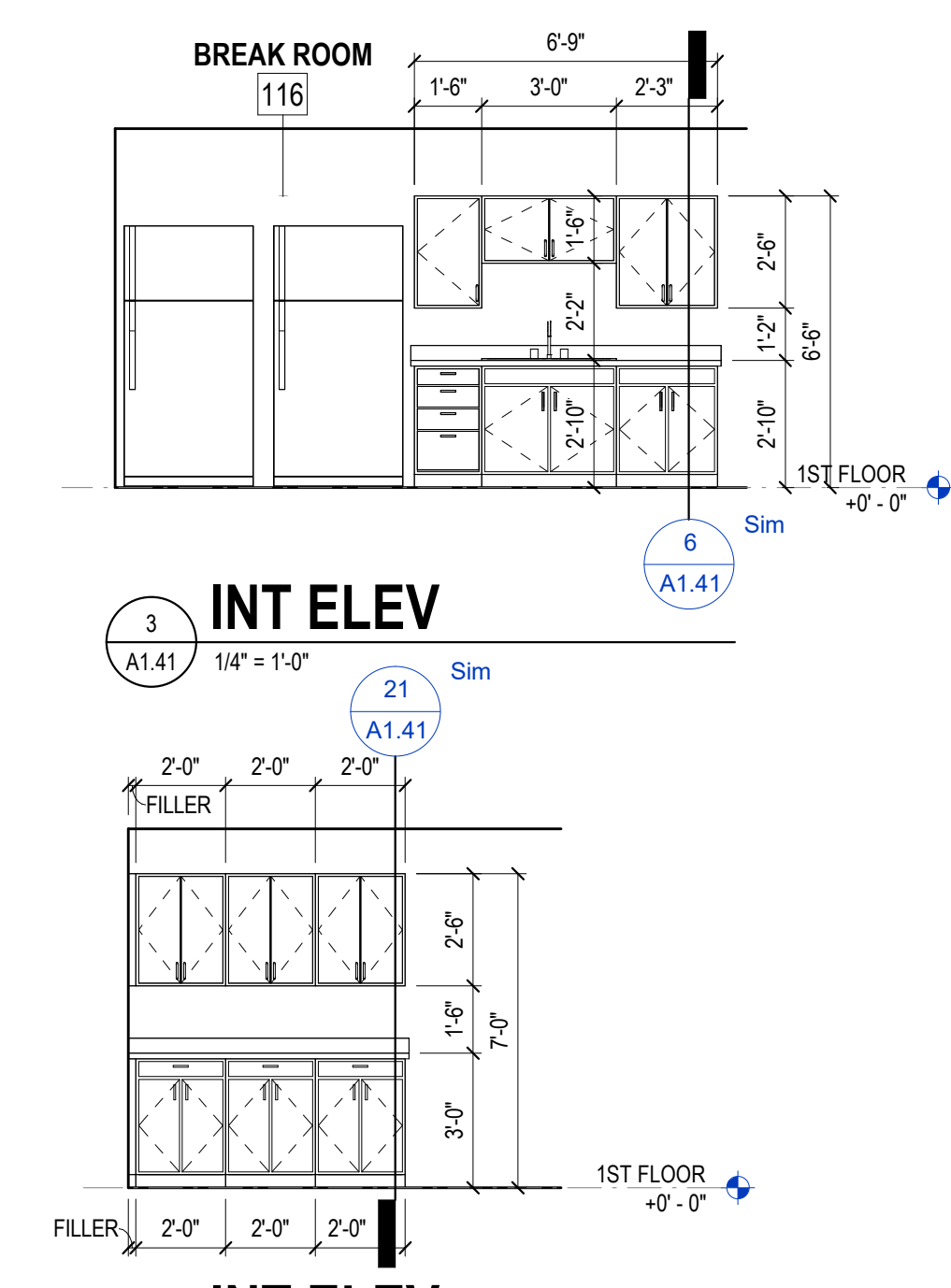
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3" = 1'-0"



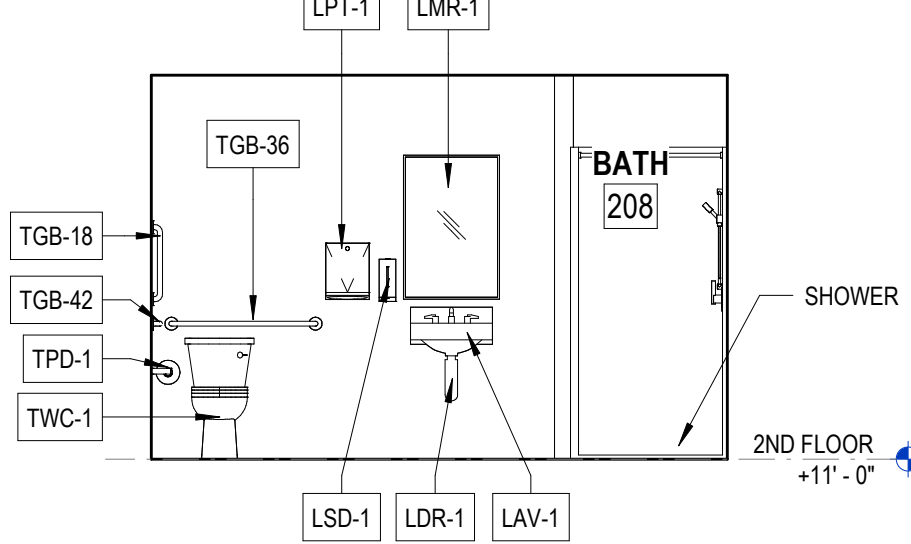
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1 1/2" = 1'-0"



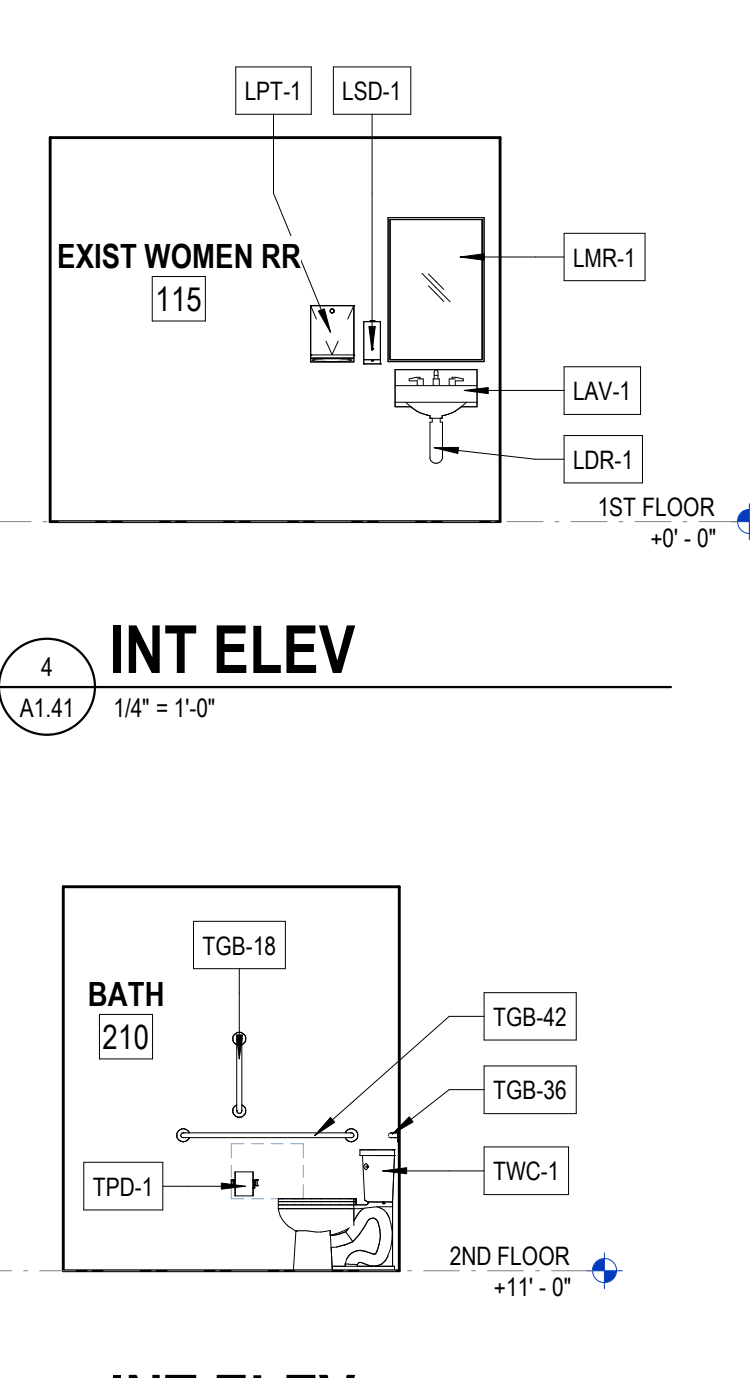
17
A1.41
1 1/2" = 1'-0"



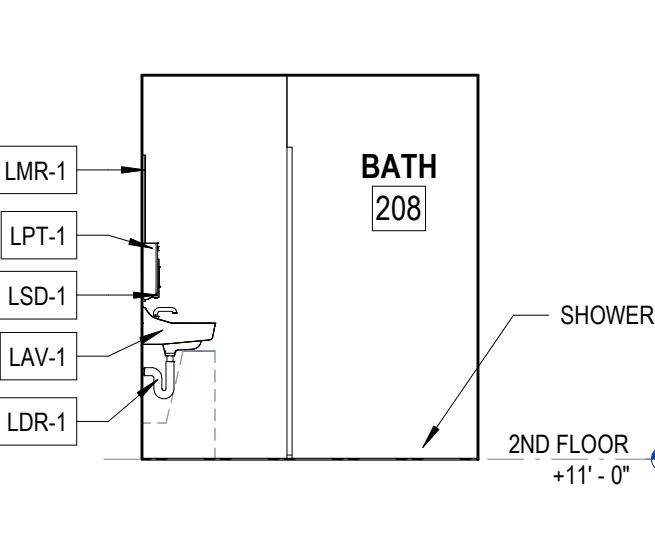
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1/4" = 1'-0"



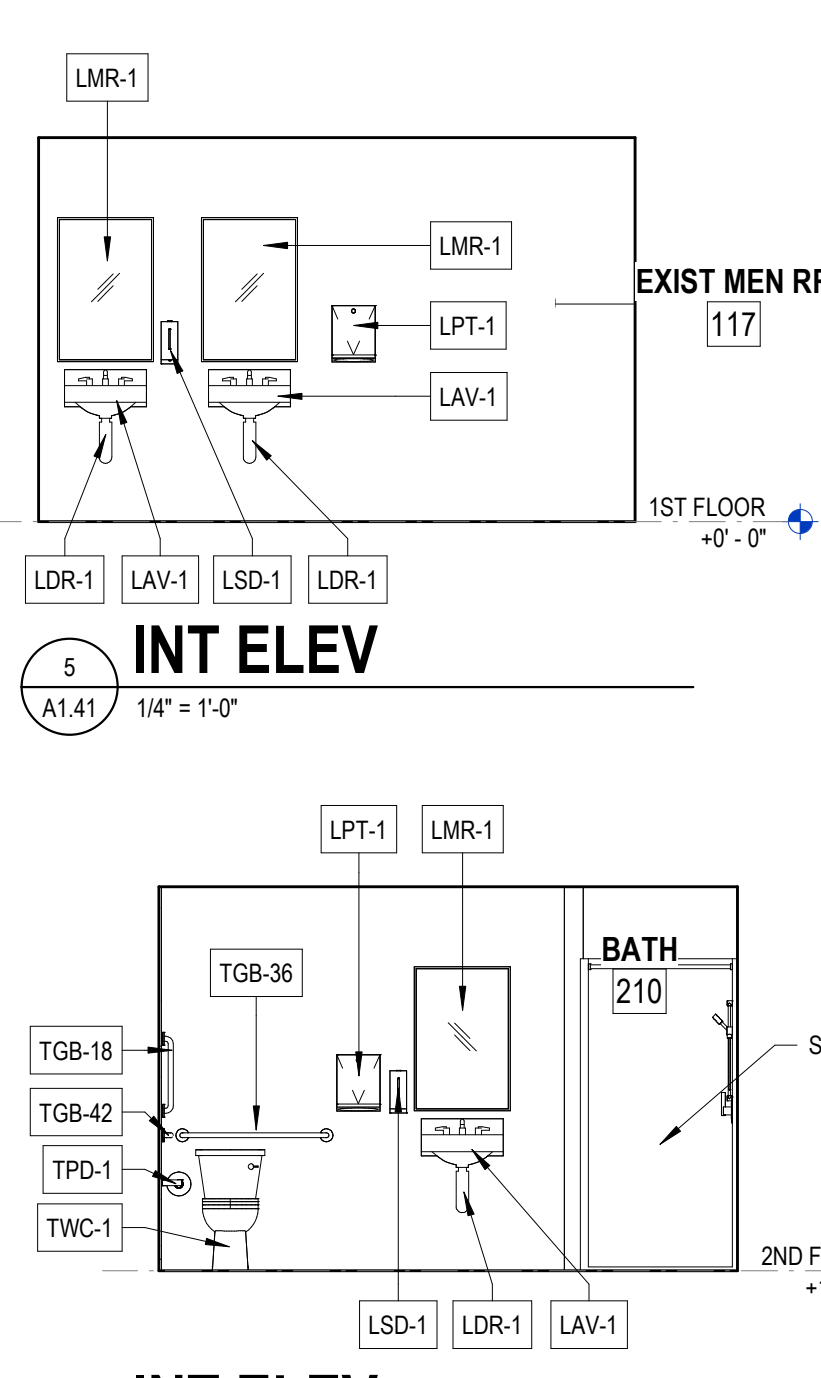
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1/4" = 1'-0"



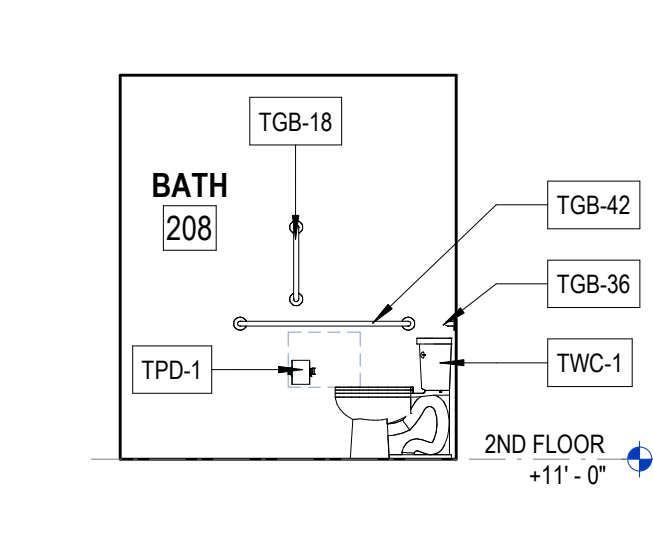
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1/4" = 1'-0"



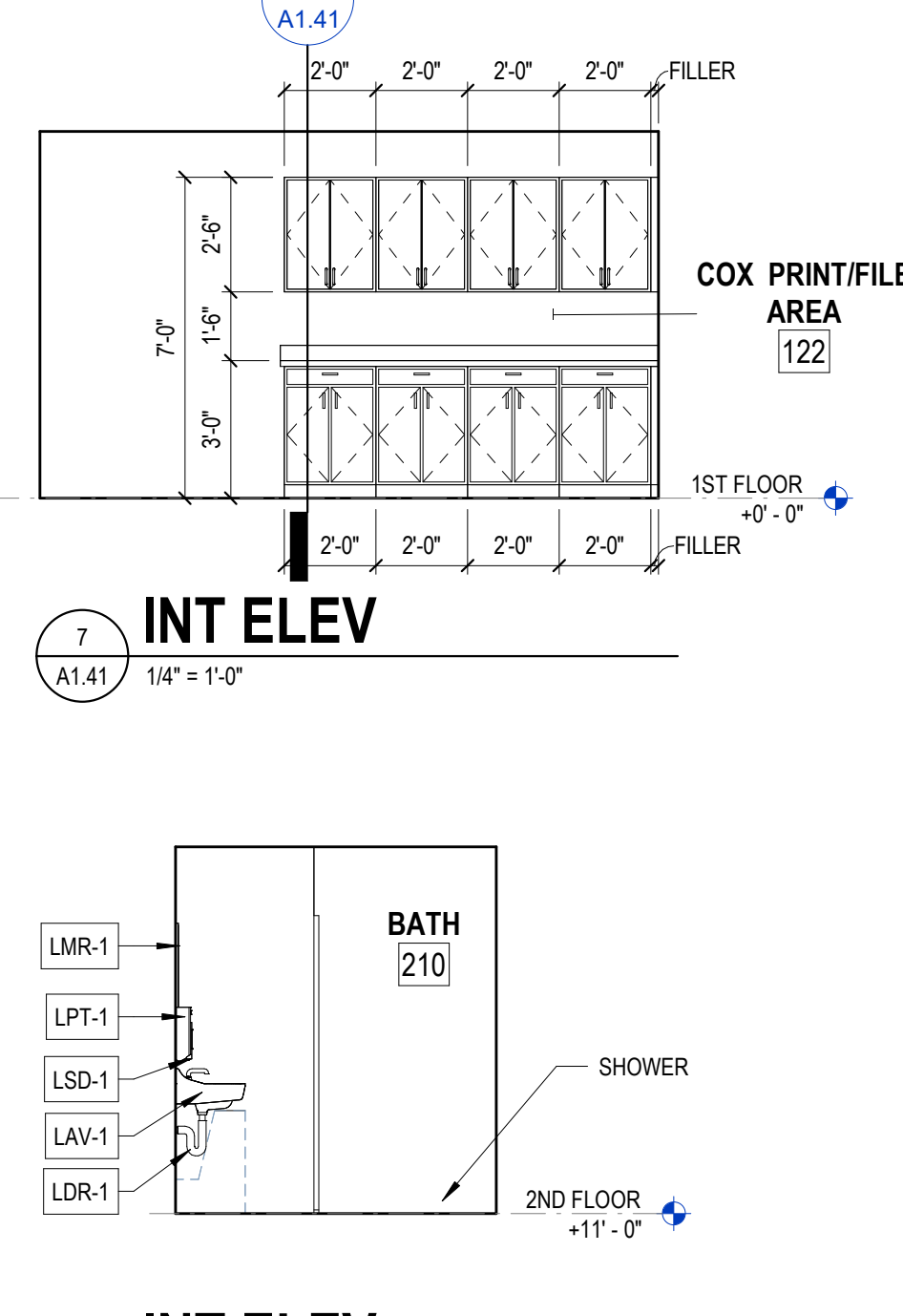
13
A1.41
1/4" = 1'-0"



10
A1.41
1/4" = 1'-0"



14
A1.41
1/4" = 1'-0"

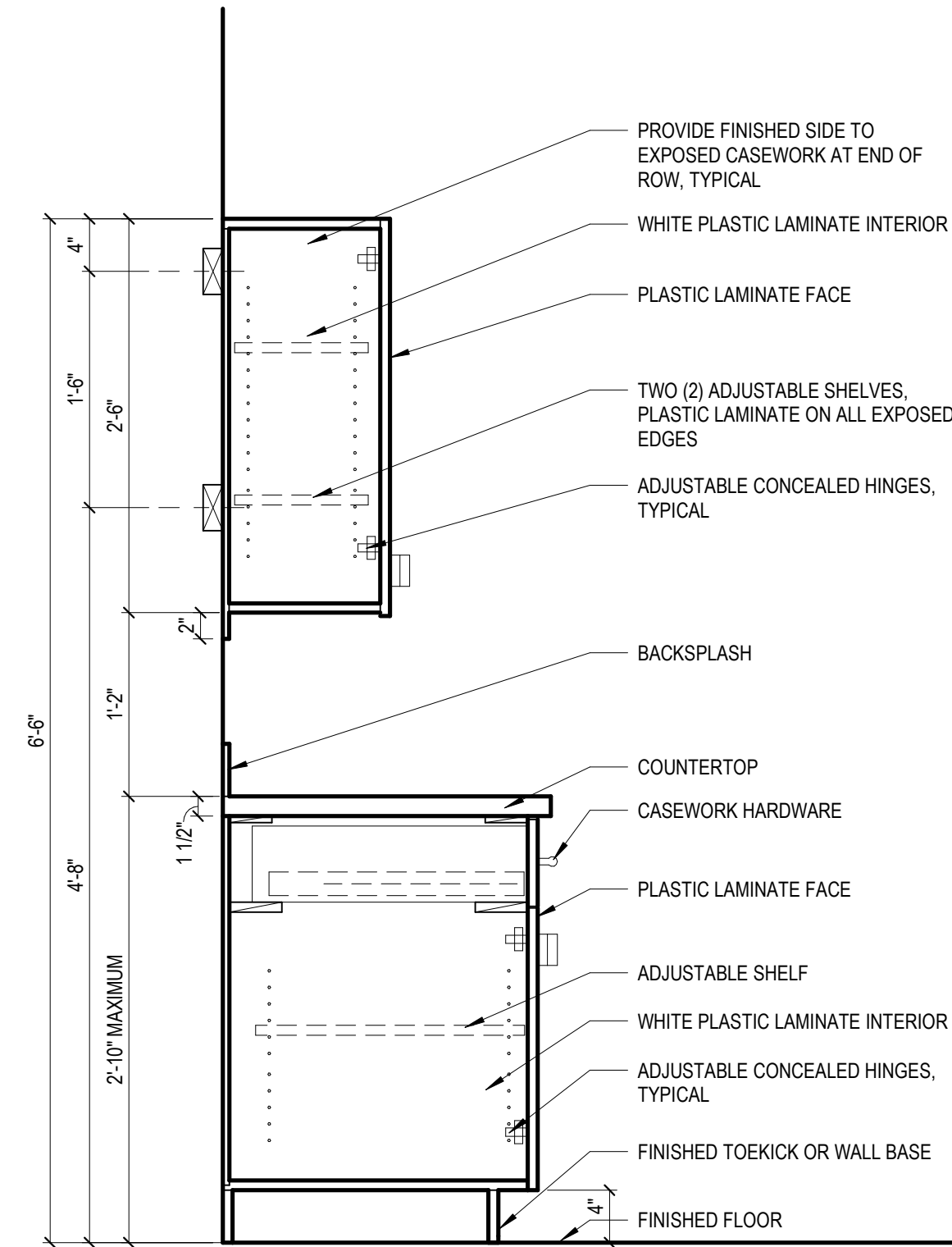


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A1.41
1/4" = 1'-0"

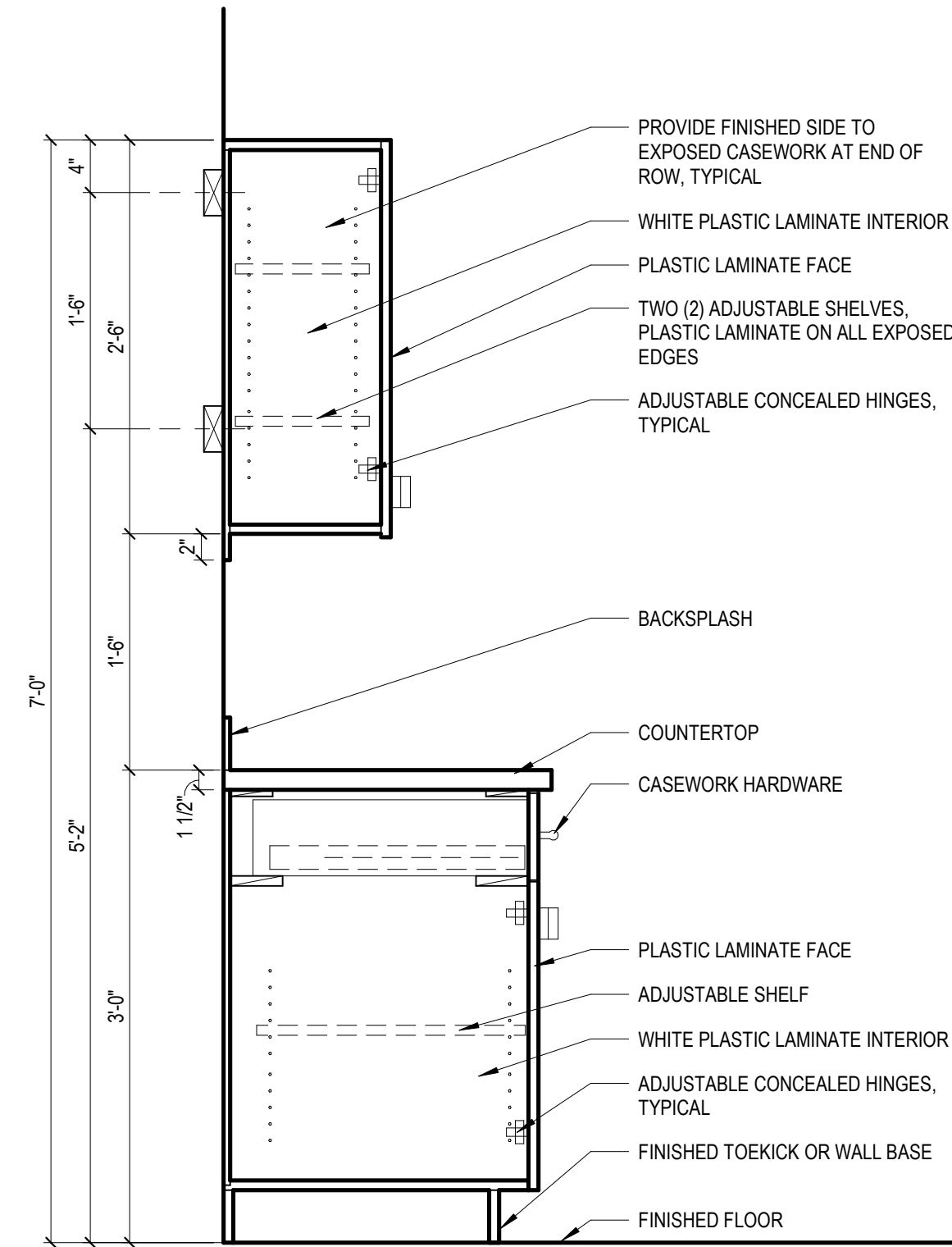


11
A1.41
1/4" = 1'-0"

RESTROOM FIXTURES & ACCESSORIES SCHEDULE				
MARK	FIXTURE / ACCESSORY DESCRIPTION	BASIS-OF-DESIGN, MODEL	DESCRIPTION	ACCESSIBILITY NOTES
LAV-1	WALL MOUNTED LAVATORY (ACCESSIBLE)	AMERICAN STANDARD, 0355.012	WHITE WITH ACCESSIBLE FAUCET	34" ABOVE FINISHED FLOOR TO TOP OF SINK RIM, COMPLY WITH KNEE CLEARANCE REQUIREMENTS SEE ACCESSIBILITY REFERENCE DETAILS
LDR-1	DRAIN INSULATION	TRUBORG, 102 E-Z	MOUNTED TO SINK DRAIN LINE AND PLUMBING CONNECTIONS	
LMR-1	MIRROR	BOBRICK, B-165-2436	24" WIDE X 36" TALL MIRROR WITH STAINLESS STEEL FRAME	40" ABOVE FINISHED FLOOR TO BOTTOM OF REFLECTIVE SURFACE
LPT-1	PAPER TOWEL DISPENSER	BOBRICK, B-362	SURFACE MOUNTED PAPER TOWEL DISPENSER	48" MAXIMUM ABOVE FINISHED FLOOR TO HIGHEST OPERABLE COMPONENT
LSD-1	FOAM SOAP DISPENSER	BOBRICK, B-2013	AUTOMATIC WALL MOUNTED FOAM SOAP DISPENSER	48" MAXIMUM ABOVE FINISHED FLOOR TO HIGHEST OPERABLE COMPONENT
SWR-1	SHOWER UNIT		36" X 36" FLOOR MOUNTED PREFABRICATED SHOWER UNIT	PREFABRICATED SHOWER UNIT
TGB-18	VERTICAL GRAB BAR	BOBRICK, B-6806 99x18	STRAIGHT PEENED GRAB BAR	33"-36" ABOVE FINISHED FLOOR TO BOTTOM OF BAR
TGB-36	REAR WALL GRAB BAR	BOBRICK, B-6806 99x36	STRAIGHT PEENED GRAB BAR	33"-36" ABOVE FINISHED FLOOR TO TOP OF BAR
TGB-42	SIDE WALL GRAB BAR	BOBRICK, B-6806 99x42	STRAIGHT PEENED GRAB BAR	33"-36" ABOVE FINISHED FLOOR TO TOP OF BAR
TPD-1	TOILET TISSUE DISPENSER	BOBRICK, B-2733	SINGLE-ROLL TOILET TISSUE DISPENSER	SEE ACCESSIBILITY REFERENCE DETAILS, FOR MOUNTING LOCATION AND NOTES
TWC-1	TANK WATER CLOSET (ACCESSIBLE)	AMERICAN STANDARD, 3378.128	ELONGATED 16-1/2" RIGHT HEIGHT LOW CONSUMPTION TANK TOILET, FLOOR MOUNTED, VITREOUS CHINA	SEAT 17"-19" ABOVE FINISHED FLOOR



6
A1.41
1" = 1'-0"



21
A1.41
1" = 1'-0"

TOILET ACCESSORIES NOTES

1. CONTRACTOR TO SUPPLY AND INSTALL SCHEDULED TOILET ACCESSORIES IN RESTROOMS. VERIFY IF OWNER OR OWNER'S VENDOR IS SUPPLYING SCHEDULED ACCESSORIES.
2. PROVIDE WOOD BLOCKING AT ALL WALL-HUNG ITEMS IN FRAMED PARTITIONS.
3. ALL ACCESSORIES MUST BE ACCESSIBILITY COMPLIANT. SEE ACCESSIBILITY REFERENCE DETAILS SHEET.
4. VERIFY MOUNTING HEIGHT OF TOILET TISSUE HOLDER PRIOR TO MOUNTING. HEIGHT MAY VARY DEPENDING ON UNIT FURNISHED BY OWNER.
5. CONTRACTOR TO INSTALL BABY CHANGING STATION AND RESTROOM WALL CABINET (FURNISHED BY OWNER).
6. INSULATE ALL EXPOSED HOT WATER SUPPLY AND DRAIN PIPES.
7. TOILET LEVER SHALL BE TO THE WIDE SIDE OF ROOM OR STALL.
8. PROVIDE VENTILATION FAN TO OUTSIDE FOR ALL TOILETS. OPERATION TO ACTIVATE WHEN LIGHT IS SWITCHED.
9. CONTRACTOR SHALL VERIFY FINAL FIXTURE SELECTIONS WITH OWNER PRIOR TO PURCHASING.

GENERAL CASEWORK/MILLWORK NOTES

1. THESE ARE SCHEMATIC CASEWORK DRAWINGS. BALZER AND ASSOCIATES IS NOT RESPONSIBLE FOR DIMENSIONING, FABRICATION DETAILS INCLUDING BRACING, FASTENING, AND CONCEALED BLOCKING, AND SIMILAR FRAMING NORMALLY ASSOCIATED WITH SHOP DRAWINGS.
2. ALLOW A MINIMUM OF 1 INCH CLEARANCE FROM THE EDGE OF ALL WALLS AND THE OUTSIDE FACE OF CASEWORK. TYPICAL.
3. PROVIDE 1-1/2" HOLE FOR ELECTRICAL, TELEPHONE, AND COMPUTER OUTLET ACCESS IN COUNTERTOPS WHERE CABLE OPENINGS/GROMMETS OCCUR AND WHERE NOTED. VERIFY LOCATION WITH OWNER, COORDINATE POWER AND TELEPHONE PLAN WITH CABINET ELEVATION.
4. FILLER STRIPS ARE TO BE PROVIDED AT ALL WALLS.

NOTE:

DOOR DETAILS ONLY DEPICT THE GENERAL CONDITIONS FOR TYPICAL HOLLOW METAL FRAMED DOORS AND OPENINGS. FOR DOORS IN FIRE-RATED ASSEMBLIES COORDINATE THE PARTITION DESCRIPTION AND OVERALL PARTITION WALL THICKNESS TO THE DOOR FRAME WITH APPROPRIATE OVERALL THICKNESS AND NECESSARY THROAT DIMENSION, TYPICAL.

COORDINATE GENERAL DETAILS WITH PROPOSED DOOR TYPE, DOOR HARDWARE SET, ACCESSIBLE DOOR CLEARANCES, AND ADJACENT FINISHES.

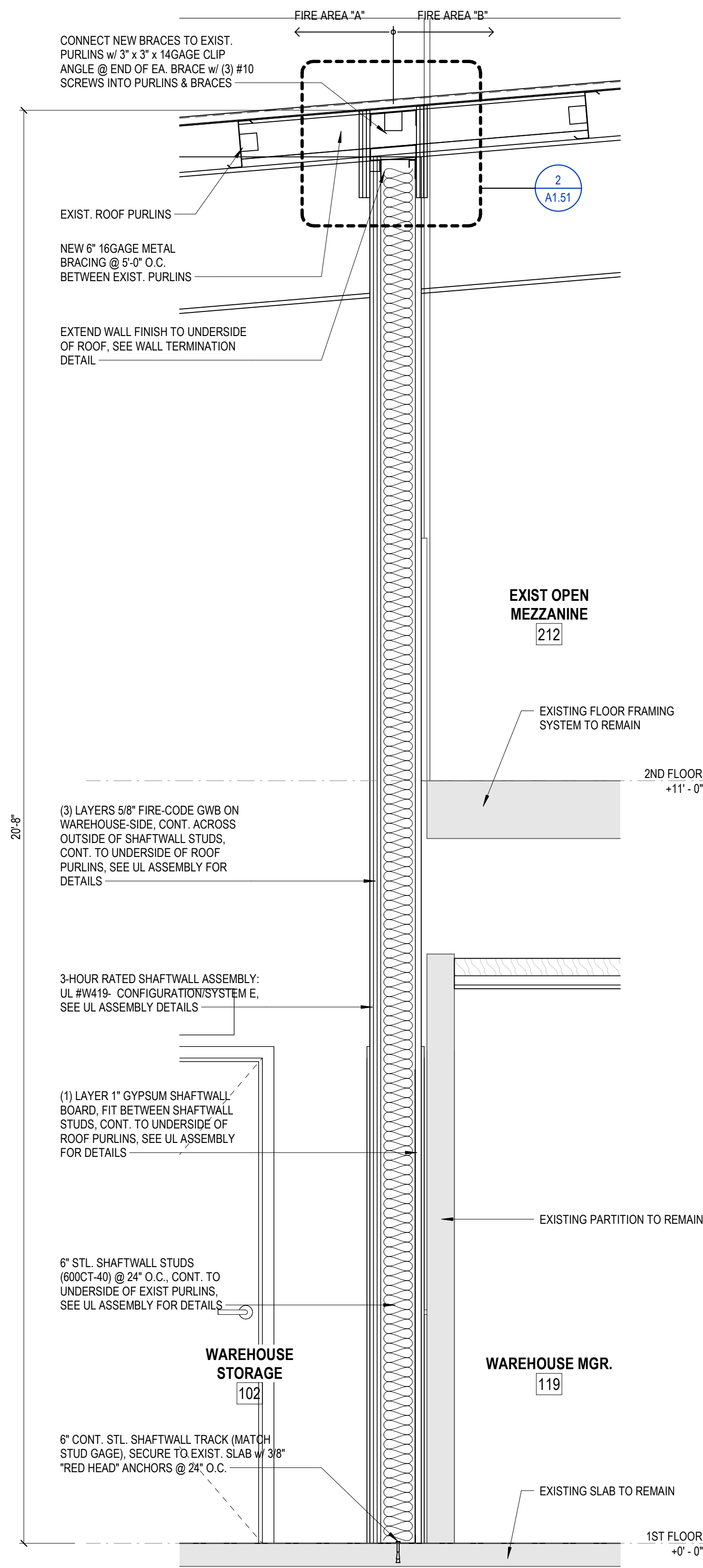
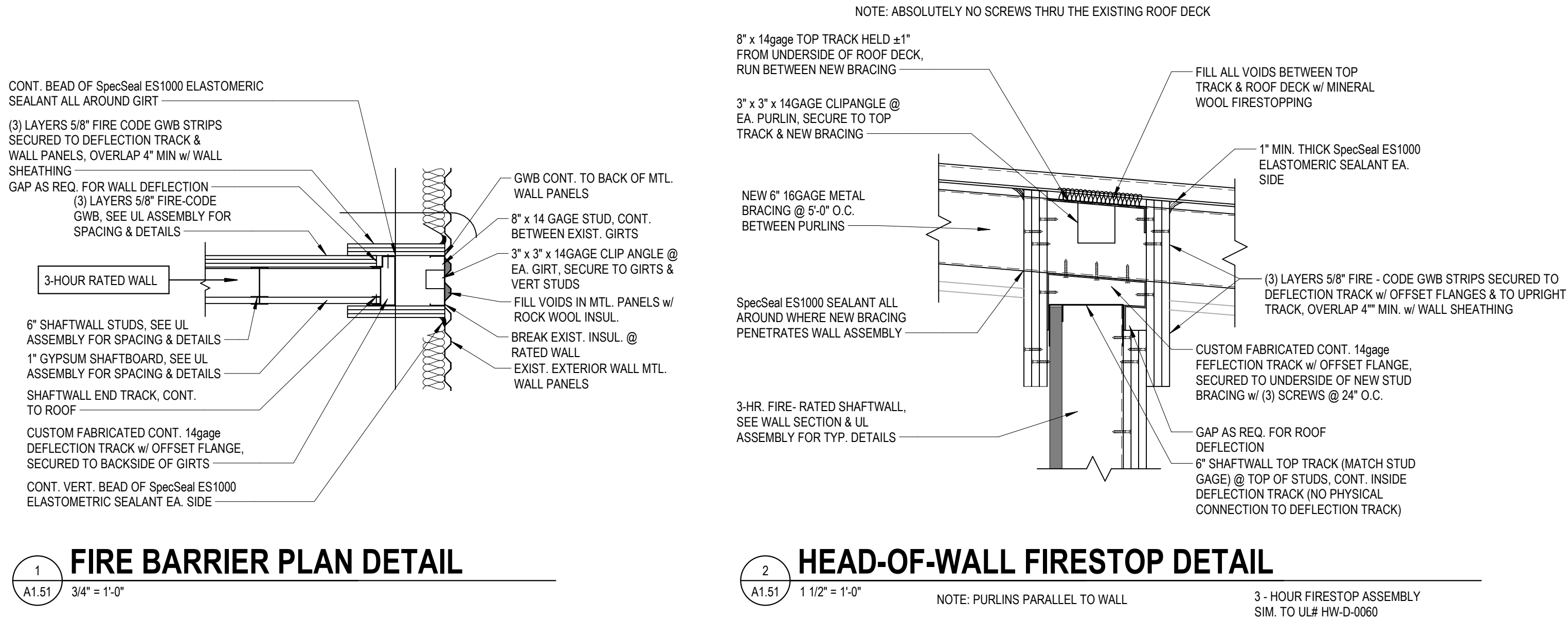
REFER TO GENERAL PROJECT NOTES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.



FIBER NETWORK SERVICES
CHANGE-OF-USE & INTERIOR RENOVATIONS
ENLARGED PLANS & INTERIOR ELEVATIONS & DETAILS

DRAWN BY MFK, STC, JR3
DESIGNED BY RWP
CHECKED BY RWP, JR3
DATE 2025-06-27
SCALE As indicated
REVISIONS

A1.41
PROJECT NO 03250009.00



WALL NOTES:
1. NEW GWB SHALL BE TAPED, MUDDED AND SANDED
2. SEE UL ASSEMBLY FOR JOINT FINISH AND ANCHORING REQUIREMENTS ON FIRE-RATED WALLS

AIR DEVICE SCHEDULE				
MARK	SERVICE	MOUNTING	FINISH	BASIS OF DESIGN
A	SUPPLY	LAY-IN	WHITE	PRICE, SCD - SQUARE CODE DIFFUSER
B	RETURN	LAY-IN	WHITE	PRICE, 80 - EGG CRATE GRILLE
C	EXHAUST	LAY-IN	WHITE	PRICE, RCG

FAN SCHEDULE							
MARK	AIR FLOW (CFM)	ESP	NOM HP (WATTS)	DRIVE TYPE	V/FREQ./PH	WEIGHT (LBS)	BASIS OF DESIGN (MANUFACTURER,MODEL#)
RF-1	2,255	0.5	3/4	DIRECT	208/60/1	120	GREENHECK SQ-160-VG
RF-3	2,630	0.5	3/4	DIRECT	208/60/1	120	GREENHECK SQ-160-VG
RF-4	2,250	0.5	3/4	DIRECT	208/60/1	120	GREENHECK SQ-160-VG
EF-1	80	0.25	(12 W)	DIRECT	115/60/1	25	GREENHECK SP-LP0511
EF-2	525	0.5	1/4	DIRECT	115/60/1	55	GREENHECK SQ-98-VG
EF-3	300	0.5	1/6	DIRECT	115/60/1	55	GREENHECK SQ-95-VG

- NOTES:
- RELIEF FANS (RF-) SHALL BE PROVIDED WITH GREENHECK VARIGREEN CONSTANT PRESSURE CONTROLLER AND PRESSURE SENSOR. FANS SHALL OPERATE WHEN ASSOCIATED AIR HANDLER IS IN ECONOMIZER MODE AND SHALL MODULATE TO MAINTAIN A CONSTANT 0.05 IN W.C. POSITIVE PRESSURE IN BUILDING.
 - EXHAUST FANS, EF-2 AND EF-3 SHALL OPERATE DURING OCCUPIED HOURS. PROVIDE CONTROLS AS REQUIRED FOR SCHEDULING.
 - PROVIDE EF-1 WITH ON/OFF WALL SWITCH IN TOILET ROOM.

ELECTRIC HEATER SCHEDULE					
MARK	HEATING CAPACITY		ELECTRICAL		BASIS OF DESIGN
	KW	MBH	V / PH	AMPS	
WH-1	3.0	7.7	208 / 1	14.4	MARKEL MODEL HF3326TD-RP, WALL HEATER

- NOTES:
- WALL HEATERS SHALL BE RECESSED IN WALL.

AIR HANDLER UNIT SCHEDULE (AHU-1, 3, 4: AHU+FURNACE; AHU-2: FURNACE+COIL)										
MARK	SUPPLY AIR FLOW (CFM)	OUTSIDE AIR FLOW (CFM)	SUPPLY FAN PERFORMANCE		GAS HEATING PERFORMANCE		ELECTRICAL		BASIS OF DESIGN (MANUFACTURER,MODEL#)	WEIGHT (LBS.)
			MIN. ESP IN. WC	FAN HP	INPUT (MBH)	OUTPUT (MBH)	V / PH	MCA/MOCP (AMP.)		
AHU-1	2255	340	0.75"	2	75	60	208 / 3	10/15	LENNOX, EL090KASD-STD-230 + MODINE, DFP-75	520
AHU-2	950	125	0.75"	1/2	44	36	120 / 1	6.8/15	LENNOX, ML180UH045E36A+CK40HT-30A (R454B)	175
AHU-3	2655	390	0.75"	2	75	60	208 / 3	10/15	LENNOX, EL090KASD-STD-230 + MODINE, DFP-75	520
AHU-4	2295	365	0.75"	2	75	60	208 / 3	10/15	LENNOX, EL090KASD-STD-230 + MODINE, DFP-75	520

- NOTES:
- PROVIDE MODINE GAS FURNACES WITH 208V/1PH POWER SUPPLY RATED FOR 1.42 AMP DRAW. INSTALL FURNACE DOWNSTREAM OF AHU BLOWER AND COIL, ABOVE AHU.
 - PROVIDE COMPLETE HEATING/COOLING SYSTEM INCLUDING FUNACE AND COOLING COIL AND ASSOCIATED OUTDOOR CONDENSER UNIT.
 - FOR UNITS LOCATED ABOVE OCCUPIED AREAS, PROVIDE SECONDARY DRAIN PAN BELOW UNIT WITH CONDENSATE OVERFLOW SWITCH TO SHUT UNIT OFF UPON DETECTION.
 - FOR AHU-1 AND AHU-4, PROVIDE 3/4" CONDENSATE DRAIN INSTALLED AS PER MANUFACTURES RECOMMENDATIONS PIPED TO NEAREST FLOOR DRAIN.
 - FOR AHU-2 AND AHU-3, PROVIDE UNIT WITH CONDENSATE PUMP, EQUIVALENT TO LITTLE GIANT, MODEL VCMA-20-PRO WITH ANTI SWEAT SLEEVE (115V, 1.5AMPS). PROVIDE 3/8" PUMPED CONDENSATE LINE FROM UNIT TO NEAREST FLOOR DRAIN FOR DISCHARGE.
 - PROVIDE REFRIGERANT LINES TO/FROM OUTDOOR HEAT PUMP UNIT SIZED AND ROUTED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
 - PROVIDE WITH 7-DAY PROGRAMMABLE AUTO-CHANGEOVER HEAT/COOL THERMOSTAT.
 - PROVIDE FLEXIBLE DUCT CONNECTION TO UNITS.
 - PROVIDE MERV 8 FILTER AT UNIT INLET WITH FILTER RACK/ACCESS AS NEEDED.
 - FOR EACH GAS FIRED FURNACE, PROVIDE 4"Ø FLUE VENT AND 4"Ø COMBUSTION AIR INTAKE FROM FURNACE TO ROOF WITH VENT CAPS. LOCATE INTAKE AND VENT AT 24" APART AND A MINIMUM OF 10FT FROM ANY DOOR OR OUTSIDE AIR INTAKE. VENT TERMINATION SHALL BE 12" ABOVE INTAKE. FURNACES ARE CATEGORY III APPLIANCES, PROVIDE TYPE B, DOUBLE WALLED VENT PIPING.

OUTDOOR HEAT PUMP SCHEDULE							
MARK	ASSOCIATED INDOOR UNIT	TOTAL/ SENSIBLE COOLING (MBH)	HEATING OUTPUT @ 47°F/17°F (MBH)	ELECTRICAL		WEIGHT (LBS.)	BASIS OF DESIGN (MANUFACTURER,MODEL#)
				V / PH	MCA/MOCP (AMP.)		
HP-1	AHU-1	71.2/ 59.8	66.0/41.0	208 / 3	29/45	425	LENNOX, EL072KPSST-230-3
HP-2	AHU-2	24.2/ 22.0	22.0/14.0	208 / 1	14/20	220	LENNOX, EL16KP1-024-230
HP-3	AHU-3	73.4/ 64.7	66.0/41.0	208 / 3	29/45	425	LENNOX, EL072KPSST-230-3
HP-4	AHU-4	71.2/ 59.8	66.0/41.0	208 / 3	29/45	425	LENNOX, EL072KPSST-230-3

- NOTES:
- REFRIGERANT PIPING TO BE SIZED PER THE TOTAL INSTALLED EQUIVALENT LENGTH. PROVIDE LONG LINE REFRIGERANT PIPING KIT (INCLUDING LIQUID LINE SOLENOID VALVES, ACCUMULATOR, ETC.) WHENEVER MANUFACTURER'S RECOMMENDED LENGTHS ARE EXCEEDED. SEE INSTALLATION INSTRUCTIONS FOR MANUFACTURER'S RECOMMENDED EQUIVALENT REFRIGERANT PIPING LENGTHS PRIOR TO PERFORMING ANY WORK.
 - PROVIDE FIELD MOUNTED DISCONNECT SWITCH - TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

GENERAL MECHANICAL NOTES:

- ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT 2021 UNIFIED VIRGINIA BUILDING CODE, ALL FEDERAL, STATE, AND CITY CODES, ORDINANCES, AND STANDARDS.
- IT IS THE INTENT OF THESE DOCUMENTS THAT THE CONTRACTOR PROVIDE ALL LABOR, MATERIAL, EQUIPMENT AND TOOLS FOR THE COMPLETE INSTALLATION OF ALL WORK SHOWN ON THE PLANS AND/OR DESCRIBED HEREIN, INCLUDING ALL DEVICES AND CONTROLS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.
- THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. NOT ALL FITTINGS, OFFSETS, VENTS, OR DRAINS ARE SHOWN. THE CONTRACTOR SHALL INCLUDE ALL OFFSETS, VENTS, AND DRAINS AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM.
- IN AREAS WITH UNFINISHED CEILINGS, DUCTWORK AND PIPING SHALL BE ROUTED AS TIGHT TO THE STRUCTURE AS POSSIBLE.
- ENSURE MECHANICAL EQUIPMENT IS INSTALLED TO PROVIDE SUFFICIENT CLEARANCE FOR COIL PULL, AND MINIMUM MANUFACTURER RECOMMENDED MAINTENANCE ACCESS TO EQUIPMENT.
- ALL SUPPLY AIR DIFFUSERS, RETURN, AND EXHAUST GRILLES SHALL BE INSTALLED WITH BALANCING DAMPER LOCATED IN DUCT RUN OUT. DIFFUSERS AND GRILLES SHALL HAVE AN OPPOSED BLADE DAMPER ONLY WHEN DUCT DAMPERS ARE INACCESSIBLE.
- PROVIDE ALL SUPPLY AIR SYSTEMS WITH A MINIMUM MERV 8 FILTER, UNLESS NOTED OTHERWISE. PROVIDE TEMPORARY AIR FILTERS IN AIR HANDLER UNITS AND RETURN AIR INLETS AND GRILLES DURING CONSTRUCTION AND REPLACE AT COMPLETION. FILTERS SHALL BE INSTALLED SUCH THAT THEY ARE ACCESSIBLE FOR REPLACEMENT AND LOCATED PRIOR TO ANY HEATING OR COOLING COILS.
- FOR ALTERNATE #2, REFER TO DRAWINGS M4.01 AND M4.02. PROVIDE PRICING OPTION TO OWNER AT BID TO PROVIDE THE FOUR ROOFTOP UNITS INSTEAD OF THE FOUR SPLIT SYSTEM HEAT PUMPS AND AIR HANDLER UNITS SERVING THE TWO STORY RENOVATION AREA.

HVAC LEGEND

	SUPPLY AIR DUCT, (RECTANGULAR)
	RETURN AIR DUCT, (RECTANGULAR)
	EXHAUST DUCT, (RECTANGULAR)
	TEMPERATURE SENSOR
	RECTANGULAR DUCTWORK (1ST FIG. SIDE SHOWN, 2ND SIDE NOT SHOWN)
	ROUND DUCTWORK
	FLEXIBLE DUCT, (ROUND)
	SUPPLY DIFFUSER
	RETURN GRILLE
	EXHAUST GRILLE
	AIRFLOW (CFM) INLET SIZE - TAG - # OF THROW DIRECTIONS
	EQUIPMENT TYPE ABBREVIATION UNIT MARK #
	MVD, MANUAL VOLUME DAMPER
	MOTORIZED CONTROL DAMPER
	CONNECT TO EXISTING
	LIMITS OF DEMOLITION
	EXISTING (EQUIPMENT OR DUCTWORK/PIPING)
	DEMOLITION (EQUIPMENT, PIPING, DUCTWORK, ETC.)
	MOTORIZED CONTROL DAMPER
	BACKDRAFT DAMPER
	REFRIGERANT PIPING

GAS UNIT HEATER SCHEDULE

MARK	HEATING CAPACITY		BLOWER POWER (HP)	ELECTRICAL		BASIS OF DESIGN
	HEATING INPUT (MBH)	HEATING OUTPUT (MBH)		V / PH	AMPS / MCA	
GUH-1	75	61.5	1/3	115 / 1	8.75 / 15	MODINE, HDC-75

- NOTES:
- HEAT EXCHANGER SHALL BE CONSTRUCTED OF 409 STAINLESS STEEL TUBES.
 - PROVIDE EACH HEATER WITH A SINGLE STAGE ROOM THERMOSTAT WITH A 50°F-90°F RANGE.
 - FOR EACH GAS FIRED UNIT HEATER, PROVIDE 4"Ø FLUE VENT AND 4"Ø COMBUSTION AIR INTAKE FROM FURNACE TO ROOF WITH VENT CAPS. LOCATE INTAKE AND VENT AT 24" APART AND A MINIMUM OF 10FT FROM ANY DOOR OR OUTSIDE AIR INTAKE. VENT TERMINATION SHALL BE 12" ABOVE INTAKE. FURNACES ARE CATEGORY III APPLIANCES, PROVIDE TYPE B, DOUBLE WALLED VENT PIPING.

GENERAL MECHANICAL SPECIFICATIONS

1. SCOPE:
PROVIDE ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO INSTALL AND MAKE READY FOR OWNER'S USE COMPLETE SYSTEMS OF HEATING, VENTILATION, AIR CONDITIONING (HVAC), PLUMBING, FOR THE PROPOSED WORK AND BUILDING RENOVATIONS AS SHOWN ON THE DRAWINGS AND CALLED FOR IN THESE SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION WITH OTHER DIVISIONS OF WORK FOR THE FULL EXTENT OF THE SCOPE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL ASPECTS, COMPONENTS, SYSTEMS, ETC. AND ACCOMMODATE THE PERFORMANCE INTENT OF THE CONSTRUCTION DOCUMENTS THROUGHOUT THE PROJECT SCOPE.

2. BIDDERS RESPONSIBILITY:
EXAMINE THE DRAWINGS AND SPECIFICATIONS AND VISIT THE WORK SITE. BECOME FAMILIAR WITH THE CHARACTER OF THE WORK, THE COORDINATION WITH OTHER TRADES REQUIRED, AND ANY OTHER CONDITIONS THAT AFFECT THE COMPLETION OF THIS WORK. GENERAL CONTRACTOR SHALL BE REQUIRED TO COORDINATE WORK WITH TENANT FINISH CONTRACTOR IN A SIDE BY SIDE SCENARIO.

3. PERMITS, CODES AND LAWS:
APPLY FOR ALL PERMITS AND PAY ALL FEES.
ALL WORK SHALL BE IN ACCORDANCE WITH LATEST EDITIONS OF THE FOLLOWING RULES AND REGULATIONS, HEREIN REFERRED TO AS "CODES":
THE LATEST OR ADOPTED EDITION OF THE APPLICABLE LOCAL, STATE, AND FEDERAL BUILDING, MECHANICAL, SANITATION, PLUMBING, ETC. CODES.
UNDERWRITER'S LABORATORIES, INC. (U.L.) NATIONAL FIRE PROTECTION ASSOCIATION (N.F.P.A.) OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (O.S.H.A.)
WHERE ANY OF THESE CODES ARE AT VARIANCE WITH THE DRAWINGS AND SPECIFICATIONS, THEIR REQUIREMENTS SHALL TAKE PRECEDENCE, UNLESS THE DRAWINGS AND SPECIFICATIONS REQUIREMENTS EXCEED THESE CODES. INCLUDE ANY COST NECESSARY TO MEET THESE CODES IN THE BID PRICE.

4. MECHANICAL PLANS:
THE MECHANICAL PLANS ARE DIAGRAMMATIC AND BASED ON ONE MANUFACTURER'S EQUIPMENT.
THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO BE USED. INSTALLATION SHALL BE WITHIN THE LIMITATIONS IMPOSED BY THE ARCHITECTURAL, STRUCTURAL, HVAC, ELECTRICAL, AND PLUMBING REQUIREMENTS WITH ADEQUATE SPACE FOR MAINTENANCE.

5. QUESTIONS AND CLARIFICATIONS OF BID DOCUMENTS:
BIDDERS SHALL NOT RELY ON ANY ORAL CLARIFICATION OF THE DRAWINGS OR SPECIFICATIONS. ANY QUESTIONS OR CLARIFICATIONS SHALL BE REFERRED IN WRITING TO THE ARCHITECT.

6. GUARANTEES:
ALL EQUIPMENT, MATERIALS, AND WORKMANSHIP SHALL BE GUARANTEED IN WRITING FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. WARRANTIES SHALL BE IN WRITING AND SHALL INCLUDE FACTORY WARRANTIES FOR EACH PIECE OF EQUIPMENT. PROVIDE A CERTIFICATE FOR EACH PIECE OF EQUIPMENT. CLEARLY INDICATE ON EACH WARRANTY CERTIFICATE THE MODEL NO., SERIAL NO., LOCATION, AND OWNER'S NAME.

7. COMPLETE SYSTEM:
ALL PRODUCTS, MATERIALS AND ACCESSORIES SHALL BE FURNISHED AND INSTALLED AS REQUIRED FOR A COMPLETE SYSTEM READY FOR OWNER'S BENEFICIAL USE.

8. WORKMANSHIP:
ALL WORK SHALL BE PERFORMED BY COMPETENT MECHANICS USING PROPER TOOLS AND EQUIPMENT TO PRODUCE FIRST QUALITY WORK. ALL WORK SHALL BE NEATLY INSTALLED, ACCESSIBLE FOR MAINTENANCE, AND COMPLETE WITH ALL ACCESSORIES REQUIRED.

9. ACCESSIBILITY:
INSTALL ALL EQUIPMENT AND THEIR APPURTENANCES SUCH AS, BUT NOT LIMITED TO, VALVES, COILS, DRAIN PANS, DRAINS, DAMPERS, CONTROLS, MOTORS, CONTROLLERS, ETC., SO THAT THEY CAN BE SERVICED, RESET, REPLACED OR RECALIBRATED, ETC. INSTALL ALL NECESSARY ACCESS PANELS AND BUILDING ACCESS DOORS, AS BELOW, WHERE REQUIRED TO ACCOMPLISH THIS. IF ANY EQUIPMENT OR COMPONENTS DO NOT FIT WHERE INTENDED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING, REQUESTING FURTHER GUIDANCE.
PROVIDE BUILDING ACCESS DOORS FOR ALL MECHANICAL EQUIPMENT REQUIRING SERVICE, INCLUDING BUT NOT LIMITED TO, AHU'S, FANS, DAMPERS, DUCT ACCESS PANELS, CONTROLS, PIPING, VALVES, REGULATORS, TRAPS, ETC., INSTALLED ABOVE HARD CEILINGS, BEHIND WALLS, AND BELOW FLOORS, FOR INSTALLATION BY OTHER DIVISIONS OF THE WORK. BUILDING ACCESS DOORS ARE NOT REQUIRED WHERE THE MECHANICAL EQUIPMENT IS INSTALLED ABOVE LAY-IN AND ACCESSIBLE SPLINE CEILINGS. OTHER TYPES OF SPLINE CEILINGS REQUIRE BUILDING ACCESS DOORS. SIZE THE BUILDING ACCESS DOORS FOR THE USE INTENDED, BUT NOT LESS THAN 12 INCHES BY 12 INCHES. WHERE HUMAN ACCESS IS REQUIRED, PROVIDE 24 INCHES BY 24 INCHES, OR LARGER. WHERE BUILDING ACCESS DOORS CANNOT BE INSTALLED FOR STRUCTURAL OR ARCHITECTURAL REASONS, NOTIFY THE ARCHITECT. PRIME COAT BUILDING ACCESS DOORS IN PAINTED AREAS WITH FINISH PAINTING AS SPECIFIED IN OTHER DIVISIONS. IN WET AREAS, TOILET ROOMS, OR AREAS WITH CERAMIC TILE FLOORS OR WALLS, PROVIDE STAINLESS STEEL BUILDING ACCESS DOORS. PROVIDE BUILDING ACCESS DOORS WITH A CONCEALED KEY OPERATED LOCK AND CONCEALED HINGES. ALL LOCKS SHALL BE KEYED ALIKE. PROVIDE BUILDING ACCESS DOORS AS SPECIFIED IN OTHER DIVISIONS OF THE WORK OR PROVIDE MILCOR DOORS, OR EQUIVALENT, SUITABLE FOR THE INSTALLATION INTENDED. PROVIDE FIRE RATED DOORS FOR ALL FIRE RATED WALLS, PARTITIONS, AND CEILINGS.

10. WORK BY OTHER TRADES:
FURNISH ALL SLEEVE FRAMES, BUILDING ACCESS DOORS, PREFABRICATED EQUIPMENT CURBS, ROOF CURBS, ETC. FOR INSTALLATION BY OTHER TRADES.
INSTALL ALL MOTORS AND FURNISH THE STARTING EQUIPMENT AND DISCONNECTS TO THE DIVISION 26000 SUBCONTRACTOR FOR INSTALLATION. CONTROL WIRING, INCLUDING SWITCHES, THERMOSTATS, INTERLOCKS, ETC. SHALL BE FURNISHED BY DIVISION 23000. ENSURE THAT THE ELECTRICAL EQUIPMENT MOUNTED NEAR THE MECHANICAL EQUIPMENT DOES NOT BLOCK ACCESS TO SERVICE AREAS OF THE MECHANICAL EQUIPMENT. DO NOT ALLOW ANY EQUIPMENT TO BE INSTALLED ON THE HVAC EQUIPMENT ENCLOSURES.

11. FIRE STOPPING:
ALL PENETRATIONS OF FLOORS AND OTHER FIRE-RATED ASSEMBLIES SHALL BE FIRE AND SMOKE-STOPPED IN STRICT ACCORDANCE WITH THE APPLICABLE CODES.

12. FOUNDATIONS AND SPECIAL SUPPORTS:
FURNISH AND INSTALL ALL SPECIAL FOUNDATIONS AND SUPPORTS REQUIRED FOR EQUIPMENT INSTALLED UNDER THIS SECTION, UNLESS THEY ARE A PART OF THE BUILDING STRUCTURE AND ARE SHOWN IN OTHER SECTIONS.

13. CLEANING AND PAINTING:
THOROUGHLY CLEAN ALL EQUIPMENT AND REMOVE ALL TRASH, CARTONS, ETC. MAKE ANY NECESSARY CORRECTIONS OR REPAIR/REPLACE ANY DAMAGED MATERIALS OR EQUIPMENT. LEAVE THE ENTIRE SYSTEM IN A THOROUGHLY CLEAN AND ORDERLY MANNER.
ANY FINISHED SURFACES THAT HAVE BEEN SCRATCHED OR DISCOLORED SHALL BE TOUCHED-UP OR REPAINTED BREAK TO BREAK WITH PAINT TO MATCH THE ORIGINAL COLOR. TOUCH UP PAINTED SURFACES OR REPAINT THE ENTIRE PAINTED SURFACE IF TOUCH UP IS UNACCEPTABLE. SEE ARCHITECTURAL PAINTING SPECIFICATIONS.
ALL METAL ITEMS SUBJECT TO RUSTING, INSIDE OR EXPOSED TO WEATHER SHALL BE GIVEN ONE COAT OF PROPER TYPE RUST PREVENTATIVE PRIMER AS SOON AS INSTALLED. APPLY TWO FINISH COATS WITH COLOR TO BE SELECTED BY THE ARCHITECT.
FOR ALL INTERIOR OR EXTERIOR STRUCTURAL GALVANIZED STEEL, COLD GALVANIZE ALL EXPOSED METAL CUT EDGES, HOLES, WELDS, SCRATCHES, ETC., OR HOT DIP GALVANIZE THE ENTIRE STRUCTURE OR FRAME AFTER FABRICATION AND MOUNTING HOLES ARE CUT.
UPON COMPLETION OF THE INSTALLATION, BUT NOT BEFORE, AND BEFORE ACCEPTANCE, THOROUGHLY CLEAN ALL EXPOSED EQUIPMENT, PIPING, DUCTWORK, INSULATION JACKETS, ETC., REMOVING ALL STICKERS, LABELS, MARKING, WRITING, FABRICATION MARKINGS, IDENTIFICATION, ADHESIVE, SEALER, GLUE, RUST, CORROSION, ETC., FROM THEIR EXTERIOR SURFACES.
THE CLEANLINESS AND PAINTING ACCEPTABILITY IS AT THE SOLE DISCRETION OF THE ARCHITECT AND MAY REQUIRE ADDITIONAL CLEANING AND COATS OF PAINT BEFORE ANY SURFACE IS ACCEPTED.

14. SUBMITTAL AND SHOP DRAWINGS:
SUBMIT MANUFACTURER'S CERTIFIED DATA RELATIVE TO ALL EQUIPMENT, PIPING, CONTROLS, ETC. REQUIRED FOR THE INSTALLATION OF THE HVAC, PLUMBING AND FIRE PROTECTION SYSTEMS. SUBMIT FOR REVIEW ALL NECESSARY ENGINEERING, PRODUCT AND INSTALLATION DATA, SHOP DRAWINGS, SAMPLES ETC. FOR ALL EQUIPMENT, MATERIAL, AND SYSTEMS TO ASCERTAIN COMPLIANCE WITH THE TECHNICAL REQUIREMENTS OF THE CONTRACT DOCUMENTS. SUBMIT SIX (6) COPIES OF ALL NECESSARY DATA, CUTS, MANUFACTURER'S SELECTIONS, CATALOGS, BULLETINS, INSTALLATION INSTRUCTIONS, DRAWINGS, DIAGRAMS, CURVES, ETC. CLEARLY INDICATE ON THE SUBMITTED DATA, THE MANUFACTURER'S NAME, PRODUCT NUMBER(S), OPTIONS, EQUIPMENT CAPACITY, DIMENSIONAL DATA, WEIGHTS, AND OTHER APPLICABLE TECHNICAL DATA FOR THE PROJECT.
TRADE NAMES, MANUFACTURERS, AND CATALOGUE NUMBERS ARE MENTIONED HEREIN AND ON THE DRAWINGS SOLELY IN ORDER TO ESTABLISH A STANDARD FOR THE TYPE, GENERAL DESIGN, AND QUALITY OF PRODUCT REQUIRED. OTHER PRODUCTS SIMILAR IN DESIGN OF EQUIVALENT QUALITY CAPABLE OF FITTING WITHIN THE SPACES ALLOCATED AND COMPLYING WITH THE

DRAWINGS AND SPECIFICATIONS WILL BE CONSIDERED AFTER THE CONTRACT IS LET UNLESS "PRIOR APPROVAL" REQUIREMENTS ARE SET FORTH IN THESE DOCUMENTS.
WHERE TWO OR MORE MANUFACTURERS OR MATERIALS ARE NAMED, THE CONTRACTOR MAY SUBMIT ANY OF THOSE NAMES, PROVIDED THEY CONFORM TO THE SPECIFICATIONS AND DESIGN INTENT. CONTRACTOR SHALL INCLUDE WITH THE SUBMITTAL A LIST OF ALL COMPARATIVE FEATURES INDICATING COMPLIANCE WITH THE SPECIFICATIONS.
THE ARCHITECT AND/OR ENGINEER MAY REQUIRE THE SUBMISSION OF SAMPLES, PARTICULARLY WHEREVER EQUIPMENT OR APPLIANCES ARE VISIBLE IN FINISHED AREAS, SUCH AS CEILINGS, INTERIOR AND EXTERIOR WALLS. THE CONTRACTOR AND SUPPLIER SHALL ARRANGE FOR DEMONSTRATIONS OF THE INSTALLATION OF ANY OF THESE PRODUCTS AND THEIR ABILITY TO PERFORM AS SPECIFIED, IF REQUIRED.
REVIEW OF SUBMITTALS AND SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR FITTING THE EQUIPMENT IN THE SPACE ALLOTTED WITH SPACE FOR ALL CONNECTIONS AND SERVICING AND FOR THE COORDINATION OF THE WORK WITH WORK OF OTHER TRADES.

THE CONTRACTOR SHALL REVIEW ALL SUBMITTALS AND SHOP DRAWINGS AND INDICATE BY STAMP OR LETTER THAT HE HAS REVIEWED THEM, BEFORE FORWARDING THEM TO THE ARCHITECT AND/OR ENGINEER. SUBMITTALS AND DRAWINGS WILL BE RETURNED AFTER REVIEW INDICATING WHETHER EXCEPTIONS ARE TAKEN, THE SUBMITTAL RETURNED WITH CORRECTIONS, OR IS COMPLETELY REJECTED. RESUBMISSION OF REVISED SUBMITTALS AND SHOP DRAWINGS, IF REQUIRED, SHALL BE DONE BEFORE INSTALLATION AND CONSTRUCTION IS BEGUN.
CORRECTIONS OR COMMENTS MADE ON THE SUBMITTALS AND DRAWINGS DURING THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THIS REVIEW IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FABRICATION PROCESSES, TECHNIQUES OF CONSTRUCTION, COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING WORK IN A SAFE AND SATISFACTORY MANNER. REVIEW OF THE SUBMITTALS SHALL NOT PERMIT ANY DEVIATION FROM PLANS AND SPECIFICATIONS.
SUBMITTALS FOR A SPECIFIC CLASS OF PRODUCTS, SYSTEMS, INSTALLATION PROCEDURES, SHOP DRAWINGS, ETC. WILL BE REVIEWED BY THE ENGINEER ONE TIME AND ITS RESUBMITTAL ONE TIME, IF NECESSARY, AS ABOVE, AT NO COST TO THE CONTRACTOR. THE CONTRACTOR WILL BEAR THE FULL COST FOR ALL SUBSEQUENT RESUBMITTAL REVIEWS AT THE ENGINEER'S STANDARD HOURLY RATES. PAYMENT WILL BE REQUIRED AT COMPLETION OF RESPECTIVE REVIEW.
REQUIRED SHOP DRAWINGS:
SUBMIT THE FOLLOWING SHOP DRAWINGS BEFORE ANY MECHANICAL DUCTWORK, PIPING, EQUIPMENT, ETC. IS FABRICATED AND INSTALLED. SUBMIT THESE SHOP DRAWINGS IN 1/4 INCH PER FOOT MINIMUM SCALE WITH NECESSARY PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ISOMETRICS. SUBMIT SIX (6) PAPER COPIES AND ONE (1) CD-ROM WITH ALL THESE DRAWINGS IN AUTOCAD DRAWING DWG FILES, LATEST AUTOCAD FORMAT.
SOON AFTER AWARD OF THE CONTRACT, DETERMINE WHERE THERE MAY BE INSTALLATION, SPACE CONCERNS, AND/OR WHERE OTHER CONFLICTS WILL OCCUR. SUBMIT COORDINATION DRAWINGS, RELATING TO THESE CONFLICTS WITH THE MECHANICAL EQUIPMENT, DUCT, PIPING, ELECTRICAL, STRUCTURAL AND ARCHITECTURAL SYSTEMS ETC., SHOWING CLEARANCES AND RELATIONSHIP TO STRUCTURAL MEMBERS, PIPING, LIGHTS, CONDUITS, ELECTRICAL EQUIPMENT, AND BUILDING COMPONENTS. IN PREPARING THESE SHOP DRAWINGS, ESTABLISH LINES AND LEVELS FOR ALL DIVISIONS OF THE WORK IN THE AFFECTED AREA. IMMEDIATELY CALL TO THE ATTENTION OF THE ARCHITECT ANY INTERFERENCE OR CONFLICT FOR CLARIFICATION IN WRITING.
SUBMIT SHOP DRAWINGS FOR ALL DUCTWORK. SUBMIT LAYOUT DRAWINGS OF EACH MECHANICAL SYSTEM SHOWING THE LOCATION, ARRANGEMENT, ETC. OF ALL EQUIPMENT, ALL TRADES, ETC. TO BE INSTALLED RELATED TO THE RESPECTIVE SYSTEM.

15. AS-BUILT DRAWINGS:
MAINTAIN DAILY UPDATED DRAWINGS SHOWING DEVIATIONS FROM CONSTRUCTION DOCUMENTS. AT THE END OF THE PROJECT, PROFESSIONALLY PREPARE AS-BUILT DRAWINGS AND SUBMIT THREE COPIES, ONE REPRODUCIBLE.
16. OPERATION AND MAINTENANCE MANUALS:
UPON COMPLETION OF THE PROJECT, SUBMIT THREE COPIES OF ALL OPERATION AND MAINTENANCE MANUALS, WARRANTIES, SPARE PARTS LIST, AS-BUILT DRAWINGS, TEST AND BALANCE REPORTS, AND LETTER OF GUARANTEE ALL BOUND IN THREE RING BINDERS, CLEARLY SHOWING WHICH EQUIPMENT WAS SUPPLIED TO THE JOB.
17. PROJECT COMPLETION:
BEFORE STARTING AND TESTING ANY SYSTEM, HVAC, OR PLUMBING, TO PREVENT INADVERTENT OPERATION OF THE MECHANICAL EQUIPMENT BEFORE THE MANUFACTURER'S INSPECTION AND TESTING, THE CONTRACTOR SHALL: PRIME COAT BUILDING ACCESS DOORS AND CONTRACTOR VERIFY THAT ALL ELECTRICAL POWER IS OFF TO ALL MECHANICAL EQUIPMENT, INCLUDING THE AHU'S, ACCU'S, BOOSTER PUMPS, FIRE PUMPS, ETC.
LOCK OUT EACH SYSTEM USING SETON MODEL NUMBER 70329; "DO NOT OPERATE" LOCK ON LOCKOUT TAGS, OR EQUIVALENT. INSTALL LOCKOUT TAGS AT EACH PIECE OF EQUIPMENT, ELECTRICAL DISCONNECTS, STARTERS, SWITCHES, ETC.
REMOVE THESE TAGS ONLY WHEN THE MANUFACTURER APPROVES OF THE EQUIPMENT INSTALLATION IN WRITING. EACH MANUFACTURER OR THEIR REPRESENTATIVE SHALL INSPECT THEIR EQUIPMENT FOR COMPLIANCE TO THEIR INSTALLATION REQUIREMENTS AND RECOMMENDATIONS. IN ADDITION, THE COMPRESSOR MANUFACTURER SHALL INSPECT EACH REFRIGERANT PIPING INSTALLATION FOR ADHERENCE TO THE APPROVED REFRIGERANT PIPING DIAGRAMS, ROUTING. EACH MANUFACTURER SHALL PREPARE A PUNCH LIST OF ALL DEFICIENCIES. IN WRITING WITH COPIES TO THE ARCHITECT AND CONTRACTOR.
EACH MANUFACTURER SHALL REINSPECT THE EQUIPMENT AFTER THE CONTRACTOR HAS CORRECTED ALL DEFICIENCIES. WHEN THE MANUFACTURER HAS GIVEN THEIR WRITTEN APPROVAL WITH COPIES TO THE ARCHITECT AND CONTRACTOR, THE CONTRACTOR MAY REMOVE THE LOCKOUT TAGS, SAFELY START, AND TEST THE EQUIPMENT, AS REQUIRED HEREIN.
CONTRACTOR SHALL PROVIDE FOR ALL NECESSARY DRILLING OF WALL STUDS, CEILING JOISTS, PLATES, FINISHES, ETC. TO ACCOMMODATE ROUTING AND INSTALLATION OF ALL PIPING, DUCT, ETC.
HVAC EQUIPMENT, METHODS AND MATERIALS

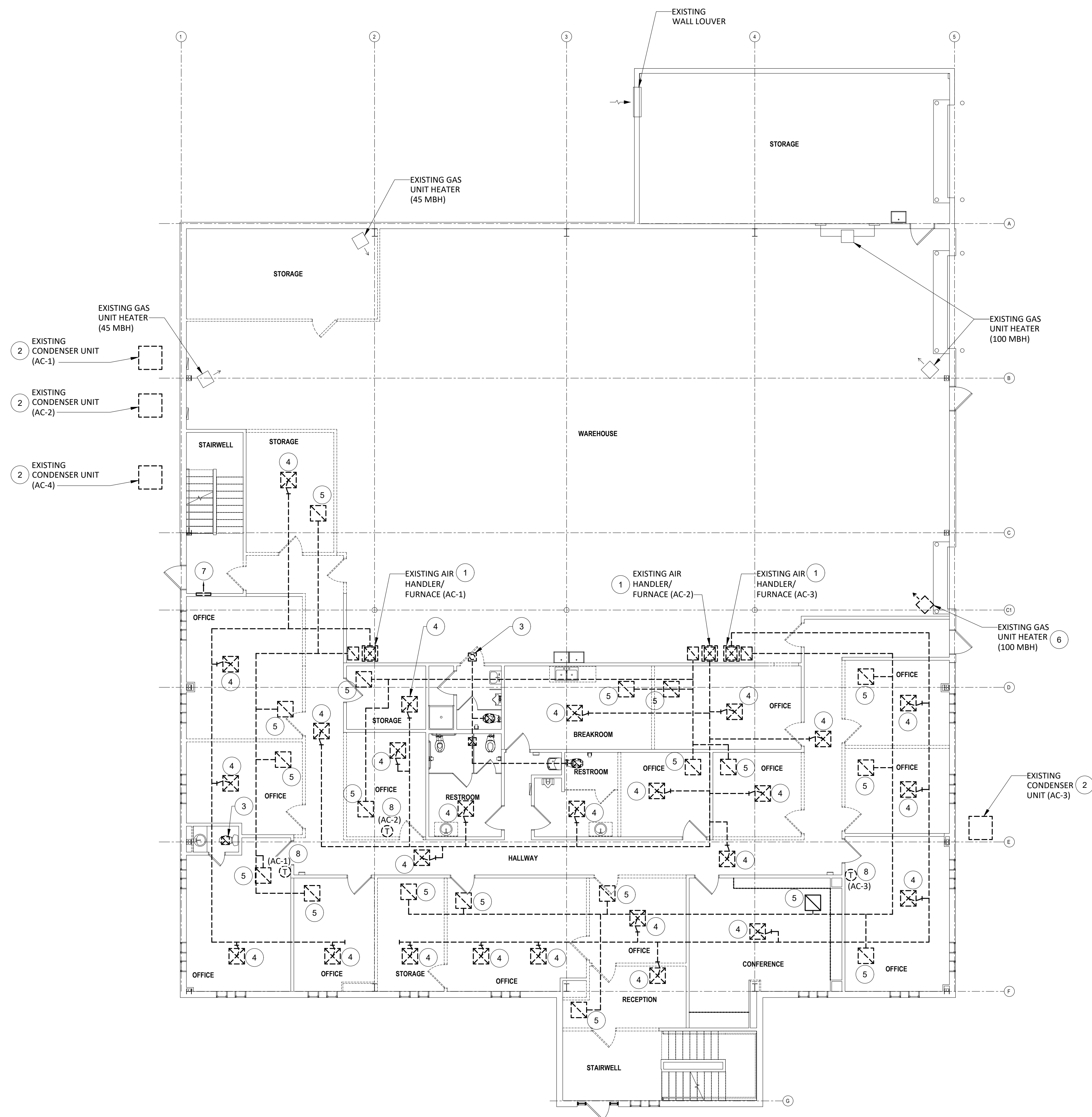
18. DUCTWORK GENERAL:
DUCT SIZES SHOWN ON THE DRAWINGS ARE INSIDE DIMENSIONS AND DO NOT TAKE INTO ACCOUNT LINING THICKNESS. DUCTWORK SHALL BE GALVANIZED SHEET METAL WITH GAUGES, CONSTRUCTION DETAILS AND INSTALLATION ACCORDING TO N.F.P.A. STANDARD 90A, ASHRAE, AND SMACNA DUCT CONSTRUCTION MANUALS AND REQUIREMENTS. PROVIDE FLEXIBLE CONNECTIONS AT AIR HANDLING UNITS AND FANS. PROVIDE SINGLE THICKNESS TURNING VANES IN ELBOWS. PAINT DUCTS, SLEEVES, PLENUMS, ETC., INTERIORS VISIBLE THROUGH AIR DEVICES WITH A MINIMUM OF ONE COAT OF PROPER TYPE RUST PREVENTATIVE PRIMER, SUITABLE FOR GALVANIZED STEEL, AND TWO FINISH COATS OF FLAT BLACK PAINT.
19. DUCT CONSTRUCTION MATERIALS:
ALL SUPPLY DUCTWORK WHICH IS CONCEALED ABOVE CEILINGS AND/OR LOCATED WITHIN MECHANICAL ROOMS SHALL BE EXTERNALLY INSULATED UNLESS SPECIFICALLY CALLED OUT ON THE DRAWINGS AS INTERNALLY LINED. RETURN DUCTS LOCATED OUTSIDE OF THE BUILDINGS INSULATION ENVELOPE SHALL BE INSULATED (EXTERNALLY IF NOT EXPOSED TO VIEW BY THE PUBLIC). ALL EXPOSED, SUPPLY AND RETURN DUCTWORK, SHALL BE DOUBLE-WALLED INTERNALLY INSULATED DUCT WITH PERFORATED INTERNAL LINER, 1" ACOUSTIC INSULATION AND GALVANIZED SHEET METAL EXPOSED ON EXTERIOR. ALL OUTSIDE AIR DUCTWORK SHALL BE INSULATED. ALL EXPOSED DUCTWORK SHALL BE SPIRAL SHEET METAL DUCTWORK.
FLEXIBLE DUCT: PRE-INSULATED FLEXIBLE DUCT. NO FLEXIBLE DUCT RUNS LONGER THAN 5 FEET.
20. FABRICATION, ERECTION, AND SUPPORT:
ALL DUCTWORK SHALL BE FABRICATED, ERECTED, BRACED, AND SUPPORTED IN STRICT ACCORDANCE WITH THE LATEST EDITIONS OF SMACNA AND ASHRAE REQUIREMENTS.
21. ACOUSTIC LINED DUCTWORK:
ACOUSTICALLY AND THERMALLY LINE RETURN, AND EXHAUST DUCT (WITHIN 10FT OF FANS) AND PLENUMS WITH 1" THICK, 1 1/2 P/C FIBERGLASS DUCT LINER, APPLIED PER THE MANUFACTURER'S AND NAIMA REQUIREMENTS. DUCT LINER SHALL MEET AND/OR EXCEED ASHRAE'S I.A.Q. STANDARD 62. USE WELDED STICK CLIPS, IN LIEU OF ADHESIVE TYPE FASTENERS AND FULL COVERAGE ADHESIVE. PROVIDE EDGE NOSINGS WHERE REQUIRED. COAT ALL EXPOSED FIBERGLASS WITH HARDCAST "LAG-GRIP 671".
22. JOINT SEALING:
SEAL ALL DUCT JOINTS AND SEAMS (LONGITUDINAL AND TRANSVERSE) WITH HIGH PRESSURE DUCT SEALER, HARDCAST "IRON-GRIP 601" OR APPROVED EQUIVALENT. REINFORCED FOIL BACKED TAPES, CLOTH OR PLASTIC BACKED TAPES (DUCT TAPE) ARE NOT ACCEPTABLE.
23. FLEXIBLE AIR DUCT:
DUCT SHALL BE UL LISTED UL-181, CLASS 1 AIR DUCT MATERIAL AND SHALL COMPLY WITH N.F.P.A. 90A AND 90B AND ALL LOCAL REQUIREMENTS. DUCT SHALL HAVE AN OPERATING AIR PRESSURE OF 6 INCHES WG POSITIVE AND 4 INCHES WG NEGATIVE, ACOUSTICAL DOUBLE LAMINATED INNER FABRIC BONDED TO A STEEL HELIX WIRE. OUTER JACKET FIRE RETARDANT REINFORCED ALUMINUM MYLAR WITH FIBERGLASS INSULATION. FLEXMASTER TYPE "8M" ACOUSTICAL

INSULATED OR EQUIVALENT.
MAKE ALL FLEXIBLE DUCT CONNECTIONS TO HARD DUCT USING STAINLESS STEEL SCREW CLAMPING BANDS AND SEALED AIR TIGHT WITH HIGH PRESSURE DUCT SEALER. PLASTIC BANDS ARE NOT ACCEPTABLE.
SEAL FLEXIBLE DUCT VAPOR BARRIER TO HARD DUCT AND/OR ADJACENT INSULATION. NO EXPOSED FIBERGLASS SHALL BE VISIBLE.
24. AIR DISTRIBUTION DEVICES:
COORDINATE THE EXACT LOCATIONS OF ALL AIR DEVICE NEEDS WITH THE ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION. COORDINATE THE EXACT LOCATION OF EACH OUTLET WITH THE ARCHITECT WITH REGARD TO CEILING AND WALL SPACING, CENTERING ALONG SOFFITS, WALLS, ETC. FURNISH AND INSTALL WHERE SHOWN ON THE DRAWINGS ALL DIFFUSERS, GRILLES, AND REGISTERS OF THE SIZE, TYPE, AND CAPACITY AS INDICATED IN THE AIR DEVICE SCHEDULE.
25. LOUVERS:
LOUVERS SHALL BE EQUIVALENT TO GREENHECK, MODEL ESD-435 AND SHALL BE CONSTRUCTED OF EXTRUDED ALUMINUM, 4" DEPTH, MIN. 50% FREE AREA, WITH DRAINABLE BLADES. PROVIDE WITH INSECT SCREEN. COORDINATE COLOR WITH ARCHITECT.
26. ELBOWS: TURNING VANES AND SMOOTH RADIUS ELBOW (WITHOUT VANES):
AT ALL DUCT TURNS OF 45 DEGREES OR MORE, PROVIDE SINGLE THICKNESS TURNING VANES PER SMACNA REQUIREMENTS. ALTERNATIVELY, USE SMOOTH RADIUS ELBOW (R/W = 1.5).
27. BRANCH TAKEOFF FITTINGS:
AT ALL MAIN TO BRANCH DUCT TAPS, TAKEOFFS, OR RUN-OUTS, PROVIDE 45 DEGREE ENTRANCE TAPS, AS DETAILED BY SMACNA STANDARDS.
28. DUCT MOUNTED ACCESS PANELS:
INSTALL ACCESS PANELS AS FOLLOWS:
AT INLET OF EACH DUCT MOUNTED FIRE AND MOTORIZED DAMPER.
FOR DUCT MOUNTED CONTROLS.
AS REQUIRED AND DIRECTED BY THE TEST AND BALANCE CONTRACTOR.
WHERE REQUIRED FOR DUCT INSPECTION, MAINTENANCE, AND CLEANING.
ACCESS PANELS SHALL BE 18 INCHES X 18 INCHES OR LARGEST DUCT WILL ALLOW. NORMALLY CENTER THE ACCESS PANEL IN THE BOTTOM OF THE DUCT AS CLOSE AS POSSIBLE TO THE DUCT MOUNTED DEVICE. ACCESS PANELS MAY BE INSTALLED ON THE SIDE OF THE DUCT, WHERE NECESSARY.
ACCESS PANELS SHALL BE DOUBLE WALL INSULATED HINGED WITH NEOPRENE GASKETS AND CAM LOCKS ON EACH UNHINGED SIDE. WHERE REQUIRED BECAUSE OF PANEL OPENING CLEARANCE, SUBSTITUTE UNHINGED ACCESS PANELS WITH CAM LOCKS ON EACH SIDE AND CAPTIVE CHAIN. ACCESS PANELS SHALL BE FLEXMASTER "TBSM-TAB DOOR" GREENHECK MODEL "HAD-10", OR EQUIVALENT.
29. REFRIGERANT PIPING:
REFRIGERANT PIPING SHALL CONFORM TO THE REQUIREMENTS OF THE SAFETY CODES FOR MECHANICAL REFRIGERATION AND REFRIGERANT PIPING AND THE MANUFACTURER REQUIREMENTS.
RUN ALL PIPING SQUARE TO BUILDING LINES WHEREVER POSSIBLE. FIELD ROUTE PIPING IN ORDER TO PROVIDE FOR EASE OF ACCESS TO VALVES AND OTHER APPURTENANCES.
SUPPORT INTERIOR PIPING FROM THE BUILDING STRUCTURE USING COPPER OR PVC COATED HANGERS. SUPPORT REFRIGERANT PIPING 4 FOOT ON CENTER AND AT EACH CHANGE OF DIRECTION. PROVIDE 4" WIDE INSULATION SADDLES.
SUBMIT REFRIGERANT PIPING LAYOUT SHOP DRAWINGS FOR EACH UNIQUE SYSTEM, REVIEWED AND APPROVED BY THE MANUFACTURER, IN WRITING. SHOW ALL FILTERS, DRIERS, SIGHT-GLASSES, VALVES, ETC. AS REQUIRED BY THE MANUFACTURER.
USE REFRIGERANT GRADE, TYPE "K" HARD DRAWN COPPER PIPE WITH LONG RADIUS ELBOWS. NO CAST FITTINGS ARE ACCEPTABLE.
INSTALL FILTER DRIER EQUIVALENT TO SPORLAN CATCH-ALL.
INSTALL SIGHT GLASSES WITH MOISTURE INDICATORS COVERED BY A PROTECTIVE CAP. LOCATE THE SIGHT GLASSES INSIDE THE BUILDINGS, CLOSE TO THE FAN COIL IN THEIR RESPECTIVE MECHANICAL CLOSETS.
PROVIDE EXTERNAL FRONT SEATED BRASS SERVICE VALVES WITH SWEAT CONNECTIONS, WITH SERVICE PORTS FOR CHECKING OPERATING REFRIGERANT PRESSURE.
COPPER SHALL BE CLEANED AND SHINED BEFORE BRAZING. BRAZE USING J.W. HARRIS "DYNAFLOW" 6% SILVER BRAZING ALLOY.
PIPING SHALL BE PURGED WITH DRY NITROGEN WHILE BRAZING TO PREVENT OXIDATION. UPON COMPLETION OF A WELD, THE WELD SHALL BE WIPED WITH A DAMP RAG TO REMOVE FLUX WHILE STILL HOT.
ALL PIPING SHALL BE TESTED FOR 24 HOURS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE AND PROVEN TIGHT:
DISCHARGE AND LIQUID REFRIGERANT PIPING--300 PSIG, NITROGEN.
SUCTION REFRIGERANT PIPING--150 PSIG NITROGEN.
REFRIGERANT PIPING, AFTER PROVEN TIGHT, SHALL BE EVACUATED BY MEANS OF AN APPROVED VACUUM PUMP TO A VACUUM OF 2.5 MM HG ABSOLUTE. SYSTEMS SHALL STAND UNDER VACUUM WITH VACUUM PUMP OFF FOR A MINIMUM OF 12 HOURS. SYSTEMS MAY BE CHARGED WITH PROPER REFRIGERANT AFTER ARCHITECT'S APPROVAL OF VACUUM TEST. A DEHYDRATOR SHALL BE USED IN CHARGING HOSE DURING CHARGING OF SYSTEMS WITH REFRIGERANT.
30. GENERAL
THIS SECTION APPLIES TO ALL MECHANICAL WORK.
ALL INSULATION SHALL BE IN STRICT ACCORDANCE WITH ASHRAE STANDARDS AND ALL LOCAL AND STATE ENERGY CODES.
THE INSULATION WORK SHALL BE PERFORMED BY A FIRM REGULARLY ENGAGED IN THIS TYPE WORK USING MECHANICS SKILLED IN THE TRADE.
INSTALL ALL MATERIALS AS RECOMMENDED BY THE MANUFACTURER FOR THE SERVICE INTENDED. ALL INSULATION MATERIAL, INCLUDING SEALER MATERIAL, ADHESIVES, COVERING MATERIAL, FINISH, ETC. SHALL HAVE A U.L. LISTED FLAME SPREAD RATING NOT OVER 24 WITHOUT EVIDENCE OF CONTINUED PROGRESSIVE COMBUSTION AND WITH A SMOKE DEVELOPED RATING NOT HIGHER THAN 50. ALL COATINGS AND COVERINGS FOR HOT SERVICE SHALL BE BREATHER TYPE AND VAPOR BARRIER TYPE FOR COLD SERVICE.
HVAC PIPING:
INSULATE REFRIGERANT SUCTION LINES AND ALL CONDENSATE DRAIN LINES WITH 1" THICK CLOSE CELLED ELASTOMERIC INSULATION INSTALLED PER THE MANUFACTURERS REQUIREMENTS. PAINT EXTERIOR INSULATION WITH TWO COATS OF PAINT AS REQUIRED BY THE INSULATION MANUFACTURER.
EXTERNALLY INSULATED DUCTS:
FOR ALL MECHANICAL EQUIPMENT AND ALL SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK EXPOSED TO NON-CONDITIONED AIR TEMPERATURES WITHIN THE WAREHOUSE AND MEZZANINE AREAS, PROVIDE 3" THICK EXTERNAL INSULATION (3/4 LBS/CU. FT. DENSITY) WITH ALUMINUM EXTERIOR JACKET AND VAPOR BARRIER.
FOR SUPPLY DUCTWORK LOCATED WITHIN THE BUILDINGS CONDITIONED ENVELOPE, EXTERNALLY INSULATE WITH 1 1/2" THICK (3/4 LBS/CU. FT. DENSITY) DUCT WRAP WITH ALUMINUM ALL SERVICE JACKET, VAPOR BARRIER, EXCEPT PRE-INSULATED FLEXIBLE DUCT.
31. EQUIPMENT:
CAPACITY, PERFORMANCE AND CHARACTERISTICS OF EQUIPMENT SHALL BE AS INDICATED ON THE DRAWINGS AND AS SPECIFIED OR IMPLIED HEREIN. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY INCREASED COST TO HIMSELF OR OTHERS FOR EQUIPMENT WHICH DEVIATES FROM THAT SCHEDULED OR IMPLIED HEREIN. REGARDLESS OF COST AFFECT, THE ARCHITECT MUST APPROVE ANY DEVIATION FROM THE DRAWINGS AND THE SPECIFICATION.
32. MOTORS AND STARTERS:
ALL ELECTRICAL MOTORS SHALL BE HIGH EFFICIENCY TYPE WITH MAXIMUM OF 1750 RPM WITH OPEN DRIP PROOF OR TEFZ ENCLOSURES, UNLESS OTHERWISE NOTED. MOTORS LOCATED ON AIR HANDLING UNITS SHALL BE MOUNTED IN RUBBER SUPPORTS OR THE FAN SHALL BE INDEPENDENTLY SUPPORTED ON SPRING ISOLATORS. MOTORS LOCATED IN THE CONDITIONED SPACE SHALL BE SELECTED FOR QUIET OPERATION AND SHALL NOT PRODUCE AN OBJECTIONABLE "MOTOR NOISE" IN THE SPACE.
ELECTRICAL CHARACTERISTICS SHALL BE VERIFIED FROM THE ELECTRICAL DRAWINGS, PRIOR TO BIDDING, AND VERIFIED ON THE JOB WITH THE ELECTRICAL SUB-CONTRACTOR. IF A CONFLICT ARISES, THE ELECTRICAL DRAWINGS SHALL BE THE AUTHORITY.
PROVIDE MOTOR STARTERS AND PROPER HEATER ELEMENTS SIZED IN ACCORDANCE WITH NFPA 70. STARTERS SHALL BE SQUARE-D OR EQUIVALENT WITH OVERLOAD TRIP ELEMENT IN EACH PHASE. LARGER MOTORS AND THEIR STARTERS SHALL MEET THE REQUIREMENTS OF THE UTILITY COMPANY AS TO INRUSH ALLOWABLE AND THE TYPE OF STARTING PERMITTED.
SHOULD ANY MECHANICAL EQUIPMENT REQUIRE EXTRA WORK BY OTHER TRADES, FOR PROPER INSTALLATION, THIS CONTRACTOR SHALL BEAR ALL COSTS, SUCH AS INCREASED ELECTRICAL, STRUCTURAL, ROOFING, ETC.

33. SYSTEMS TEST AND BALANCE:
THE REQUIRED TEST & BALANCE OF THE HVAC SYSTEM SHALL BE PERFORMED BY AN APPROVED INDEPENDENT TESTING AGENCY AS SPECIFIED BELOW.
AGENCY QUALIFICATIONS:
TEST & BALANCE SHALL BE PERFORMED BY AN INDEPENDENT AGENCY ENGAGED SOLELY IN TEST AND BALANCE WORK. AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) AND NATIONAL ENVIRONMENTAL BALANCING BUREAU, (INEBB). SUBMIT A WRITTEN REPORT WITHIN 30 DAYS OF COMMENCING WORK, WITH ANY RECOMMENDED CHANGES TO INSURE BALANCING CAPABILITY. SUBMIT A DETAILED TEST PLAN TO THE ARCHITECT ILLUSTRATING ALL FORMATS,

DRAWINGS, AND TEST PROCEDURE TO BE USED FOR TESTING THE COMPLETED SYSTEM. THE APPROVED PLAN WILL BE USED FOR TESTING THE SYSTEMS. PROCEDURES SHALL INCLUDE REQUIREMENTS LISTED IN AABC/NEBB STANDARDS, LATEST EDITION AND ANY SPECIAL REQUIREMENTS FOR THIS PROJECT. MAKE PROJECT VISITS AS REQUIRED DURING CONSTRUCTION PERIOD INSPECTING FOR PROPER INSTALLATION OF THE SYSTEM AND RELATED BALANCING DEVICES. PROJECT VISIT REPORTS SHALL BE MADE TO THE ARCHITECT IN WRITING.
CONTRACTORS REQUIREMENTS PRIOR TO TEST & BALANCE:
THE CONTRACTOR SHALL PERFORM ALL REQUIRED PRELIMINARY TESTS AND OTHER PREPARATORY WORK, INCLUDING BUT NOT LIMITED TO:
MAKE SURE ALL FANS ARE OPERATING, CHECK ROTATION, RPM, AND AMPS. CHECK ALL DAMPERS FOR OPERATION.
PUT ALL HVAC EQUIPMENT IN FULL OPERATION INCLUDING AIR UNITS AND FANS. MAKE SURE ALL HVAC CONTROLS ARE INSTALLED AND FULLY OPERATIONAL. CLEAN/REPLACE FILTERS JUST PRIOR TO TESTING.
PROVIDE ALL BALANCING DEVICES AND DRIVE CHANGES THAT ARE DEEMED NECESSARY BY T&B AGENCY FOR BALANCE AT NO ADDITIONAL COST TO THE OWNER.
TEST & BALANCE AGENCY SHALL BALANCE ALL AIR SYSTEMS FOR OPERATION WITHIN DESIGN CRITERIA. PRIME MOVERS SHALL BE WITHIN 5% OF DESIGN AND TERMINALS WITHIN 10% OF DESIGN. AIR SYSTEMS SHALL BE BALANCED AS DESCRIBED HEREIN.
REPORT TEST: THE FINAL TAB REPORT SHALL BE SUBMITTED IN PDF FORMAT.
REPORT SHALL BE INDEXED
TABLE OF CONTENTS SHALL LIST ALL REPORTS.
ALL AIR OUTLETS SHALL BE LOCATED ON CODED DRAWINGS PREPARED BY THE T&B AGENCY. AIR OUTLETS FORMS SHALL BE PREPARED AND CORRELATED TO THE CODED DRAWINGS.
TEST SUMMARY SHALL DESCRIBE FINAL TEST PROCEDURES AND SPECIAL CONDITIONS DURING TESTS (SUCH AS THERMOSTAT OUTSIDE/RETURN AIR RELATIONSHIP), AND DUCT STATIC PRESSURE. DESCRIBE OTHER DATA THAT MAY ASSIST OPERATING PERSONNEL IN THE CONTINUING OPERATION OF THE SYSTEM.
T&B CONTRACTOR SHALL TAKE AND RECORD ALL NECESSARY READINGS AT THE FINAL BALANCE POINTS, SUCH AS BUT NOT LIMITED TO: AIR QUANTITIES, PRESSURES, SETPOINTS, ENTERING AND LEAVING COIL TEMPERATURES, SPACE INDOOR AND OUTSIDE WET AND DRY BULB TEMPERATURES, OUTDOOR WEATHER CONDITIONS, ELECTRICAL READINGS OF ALL NEW AND EXISTING MOTORS, COMPRESSORS, ETC.
TEST REPORT SHALL CONTAIN TAB CERTIFICATION OF TEST DATA AND SYSTEM CONDITIONS. SUBMIT THE TEST REPORTS, FOR REVIEW, BEFORE SUBSTANTIAL COMPLETION.
END OF MECHANICAL SPECIFICATIONS.





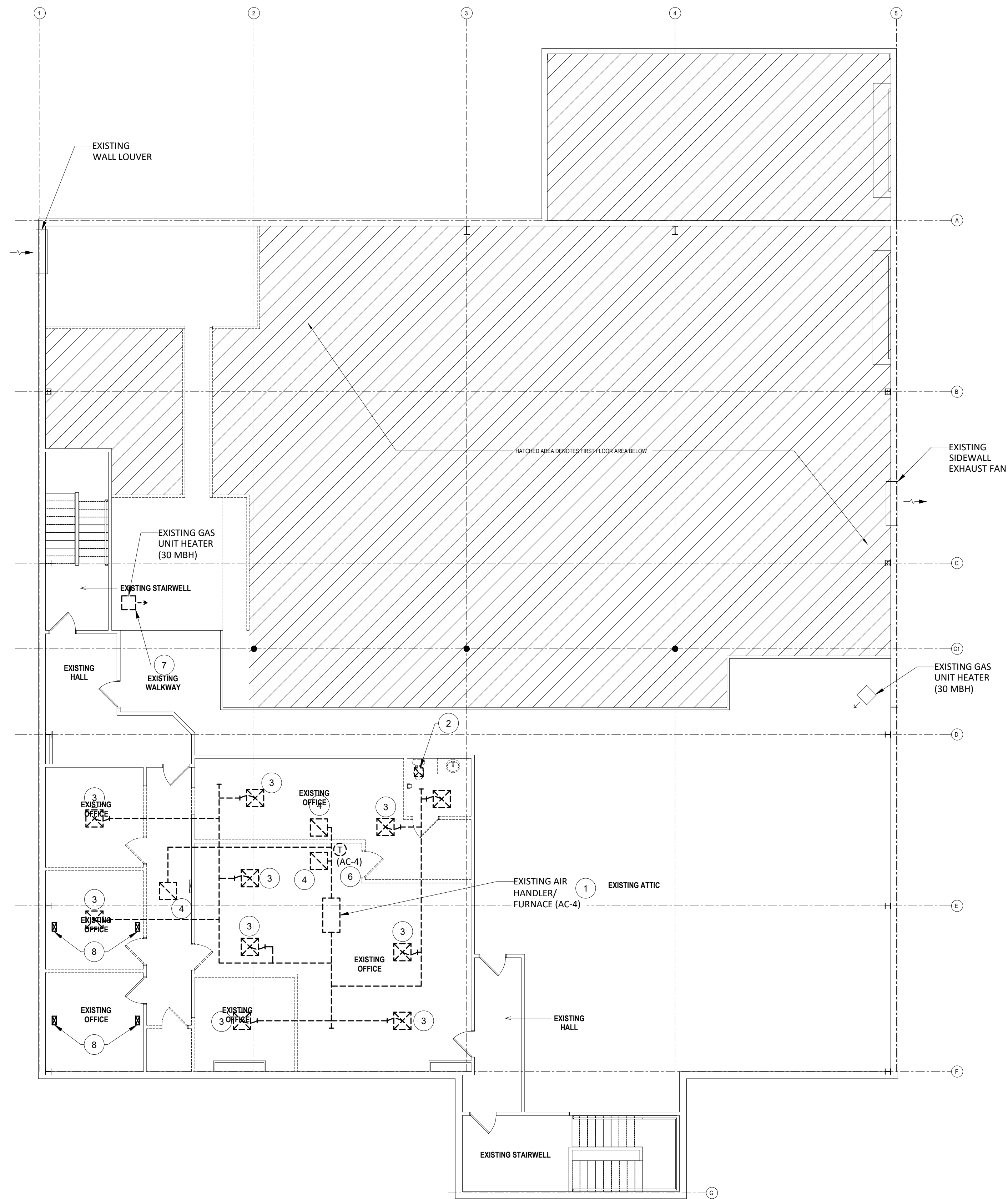
- GENERAL NOTES:
1. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING.
- KEYED NOTES:
- 1 EXISTING GAS FIRED FURNACE, COOLING COIL, AND ALL ASSOCIATED PIPING, DUCTWORK, AND CONTROLS TO BE REMOVED IN THEIR ENTIRETY.
- 2 EXISTING GROUND MOUNTED CONDENSER UNIT AND ASSOCIATED REFRIGERANT PIPING BACK TO ASSOCIATED INDOOR COIL TO BE REMOVED IN THEIR ENTIRETY.
- 3 EXISTING EXHAUST FAN AND ALL ASSOCIATED DUCTWORK/GRILLES TO BE REMOVED IN THEIR ENTIRETY.
- 4 EXISTING SUPPLY DIFFUSER AND ASSOCIATED SUPPLY DUCTWORK TO BE REMOVED IN THEIR ENTIRETY.
- 5 EXISTING RETURN GRILLE AND ASSOCIATED RETURN DUCTWORK TO BE REMOVED IN THEIR ENTIRETY.
- 6 EXISTING GAS UNIT HEATER TO BE RELOCATED. EXTEND ASSOCIATED GAS PIPING, EXHAUST FLUE, AND ASSOCIATED CONTROLS TO BE EXTENDED TO NEW LOCATION.
- 7 EXISTING ELECTRIC WALL HEATER TO BE REMOVED IN ITS ENTIRETY.
- 8 EXISTING THERMOSTAT TO BE REMOVED IN ITS ENTIRETY.

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MECHANICAL DEMOLITION PLAN - 1ST FLOOR
SCALE = 1/8"=1'-0"

3321 SHENANDOAH AVENUE
INTERIOR RENOVATIONS
MECHANICAL DEMOLITION PLAN - FIRST FLOOR
3321 SHENANDOAH AVENUE
ROANOKE, VIRGINIA 24017

DRAWN BY
DESIGNED BY
CHECKED BY
DATE
SCALE
REVISIONS

6/27/2025



MECHANICAL DEMOLITION PLAN - 2ND FLOOR
SCALE = 1/8"=1'-0"

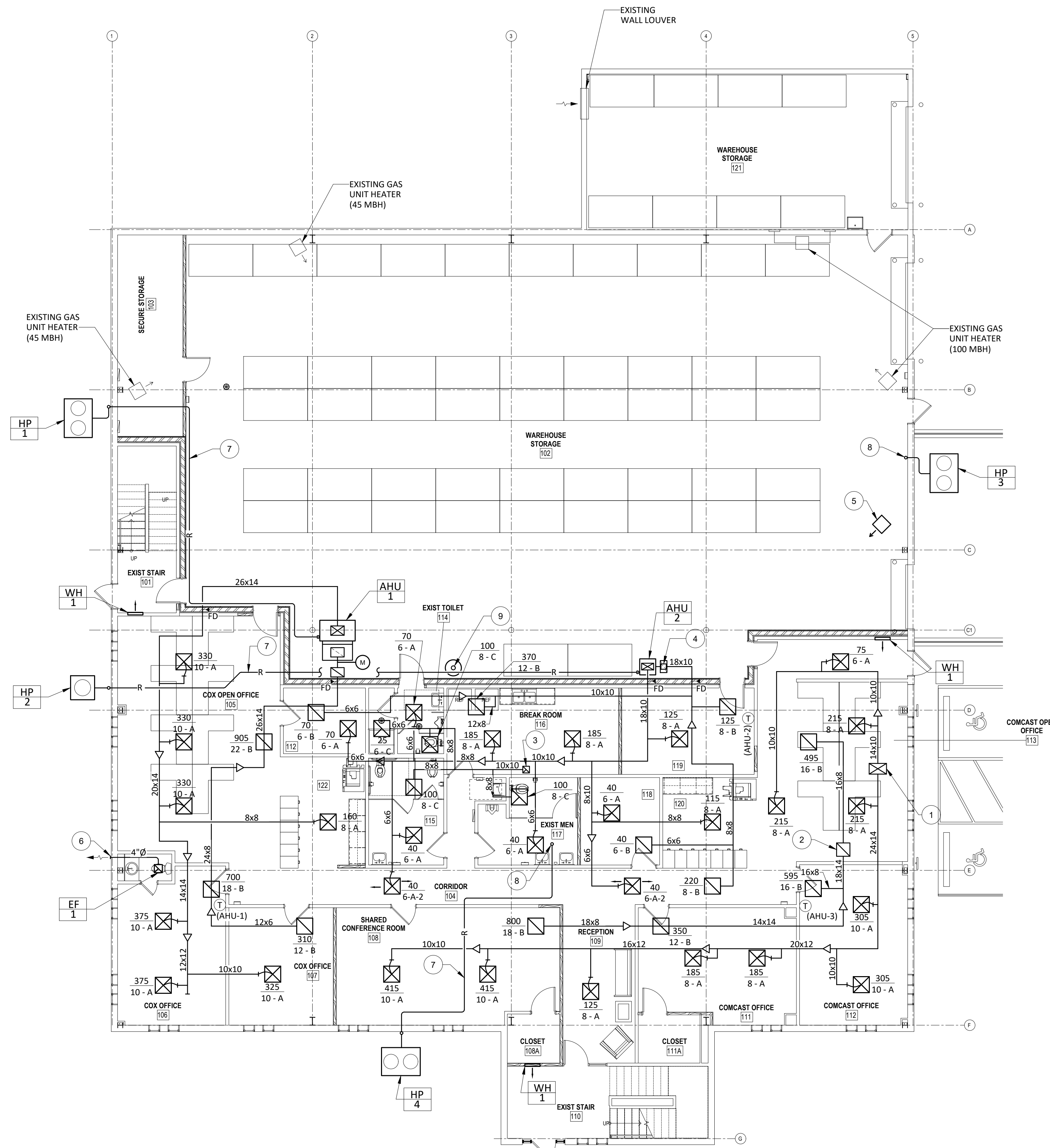
- GENERAL NOTES:
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- 4 EXISTING RETURN GRILLE AND ASSOCIATED RETURN DUCTWORK TO BE REMOVED IN THEIR ENTIRETY.
- 5 EXISTING GAS UNIT HEATER TO BE RELOCATED. EXTEND ASSOCIATED GAS PIPING, EXHAUST FLUE, AND ASSOCIATED CONTROLS TO BE EXTENDED TO NEW LOCATION.
- 6 EXISTING THERMOSTAT TO BE REMOVED IN ITS ENTIRETY.
- 7 EXISTING GAS UNIT HEATER AND ASSOCIATED EXHAUST FLUE TO BE REMOVED IN ITS ENTIRETY. REMOVE ASSOCIATED BRANCH GAS PIPING BACK TO MAIN AND CAP.
- 8 EXISTING FLOOR SUPPLY GRILLE TO BE REMOVED IN ITS ENTIRETY. ASSOCIATED SUPPLY DUCTWORK FROM BELOW TO BE REMOVED.

GENERAL NOTES:

1. PROVIDE DUCT TRANSITIONS FROM UNIT INLET/OUTLET SIZE TO DUCT SIZES NOTED AND PROVIDE FLEXIBLE DUCT CONNECTORS AT UNIT.
2. REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS IF NOT SHOWN ON THIS PLAN.
3. FOR DUCTWORK RUNOUT SIZES NOT SHOWN, PROVIDE SQUARE DUCT SIZE MATCHING AIR DEVICE SIZE (6-6x6, 8-8x8, ETC.).
4. ALL PENETRATIONS THROUGH FULL HEIGHT WALLS SHALL BE SEALED TO PREVENT THE INFILTRATION OF NOISE AROUND THE PENETRATION.
5. ALL RETURN AIR AND TRANSFER DUCT SHALL BE INTERNALLY LINED WITH 1" THICK ACOUSTIC LINER. SIZES SHOWN ARE INSIDE CLEAR.
6. PROVIDE MANUAL VOLUME DAMPERS IN ALL BRANCH DUCT TAKE-OFFS TO SUPPLY, RETURN, EXHAUST AIR DEVICES.
7. REFRIGERANT PIPING IS SHOWN SCHEMATICALLY. EXACT PIPING LENGTHS AND PATHS WILL NEED TO BE CONFIRMED BY CONTRACTOR PER FIELD CONDITIONS. ALL REFRIGERANT PIPING SHALL BE INSTALLED AND SIZED AS RECOMMENDED BY MANUFACTURER. PROVIDE ALL ACCESSORIES AS REQUIRED.
8. PROVIDE SERVICE CLEARANCES FOR ALL EQUIPMENT AS REQUIRED BY MANUFACTURER.

KEYED NOTES:

- 1 26x16 SUPPLY DUCT FROM ABOVE.
- 2 20x20 RETURN DUCT UP.
- 3 10x10 EXHAUST DUCT UP.
- 4 8x8 OUTSIDE AIR DUCT FROM ABOVE.
- 5 NEW LOCATION OF RELOCATED UNIT HEATER. EXTEND GAS LINE AND FLUE TO NEW LOCATION.
- 6 4" WALL CAP WITH BACKDRAFT DAMPER.
- 7 REFRIGERANT LINE SETS (LIQUID AND GAS REFRIGERANT) FROM OUTDOOR UNIT TO CORRESPONDING INDOOR UNIT.
- 8 REFRIGERANT LINE SETS UP.
- 9 PROVIDE 4" Ø VENT FROM RELOCATED GAS WATER HEATER UP THROUGH ROOF. SINGLE WALL GALVANIZED VENT SUITABLE FOR CATEGORY I APPLIANCES. PROVIDE DRAFT HOOD AND VENT CAP ON ROOF.



MECHANICAL PLAN - 1ST FLOOR

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

PROVIDE AIR HANDLER WITH AIR SIDE COMPARATIVE ENTHALPHY ECONOMIZER CONTROLS. SYSTEM SHALL INCLUDE ALL NECESSARY SENSORS, DAMPERS, AND CONTROLS. WHENEVER THE OUTDOOR AIR ENTHALPY IS LESS THAN THE RETURN AIR ENTHALPY, THE OUTSIDE AIR DAMPER SHALL BE MODULATE TO OPEN AND THE RETURN AIR DAMPER SHALL PROPORTIONALLY MODULATE TO CLOSED. WHEN NOT IN ECONOMIZER MODE, THE RETURN AIR DAMPER SHALL BE OPEN AND THE OUTSIDE AIR DAMPER SHALL BE OPEN TO ITS MINIMUM POSITION.

PROVIDE INTERLOCK TO ACTIVATE ASSOCIATED RELIEF FAN AND CONTROL DAMPER WHEN ECONOMIZER MODE IS ACTIVATED.

MOTORIZED CONTROL DAMPERS SHALL BE MODULATING TYPE WITH CONTROL ACTUATORS. PROVIDE TRANSFORMERS AND POWER SUPPLY AS NEEDED TO OPERATE CONNECTED EQUIPMENT.

ECONOMIZER CONTROLS

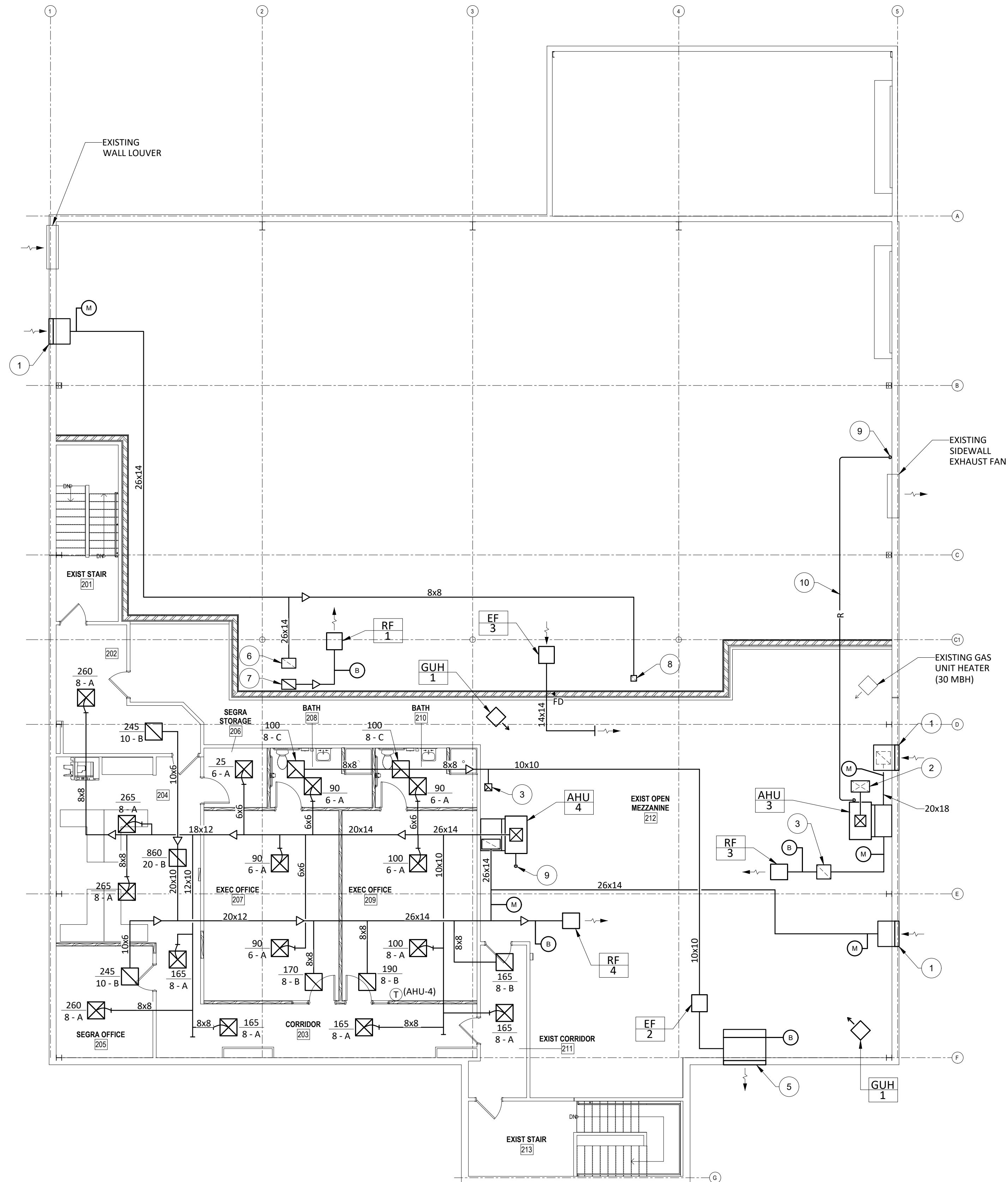
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GENERAL NOTES:

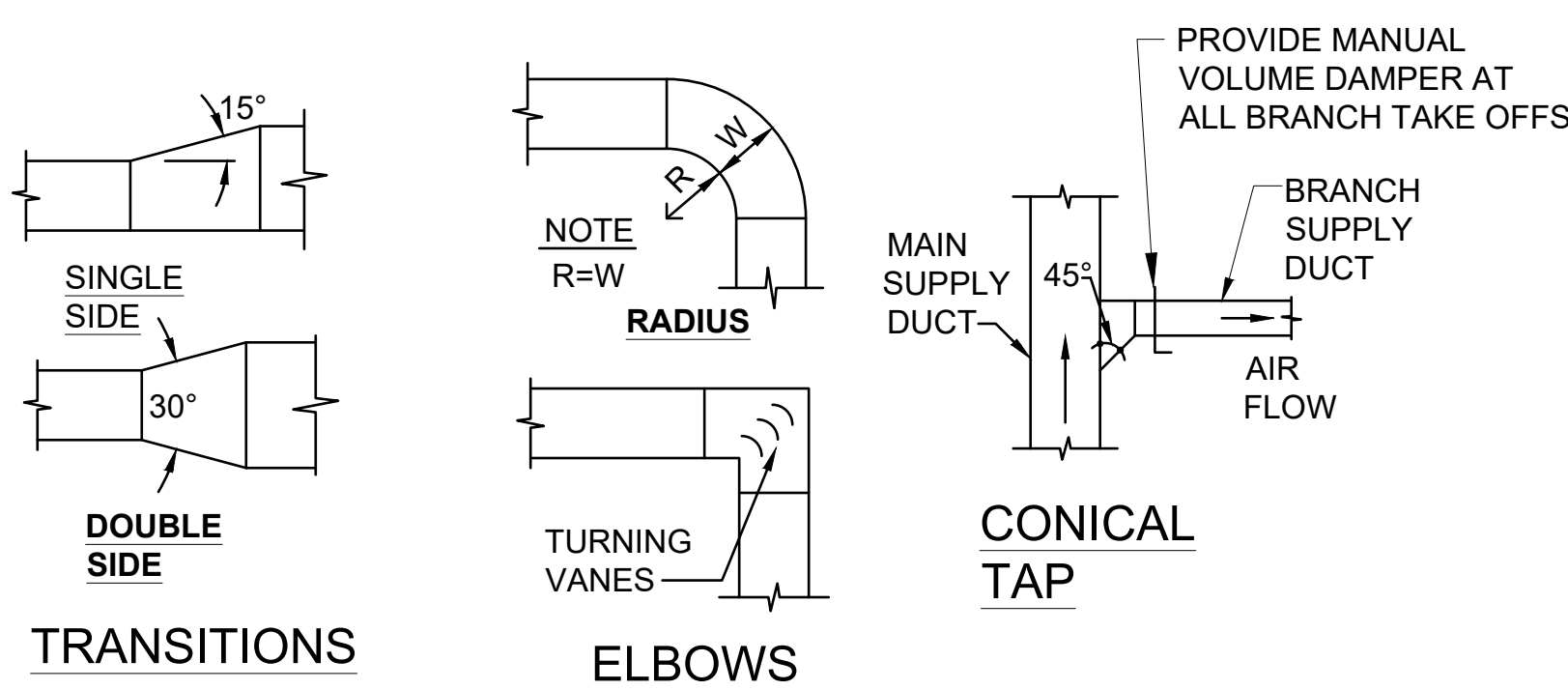
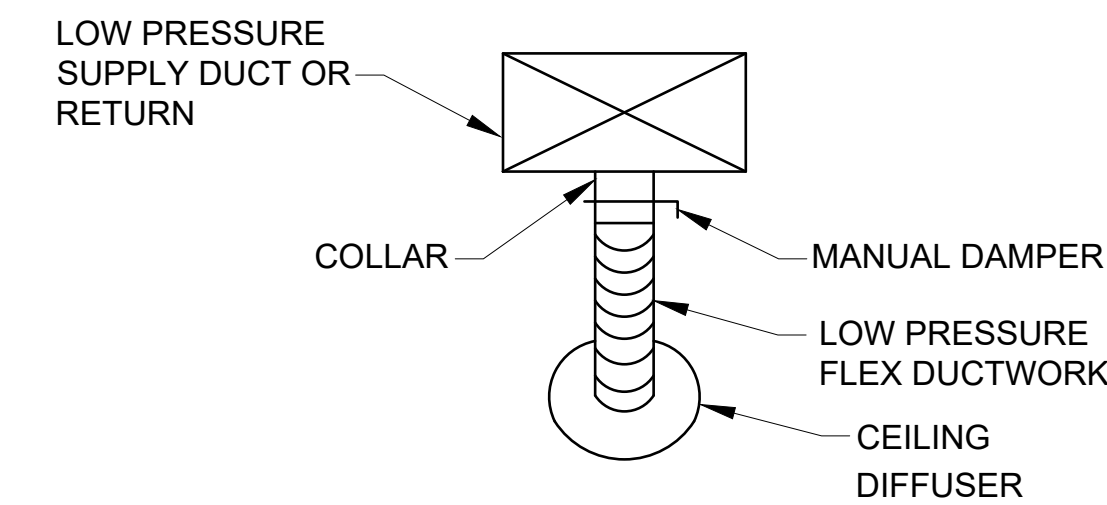
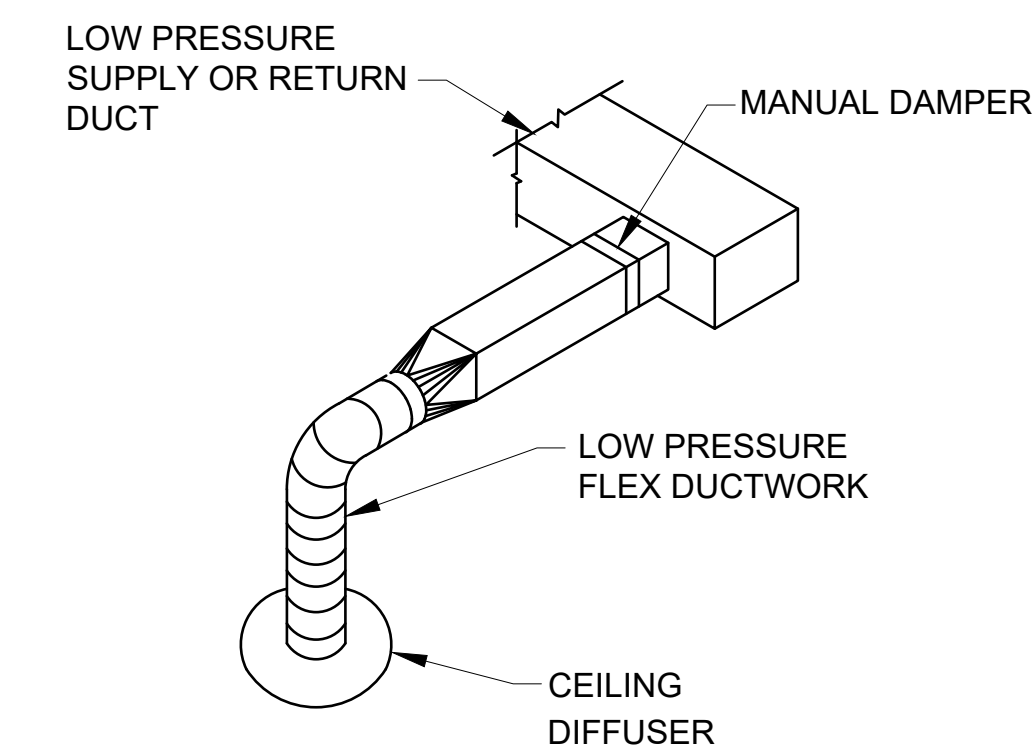
1. PROVIDE DUCT TRANSITIONS FROM UNIT INLET/OUTLET SIZE TO DUCT SIZES NOTED AND PROVIDE FLEXIBLE DUCT CONNECTORS AT UNIT.
2. REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS IF NOT SHOWN ON THIS PLAN.
3. FOR DUCTWORK RUNOUT SIZES NOT SHOWN, PROVIDE SQUARE DUCT SIZE MATCHING AIR DEVICE SIZE (6-6x6, 8-8x8, ETC.).
4. ALL PENETRATIONS THROUGH FULL HEIGHT WALLS SHALL BE SEALED TO PREVENT THE INFILTRATION OF NOISE AROUND THE PENETRATION.
5. ALL RETURN AIR AND TRANSFER DUCT SHALL BE INTERNALLY LINED WITH 1" THICK ACOUSTIC LINER. SIZES SHOWN ARE INSIDE CLEAR.
6. PROVIDE MANUAL VOLUME DAMPERS IN ALL BRANCH DUCT TAKE-OFFS TO SUPPLY, RETURN, EXHAUST AIR DEVICES.
7. REFRIGERANT PIPING IS SHOWN SCHEMATICALLY. EXACT PIPING LENGTHS AND PATHS WILL NEED TO BE CONFIRMED BY CONTRACTOR PER FIELD CONDITIONS. ALL REFRIGERANT PIPING SHALL BE INSTALLED AND SIZED AS RECOMMENDED BY MANUFACTURER. PROVIDE ALL ACCESSORIES AS REQUIRED.
8. PROVIDE SERVICE CLEARANCES FOR ALL EQUIPMENT AS REQUIRED BY MANUFACTURER.

KEYED NOTES:

- 1 36x36 OUTSIDE AIR INTAKE LOUVER. PROVIDE 24" DEEP INSULATED PLENUM BEHIND LOUVER.
- 2 26x16 SUPPLY DUCT DOWN.
- 3 20x20 RETURN DUCT FROM BELOW.
- 4 10x10 EXHAUST DUCT FROM BELOW.
- 5 60x36 RELIEF AIR LOUVER.
- 6 26x14 OUTSIDE AIR DUCT DOWN.
- 7 26x14 RELIEF AIR DUCT FROM BELOW.
- 8 8x8 OUTSIDE AIR DUCT DOWN.
- 9 REFRIGERANT LINE SETS FROM BELOW.
- 10 REFRIGERANT LINE SETS (LIQUID AND GAS REFRIGERANT) FROM OUTDOOR UNIT TO CORRESPONDING INDOOR UNIT.



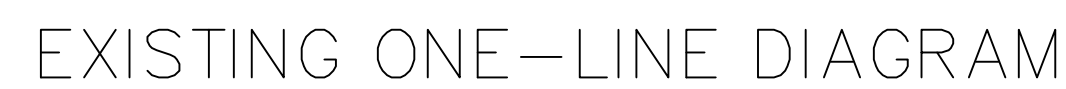
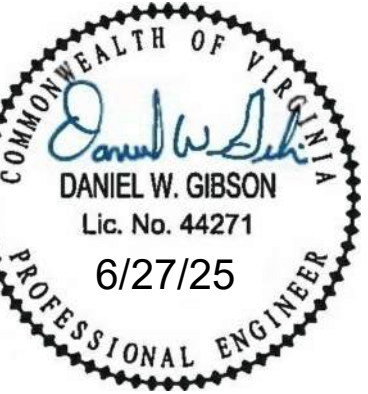
MECHANICAL PLAN - 2ND FLOOR
SCALE = 1/8"=1'-0"



DUCTWORK DETAILS
SCALE = N/A



Roanoke / Richmond
New River Valley / Staunton
Harrisonburg / Lynchburg
www.balzer.cc
1208 Corporate Circle
Roanoke, VA 24018
540.772.9580



EXISTING PANEL A																					
VOLTAGE:		208Y/120		PHASE: 3		BUS AMPS: 600A		☒ SURFACE MOUNTED		kAIC RATING:											
				WIRE: 4		MAIN BREAKER AMPS: MLO		☐ FLUSH MOUNTED		22,000											
CKT	BRKR	WIRE		CIRCUIT		LOAD - KVA		CKT	BRKR	WIRE		CIRCUIT		LOAD - KVA							
NO.	P	AMPS	NO	SZ	*	DESCRIPTION	PHA	PHB	PHC	3 PH	NO.	P	AMPS	NO	SZ	*	DESCRIPTION	PHA	PHB	PHC	3 PH
1											2						SPACE				
3	3	20				AC UNIT					4						SPACE				
5											6	2	100				UPSTAIRS PANEL				
7						SPACE					8										
9						SPACE					10						SPACE				
11						SPACE					12										
13											14										
15	3	200				PANEL B					16										
17											18										
19											20										
21	3	200				PANEL C					22										
23											24										
TOTAL LEFT SIDE							0.0	0.0	0.0	0.0	TOTAL RIGHT SIDE							0.0	0.0	0.0	0.0
TOTAL RIGHT SIDE							0.0	0.0	0.0	0.0	TOTAL CONNECTED LOAD										
TOTAL							0.0	0.0	0.0	0.0											
* NOTES																					

EXISTING PANEL B

VOLTAGE:208Y/120

PHASE: 3

WIRE: 4

BUS AMPS: 200A

MAIN BREAKER AMPS: MLO

X

SURFACE MOUNTED

FLUSH MOUNTED

KAIC RATING:
22,000

CKT	BRKR	WIRE		CIRCUIT		LOAD - KVA				CKT	BRKR	WIRE		CIRCUIT		LOAD - KVA						
NO.	P	AMPS	NO	SZ	+	DESCRIPTION	PHA	PHB	PHC	3 PH		NO.	P	AMPS	NO	SZ	+	DESCRIPTION	PHA	PHB	PHC	3 PH
3	1	20				BAY LTS						2	1	20				BAY RCPTS & SUMP				
3	1	20				BAY LTS						4	1	20				BAY RCPTS				
5	1	20				BAY LTS						6	1	20				WASHBAY RCPTS				
7	1	20				OUTSIDE LTS						8	1	20				BAY RCPTS				
9	1	20				WASHBAY LTS						10	1	20				OUTSIDE RCPTS				
11	1	20				FRONT LOUVER MOTOR						12	1	20				PHONE RCPTS				
13	1	20				OVERHEAD DOOR						14	1	20				STARWELL HEATER				
15	1	20				OVERHEAD DOOR						16	1	20				UNIT HEATERS ON BAY WALLS				
17	1	20				OVERHEAD DOOR						18	1	20				AIR HANDLER #1				
19						FAN MOTOR						20	1	20				AIR HANDLER #3				
21	3	20				FAN MOTOR						22	1	20				AIR HANDLER #2				
23						FAN MOTOR						24	1	20				UNIT HEATER STORAGE				
25	2	50				AC UNIT 1						26	1	20				UNIT HEATER AT BAY DOORS				
27						AC UNIT 1						28	2	50				COMPRESSOR				
29	2	50				AC UNIT 1						30						COMPRESSOR				
31						AC UNIT 2						32	2	20				FLAG POLE				
33	2	20				AC UNIT 2						34						FLAG POLE				
35						AC UNIT 2						36	1	20	2	12		CAGE LTS				
37						COMPUTER PANEL						38						CAGE LTS				
39						COMPUTER PANEL						40						BLANK				
TOTAL LEFT SIDE							0.0	0.0	0.0	0.0		TOTAL RIGHT SIDE							0.0	0.0	0.0	0.0
TOTAL RIGHT SIDE							0.0	0.0	0.0	0.0												
TOTAL							0.0	0.0	0.0	0.0		TOTAL CONNECTED LOAD										0.0

* NOTES

EXISTING PANEL C

VOLTAGE:208Y120

PHASE:3

BUS AMPS: 200A

X

SURFACE MOUNTED

FLUSH MOUNTED

KAIC RATING:22,000

WIRE: 4

MAIN BREAKER AMPS: MLO

KCT	BRKR	WIRE		*	CIRCUIT	LOAD - KVA				KCT	BRKR	WIRE		*	CIRCUIT	LOAD - KVA			
NO.	P	AMPS	NO	SZ	DESCRIPTION	PHA	PHB	PHC	3PH	NO.	P	AMPS	NO	SZ	DESCRIPTION	PHA	PHB	PHC	3PH
1	1	20			LTS HALLWAY					2	1	20			LTS STOR., COMP, PAY BREAK, RR				
3	1	20			LTS STORAGE, STARWELL					4	1	20			LTS PLANRM, OFFICE				
5	1	20			LTS BOOKKEEP, OFFICE					6	1	20			LTS OFFICE				
7	1	20			LTS OFFICE					8	1	20			LTS OFFICE				
9	1	20			LTS FILES, CLAIMS, RECEP					10	1	20			OUTSIDE POLE/LTS				
11	1	20			NIFELT'S WAITING RM, EXITS					12	1	20			SPARE				
13	1	20			LTS ENTRANCE, STARWELL					14	1	20			RCPTS: STOR, PAY COOLER, HALL				
15	1	20			LTS CONFERENCE					16	1	20			RCPTS COMP, RM				
17	2	20			240V RCPT COMPUTER					18	1	20			RCPTS COMP, RM				
19					240V RCPT COMPUTER					20	1	20			SPARE				
21	1	20			RCPTS STORAGE					22	1	20			RCPTS RR				
23	1	20			RCPTS BOOKKEEP, OFFICE					24	1	20			RCPTS PLANRM, BREAK, BAY				
25	1	20			RCPTS OFFICE					26	1	20			DRINK MACHINES BAY				
27	1	20			RCPTS FILES, CLAIMS					28	1	20			RCPTS OFFICE, HALL				
29	1	20			RCPTS CLAIMS, RECEPTION, WAITING					30	1	20			F/A PANEL				
31	1	20			RCPT CONFERENCE, HALLWAY					32	1	20			LTS STORAGE AREA/ROOMS				
33	1	20			GATE					34	1	20			LTS STORAGE AREA				
35	1	20			SPARE					36	1	20			RCPTS STORAGE RMS				
37	1	20			SIGN					38	1	20			RCPTS OFFICE, HALL				
39	1	20			MICROWAVE					40	1	20			REFRIGERATOR				
TOTAL LEFT SIDE						0.0	0.0	0.0	0.0	TOTAL RIGHT SIDE						0.0	0.0	0.0	0.0
TOTAL						0.0	0.0	0.0	0.0	TOTAL CONNECTED LOAD						0.0			

* NOTES

1. REMOVE EXISTING POWER INDICATED WITH DASHED LINES. RETAIN CIRCUIT FOR NEW WORK, TYPICAL.
2. RETAIN EXISTING FIRE ALARM TO BE REUSED WITH NEW LAYOUT. TYPICAL.
3. RECEPTACLES AND DATA INDICATED IN GRAY LINE WORK ARE EXISTING TO REMAIN.
4. RETAIN EXISTING ELECTRICAL SERVICE. UPDATE CIRCUITS AS REQUIRED.
5. REMOVE EXISTING LIGHTING INDICATED WITH DASHED LINES. RETAIN CIRCUITS FOR NEW WORK, TYPICAL.
6. RETAIN EXISTING LIGHTING AND CONTROLS IN WAREHOUSE.
7. SEE MECHANICAL PLANS FOR HVAC DEMOLITION. REMOVE CIRCUITS BACK TO PANEL. PREPARE CIRCUITS TO BE REUSED WITH NEW LAYOUT.

35321 STEINBOCK AVENUE
INTERIOR RENOVATION
FIRST FLOOR DEMOLITION PLAN

3321 SHENANDOAH AVENUE
ROANOKE, VIRGINIA 24017

DRAWN BY	DWG
DESIGNED BY	DWG
CHECKED BY	
DATE	06-27-2025
SCALE	
REVISIONS	

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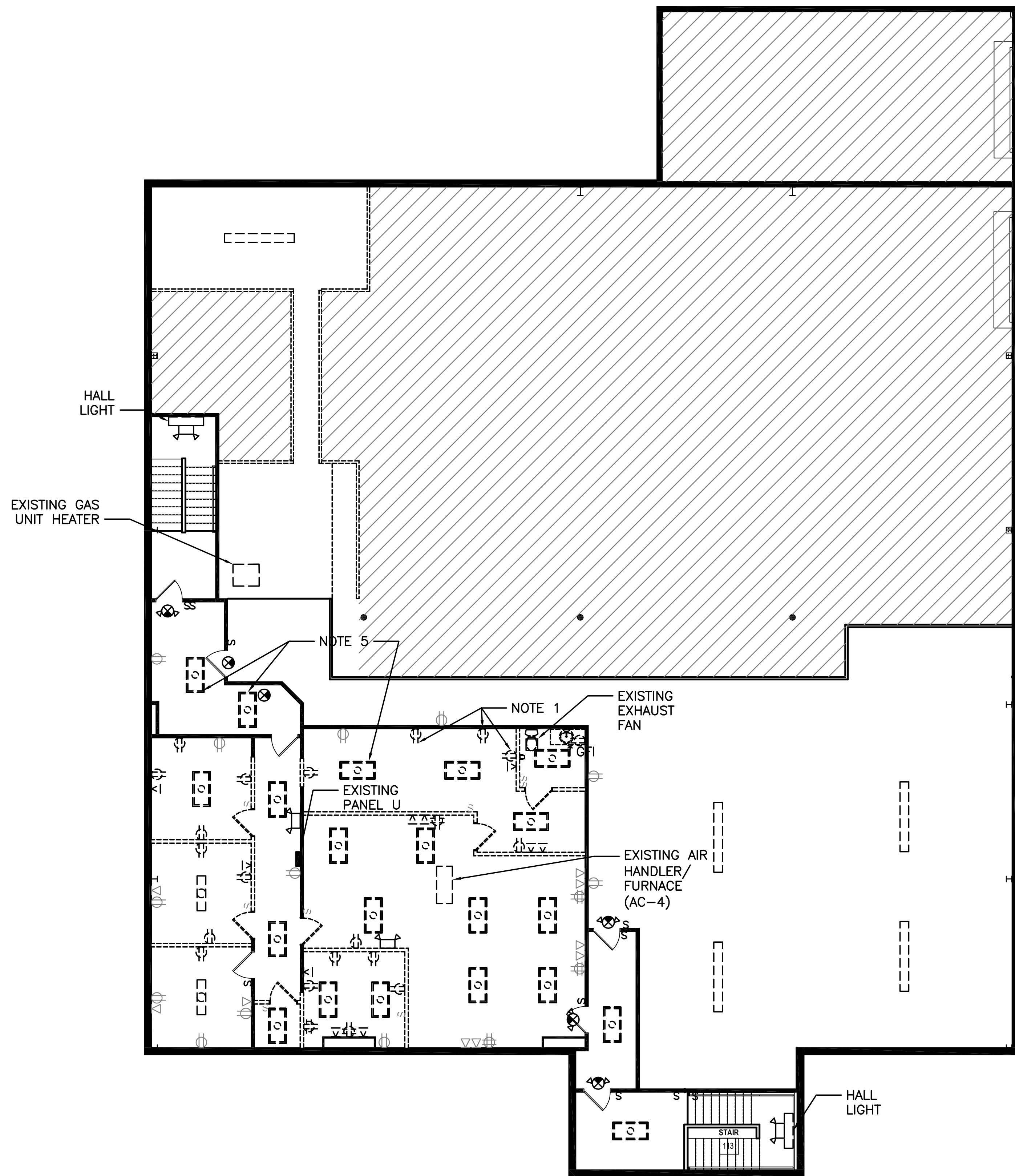
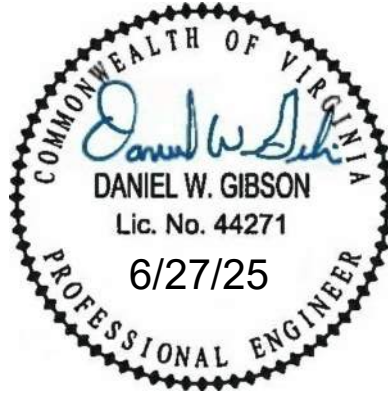


**BALZER
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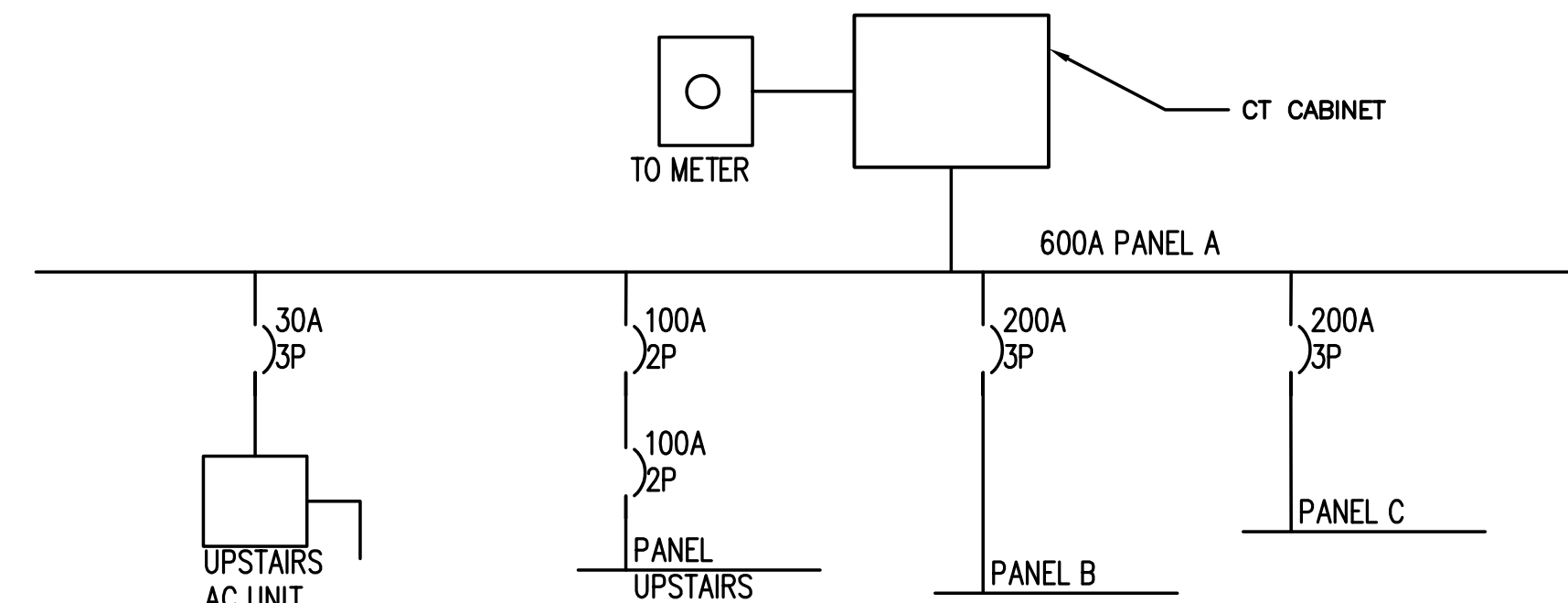
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SECOND FLOOR DEMOLITION PLAN

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



EXISTING ONE-LINE DIAGRAM

EXISTING UPSTAIRS PANEL																							
VOLTAGE: 208Y/120				PHASE: 3				BUS AMPS: 100A				☒ SURFACE MOUNTED		kAIC RATING: 22,000									
				WIRE: 1Ø				MAIN BREAKER AMPS: MLO				☐ FLUSH MOUNTED											
CKT		BRKR		WIRE		CIRCUIT		LOAD - KVA				CKT		BRKR		WIRE		CIRCUIT		LOAD - KVA			
NO.	P	AMPS	NO	SZ	*	DESCRIPTION	PHA	PHB	PHC	3 PH	NO.	P	AMPS	NO	SZ	*	DESCRIPTION	PHA	PHB	PHC	3 PH		
1	1	20				FURNACE					2	1	20	2	12		FURNACE RCPT						
3	1	20				FRNT HALL					4	1	20	2	12		LTS OFFICE, HALL, CLOSET						
5	1	20				BATH GFCI					6	1	20	2	12		OFFICE RCPTS						
7	1	20				LTS RR, FILE, FAN/BATH					8	1	20	2	12		COMP. RCPTS						
9	1	20				OFFICE RCPTS					10	1	20	2	12		LTS OFFICE, EXIT						
11	1	20				FILE, OFFICE RM RCPT					12	1	20	2	12		OFFICE, COMP. RCPTS						
13	1	20				HALLWAY RCPTS					14	1	20	2	12		SPARE						
15	2	20				OUTDOOR UNIT					16						BLANK						
17											18						BLANK						
19						BLANK					20						BLANK						
TOTAL LEFT SIDE							0.0	0.0	0.0	0.0	TOTAL RIGHT SIDE							0.0	0.0	0.0	0.0		
TOTAL RIGHT SIDE							0.0	0.0	0.0	0.0	TOTAL CONNECTED LOAD										0.0		
TOTAL							0.0	0.0	0.0	0.0													
* NOTES																							

NOTES THIS SHEET:

1. REMOVE EXISTING POWER INDICATED WITH DASHED LINES. RETAIN CIRCUIT FOR NEW WORK, TYPICAL.
2. RETAIN EXISTING FIRE ALARM TO BE REUSED WITH NEW LAYOUT, TYPICAL.
3. RECEPTACLES AND DATA INDICATED IN GRAY LINE WORK ARE EXISTING TO REMAIN.
4. RETAIN EXISTING ELECTRICAL SERVICE. UPDATE CIRCUITS AS REQUIRED.
5. REMOVE EXISTING LIGHTING INDICATED WITH DASHED LINES. RETAIN CIRCUITS FOR NEW WORK, TYPICAL.
6. RETAIN EXISTING LIGHTING AND CONTROLS IN WAREHOUSE.
7. SEE MECHANICAL PLANS FOR HVAC DEMOLITION. REMOVE CIRCUITS BACK TO PANEL. PREPARE CIRCUITS TO BE REUSED WITH NEW LAYOUT.

3321 SHENANDOAH AVENUE
INTERIOR RENOVATION
SECOND FLOOR DEMOLITION PLAN

3321 SHENANDOAH AVENUE
ROANOKE, VIRGINIA 24017

DRAWN BY DWG
DESIGNED BY DWG
CHECKED BY
DATE 06-27-2025
SCALE
REVISIONS

ED1.2
PROJECT NO

- GENERAL NOTES
1. MECHANICAL EQUIPMENT IS SHOWN IN APPROXIMATE LOCATIONS. FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND PIPING, SEE MECHANICAL DRAWINGS. SOME MECHANICAL EQUIPMENT IS LOCATED ON THE ROOF. VERIFY LOCATION WITH MECHANICAL AND PROVIDE ALL CONDUIT AND WIRING TO OUTDOOR EQUIPMENT.

2. WHERE LIGHT SWITCHES ARE INDICATED TO BE MOUNTED BEHIND DOOR, MOUNT SUCH SWITCHES A MINIMUM OF 3'-9" FROM HINGED SIDE.

3. REVISE PANELBOARD SCHEDULES ON PANEL DIRECTORIES TO REFLECT FINAL INSTALLATION CONDITIONS.

4. LOCATE ALL RACEWAYS TO AVOID INTERFERENCE WITH DUCTS, PIPES, MECHANICAL EQUIPMENT, WITH REMOVAL OF CEILING TILES, OR WITH ACCESS TO EQUIPMENT WHICH REQUIRES PERIODIC ADJUSTMENT OR MAINTENANCE.

5. PROVIDE NAMEPLATES ON THE EXTERIOR OF ALL ELECTRICAL PANELS AND ENCLOSURES WITH THE DEVICE ID, RATING, POWER SOURCE AND INSTALLATION DATE AND BY WHICH SWITCH OR STARTER.

6. COUNTER AND TOILET RECEPTACLES TO BE GFI AND COUNTER HEIGHT EXCEPT WHERE NOTED. REFRIGERATOR RECEPTACLE TO BE 36" AFF.

7. LIGHT FIXTURE TYPE IS SHOWN ONLY ONCE AS TYPICAL FOR THE ENTIRE ROOM UNLESS SPECIFICALLY INDICATED OTHERWISE.

8. UNLESS INDICATED OTHERWISE, SIZE CONDUITS IN ACCORDANCE WITH NFPA 70.

9. COORDINATE WITH THE MECHANICAL CONTRACTOR TO ENSURE ALL WORKING CLEARANCE AND DEDICATED WORKING SPACE OF PANELBOARDS.

10.COORDINATE ELECTRICAL INSTALLATION WITH ALL CASEWORK TO BE INSTALLED. PROVIDE THE NECESSARY JUNCTION BOXES FOR ALL POWER AND DATA CONNECTIONS INDICATED.

11.GROUNDING CONDUCTORS ARE NOT INDICATED IN BRANCH CIRCUIT RACEWAYS. PROVIDE GROUND CONDUCTORS AS REQUIRED BY NEC.

12.OCCUPANCY SENSORS SHOULD CONTROL ALL LIGHTING IN ROOMS, BOTH INBOARD AND OUTBOARD SWITCHING WHERE APPLICABLE, UNLESS INDICATED OTHERWISE.

13.PROVIDE PLASTIC BUSHING ON THE END OF ALL CONDUIT.

14.PROVIDE LABELS ON ALL RECEPTACLE INDICATING PANEL AND CIRCUIT FEEDING EACH DEVICE.

15.COORDINATE WITH DOC ELECTRONIC SECURITY CONTRACTOR TO PROVIDE DATA DROPS AS REQUIRED AND TO EXACT LOCATION OF DESIRED DROPS. PROVIDE PULL CORDS WITH ALL DATA BOXES. ALL WORK STATIONS REQUIRE DATA DROP.

FIRE ALARM SYSTEM SCOPE

CONTRACTOR TO PROVIDE A NEW FIRE ALARM SYSTEM. REUSE EXISTING FIRE ALARM DEVICE LOCATION. PROVIDE NEW DEVICE LOCATIONS FOR AREAS PREVIOUSLY NOT COVERED BY EXISTING FIRE ALARM DEVICES. E. PROVIDE SHOP DRAWINGS FOR REVIEW BY EOR AND FIRE MARSHAL

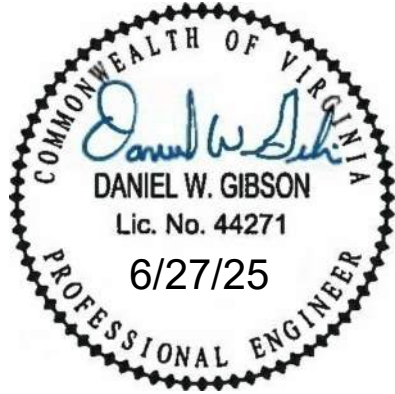
ELECTRICAL LEGEND			
	LED LIGHTING FIXTURE, RECESSED, SURFACE OR PENDANT CEILING MOUNTED, COORDINATE WITH OWNER FOR ANY DESIRED NIGHT LIGHT LOCATIONS. 'EM' INDICATES INTEGRAL OR REMOTE INVERTER TO PROVIDE STANDBY POWER FOR EGRESS. 'NL' INDICATES NIGHT LIGHT. 'b' SUBSCRIPT INDICATES SWITCHING CONTROL WHEN SHOWN FOR CLARITY.		BRANCH CIRCUIT HOME RUN TO PANELBOARD. NOTATION INDICATES PANELBOARD & BRANCH CIRCUIT CONNECTION.
	EXIT LIGHTING FIXTURE, SURFACE CEILING MOUNTED, DIRECTIONAL ARROWS AS REQUIRED. VR SUBSCRIPT INDICATES VANDAL RESISTANT. LITHONIA LIGHTING EDG-EDGR EDGE LIT		CONDUCTORS IN CONDUIT CONCEALED IN SLAB OR BELOW GRADE.
	EXIT LIGHTING FIXTURE, SURFACE WALL MOUNTED, DIRECTIONAL ARROWS AS REQUIRED. LITHONIA LIGHTING EDG-EDGR EDGE LIT		CONDUCTORS IN CONDUIT TURNED UP.
	FURNITURE WHIPS UNLESS INDICATED OTHERWISE, FOR FURNITURE WHIPS PROVIDE POWER		CONDUCTORS IN CONDUIT TURNED DOWN.
	QUAD-PLEX WALL RECEPTACLE	S	SINGLE-POLE SWITCH, MOUNTING HEIGHT = 4'-0" TO TOP. LOWER CASE SUBSCRIPT WHEN USED, INDICATES FIXTURES CONTROLLED (TYP).
	DUPLEX WALL RECEPTACLE, MOUNTING HEIGHT = 1'-6", EXCEPT 'C' SUBSCRIPT INDICATES MOUNTING IN CASEWORK(TYP). 'GF' SUBSCRIPT INDICATES GROUND FAULT, 'WP' SUBSCRIPT INDICATES WEATHERPROOF, 'EWC' SUBSCRIPT INDICATES GROUND FAULT BEHIND ELECTRIC WATER COOLER. '*' INDICATES MOUNTED HEIGHT = 10" ABOVE COUNTER (ALL OF THE COUNTERTOPS HAVE A 4" BACKSPLASH). 'TV' INDICATES COORDINATE MOUNTING HEIGHT WITH TENANT SECURITY PLANS FOR MONITOR LOCATIONS. RECEPTACLE AND DATA OUTLET TO BE BEHIND MONITOR. OUTLETS SHALL BE NEMA 5-20R UNLESS SPECIFIED OTHERWISE.	S3	THREE-WAY SWITCH, MOUNTING HEIGHT = 4'-0" TO TOP.
	OCCUPANCY SENSOR, DUAL TECHNOLOGY	SMC	INTEGRAL OCCUPANCY SENSOR SWITCH, MOUNTING HEIGHT = 4'-0" TO TOP.
	EMERGENCY BATTERY UNIT		COMBINATION 2 DATA/VOICE OUTLET. DATA SYSTEM OUTLET, MOUNTING HEIGHT = 1'-6" UNLESS INDICATED OTHERWISE. PROVIDE 3/4" EMT CONDUIT FROM BOX TO ABOVE ACCESSIBLE CEILING WITH PULL WIRE/STRING WHERE MOUNTED BESIDE COUNTER RECEPTACLE: MOUNT SAME HEIGHT AS RECEPTACLE.
	COMBO EXIT SIGN/ EMERGENCY BATTERY UNIT	So	DIMMER SWITCH, MOUNTING HEIGHT = 4'-0" TO TOP, SUBSCRIPT INDICATES FIXTURES CONTROLLED WITH THIS SWITCH
	EMERGENCY BATTERY UNIT, REMOTE HEAD		PANELBOARD, 480Y/277 VOLT, 208Y/120-VOLT, 3-PHASE, 4-WIRE, MOUNTING HEIGHT=6'-0" TO TOP. SEE PANELBOARD SCHEDULES.
	FIRE ALARM PULL STATION		DISCONNECT SWITCH, EXTERNALLY OPERATED, 240V, 3 # UNLESS OTHERWISE NOTED. NOTATION INDICATES NUMBER OF POLES AND AMPERAGE CAPACITY. 'NF' SUBSCRIPT INDICATES NON FUSED.
	FIRE ALARM HORN STROBES COMBO UNITS		
	FIRE ALARM STROBES		
	FIRE ALARM SMOKE DETECTORS		
	FIRE ALARM CONTROL PANEL		
	FIRE ALARM ANNUNCIATOR PANEL		
LEGEND NOTES: 1. ALL MOUNTING HEIGHTS ARE TO TOP OF DEVICE UNLESS INDICATED OTHERWISE.			

LIGHTING FIXTURE SCHEDULE									
MARK	MANUFACTURER	MODEL NUMBER	INPUT VOLTAGE	LAMPS			TOTAL WATTS	MNTG.	REMARKS
				NO.	WATTS	TYPE			
A	LITHONIA	CPX 2X4 4000L SWL	MVOLT		36	LED		REC	2'X4' RECESSED LED PANEL
B	LITHONIA	FMLWL 48 840 ZT MVOLT	MVOLT		36	LED		SURF	4' WALL MOUNTED WRAP AROUND
C	LITHONIA	LDN6 30/10 L06AR LSS	MVOLT		10.4	LED		REC	6" DOWN LIGHT
	LITHONIA	EU2C	MVOLT			LED		SURF	EMERGENCY LIGHT WITH REMOTE HEADS
	LITHONIA	EXR	MVOLT			LED		SURF	EMERGENCY EXIT SIGN
NOTES:									



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3321 SHENANDOAH AVENUE
INTERIOR RENOVATION
GENERAL NOTES, ELECTRICAL LEGEND, AND LIGHTING FIXTURE SCHEDULE

3321 SHENANDOAH AVENUE
ROANOKE, VIRGINIA 24017

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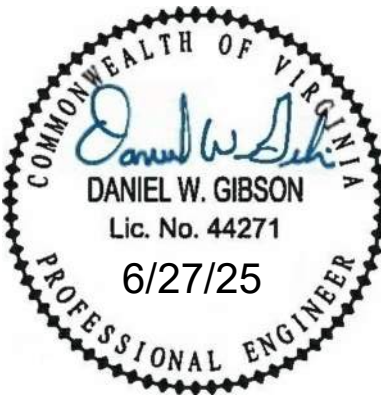


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3321 SHENANDOAH AVENUE

INTERIOR RENOVATION

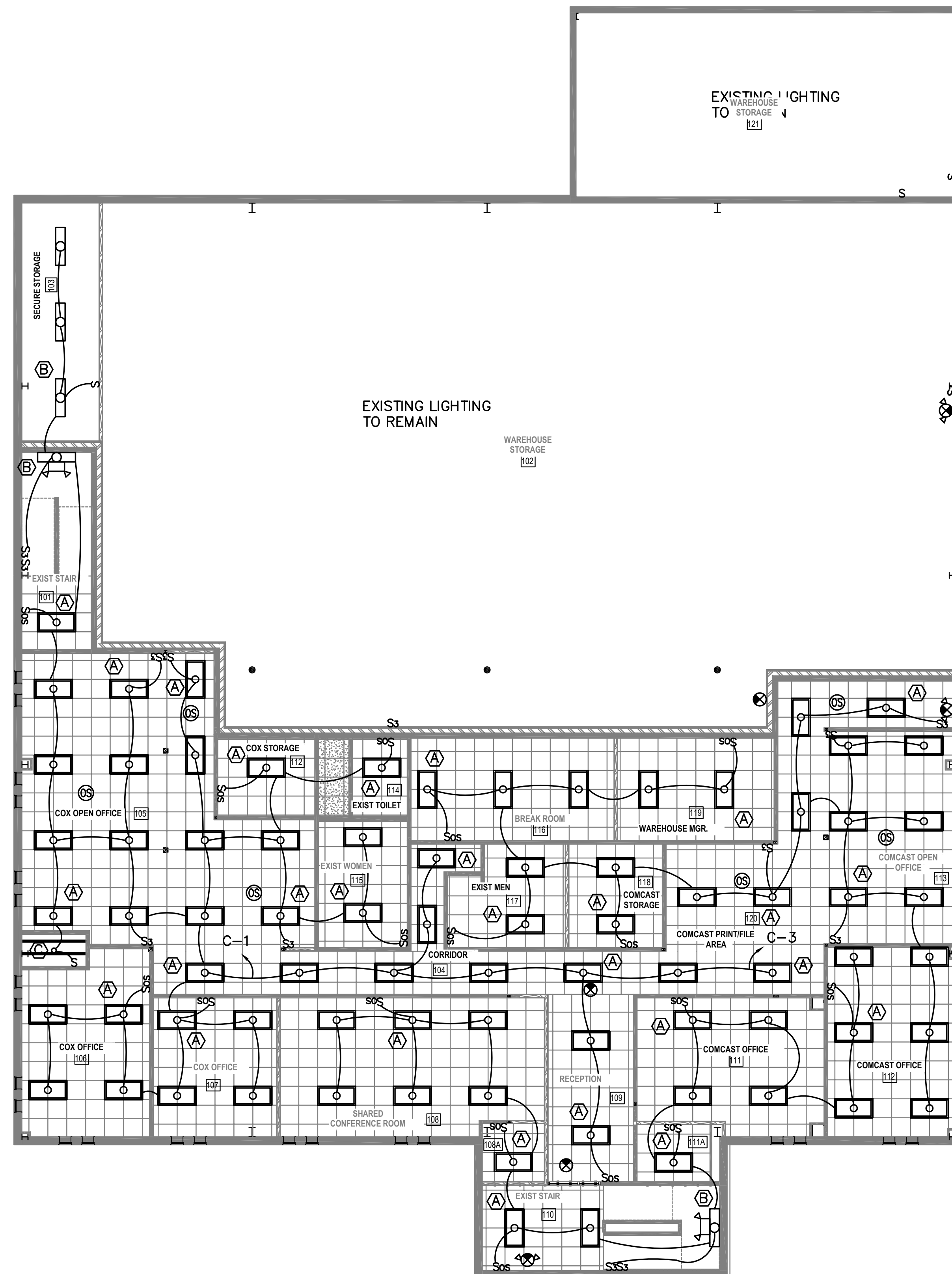
FIRST FLOOR LIGHTING PLAN

3321 SHENANDOAH AVENUE
ROANOKE, VIRGINIA 24017

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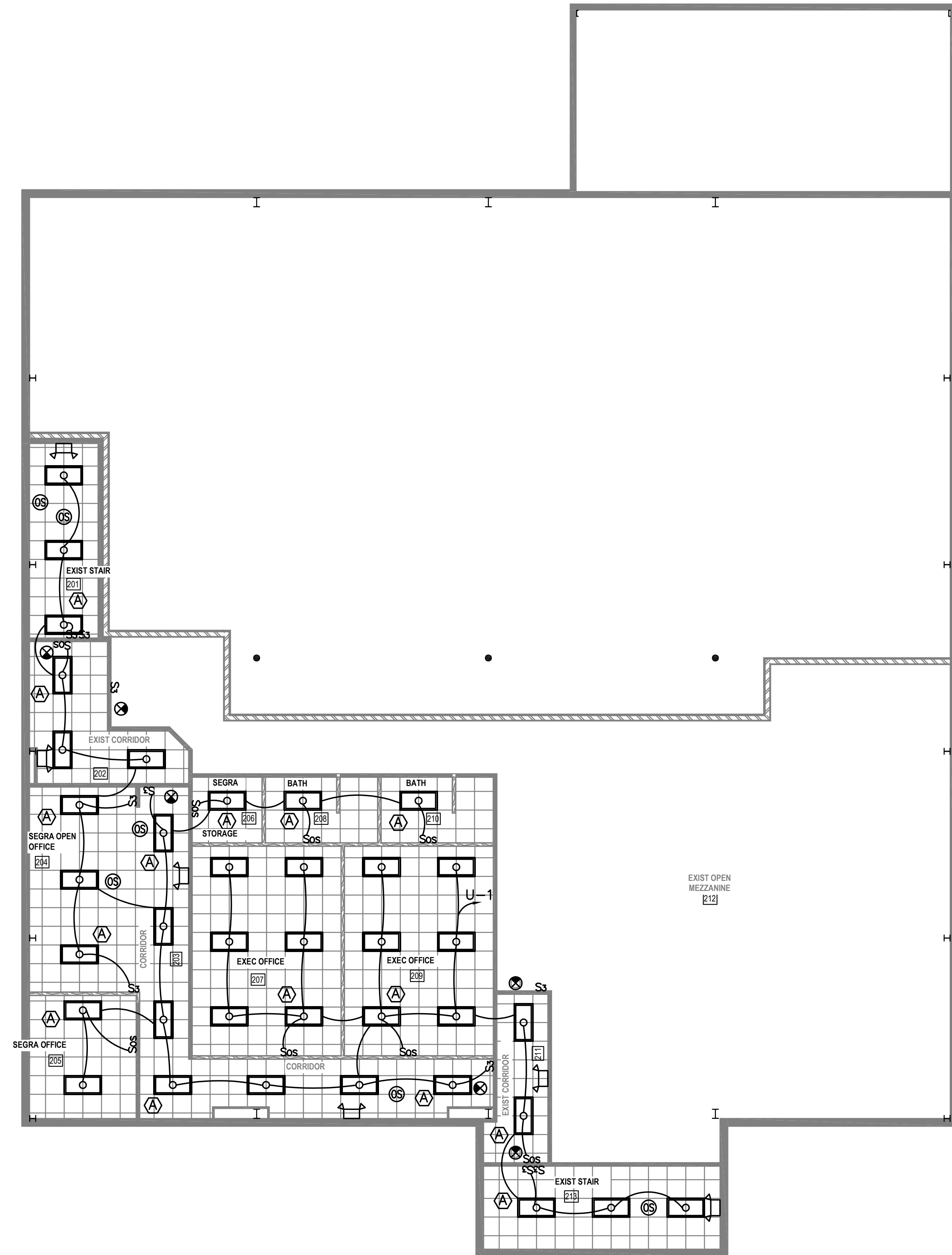
E2.1

PROJECT NO



FIRST FLOOR LIGHTING PLAN

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

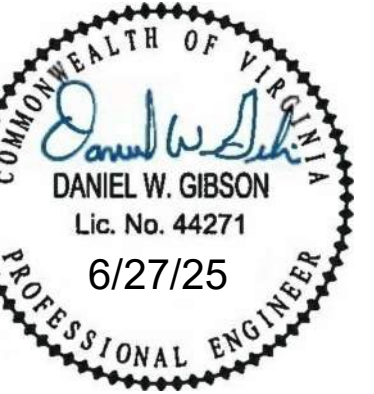


SECOND FLOOR LIGHTING PLAN
SCALE: 1/8" = 1'-0"



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INTERIOR RENOVATION
SECOND FLOOR LIGHTING PLAN
3321 SHENANDOAH AVENUE
ROANOKE, VIRGINIA 24017

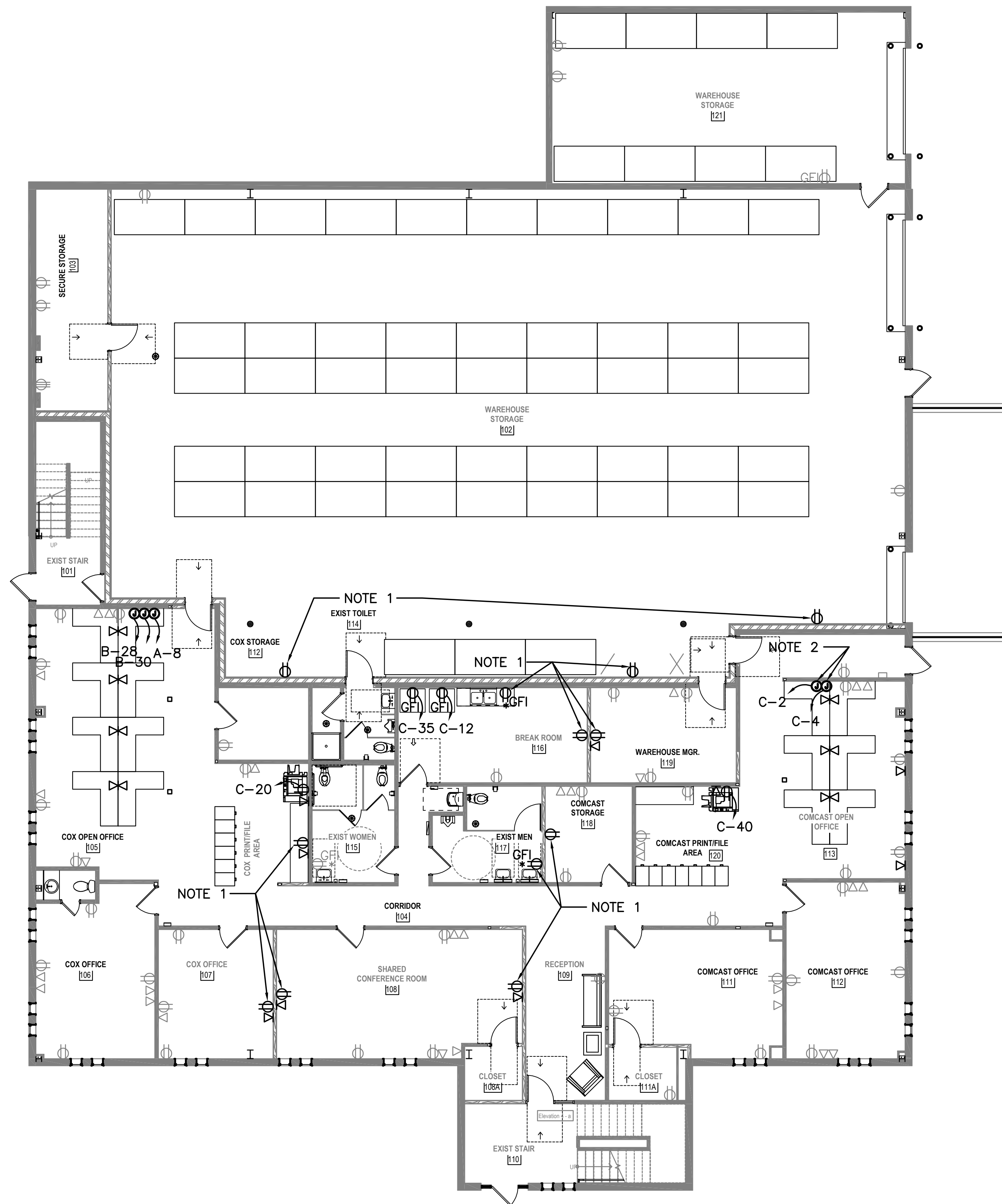
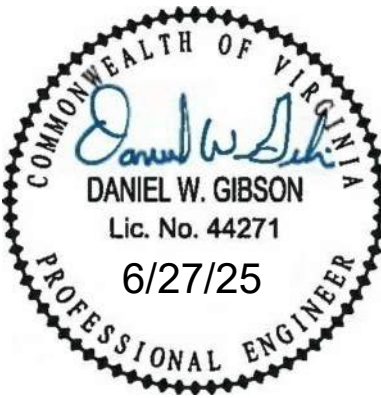
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NOTES THIS SHEET:

1. PROVIDE NEW RECEPTACLE AND DATA. RECONNECT TO EXISTING CIRCUIT FROM DEMOLITION.
2. COORDINATE WITH OWNER TO PROVIDE OFFICE FURNITURE POWER CONNECTION. RECONNECT TO EXISTING CIRCUIT FROM DEMOLITION IN THIS AREA.

FIRST FLOOR POWER AND DATA PLAN

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

3321 SHENANDOAH AVENUE
INTERIOR RENOVATION
FIRST FLOOR POWER AND DATA PLAN

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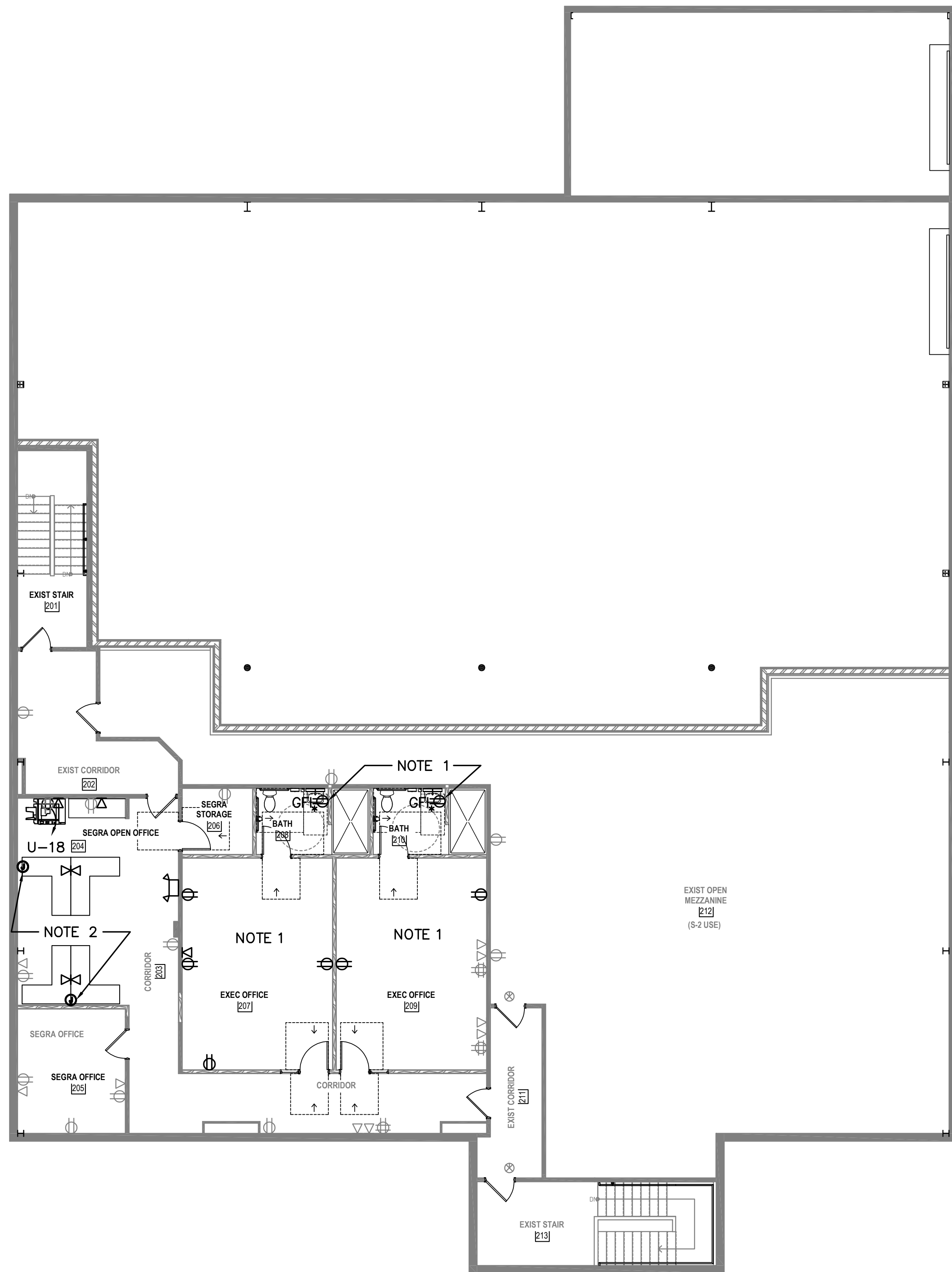
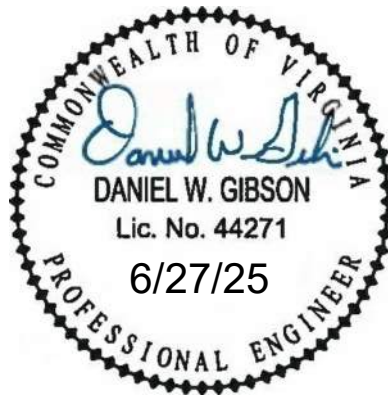


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- NOTES THIS SHEET:
1. PROVIDE NEW RECEPTACLE AND DATA. RECONNECT TO EXISTING CIRCUIT FROM DEMOLITION IN THIS AREA..
 2. COORDINATE WITH OWNER TO PROVIDE OFFICE FURNITURE POWER CONNECTION. RECONNECT TO EXISTING CIRCUIT FROM DEMOLITION IN THIS AREA.

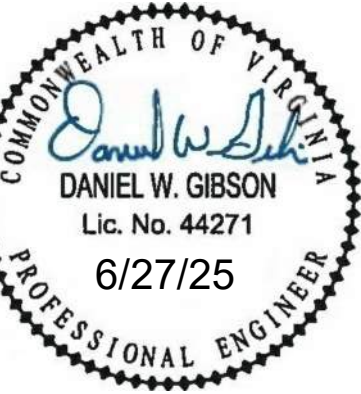
SECOND FLOOR POWER AND DATA PLAN
SCALE: 1/8" = 1'-0"

3321 SHENANDOAH AVENUE
INTERIOR RENOVATION
SECOND FLOOR POWER AND DATA PLAN
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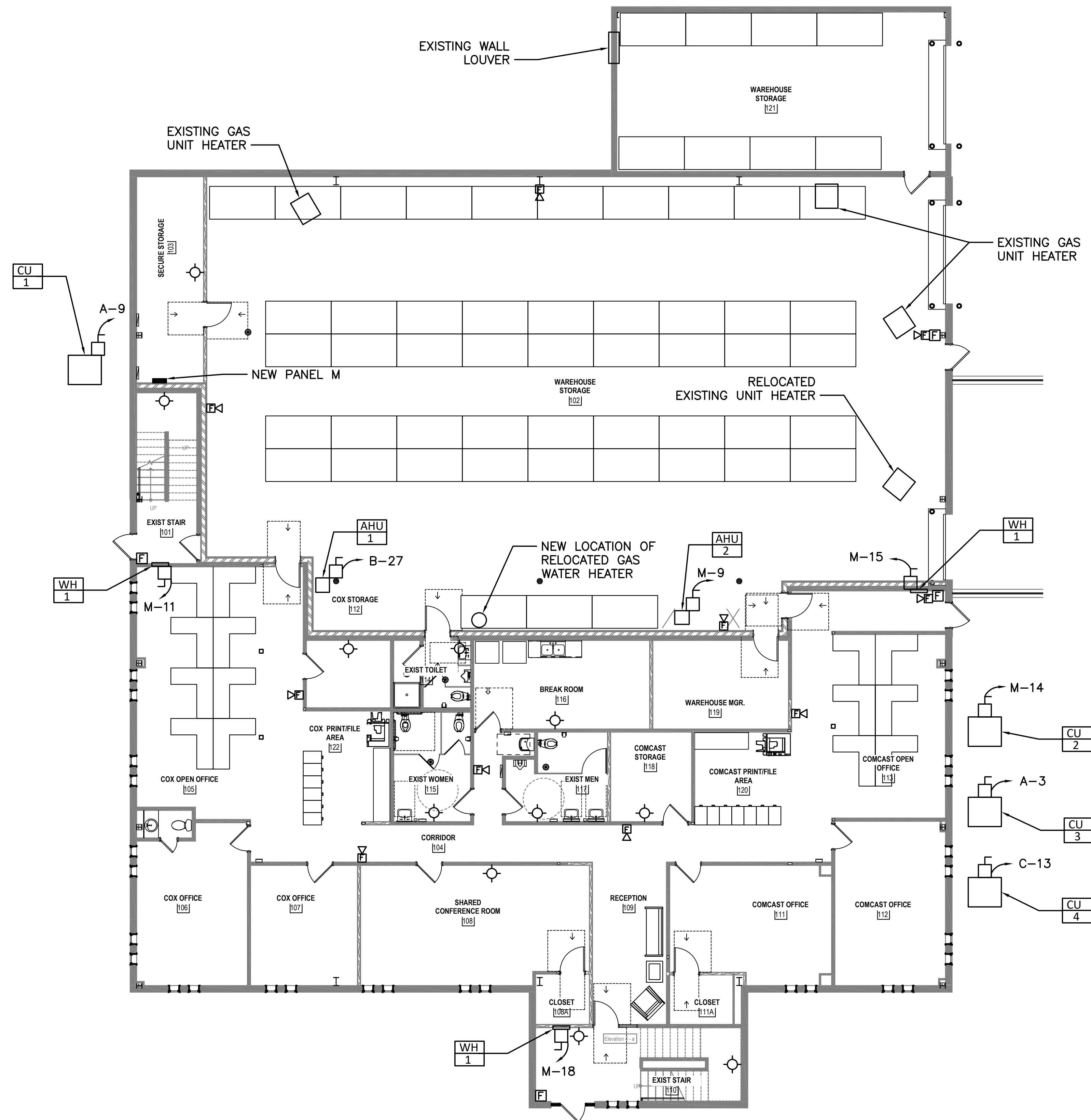


3521 STEINBOCK AVENUE
INTERIOR RENOVATION
FIRST FLOOR MECHANICAL AND FIRE ALARM PLAN

3321 SHENANDOAH AVENUE
ROANOKE, VIRGINIA 24017

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FIRST FLOOR MECHANICAL AND FIRE ALARM PLAN

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

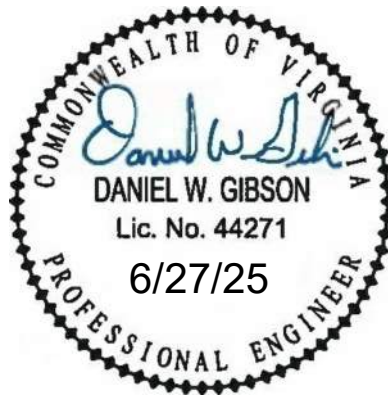


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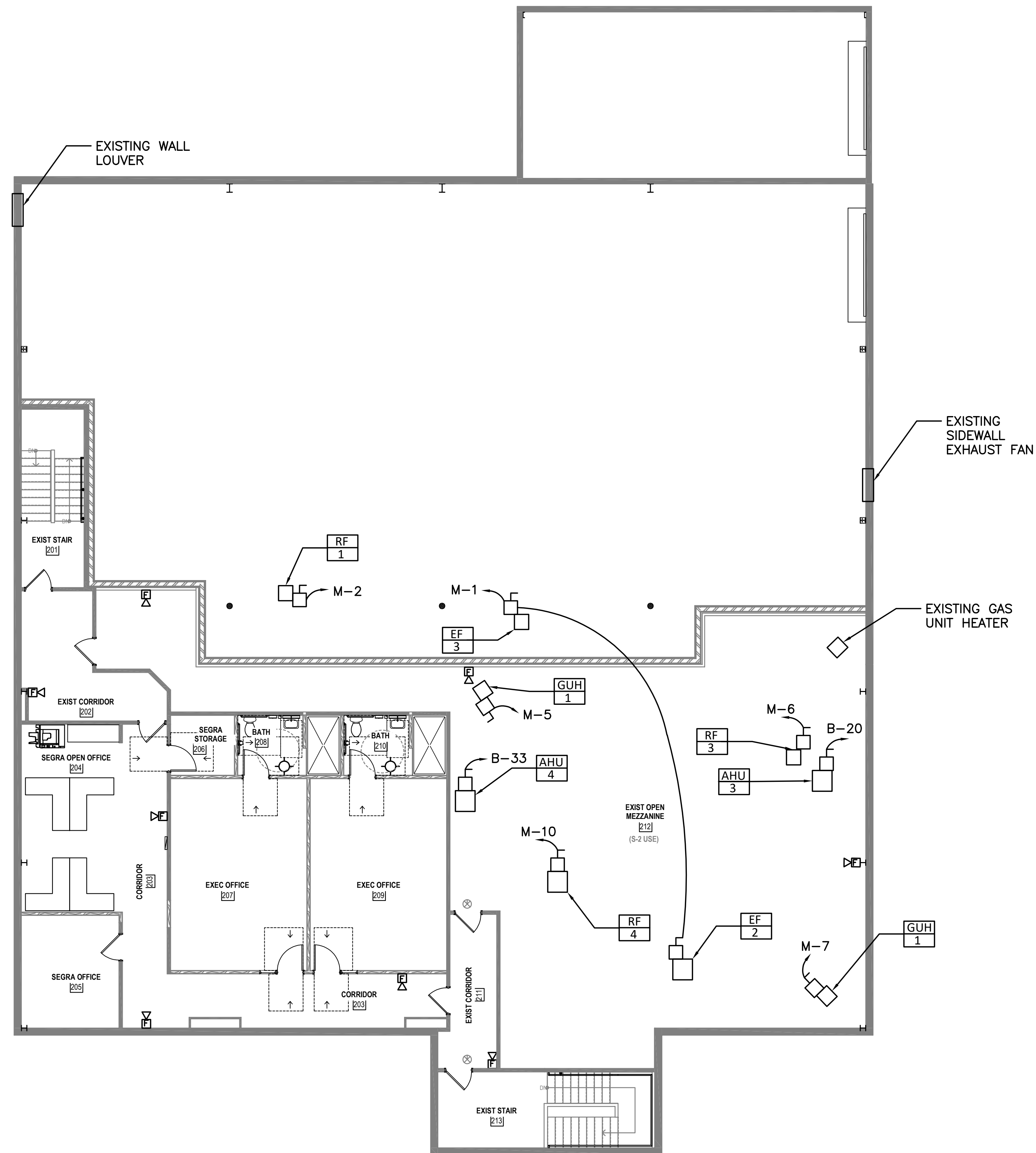
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INTERIOR RENOVATION
SECOND FLOOR MECHANICAL AND FIRE ALARM PLAN

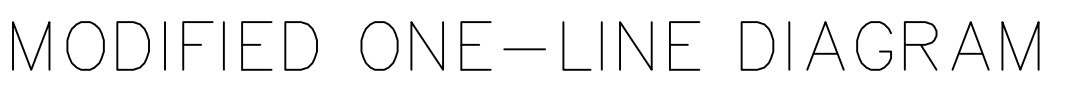
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SECOND FLOOR MECHANICAL AND FIRE ALARM PLAN

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

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3321 SHENANDOAH AVENUE

PROJECT NC

SECTION 16000	
ELECTRICAL SPECIFICATIONS	
PART 1 - GENERAL	
1.1 DESCRIPTION OF WORK	
Provide new lighting, power, data and low voltage systems as indicated on the plans.	
1.2 QUALITY ASSURANCE	
A. General	
a. Comply with IEEE C2, "National Electrical Safety Code".	
b. IEEE Compliance: Comply with applicable Institute of Electrical and Electronics Engineers, Inc. standards pertaining to generator construction.	
c. NEC Compliance: Comply with NFPA 70, "National Electrical Code" as applicable to construction and installation of products required in this specification.	
d. UL and NEMA Compliance and Labeling: Provide products which have been labeled by Underwriters Laboratories and have been certified to comply with UL requirements.	
e. IEEE Compliance: Comply with STD 241, "IEEE Recommended Practice for Electrical Power Systems in Commercial Buildings" pertaining to communication systems.	
B. MOTOR CONTROLLERS	
a. UL and NEMA Compliance and Labeling: Provide products which have been labeled by Underwriters' Laboratories and have been certified to comply with UL and NEMA.	
C. LIGHTING	
a. NEMA Compliance: Comply with applicable requirements of NEMA Std.s. Pub/No.'s LE 1 and LE 2 pertaining to lighting equipment.	
b. UL Compliance: Comply with UL standards, including UL 486A and B, pertaining to lighting fixtures. Provide lighting fixtures and components which are UL_listed and labeled. Provide exterior fixtures with "Suitable for Wet Location" label.	
c. CBM Labels: Provide fluorescent lamp ballasts which comply with Certified Ballast Manufacturers Association standards and carry the CBM label.	
1.3 COORDINATION OF ELECTRICAL WORK	
A. General: Refer to the division sections for general coordination requirements applicable to the entire work. It is recognized that the contract documents are diagrammatic in showing certain physical relationships which must be established within the electrical work and in its interface with other work including utilities and mechanical work and that such establishment is the exclusive responsibility of the Contractor.	
a. Arrange electrical work in a neat, well organized manner with conduit and similar services running parallel with primary lines of the building construction and with the maximum headroom possible, but a minimum 7'-0" overhead clearance.	
b. Locate operating and control equipment properly to provide easy access and arrange entire electrical work with adequate access for operation and maintenance.	
c. Advise other trades of openings required in their work for the subsequent move_in of large units of electrical equipment.	
d. Coordinate all work, including power outages, with Owner's Schedule of Operation.	
B. Product Handling: Space at the project for storage of materials and products is limited. Coordinate the deliveries of electrical materials and products with the scheduling and sequencing of the work so that storage requirements at the project are minimized. In general, do not deliver individual items of electrical equipment to the project substantially ahead of the time of installation.	
1.3 ELECTRICAL SYSTEM IDENTIFICATION	
A. Conduit Systems: Provide adequate marking of primary conduits which are exposed or concealed in accessible spaces, to distinguish each run as either a power or signal/communication conduit. Except as otherwise indicated, use orange banding with black lettering. Provide self_adhesive or snap_on type plastic markers. Indicate voltage ratings of conductors where above 240 V. Locate markers at ends of conduit runs, near switches and other control devices and near items of equipment served by the conductors. Switch_leg conduit and short branches for power connections need not be marked, except where conduit is larger than 1 inch. Label all junction boxes with branch circuit numbers terminated within.	
B. Identification Labels and Warning Signs: Provide engraved plastic laminate or baked enamel labels on major units of electrical equipment including switchboards, panelboards, motor controllers, disconnect switches, signal and similar systems. Label shall include equipment identification mark and voltage characteristics and shall be melamine plastic, 0.125_inch thick, white with black center core. Provide warning signs where there is hazardous exposure or danger associated with access to or operation of electrical facilities. Provide text of sufficient clarity and lettering of sufficient size, minimum 0.25 inch nominal block style, to convey adequate information at each location; mount permanently in an appropriate and effective location.	
1.4 PAINTING ELECTRICAL WORK	
A. General: Except as otherwise indicated, comply with the applicable provisions of Division 9 for electrical_work painting. Electrical equipment shall have factory_applied painting systems which shall meet the requirements of NEMA ICS6. The work of this article shall include general field painting of electrical work.	
a. Coordinate the painting with the painting of other work of a similar nature and comply with indicated color and color matching requirements. Except as otherwise indicated, paint surfaces of electrical work which would normally be painted in the application and exposure indicated.	
B. Do not paint over nameplates on equipment, sliding/rotating shaft surfaces, non_ferrous hardware/accessories/trim and similar items where painting would normally be omitted.	
1.5 ELECTRICAL SYSTEM PERFORMANCE	
A. General: The overall system performances of electrical work are of even greater importance than the specified individual unit_of_work performances. Each unit of electrical work has been designed and specified to perform at minimum levels of output and efficiency and is intended to contribute to and be compatible with the entire system. Compatibility of actual performances by electrical system performances is the Contractor's responsibility.	
B. Adjustments: Where it has been determined that electrical systems do not or will not perform in compliance with the specified performances, adjustments or corrections shall be made to the work as necessary to achieve required performances.	
1.6 ELECTRICAL WORK CLOSEOUT	
A. Additional Service: Perform services within the above 12-month period not classified as routine maintenance or as warranty work as described in Division 1 Section "Warranties and Bonds" when authorized in writing. Compensation for additional services must be agreed upon in writing prior to performing services.	
B. Closeout Coordination: Coordinate closeout operations with closeout of mechanical systems and other power consuming equipment.	
C. Record Drawings: Maintain a blue_line set of electrical contract drawings and/or shop drawings in clean, undamaged condition, for indication of major electrical equipment or concealed lines located in position other than that shown on the contract drawings. Mark_up whatever drawings are most capable of showing installed conditions accurately. In general, record every substantive installation of electrical work which previously is either not shown or shown inaccurately, specifically record the following:	
a. Work concealed behind or within other work, in a nonaccessible location.	
b. Main feeders with switchgear, panelboards, and control devices located, identified and numbered. This information shall be displayed in a glazed, hardwood frame, minimum two (2) feet square, near the main service disconnect.	
c. Maintenance procedures and schedules.	
d. Testing procedures and acceptable parameters.	
G. Cleaning and Lubrication: After final testing of each electrical system, clean system both externally and internally. Comply with manufacturer's instructions for lubrication of both power and hand operated equipment. Touch_up minor damage to factory_painted finishes and provide one pint of touch-up paint for each color of major equipment installed.	

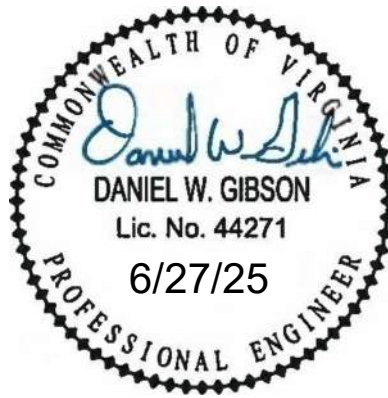
1.10 SUBMITTALS	
A. LIGHTING	
1. Product Data: Submit manufacturer's product data and installation instructions on each type building lighting fixture photocell, contactor and component.	
2. Shop Drawings: Submit fixture shop drawings where specifically indicated in booklet form with separate sheet for each fixture, assembled in "luminaire type" alphabetical or numerical order, with proposed fixture and accessories clearly indicated on each sheet.	
3. Maintenance Data: Submit maintenance data and parts list for each lighting fixture and accessory; including "trouble_shooting" maintenance guide. Include that data, product data, and shop drawings in a maintenance manual.	
PART 2 - PRODUCTS	
2.1 CABLE AND WIRE	
A. Provide factory-fabricated wire or cable of the size, rating, material and type as indicated for each service in compliance with NECA - Standard of Installation. Where not indicated, provide proper selection as determined by the work requiring the installation to comply with NEC standards. Conductors shall be rated 600 volt of insulation type THW, THWN, THHN, or USE installed in compliance with National Electrical Code requirements.	
B. Provide bonding conductors for sizes No. 8 AWG and smaller of solid bare copper per ASTM B 1, and for sizes No. 6 AWG and larger stranded bare copper per ASTM B 8.	
C. No. 10 AWG and smaller diameter shall be solid copper; No. 8 AWG and larger diameter shall be stranded copper.	
D. Provide color coding for service, feeder, branch, control, and signaling circuit conductors. Color shall be green for grounding conductors and white for neutrals; except where neutrals of more than one system are installed in same raceway or box, other neutral shall be white with colored (not green) stripe. Color of ungrounded conductors in different voltage systems shall be as follows:	
a. 120/208 volt, 3-phase:	
i. Phase A - black.	
ii. Phase B - red.	
iii. Phase C - blue.	
E. Provide the following types of cables in NEC approved locations and applications where indicated. Provide cable UL listed for its intended use.	
a. Metal clad cable: Type MC.	
F. Provide UL 486A, factory-fabricated, solderless, metal connectors of the size, ampacity, rating, material, type and class as indicated for each service. Where not indicated, provide proper selection as determined by the work requiring the installation to comply with NEC standards. Provide insulating tape in compliance with UL 510.	
2.2 ELECTRICAL RACEWAYS	
A. Metal Conduit, Tubing and Fittings: Provide metal conduit, tubing and fittings of type, grade, size and weight indicated for each service. Where type and grade are not indicated, provide proper selection as determined by the work requiring the installation to comply with NEC standards for wiring requirements.	
a. Rigid Steel Conduit: ANSI C80.1, UL 6.	
b. Intermediate Steel Conduit (Zinc Coated Steel): UL 1242.	
c. Rigid Metal Conduit Fittings: UL 514B, cadmium- or zinc- coated threaded type.	
d. Electrical Metal Tubing (EMT): ANSI C80.3, UL 797.	
e. EMT Fittings: UL 514B, compression or set-screw type	
f. Flexible Metal Conduit: Cadmium- or zinc-coated steel.	
g. Flexible Metal Conduit Fittings: UL 514B, cadmium- or zinc-coated.	
h. Liquid-Tight Flexible Metal Conduit: UL 360, provide liquid-tight flexible metal conduit comprised of single strip, continuous, flexible, interlocked, double-wrapped steel, galvanized inside and outside; forming smooth internal wiring channel; with liquid-tight jacket of flexible polyvinyl chloride.	
i. Liquid-Tight Flexible Metal Conduit Fittings: FS W-F-406.	
B. Wireways: Electrical wireways shall be of types, sizes, and number of channels as indicated. Fittings and accessories including but not limited to couplings, offsets, elbows, expansion joints, adapters, hold-down straps, and end caps shall match and mate with wireway as required for complete system. Where features are not indicated, select to fulfill wiring requirements and comply with applicable provisions of NEC. Wireway covers shall be hinged type.	
C. Surface Metal Raceways and Fittings: UL 5, two-piece steel, totally enclosed. Snap cover type with wiring devices, sizes and channels as indicated. Wiremold, or approved equal.	
a. Type a: Two section, steel, approximately 7/8 inch x 1 1/4 inch wide, with 20 amp, 125V, specification grade grounding surge protection receptacles 2'-6" on centers, alternating circuits. Provide with ivory paintable finish.	
2.3 ELECTRICAL OUTLET BOXES AND FITTINGS	
A. Interior Outlet Boxes: UL 514A, provide galvanized flat rolled sheet steel interior outlet wiring boxes, flush mounted of type, shapes and sizes, including box depths, to suit each respective location and installation; construct with stamped knockouts in back and sides, and with threaded screw holes with corrosion-resistant screws for securing box covers and wiring devices. Provide feraloy cast outlet boxes where surface mounted with threaded conduit hubs to suit each respective location and installation.	
B. Weatherproof Outlet Boxes: Provide corrosion-resistant cast metal weatherproof outlet wiring boxes, of types, shapes and sizes, with threaded conduit ends, cast metal face plates with spring-hinged waterproof caps suitably configured for each application, including faceplate gaskets and corrosion-resistant fasteners. Weatherproof while in operation.	
C. Cast-Iron Floor Boxes: Fully adjustable, waterproof, with threaded raceway entrances, adjusting rings, gaskets, and brass floor plates. Provide multi-section boxes with individual screw type brass section covers, barrier between compartments and provide for a duplex receptacle under one or more of the covers. Telephone outlets shall have provisions to accommodate 10-wire telephone terminal block. Provide gaskets where required to ensure watertight installation. Provide trim suitable for floor conditions.	
2.4 WIRING DEVICES	
A. General: Provide factory-fabricated wiring devices, in types, colors and electrical ratings for applications indicated and complying with NEMA Standards Publication No. WD 1. Where types and grades are not indicated, provide proper selection as determined by installer to fulfill wiring requirements, and comply with NEC and NEMA standards for wiring devices. Provide receptacles with isolated ground and/or surge protection where indicated.	
B. Receptacles:	
a. Hospital Grade Duplex: UL 498, provide duplex heavy duty type receptacles, 2-pole, 3-wire grounding, with green hexagonal equipment ground screw, ground terminals and poles internally connected to mounting yoke, 20-amperes, 125 volt, ivory nylon face with metal plaster ears, side wiring, NEMA Configuration 5-20R, unless otherwise indicated.	
b. Hospital Grade Ground Fault Receptacle: Provide ground fault protected duplex receptacle	
i. Provide with cast aluminum weatherproof cover where indicated to be WP while in operation.	
C. Switches:	
a. Snap: UL 20, provide general duty flush single-pole toggle switches, 20-amperes, 120-277 volts AC only, with mounting yoke insulated from mechanism, equip with plaster ears, ivory switch handle and side wired screw terminals. Single pole, Three-way and Four-way as indicated on drawings.	
b. Motion Sensing, Ceiling Mounted: Provide dual technology ultrasonic and passive infrared or microphonic and passive infrared motion detector, manual off switch, 0 to 4800 watt fluorescent switching capacity, 277 volts AC, 360 sensing coverage, six to 15 minute off time delay, LED walk test indicator, bypass switch, suitable for use in classrooms, 5_year warranty, UL listed, Universal Energy Control (UNENCO) Switchomatic Coordinate with connected wattage and type of room light fixtures.	

D. Wiring Device Accessories:	
a. Wall Plates: Provide UL listed, one-piece device plates for outlets and fittings to fit the device installed. For flush-mounted outlets on finished walls, provide white switch and outlet plates of types, sizes and with ganging and cutouts as indicated. Install with metal screws for securing plates to devices; screw heads colored to match finish of plate.	
b. For surface mounted boxes, provide feraloy cast outlet plates on all outlet boxes, type suitable for wiring device installed in box.	
c. Provide plate with engraved legend where indicated.	
2.5 SAFETY AND DISCONNECT SWITCHES	
A. General: UL 98, NEMA KS1, provide surface-mounted, sheet-steel enclosed switches, of types, sizes and electrical characteristics indicated; 3-blades, 4-wire with amperage rating as required; 60 hertz and visible blades with door in open position. Provide with safety handle which is easily recognizable and is capable of being padlocked in the open position and operating mechanism for quick-make and quick-break. Current carrying parts of high-conductivity copper, with silver-tungsten type switch contacts. Provide NEMA 1 type enclosures indoors and NEMA 3R type enclosures with raintight hubs outdoors.	
B. Provide General Duty Type: 240 volts AC, Type GD. Heavy Duty Type: 600 volts AC.	
C. Switches used as motor disconnect means shall be horsepower rated. Fused switches shall utilize Class R fuseholder and fuses unless indicated otherwise or recommended by equipment manufacturer.	
2.6 ELECTRICAL GROUNDING AND BONDING EQUIPMENT	
A. General: UL 467. Provide grounding products of types indicated and of sizes and ratings as required by NEC. Provide all material required including but not necessarily limited to, cable/wire, connectors, terminals (solderless lugs), grounding rods/electrodes, bonding jumper braid and other items and accessories needed for a complete installation. Where more than one type meets indicated requirements, selection is installer's option. Where materials or components are not otherwise indicated, provide products complying with NEC, and established industry standards.	
B. Electrical Grounding Conductors: Unless otherwise indicated, provide electrical grounding conductors for grounding connections matching power supply wiring materials except bare or green insulation and sized according to NEC. Equipment grounding conductors shall have green insulation. Solid conductors shall comply with ASTM B-3, stranded conductors with ASTM B-8.	
C. Grounding Connectors: Provide listed and labeled grounding connectors for the required materials. Provide high-conductivity plated pressure connector units or exothermic welded connections.	
2.7 COMBINATION MOTOR CONTROLLERS	
A. General: Motor circuit protector; molded-case circuit-type breaker type with magnetic-only trip element calibrated to coordinate with the actual locked-rotor current of the connected motor and the controller overload relays. Provide breakers that are factory assembled with the controller, interlocked with unit cover or door, and arranged to disconnect the controller. Provide motor circuit-protectors with field-adjustable trip elements.	
2.8 LIGHTING FIXTURES	
A. Provide lighting fixtures of sizes, types, and ratings indicated in lighting fixture schedule	
B. Wiring: Provide electrical wiring within fixture suitable for connecting to branch circuit.	
a. NEC Type AF for 120 volt, minimum No. 18 AWG.	
b. NEC Type SF_2 for 277 volt, minimum No. 18 AWG.	
2.9 TIME CONTROLLED SWITCHES	
D. Provide electrically operated time controlled maintained contact switches with 24_hour dials capable of periodically and automatically switching mechanically held or electrically held contactors ON and OFF. Select switches which permit selection of from 1 to 7 ON_OFF operations each day; with coil ratings of 120 volts, 60 Hz, and with DPDT switch. Provide flush mount enclosure, NEMA Type 1, with side hinged door and lock, mounting holes and knockouts. Provide timing switch with manual circuit by_pass switch, 10 hour reserve power, and separate grounding terminal. Finish enclosure with manufacturer's standard gray finish.	
2.10 MOTION DETECTORS	
A. Indoor Motion Detectors: Provide passive infrared motion sensor to operate lights on detection of occupancy, 120/277 volts, field adjustable.	
B. Outdoor Motion Detectors: Passive infrared motion sensor in weatherproof enclosure with adjustable digital sensitivity and time delay and isolated SPDT relay contact. Provide unit suitable for operation at temperatures as low as -40F. Provide adjustable mounting bracket.	



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INTERIOR RENOVATION
SPECIFICATIONS
3321 SHENANDOAH AVENUE
ROANOKE, VIRGINIA 24017

DRAWN BY	DWG
DESIGNED BY	DWG
CHECKED BY	
DATE	06-27-2025
SCALE	
REVISIONS	

INSTALLATION
PART 3 - INSTALLATION

3.1 General

- A. Verify final locations for rough_in with field measurements and with the requirements of the actual equipment to be connected.
- B. Rough_in for owner furnished equipment to make equipment operate as intended, including providing miscellaneous wiring items.
- C. Adjust operating mechanisms for free mechanical movement. Clean interior and exterior using manufacturer's approved methods and materials.
- D. Touch-up scratched or marred surfaces to match original finish.
- E. In general, perform cutting and patching as necessary. Exercise care where cutting, channeling, chasing or drilling floors, walls, partitions, ceilings or other surfaces for installation of electrical work.
- F. Patch finished surfaces and building components using new materials specified for the original installation and experienced installers. Installers' qualifications refer to the materials and methods required for the surface and building components being patched.

3.2 CABLE, WIRE AND CONNECTORS

- A. Provide insulated conductors installed in conduit, except where specifically indicated or specified otherwise or required by NEC to be installed otherwise. Provide insulated equipment grounding conductor in feeder and branch circuits, including lighting circuits. Grounding conductor shall be separate from electrical system neutral conductor.
- B. Coordinate cable and wire installation with electrical raceway and equipment installation. Conductor sizes indicated are copper. Pull conductors together where more than one is being installed. Use pulling means and lubricant that will not damage conductor or raceway. Use splice and tap connectors which are compatible with conductor material, and only in accessible junction, pull or outlet boxes.
- C. Tighten electrical connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening values. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL 486A.

3.2 ELECTRICAL RACEWAYS

- A. Provide with complete electrical raceway system before installing conductors within raceways. Provide support as required by NEC but within 1 foot of a change in direction or connection to an enclosure, cover ends of empty conduit to prevent entry of debris during rough-in, provide bonding type locknuts at boxes. Conceal conduit, unless indicated otherwise within finished walls, ceilings and floors. Run exposed conduits parallel or perpendicular to the building structure, close to the ceiling or beams. Keep raceways at least 6 inches away from parallel runs of flues, steam, and hot water pipes.
- B. Use the following wiring methods:
- a. Outdoors:
- i. Intermediate metal conduit
- ii. Rigid metal conduit
- iii. Liquid-tight flexible metal conduit
- b. Indoors:
- i. Electrical metallic tubing
- ii. Flexible metal conduit
- iii. Rigid metal conduit (where exposed and subject to damage)
- C. Use raceway fittings that are of types compatible with the associated raceway and suitable for the use and location. For intermediate steel conduit, use threaded rigid steel conduit fittings except as otherwise indicated.
- D. Run exposed, parallel, or banked raceways together. Make bends in parallel or banked runs from the same center line so that the bends are parallel. Factory elbows may be used in banked runs only where they can be installed parallel. This requires that there be a change in the plane of the run such as from wall to ceiling and that the raceways be of the same size. In other cases provide field bends for parallel raceways.
- E. Install pull wires in empty raceways. Use No. 14 AWG zinc-coated steel or monofilament plastic line having not less than 200-lb. tensile strength. Leave not less than 12 inches of slack at each end of the pull wire.
- F. Flexible Connections: Use short length (maximum of 6 ft.) of flexible conduit for recessed and semirecessed lighting fixtures, for equipment subject to vibration, noise transmission, or movement; and for all motors. Use liquid-tight flexible conduit in wet locations. Install separate ground conductor across flexible connections.
- G. Surface Metal Raceway: Install to walls, cabinets, and ceilings as recommended by equipment manufacturer with fasteners suitable for the material to which the surface metal raceway is being attached. Install a separate green ground conductor in raceway from the junction box supplying the raceway to receptacle or fixture ground terminals. Provide as an integral part or install wiring devices as indicated. Make cuts and other modifications with factory cuts and other modifications with factory furnished tools specifically designed for the purpose.

3.3 ELECTRICAL BOXES AND FITTINGS

- A. Provide weatherproof outlet boxes for interior and exterior locations exposed to moisture, flush mounted boxes for connection to concealed conduit and pull boxes as required for installation of conductors. Sizes shall be adequate to meet NEC volume requirements, but not smaller than sizes indicated. Remove knockouts only as required and plug unused openings.
- B. Fasten boxes rigidly to substrate or structural surfaces to which they are to be mounted, or solidly embed electrical boxes in concrete or masonry.

3.4 WIRING DEVICES

- A. Install wiring devices in clean outlets after wiring has been installed. Do not install plates and cover installed wiring devices until painting is complete.
- B. Ground all wiring devices unless indicated otherwise. Test wiring devices for correct polarity, proper ground and electrical continuity.
- C. Install covers and device plates with edges in continuous contact with finished wall surfaces without use of mats or similar devices. Plaster or caulking used as a filling to repair openings around outlets shall not be applied without removing the cover or device plate. Plates installed in wet areas shall be gasketed.

3.5 SAFETY AND DISCONNECT SWITCHES

- A. Install disconnect switches used for motor-driven equipment within sight of the controller and motor and not more than 50 feet from the controller and motor unless indicated otherwise.
- B. Provide an electrical ground for all disconnect switches.
- C. Test all switches for proper operation by operating them energized, but without load for six opening/closing cycles. Inspect switch and correct deficiencies, then retest to demonstrate compliance.

3.6 ELECTRICAL GROUNDING EQUIPMENT

- A. Install electrical grounding systems where shown, in accordance with applicable portions of National Electrical Code, **NECA 331-2014 "Standard for Building and Service Entrance Grounding and Bonding,"** and in accordance with recognized industry practices to ensure that products comply with requirements and serve intended functions.
- B. Provide separate grounding conductor with wiring in all raceways.
- C. Provide grounding electrode conductor and connect to reinforcing steel in foundation footing where indicated.
- D. Install clamp-on connectors only on thoroughly cleaned metal contact surfaces, to ensure electrical conductivity and circuit integrity.

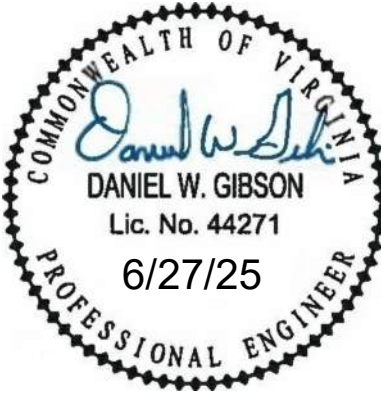
3.7 LIGHTING FIXTURES

- A. General: Install lighting fixtures of types indicated, where shown and at indicated heights, in accordance with lighting fixture manufacturer's written instructions and with recognized industry practices. Comply with NEMA standards and requirements of National Electrical Code pertaining to installation of lighting fixtures and with applicable portions of NECA's "Standards of Installation".
- B. Fasten surfaced fluorescent fixtures to suspended ceiling system near corner of each unit. Bolt fixture to main ceiling supports with stud_clips minimum 1/2_20. Support fixtures weighing in excess of 56 pounds directly from the building structure. Recessed and semi_recessed fixtures may be supported from suspended ceiling support system ceiling tees if the ceiling system support wires are provided at a minimum of four wires per fixture and located not more than 6 inches from each corner of each fixture. In addition, provide support clips securely fastened to ceiling grid members at or near corner of each recessed fixture.
- C. Secure pendant mounted fluorescent fixtures via outlet box directly to building structure with approved bolting and clamps. Provide each stem or hanger with an approved swivel joint to ensure a continued plumb installation.
- D. Mounting heights indicated are to bottom of ceiling_mounted fixtures and to center of wall mounted fixtures.
- E. Install parking lighting units complete with poles/standards and products as indicated, in accordance with manufacturer's written instructions, applicable requirements of NEC, NESC and NEMA standards, and with recognized industry practices to ensure that roadway and parking area lighting equipment fulfill requirements.
- F. Adjust poles as necessary to provide a permanent plumb vertical position with the bracket arm in proper position for luminaire location. After installation, touch up pole finish with paint furnished by pole manufacturer.
- G. Metal Poles: Provide anchor bases with galvanized steel anchor bolts, threaded at the top end and bent 90 degrees at the bottom end. Provide galvanized nuts, washers, and ornamental covers for anchor bolts. Concrete for anchor bases, polyvinyl chloride (PVC) conduit ells, and ground rods shall be as specified. Thoroughly compact backfill with compacting arranged to prevent any pressure between conductor, jacket, or sheath and the end of the conduit ell.
- H. Install all exit lights lighting units plumb, square and level with walls and ceilings and secure in accordance with manufacturer's written instructions. Mounting heights shall be to bottom of unit.
- I. Clean lighting fixtures of dirt and debris upon completion of installation. Protect installed fixtures from damage during remainder of construction period.
- J. Do not install interior fixture lens until construction is complete or protect lens from accumulation of dust and debris.
- K. Adjust all fixtures with adjustable aiming to meet the Architect/Engineer's approval.
- L. Test all lighting fixtures for compliance with intended purpose. Correct malfunctioning or noisy units, then retest to demonstrate compliance.
- M. At date of substantial completion, replace all lamps which are observed to be noticeably dimmed as judged by the Architect/Engineer.
- N. Provide tight equipment grounding connections to comply with tightening torques specified in UL 486A for each lighting fixture.



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3321 SHENANDOAH AVENUE

INTERIOR RENOVATION

SPECIFICATIONS

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DRAWN BY DWG
DESIGNED BY DWG
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DATE 06-27-2025
SCALE
REVISIONS

E6.2
PROJECT NO

PLUMBING SPECIFICATIONS:

1. GENERAL PROVISIONS:

1.A. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2021 VIRGINIA UNIFORM STATEWIDE BUILDING CODE, ALL FEDERAL, STATE, AND CITY CODES, ORDINANCES, AND STANDARDS.

1.B. THE PLANS ARE DIAGRAMMATIC IN NATURE AND BASED ON ONE MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO BE USED. INSTALLATION SHALL BE WITHIN THE LIMITATIONS IMPOSED BY THE ARCHITECTURAL, STRUCTURAL, HVAC, ELECTRICAL, AND PLUMBING REQUIREMENTS WITH ADEQUATE SPACE FOR MAINTENANCE.

1.C. GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE AND CONTRACTOR SHALL MAKE GOOD, WITHOUT ADDITIONAL COST TO THE OWNER, ANY DEFECTS WHICH MAY APPEAR WITHIN THAT PERIOD. MANUFACTURER'S WARRANTIES EXTENDING BEYOND ONE YEAR SHALL BE PROCESSED AND TURNED OVER TO THE OWNER.

1.D. MAJOR ITEMS ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INCIDENTAL ITEMS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.

1.E. A TRADE NAMES AND CATALOG NUMBERS SHALL BE INTERPRETED AS ESTABLISHING A GENERAL DESIGN AND STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. UNLESS STATED OTHERWISE, THE CONTRACTOR MAY USE ANY ARTICLE WHICH, IN HIS JUDGEMENT, AND WITH WRITTEN COMMENT FROM THE ARCHITECT/ENGINEER INDICATING NO OBJECTION, IS EQUAL OR SUPERIOR TO THAT SPECIFIED. DRAWINGS SHOWING CHANGES OR REVISIONS REQUIRED BY THE SUBSTITUTION FOR SPECIFIED ITEMS SHALL BE SUBMITTED WITH THE SHOP DRAWING DATA, AND THE COSTS OF ALL SUCH CHANGES SHALL BE BORNE BY THE CONTRACTOR.

1.F. SIMILAR ITEMS SHALL BE PROVIDED BY A SINGLE MANUFACTURER.

1.G. ALL REQUIRED WALL OR FLOOR OPENINGS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND/OR OTHER RELEVANT TRADES.

1.H. ALL PIPING SHALL BE INSTALLED ABOVE THE CEILING UNLESS INDICATED OTHERWISE. ALL WATER PIPING AND P-TRAPS SHALL BE INSTALLED WITHIN THE BUILDINGS INSULATION ENVELOPE OR BE PROVIDED WITH A FREEZE PROTECTION SYSTEM.

1.I. PROVIDE SUPPORTS TO RIGIDLY ATTACH ALL EQUIPMENT, APPURTENANCES AND PIPE AS REQUIRED FOR SUPPORT. PRIOR TO INSTALLATION OF HANGERS AND INSERTS, THE CONTRACTOR SHALL COORDINATE LOCATIONS AND REQUIREMENTS TO MINIMIZE CONFLICTS WITH OTHER BUILDING SYSTEMS. INSTALLATION OF PIPE HANGERS AND SUPPORTS SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURERS STANDARDIZATION SOCIETY (MSS) STANDARDS SP-58, 69 AND 89.

1.J. THE CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO ALL EQUIPMENT INDICATED TO BE FURNISHED BY OTHERS.

2. SUBMITTAL AND SHOP DRAWINGS:

2.A. SUBMIT MANUFACTURER'S CERTIFIED DATA RELATIVE TO ALL EQUIPMENT, PIPING, CONTROLS, ETC. REQUIRED FOR THE INSTALLATION OF THE PLUMBING AND FIRE PROTECTION SYSTEMS. SUBMIT FOR REVIEW ALL NECESSARY ENGINEERING, PRODUCT AND INSTALLATION DATA, SHOP DRAWINGS, SAMPLES ETC. FOR ALL EQUIPMENT, MATERIAL, AND SYSTEMS TO ASCERTAIN COMPLIANCE WITH THE TECHNICAL REQUIREMENTS OF THE CONTRACT DOCUMENTS.

2.B. SUBMIT A DIGITAL PDF OF ALL NECESSARY DATA, CUTS, MANUFACTURER'S SELECTIONS, CATALOGS, BULLETINS, INSTALLATION INSTRUCTIONS, DRAWINGS, DIAGRAMS, CURVES, ETC. CLEARLY INDICATE ON THE SUBMITTED DATA, THE MANUFACTURER'S NAME, PRODUCT NUMBER(S), OPTIONS, EQUIPMENT CAPACITY, DIMENSIONAL DATA, WEIGHTS, AND OTHER APPLICABLE TECHNICAL DATA FOR THE PROJECT.

2.C. TRADE NAMES, MANUFACTURERS, AND CATALOGUE NUMBERS ARE MENTIONED HEREIN AND ON THE DRAWINGS SOLELY IN ORDER TO ESTABLISH A STANDARD FOR THE TYPE, GENERAL DESIGN, AND QUALITY OF PRODUCT REQUIRED. OTHER PRODUCTS SIMILAR IN DESIGN OF EQUIVALENT QUALITY CAPABLE OF FITTING WITHIN THE SPACES ALLOCATED AND COMPLYING WITH THE DRAWINGS AND SPECIFICATIONS WILL BE CONSIDERED AFTER THE CONTRACT IS LET UNLESS "PRIOR APPROVAL" REQUIREMENTS ARE SET FORTH IN THESE DOCUMENTS.

2.D. REVIEW OF SUBMITTALS AND SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR FITTING THE EQUIPMENT IN THE SPACE ALLOTTED WITH SPACE FOR ALL CONNECTIONS AND SERVICING AND FOR THE COORDINATION OF THE WORK WITH WORK OF OTHER TRADES.

2.E. THE CONTRACTOR SHALL REVIEW ALL SUBMITTALS AND SHOP DRAWINGS AND INDICATE BY STAMP OR LETTER THAT HE HAS REVIEWED THEM, BEFORE FORWARDING THEM TO THE ARCHITECT AND/OR ENGINEER. SUBMITTALS AND DRAWINGS WILL BE RETURNED AFTER REVIEW INDICATING WHETHER EXCEPTIONS ARE TAKEN, THE SUBMITTAL RETURNED WITH CORRECTIONS, OR IS COMPLETELY REJECTED. REVISIONS OF REVISED SUBMITTALS AND SHOP DRAWINGS, IF REQUIRED, SHALL BE DONE BEFORE INSTALLATION AND CONSTRUCTION IS BEGUN.

2.F. CORRECTIONS OR COMMENTS MADE ON THE SUBMITTALS AND DRAWINGS DURING THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THIS REVIEW IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE

PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FABRICATION PROCESSES, TECHNIQUES OF CONSTRUCTION, COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING WORK IN A SAFE AND SATISFACTORY MANNER. REVIEW OF THE SUBMITTALS SHALL NOT PERMIT ANY DEVIATION FROM PLANS AND SPECIFICATIONS.

3. AS-BUILT DRAWINGS:

3.A. MAINTAIN DAILY UPDATED DRAWINGS SHOWING DEVIATIONS FROM CONSTRUCTION DOCUMENTS. AT THE END OF THE PROJECT, PROFESSIONALLY PREPARE AS-BUILT DRAWINGS AND SUBMIT DRAWINGS TO THE ARCHITECT/ENGINEER.

4. OPERATION AND MAINTENANCE MANUALS:

4.A. UPON COMPLETION OF THE PROJECT, SUBMIT ALL OPERATION AND MAINTENANCE MANUALS, WARRANTIES, SPARE PARTS LIST, AS-BUILT DRAWINGS, TEST AND BALANCE REPORTS, AND LETTER OF GUARANTEE ALL BOUND IN THREE RING BINDERS, CLEARLY SHOWING WHICH EQUIPMENT WAS SUPPLIED TO THE JOB.

5. PIPING SPECIALTIES:

5.A. ACCESS DOORS: ACCESS DOORS SHALL BE PROVIDED FOR ALL CONCEALED VALVES, CONTROLS, AND ANY OTHER EQUIPMENT OR MATERIALS REQUIRING INSPECTION OR MAINTENANCE. ACCESS DOORS SHALL BE FURNISHED FOR FLOORS, WALLS AND CEILINGS, OF ADEQUATE SIZE SO THAT CONCEALED ITEMS WILL BE READILY ACCESSIBLE FOR SERVICING OR FOR REMOVAL AND REPLACEMENT IF NECESSARY.

5.B. PIPE ESCUTCHEONS: INSTALL PIPE ESCUTCHEONS ON EACH PIPE PENETRATION THRU FLOORS, WALLS, PARTITIONS, AND CEILINGS WHERE PENETRATION IS EXPOSED TO VIEW AND ON EXTERIOR OF BUILDING. SECURE ESCUTCHEON TO PIPE OR INSULATION SO ESCUTCHEON COVERS PENETRATION HOLE, AND IS FLUSH WITH ADJOINING SURFACE. PROVIDE SHEET STEEL ESCUTCHEONS, SOLID OR SPLIT HINGED. FOR AREAS WHERE WATER AND CONDENSATION CAN BE EXPECTED TO ACCUMULATE, PROVIDE CAST BRASS OR SHEET BRASS ESCUTCHEONS, SOLID OR SPLIT HINGED.

5.C. PIPE SLEEVES: INSTALL PIPE SLEEVES WHERE PIPING PASSES THROUGH WALLS, FLOORS, CEILINGS, AND ROOFS. DO NOT INSTALL SLEEVES THROUGH STRUCTURAL MEMBERS OF WORK, EXCEPT AS DETAILED ON DRAWINGS, OR AS REVIEWED BY ARCHITECT/ENGINEER. SIZE SLEEVES SO THAT PIPING AND INSULATION (IF ANY) WILL HAVE FREE MOVEMENT IN SLEEVE, INCLUDING ALLOWANCE FOR THERMAL EXPANSION; BUT NOT LESS THAN 2 PIPE SIZES LARGER THAN PIPING RUN. INSTALL LENGTH OF SLEEVE EQUAL TO THICKNESS OF CONSTRUCTION PENETRATED, AND FINISH FLUSH TO SURFACE; EXCEPT FLOOR SLEEVES. EXTEND FLOOR SLEEVES 1/4 INCH ABOVE LEVEL FLOOR FINISH, AND 3/4 INCH ABOVE FLOOR FINISH SLOPED TO DRAIN. PROVIDE TEMPORARY SUPPORT OF SLEEVES DURING PLACEMENT OF CONCRETE AND OTHER WORK AROUND SLEEVES, AND PROVIDE TEMPORARY CLOSURE TO PREVENT CONCRETE AND OTHER MATERIALS FROM ENTERING SLEEVES.

5.D. WATER HAMMER ARRESTORS (WHA): PROVIDE AT ALL FAST OPENING WATER VALVES INCLUDING WATER CLOSETS, URINALS, AND CLOTHES WASHERS. SHALL BE ZURN MODEL 1260XL OR EQUIVALENT AND SHALL BE SIZED AND PLACED WITHIN THE SYSTEM AS RECOMMENDED BY THE MANUFACTURER.

6. INSULATION:

6.A. FLAME/SMOKE RATINGS: PROVIDE COMPOSITE PLUMBING INSULATION (INSULATION, JACKETS, COVERINGS, SEALERS, MASTICS AND ADHESIVES) WITH FLAME-SPREAD RATING OF 25 OR LESS, AND SMOKE-DEVELOPED RATING OF 50 OR LESS, AS TESTED BY ASTM E84 METHOD. INSULATION SHALL BE LABELED BY THE MANUFACTURER. THE LABEL SHALL INDICATE THE INSULATING VALUE, FLAME SPREAD AND SMOKE-DEVELOPED RATING.

6.B. INSTALLATION: INSULATION SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS USING ONLY ADHESIVES, MASTICS AND PLUMBING FASTENERS APPROVED BY THE INSULATION MANUFACTURER. INSULATION SHALL NOT BE APPLIED UNTIL AFTER THE EQUIPMENT HAS BEEN TESTED WITH RESULTS ACCEPTABLE TO THE ARCHITECT/ENGINEER. INSULATION WITH A VAPOR BARRIER JACKET SHALL BE APPLIED WITH A CONTINUOUS, UNBROKEN VAPOR SEAL AND ALL JOINTS SHALL BE SEALED WITH A VAPOR BARRIER ADHESIVE UNLESS OTHERWISE INDICATED. STAPLES, STICK CLIPS AND HANGERS SHALL BE VAPOR SEALED WHERE THEY PUNCTURE VAPOR BARRIER JACKETS.

6.C. MATERIALS:

6.C.A. GLASS FIBER PIPE INSULATION: HEAVY DENSITY PREFORMED PIPE INSULATION WITH OPERATING TEMPERATURE RANGE OF -40 DEGREES F TO 350 DEGREES F, THERMAL CONDUCTIVITY "K"=0.24 BTU-IN/HOUR-SF-DEG F AT 100 DEGREES F. FACTORY APPLIED JACKET (ASJ) SHALL CONSIST OF WHITE KRAFT PAPER BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBER YARN. EQUAL TO OWENS-CORNING ASJ.

6.C.B. CELLULAR FOAM PIPE INSULATION: TUBULAR, FLEXIBLE, FIRE RESISTANT INSULATION WITH OPERATING TEMPERATURE RANGE OF -40 DEGREES F TO 220 DEGREES F, THERMAL CONDUCTIVITY "K"=0.27 BTU-IN/HOUR-SF-DEG F AT 75 DEGREES F. NO JACKET REQUIRED. EQUAL TO ARMSTRONG ARMAFLEX AP.

6.C.C. A POLYETHYLENE PIPE INSULATION: INSULATION MATERIALS CORPORATION OF AMERICA (IMCOA), FLEXIBLE CLOSED CELL POLYETHYLENE TUBING, ASTM C534, "K"=0.24 AT 75 DEGREES F, SERVICE TEMPERATURE -110F TO 210F. NO JACKET REQUIRED.

6.D. OMIT INSULATION ON EXPOSED PLUMBING FIXTURE RUNOUTS FROM FACES OF WALL OR FLOOR TO FIXTURE;

ON UNIONS, FLANGES, STRAINERS, FLEXIBLE CONNECTIONS, AND EXPANSION JOINTS.

6.E. COVER VALVES, FITTINGS AND SIMILAR ITEMS IN EACH PIPING SYSTEM WITH EQUIVALENT THICKNESS AND COMPOSITION OF INSULATION AS APPLIED TO ADJOINING PIPE RUN.

6.F. ALL DOMESTIC WATER PIPING ABOVE GROUND INCLUDING COLD, HOT, AND HOT WATER RE-CIRCULATING PIPING SHALL BE INSULATED WITH A MINIMUM 1/2" THICK INSULATION.

7. PLUMBING PIPING:

7.A. DOMESTIC WATER PIPING SHALL BE COPPER TUBE AND FITTINGS IN ACCORDANCE WITH ASTM B88, TYPE L HARD DRAWN COPPER. JOINTS SHALL BE MADE WITH LEAD FREE SOLDER.

7.B. STORM, SOIL, WASTE, AND VENT PIPING BELOW GRADE SHALL BE SCHEDULE 40 PVC PIPE AND FITTINGS. PVC SCHEDULE 40 PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM D 1785. INJECTION MOLDED PVC SCHEDULE 40 FITTINGS SHALL CONFORM TO ASTM D 2466. PIPE AND FITTINGS SHALL BE MANUFACTURED AS A SYSTEM AND BE THE PRODUCT OF ONE MANUFACTURER. PIPE AND FITTINGS SHALL CONFORM TO NSF INTERNATIONAL STANDARD 61 AND THE HEALTH-EFFECTS PORTION OF NSF STANDARD 14.

7.C. STORM, SOIL, WASTE, AND VENT PIPING ABOVE GRADE SHALL BE HUBLESS CAST IRON TYPE DESIGNED FOR SAID APPLICATION. HUBLESS CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 888 AND CISPI STANDARD 301. ALL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE® AND LISTED BY NSF® INTERNATIONAL. HUBLESS COUPLINGS SHALL CONFORM TO CISPI STANDARD 310, SHALL BE MANUFACTURED IN THE UNITED STATES, AND BE CERTIFIED BY NSF® INTERNATIONAL.

7.D. CONDENSATE DRAINS SHALL BE TYPE L HARD DRAWN COPPER. JOINTS SHALL BE MADE WITH LEAD FREE SOLDER.

7.E. SLOPE ALL DRAIN LINES AT 1/4 INCH PER FOOT FOR SIZES LESS THAN 4 INCHES. SLOPE AT 1/8 INCH PER FOOT FOR SIZES 4 INCH AND LARGER.

7.F. SOIL, WASTE, AND VENT PIPING BELOW GRADE SHALL BE A MINIMUM OF 2 INCH AND SHALL BE PROVIDED WITH METALLIC TRACING/DETECTION WIRE.

7.G. VENTS SHALL EXTEND A MINIMUM OF 12 INCHES ABOVE THE ROOF. ROOF FLASHING SHALL BE PROVIDED AND COORDINATED WITH THE GENERAL AND ROOFING CONTRACTORS.

7.H. TRENCHING AS REQUIRED FOR UNDERGROUND PIPING SHALL BE GRADED TO UNIFORM PITCH AND SHALL BE NO WIDER THAN NECESSARY FOR PIPING INSTALLATION. CLEAN BACKFILL SHALL BE USED AND THOROUGHLY TAMPED IN LAYERS NOT EXCEEDING 6 INCHES TO A MINIMUM DEPTH OF 1 FOOT ABOVE PIPE. COMPACTED BACKFILL SHALL BE USED FOR THE ENTIRE DEPTH OF EXCAVATION UNDER SLAB ON GRADE CONSTRUCTION.

7.I. NATURAL GAS SYSTEMS: PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPE, ASTM A120/A53-CW OR ASTM/A53 GRADE B (WELDED OR SEAMLESS); WROUGHT STEEL BUTTWELDING FITTINGS. GAS COCKS 2 INCHES AND SMALLER SHALL BE RATED FOR 150 PSI, NON SHOCK WOG, BRONZE STRAIGHTWAY COCK, FLAT OR SQUARE HEAD, WITH THREADED ENDS. ALL GAS PIPING CONNECTIONS SHALL BE PROVIDED WITH A 6 INCH DIRT TRAP, UNION, AND GAS COCK SHUT OFF VALVE. ALL JOINTS SHALL BE SEALED WITH CHEMICALLY RESISTANT SEALER APPLIED TO MALE THREADS OF PIPE CONNECTION. GAS PIPING SHALL BE INSTALLED WITH A 1/64 INCH PER FOOT DOWNWARD SLOPE IN THE DIRECTION OF FLOW. A ROLLER BEARING TYPE PIPE SUPPORT SHALL BE USED TO SUPPORT ALL GAS PIPING LOCATED ON THE ROOF. SUPPORTS SHALL HAVE A POLYCARBONATE BASE, WITH PIPE RESTING ON A SELF LUBRICATING POLYCARBONATE RESIN AXLE AND ROLLER AND BE SIZED FOR THE PIPE BEING SUPPORTED. MAXIMUM SPACING SHALL NOT EXCEED 10FT.

8. PLUMBING FIXTURES, PUMPS, AND WATER HEATERS SHALL BE PROVIDED AND INSTALLED AS PER THE PLUMBING FIXTURE SCHEDULE. ALL EXPOSED FIXTURE SUPPLIES AND WATER LINES SHALL BE CHROME PLATED. NO EXPOSED COPPER, PVC, AND/OR CAST IRON IS ALLOWED.

9. CLEANOUTS SHALL BE THE SAME SIZE AS LINE SERVED, BUT NOT LARGER THAN 4 INCHES, AND SHALL BE PROVIDED AT THE BASE OF EACH SOIL AND WASTE STACK, AT ALL POINTS WHERE DIRECTION CHANGE IS MORE THAN 45 DEGREES, AT MINIMUM INTERVALS OF 50 FEET FOR 4 INCH AND SMALLER PIPING, AT MINIMUM INTERVALS OF 100 FEET FOR PIPING LARGER THAN 4 INCHES, AS REQUIRED BY CODE AND AS INDICATED ON THE DRAWINGS. COVERS SHALL BE SET FLUSH WITH FLOOR OR WALL.

10. PLUMBING VALVES

10.A. PROVIDE SHUT-OFF VALVE AND UNION OR EQUIVALENT AT EACH HOT AND COLD WATER EQUIPMENT CONNECTION. PROVIDE SHUTOFF VALVE ON EACH BRANCH OR RISER THAT SERVES TWO OR MORE PLUMBING FIXTURES.

10.B. GATE VALVES 2-1/2 INCHES AND SMALLER: ALL BRONZE, RISING STEM, SOLID WEDGE DISC. STOCKHAM B-100 OR B-108.

10.C. GLOBE VALVES: ALL BRONZE, RENEWABLE COMPOSITION DISC. STOCKHAM B-16 OR B-14-T.

10.D. CHECK VALVES IN HORIZONTAL PIPES: 2 INCHES AND SMALLER: ALL BRONZE, REGINDING BRONZE DISC, HORIZONTAL SWING, Y-PATTERN. STOCKHAM B-319OR B-309.

10.E. CHECK VALVES IN VERTICAL PIPES AND PUMP DISCHARGE: SILENT CHECK VALVE WITH SEMI-STEEL BODY, BRONZE TRIM AND STAINLESS STEEL SPRING. METRAFLEX 700 SERIES.

10.F. BALL VALVES MAY BE USED IN LIEU OF GATE VALVES 2 INCHES AND SMALLER. BALL VALVES SHALL HAVE BRONZE BODY, BRONZE BALL AND TFE SEATS AND SEALS. STOCKHAM S-216BRRT OR S-216BRRS.

11. CLEANING AND TESTING

11.A. ALL WATER PIPING, VALVES, ETC. SHALL BE THOROUGHLY FLUSHED OF FOREIGN MATTER AND TESTED FOR LEAKS IN ACCORDANCE WITH THE PLUMBING AND BUILDING CODE, LATEST EDITION. ANY LEAKAGE SHALL BE REPAIRED. DISINFECT DOMESTIC WATER PIPING INCLUDING WATER SERVICE PIPING IN ACCORDANCE WITH AWWA C601.

11.B. ALL DRAIN, WASTE AND VENT PIPING SHALL BE TESTED FOR LEAKS IN ACCORDANCE WITH THE PLUMBING AND BUILDING CODE CODE, LATEST EDITION, NO VISIBLE DROP IN WATER LEVEL WILL BE ACCEPTABLE.

END OF SPECIFICATIONS.

PLUMBING FIXTURE SCHEDULE:

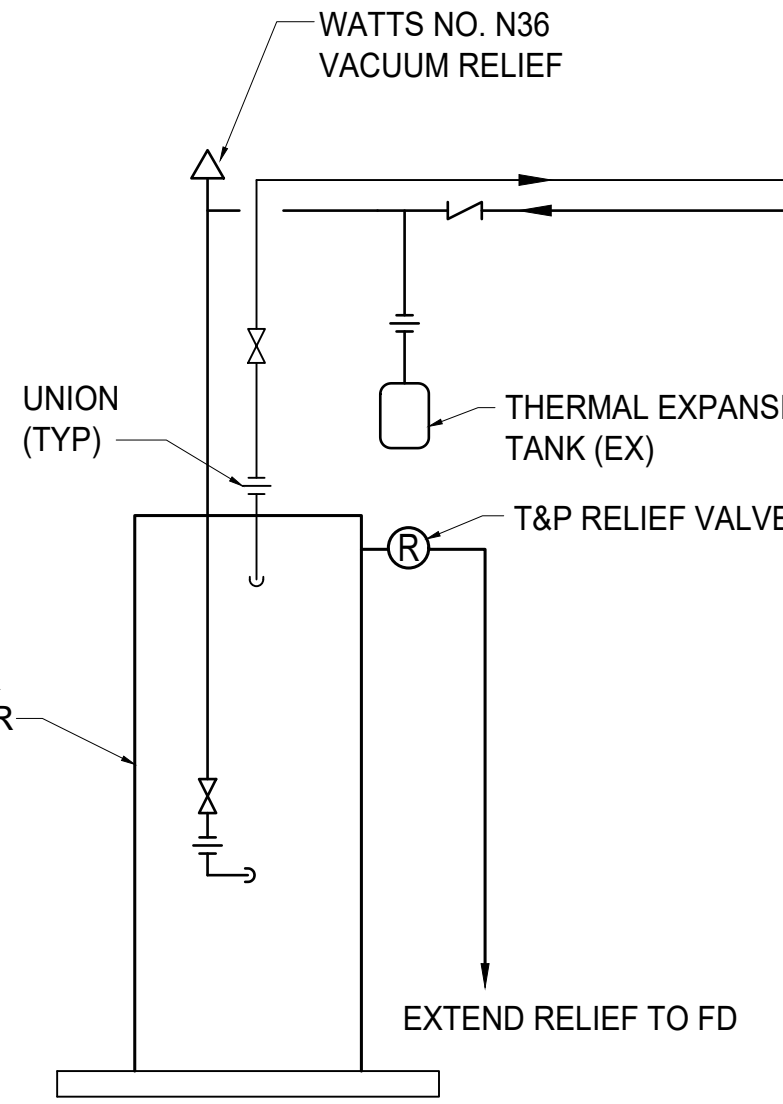
WC-1 ADA WATER CLOSET: AMERICAN STANDARD TANK TYPE WATER CLOSET, EQUAL TO AMERICAN STANDARD CADET PRO MODEL 215AA.104.020, BARRIER FREE, WHITE VITREOUS CHINA, ELONGATED BOWL, 1.28 GPF, FLOOR MOUNTED W/ 3" BOTTOM OUTLET. SEAT SHALL BE EQUAL TO CHURCH MODEL 9500SSCT W/ OPEN FRONT SEAT. FIXTURE RIM TO FINISHED FLOOR MOUNTING HEIGHT SHALL BE 17". LOCATE FLUSH LEVER ON WIDE SIDE OF STALL.

L-1 AMERICAN STANDARD "LUCERNE" 0355.012 WHITE VITREOUS CHINA WALL HUNG HANDICAP LAVATORY, THREE HOLE MOUNT FOR 4" CENTERS, WITH MOEN 8413F05 CENTERSET CHROME FAUCET WITH SINGLE LEVER HANDLE, METAL GRID STRAINER, OFFSET PVC P-TRAP, FLEXIBLE TUBING SUPPLIES, COMPRESSION FITTINGS AND STOPS. PROVIDE TRUEBRO #102W PRE- MOLDED INSULATION ON BOTH WATER SUPPLIES AND DRAIN. PROVIDE WITH WALL CARRIER.

S-1 PANTRY SINK: LUSTERTONE® CLASSIC STAINLESS STEEL 33" X 19-1/2" X 5-1/2" EQUAL DOUBLE BOWL DROP-IN ADA SINK. SINK IS MANUFACTURED FROM 18 GAUGE 304 STAINLESS STEEL WITH A LUSTROUS SATIN FINISH. PROVIDE WITH STAINLESS STEEL BODY STRAINER BASKET AND ELKAY GOURMET SINGLE HOLE KITCHEN FAUCET WITH PULL OUT SPRAY LEVER HANDLE.

IMB ICE MAKER BOX: OATEY, MODEL I2K. RECESSED BOX WITH CW SHUT OFF VALVE. PROVIDE WATER LINE FROM BOX TO REFRIGERATOR ICE MAKER/ WATER DISPENSER.

SH-1 SHOWER, AQUATIC BATH, MODEL 1363BFRF, 36x36x75 ONE-PIECE SHOWER WITH FOLDING SEAT ON LEFT SIDE, VERTICAL ENTRY BAR, L SHAPE HORIZONTAL GRAB BAR, AND HAND HELD SPRAYER AND SLIDE BAR. PROVIDE WITH PRESSURE BALANCING MIXING VALVE IN WALL, 2" BRASS SHOWER DRAIN WITH STRAINER, AND SHOWER CURTAIN WITH ROD. PROVIDE SHOWER SYSTEM WITH RIGHT HAND FIXTURE WALL AS INDICATED ON PLANS.



DETAIL OF CONNECTIONS TO WATER HEATER

LEGEND		ABBREVIATIONS	
	BRANCH CONNECTION - BOTTOM OF MAIN	AAV	AIR ADMITTANCE VALVE
	BRANCH CONNECTION - SIDE OF MAIN	ABV	ABOVE
	BRANCH CONNECTION - TOP OF MAIN	AFF	ABOVE FINISHED FLOOR
	PIPE DOWN OR PIPE FROM BELOW	BFF	BELOW FINISHED FLOOR
	PIPE UP OR PIPE FROM ABOVE	BTU	BRITISH THERMAL UNIT
	DIRECTION OF FLOW	BEL	BELOW
	DOMESTIC COLD WATER	CLG	CEILING
	DOMESTIC HOT WATER	CO	CLEANOUT
	DOMESTIC HOT WATER RECIRCULATING	CONN	CONNECT/ CONNECTION
	NATURAL GAS PIPING	CW	COLD WATER
	SANITARY SEWER, GREASE WASTE OR DRAIN	CONT	CONTINUED
	SANITARY VENT	DN	DOWN
	CLEANOUT FLUSH WITH FLOOR	EA	EACH
	OUTLET WITH P-TRAP	ELEV	ELEVATION
	WALL HYDRANT	EWC	ELECTRIC WATER COOLER
	WATER HAMMER ARRESTER	F	DEGREES FAHRENHEIT
	BALL VALVE	FD	FLOOR DRAIN
	AUTOMATIC GAS SHUT OFF VALVE, INTERLOCK WITH HOOD	FIN	FINISHED
	SHUTOFF VALVE IN VERTICAL	FLR	FLOOR
	CHECK VALVE	FR	FROM
	T&P RELIEF VALVE	FT	FEET
	BALANCING COCK	GPH	GALLONS PER HOUR
	UNION	GPM	GALLONS PER MINUTE
	PRESSURE GAUGE AND GAUGE COCK	GW	GREASE WASTE
	THERMOMETER	HB	HOSE BIBB
	GAS PRESSURE REGULATOR	HC	HANDICAPPED ACCESSIBLE
	RELIEF VALVE	HW	HOT WATER
	BACKFLOW PREVENTER (BFP)	HP	HORSEPOWER
	EXISTING (EQUIPMENT OR DUCTWORK/PIPING)	IN	INCH, INCHES
	DEMOLITION (EQUIPMENT, PIPING, DUCTWORK, ETC.)	INV	INVERT
	DEIONIZED WATER	MAX	MAXIMUM
		MBH	THOUSAND BTU PER HOUR
		MN	MINIMUM
		SH	SHEET
		TYP	TYPICAL
		V	VENT
		VTR	VENT THRU ROOF
		W	SANITARY WASTE
		WCO	WALL CLEANOUT
		WH	WALL HYDRANT
		WHA	WATER HAMMER ARRESTER
		ZVB	MEDICAL GAS ZONE VALVE BOX
			CONNECT TO EXISTING
			LIMITS OF DEMOLITION

PLUMBING EQUIPMENT SCHEDULE:

FD FLOOR DRAIN, ZURN MODEL Z415, DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS.

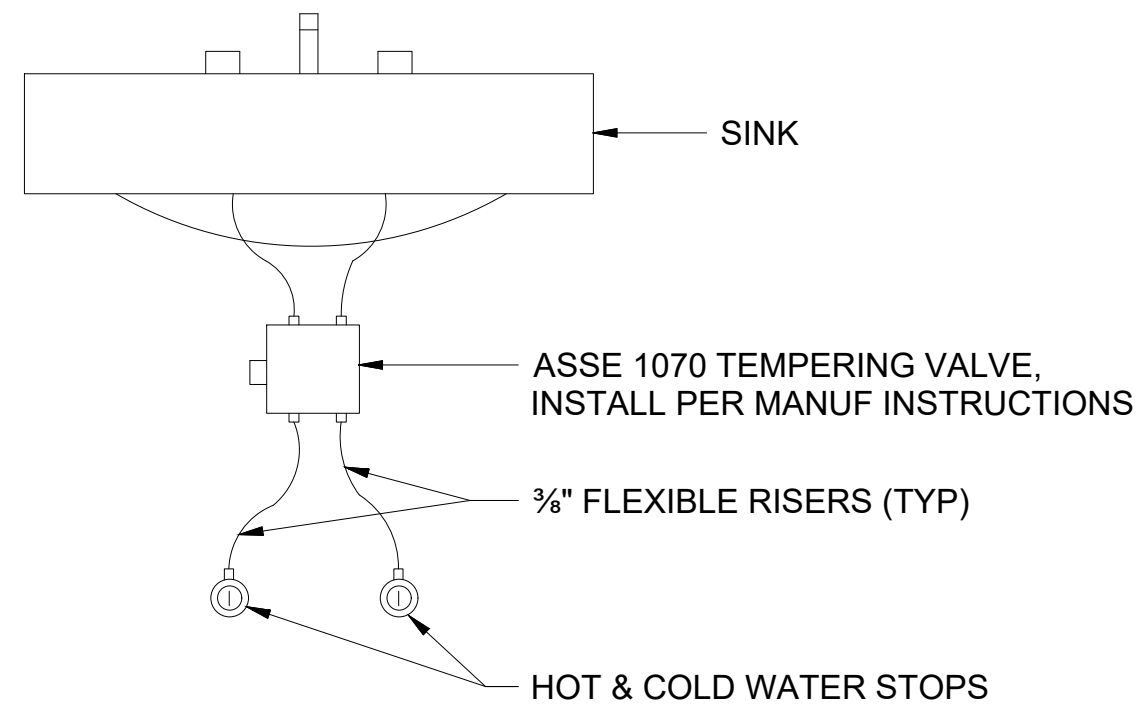
FOR MECHANICAL ROOM DRAINS NOT RECIEVING INDIRECT WASTE, FINISHED SPACES INCLUDING TOILET, SHOWER, LOCKER ROOMS, ETC., PROVIDE WITH TYPE B, ROUND, POLISHED NICKEL BRONZE, LIGHT DUTY HEEL PROOF STRAINER.

FOR ANY FLOOR DRAINS RECIEVING INDIRECT WASTE OR CONDESATE (NOT FLOOR SINKS), PROVIDE TYPE I POLISHED NICKEL BRONZE STRAINER WITH RAISED FLANGE.

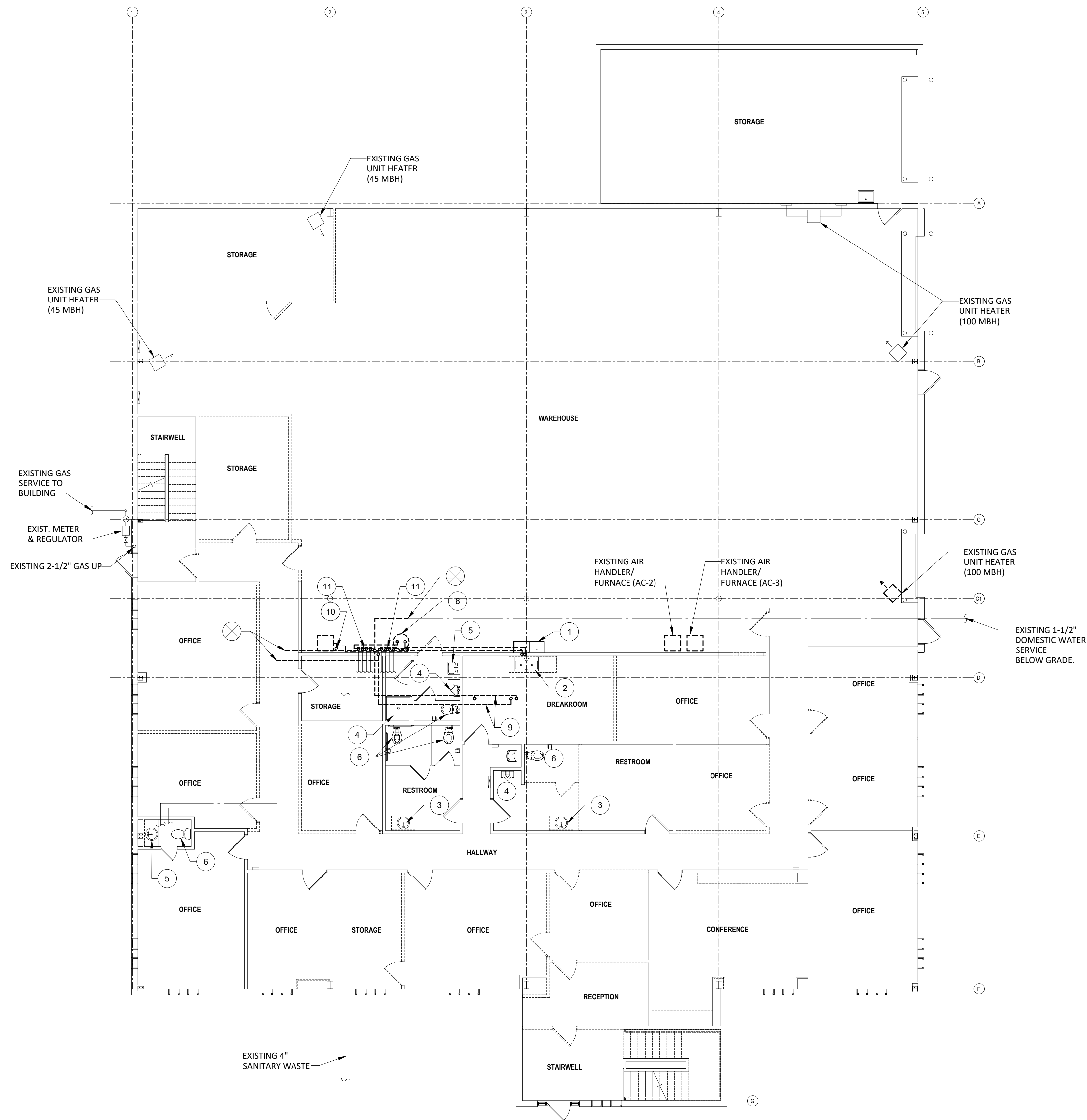
ALL FLOOR DRAINS SHALL BE PROTECTED AGAINST LOSS OF TRAP SEAL BY EVAPORATION BY INSTALLATION OF ELASTOMERIC TRAP GUARD DRAIN INSERT, EQUAL TO PROSET SYSTEMS MODEL #TG.

BFP REDUCED PRESSURE ZONE BACK FLOW PREVENTER (FOR BUILDING SERVICE) SIZES 1/2" - 2". WATTS SERIES LFU009. ROUTE DRAIN TO NEAREST FLOOR DRAIN AND PROVIDE AIR GAP.

EX EXPANSION TANK - AMITROL THERM-X-TROL MODEL #ST-5 THERMAL EXPANSION TANK, 2.0 GALLONS MIN. ACCEPTANCE VOLUME WITH DIAPHRAGM. FACTORY PRE-CHARGED TO 40 PSI, SET EQUAL TO LINE PRESSURE.



TYPICAL TEMPERING VALVE FOR LAV'S



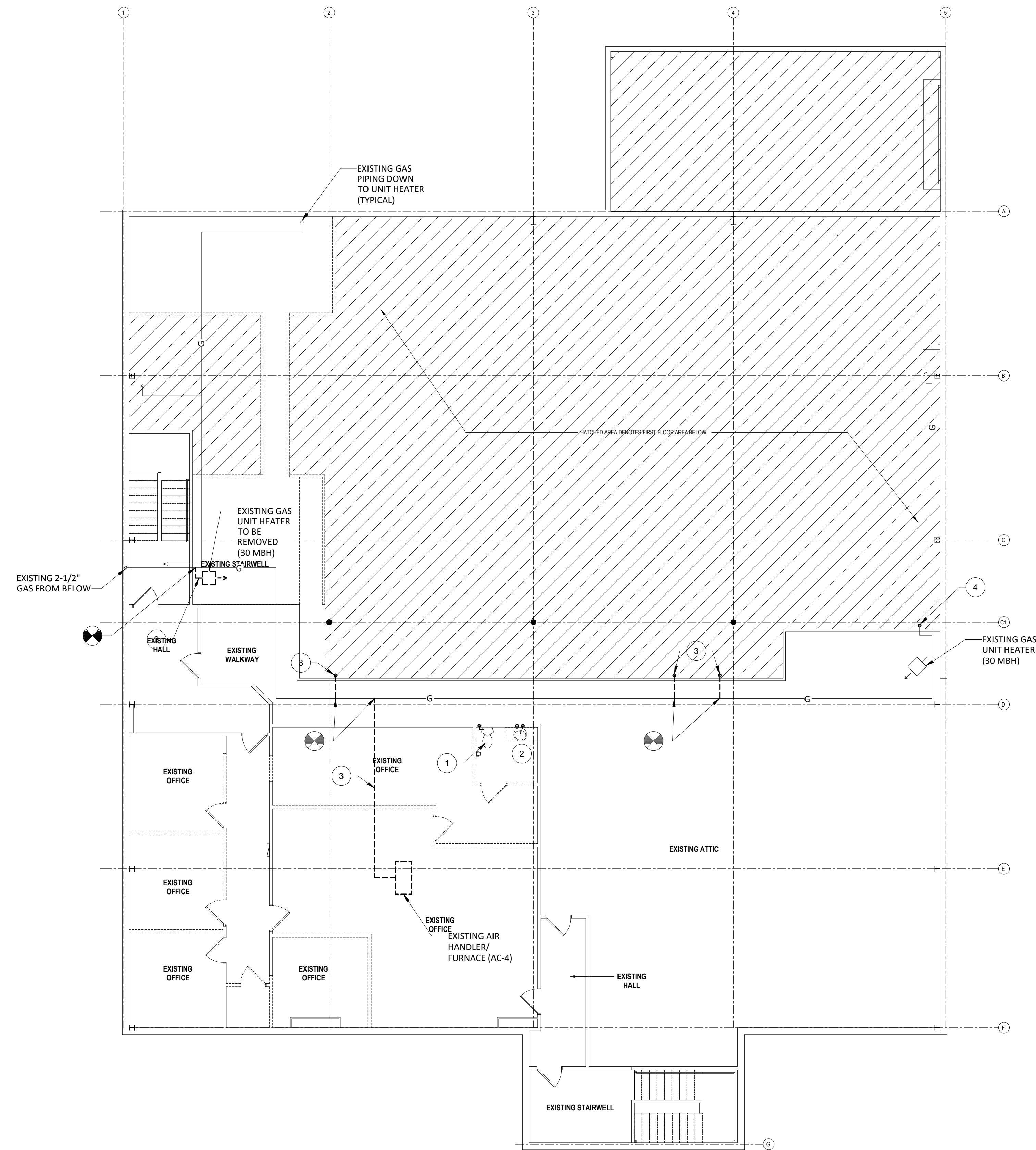
PLUMBING DEMOLITION PLAN - 1ST FLOOR
SCALE = 1/8"=1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING.
2. REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES NOT SHOWN.

DEMOLITION KEYED NOTES:

- 1 EXISTING SINK TO BE REMOVED IN ITS ENTIRETY. REMOVE ASSOCIATED WATER, WASTE, AND VENT BRANCH PIPING BACK TO MAIN AND CAP.
- 2 EXISTING SINK TO BE REMOVED IN ITS ENTIRETY. REMOVE ASSOCIATED WATER BRANCH PIPING BACK TO MAIN AND CAP. PREPARE EXISTING WASTE PIPING FOR CONNECTION TO NEW SINK.
- 3 EXISTING LAVATORY TO BE REMOVED IN ITS ENTIRETY. PREP SANITARY AND WATER PIPING TO BE RECONNECTED TO NEW FIXTURE.
- 4 EXISTING URINAL TO REMAIN.
- 5 EXISTING LAVATORY TO REMAIN.
- 6 EXISTING WATER CLOSET TO REMAIN.
- 7 EXISTING SHOWER TO REMAIN.
- 8 EXISTING GAS WATER HEATER TO BE RELOCATED FOR CONSTRUCTION OF NEW FIRE WALL.
- 9 EXISTING WATER LINES SERVING TOILET ROOMS ABOVE TO BE REMOVED BACK TO ASSOCIATED MAIN.
- 10 EXISTING GAS PIPING SERVING EXISTING FURNACE/WATER HEATER TO BE REMOVED AS INDICATED.
- 11 EXISTING CW AND HW PIPING DROPS TO BELOW FLOOR TO BE MODIFIED. REMOVE PIPING TO BELOW FLOOR AND PREPARE PIPING TO BE EXTENDED BEYOND NEW FIRE WALL.



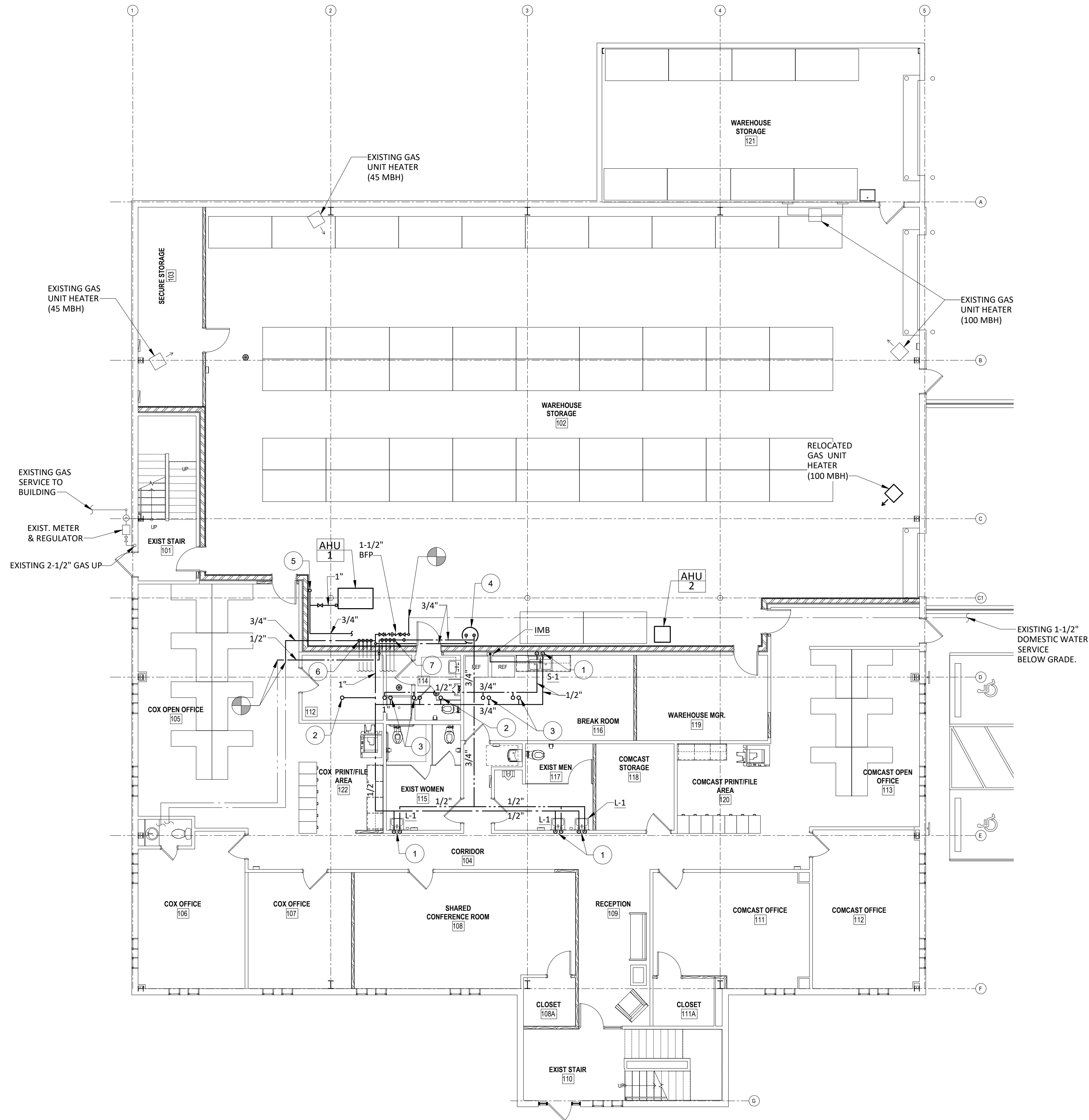
PLUMBING DEMOLITION PLAN - 2ND FLOOR
SCALE = 1/8"=1'-0"

- GENERAL NOTES:
1. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING.
 2. REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES NOT SHOWN.
- DEMOLITION KEYED NOTES:
- 1 EXISTING WATER CLOSET TO BE REMOVED IN ITS ENTIRETY. REMOVE ASSOCIATED WATER, WASTE, AND VENT PIPING.
 - 2 EXISTING LAVATORY TO BE REMOVED IN ITS ENTIRETY. REMOVE ASSOCIATED WATER, WASTE, AND VENT PIPING.
 - 3 EXISTING GAS PIPING TO BE REMOVED AS INDICATED.
 - 4 REMOVE GAS DROP TO RELOCATED UNIT HEATER LOCATION. PREPARE GAS LINE TO BE EXTENDED TO NEW LOCATION.



DRAWN BY
DESIGNED BY
CHECKED BY
DATE
SCALE
REVISIONS

6/27/2025



PLUMBING PLAN - 1ST FLOOR - W & G
SCALE = 1/8"=1'-0"

- GENERAL NOTES:
1. REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS IF NOT SHOWN ON THIS PLAN.
 2. ALL PENETRATIONS THROUGH FULL HEIGHT WALLS SHALL BE SEALED TO PREVENT THE INFILTRATION OF NOISE AROUND THE PENETRATION.

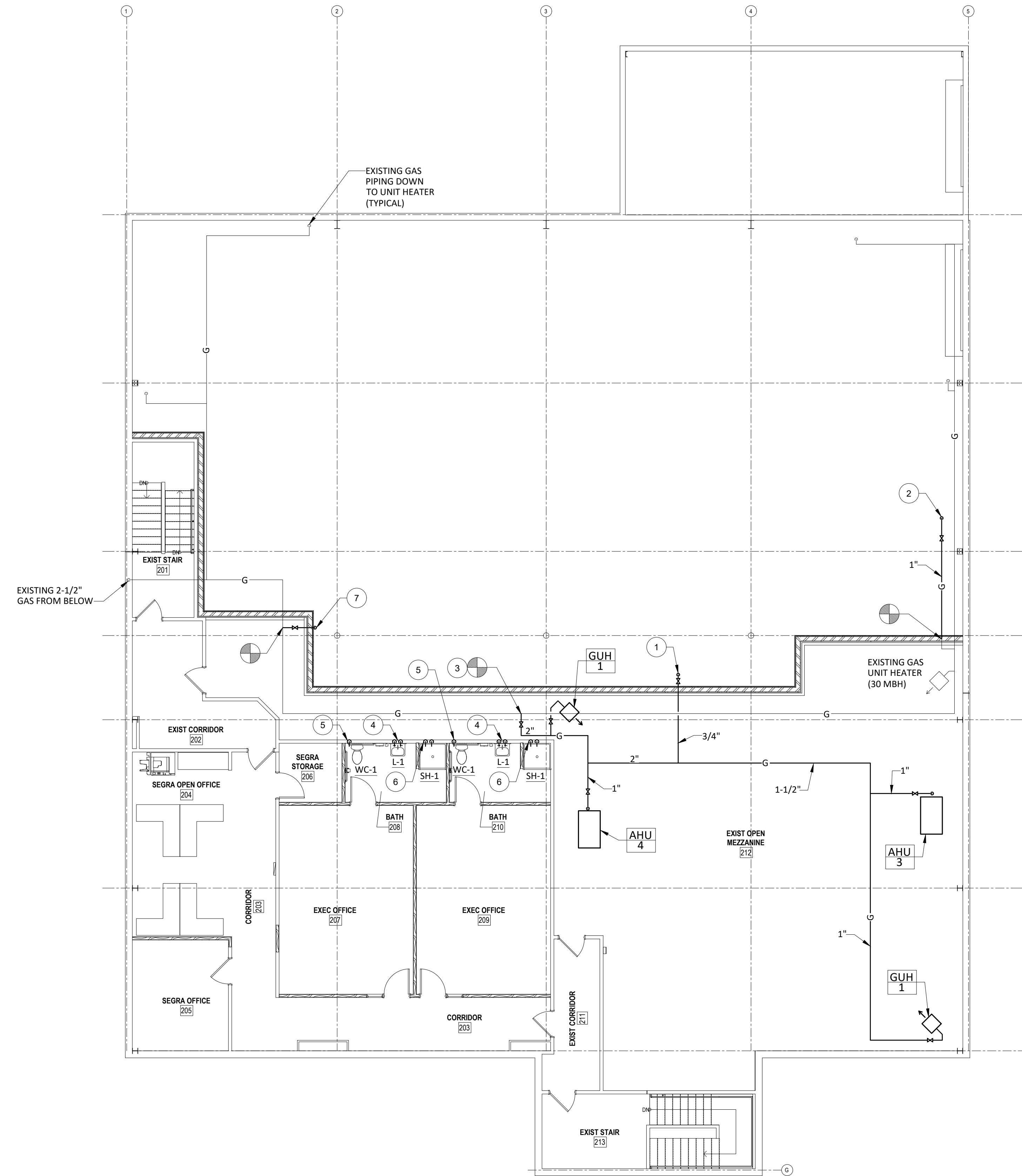
- KEYED NOTES:
- 1 1/2" CW AND 1/2" HW DOWN TO SINK/LAV.
 - 1/2" CW UP TO FIXTURE ABOVE.
 - 1/2" CW AND 1/2" HW UP TO FIXTURE ABOVE.
 - NEW LOCATION OF RELOCATED GAS WATER HEATER.
 - 1-1/4" GAS FROM ABOVE. ROUTE 1" GAS TO AHU-1 AND 3/4" GAS TO WATER HEATER.
 - NEW CW LINES DOWN TO EXISTING CW LINES BELOW GRADE. MATCH EXISTING SIZES.
 - NEW HW LINES DOWN TO EXISTING HW LINES BELOW GRADE. MATCH EXISTING SIZES.

GENERAL NOTES:

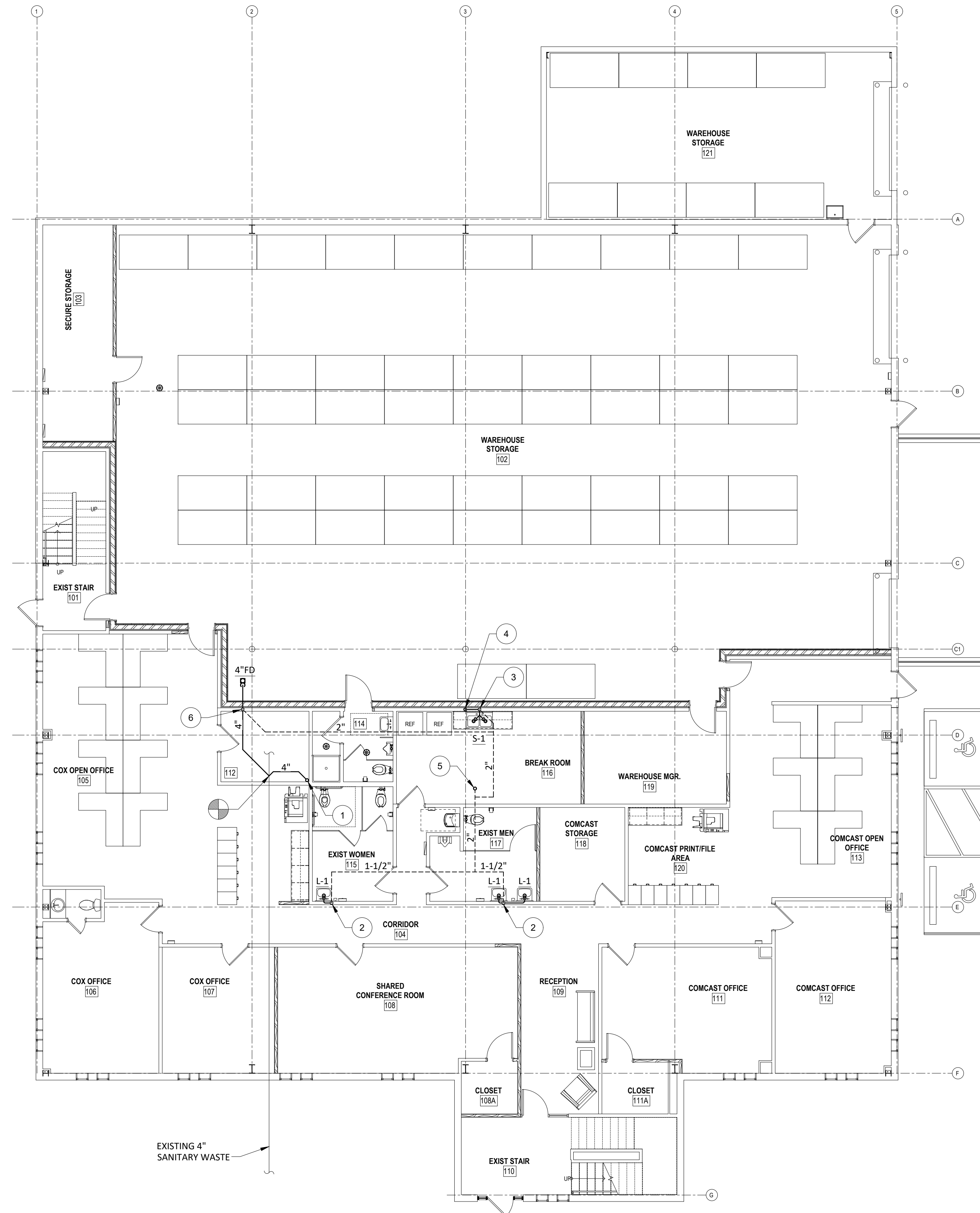
1. REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS IF NOT SHOWN ON THIS PLAN.
2. ALL PENETRATIONS THROUGH FULL HEIGHT WALLS SHALL BE SEALED TO PREVENT THE INFILTRATION OF NOISE AROUND THE PENETRATION.

KEYED NOTES:

- 1 3/4" GAS DOWN TO AHU-2 FURNACE.
- 2 1" GAS DOWN TO RELOCATED UNIT HEATER.
- 3 CONNECT TO MIN. 2" GAS MAIN. CONTRACTOR TO CONFIRM TIE IN LOCATION/ EXISTING GAS PIPE SIZE PRIOR TO MAKING CONNECTION TO EXISTING PIPING.
- 4 1/2" CW AND 1/2" HW TO LAVATORY FROM BELOW.
- 5 1/2" CW TO WATER CLOSET FROM BELOW.
- 6 1/2" CW AND 1/2" HW TO SHOWER FROM BELOW.
- 7 1-1/4" GAS DOWN.



PLUMBING PLAN - 2ND FLOOR - W & G
SCALE = 1/8"=1'-0"



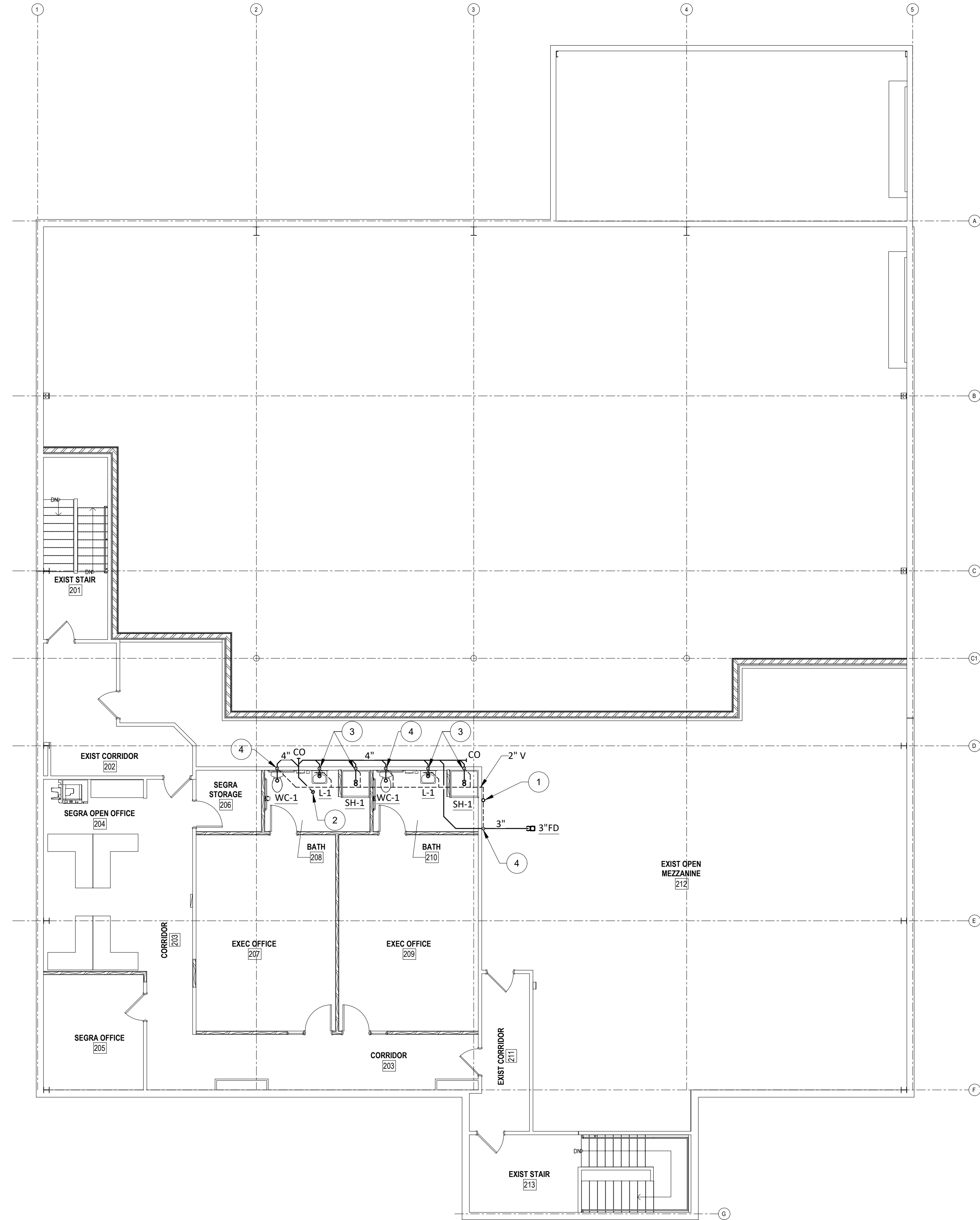
PLUMBING PLAN - 1ST FLOOR - W & V
SCALE = 1/8"=1'-0"

GENERAL NOTES:

1. REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS IF NOT SHOWN ON THIS PLAN.
2. CONTRACTOR SHALL VERIFY SIZE, LOCATION, AND INVERT ELEVATION OF EXISTING SANITARY PRIOR TO STARTING NEW CONSTRUCTION.

KEYED NOTES:

- 1 4" WASTE FROM ABOVE AND DOWN TO BELOW FLOOR.
- 2 2" WASTE AND 1-1/2" VENT DOWN. CONNECT TO EXISTING WASTE FROM REMOVED LAVATORY BELOW FLOOR.
- 3 1-1/2" VENT DOWN.
- 4 CONNECT 2" WASTE FROM NEW SINK TO EXISTING WASTE LINE FROM REMOVED SINKS.
- 5 2" VENT UP.
- 6 2" VENT DOWN.



PLUMBING PLAN - 2ND FLOOR - W & V
SCALE = 1/8"=1'-0"

GENERAL NOTES:

1. REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS IF NOT SHOWN ON THIS PLAN.
2. ALL PENETRATIONS THROUGH FULL HEIGHT WALLS SHALL BE SEALED TO PREVENT THE INFILTRATION OF NOISE AROUND THE PENETRATION.

KEYED NOTES:

- 1 3/4" GAS DOWN TO AHU-2 FURNACE.
- 2 1" GAS DOWN TO RELOCATED UNIT HEATER.
- 3 CONNECT TO MIN. 2" GAS MAIN. CONTRACTOR TO CONFIRM TIE IN LOCATION/ EXISTING GAS PIPE SIZE PRIOR TO MAKING CONNECTION TO EXISTING PIPING.
- 4 1/2" CW AND 1/2" HW TO LAVATORY FROM BELOW.
- 5 1/2" CW TO WATER CLOSET FROM BELOW.
- 6 1/2" CW AND 1/2" HW TO SHOWER FROM BELOW.
- 7 1-1/4" GAS DOWN.