



State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

Department of Administrative Services

KIMBERLY K. HOOD
Executive Director

Division of Facilities Construction and Management

DAVID G. BUXTON
Director

ADDENDUM NO. 3

Date: September 3, 2008

To:	<u>Company</u>	<u>Contact</u>	<u>Fax</u>
	Culp Construction	Ross Barrell	801-485-4755
	DMS	Greg Stennett	801-487-4069
	Garff Construction	Dennis Doman	801-972-1928
	Gerber Electric	Larry Gerber	801-292-2228
	KOH Mechanical	Lynn Hansen	801-254-6374
	Mechanical Service & Systems	Erik Worley	801-561-4673
	Onyx Construction	Steve Bailey	801-878-8922
	Rueckert Construction	Ken Rueckert	801-253-1774
	Rydalch Electric	Bert Baron	801-265-2166
	Sisam Electric	Mike Lyon	801-484-0367
	Wasatch Heating and Air	Wayne Margetts	435-843-4241

From: Craig Wessman, Project Manager, DFCM

Reference: HVAC and Electrical Systems Upgrade
Ft. Douglas Museum – Phase 2A – Utah National Guard
DFCM Project No. 08249470

Subject: **Addendum No. 3**

Pages	Addendum Cover Sheet	1 page
	<u>Architect's Addendum</u>	<u>45 pages</u>
	Total	46 pages

THIS PAGE ONLY FAXED – SEE DFCM WEBSITE FOR ENTIRE ADDENDUM

Note: *This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.*

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

3.1 **SCHEDULE CHANGES:** None

3.2 **GENERAL ITEMS:** Architect's specifications, drawings, and clarifications.



Addendum #003

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PROJECT NAME: Ft. Douglas Museum Phase 2A
Mechanical & Electrical Systems
31 Potter Street
Ft. Douglas, UT 84113

DATE: September 2, 2008

DFCM PROJECT NO.: 08249470

ARCHITECT'S PROJECT NO.: B05-027

FROM: Cooper Roberts Simonsen Architects
700 North 200 West
Salt Lake City, Utah 84103

(801) 355-5915
Fax (801) 355-9885

TO: All Bidders

This Addendum forms a part of the Contract Documents and modifies the original Bid Documents dated August 11, 2008 as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of (3) 8 ½"x11" pages, (12) pages 8 ½"x11" specifications, (15) 24"x36" drawing pages and (15) pages consultant addendum.

I. CHANGES TO PRIOR ADDENDA:

I-1 NONE

II. CHANGES TO BIDDING REQUIREMENTS:

II-1 NONE

III. CHANGES TO AGREEMENT & OTHER CONTRACT FORMS:

III-1 NONE

IV. CHANGES TO CONDITIONS OF THE CONTRACT:

IV-1 General Conditions Clarification

a) In the event of a conflict between a specification section and the DFCM General Conditions, the DFCM General Conditions take precedence.

IV-2 Information Available to Bidders

a) Hydrant flow test – the following has been forwarded through the University of Utah

(1) Static Pressure, hydrant at the top of Officer's Circle = 95 psig. Flow pressure at hydrant north of the museum = 85 psig. Pitot tube reading of 42 psig.

V. CHANGES TO SPECIFICATIONS:

V-1 Section 087100 – Door Hardware

a) Hager is considered an acceptable manufacturer of the hardware specified.

V-2 Section 093000 – Tiling

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Addendum #003

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- a) The "Architect's Sample" referred to in paragraph 2.2A.7 is a custom mix of the following unglazed 1"x1" floor tiles arranged in a pattern that is intended to look similar to the digital camouflage pattern currently in use with the US Army.
 - 15% D014 Light Gray
 - 13% D174 Mexican Sand
 - 8% D036 Mocha
 - 8% D452 Cypress
 - 28% D136 Fawn
 - 28% D035 Almond
- DaTile has prepared the samples under order #2460813, File #7094, Sheet A
- V-3 Section 095113 – Acoustical Panel Ceilings
 - a) Refer to the attached section.
 - V-4 Section 096813 – Tile Carpeting
 - a) It is intended that the specified carpet tiles will be obtained through the state contract.
 - V-5 Section 102800 – Toilet, Bath and Laundry Specialties
 - a) American Accessories, Inc. is an acceptable manufacturer for the products specified.
 - V-6 Section 144200 – Wheelchair Lifts
 - a) A revised specification removing the residential Basis of Design product is attached.

VI. CHANGES TO DRAWINGS:

- VI-1 GI001 General Info & Sheet Index
 - a) The drawings sheet index has been corrected to reflect the sheets in the set of documents.
- VI-2 GI002 Lower Level Occupancy Plan
 - a) Modified the Code Analysis information.
- VI-3 GI003 Main Level Occupancy Plan
 - a) Changed Ordnance Room from Occupancy Group B to A3.
- VI-4 AS101 Site Plan
 - a) Updated site plan with utility easements and notes for west reinforced concrete slab patching.
- VI-5 AD101 Lower Level Demolition Plan
 - a) Added reference note #4.
- VI-6 AD103 Main Level Reflected Ceiling Demolition Plan
 - a) Added the attic access demolition and reference note
- VI-7 AE101 Lower Level Floor Plan
 - a) Added door 004A.
 - b) Modified Bid Alternate reference notes 3a, 4a, 5a & 6a.
 - c) Added reference notes 6, 7 & 8.
 - d) Added wood floor landing in Mechanical 004.
 - e) Revised reference note 2 to reflect new furred out wall and horizontal shaftwall at floor level in lieu of rated shaft. Note: the construction of this wall remains the same but it is not required to be a fire rated shaft.
- VI-8 AE102 Main Level Floor Plan
 - a) Added new concrete pad.
 - b) Modified Bid Alternate reference notes 3a, 4a, 5a & 6a.
 - c) Added reference notes 6, 7 & 8.
 - d) Revised reference note 2 to reflect new furred out wall and horizontal shaftwall at floor level in lieu of rated shaft. Note: the construction of this wall remains the same but it is not required to be a fire rated shaft.

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- e) Relocated wall behind vertical platform lift & extended west end of guardrail to window.
- f) Modified the electric water cooler symbol in Exhibits 105 to reflect a 2 cooler unit.
- VI-9 AE110 Lower Level Reflected Ceiling Plan
 - a) Added reference note #5.
- VI-10 AE111 Main Level Reflected Ceiling Plan
 - a) Added new attic access hatch & reference note #5.
- VI-11 AE401 Enlarged Floor Plan & Details
 - a) Added dimensions to B4.
- VI-12 AE402 AE401 Enlarged Floor Plan & Details
 - a) Added break line to C4.
 - b) Modified details B2 & A2 to show 2" handrail. The lines in the guardrail and support posts indicate a round section, not the grain direction.
- VI-13 AE403 Interior Elevations & Details
 - a) Modified detail B1 to show vertical grab bars and dimensions.
- VI-14 AE601 Door & Windows Schedules & Details
 - a) Added detail A4.
 - b) Added detail A5.
- VI-15 AF101 Finish Floor Schedule
 - a) Modified details B2, B3 & B4.
 - b) Added F5- Existing concrete to the floor finish schedule notes
 - c) Changed floor finish in Women 106 & Men 107 from F2 to F3.
 - d) Added window blinds to windows in Women 106 & Men 107.
 - e) Added detail A5.
 - f) Added detail A4.

VII. CONSULTANT ADDENDUM:

- VII-1 See the attached addendum from Colvin Engineering
- VII-2 See the attached addendum from BNA Consulting Engineers

End of Addendum

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes acoustical panels and exposed suspension systems for ceilings.

1.3 DEFINITIONS

- A. AC: Articulation Class.
- B. CAC: Ceiling Attenuation Class.
- C. LR: Light Reflectance coefficient.
- D. NRC: Noise Reduction Coefficient.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For components with factory-applied color finishes.

1.5 QUALITY ASSURANCE

- A. Source Limitations:
 - 1. Acoustical Ceiling Panel: Obtain each type through one source from a single manufacturer.
 - 2. Suspension System: Obtain each type through one source from a single manufacturer.
- B. Source Limitations: Obtain each type of acoustical ceiling panel and supporting suspension system through one source from a single manufacturer.
- C. Seismic Standard: Provide acoustical panel ceilings designed and installed to withstand the effects of earthquake motions according to the following:
 - 1. Standard for Ceiling Suspension Systems Requiring Seismic Restraint: Comply with ASTM E 580.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension system components, and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical panels carefully to avoid chipping edges or damaging units in any way.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
 - 1. Pressurized Plenums: Operate ventilation system for not less than 48 hours before beginning acoustical panel ceiling installation.

1.8 COORDINATION

- A. Coordinate layout and installation of acoustical panels and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

1.9 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Acoustical Ceiling Panels: Full-size panels equal to 2.0 percent of quantity installed.
 - 2. Suspension System Components: Quantity of each exposed component equal to 2.0 percent of quantity installed.

PART 2 - PRODUCTS

2.1 ACOUSTICAL PANELS, GENERAL

- A. Acoustical Panel Standard: Provide manufacturer's standard panels of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances, unless otherwise indicated.
 - 1. Mounting Method for Measuring NRC: Type E-400; plenum mounting in which face of test specimen is 15-3/4 inches away from test surface per ASTM E 795.
- B. Acoustical Panel Colors and Patterns: Match appearance characteristics indicated for each product type.
 - 1. Where appearance characteristics of acoustical panels are indicated by referencing pattern designations in ASTM E 1264 and not manufacturers' proprietary product designations, provide

products selected by Architect from each manufacturer's full range that comply with requirements indicated for type, pattern, color, light reflectance, acoustical performance, edge detail, and size.

2.2 ACOUSTICAL PANELS FOR ACOUSTICAL PANEL CEILING

- A. Available Products: Subject to compliance with requirements:
 - 1. Armstrong World Industries, Inc.
 - 2. BPB USA
 - 3. Ecophon CertainTeed, Inc.
 - 4. USG Interiors, Inc.
- B. Basis of design Product:
 - 1. Armstrong World Industries Inc., Fine Fissured, Square Lay-in, #1728
- C. Classification: Provide panels complying with ASTM E 1264 for type, form, and pattern as follows:
 - 1. Type and Form: Type III, mineral base with painted finish; Form 1, nodular.
 - 2. Pattern: E (lightly textured).
- D. Color: As selected from manufacturer's full range.
- E. LR: Not less than 0.80.
- F. NRC: Not less than 0.65.
- G. CAC: Not less than 35.
- H. Edge/Joint Detail: Square Lay-in.
- I. Thickness: 3/4 inch.
- J. Modular Size: 24 by 24 inches.

2.3 METAL SUSPENSION SYSTEMS, GENERAL

- A. Metal Suspension System Standard: Provide manufacturer's standard direct-hung metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable requirements in ASTM C 635.
- B. Finishes and Colors, General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes. Provide manufacturer's standard factory-applied finish for type of system indicated.
 - 1. High-Humidity Finish: Comply with ASTM C 635 requirements for "Coating Classification for Severe Environment Performance" where high-humidity finishes are indicated.
- C. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
 - 1. Anchors in Concrete: Anchors of type and material indicated below, with holes or loops for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to

five times that imposed by ceiling construction, as determined by testing per ASTM E 488 or ASTM E 1512 as applicable, conducted by a qualified testing and inspecting agency.

- a. Corrosion Protection: Carbon-steel components zinc plated to comply with ASTM B 633, Class Fe/Zn 5 (0.005 mm) for Class SC 1 service condition.
- b. Corrosion Protection: Stainless-steel components complying with ASTM F 593 and ASTM F 594, Group 1 Alloy 304 or 316 for bolts; Alloy 304 or 316 for anchor.
- c. Corrosion Protection: Components fabricated from nickel-copper-alloy rods complying with ASTM B 164 for UNS No. N04400 alloy.

D. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:

1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
2. Stainless-Steel Wire: ASTM A 580/A 580M, Type 304, nonmagnetic.
3. Nickel-Copper-Alloy Wire: ASTM B 164, nickel-copper-alloy UNS No. N04400.
4. Size: Select wire diameter so its stress at 3 times hanger design load (ASTM C 635, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.135-inch-diameter wire.

2.4 METAL SUSPENSION SYSTEM FOR ACOUSTICAL PANEL CEILING

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

1. Armstrong World Industries, Inc.;
2. BPB USA.;
3. Ecophon CertainTeed, Inc.;
4. USG Interiors, Inc.;

B. Basis of Design Product:

1. Armstrong World Industries, Inc., Suprafine XL

2.5 METAL EDGE MOLDINGS AND TRIM

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

1. Armstrong World Industries, Inc.;
2. BPB USA.;
3. USG Interiors, Inc.;

B. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension system runners.

1. Provide manufacturer's standard edge moldings that fit acoustical panel edge details and suspension systems indicated and that match width and configuration of exposed runners, unless otherwise indicated.
2. For lay-in panels with reveal edge details, provide stepped edge molding that forms reveal of same depth and width as that formed between edge of panel and flange at exposed suspension member.
3. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.

2.6 ACOUSTICAL SEALANT

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders, and comply with layout shown on reflected ceiling plans.

3.3 INSTALLATION

- A. General: Install acoustical panel ceilings to comply with ASTM C 636 and seismic design requirements indicated, per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."
- B. Suspend ceiling hangers from building's structural members and as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 - 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 - 3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
 - 4. Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
 - 5. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
 - 6. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
 - 7. Do not attach hangers to steel deck tabs.
 - 8. Do not attach hangers to steel roof deck. Attach hangers to structural members.
 - 9. Space hangers not more than 48 inches o.c. along each member supported directly from hangers, unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.

10. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
- C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.
 - D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels.
 1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
 2. Screw attach moldings to substrate at intervals not more than 16 inches o.c. and not more than 3 inches from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet. Miter corners accurately and connect securely.
 3. Do not use exposed fasteners, including pop rivets, on moldings and trim.
 - E. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
 - F. Install acoustical panels with undamaged edges and fit accurately into suspension system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.
 1. Arrange directionally patterned acoustical panels as follows:
 - a. As indicated on reflected ceiling plans.
 - b. Install panels with pattern running in one direction parallel to long axis of space.
 - c. Install panels in a basket-weave pattern.
 2. For square-edged panels, install panels with edges fully hidden from view by flanges of suspension system runners and moldings.
 3. Paint cut edges of panel remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.

3.4 CLEANING

- A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 095113

SECTION 144200 - WHEELCHAIR LIFTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Vertical platform lifts.
- B. Related Sections:
 - 1. Division 26 Sections for electrical service to lifts, including fused disconnect switches.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, dimensions, electrical characteristics, safety features, controls, and finishes.
- B. Shop Drawings: For each lift. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 2. Wiring Diagrams: For power, signal, and control wiring.
- C. Samples for Initial Selection: For surfaces and components with factory-applied color finishes.
 - 1. Include similar Samples of accessories involving color selection.
- D. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:
 - 1. Metal Finish: Manufacturer's standard-size unit, not less than 3 inches square.
 - 2. Wood Finish: Manufacturer's standard-size unit, not less than 3 inches square.
 - 3. Tubular Products and Running Trim: Manufacturer's standard-size unit, 6 inches long.
 - 4. Glass and Glazing: Units 12 inches square.
 - 5. Hardware: Manufacturer's standard, exposed, door-operating device.
- E. Qualification Data: For qualified Installer.

- F. Manufacturer Certificates: Signed by lift manufacturer certifying that runway, ramp or pit, and dimensions as shown on Drawings and that electrical service as shown and specified are adequate for lift being provided.
- G. Inspection and Acceptance Certificates and Operating Permits: As required by authorities having jurisdiction for normal, unrestricted use of lifts.
- H. Operation and Maintenance Data: For each type of lift to include in operation and maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data," include the following:
 - 1. Parts list with sources indicated.
 - 2. Recommended parts inventory list.
- I. Warranty: Sample of special warranty.
- J. Continuing maintenance proposal.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
 - 1. Maintenance Proximity: Not more than two hours' normal travel time from Installer's place of business to Project site.
- B. Regulatory Requirements: In addition to requirements of authorities having jurisdiction, comply with ASME A18.1, "Safety Standard for Platform Lifts and Stairway Chairlifts."

1.5 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of lifts that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.

1.6 MAINTENANCE SERVICE

- A. Initial Maintenance Service: Beginning at Substantial Completion, provide 12 months' full maintenance by skilled employees of lift Installer. Include quarterly preventive maintenance and repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper lift operation at rated speed and capacity. Provide parts and supplies the same as those used in the manufacture and installation of original equipment.
- B. Continuing Maintenance Proposal: From Installer to Owner, in the form of a standard yearly maintenance agreement, starting on date initial maintenance service is concluded. State services, obligations, conditions, and terms for agreement period and for future renewal options.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Steel Tubing: ASTM A 500.
- C. Steel Pipe: ASTM A 53/A 53M; standard weight (Schedule 40) unless otherwise indicated or required by structural loads.
- D. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, commercial steel (CS), Type B, exposed, matte finish.
- E. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, commercial steel (CS), Type B, pickled.
- F. Inserts: Furnish required concrete and masonry inserts and similar anchorage devices for installing structural members, guide rails, machines, and other lift components where installation of devices is specified in another Section.
- G. Expansion Anchors: Anchor-bolt-and-sleeve assembly of material indicated below with capability to sustain a load equal to 10 times the load imposed as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.
 - 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
 - 2. Material: Group 1, Alloy 304 or Alloy 316, stainless-steel bolts and nuts complying with ASTM F 593 and ASTM F 594.
- H. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107.

2.2 VERTICAL PLATFORM LIFTS

- A. Vertical Platform Lifts: Manufacturer's standard preengineered lift systems as indicated.
 - 1. Subject to compliance with requirements, provide commercial product by one of the following:
 - a. Concord Elevator Inc.
 - b. Flinchbaugh Company, Inc. (The).
 - c. Florlift of New Jersey, Inc.
 - d. Garaventa Accessibility.
 - e. Giant Lift Equipment Mfg. Co. Inc.
 - f. Inclinator Company of America.
 - g. Liftavator, Inc.
 - h. Lift-U; Division of Hogan Mfg., Inc.
 - i. National Wheel-O-Vator Co., Inc. (The).
 - j. Savaria Corporation.
 - k. ThyssenKrupp Access; a ThyssenKrupp company.

- B. Platform Size: 36 by 54 inches.
- C. Door Operation and Clear Opening Width: Low-energy, power-operated doors that remain open for 20 seconds minimum; end door with minimum 32-inch clear opening width.
- D. Rated Speed: 17 fpm.
- E. Rated Load: 550 lbs Minimum.
- F. Travel Distance: 144 inches.
- G. Power Supply: 120 V, 15amp.
- H. Emergency Operation: Provide emergency manual operation to raise or lower units in case of malfunction or power loss.
- I. Self-Supporting Units: Support vertical loads of units only at base, with lateral support only at landing levels.
- J. Platform Enclosure and Door: Rectangular steel-tube frame with flush steel-sheet panels.
- K. Platform Shaftway: Provide a gypsum board shaft as per the drawings with doors provided by lift installer.

2.3 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.4 FINISHES

- A. Steel Factory Finish:
 1. Powder-Coat Finish: Immediately after cleaning and pretreating, apply manufacturer's standard, thermosetting polyester or acrylic urethane powder coating with a cured film thickness not less than 1.5 mils.
 2. Color and Gloss: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, critical dimensions, and other conditions affecting performance.
- B. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Wiring Method: Conceal conductors and cables within housings of units or building construction. Do not install conduit exposed to view in finished spaces. Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii.
- B. Coordinate runway doors with platform travel and positioning, for accurate alignment and minimum clearance between platforms, runway doors, sills, and door frames.
- C. Position sills accurately and fill space under sills solidly with nonshrink, nonmetallic grout.
- D. Coordinate platform doors with platform travel and positioning.
- E. Adjust stops for accurate stopping and leveling at each landing, within required tolerances.
 - 1. Leveling Tolerance: 1/4 inch up or down, regardless of load and direction of travel.
- F. Adjust retractable ramps to meet maximum allowable slope and change-in-elevation requirements, and to lie fully against landing surfaces.
- G. Lubricate operating parts of lift, including drive mechanism, guide rails, hinges, safety devices, and hardware.
- H. Test safety devices and verify smoothness of required protective enclosures and fascias

3.3 FIELD QUALITY CONTROL

- A. Acceptance Testing: On completion of lift installation and before permitting use of lifts, perform acceptance tests as required and recommended by ASME A18.1 and authorities having jurisdiction.
- B. Operating Test: In addition to above testing, load lifts to rated capacity and operate continuously for 30 minutes between lowest and highest landings served. Readjust stops, signal equipment, and other devices for accurate stopping and operation of system.

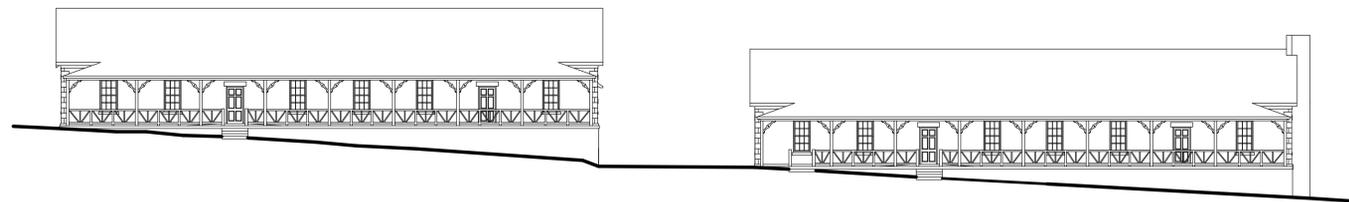
- C. Advise Owner, Architect, and authorities having jurisdiction in advance of dates and times tests are to be performed on lifts.

3.4 DEMONSTRATION

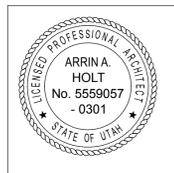
- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain lifts. Include a review of emergency systems and emergency procedures to be followed at time of operational failure and other building emergencies.
- B. Check operation of lifts with Owner's personnel present and before date of Substantial Completion. Determine that operating systems and devices are functioning properly.
- C. Check operation of lifts with Owner's personnel present not more than one month before end of warranty period. Determine that operating systems and devices are functioning properly.

END OF SECTION 144200

FT. DOUGLAS MUSEUM PHASE 2A HVAC & ELECTRICAL SYSTEM 32 POTTER STREET FT DOUGLAS, UTAH



ARCHITECT'S PROJECT #: B05-027
DFCM PROJECT #: 08249470



ARCHITECT:
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GI002 LOWER LEVEL OCCUPANCY PLAN
GI003 MAIN LEVEL OCCUPANCY PLAN

AS101 SITE PLAN

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AD102 MAIN LEVEL DEMOLITION PLAN
AD103 MAIN LEVEL REFLECTED CEILING DEMOLITION PLAN
AD104 UPPER FLOOR DEMOLITION PLAN
AD105 ROOF DEMOLITION PLAN
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AE102 MAIN LEVEL FLOOR PLAN
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AE110 LOWER LEVEL REFLECTED CEILING PLANS
AE111 MAIN LEVEL REFLECTED CEILING PLANS
AE401 ENLARGED PLAN, ELEVATIONS, DETAILS
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S101 FOOTING & FOUNDATION PLAN
S102 MAIN FLOOR FRAMING PLAN
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MECHANICAL

MH001 MECHANICAL LEGEND & ABBREVIATIONS
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MD102 MAIN LEVEL MECHANICAL DEMOLITION PLAN
MD103 UPPER LEVEL MECHANICAL DEMOLITION PLAN
MD104 DEMOLITION ROOF PLAN
MH101 LOWER LEVEL MECHANICAL PLAN
MH102 MAIN LEVEL MECHANICAL PLAN
MH103 UPPER LEVEL MECHANICAL PLAN
MH501 MECHANICAL DETAILS
MH601 MECHANICAL SCHEDULES
PL101 LOWER LEVEL PLUMBING PLAN
PL102 MAIN LEVEL PLUMBING PLAN

ELECTRICAL

EG101 SYMBOLS SCHEDULES & NOTES
ES100 ELECTRICAL SITE PLAN
ED101 DEMOLITION PLAN LOWER LEVEL
ED102 DEMOLITION PLAN MAIN LEVEL
ED104 DEMOLITION PLAN ROOF LEVEL
EL101 LIGHTING PLAN LOWER LEVEL
EL102 LIGHTING PLAN MAIN LEVEL
EP101 POWER PLAN LOWER LEVEL
EP102 POWER PLAN MAIN LEVEL
EP103 POWER PLAN UPPER LEVEL
EY101 FIRE ALARM AND SECURITY SYSTEMS PLAN LOWER LEVEL
EY102 FIRE ALARM AND SECURITY PLAN MAIN LEVEL
EY103 FIRE ALARM AND SECURITY PLAN UPPER LEVEL
EX101 ONE LINE DIAGRAM
EX102 PANEL BOARD SCHEDULES
EX201 ELECTRICAL DIAGRAMS
EX202 ELECTRICAL DIAGRAMS

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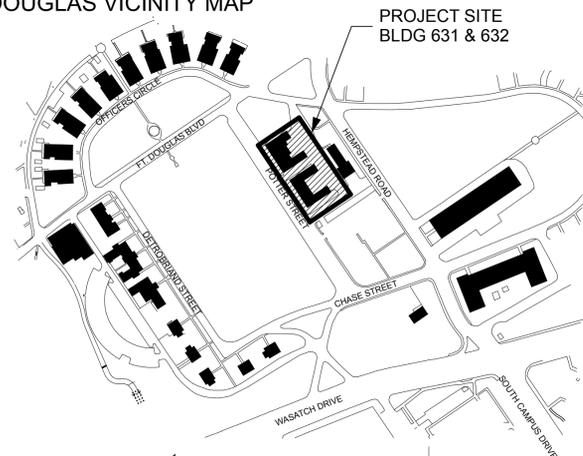
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FT. DOUGLAS VICINITY MAP



SYMBOLS LEGEND

DETAIL NUMBER C5	DETAIL REFERENCE	1	REFERENCE NOTE	[Concrete symbol]	CONCRETE
SHEET NUMBER AE502		A	WALL TYPE	[Concrete block symbol]	CONCRETE BLOCK
A1	EXTERIOR ELEVATION REFERENCE	A	WINDOW TYPE	[Masonry symbol]	MASONRY
AE202		#	ROOM NOTE	[Steel symbol]	STEEL
A4	SECTION REFERENCE	C-3	CEILING NOTE	[Batt insulation symbol]	BATT INSULATION
AE301		8'-0"	CEILING HEIGHT	[Rigid insulation symbol]	RIGID INSULATION
B2	INTERIOR ELEVATION REFERENCE (SINGLE)	#	DOOR & FRAME TYPE	[Finish grade wood symbol]	FINISH GRADE WOOD
AE401		1 A	DOOR TYPE	[Plywood symbol]	PLYWOOD
B2	INTERIOR ELEVATION REFERENCE (MULTIPLE)	A	FURNITURE NOTE	[Demolition symbol]	DEMOLITION
B3		1	REVISION NOTE		
B4		+	ELEVATION MARKER		

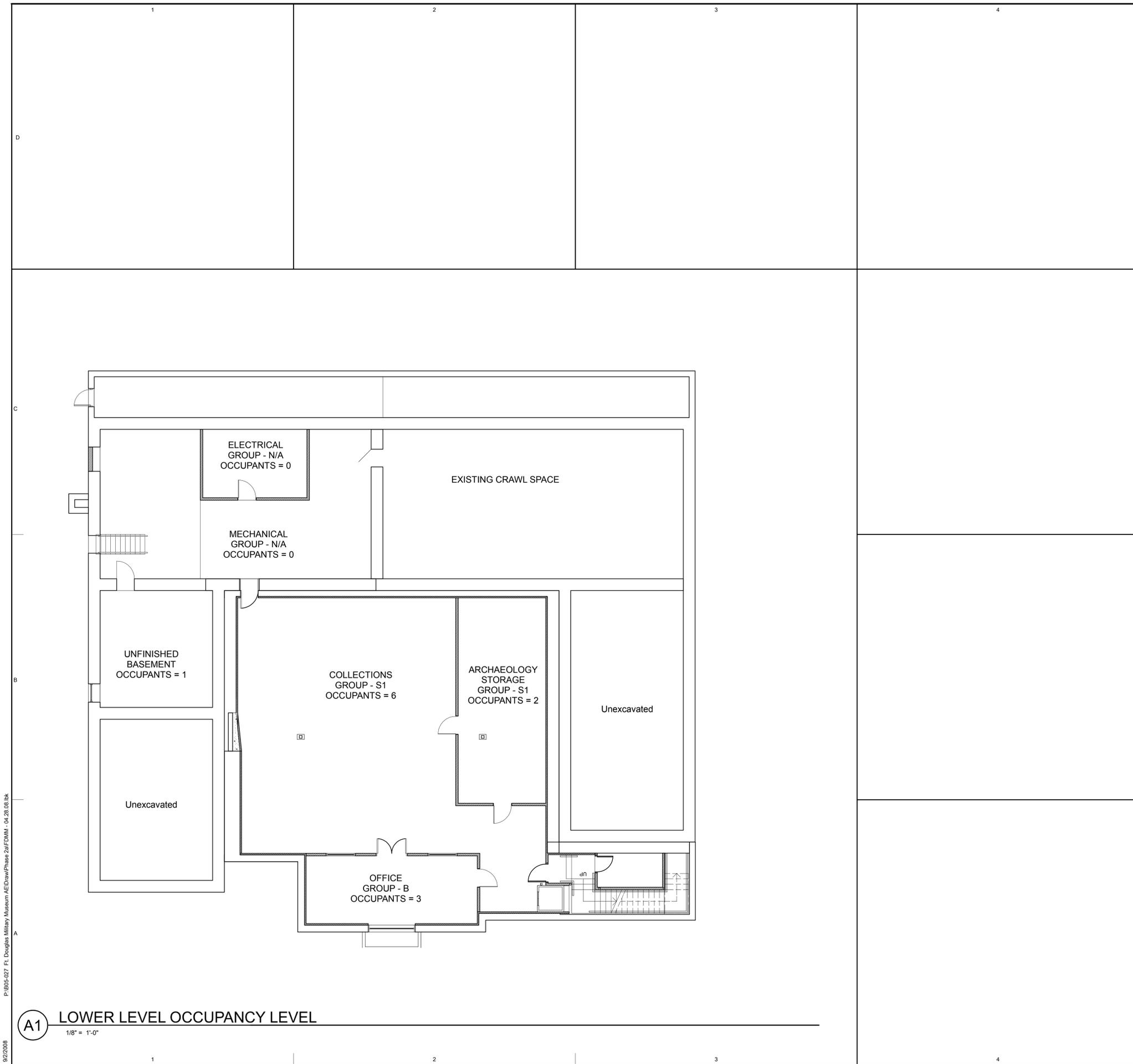
NOTE: ALL MATERIALS REFERENCED ARE NEW UNLESS NOTED OTHERWISE

09/04/08	ADDENDA #3
09/09/08	
08/11/08	

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CHECKED BY: AAH

GENERAL INFO & SHEET INDEX

GI001



CODE ANALYSIS BUILDING 631

APPLICABLE CODES			
	Year	Year	
International Building Code	2006	National Electrical Code	2005
International Mechanical Code	2006	Uniform Code for Building Conservation	2006
International Plumbing Code	2006	ADA Accessibility Guidelines	1994
International Fire Code	2006		
International Energy Conservation Code	2003		

- A. Occupancy and Group: **A3** **S1** **B**
- Change in Use: Yes No Mixed Occupancy: Yes No
 Special Use and Occupancy (e.g. High Rise, Covered Mall):
- B. Seismic Design Category: **E** Design Wind Speed: **90** mph Exposure **C**
- C. Type of Construction (circle one):
 I/A I/B II/A II/B III/A III/B IV/HT V/A V/B
- D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):
 North: **0** South: **0** East: **0** West: **0**
- E. Mixed Occupancies: Nonseparated Uses:
- F. Sprinklers:
 Required: Provided: Type of Sprinkler System: **NFPA 13**
- G. Number of Stories: **1** Building Height: **15'-0"**
- H. Actual Area per Floor (square feet): BASEMENT = 4,482 S.F. MAIN = 7,719 S.F.
- I. Tabular Area: 6,000 - Type VB, A3
- J. Area Modifications:
 a) $A_a = A_1 + \left[\frac{A_1 I_f}{100} \right] + \left[\frac{A_1 I_s}{100} \right]$ $I_f = 100 \left[\frac{F}{P} - 0.25 \right] \frac{W}{30}$
 $A_a = 6,000 + \left[\frac{6,000 \cdot 75}{100} \right] + \left[\frac{6,000 \cdot 200}{100} \right]$ $I_f = 100 \left[\frac{390}{450} - 0.25 \right] \frac{60}{30}$
 $A_a = 16,500$ $I_f = 75\%$
 b) Sum of the Ratio Calculations for Mixed Occupancies:
 Actual Area $\leq 1 \frac{12,200}{16,500} \leq 1$
 Allowable Area $\leq 1 \frac{16,500}{16,500} \leq 1$
 c) Total Allowable Area for:
 1) One Story: 16,500
 2) Two Story: $A_a(2) = 33,000$
 3) Three Story: $A_a(3) = 49,500$
 d) Unlimited Area Building: Yes No Code Section:

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls	0		Floors - Ceiling Floors	1	GA FC 5406
Interior Bearing Walls	0		Roofs - Ceiling Roofs	0	
Exterior Non-Bearing Walls	0		Exterior Doors and Windows	0	
Structural Frame	0		Shaft Enclosures	1	UL-L497
Partitions - Permanent	1	IBC 720.1 (2)13-1.1	Fire Walls	0	
Fire Barriers	0		Fire Partitions	0	
			Smoke Partitions	0	

- L. Design Occupant Load: **400**
 Exit Width Required: **624 in.** Exit Width Provided: **144 in.**
- M. Minimum Number of Required Plumbing Facilities:
 a) Water Closets - Required (m) **2** (f) **4** Provided (m) **6** (f) **5**
 b) Lavatories - Required (m) **1** (f) **1** Provided (m) **2** (f) **3**
 c) Bath Tubs or Showers: **0**
 d) Drinking Fountains: **1** Service Sinks: **1**

- FOOTNOTES:
 1) In case of conflict with the U.S. Department of Justice Federal Registers Parts through 'V' ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.
 2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
 a) High Rise Requirements.
 b) Atriums.
 c) Performance Based Criteria.
 d) Means or Egress Analysis.
 e) Fire Assembly Locator Sheet.
 f) Exterior and Interior Accessibility Route.
 g) Fire Stopping, Including Tested Design Number.

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LOWER LEVEL
OCCUPANCY PLAN

G1002

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(A1) LOWER LEVEL OCCUPANCY LEVEL
1/8" = 1'-0"

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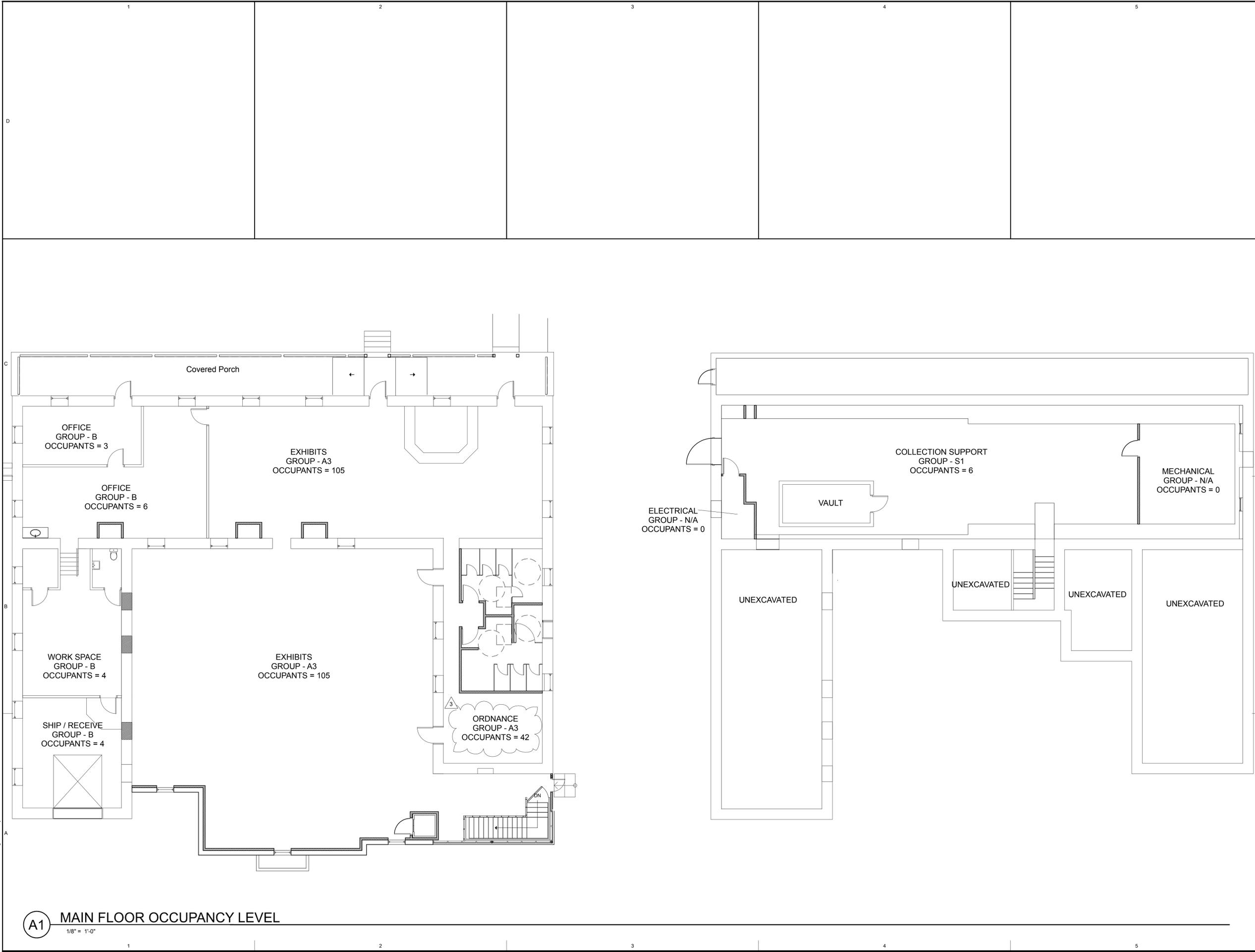
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**MAIN LEVEL
OCCUPANCY PLAN**

G1003



(A1) MAIN FLOOR OCCUPANCY LEVEL
1/8" = 1'-0"

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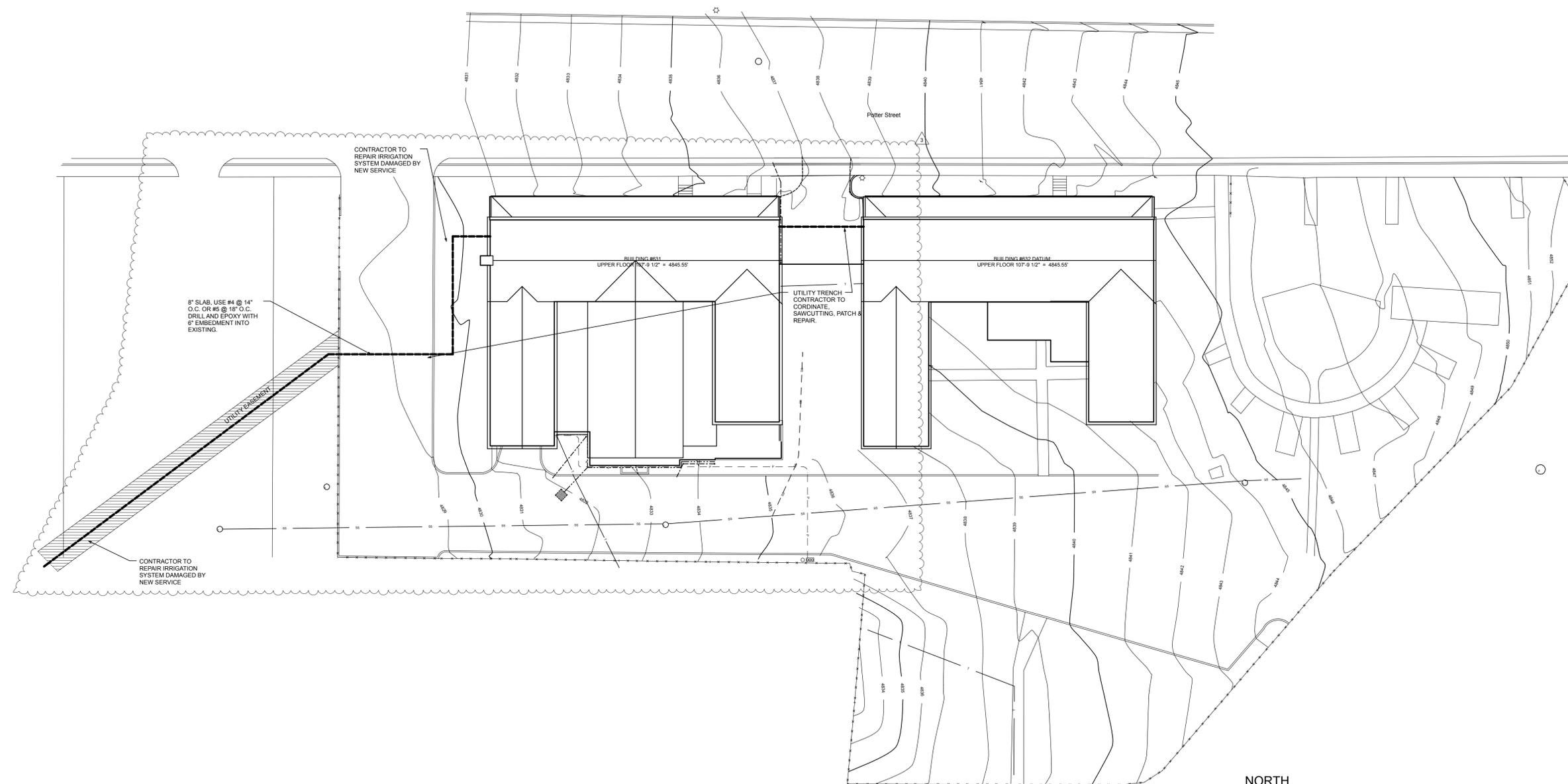
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SITE PLAN

AS101



A1 Site plan
1" = 20'-0"

(BID ALT.) DEMOLITION NOTES

- 1a. EXISTING WALL TO BE REMOVED (SHOWN DASHED LINE & HATCHED).
- 2a. EXISTING DOOR & FRAME TO BE REMOVED (SHOWN DASHED LINE)
- 3a. CUT OPENING IN FLOOR FOR NEW ADA LIFT.
- 4a. NOT USED
- 5a. MODIFY EXISTING FLOOR TO ACCOMMODATE REMOVABLE HAR SHEATING & JOISTS TO PROVIDED OPENING FOR NEW CRANE-RAIL HOIST.
- 6a. SAW CUT NEW OPENING FOR DOOR

DEMOLITION NOTES

1. REMOVE & DISPOSE OF FIXTURES
2. EXISTING WALL TO BE REMOVED (SHOWN DASHED LINE & HATCHED).
3. CUT OPENING IN FLOOR FOR MECHANICAL.
4. EXISTING DOOR & FRAME TO BE REMOVED (SHOWN DASHED LINE)
5. REMOVE EXISTING WOOD FLOOR.
6. CUT OPENING FOR NEW DOOR IN EXISTING WALL.
7. EXISTING BOILER - REMOVE AFTER NEW MECHANICAL SYSTEM IS OPERATIONAL

GENERAL NOTES

1. AREAS OF WORK WILL BE FREE OF ALL STORED MATERIAL, CASES, EQUIPMENT, ETC. IF ITEMS REMAIN, CONTACT OWNER FOR REMOVAL.
2. ALL ITEMS ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
3. ALL DEMOLISHED MATERIALS ARE TO BE LEGALLY DISPOSED OF OFF SITE.
4. ALL DRAWINGS AND STRUCTURAL DESIGNS ARE BASED ON ASSUMED CONSTRUCTION CONDITIONS AS EVIDENT BY FIELD OBSERVATIONS. IF THE EXISTING CONDITIONS VARY FROM THE ASSUMED CONDITIONS PRESENT IN THIS SET OF DOCUMENTS, THE CONTRACTOR IS TO CONTACT THE ARCHITECT & STRUCTURAL ENGINEER BEFORE PROCEEDING WITH WORK.
5. CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL DEMOLITION WORK WITH MECHANICAL AND ELECTRICAL TRADES. REFERENCE MECHANICAL & ELECTRICAL PLANS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
6. CONTRACTOR IS RESPONSIBLE FOR ALL SHORING & BRACING REQUIRED TO SAFELY CARRY OUT THE WORK OF THIS CONTRACT.
7. WHERE ANY ITEM IS INDICATED TO BE REMOVED, WORK OF THIS CONTRACT INCLUDES PATCH & REPAIR OF ALL FINISHES DAMAGED OR OTHERWISE IMPACTED BY THIS WORK, WHETHER OR NOT SUCH REPAIR IS SPECIFICALLY IDENTIFIED IN DRAWINGS. PATCH AND REPAIR INCLUDES, BUT IS NOT LIMITED TO:
 - A. REMOVE PAINT, CAULK, FASTENERS, & OTHER RESIDUE FROM FINISH SURFACES EXPOSED BY DEMOLITION. FILL HOLES & VOIDS WITH MATCHING MATERIALS AS APPROVED BY THE ARCHITECT.
 - B. WHERE DEMOLITION WORK EXPOSES UNFINISHED SURFACES, PROVIDE NEW FINISHES TO MATCH ADJACENT FINISH SURFACES AS APPROVED BY ARCHITECT. NEW FINISHES ARE TO BE SUBSTANTIALLY SIMILAR IN CHARACTER AND QUALITY WITH ADJACENT FINISHES.
8. DEMOLITION WORK OF THIS CONTRACT INCLUDES INCIDENTAL REMOVAL AND/OR MODIFICATION OF MINOR FEATURES NOT SPECIFICALLY INDICATED IN THE DRAWINGS, BUT REQUIRED IN ORDER TO ACCOMMODATE THE FINISHED & FUNCTIONAL DESIGN.
9. ALL DIMENSIONS SHOWING EXISTING CONDITIONS ARE TO BE FIELD VERIFIED BY CONTRACTOR.
10. CONTRACTOR IS RESPONSIBLE FOR ALL HAZARDOUS MATERIALS TESTING AND ABATEMENT. COORDINATE ANY SUCH TEST OR ABATEMENT WITH THE OWNER.

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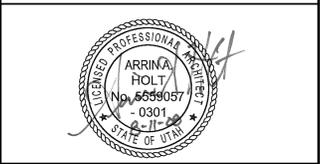
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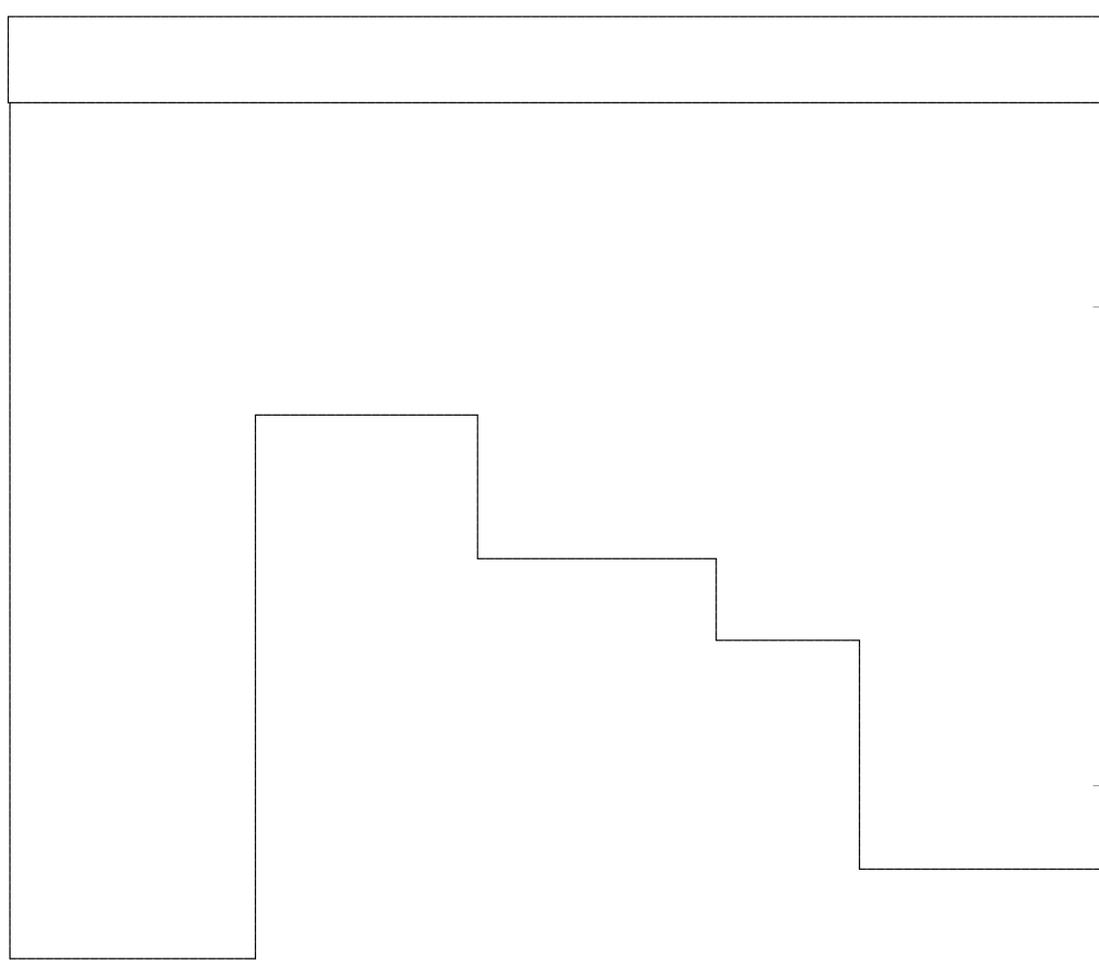
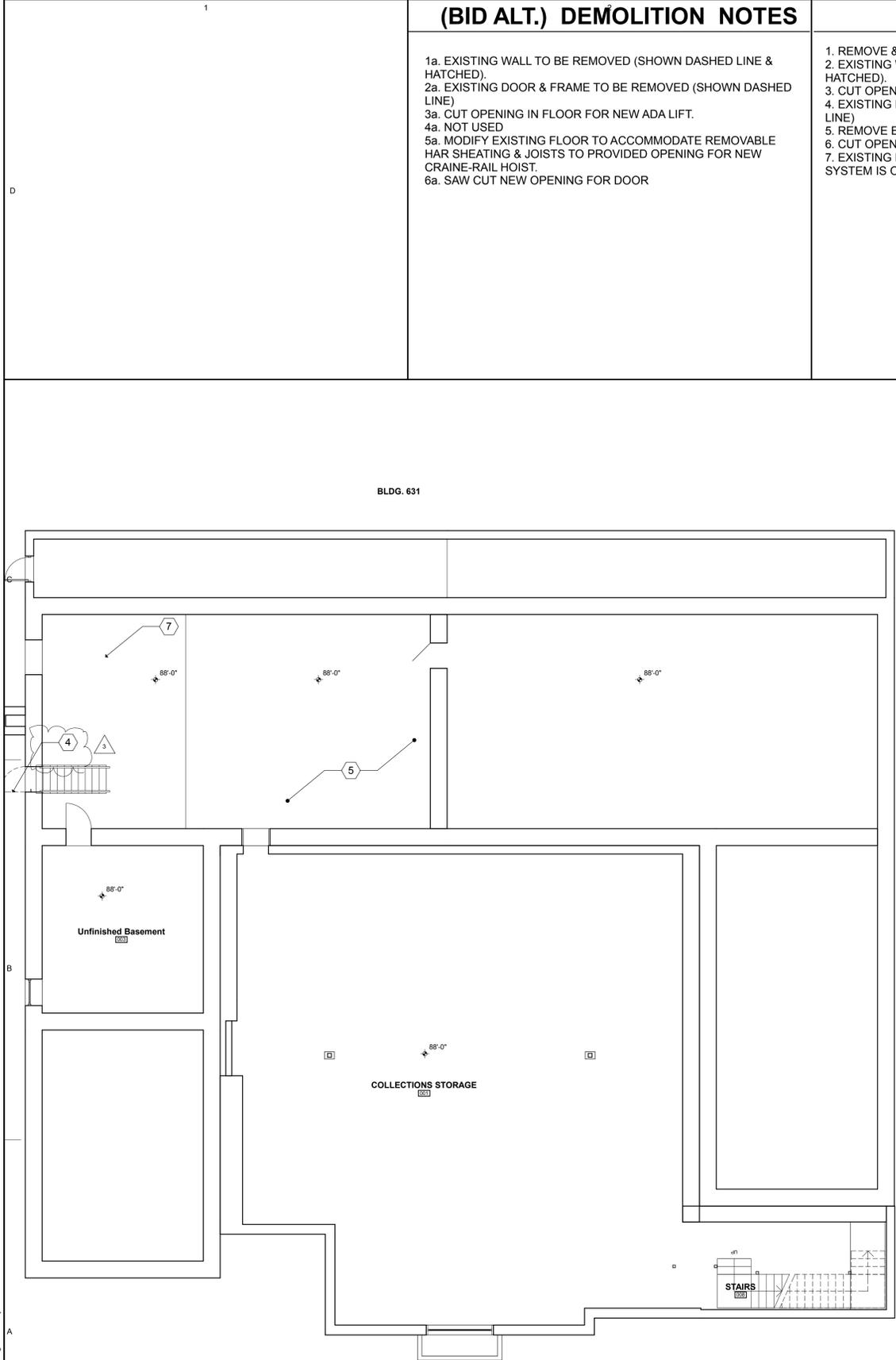
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**LOWER LEVEL
DEMOLITION PLAN**

AD101



(A1) LOWER LEVEL DEMOLITION PLAN
1/8" = 1'-0"

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(BID ALT.) REFERENCE NOTES

- 1a. NEW WALL
- 2a. NEW DISPLAY / FURNITURE BY OWNERS
- 3a. NOT USED
- 4a. NEW ADA LIFT
- 5a. REMOVABLE FLOOR FRAMING SYSTEM TO PROVIDE ACCESS TO BASEMENT THROUGH FLOOR.
- 6a. NEW GUARDRAIL

REFERENCE NOTES

- 1. NEW WALL
- 2. NEW FURRED OUT WALL - PROVIDED HORIZONTAL SHAFT WALL BETWEEN LOWER FLOOR AND MAIN FLOOR.
- 3. INFILLED WALL
- 4. NEW HANDRAIL
- 5. NEW HIGH/LOW EWC (SEE ELEVATION A5/AF101)
- 6. NEW 6" X 6" X 32' CONCRETE PAD FOR MECHANICAL UNITS.
- 7. NEW LANDING - TREATED 2"X 6" @ 12" O.C. W/3/4" OSB.
- 8. NEW CONCRETE PAD

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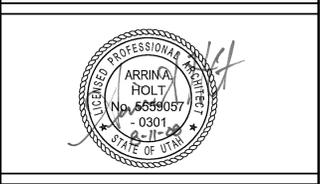
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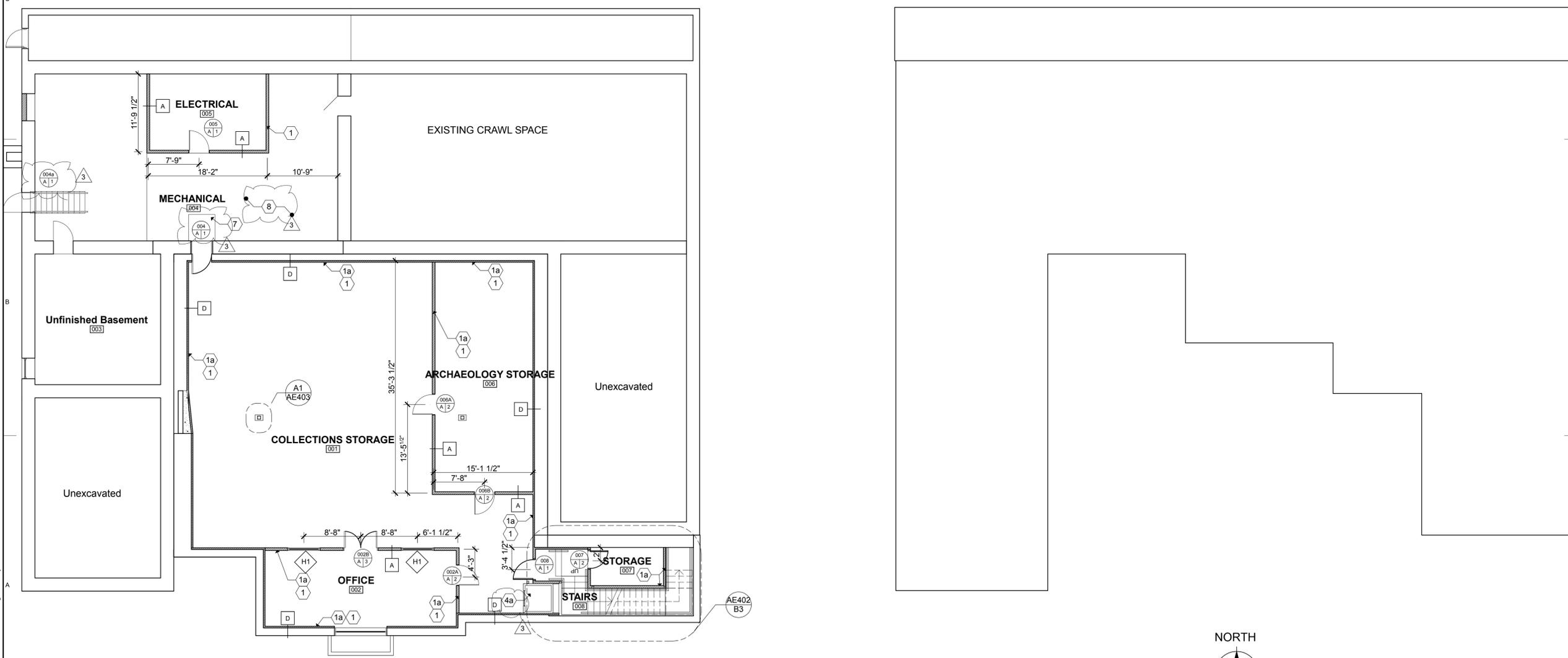
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CAD DWG FILE: F0MM - 04.28.08.lbk		
DRAWN BY: JRW		
CHECKED BY: AAH		

LOWER LEVEL
FLOOR PLAN

AE101



(A1) LOWER LEVEL FLOOR PLAN
1/8" = 1'-0"



P:\B05-027 FT. Douglas Military Museum AE\Draw\Phase 2a\F0MM - 04.28.08.lbk
9/2/2008

(BID ALT.) REFERENCE NOTES

- 1a. NEW WALL
- 2a. NEW DISPLAY FURNITURE BY OWNERS
- 3a. NOT USED
- 4a. NEW ADA LIFT
- 5a. REMOVABLE FLOOR FRAMING SYSTEM TO PROVIDE ACCESS TO BASEMENT THROUGH FLOOR.
- 6a. NEW GUARDRAIL

REFERENCE NOTES

- 1. NEW WALL
- 2. NEW FURRED OUT WALL - PROVIDED HORIZONTAL SHAFT WALL BETWEEN LOWER FLOOR AND MAIN FLOOR.
- 3. INFILLED WALL
- 4. NEW HANDRAIL
- 5. NEW HIGH/LOW EWC (SEE ELEVATION A5/AF101)
- 6. NEW 6" X 6" X 32' CONCRETE PAD FOR MECHANICAL UNITS.
- 7. NEW LANDING - TREATED 2"X 6" @ 12" O.C. W/3/4" OSB.
- 8. NEW CONCRETE PAD

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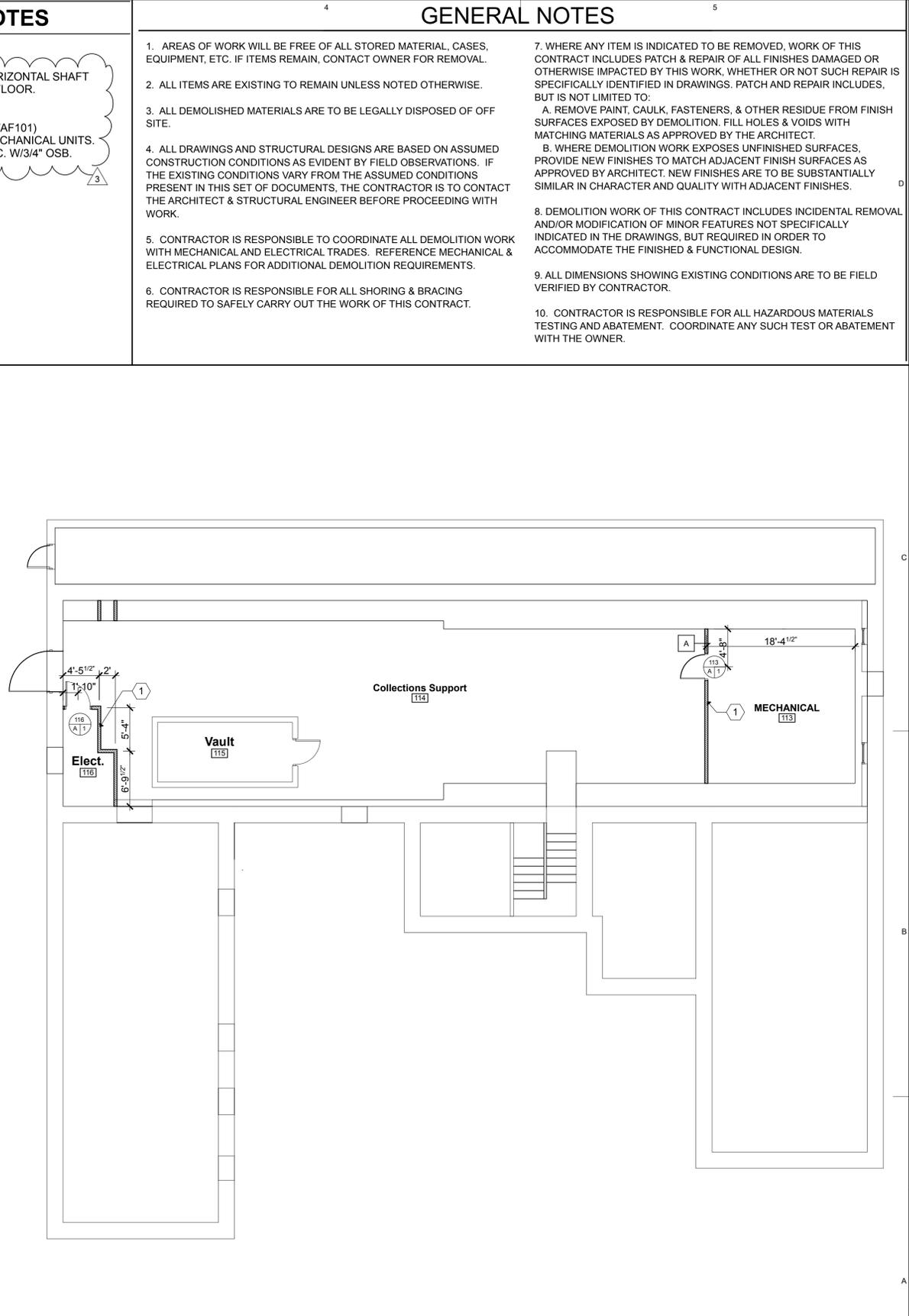
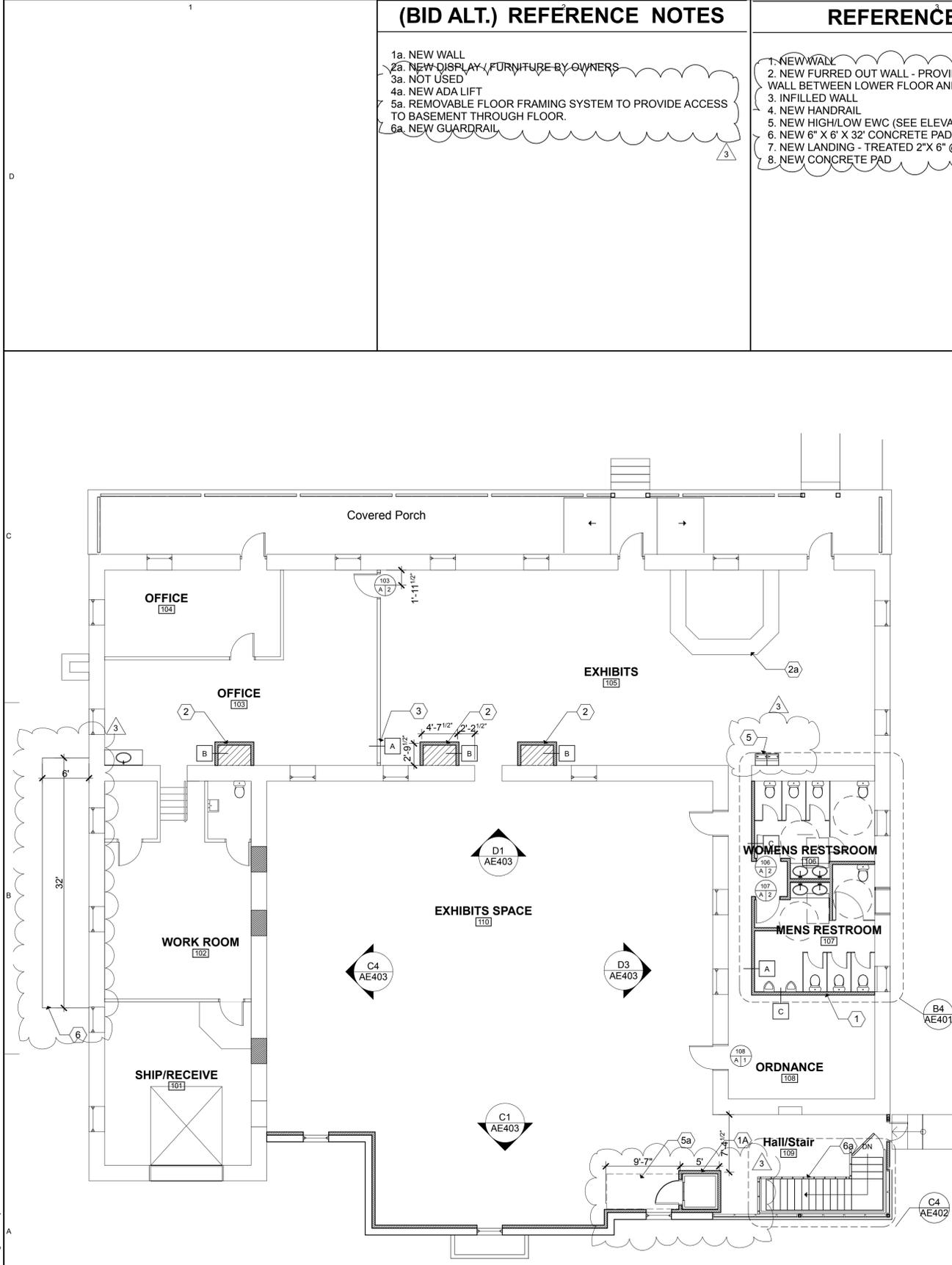
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DRAWN BY: JRW
CHECKED BY: AAH

MAIN LEVEL FLOOR PLAN

AE102



A1 MAIN LEVEL FLOOR PLAN
1/8" = 1'-0"



P:\B05-027_Ft. Douglas Military Museum AE\DrawPhase 2a\F0MM - 04.28.08.1bk
9/2/2008

DEMO RCP² NOTES

1. EXISTING CEILING - REPAIR & REPAINT. SEE FINISH SCHEDULE
2. FIX & REPAIR EXISTING LAY-IN CEILING.
3. EXISTING ATTIC HATCH TO BE DEMO

DEMO RCP³ LEGEND

-  = REMOVE LAY-IN TILE CEILING. PATCH & REPAIR EXISTING CEILING
-  = REMOVE CEILING & REPLACE WITH NEW GYPSUM BOARD

GENERAL NOTES

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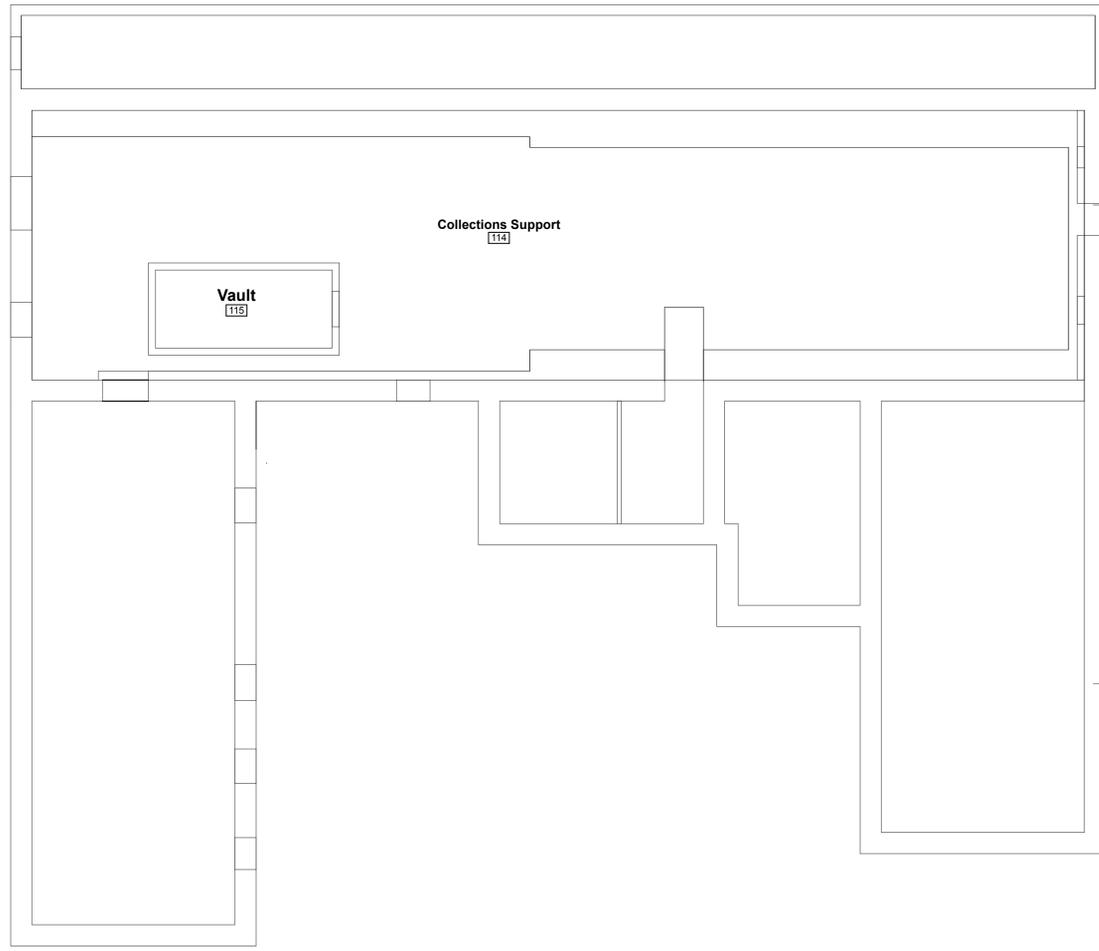
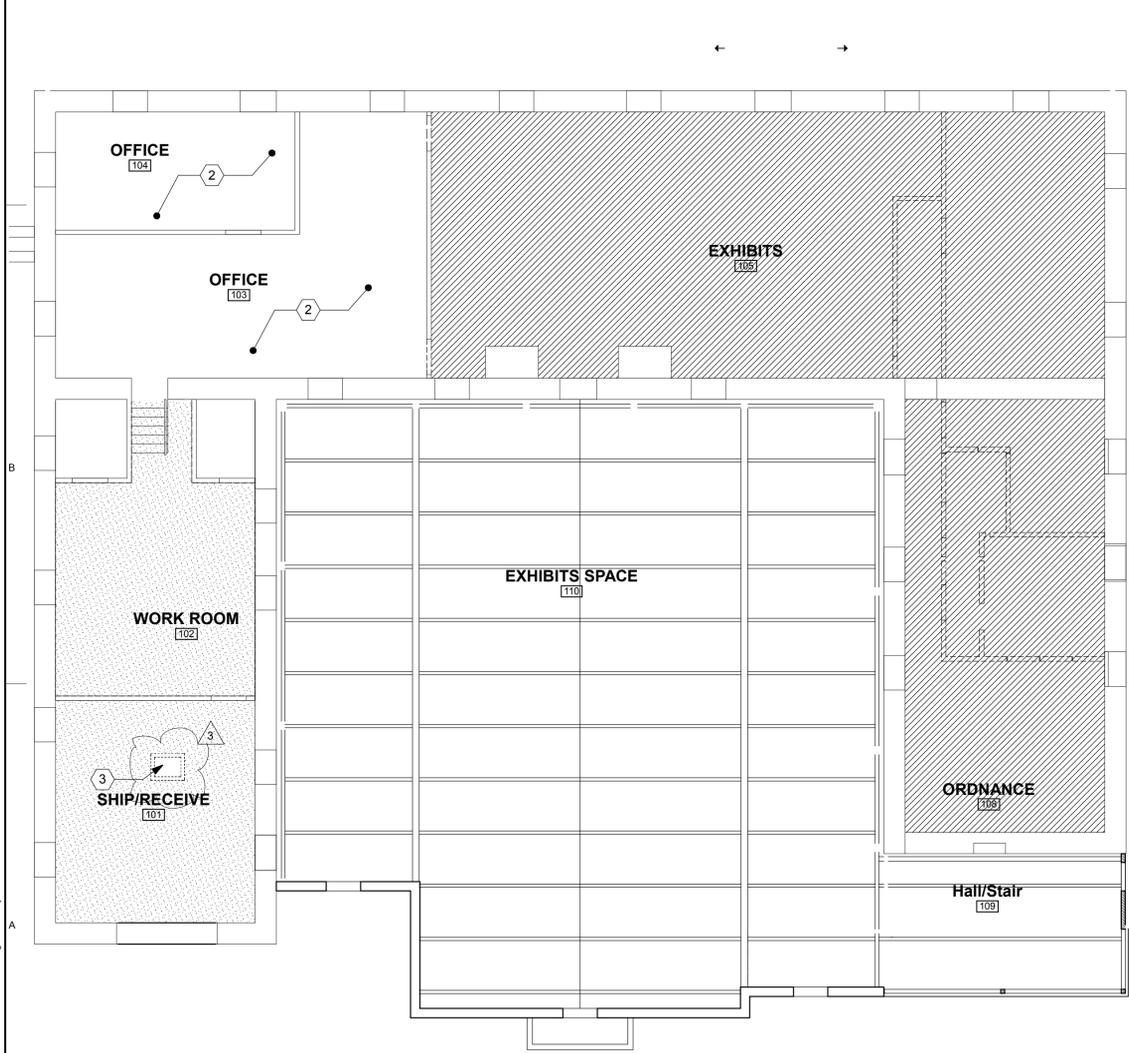
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DRAWN BY: JRW		
CHECKED BY: AAH		

MAIN LEVEL REFLECTED CEILING DEMOLITION PLAN

AD103



A1 MAIN LEVEL DEMOLITION REFLECTED CEILING PLAN
1/8" = 1'-0"



P:\B05-027 - Ft. Douglas Military Museum AED\DrawPhase 2a\FDMM - 04.28.08.1bk 9/2/2008

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4. NEW CEILING (5/8" GYPSUM BOARD)
5. NEW ATTIC HATCH (22"X 30")

RCP LEGEND

-  = NEW SUSPEND GYPSUM BOARD
-  = (2) LAYERS OF 5/8" GYPSUM BOARD
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NOTE: SEE A3/AE401 FOR SUSPENDED CEILING DETAIL

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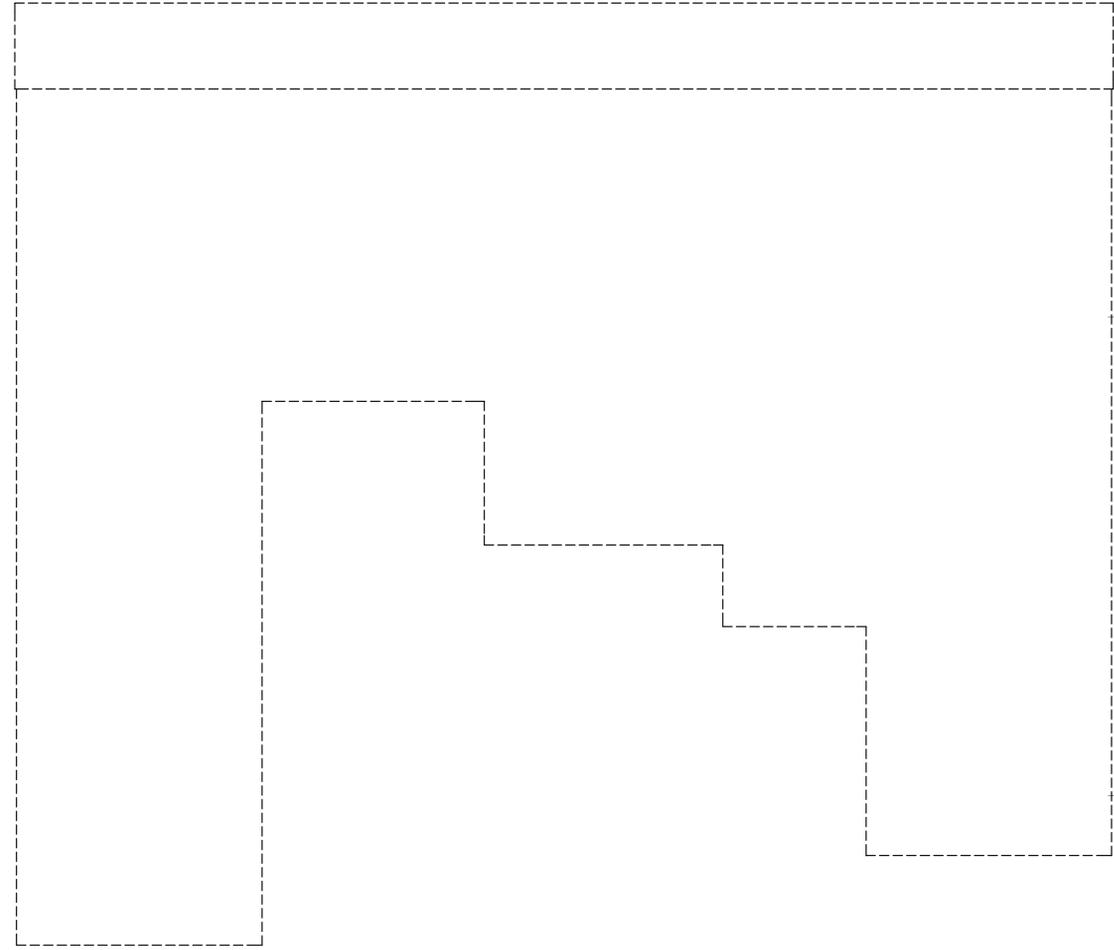
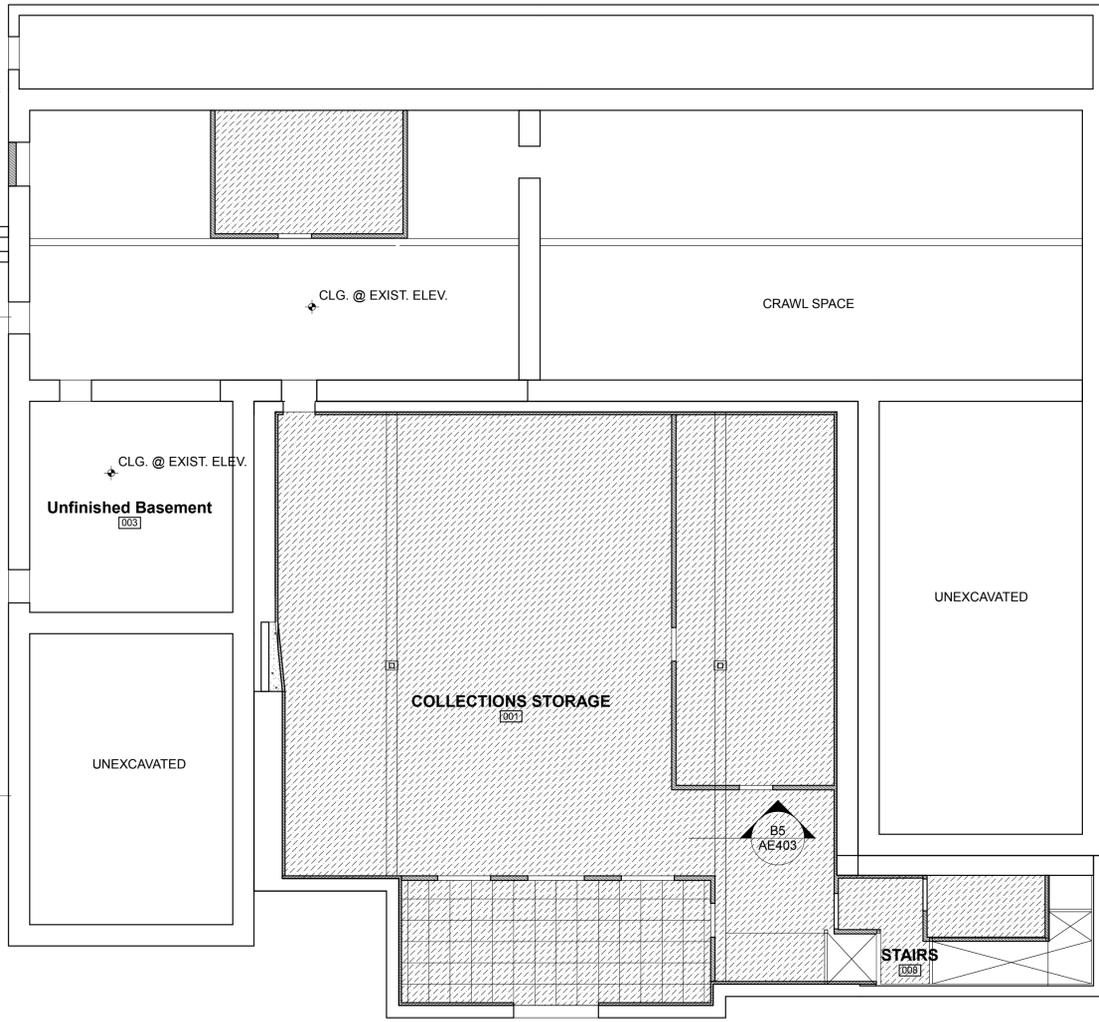
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DRAWN BY: JRW
CHECKED BY: AAH

LOWER LEVEL REFLECTED CEILING PLAN

AE110



A1 LOWER LEVEL REFLECTED CEILING PLAN
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P:\B05-027 Ft. Douglas Military Museum AEC\DrawPhase 2a\FDM - 04.28.08.1bk 9/2/08

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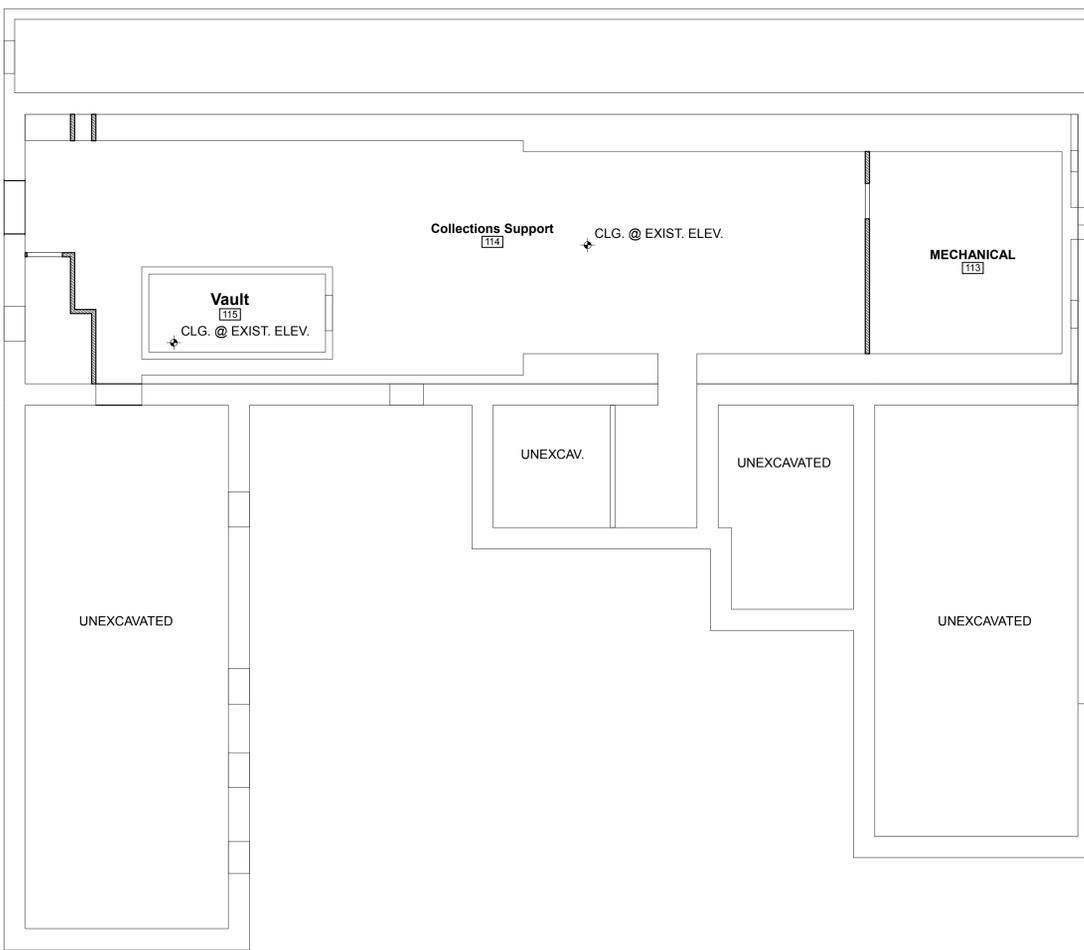
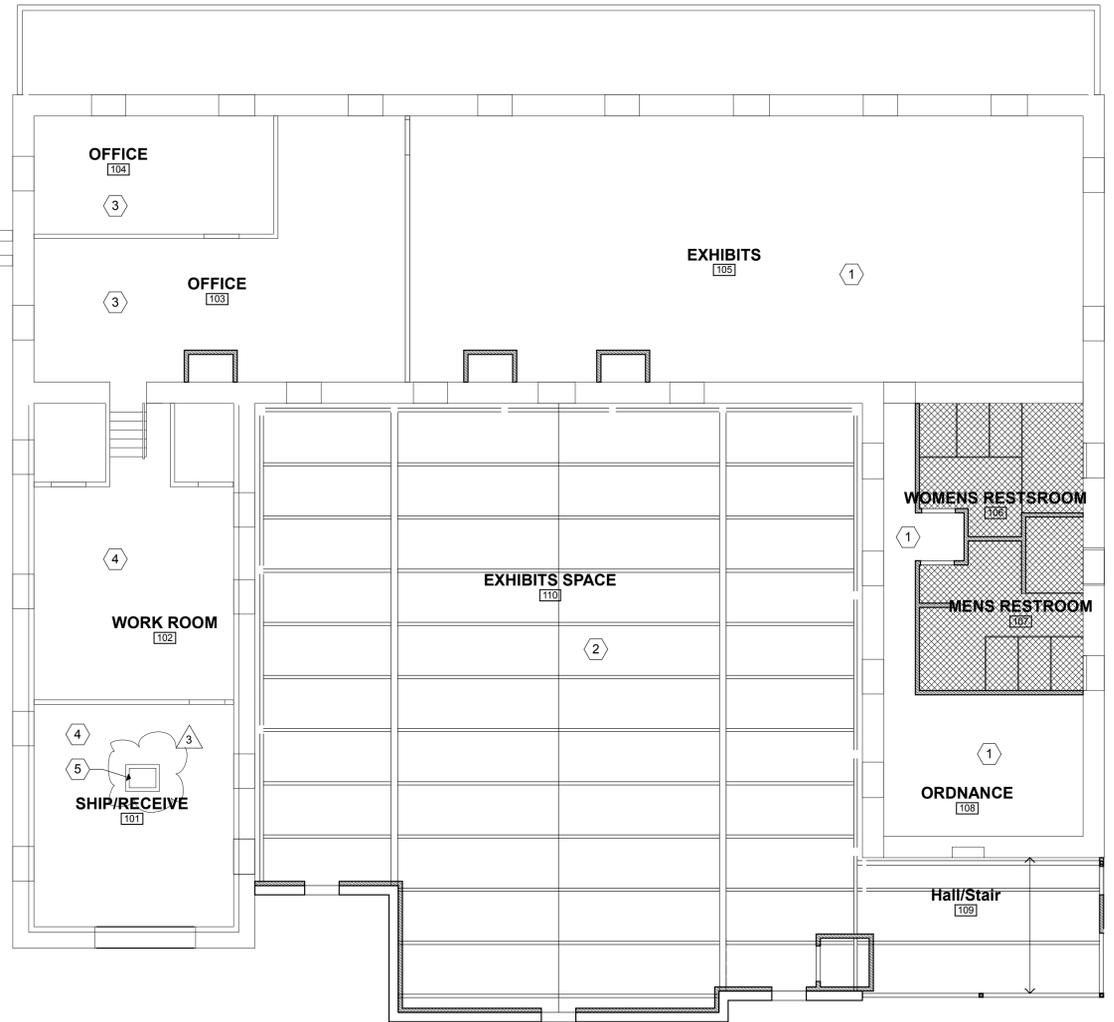
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AE111



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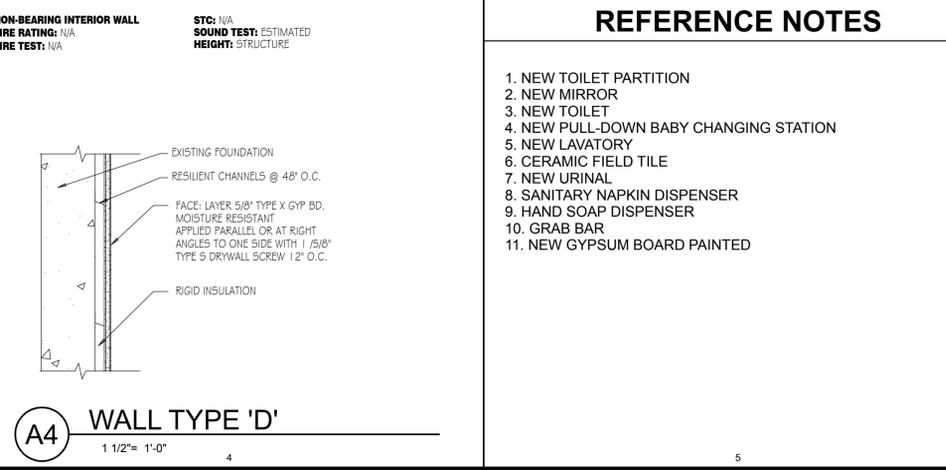
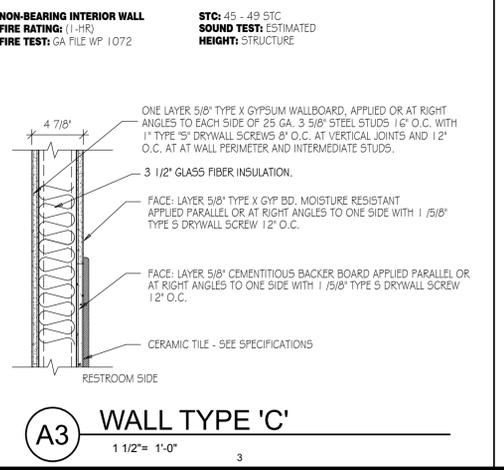
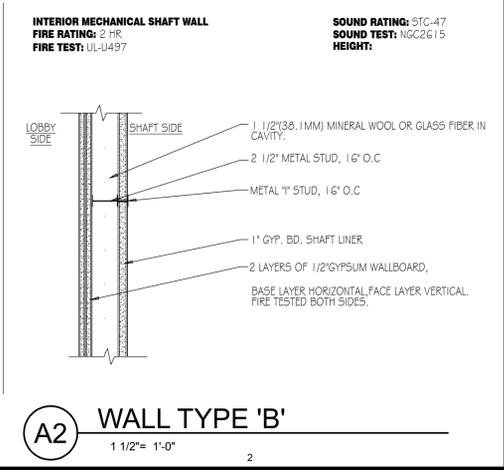
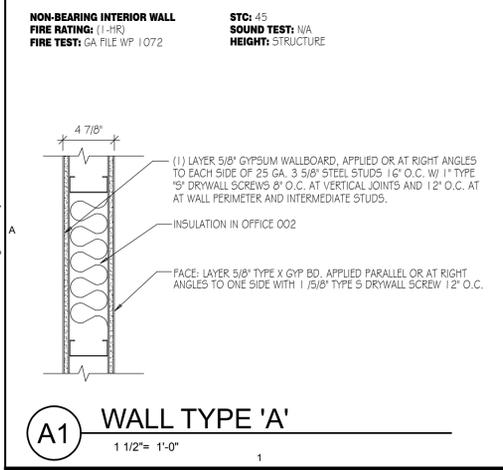
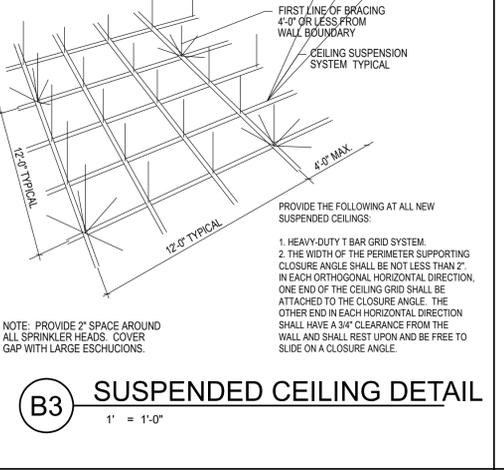
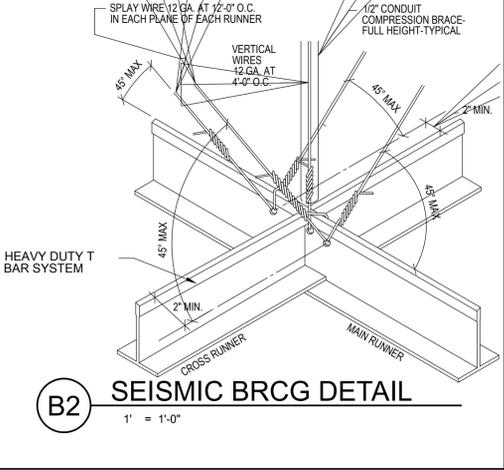
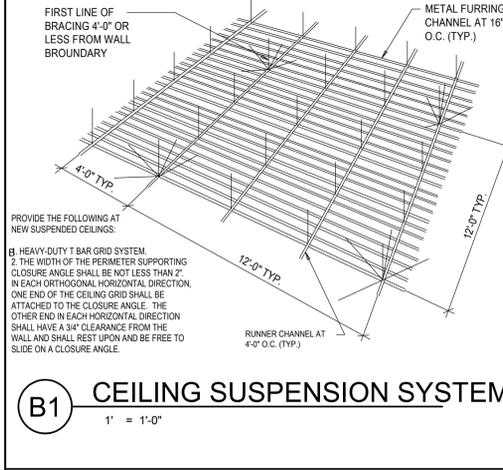
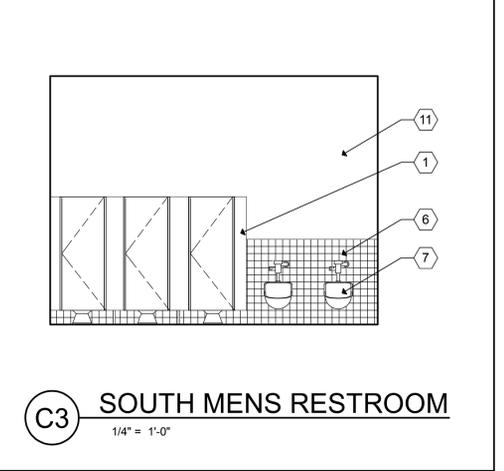
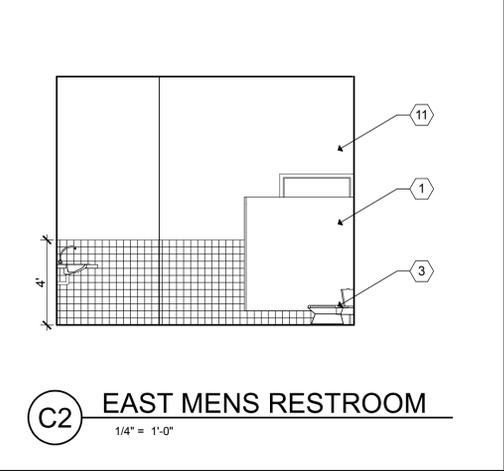
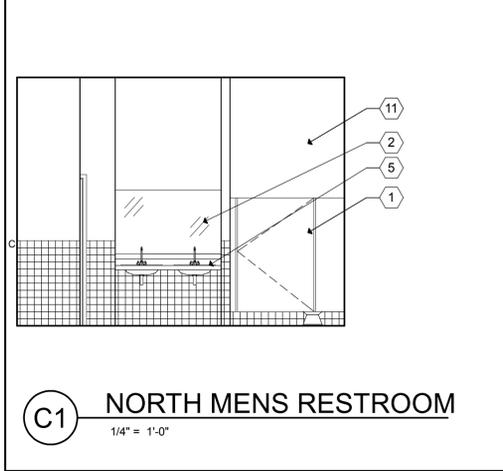
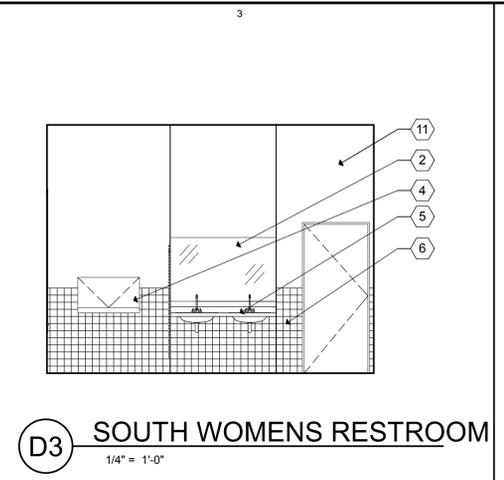
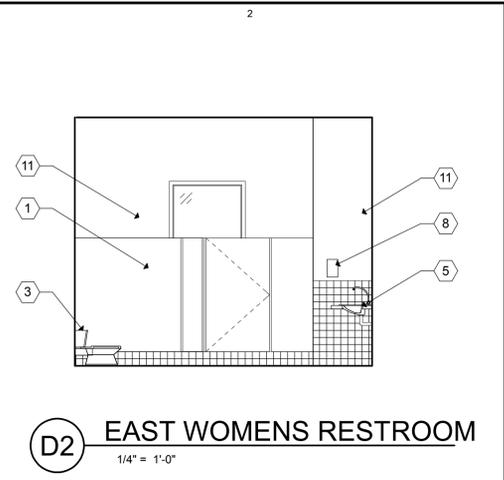
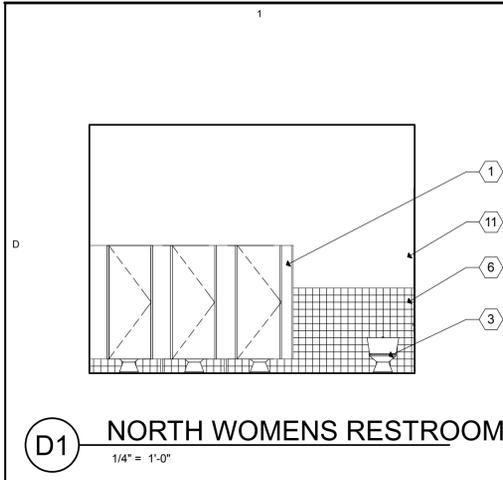
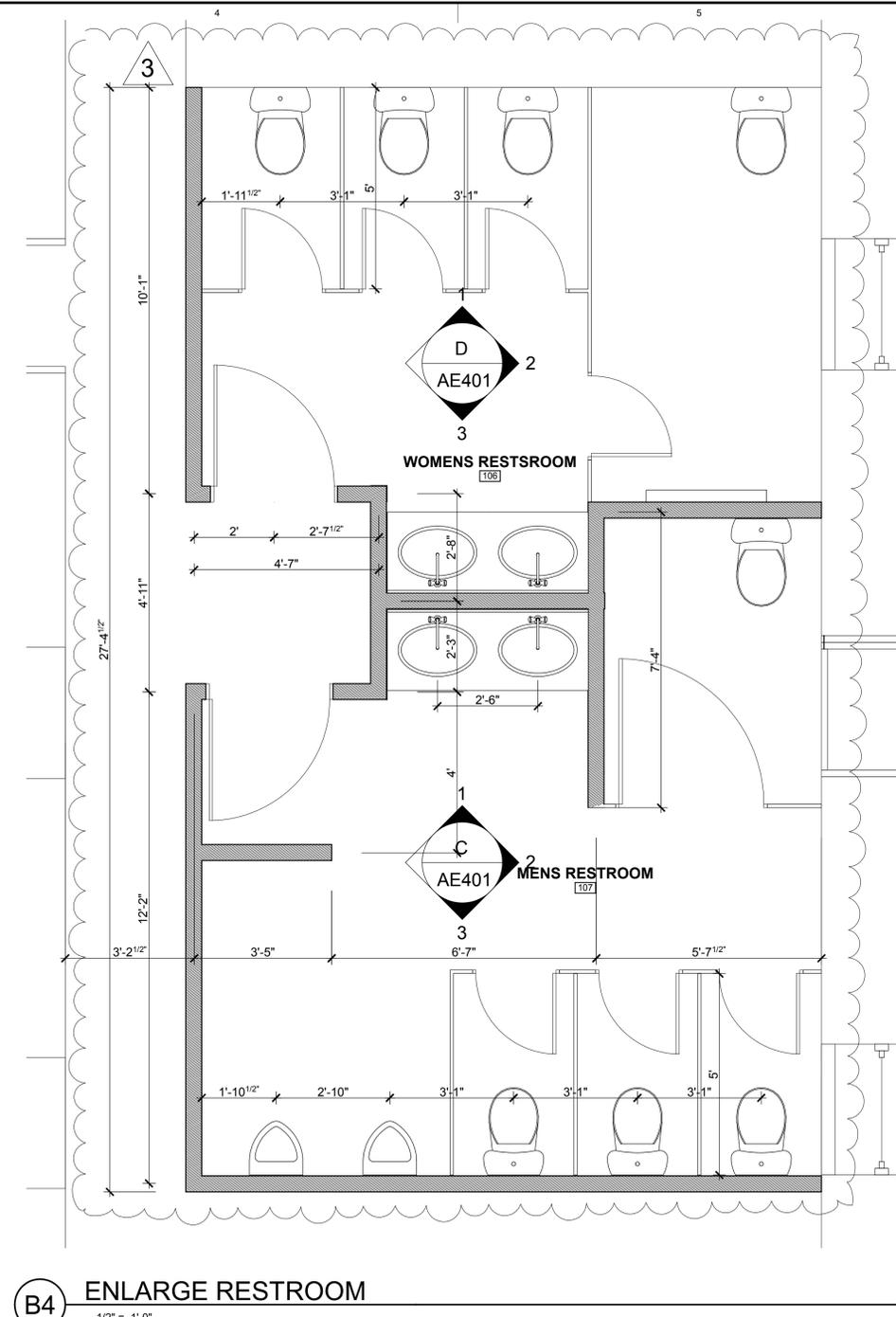


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REFERENCE NOTES

- NEW TOILET PARTITION
- NEW MIRROR
- NEW TOILET
- NEW PULL-DOWN BABY CHANGING STATION
- NEW LAVATORY
- CERAMIC FIELD TILE
- NEW URINAL
- SANITARY NAPKIN DISPENSER
- HAND SOAP DISPENSER
- GRAB BAR
- NEW GYPSUM BOARD PAINTED

09/04/08	ADDENDA #3
09/09/08	
08/11/08	
PROJECT NO: B05-027	
CAD DWG FILE: F0MM - 04.28.08.rvt	
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ENLARGE FLOOR
PLANS & DETAILS

AE401

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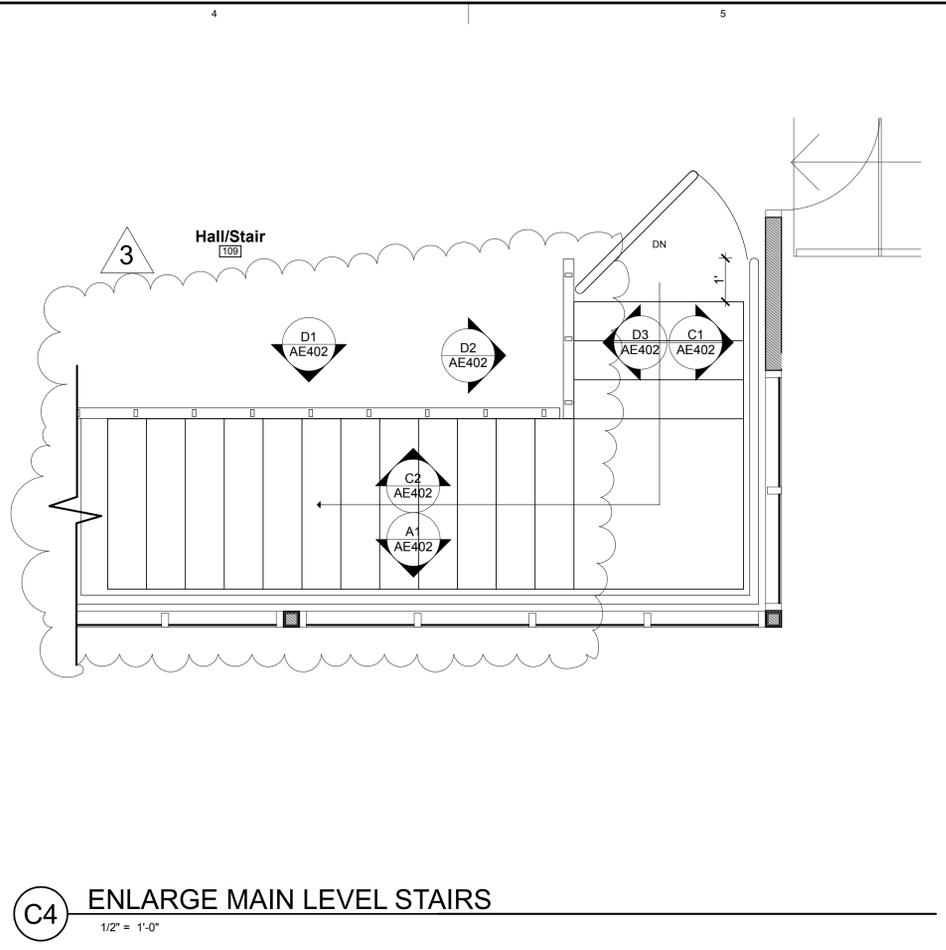
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BID	09/09/08	
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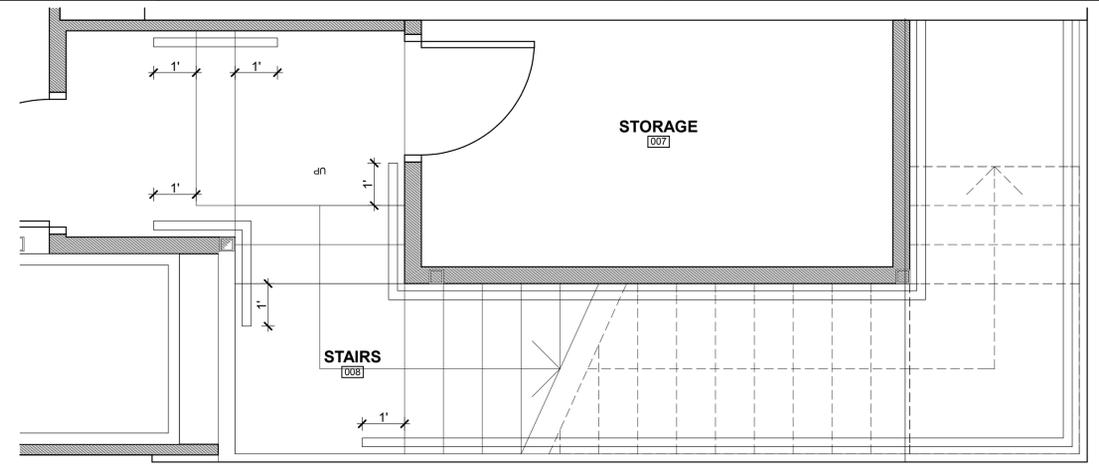
PROJECT NO: B05-027
CAD DWG FILE: F0MM - 04.28.08.lbk
DRAWN BY: JRW
CHECKED BY: AAH

**ENLARGE FLOOR
PLAN & DETAILS**

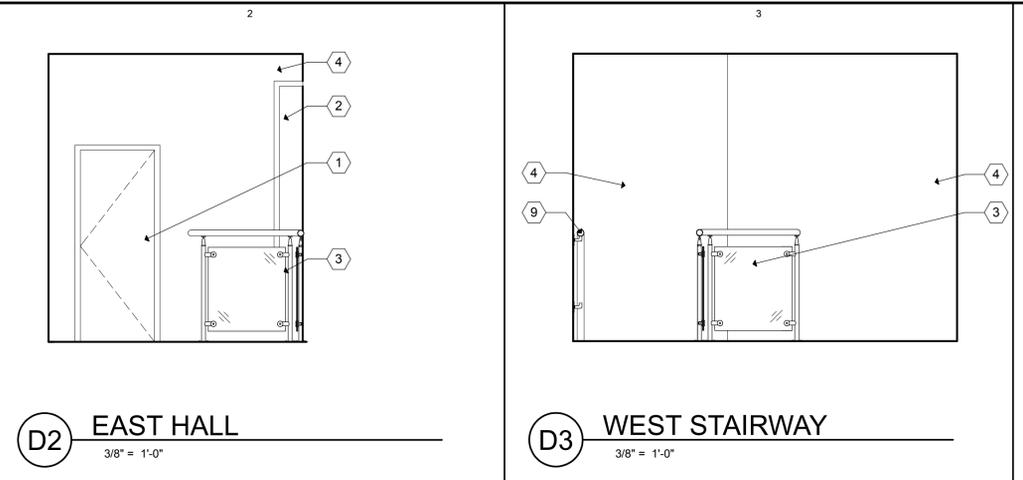
AE402



C4 ENLARGE MAIN LEVEL STAIRS
1/2" = 1'-0"

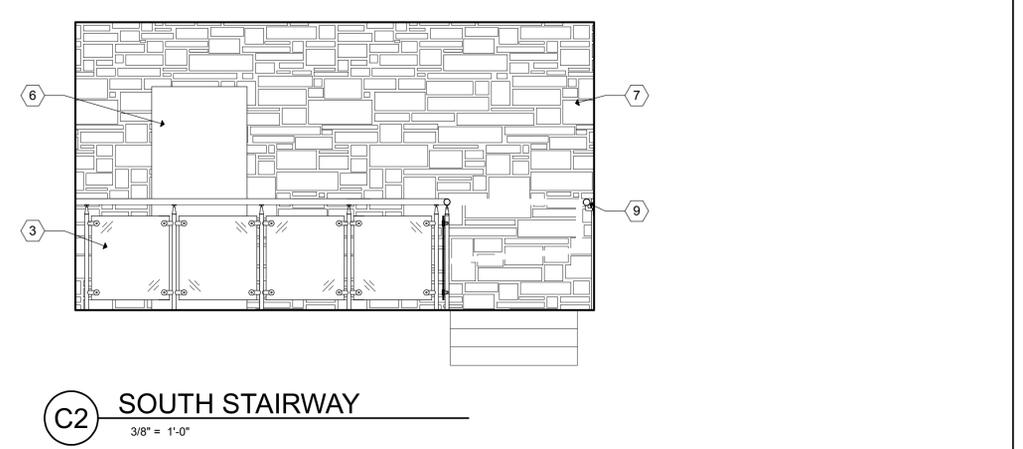


B3 ENLARGE LOWER LEVEL STAIRS
1/2" = 1'-0"

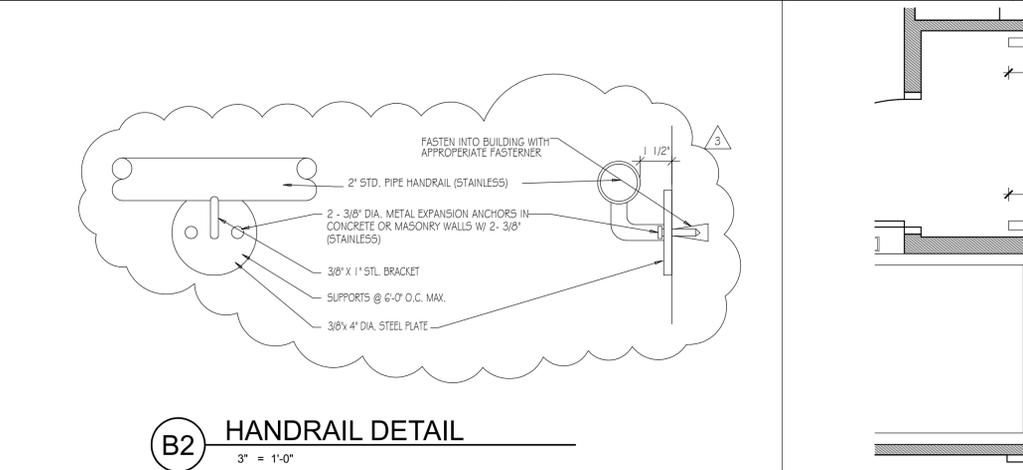


D2 EAST HALL
3/8" = 1'-0"

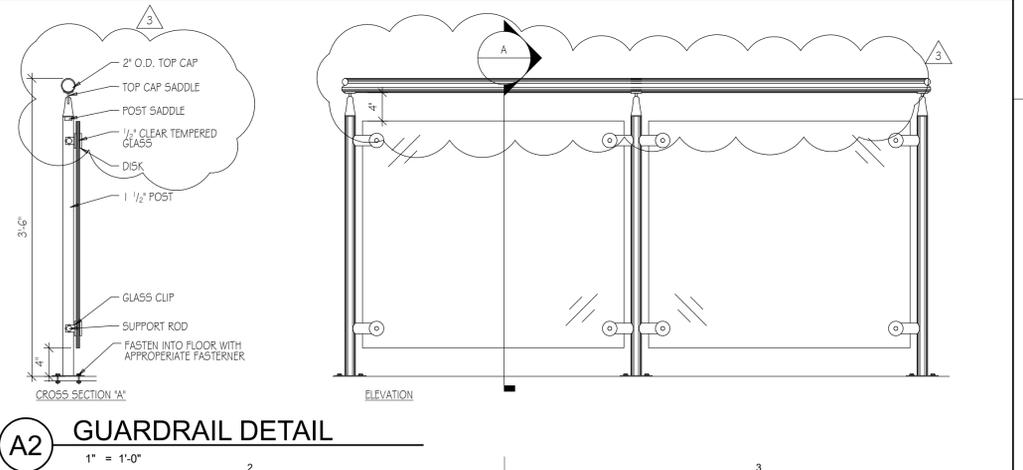
D3 WEST STAIRWAY
3/8" = 1'-0"



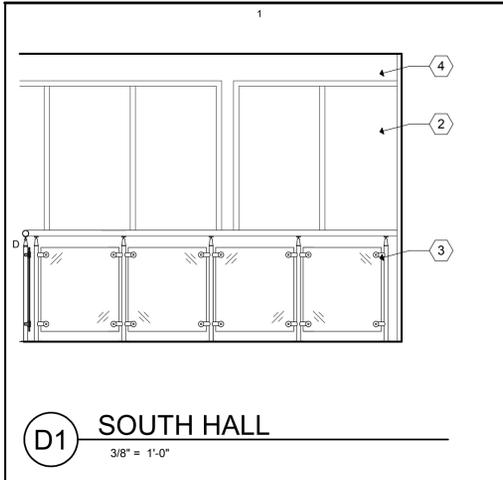
C2 SOUTH STAIRWAY
3/8" = 1'-0"



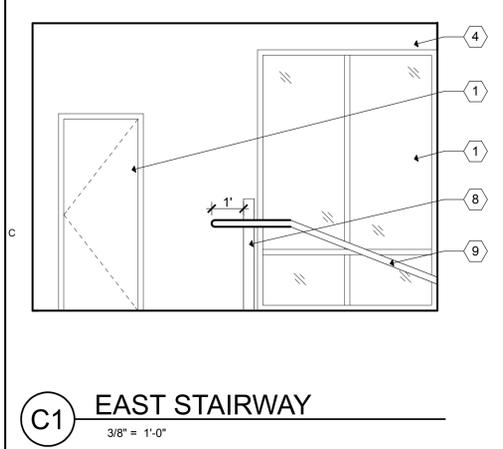
B2 HANDRAIL DETAIL
3" = 1'-0"



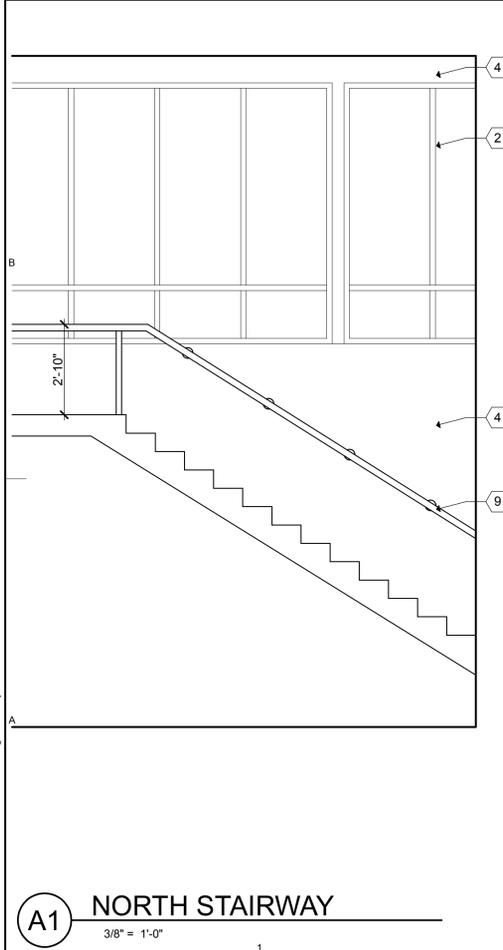
A2 GUARDRAIL DETAIL
1" = 1'-0"



D1 SOUTH HALL
3/8" = 1'-0"



C1 EAST STAIRWAY
3/8" = 1'-0"

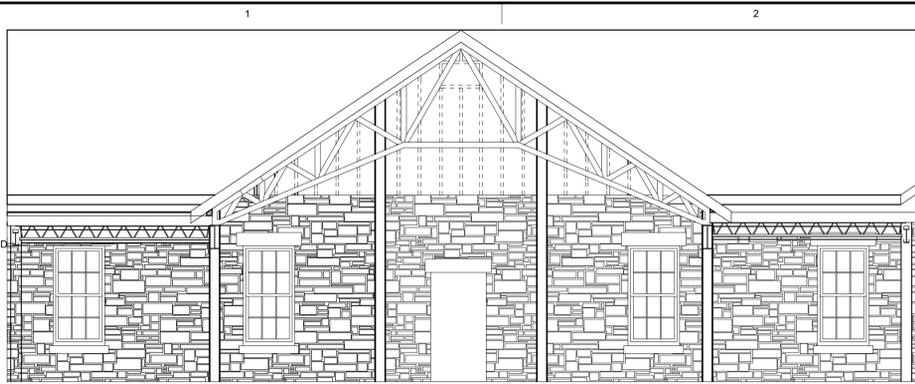


A1 NORTH STAIRWAY
3/8" = 1'-0"

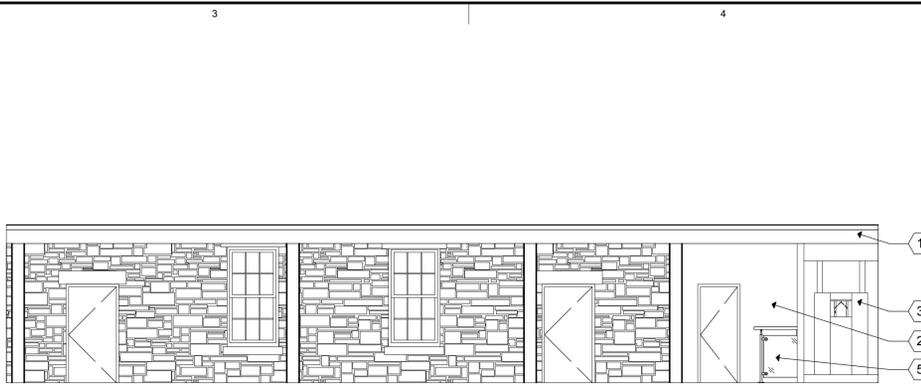
REFERENCE NOTES

1. EXISTING DOOR
2. EXISTING WINDOW
3. NEW GUARDRAIL (A2/AE402)
4. NEW GYPSUM BOARD PAINTED
5. NEW STAIR GATE
6. INFILLED W/GYPSUM BOARD
7. EXISTING STONE
8. GATE STRIKE PLATE POST
9. NEW HANDRAIL (B2/AE402)

P:\B05-027 Ft. Douglas Military Museum AED\DrawPhase 2a\F0MM - 04.28.08.lbk 9/2/2008



D1 North Exhibits Section
3/16" = 1'-0"



D3 East Exhibits Section
3/16" = 1'-0"

REFERENCE NOTES

1. 1"x10" PAINTED LUMBER.
2. NEW GYPSUM BOARD PAINTED
3. ADA LIFT
4. EXISTING STONE
5. NEW GUARDRAIL.

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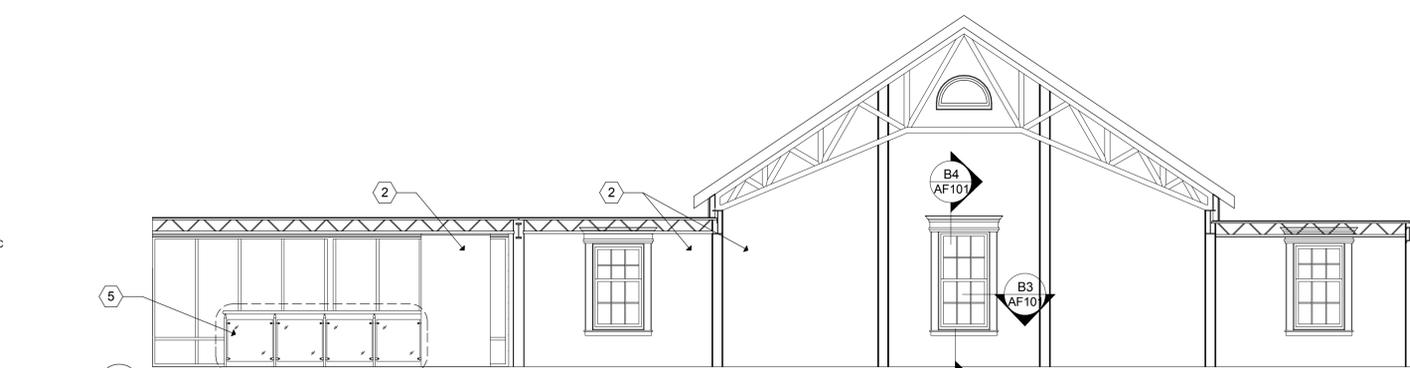
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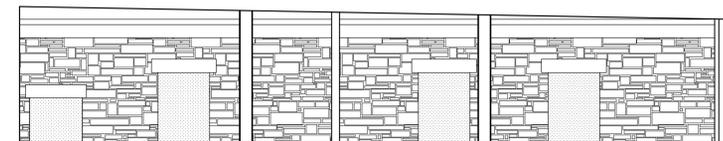
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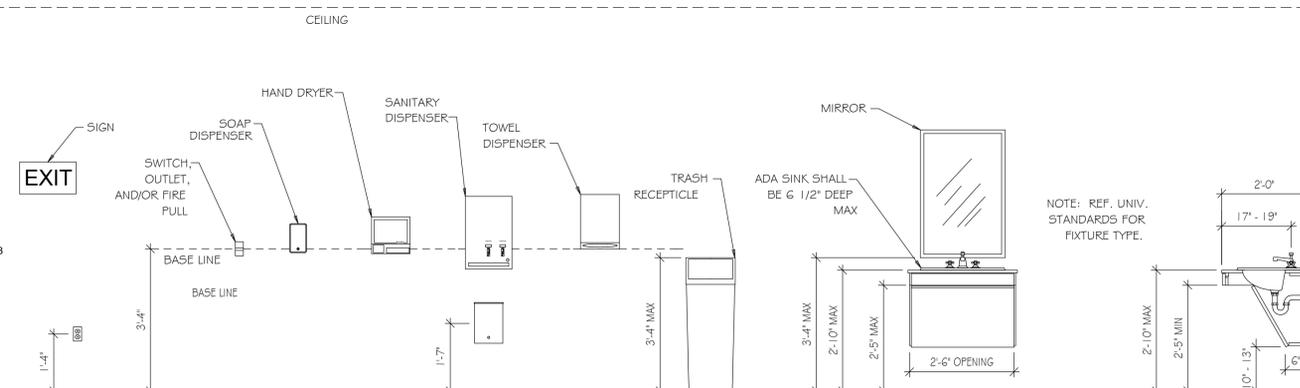
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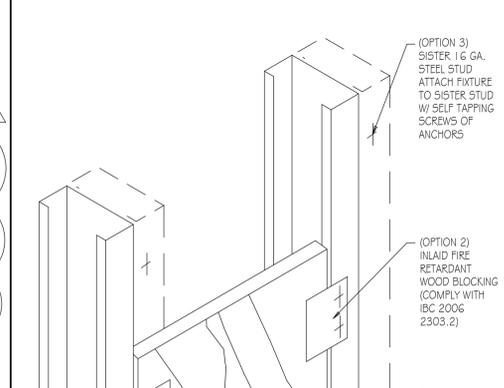
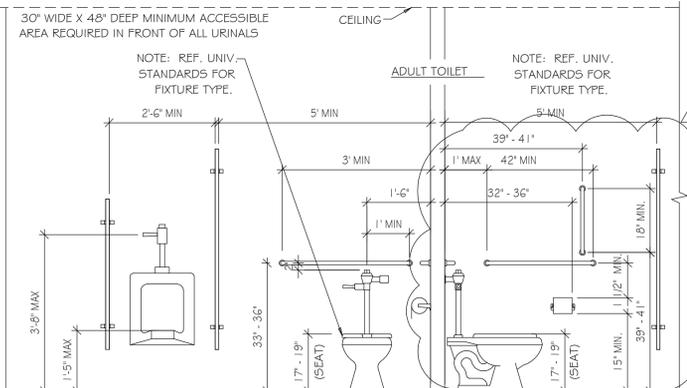
C1 South Exhibits Section
3/16" = 1'-0"



C4 West Exhibits Section
3/16" = 1'-0"



B1 ADA MOUNTING HEIGHTS
1/2" = 1'-0"



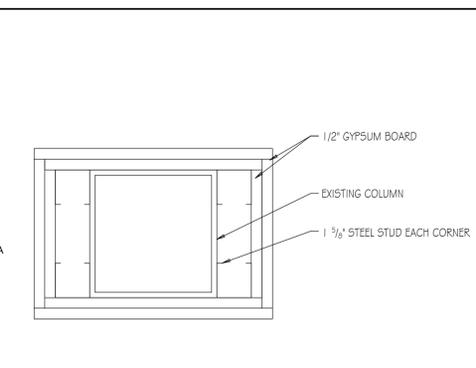
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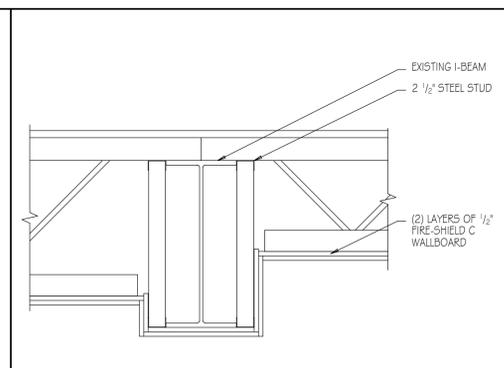
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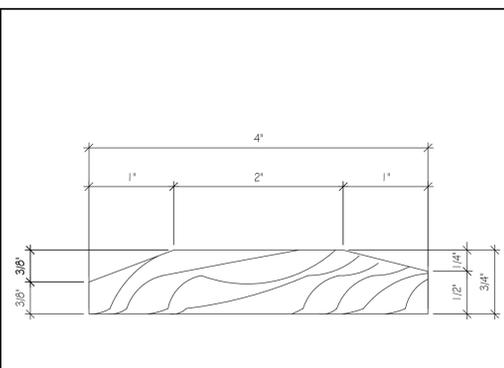
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PROJECT NO: B05-027		
CAD DWG FILE: F0MM - 04.28.08.rvt		
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CHECKED BY: AAH		



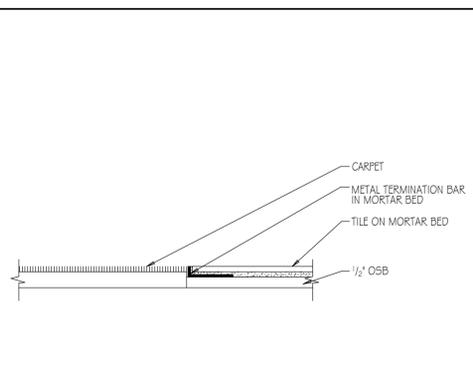
A1 COLUMN DETAIL
3" = 1'-0"



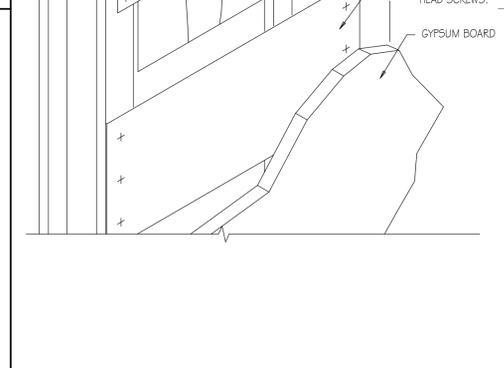
A2 BEAM WRAP
1" = 1'-0"



A3 MARBLE THRESHOLD
1" = 1'-0"



A4 METAL TRANSITION @ TILE
3" = 1'-0"

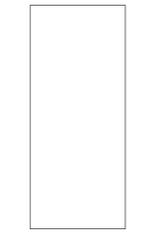


A5 BLOCKING DETAILS
3" = 1'-0"

INTERIOR ELEVATIONS & DETAILS

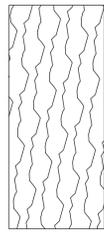
AE403

DOOR TYPES



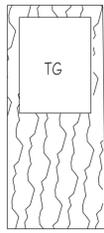
HOLLOW METAL DOOR

TYPE '1'



WOOD SOLID CORE

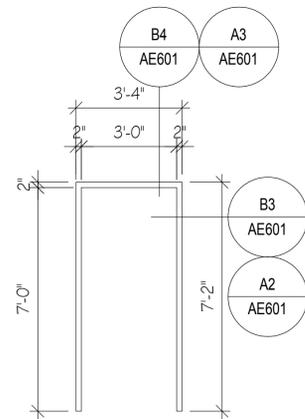
TYPE '2'



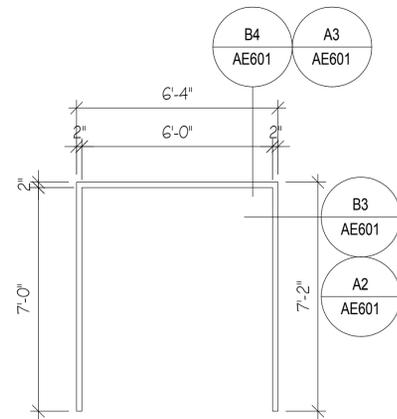
WOOD SOLID CORE

TYPE '3'

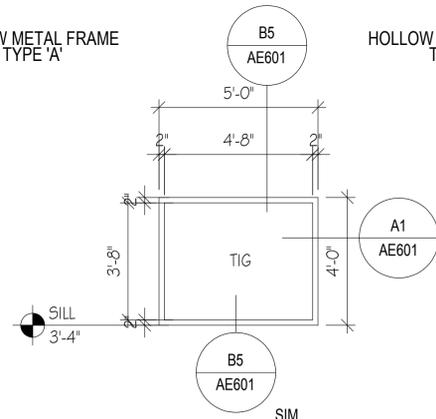
FRAME TYPES



HOLLOW METAL FRAME TYPE 'A'



HOLLOW METAL FRAME TYPE 'B'



INTERIOR HOLLOW METAL WINDOW TYPE 'H1'

LOWER LEVEL DOOR SCHEDULE

MARK	NAME	DOOR		MISCELLANEOUS			NOTES	
		PAIR	SINGLE	DOOR TYPE	DOOR SIZE	DOOR GLAZING		FRAME TYPE
002A	OFFICE		●	2	S1			
002B	OFFICE	●		3	S2	T.G.	B	
004	MECHANICAL		●	1	S1		A	
004a	MECHANICAL		●	1	S3		A	CUSTOM TO FIT EXISTING OPENING
005	ELECTRICAL		●	1	S1		A	
006A	ARCHAEOLOGY		●	2	S1		A	
006B	ARCHAEOLOGY		●	2	S1		A	
007	STORAGE		●	2	S1		A	
008	STAIRS		●	1	S1		A	

DOOR SIZES

S1 3'-0" X 7'-0"

S2 6'-0" X 7'-0"

S3 CUSTOM (FIELD VERIFY)

DOOR GLAZING

TIG TEMPERED INSULATED GLASS

TG TEMPERED GLASS

MAIN LEVEL DOOR SCHEDULE

MARK	NAME	DOOR		MISCELLANEOUS			NOTES	
		PAIR	SINGLE	DOOR TYPE	DOOR SIZE	DOOR GLAZING		FRAME TYPE
103	OFFICE		●	2	S1		A	
106	WOMENS RESTROOM		●	2	S1		A	
107	MENS RESTROOM		●	2	S1		A	
108	ORDINANCE		●	1	S1		A	
BUILDING 632								
113	MECHANICAL		●	1	S1		A	
116	ELECTRICAL		●	1	S1		A	

DOOR SIZES

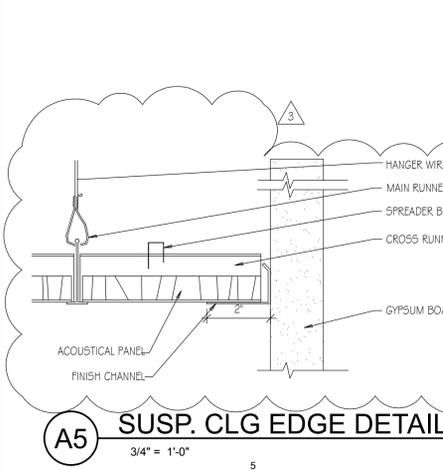
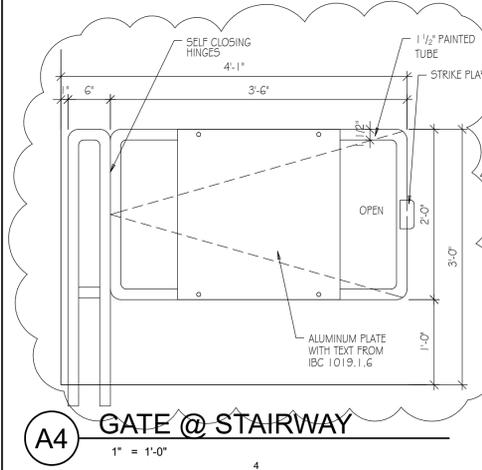
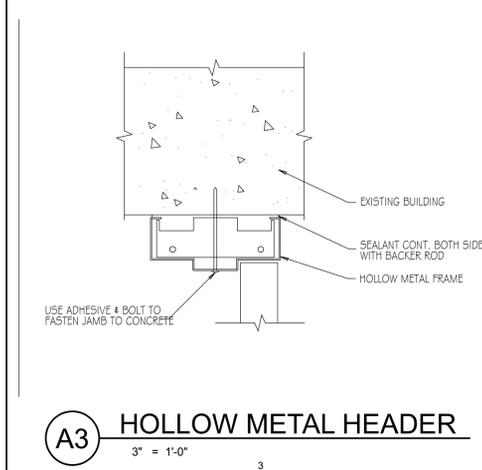
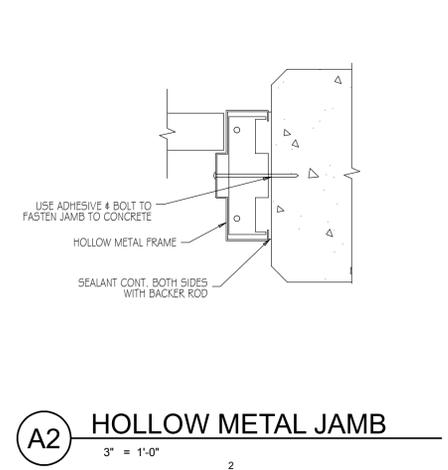
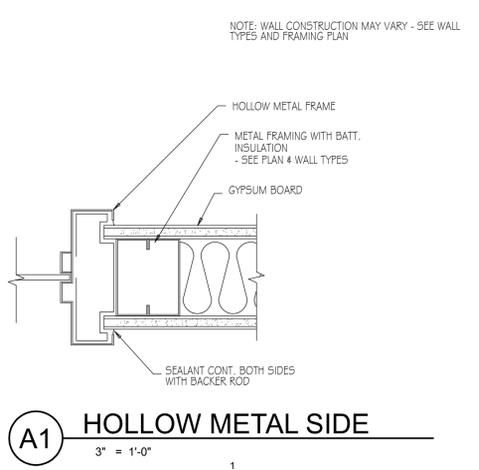
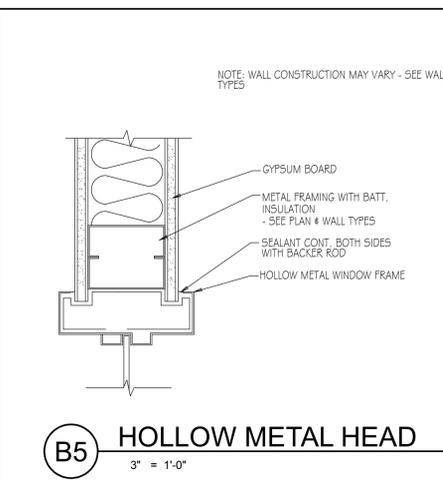
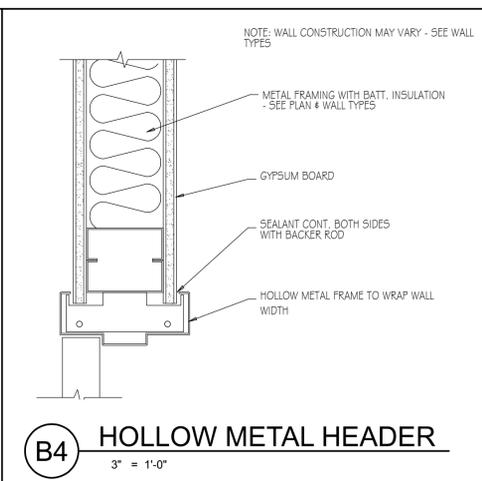
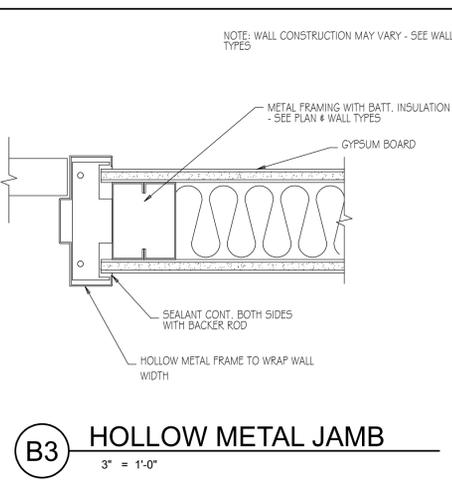
S1 3'-0" X 7'-0"

S2 6'-0" X 7'-0"

DOOR GLAZING

TIG TEMPERED INSULATED GLASS

TG TEMPERED GLASS



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PROJECT NO: B05-027
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CHECKED BY: AAH

DOOR & WINDOW SCHEDULES & DETAILS

AE601

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09/09/08	
08/11/08	

PROJECT NO: B05-027
CAD DWG FILE: FDM - 04.28.08.1bk
DRAWN BY: JRW
CHECKED BY: AAH

FINISH FLOOR
SCHEDULE

AF101

MAIN LEVEL BLDG. 632 FINISH SCHEDULE									
ROOM #	ROOM NAME	FLOOR	WALLS					CEILING TYPE	NOTES
			BASE	NORTH	EAST	SOUTH	WEST		
113	MECHANICAL	F5	B1/B4	W4	W4	W4	W1	C1	
114	COLLECTIONS SUPPORT	F5	B1/B4	W4	W1	W4	W1	C5	
116	ELECTRICAL	F5	B1	W1	W1	W4	W4	C5	

F FLOOR
F1 SEALED CONCRETE
F2 CARPET
F3 CERAMIC TILE
F4 EXISTING CARPET, PATCH & REPAIR
F5 EXISTING CONCRETE

B BASE
B1 6" RUBBER BASE
B2 6" CERAMIC TILE
B3 EXISTING BASE
B4 NEW BASE TO MATCH EXISTING

C CEILING
C1 2 LAYERS OF GYPSUM BOARD W/FIRE TAPE
C2 SUSPENSION GYPSUM BOARD, PAINTED
C3 EXPOSED STRUCTURE, PAINTED
C4 2'X2' SUSPENSION CEILING SYSTEM
C5 EXISTING, PATCH & REPAIR, PAINT
C6 EXISTING, REPAIR

W WALLS
W1 GYPSUM BOARD, PAINTED
W2 CERAMIC TILE
W3 SHOTCRETE (SEE STRUCTURAL)
W4 EXISTING WALL
W5 PATCH & REPAIR WALL, PAINTED

NOTE: C1 IS BASE BID AS INDICATED IN BASEMENT OF BLDG 631 & 632

MAIN LEVEL BLDG. 631 FINISH SCHEDULE									
ROOM #	ROOM NAME	FLOOR	WALLS					CEILING TYPE	NOTES
			BASE	NORTH	EAST	SOUTH	WEST		
103	OFFICE	F4	B1/B3	W4	W5	W1/W4	W4	C6	
104	OFFICE	F4	B3	W4	W4	W1/W4	W4	C6	
105	EXHIBITS	F4	B1/B3	W4	W4	W1	W5	C5	RECEIVES BLINDS
106	WOMEN'S RESTROOM	F3	B2	W2	W2	W2	W2	C2	RECEIVES BLINDS
107	MEN'S RESTROOM	F3	B2	W2	W2	W2	W2	C2	RECEIVES BLINDS
108	ORDINANCE	F4	B1/B3	W1/W4	W5	W4	W5	C5	
109	HALL	F2	B1	W4	W4	W1/W4	W1	C3	BID ALT. #1
110	EXHIBITS SPACE	F2	B1	W4	W4	W1	W4	C3	BID ALT. #1 RECEIVES BLINDS

F FLOOR
F1 SEALED CONCRETE
F2 CARPET
F3 CERAMIC TILE
F4 EXISTING CARPET, PATCH & REPAIR
F5 EXISTING CONCRETE

B BASE
B1 6" RUBBER BASE
B2 6" CERAMIC TILE
B3 EXISTING BASE
B4 NEW BASE TO MATCH EXISTING

C CEILING
C1 2 LAYERS OF GYPSUM BOARD W/FIRE TAPE
C2 SUSPENSION GYPSUM BOARD, PAINTED
C3 EXPOSED STRUCTURE, PAINTED
C4 2'X2' SUSPENSION CEILING SYSTEM
C5 EXISTING, PATCH & REPAIR, PAINT
C6 EXISTING, REPAIR

W WALLS
W1 GYPSUM BOARD, PAINTED
W2 CERAMIC TILE
W3 SHOTCRETE (SEE STRUCTURAL)
W4 EXISTING WALL
W5 PATCH & REPAIR WALL, PAINTED

NOTE: C1 IS BASE BID AS INDICATED IN BASEMENT OF BLDG 631 & 632

LOWER LEVEL BLDG. 631 FINISH SCHEDULE									
ROOM #	ROOM NAME	FLOOR	WALLS					CEILING TYPE	NOTES
			BASE	NORTH	EAST	SOUTH	WEST		
001	COLLECTIONS STORAGE	F1	B1	W1	W1	W1	W1	C1	BID ALT. #3
002	OFFICES	F1	B1	W1	W1	W1	W1	C1/C4	BID ALT. #3
004	MECHANICAL	F1		W1/W3	W3	W4	W4	C5	
005	ELECTRICAL	F1	B1	W3	W1	W1	W1	C5	
006	ARCHAEOLOGY STORAGE	F1	B1	W1	W1	W1	W1	C1	BID ALT. #3
007	STORAGE	F1	B1	W4	W1	W1	W1	C1	BID ALT. #3
008	STAIRS	F2	B1	W1	W1	W1	W1		

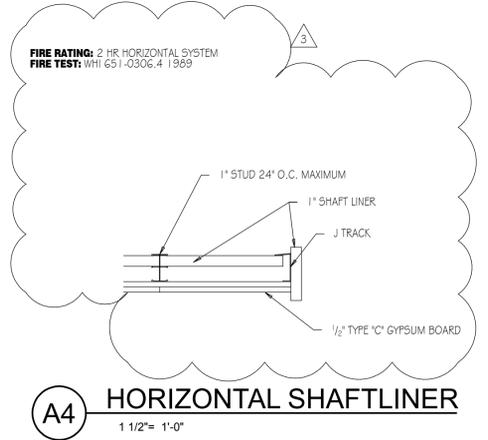
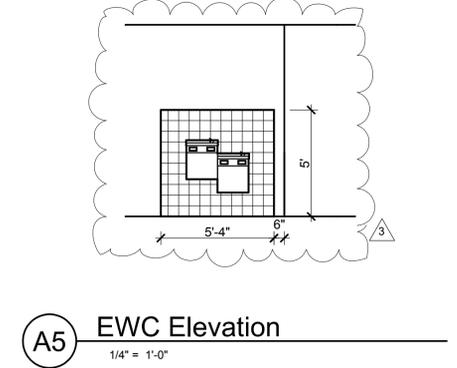
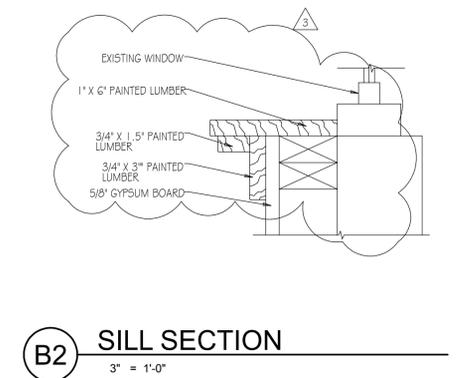
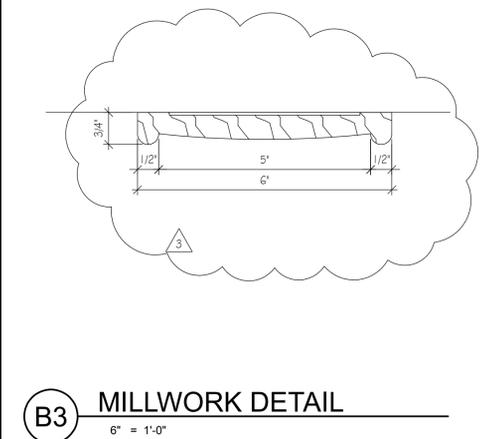
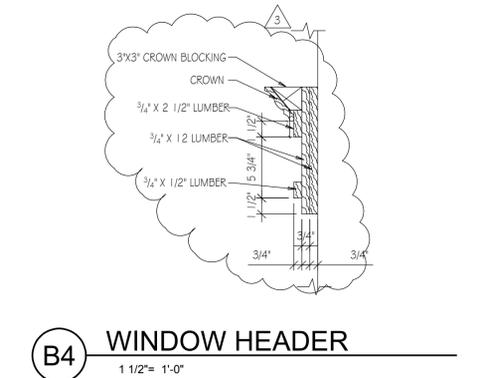
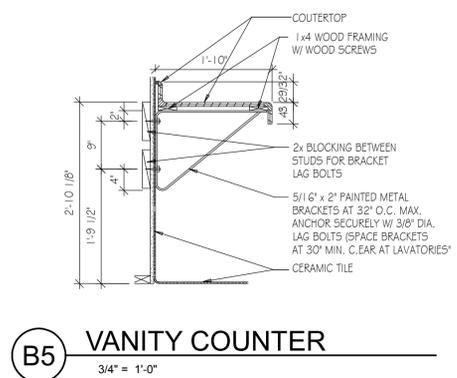
F FLOOR
F1 SEALED CONCRETE
F2 CARPET
F3 CERAMIC TILE
F4 EXISTING CARPET, PATCH & REPAIR
F5 EXISTING CONCRETE

B BASE
B1 6" RUBBER BASE
B2 6" CERAMIC TILE
B3 EXISTING BASE
B4 NEW BASE TO MATCH EXISTING

C CEILING
C1 2 LAYERS OF GYPSUM BOARD W/FIRE TAPE
C2 SUSPENSION GYPSUM BOARD, PAINTED
C3 EXPOSED STRUCTURE, PAINTED
C4 2'X2' SUSPENSION CEILING SYSTEM
C5 EXISTING, PATCH & REPAIR, PAINT
C6 EXISTING, REPAIR

W WALLS
W1 GYPSUM BOARD, PAINTED
W2 CERAMIC TILE
W3 SHOTCRETE (SEE STRUCTURAL)
W4 EXISTING WALL
W5 PATCH & REPAIR WALL, PAINTED

NOTE: C1 IS BASE BID AS INDICATED IN BASEMENT OF BLDG 631 & 632





Colvin Engineering Associates, Inc.

HIGH PERFORMANCE DESIGN

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ADDENDUM NO. 3

(MECHANICAL ADDENDUM NO. 1)

FORT DOUGLAS MUSEUM

CEA PROJECT NO. 2005-062.00

September 2, 2008

All contractors submitting proposals for this project shall be governed by the following addendum, changes, and explanations to the bidding documents. Bids shall be submitted in accordance with the following:

Item No.	Specification Section or Drawing No.	Reference / Description:
1.	MD104	Building 631, Remove Dome Exhaust located on the east side of building. Remove associated ductwork. Cap roof curb.
2.	PL101	Fire protection: Provide glycol loop for all piping routed in attic space.
3.	PL102	Enlarged Restroom Plan: Change east U-1 callout to U-2.
4.	PL101 MH601	Add electric water cooler (EWC-1) and all associated piping.
5.	MD102	Existing floor drain in Women's restroom. Contractor to replace grate to match new drain in Men's restroom.
6.	PL-101 PL-102	Refrigeration piping for furnace units are to be factory supplied line sets.

PRODUCT SUBSTITUTIONS / PRIOR APPROVALS

Item No.	Specification Section	Product Type	Alternate Manufacturers
1.	224450	Water Heater	Chronomite
2.	233400	Ceiling Exhaust Fans	Broan-Nutone
3.	233713	Wall & Floor Registers & Grilles	Carnes

END OF ADDENDUM NO. 3

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**DEMOLITION
ROOF PLAN**

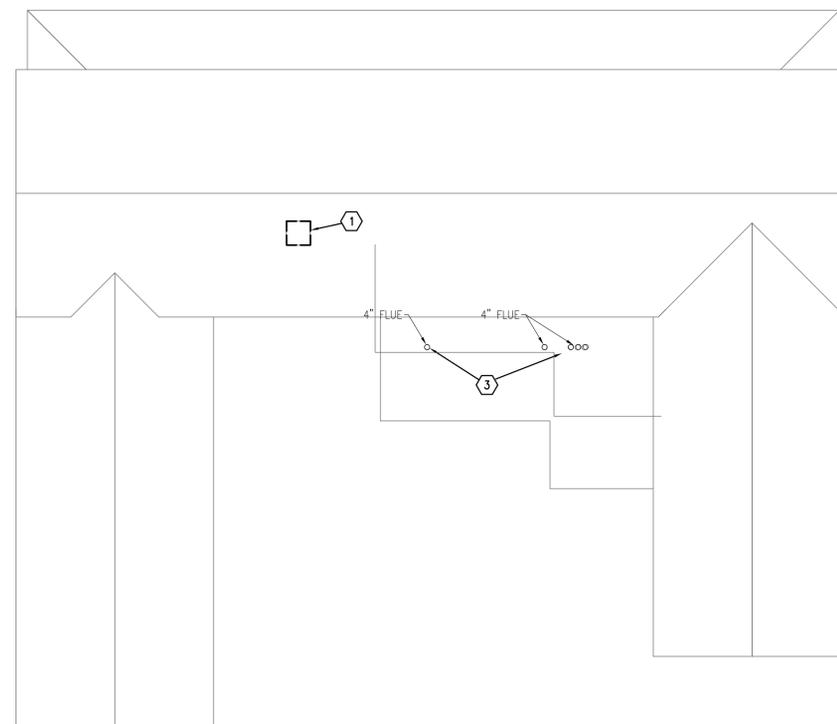
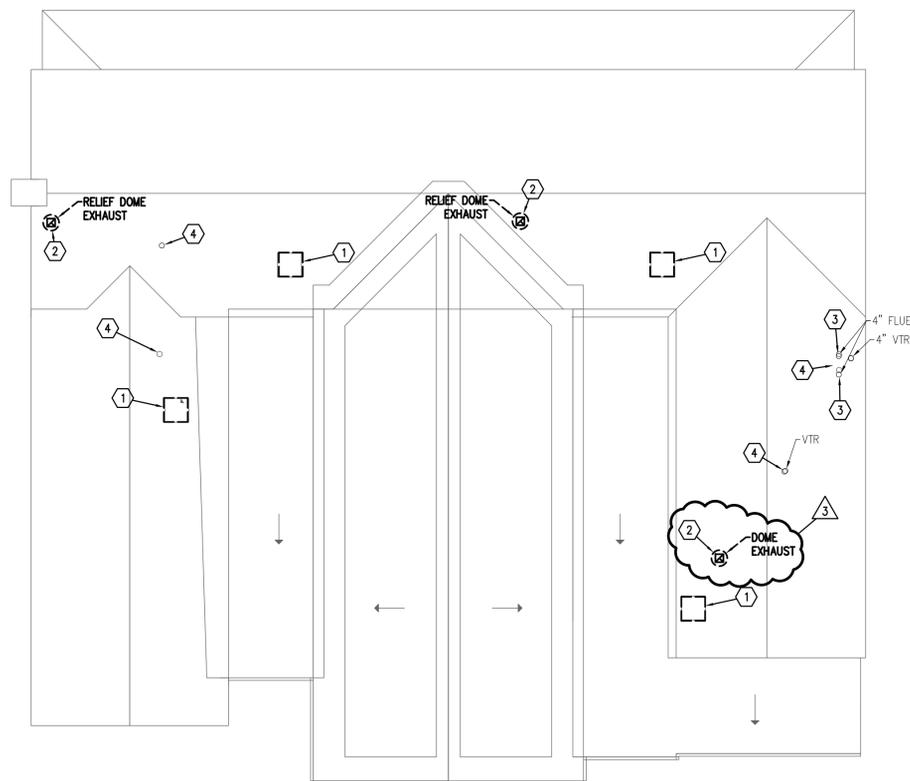
MD104

BUILDING 631

BUILDING 632

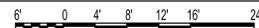
KEYED NOTES

- ① REMOVE EVAPORATOR COOLER, CONTROLS & WATER SUPPLY. CAP ROOF CURB.
- ② REMOVE RELIEF FAN. CAP ROOF CURB.
- ③ FLUES TO REMAIN.
- ④ PLUMBING VENT TO REMAIN.
- ⑤ EXHAUST FAN TO REMAIN.



1 DEMOLITION ROOF PLAN

SCALE: 3/32" = 1'-0"



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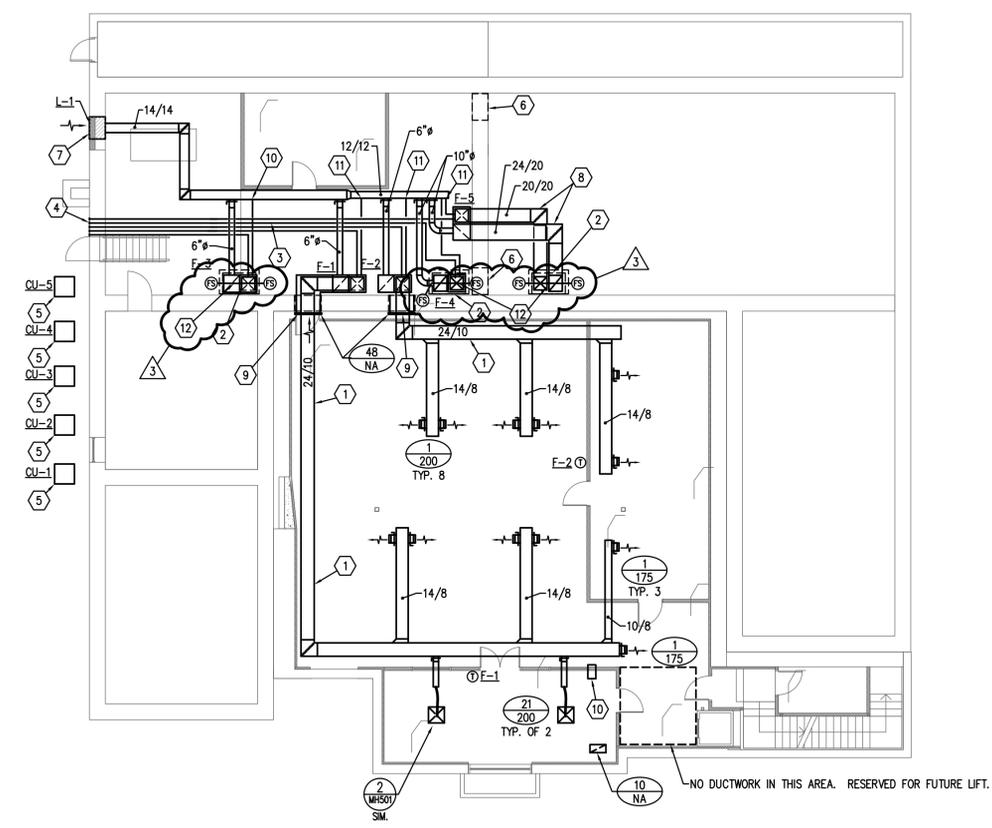
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**LOWER LEVEL
MECHANICAL PLAN**

MH101

BUILDING 631



KEYED NOTES

- ① HOLD DUCTWORK TIGHT TO BOTTOM OF CEILING & CLOSE TO WALL.
- ② 20/20 SA UP AND 24/20 RA UP.
- ③ ROUTE FLUE PIPING FROM FURNACE UNITS AS REQUIRED PER MANUFACTURER.
- ④ TERMINATE FLUE FROM FURNACE UNITS THROUGH WALL AS HIGH AS POSSIBLE PER MANUFACTURERS RECOMMENDATIONS.
- ⑤ PROVIDE CONCRETE PAD UNDER CONDENSING UNITS.
- ⑥ EXISTING OPENINGS IN BASEMENT WALL.
- ⑦ OUTSIDE AIR INTAKE LOUVER. PROVIDE INSULATED ALUMINUM WALL TO FILL IN REMAINDER OF OPENING AREA.
- ⑧ ROUTE DUCTWORK IN CRAWL SPACE.
- ⑨ 24"x10" SUPPLY AND 32"x14" RETURN DUCT THROUGH EXISTING OPENINGS IN WALL. RETURN AIR GRILLE TO BE INSTALLED BELOW SUPPLY DUCTWORK.
- ⑩ 12"x12" TRANSFER AIR DUCT.
- ⑪ CONNECT COMBUSTION AIR FOR FURNACE UNITS TO OUTSIDE AIR DUCT.
- ⑫ PROVIDE FIRE SMOKE DAMPER AT THE FLOOR PENETRATION IN THE SUPPLY AND RETURN DUCTWORK.

GENERAL NOTES

- Ⓐ REFER TO ARCHITECTURAL DRAWINGS FOR ROOM NAMES.
- Ⓑ EXISTING SMOKE DETECTORS TO REMAIN. ALL SUPPLY DIFFUSERS TO BE INSTALLED MINIMUM OF 3' FROM SMOKE DETECTORS.
- Ⓒ PROVIDE ALL TRANSITIONS FROM SUPPLY AND RETURN DUCTWORK TO FURNACE SUPPLY AND RETURN OPENINGS.

1 LOWER LEVEL MECHANICAL PLAN
SCALE: 3/32" = 1'-0"
6' 0' 4' 8' 12' 16' 24'



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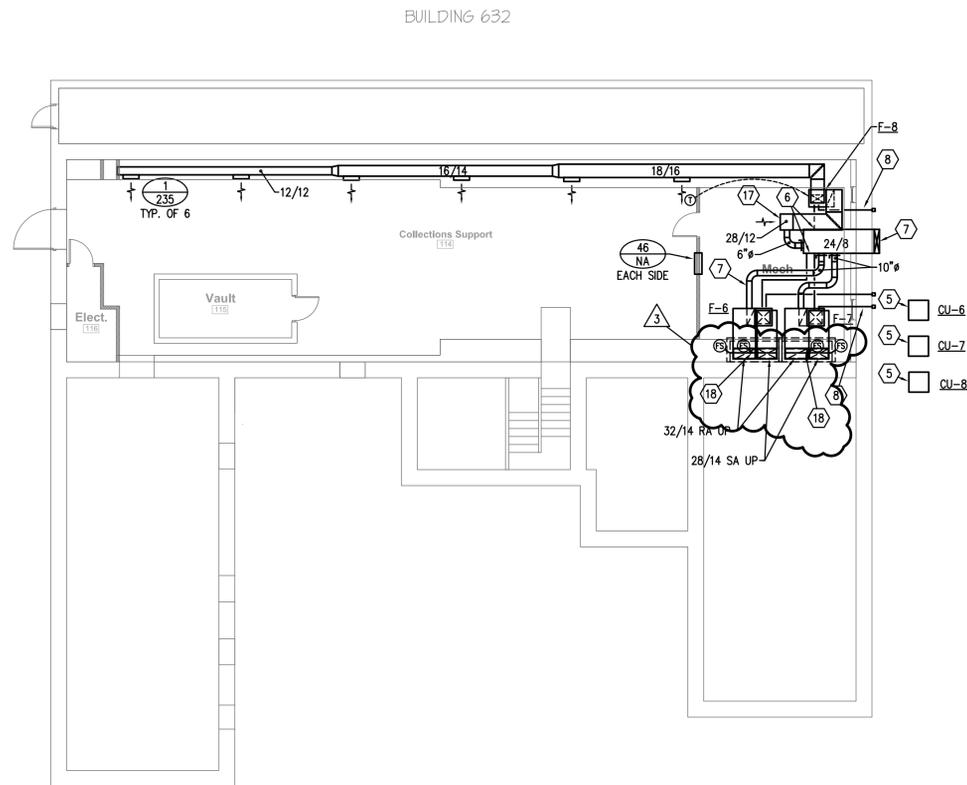
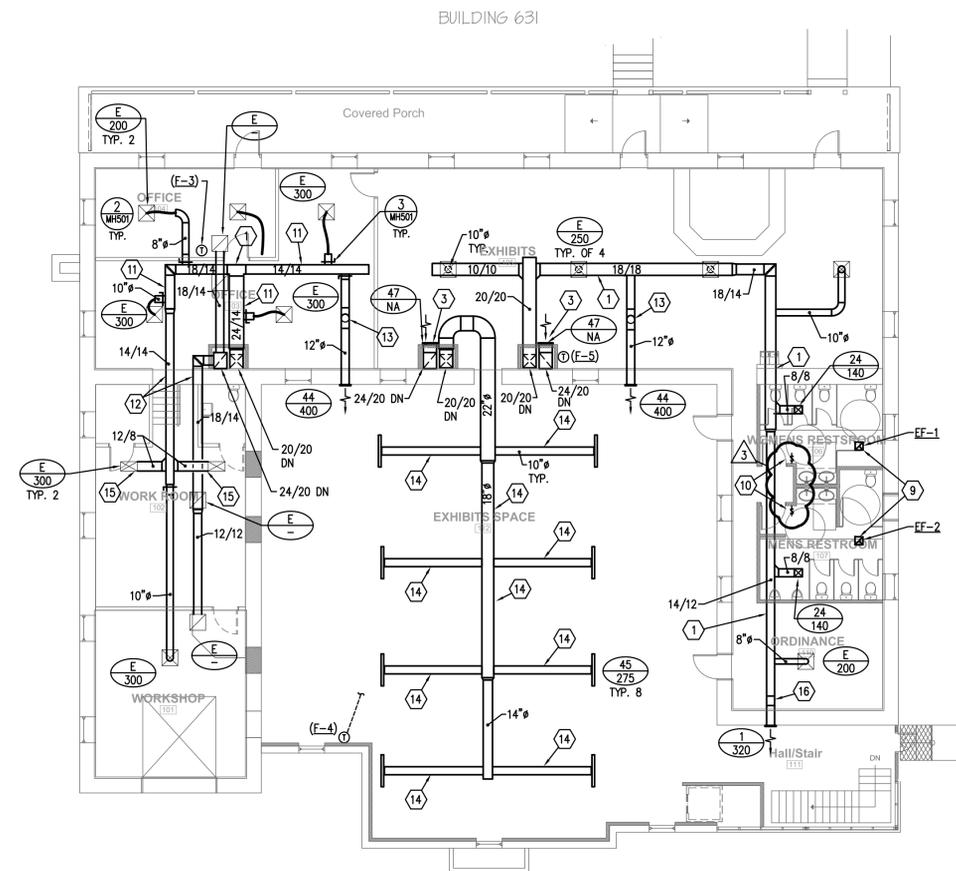
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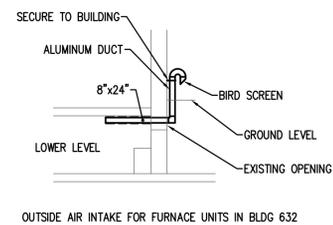
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CAD DWG FILE:
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MAIN LEVEL
MECHANICAL PLAN

MH102



1 MAIN LEVEL MECHANICAL PLAN
SCALE: 3/32" = 1'-0"



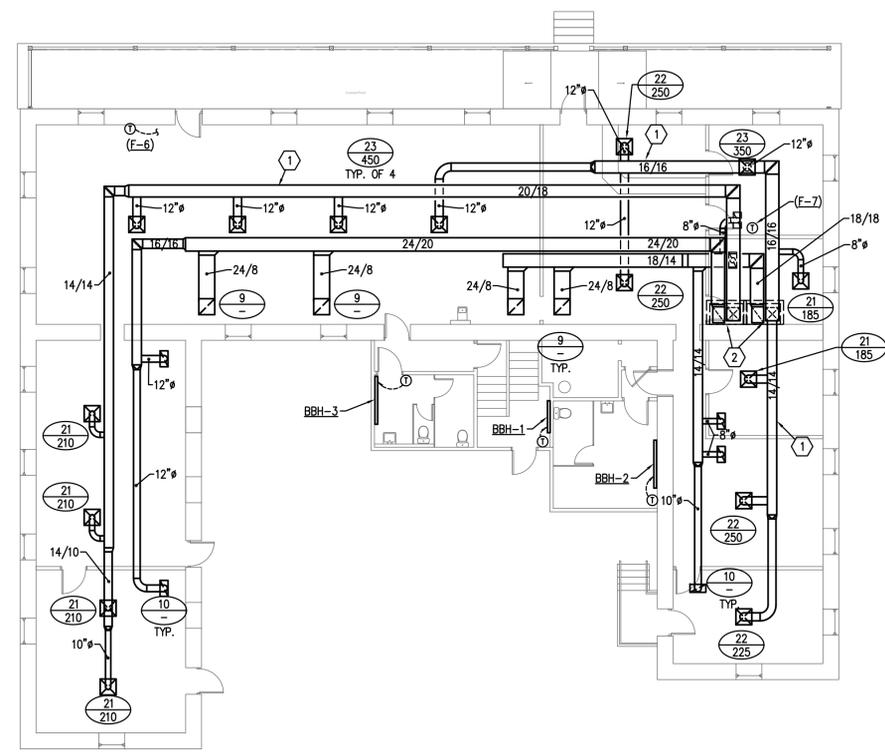
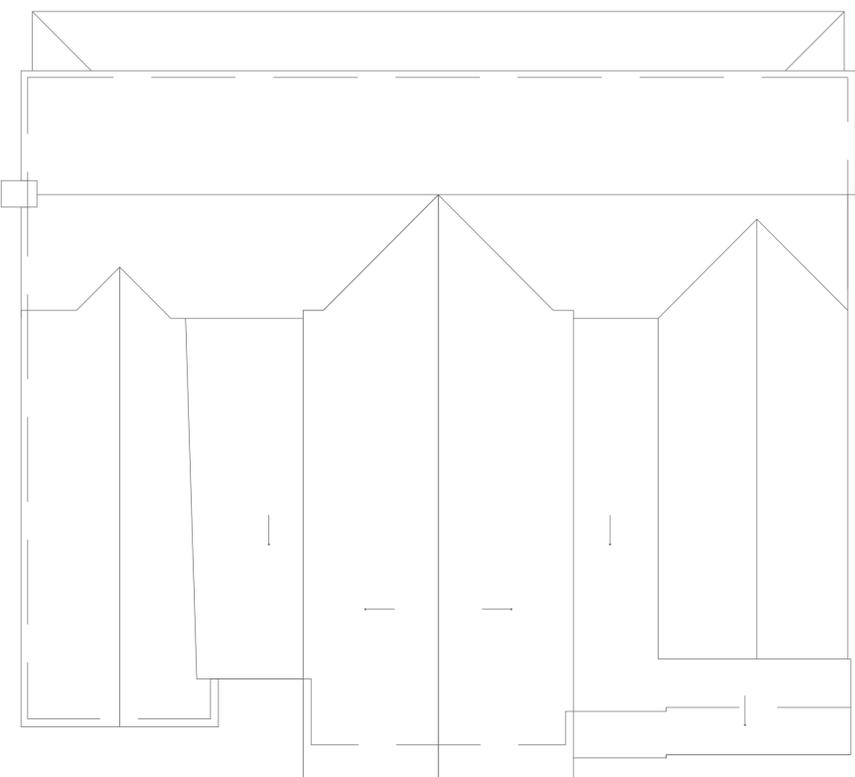
KEYED NOTES

- 1 ROUTE DUCT IN ATTIC SPACE.
- 2 RETURN AIR GRILLE.
- 3 INSTALL RETURN AIR GRILLE 12" A.F.F..
- 4 CAP FOR FUTURE CONNECTION.
- 5 PROVIDE CONCRETE PAD UNDER CONDENSING UNITS.
- 6 CONNECT COMBUSTION AIR FOR FURNACE UNITS TO OUTSIDE AIR DUCT.
- 7 24"x8" ALUMINUM DUCT UP FOR OUTSIDE AIR. TERMINATE WITH GOOSENECK AT 24" ABOVE GRADE. PROVIDE BIRD SCREEN AT TERMINATION. SEE SECTION THIS SHEET.
- 8 ROUTE COMBUSTION AIR AND FLUE PIPING AND TERMINATE OUTSIDE PER MANUFACTURERS RECOMMENDATIONS.
- 9 CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK THROUGH ROOF.
- 10 EXHAUST FAN TIMER SWITCH.
- 11 ROUTE DUCTWORK BETWEEN LAYIN CEILING AND GYPBOARD CEILING.
- 12 DUCTWORK FROM THIS POINT WILL BE ROUTED IN ATTIC SPACE.
- 13 ROUTE DUCT UP THROUGH ROOF AND TERMINATE SUPPLY AT DIFFUSER ABOVE EXISTING ROOF LINE.
- 14 ROUTE DUCT IN JOIST SPACE.
- 15 CONNECT NEW DUCTWORK TO EXISTING DIFFUSERS.
- 16 OFFSET DUCTWORK AS REQUIRED TO INSTALL DIFFUSER BELOW EXISTING DOOR FRAME.
- 17 LEAVE END OF DUCT OPEN FOR RETURN AIR.
- 18 PROVIDE FIRE SMOKE DAMPER AT THE FLOOR PENETRATION IN THE SUPPLY AND RETURN DUCTWORK.

GENERAL NOTES

- A REFER TO ARCHITECTURAL DRAWINGS FOR ROOM NAMES.
- B EXISTING SMOKE DETECTORS TO REMAIN. ALL SUPPLY DIFFUSERS TO BE INSTALLED MINIMUM OF 3' FROM SMOKE DETECTORS.

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KEYED NOTES

- ① ROUTE DUCT IN ATTIC SPACE.
- ② 28"x14" SUPPLY DUCT AND 32"x14" RETURN AIR DUCT FROM BELOW.

GENERAL NOTES

- (A) REFER TO ARCHITECTURAL DRAWINGS FOR ROOM NAMES.
- (B) EXISTING SMOKE DETECTORS TO REMAIN. ALL SUPPLY DIFFUSERS TO BE INSTALL MINIMUM OF 3' FROM SMOKE DETECTORS.



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**UPPER LEVEL
MECHANICAL PLAN**

MH103

GAS FURNACE SCHEDULE											
PLAN CODE	AFUE	MIN. OUTDOOR CFM	INPUT (MBH)	OUTPUT (MBH)	CFM AT ALTITUDE	EXT. S.P. IN W.G.	MOTOR		FAN SPEED	MANUFACTURER & MODEL NO.	REMARKS
							WATTS	V/P/HZ			
F-1	92.1	60	88	82	1400	1.2	750	120/1	HIGH ④	LENNOX GSIMP-36C-90	②③ ⑦⑧
F-2	92.1	60	88	82	1400	1.2	750	120/1	HIGH ④	LENNOX GSIMP-36C-90	②③ ⑦⑧
F-3	92.1	80	132	123	2200	1.2	1195	120/1	HIGH ④	LENNOX GSIMP-60D-135	③ ⑤⑥⑦ ⑨
F-4	92.1	300	132	123	2200	1.2	1195	120/1	HIGH ④	LENNOX GSIMP-60D-135	③ ⑤⑥⑦ ⑨
F-5	92.1	200	132	123	2200	1.2	1195	120/1	HIGH ④	LENNOX GSIMP-60D-135	③ ⑤⑥⑦ ⑨
F-6	92.1	300	132	123	2200	1.2	1195	120/1	HIGH ④	LENNOX GSIMP-60D-135	③ ⑤⑥⑦ ⑨
F-7	92.1	300	132	123	2200	1.2	1195	120/1	HIGH ④	LENNOX GSIMP-60D-135	③ ⑤⑥⑦ ⑨
F-8	92.1	60	88	82	1400	1.2	750	120/1	HIGH ④	LENNOX GSIMP-36C-90	②③ ⑦⑧

- ① AT SEA LEVEL.
- ② INTAKE AND EXHAUST = 2"
- ③ PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT
- ④ PROVIDE HIGH STATIC FAN
- ⑤ PROVIDE SMOKE DETECTOR MOUNTED IN RETURN AIR DUCT TO DEENERGIZE UNIT UPON DETECTION OF SMOKE.
- ⑥ INTAKE AND EXHAUST = 3"
- ⑦ PROVIDE CONCENTRIC VENT KIT
- ⑧ FILTER KIT# 87L97-20" X 25" X 1"
- ⑨ FILTER KIT# 87L98-25" X 25" X 1"

COOLING COILS SCHEDULE ①							
PLAN CODE	CAPACITY ②		CONDITIONS ENT. EVAP		CFM	MAX PR IN WG	MANUFACTURER & MODEL NO.
	TOTAL MBH	DB DEG. F	WB DEG. F				
CC-1	36	82	62	1400	0.32 ③		LENNOX C33-48C-2F
CC-2	36	82	62	1400	0.32 ③		LENNOX C33-48C-2F
CC-3	60	82	62	2200	0.37 ③		LENNOX C33-62D-2F
CC-4	60	82	62	2200	0.37 ③		LENNOX C33-62D-2F
CC-5	60	82	62	2200	0.37 ③		LENNOX C33-62D-2F
CC-6	60	82	62	2200	0.37 ③		LENNOX C33-62D-2F
CC-7	60	82	62	2200	0.37 ③		LENNOX C33-62D-2F
CC-8	36	82	62	1400	0.32 ③		LENNOX C33-48C-2F

- ① PROVIDE WITH FACTORY COIL BOX AND COIL.
- ② SEA LEVEL RATING, NOMINAL
- ③ WET COIL.

AIR COOLED CONDENSING UNIT SCHEDULE ①②③④							
PLAN CODE	TONS	MCA	MOCP	ELECTRICAL			MANUFACTURER & MODEL NO.
				PH	VOLTS	HERTZ	
CU-1	3	14	20	3	208	60	LENNOX HS29-036-2Y
CU-2	3	14	20	3	208	60	LENNOX HS29-036-2Y
CU-3	5	23.5	40	3	208	60	LENNOX HS29-062-2Y
CU-4	5	23.5	40	3	208	60	LENNOX HS29-062-2Y
CU-5	5	23.5	40	3	208	60	LENNOX HS29-062-2Y
CU-6	5	23.5	40	3	208	60	LENNOX HS29-062-2Y
CU-7	5	23.5	40	3	208	60	LENNOX HS29-062-2Y
CU-8	3	14	20	3	208	60	LENNOX HS29-036-2Y

- ① REFRIGERANT R-22.
- ② 95 DEG. F OUTDOOR TEMPERATURE TO CONDENSER.
- ③ PROVIDE WITH LOW AMBIENT KIT.
- ④ PROVIDE VIBRATION ISOLATION PADS UNDER EACH CORNER OF UNIT. ANCHOR UNIT TO PAD SECURELY.

ELECTRIC BASEBOARD RADIATION (BBH)							
PLAN CODE	BTUH OUTPUT	WATTS	LENGTH	VOLTAGE & PHASE	THERMOSTAT LOCATION	MANUFACTURER & MODEL NO.	REMARKS
BBH-1	3400	1000	4'	120/1	WALL OR INTERGRAL	QMARK QMKC2514W	-
BBH-2	5100	1500	6'	120/1	WALL OR INTERGRAL	QMARK QMKC2516W	-
BBH-3	5100	1500	6'	120/1	WALL OR INTERGRAL	QMARK QMKC2516W	-

LOUVER SCHEDULE (L)						
PLAN CODE	AREA SERVED	CFM	VELOCITY FPM	FREE AREA SQ. FT.	MAX. DIMENSIONS (W x H) (IN)	MANUFACTURER & MODEL NO.
L-1	F-1, F-2, F-3, F-4, F-5	700	479	1.46	24" x 24"	RUSKIN ELF811DD

ELECTRIC WATER HEATER SCHEDULE (EWH)											
PLAN CODE	AREA SERVED	TYPE	OUTPUT (KW)	TEMP RISE (°F)	MAX. DIMENSIONS					MANUFACTURER & MODEL NO.	REMARKS
					LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	VOLT & PHASE	AMPS		
EWH-1	WOMENS RR	ON DEMAND TANKLESS	4.1	56	7	3	9	208/1	19.7	EEMAX SP4208	MOUNT UNDER COUNTER
EWH-2	MENS RR	ON DEMAND TANKLESS	4.1	56	7	3	9	208/1	19.7	EEMAX SP4208	MOUNT UNDER COUNTER

SUMP PUMP SCHEDULE (SP)							
PLAN CODE	PUMP			MOTOR			REMARKS
	FLOW (GPM)	HEAD (FT)	CONFIGURATION	MAKE/MODEL	VOLT/PHASE	SIZE (HP)	
SP-1	10	20	SIMPLEX SUBMERSIBLE	GRUNDFOS KP250	120/1	NA	PROVIDE PUMP WITH 25' POWER CORD
SP-2	25	15	SIMPLEX ABOVE GROUND	LITTLE GIANT VCMA-20UL	120/1	NA	PROVIDE PUMP WITH 25' POWER CORD

PLUMBING FIXTURE SCHEDULE							
PLAN CODE	DESCRIPTION	ROUGH-IN SIZE					COMMENTS
		C.W.	H.W.	TEMPERED	WASTE	VENT	
WC-1	WATER CLOSET, ADA COMPLIANT, SEAT: OLSONITE #10CC/SS ELONGATED BOWL, VITREOUS CHINA 1.6 GPF	1/2"	-	-	3"	2"	AMERICAN STANDARD "CADET" 2998.012 SEAT: OLSONITE #10CC/SS COLOR: WHITE FLOOR TO RIM: 17"
WC-2	WATER CLOSET, STANDARD FLOOR MOUNT, FLUSH TANK, ELONGATED BOWL, VITREOUS CHINA 1.6 GPF	1/2"	-	-	3"	2"	AMERICAN STANDARD "CADET" 2898.012 SEAT: OLSONITE #10CC/SS COLOR: WHITE FLOOR TO RIM: 15"
U-1	URINAL, ADA COMPLIANT, VITREOUS CHINA, SIPHON JET, MANUAL FLUSH VALVE, 1.0 GPF	3/4"	-	-	2"	1 1/2"	AMERICAN STANDARD "WASHBROOK" 6501.010 FLUSH VALVE: ZURN Z-6003AV-WS1 COLOR: WHITE FLOOR TO RIM: 17"
U-2	URINAL, STANDARD, VITREOUS CHINA, SIPHON JET, MANUAL FLUSH VALVE, 1.0 GPF	3/4"	-	-	2"	1 1/2"	AMERICAN STANDARD "WASHBROOK" 6501.010 FLUSH VALVE: ZURN Z-6003AV-WS1 COLOR: WHITE FLOOR TO RIM: 24"
L-1	OVAL, VITREOUS CHINA, COUNTERTOP MOUNTED LAVATORY, BATTERY POWERED PHOTO EYE FAUCET, GRID DRAIN, 0.5 GPM FLOW	-	-	1/2"	1 1/2"	1 1/2"	AMERICAN STANDARD "AQUALYN" 0475.047 FAUCET: ZURN 6912-F
EW-1	BI-LEVEL, SURFACE MOUNT ELECTRIC WATER COOLER	3/8"	-	-	1 1/4"	1 1/4"	ELKAY #EBFATL8C (ADA), STAINLESS STEEL, 8.0 GPH, F.L.A. = 3.7, 115 V/1 PH/ 60 HZ. OR APPROVED EQUAL

EXHAUST FAN SCHEDULE (EF)																
PLAN CODE	AREA SERVED	TYPE	CFM @ ELEV.	ESP (Ø ELEV.)	FAN RPM	MOTOR				SONES	DAMPER (GRAVITY OR MOTOR)	METHOD OF CONTROL	OPENING SIZE	MAX. OPERATING WT. (LBS.)	MANUFACTURER MODEL	REMARKS
						B.H.P.	H.P.	EFFICIENCY %	VOLTAGE & PHASE							
EF-1	WOMENS RESTROOM	CEILING	300	.4	1205	117W	.062	41	120/1	4.7	GRAVITY	WALL TIMER SWITCH	8" X 6"	35	COOK GC-520	-
EF-2	MENS RESTROOM	CEILING	300	.4	1205	117W	.062	41	120/1	4.7	GRAVITY	WALL TIMER SWITCH	8" X 6"	35	COOK GC-520	-

AIR DEVICE SCHEDULE (NOT ALL GRILLES UNUSED)													
PLAN CODE	TYPE & DUTY	FACE SIZE	NECK SIZE	CEILING TYPE	MAX. CFM	MAX. T.P. (IN. W.C.)	N.C. LEVEL MAX	MIN. THROW (FT) (T50)	4-WAY MIN. THROW (T50)	2-WAY MIN. THROW (T50)	MANUFACTURER & MODEL NO.	REMARKS	GRILLE
													CFM
1	SIDEWALL SUPPLY	18" X 6"	20" X 8"	NA	315	0.016	15	12	-	-	TITUS 300RS	WITH OBD	
9	PERFORATED RETURN	24" X 24"	22" X 22"	MATCH CEILING	1200	0.05	17	-	-	-	TITUS PXP	WITH OBD	
10	PERFORATED RETURN	24" X 12"	22" X 10"	MATCH CEILING	600	0.06	10	-	-	-	TITUS PXP	WITH OBD	
21	SQUARE DIFFUSER	24" X 24"	8"	SURFACE	240	0.08	21	12	-	-	TITUS TDC	WITH OBD	
22	SQUARE DIFFUSER	24" X 24"	10"	SURFACE	320	0.92	21	13	-	-	TITUS TDC	WITH OBD	
23	SQUARE DIFFUSER	24" X 24"	12"	SURFACE	450	0.14	25	15	-	-	TITUS TDC	WITH OBD	
24	SQUARE DIFFUSER	12" X 12"	6" X 6"	SURFACE	160	0.169	23	11	-	-	TITUS TDC	WITH OBD	
44	SIDE WALL DIFFUSER	14" X 14"	12" X 12"	NA	440	0.10	16	18	-	-	TITUS 300 RL	WITH OBD, HORIZONTAL BLADES	
45	LINEAR SLOT DIFFUSER	5'	10"	SURFACE	320	0.051	25	16	-	-	TITUS ML39	WITH OBD WITH SUPPLY AIR PLENUM	
46	SIDE WALL RETURN	44/14	42/12	NA	1930	0.09	33	-	-	-	TITUS 25RFL	-	
47	SIDE WALL RETURN	22/38	20/36	NA	2355	0.06	27	-	-	-	TITUS 25RFS	-	
48	SIDE WALL RETURN	32/16	30/14	NA	1600	0.09	34	-	-	-	TITUS 300FL	-	

NOTE: VERIFY FRAME TYPE OF ALL AIR DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN BEFORE ORDERING.

COOPER
ROBERTS
SIMONSEN
ASSOCIATES

crsa

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MUSEUM
PHASE 2A

BLDG 631 FT. DOUGLAS

32 POTTER STREET
FT. DOUGLAS, UT 84113

FT. DOUGLAS
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△	SEPT. 2, 2008	ADDENDUM 3 & DFCM COMMENTS
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PROJECT NO: 2005-062.00
CAD DWG FILE:
DRAWN BY: MCS
CHECKED BY: GBM

MECHANICAL
SCHEDULES

MH601



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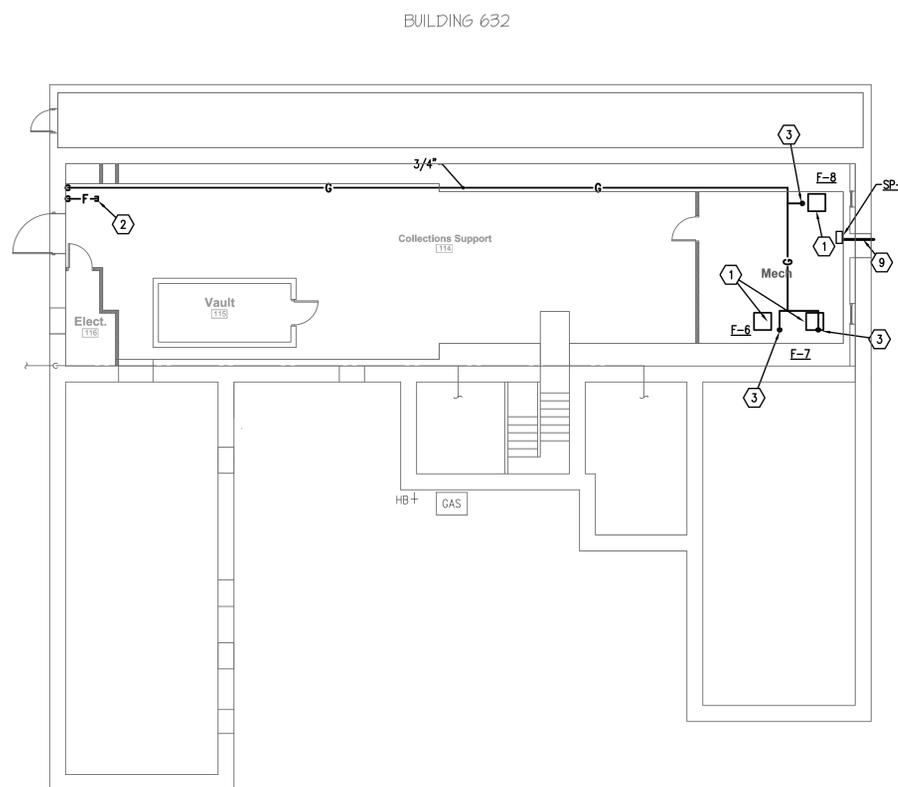
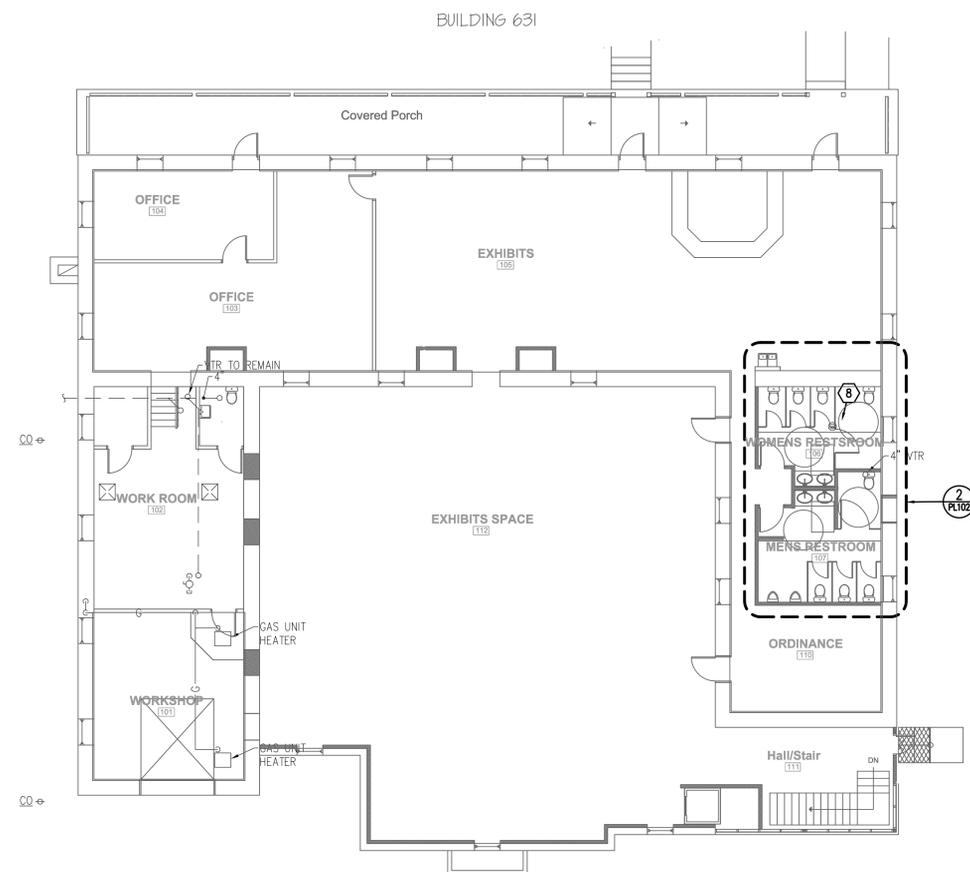
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PROJECT NO: 2005-062.00
CAD DWG FILE:
DRAWN BY: MCS
CHECKED BY: GBM

MAIN LEVEL
PLUMBING PLAN

PL102



KEYED NOTES

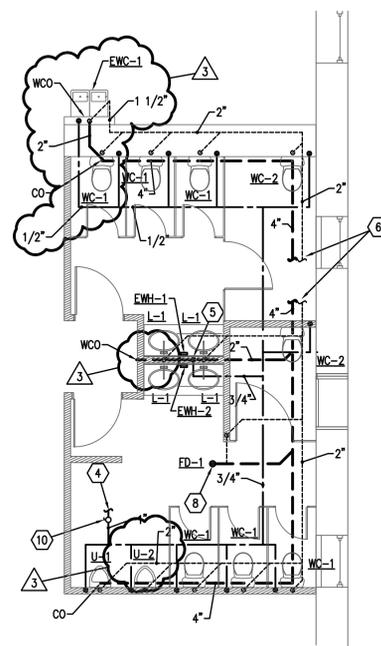
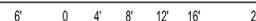
- ① ROUTE CONDENSATE FROM FURNACE TO SUMP PUMP.
- ② CAP FIRE PROTECTION PIPING FOR FUTURE CONNECTION.
- ③ 1/2" NATURAL GAS DOWN AND CONNECT TO FURNACE UNIT.
- ④ CONNECT NEW WATER TO EXISTING WATER SERVICE.
- ⑤ DROP 3/4" COLD WATER DOWN AND CONNECT 1/2" TO LAVATORIES. CONNECT COLD WATER TO WATER HEATER UNDER LAVS AND ROUTE 1/2" HOT WATER TO LAVS.
- ⑥ CONNECT NEW WASTE AND VENT PIPING TO EXISTING UNDERGROUND WASTE AND OVERHEAD VENT PIPING.
- ⑦ NOT USED
- ⑧ PROVIDE PROSET TRAP GAIRD.
- ⑨ PROVIDE 1/2" PUMPED CONDENSATE TO OUTSIDE. TERMINATE IN PLANTER AREA WITH ELBOW DOWN AND BUG SCREEN. TERMINATE MIN. OF 18" ABOVE GRADE.
- ⑩ PROVIDE RESTROOM SHUT OFF VALVE. PROVIDE ACCESS PANEL TO VALVE.

GENERAL NOTES

- (A) REFER TO ARCHITECTURAL DRAWINGS FOR ROOM NAMES.
- (B) PROVIDE FIRE PROTECTION FOR BUILDING 631 ONLY WITH CAPACITY FOR FUTURE FIRE PROTECTION FOR BUILDING 632.

1 MAIN LEVEL PLUMBING PLAN

SCALE: 3/32" = 1'-0"



2 ENLARGED RESTROOM PLAN

SCALE: 3/16" = 1'-0"

**FORT DOUGLAS MUSEUM
ELECTRICAL ADDENDUM
September-2, 2008**

ITEM 1 – SPECIFICATIONS

SECTION 260500 – ELECTRICAL GENERAL PROVISIONS

1. Add paragraph 1.9.I which shall read as follows: All electrical equipment such as switchboards, panelboards, control panels, meter socket enclosures, and motor control centers, that are likely to require examination, adjustment, servicing or maintenance while energized shall be field marked to warn qualified persons of potential electric arc flash hazards, in accordance with NEC 110.16.

SECTION 260532 – CONDUIT RACEWAYS

1. Add paragraph 3.1.K which shall read as follows: Where portions of a cable raceway or sleeve are known to be subjected to different temperatures and where condensation is known to be a problem, or where passing from the interior to the exterior of a building, the raceway or sleeve shall be filled with an approved material to prevent the circulation of warm air to a colder section of the raceway or sleeve. Comply with NEC 300.7.

SECTION 283111 – FIRE ALARM AND DETECTION SYSTEM

1. Paragraph 2.2.G: Delete this paragraph and replace with the following: Provide Bosch Dialer #D9068 in the fire alarm panel to report Building 631 and Building 632 fire alarm conditions into the Campus Dispatch office. Provide all required programming.
2. Paragraph 2.2.H. Delete the sentence “One set of leased telephone lines shall be provided by the Owner.”
3. Paragraph 2.3. add paragraph G which shall read: Interconnect the existing fire alarm panel in Building 632 with the new fire alarm panel in Building 631 as required to report alarms from each building to the Campus Dispatch office.
4. Paragraph 2.3.A. Change 08 Analog initiating loops to 02 Analog initiating loops, and change 1500 points to 600 points.
5. Paragraph 2.4.A.
 - a. Change 99 analog address to 159 analog addresses, and 98 monitor to 159 monitor.
 - b. Add the following sentence: “The fire alarm control panel shall be FCI model E3.”
6. Paragraph 4.3.C. Change the quantities of spare devices (4.3.C.1 thru 8) to 2 of each item.
7. Paragraph 5.4.B. Delete this paragraph in its entirety.

ITEM2 – DRAWINGS

DRAWING EG100

1. Add Sheet ES100 SITE PLAN to the Index of Electrical Drawings.

DRAWING ES100

1. Revise location of the existing communications manhole. See revised site plan included in this addendum.
2. Revise routing of electrical service from the existing pad mounted transformer. See revised site plan included in this addendum.

DRAWING EL101

1. Delete the 4 foot fluorescent fixture below the stair (reference note 4), the area below the sloping stairway is not accessible and will not be used as a cubbyhole or storage space.

DRAWING EL102

1. Add a lighting control system exterior photosensor, locate adjacent to lighting fixture SC1 At the southeast back door, and orient facing north. Run data loop wiring in ¾ inch conduit to the nearest lighting control micro-panel.
2. Hall/Stair 109. One 4 foot section of the type C light fixture shall be an emergency egress section with battery back-up.

DRAWING EP101

1. Provide a 120 volt circuit M1-35 and connect the circuit to the fire/smoke damper fire alarm relays at furnaces F-3, F-4 and F-5.
2. In Electrical Room 005, add the lighting control system master clock and locate on the east wall around the corner from the fire alarm control panel. provide a telephone jack adjacent to the master clock and run a Cat 5 cable in ¾ inch conduit to the telephone terminal board on the main level.

DRAWING EP102

1. Move the water cooler outlet from the hallway to the exhibit area. See partial plan included in this addendum.
2. Provide a 120 volt circuit M2-29 and connect the circuit to the fire/smoke damper fire alarm relays at furnaces F-6 and F-7.

DRAWING EY101

1. Keynote 5. Add the sentence: Provide two Cat 5 (4-paie) cables in the conduit from the fire alarm panel to telephone terminal board.
2. Add a total of six duct smoke detectors with sampling tubes. Install one detector in the supply and return ducts of furnaces F-3, F-4 and F-5; mount the detectors at the fire/smoke damper location in each duct. Also provide three fire alarm control modules and three fire alarm relays. Wire the control modules and relays to close each pair of fire/smoke dampers for the respective furnaces.

DRAWING EY102

1. Add a total of four duct smoke detectors with sampling tubes. Install one detector in the supply and return ducts of furnaces F-6 and F-7; mount the detectors at the fire/smoke damper location in each duct. Also provide two fire alarm control modules and two fire alarm relays. Wire the control modules and relays to close each pair of fire/smoke dampers for the respective furnaces.

DRAWING EY103

1. Keynote 2. Change the note to read: Provide two ¾ inch conduits, each with 4-pair #16 cable to the new "FA" panel in Building 631 to interconnect and communicate between the two systems. See sheet EP103 for routing.

DRAWING EX101

1. One line diagram. Delete the grounding to building steel and delete the UFER ground. Building steel does not apply to this project. The foundation walls are existing, and the UFER ground is not applicable. Provide ground rods and bond to the incoming water line.
2. One line diagram. In main panel MDP, change the breaker that feeds panel M2 to a 300 amp 3-pole breaker instead of a 225 amp breaker.
3. One line diagram. Change the feeder sized for panel M2 to a 300 amp rating, designation "435" instead of "44X."

DRAWING EX102

1. Panel M2:
 - a. Change the main breaker in this panel to 300 amps instead of 225 amps.
 - b. Change the breaker for circuit 32 to a 100 amp 3-pole breaker.
 - c. Change the breaker for circuit 38 to a 60 amp 3-pole breaker.

DRAWING EX202

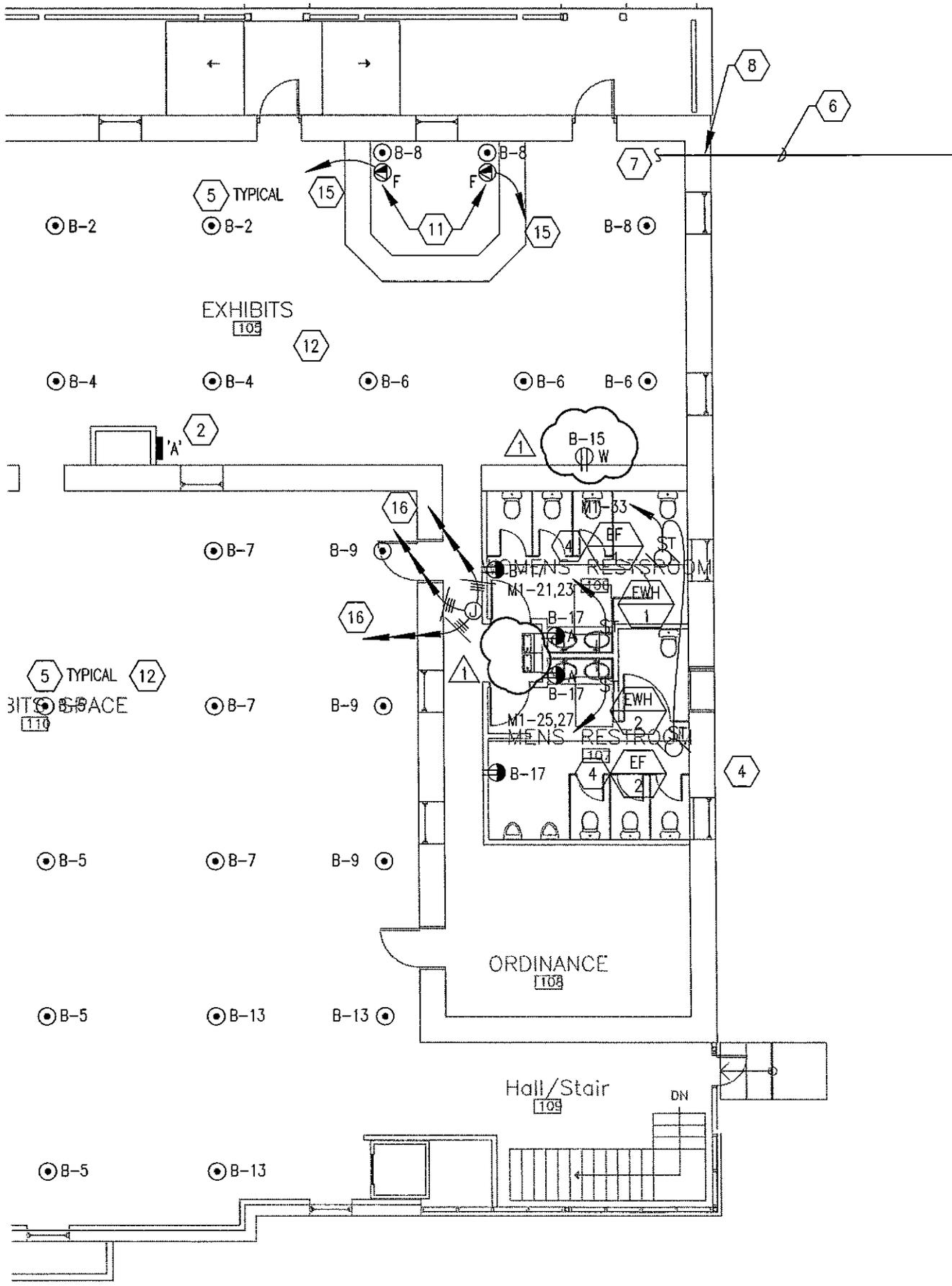
1. Lighting controls low voltage single line. Add the exterior photosensor into the loop wiring diagram.

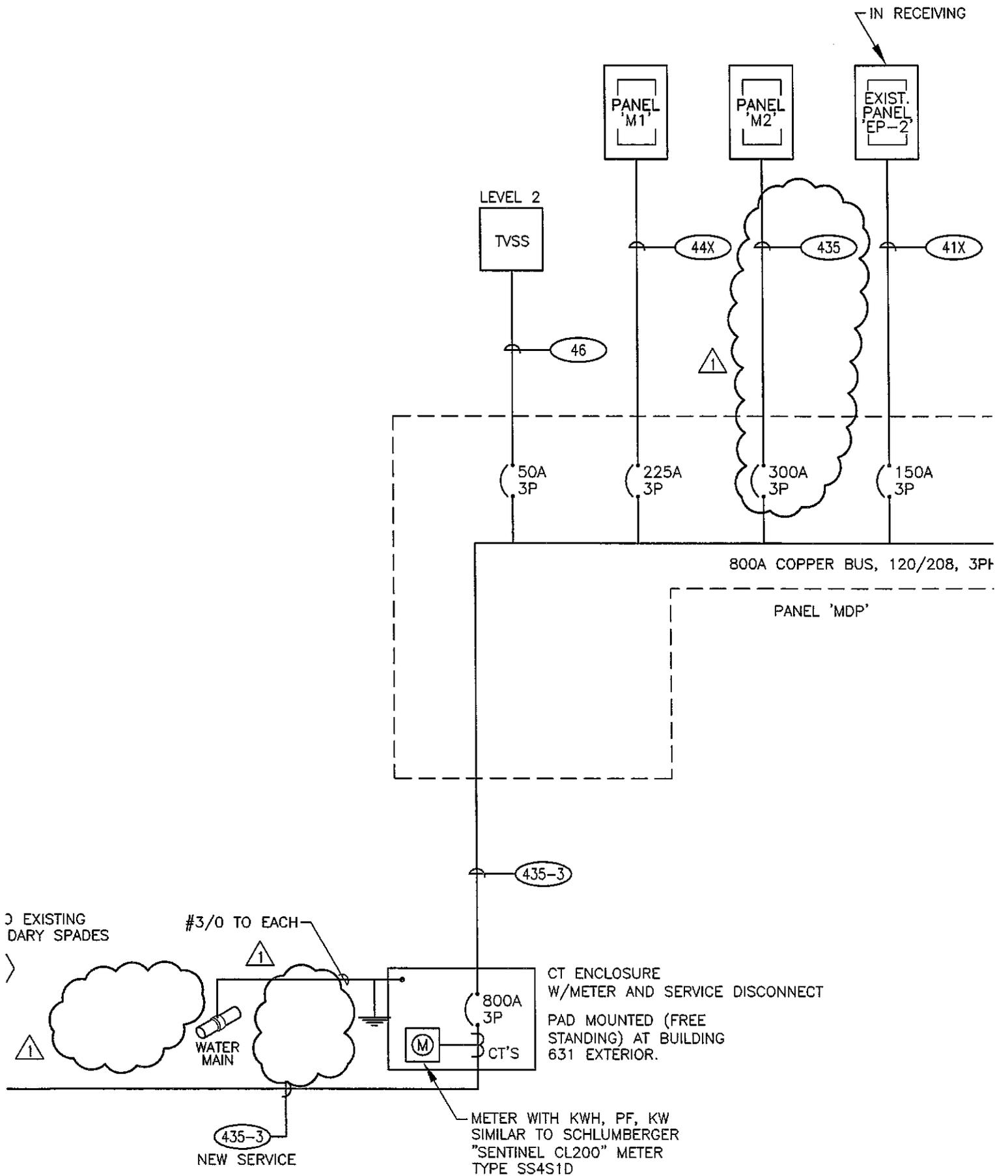
PRIOR APPROVAL OF MANUFACTURERS OF ELECTRICAL EQUIPMENT

The following items, trade names, products and manufacturers are approved for bidding. Approval does not relieve the bidder from satisfying the intent of the requirements of drawings, specifications and addenda in every respect. Failure to conform to the design quality and standards specified, established and required may result in later disapproval. If equipment must be disapproved after bidding, supplier shall supply specified equipment at no extra cost to the Owner.

Items are listed generally and specific model number, etc. shall be as submitted. Items submitted but not approved, either did not satisfy the requirements, or showed insufficient data, or arrived after the 8 day deadline established for submittals.

Type BG	Beghelli
Type SC1	Lumark
Types X1, X3	Isolite





PANELBOARD SCHEDULE

PANEL M1 TYPE NOOD VOLTS 120/208 PH 3 W 4

MOUNTING FLUSH DIMENSIONS W LUGS X
SURFACE D (in.) BREAKER
 LOCATION BASEMENT ELECT. ROOM MAINS SUBFEED LUGS
 AMP 225 ISO GROUND
 200% NEUTRAL

BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	LEFT PHASE LOAD			RIGHT PHASE LOAD			CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
					A	B	C	A	B	C					
FURNACE F-1	20	1	12	1	1195			1680			2	20	3	12	CU-1
FURNACE F-2	20	1	12	3		1195			1680		4	-	-	-	-
FURNACE F-3	20	1	12	5			1195			1680	6	-	-	-	-
FURNACE F-4	20	1	12	7	525			1680			8	20	3	12	CU-2
FURNACE F-5	20	1	12	9		1195			1680		10	-	-	-	-
S: GRINDER SE-1	20	2	12	11			1200			1680	12	-	-	-	-
	-	-	-	13	1200			2800			14	40	3	8	CU-3
RECEPT	20	1	12	15		540			2800		16	-	-	-	-
LIFT	20	1	12	17			1180			2800	18	-	-	-	-
RECEPT	20	1	12	19	540			2800			20	40	3	8	CU-4
EW-H-1 (4.1KW)	25	2	10	21		2050			2800		22	-	-	-	-
	-	-	-	23			2050			2800	24	-	-	-	-
EW-H-2 (4.1KW)	25	2	10	25	2050			2800			26	40	3	8	CU-5
	-	-	-	27		2050			2800		28	-	-	-	-
FREEZER	20	2	12	29			1500			2800	30	-	-	-	-
	-	-	-	31	1500					2800	32	20	3		SPARE
EXHAUST FANS	20	1	12	33		1200					34	-	-	-	-
FIRE/SMOKE DAMPERS	20	1	12	35			50				36	-	-	-	-
SPARE	20	1		37							38	20	3		SPARE
SPARE	20	1		39							40	-	-	-	-
SPARE	20	1		41							42	-	-	-	-
					7010	8230	7175	11760	11760	11760	CONNECTED LOAD TOTAL				
					18770	19990	18935	TOTAL						57695 VA	
					156.42	166.58	157.79	AMPS/PHASE						EQUIP RATING	
										22000	AMPS RMS SYM.				



PANELBOARD SCHEDULE

PANEL M2 TYPE NOOD VOLTS 120/208 PH 3 W 4

SHUNT TRIP MAIN BREAKER

MOUNTING FLUSH DIMENSIONS LOCATION BLDG. 632 BSMT ELEC. RM. LUGS X BKR-SHUNT TRIP

X SURFACE W 300 AMP 300 1 MAINS ISO GROUND

D (in.) H 200% NEUTRAL

BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	LEFT PHASE LOAD			RIGHT PHASE LOAD			CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
					A	B	C	A	B	C					
FURNACE F-6	20	1	12	1	725			2800			2	40	3	8	CU-6
FURNACE F-7	20	1	12	3		1195		2800			4	-	-	-	-
FURNACE F-8	20	1	12	5			1195		2800		6	-	-	-	-
TRIP CCT	20	1	12	7	20			2800			8	40	3	8	CU-7
BASEBOARD HTR	20	1	12	9		1500		2800			10	-	-	-	-
BASEBOARD HTR	20	1	12	11			1500		2800		12	-	-	-	-
BASEBOARD HTR	20	1	12	13	1000						14	40	3		SPARE
SPARE	20	1		15							16	-	-	-	-
SPARE	20	1		17							18	-	-	-	-
SPARE	20	1		19							20	40	3		SPARE
SPARE	20	1		21							22	-	-	-	-
SPARE	20	1		23							24	-	-	-	-
SPARE	20	1		25				1680			26	20	3	12	CU-8
SPARE	20	1		27				1680			28	-	-	-	-
FIRE/SMOKE DAMPERS	20	1	12	29					1680		30	-	-	-	-
SPACE ONLY	20	1		31			50				32	100	3		SPARE
SPACE ONLY	20	1		33							34	-	-	-	-
SPACE ONLY	20	1		35							36	-	-	-	-
SPACE ONLY	20	1		37							38	60	3		SPARE
SPACE ONLY	20	1		39							40	-	-	-	-
SPACE ONLY	20	1		41							42	-	-	-	-
					1745	2695	2745	7280	7280	7280					
					9025	9975	10025	TOTAL							
					75.21	83.13	83.54	AMPS/PHASE							

CONNECTED LOAD TOTAL
29025 VA

EQUIP RATING
10000 AMPS RMS SYM.

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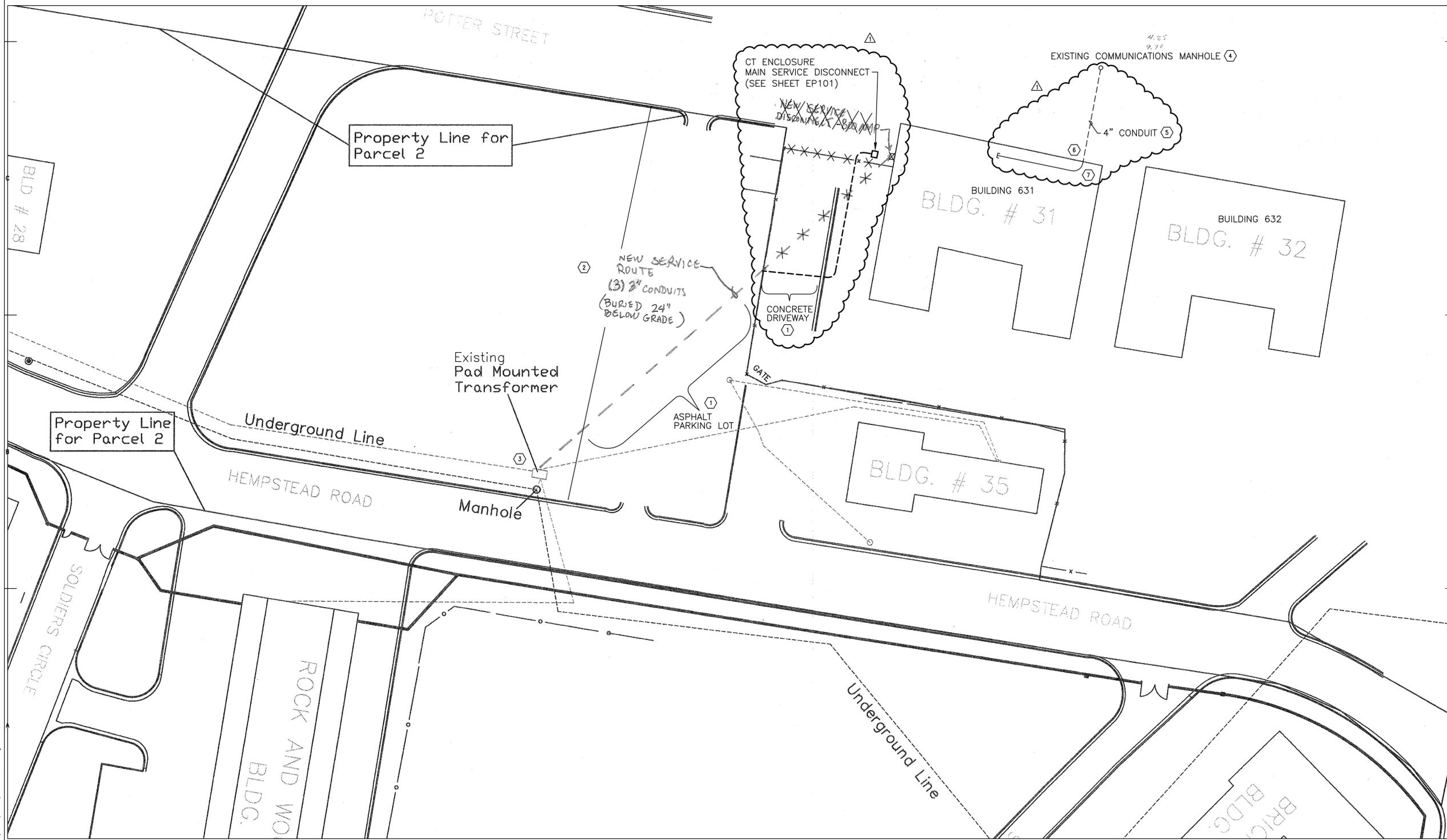
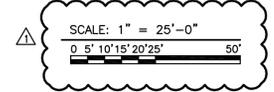
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SHEET KEYNOTES

- ① CUT AND PATCH AS REQUIRED, FIELD VERIFY EXACT LENGTH BEFORE BIDDING.
- ② PROVIDE NEW UNDERGROUND SERVICE, SEE ONE LINE DIAGRAM SHEET EX101.
- ③ EXISTING TRANSFORMER, TUNNEL UNDER INTO SECONDARY SIDE AS REQUIRED.
- ④ EXISTING UNIVERSITY MANHOLE. PROVIDE NEW 4" CONDUIT FROM MANHOLE TO BUILDING 631. CORE DRILL INTO MANHOLE AS REQUIRED. COORDINATE WITH UNIVERSITY TELECOM, DAVID KOSANKE.
- ⑤ BURY CONDUIT 36" BELOW GRADE. CUT AND PATCH ROADWAY AS REQUIRED.
- ⑥ CUT AND PATCH SIDEWALK OR TUNNEL UNDER SIDEWALK.
- ⑦ CORE THRU FOUNDATION WALL. STUB CONDUIT INTO BASEMENT CRAWL SPACE AND EXTEND TO THE MECHANICAL ROOM. SEAL CONDUIT PENETRATION.



ADDENDUM 2 9-02-08

PROJECT NO: B05-027
BNA PROJ NO: 08155A
DRAWN BY: BNA
CHECKED BY: GM

ELECTRICAL
SITE PLAN

ES100

SHEET OF