



State of Utah

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ADDENDUM #2

Date: April 23, 2009

To: Contractors

From: Michael Ambre, Project Manager, DFCM

Reference: Scofield Maintenance Station
Utah Department of Transportation – Scofield, Utah
DFCM Project No. 08300900

Subject: **Addendum No. 2**

Pages	Addendum	1 page
	<u>Architects Addendum</u>	<u>41 pages</u>
	Total	42 pages

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.

2.1 **SCHEDULE CHANGES** – There are no changes to the project schedule.

2.2 **GENERAL** – Archipler Group Specifications and Drawings.

Utah!
Where ideas connect



Addendum #2

DATE: April 23, 2009

DFCM Project No.: 08300900
Archiplex Group Project No.: 0837.01

ADDENDUM NO. 2 to the Contract Documents for the Construction of UDOT Maintenance Station #4435A, Scofield, Utah.

The contents of this addendum supercede the information contained in the original Contract Documents and are hereby incorporated therein. Unless otherwise so stated, any changes herein offset only the specific drawings, words, or paragraphs mentioned, and the balance of the drawings and specifications remain in full force.

A. PRODUCT APPROVALS:

Listed products and manufacturers are approved for bidding. This approval does not relieve the supplier, bidder or manufacturer from satisfying the intent of the contract documents including the addenda in every aspect. Failure to conform to the design quality may result in later disapproval. If any product is disapproved after bidding, the product supplier shall supply specified equipment at no extra cost to the owner. Items listed are approved in general and specific details of performance, ratings, model number, etc. are required as part of the shop drawing process and shall be as submitted.

- 1. **Spec. Section 10100:** Visual Display Boards:
 - a. Newline Products.
- 2. **Spec. Section 07410:** Manufactured Roof Panels, Gutter & Flashing:
 - a. Metal Sales Manufacturing Corporation.
- 3. **Lighting Fixtures:**

Type	Approved manufacture	
F1	Columbia	
F2	Columbia	HE Williams
F3	Columbia	HE Williams
F4	Columbia	HE Williams
F5	Hubbell	HE Williams
F6	Hubbell	
X1	Dual-Lite	Exitronix
X2	Dual-Lite	Exitronix

B. DESCRIPTION OF ADDENDUM ITEMS:



1. General Information:

- a. The Bidders are responsible for delivering a completed project to the State of Utah including all utility and service connections. The total cost of providing these connected items is the responsibility of the Bidder.

2. Civil Addendum Items:

Sheet C100:

- a. Have shown approx. quantity & location of existing foundation piers to be cut below grade & abandoned.

Sheet C200:

- a. Changed telephone service conduit to 3".
- b. Added stop & waste valve & 1-1/2" wash nozzle with ball valve.
- c. Added 1" water meter.
- d. Added note #2.
- e. Added external drop to the grease line before the sampling manhole.

3. Architectural Addendum Items:

Sheet G002:

- a. Revise keynote 06105.R3 to read: PLYWOOD PANEL (THICKNESS) EXTEND PLYWOOD TO DECK ABOVE – MECHANICALLY FASTENED WITH MASONRY ANCHOR BOLTS THROUGH INSULATION INTO CMU @ 16" O.C. EACH WAY. PROVIDE SURFACE WASHERS AT PLYWOOD.

Sheet AE101:

- b. Change edge of Slab elevation from 99'-10" to 99'-8".
- c. Revised size of trench drain to 12" wide.
- d. Added dimension to locate floor trench drain.
- e. Relocated Hoist Beam.
- f. Show Fire Hose connection at exterior corner of building near grid 1C.

Sheet AE121:

- a. Deleted General Note #4.
- b. Added approx. location of structural joists to reflected ceiling plan.
- c. Relocated Hoist beam & light fixtures.

Sheet AE141:

- a. Revised detail B4 to show 1/2 " plywood sheathing under low voltage de-icing cabling board. 3/4" plywood sheathing remains at rest of roof.
- b. Revised dimension of snow fence from 15'-0" to 12'-0" each side.
- c. Revise keynote 06105.R3 to read: PLYWOOD PANEL (THICKNESS) EXTEND PLYWOOD TO DECK ABOVE – MECHANICALLY FASTENED WITH MASONRY ANCHOR BOLTS THROUGH INSULATION INTO CMU @ 20" O.C. EACH WAY. PROVIDE SURFACE WASHERS AT PLYWOOD.
- d. Revised details A4, B4 & B5 to show plywood extends to deck above.

Sheet AE201:

- a. Revise keynote 06105.R3 to read: PLYWOOD PANEL (THICKNESS) EXTEND PLYWOOD TO DECK ABOVE – MECHANICALLY FASTENED WITH MASONRY ANCHOR BOLTS THROUGH INSULATION INTO CMU @ 20" O.C. EACH WAY. PROVIDE SURFACE WASHERS AT PLYWOOD.

Sheet AE301:

- a. Relocated Hoist beam & light fixtures to coord. with reflected ceiling plan.
- b. Revised & relocated trench drain to coord. with floor plan.
- c. Revise keynote 06105.R3 to read: PLYWOOD PANEL (THICKNESS) EXTEND PLYWOOD TO DECK ABOVE – MECHANICALLY FASTENED WITH MASONRY ANCHOR BOLTS THROUGH INSULATION INTO CMU @ 20" O.C. EACH WAY. PROVIDE SURFACE WASHERS AT PLYWOOD.
- d. Added enlarged detail showing plywood attachment. See C1/AE301.

Sheet AE311:

- a. Revise keynote 06105.R3 to read: PLYWOOD PANEL (THICKNESS) EXTEND PLYWOOD TO DECK ABOVE – MECHANICALLY FASTENED WITH MASONRY ANCHOR BOLTS THROUGH INSULATION INTO CMU @ 20" O.C. EACH WAY. PROVIDE SURFACE WASHERS AT PLYWOOD.

Sheet AE402:

- a. Revise keynote 06105.R3 to read: PLYWOOD PANEL (THICKNESS) EXTEND PLYWOOD TO DECK ABOVE – MECHANICALLY FASTENED WITH MASONRY ANCHOR BOLTS THROUGH INSULATION INTO CMU @ 20" O.C. EACH WAY. PROVIDE SURFACE WASHERS AT PLYWOOD.
- b. Revise A3 interior elevation to show plywood extending to deck above.

Sheet AE501:

- a. Revise keynote 06105.R3 to read: PLYWOOD PANEL (THICKNESS) EXTEND PLYWOOD TO DECK ABOVE – MECHANICALLY FASTENED WITH MASONRY ANCHOR BOLTS THROUGH INSULATION INTO CMU @ 20" O.C. EACH WAY. PROVIDE SURFACE WASHERS AT PLYWOOD.

Sheet AE601:

- a. Revise keynote 06105.R3 to read: PLYWOOD PANEL (THICKNESS) EXTEND PLYWOOD TO DECK ABOVE – MECHANICALLY FASTENED WITH MASONRY ANCHOR BOLTS THROUGH INSULATION INTO CMU @ 20" O.C. EACH WAY. PROVIDE SURFACE WASHERS AT PLYWOOD.
- b. Revise detail D4 to show plywood extending to deck above.

Sheet AE602:

- a. Revise keynote 06105.R3 to read: PLYWOOD PANEL (THICKNESS) EXTEND PLYWOOD TO DECK ABOVE – MECHANICALLY FASTENED WITH MASONRY ANCHOR BOLTS THROUGH INSULATION INTO CMU @ 20" O.C. EACH WAY. PROVIDE SURFACE WASHERS AT PLYWOOD.
- b. Delete keynote 07410.G3
- c. Delete from details A2, C2 & D2, window jamb flashing & provide plywood extending to deck above.



Sheet AE701:

- a. Added 30'-0" wide fence/gate dimension to Gate Plan.
- b. Added General Note #5, #6 & #7
- c. Revised Keynote Legend.
- d. Added Keynotes to match existing vinyl fence slats at new fence & gate.

4. Structural Addendum items:

Sheet SB101:

- a. Updated the recessed slab depth to 2".
- b. Updated the width of the trench drain.
- c. Updated the description of the slab to indicate that the top of slab varies, see Arch.

Sheet SF111:

- a. Updated the location of the crane rail.

5. Mechanical Addendum items:

Sheet M201:

- a. Modified the Radiant Heater to create a straight run instead of a run that required a jog around the East roll-up door.

6. Plumbing Addendum items:

Sheet P001:

- a. Added note 16 that requires the Plumbing Contractor to review the Civil Dwgs for additional plumbing requirements
- b. Modified the trench drain and model number and description.

Sheet P201:

- a. Modified water line to supply the yard hydrant shown on the Civil Dwgs
- b. Modified the Trench Drain size from 6" to 12"
- c. Added note 23 under "Key Notes".

Sheet P603:

- a. Modified Detail 4/P603 to match the requirements of the specified trench drain.

7. Electrical Addendum items:

Sheet E101:

- a. The telephone service Keyed note #4 to read 3" Underground Conduit in lieu of 2" shown.

Sheet E201:

- a. Relocate the "EM" Emergency Lighting Fixture shown outside of the Office to the short wall south of Truck Bay #104 and the fixture designation is to change to "X2".
- b. The "EM" emergency lighting fixture on the East wall is to be designated "X2"
- c. Electrical contractor to coordinate the exact locations of the lighting fixtures with the architectural reflected ceiling plan.

Sheet E301:

- a. Provide a 24"x36" Telephone cabinet in the northeast corner of the building to receive the 3" telephone service conduit. The telephone cabinet is to be located south of the Electrical panel. The electrical panel and the disconnect must shift north approximately 30" to allow space for all the equipment. Verify all equipment locations with the project architect and engineer prior to rough in.
- b. Coordinate the location of the radiant heat system with the Architects reflected ceiling plan and mechanical drawings.
- c. Electrical Contractor to provide a ¾" conduit from each voice/data outlet to the telephone cabinet and provide a pull string for the state cable installer to use.

Sheet E401:

- a. Delete lighting fixture types F7, F8 and EM from the lighting fixture schedule. These fixtures are not required on the project.
- b. The Emergency Generator switch shown in the one line diagram is to be a NEMA 3R type.

C. SPECIFICATIONS:

1. **Table of Contents** – Add Section 02831 Sliding Gate
2. **08360 Sectional Overhead Doors: Revise 08360.2.5.A as shown below.**

2.5 COUNTERBALANCING MECHANISM

A. Torsion Spring: Operation by torsion-spring counterbalance mechanism, consisting of adjustable-tension, tempered-steel torsion springs mounted on a case hardened steel shaft. Connect to door with galvanized aircraft-type lift cables. Provide springs calibrated for **100,000** cycles minimum.

3. **08710 Door Hardware:**
Delete door number D101G reference from hardware set No. 4.

D. ATTACHMENTS:

Specifications:

1. Warranties – Re-issue entire Section.
2. 02831 – Issue complete section



3. 15491 – Re-issue entire Section.
4. Updated ComCheck Reports

E. REISSUED DRAWING LIST:

1. C100 Demolition Plan
2. C200 Site & Utility Plan
3. AE101 Floor Plan
4. AE121 Reflected Ceiling Plan
5. AE141 Roof Plan & Roof Details
6. AE301 Building Sections.
7. AE701 Motorized Gate Plan, Elevation & Detail.
8. SB101 Footing and Foundation Plan
9. SF111 Roof Framing Plan
10. M201 Mechanical Floor Plan
11. P001 Plumbing Legend and Schedules
12. P201 Plumbing Floor Plan
13. P603 Plumbing Details

LIST OF WARRANTIES

NOTE: The following is a listing and brief description of warranties and certifications required by the specification sections. It does not supersede the requirements of the sections nor is it necessarily complete. All sections listed below may not pertain to this Project. Refer to each section for actual requirements. Warranties are to be completed in behalf of the End User and submitted to the Project Manager / General Contractor as part of Project Close-out.

<u>Section Title</u>	<u>Section – Article</u>	<u>Description</u>
Horizontal Sliding Gate Operators	02831 – 1.8	5-year limited warranty
Concrete Waterproofing Admixture	03053 – 4.1	5-year manufacturer warranty
Oliophobic Sealer	03054 – 4.1	Manufacturer warranty
Cast In place Concrete	03300 – 1.5	Two-Year defective concrete guarantee.
Structural Steel	05120 – 1.3	Welder Certification
Steel Joists and Joist Girders	05220 – 1.3	Manufacturer's certification that joists comply with SJI "Specifications".
	05220 – 1.4	Qualify welding processes and welding operators.
Steel Deck	05310 – 1.4	Use qualified welding processes and welding operators.
Cold-formed Metal Framing	05400 – 1.5	Use qualified welders and comply with American Welding Society (AWS) D1.3.
Metal - Fabrications	05500 – 1.3	Welder certificates signed by Contractor.
	05500 – 1.4	Certify that each welder has satisfactorily passed AWS qualifications.
Metal Stairs	05510 – 1.4	Welder certificates signed by Contractor.
	05510 – 1.5	Certify that each welder has satisfactorily passed AWS qualifications.
Gratings	05530 – 1.4	Welders' certificates.
Miscellaneous Carpentry	06105 – 1.3	Preservative Treatment certification for wood. Waterborne Preservative Treatment certification for wood. Warranty from manufacturer of each treatment.
Interior Architectural Woodwork	06402 – 1.3	Product certificates signed by woodwork manufacturer.
Solid Surface Fabrications	06650 – 1.4	Product certificates signed by manufacturer.
	06651 – 1.7 B	Windowsills - Ten years from date of substantial completion.

Metal Wall Sandwich Panels	07412 – 1.4 A 07412 – 1.4 B	1-year manufacturer warranty 2-year contractor warranty
Sheet Membrane Waterproofing	07710 – 1.4	Certification that products comply with local VOC regulations.
Joint Sealants	07901 – 1.4	Certificate attesting compliance with specification requirements and suitable for the use indicated.
Aluminum Windows	08520 – 1.8	Three-year aluminum window warranty.
Vinyl Windows	08521 – 1.8	Three-year vinyl window warranty.
Glazing	08800 – 1.9	Ten-year warranty on insulating glass.
Gypsum Board Assemblies	09255 – 1.4	Certificate of compliance signed by manufacturer
Visual Display Boards	10100 – 1.3	Certification that tackboard materials comply with requirements specified for flame spread ratings.
Toilet and Bath Accessories	10800 – 1.6	15-year warranty for silver spoilage of mirrors. 1-year mechanical parts and accessories.
Mobile Lift	11151 – 3.3 A 11151 – 3.3 B 11151 – 3.3 C 11151 – 3.3 D	3-year warranty parts and labor for system 5-year warranty parts and labor for hydraulic cylinder 2-year warranty parts and labor for interconnecting cables Life of system parts and labor for carriage guide rollers
Metal Building Systems	13125 – 1.5 E 13125 – 1.5 F 13125 – 1.5 G 13125 – 1.5 H 13125 – 1.5 K 13125 – 1.10 A 13125 – 1.10 B 13125 – 1.10 C 13125 – 1.10 D	Letter of Design Certification Welding Certificates Erector Certificates Manufacturer Certificates Product Test Reports General Warranty Special Warranty on Panels – 5 years Special Warranty on Panel Finishes – 20 years Special Warranty on Standing Seam Roof Panel Weather Tightness – 20 years
Basic Materials and Methods	15050 – 1.20	1-year warranty for equipment
Pipe and Pipe Fittings	15060 – 3.28	Welders' certification.
Air System Testing & Balancing	15191-13B	Agency Qualifications
Insulation	15250 – 1.3	Installed by License Insulation Contractor
Air-cooled Condensing Unit	15670 – 1.4	Five-year warranty on compressors.
Power Ventilators	15838 – 1.4A	Certified fan performance curve and certified fan power sound ratings.

Electrical General
Provisions

16001 – 1.9

Certificate of approval from inspection authority at
completion of the work.

SECTION 02831 – HORIZONTAL SLIDING GATE OPERATORS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Pre-wired, self-contained, slide gate operator for horizontal cantilever sliding gates, including selected attachments and accessory equipment.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of contract, including General and Supplementary Conditions.

1.3 RELATED SECTIONS

- A. Division 1 Specification Sections including, but not limited to, following:
 - 1. Section 01330 Submittal Procedures.
- B. Fencing: See Section 02822.
- C. Cast-in-Place Concrete: See Section 03300
- D. Division 16 Electrical: Electrical service and connections.

1.4 SUBMITTALS

- A. General: Comply with requirements of Section 01330.
- B. Shop drawings: Submit drawings showing connections to adjacent construction, range of travel, and all electrical and mechanical connections to operator. Drawings shall also show size and location of concrete mounting pad
- C. Installation instructions.
- D. Test reports:
 - 1. Submit affidavit(s) from manufacturer demonstrating that gate mechanism has been tested to 200,000 cycles without breakdown.
 - 2. Each Operator shall bear label indicating that operator mechanism has been tested for full power and pressure of all hydraulic components, full stress tests of all mechanical components and electrical tests of overload devices.
- a. Operations and Maintenance Manual: Identify parts of equipment for future procurement.

1.5 QUALITY ASSURANCE

- b. Manufacturer: company specializing in manufacture of hydraulic security gate operators of type specified, with minimum of 7 years experience with gate operators of this type and design.
- c. Installer: Minimum of 3 years experience installing similar equipment.
- d. Fence installer and gate operator installer are responsible to provide a coordinated and completely operational sliding gate design and installation with selected horizontal gate operator and accessories, and functionality requested.

1.6 CODES AND REGULATORY REQUIREMENTS

- A. Operators shall be built to standards of Underwriters Laboratories UL325 Class III and bear U.L. Listed Label. Complete electrical work according to applicable codes including local codes and National Electrical code. Field work shall be performed in neat and professional manner, completed to journeyman standards.
- B. Current safety standards require the use of multiple external sensors to be capable of reversing the gate in either direction upon sensing an obstruction.

1.7 PRODUCT DELIVERY AND STORAGE

- A. Store products upright in the original shipping containers, covered, ventilated and protected from all weather conditions.

1.8 WARRANTY

- A. Provide 5-year limited warranty against defects in materials or workmanship. Replace defective materials with comparable materials furnished by manufacturer at no cost to Owner.

PART 2 - PRODUCTS

2.1 GATE OPERATORS

- A. Acceptable Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into Work include following:
 - 1. Hy-Security Gate Operators 222 EX-ST.
 - 2. The Tymetal Corporation.
 - 3. or equal.
- B. Basis for Design: Model 222 EX-ST Class III by Hy-Security Gate Operators.

2.2 OPERATION

- A. Operation shall be by means of metal rail passing between pair of solid aluminum wheels with polyurethane threads. Operator motors shall be hydraulic, geroller type, and system shall not include belts gears, pulleys, roller chains or sprockets to transfer power from operator to gate panel. Operator shall generate minimum horizontal pull of 300 pounds without drive wheels slipping and without distortion of supporting arms. Gate panel velocity shall not be less than 3.3 feet per second and shall be stopped gradually to prevent shock loads to gate and operator assembly. "Soft stop" feature of gate operator shall be adjustable from minimum of 1 second, to accommodate gates.
- B. Standard mechanical components shall include as minimum:
 - 1. Supporting arms: Cast aluminum channel. Arms shall incorporate fully bushed, 1-1/2 inch bearing surface.
 - 2. Arm pivots: 3/4 inch diameter, stainless steel pins, in hinge configuration with supporting arm channel.
 - 3. Tension spring: 2-1/2 inch heavy duty, 800 pound capacity.
 - 4. Tension adjustment: Finger tightened nut, not requiring use of tools.
 - 5. Drive release: instant release tension of both drive wheels and be capable of disengaging from contact with rail in single motion, for manual operation.
 - 6. Push-button operation: 3 button station mounted permanently on exterior of electrical panel.
 - 7. Limit switches: Fully adjustable, toggle type, NEMA 4.
 - 8. Electrical enclosure: Oversized metal type with hinged lid and gasketed to provide protection from intrusion of foreign objects.
 - 9. Chassis base: 1/4 inch steel plate, welded and ground edges, powder paint finish smooth to touch.

10. Cover: 10 gage galvanized steel metal with zinc flame spray finish. Joints welded, filled and ground smooth. Finished corners square and true with no visible joints.
 11. Drive wheels: Aluminum hub with polyurethane tread and durometer hardness not less than 80.
 12. Drive rail: Extruded 6061 T6, not less than 1/8 inch thick. Incorporate alignment pins for ease of replacement, splicing and for break-away design. Pins shall provide perfect butt splice.
 13. Hydraulic hose: ¼ inch synthetic, rated to 2750 psi.
 14. Hydraulic valves: Individually replaceable in integrated hydraulic manifold.
 15. Hose fittings: At manifold shall be quick disconnect type, swivel type at other locations.
 16. Hydraulic fluids: High performance type with viscosity index greater than 375.
- C. Minimum standard electrical components: Operator assembly shall be “Listed” by Underwriters Laboratories, Inc.
1. Pump motor: Minimum service factor of 1.15 HP. Standard voltages available, single or 3-phase.
 2. Components: Overload protected.
 3. Controls: Industrial grade relays, hard-wired with individually numbered wires.
 4. Transformer: 75 VA, non jumpered taps, for common voltages.
 5. Maximum run timer: Included in operators.
 6. Control Circuit: 24 VAC.
 7. Two pole “dry contact” output for interlocking 2 gate operators, and/or output for operation of secure/unsecured indication lights.
 8. Sensitive, low current interface for connection of remotely located control stations.
 9. Output contact to initiate unlocking operation of external solenoid locks.
 10. Input terminals to allow interface connection of external solenoid interlocking contacts.
 11. Start delay timer to allow external locks time to release before gate moves.
- D. Safety devices: Provide all safety devices as necessary for compliance with applicable codes and regulations for intended use, including but not limited to: reversing edge, and for stopping or reversing gate travel: photo cell beams.
- E. Adjustable brake valves to effect soft stop control for gates weighing up to 4000 pounds.
- F. Additional Features:
1. Heater with thermostat control for cold or damp climates.
 2. Weather-stripped operator covers.
 3. Remote Control gate release devices. Places operator in “Manual mode” from remote location.
 4. Remote control gate operators to automatically open and close the gates: 10 remotes for north gate, 2 remotes for south gate.
 5. Special controls for extra duty or gates weighing in excess of 1000 pounds.
 6. High speed operations for more than 1 foot per second travel.
 7. Electrical 208 VAC, 3-phase
 8. One Keypad – at north gate.
 9. One Intercom at north gate to receiving unit in office.
 10. Ground obstruction safety loops for exit calls on west side of both south and north gates.
 11. All controls necessary to operate features provided including controls which allow for systems functionality to be flexibly modified by User as their security and operational needs require.

2.3 FACTORY TESTING

- A. Fully assemble and test, at factory, each gate operator to assure smooth operation, sequencing and electrical connection integrity. Apply physical loads to operator to simulate field conditions. Tests shall simulate physical and electrical loads equal to fully rated capacity of operator components.

- B. Check mechanical connections for tightness and alignment. Check welds for completeness and continuity. Check welded corners and edges to assure they are square and straight.
- C. Inspect painted finish for completeness and gloss. Touch up any imperfections prior to shipment.
- D. Check hydraulic hoses and electrical wires to assure that chafing cannot occur during shipping or operation.

PART 3 - EXECUTION

3.1 SITE EXAMINATION

- A. Locate on existing concrete mounting pad in accordance with approved shop drawings.
- B. Make sure that gate is operating smoothly under manual conditions before installation of gate operators. Do not proceed until gate panel is properly aligned and operates without binding.
- C. Operators shall be built to standards of Underwriters Laboratories and bear U.L. Listed Label. Complete electrical work according to local codes and National Electrical code. Field work shall be performed in neat and professional manner, completed to journeyman standards.

3.2 INSTALLATION

- A. Install gate operator in accordance with manufacturers printed instruction, current at the time of installation. Coordinate locations of operators with contract drawings, other trades and shop drawings.
- B. Installer shall insure that electric service delivered to operator is at least 20 AMP

3.3 FIELD QUALITY CONTROL

- A. Test gate operator through 10 full cycles and adjust for operation without binding, scraping or uneven motion. Test limit switches for proper "at rest" gate position. Installer shall return 6 months after substantial completion and fully adjust gates, operator and related components to function within manufacturer's tolerances and optimum operating condition and safety.
- B. Anchor bolts shall be fully concealed in finished installation.

3.4 CONTINUED SERVICE AND DOCUMENTATION

- A. Train owner's personnel in general maintenance of gate operator and accessories

END OF SECTION 02831

SECTION 15491 - LUBRICATION EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Division 5 Metals.

1.2 DESCRIPTION

- A. This section includes the following:
 - 1. Waste oil system including waste oil transfer pump, waste oil cart, complete piping and accessories.
 - 2. Hose reels and pump.
 - 3. Air compressor.
 - 4. Shop equipment as shown on drawings.
- B. Provide complete and functional installation in compliance with requirements of the state and local Fire Marshal offices, and all applicable codes and ordinances.
 - 1. Design piping to meet operational pressures for each type of system.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
 - 1. Diagram for bolt hole pattern for reel mounting.
 - 2. Shop drawings indicating piping location and type of pipe used between barrels and reels.
 - 3. Product data on reels, reel accessories, pumps, compressor, piping and necessary products for fully operational system.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Suppliers: Provide equipment, piping and accessories from a service station equipment supplier.

2.2 QUALITY ASSURANCE

- A. Pre-approvals or equals 6 days prior to bid opening.

2.3 HOSE REELS

- A. Provide hose reels and pumps.
- B. Waste oil tank. UL 142 listed, meeting NFPA 30. 10 gauge, 280 gallon single-wall tank.

Westech Lube Cube #LCAA1280SS000. 4'3" L x 2'8" W x 3'10" T. Skid mounted, emergency vent opening, lifting lugs, industrial epoxy coating, and interior coating.

1. Grease Service:
 - a. 1 each - Air operated pump for 400 lb. drum, 50:1 ratio, with drum cover, follower plate, connecting hoses and air regulator with gauge. (Lincoln 926 pump package, Lincoln 83366 follower plate, Lincoln 602134 ¼" air regulator with gauge and filter or equal).
 - b. 1 each - Reel package including reel, 50 ft. or 1/4 in. hose, ball stop, swivel, control valve and connecting hose. (Lincoln 94552G or equal).
2. Oil Service:
 - a. Waste Oil Transfer Pump:
 - 1) 1 each - Air operated diaphragm pump, 1" x 1" with wall bracket (Lincoln 85634 pump, Lincoln 84817 bracket or equal).
 - 2) 1 each – 3/8" x 3'-0" connect hose & 1 each – 3/4" x 5'-0" connect hose or equal.
 - 3) 1 each - Airline Trio – Air Regulator w/ Gauge, Filter & Lubricator (Lincoln 85387-4 ¼" FRL or equal).
 - 4) 1 each – 3/8"x 3'-0" Min. Air Hose as needed.
 - 5) For above listed items: Or Balcrank Waste Oil Kit, #4140-015.
 - 6) For connection to waste oil tank provide & install 1 each Dry break coupler & Nipple. (¾" Balcrank 4140-003 & 4140-004) with 15'-0" ¾" x ¾" flexible oil hose and pipe nipple threaded connection at wall penetration (Balcrank #8261) or equal.
 - 7) 1 each - mobile oil reservoir- 24 gallon 19.25" bowl, dry-break hydraulic evacuation nipple, 45" to 72" height adjustment large diameter rubber wheels (Balcrank Spillguard premium duty drain #4110-012) or equal.
 - b. 2 each - Air operated pump for 55 gal. drums, 3:1 ratio, with bung adaptor, connection hoses and air regulators with gauge. (Lincoln 2424 or equal).
 - c. Engine Oil :
 - 1) 1 each - Reel package including reel, 50 ft. of ½". hose, ball stop, metered control handle and connecting hose. (Lincoln 94354 hose reel, Lincoln 877 metered control handle or equal).
 - d. Gear oil: (not used on this project)
 - 1) 1 each - Reel package including reel, 50 ft. of ½". hose, ball stop, metered control handle and connecting hose. (Lincoln 94354 hose reel, Lincoln 878 metered control handle or equal.)
 - e. Hydraulic:
 - 1) 1 each - Reel package including reel, 50 ft. of ½". hose, ball stop, metered control handle and connecting hose. (Lincoln 94354 hose reel, Lincoln 877 metered control handle or equal).
3. Air Service:

- a. 2 each - Air hose reel package including reel, 50 ft. of 3/8" hose, ball stop, connecting hose, air coupler and air chuck. (Lincoln 94153A or equal).
 - 4. Water Service:
 - a. 2 each - Water hose reel package including reel, 50 ft. of 3/8" hose, ball stop, connecting hose, water bib and connecting hose. (Lincoln 94153W or equal).
 - C. Manufacturer:
 - 1. Graco hose reels (350 Series Heavy-Duty), pumps and accessories are equal to Lincoln.
 - 2. Balcrank hose reels (Premium Duty Series), pumps and accessories are equal to Lincoln.
 - D. Piping.
 - 1. Lube Oil: Hydraulic Carbon Steel Tubing, ASTM A179, 5/8", .049 wall for Oils and 5/8", .083 wall for grease.
 - a. Fittings: SWAGELOK Tub Fittings (10,000 lb. compression).
 - 2. Air and Water: Copper tube, ASTM B88, type L, drawn.
 - a. Fittings: Brass compression type, ANSI B16.26.
 - E. Provide reel support framing as required for attachment to lube reel wall support.
- 2.4 AIR COMPRESSOR
- A. Air compressor Owner provided, Contractor installed.
- 2.5 MISCELLANEOUS SHOP EQUIPMENT
- A. Provide shop equipment, as specified and shown on the plans, complete with accessories.
 - B. Provide certified drawings for rough-in of all anchors and concrete forming.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with manufacturer's installation instructions. Install equipment and systems to facilitate safe, trouble-free operation and maintenance.
- B. Install waster oil tank level inside containment as shown on Architect drawings.
- C. Make final waste oil pipe connections
- D. Installed manufacturer's recommended vent pipe on waste oil tank.
- E. Coordinate grades with the architectural plans.

- F. Conform to requirements of the governing Fire Marshal.
- G. Refer to Division 2 Section "Earthwork" for specifications on excavation and backfill.

3.2 COORDINATION

- A. Coordinate all equipment with ductwork, plumbing fixtures, air lines, piping, etc.
- B. All mounting and finish requirements.
- B. Provide equipment as scheduled and shown on the plans.

END OF SECTION 11146



Envelope Compliance Certificate

2006 IECC

Report Date: 03/16/09

Data filename: Z:\Archiplex Projects\DFCM\UDOT Scofield Maintenance Station (837.01)\Admin\ComCheck\Scofield Energy Compliance Report.cck

Section 1: Project Information

Project Type: **New Construction**

Project Title : UDOT Maintenance Station #4435A

Construction Site:
50 Front Street
Scofield, UT 84526

Owner/Agent:
William Juszczak
Utah Department of Transportation
4501 South 2700 West
Box 148250
Salt Lake City, UT 84114-8250
801-964-4522
bjusacak@utah.gov

Designer/Contractor:
Archiplex Group
255 Crossroad Square
South Salt Lake City, UT 84115
(801) 961-7070

Section 2: General Information

Building Location (for weather data): **Scofield, Utah**
Climate Zone: **6b**
Heating Degree Days (base 65 degrees F): **10480**
Cooling Degree Days (base 50 degrees F): **824**
Vertical Glazing / Wall Area Pct.: **2%**

Activity Type(s) Floor Area
Transportation 4600

Section 3: Requirements Checklist

Envelope PASSES: Design 35% better than code.

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
Roof 1: Insulation Entirely Above Deck	4616	---	19.0	0.051	0.048
Exterior Wall 1: Concrete Block:8", Partially Grouted, Cells Empty, Normal Density, Furring: None	4434	---	19.0	0.048	0.088
Window 1: Vinyl Frame:Double Pane, Clear, SHGC 0.82	112	---	---	0.200	0.350
Man Door: Insulated Metal, Swinging	21	---	---	0.130	0.700
Insulated Rollup Door: Other, Non-Swinging	1140	---	---	0.070	0.500
Exterior Wall 2: Steel-Framed, 16" o.c.	384	13.0	0.0	0.125	0.085
Floor 1: Slab-On-Grade:Unheated, Horizontal without vertical 2 ft.	284	---	6.7	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

Air Leakage, Component Certification, and Vapor Retarder Requirements:

- 1. All joints and penetrations are caulked, gasketed or covered with a moisture vapor-permeable wrapping material installed in accordance with the manufacturer's installation instructions.
- 2. Windows, doors, and skylights certified as meeting leakage requirements.
- 3. Component R-values & U-factors labeled as certified.



COMcheck Software Version 3.6.0
**Interior Lighting Compliance
Certificate**

2006 IECC

Section 1: Project Information

Project Type: **New Construction**

Project Title : UDOT Maintenance Station #4435A

Construction Site:

50 Front Street
Scofield, UT 84526

Owner/Agent:

William Juszczak
Utah Department of Transportation
4501 South 2700 West
Box 148250
Salt Lake City, UT 84114-8250
801-964-4522
bjusacak@utah.gov

Designer/Contractor:

Archiplex Group
255 Crossroad Square
South Salt Lake City, UT 84115
(801) 961-7070

Section 2: General Information

Building Use Description by: **Activity Type**

Activity Type(s)

Floor Area

Transportation

4600

Section 3: Requirements Checklist

Interior Lighting:

1. Total proposed watts must be less than or equal to total allowed watts.

Allowed Watts	Proposed Watts	Complies
4600	2080	YES

Controls, Switching, and Wiring:

2. Independent controls for each space (switch/occupancy sensor).

Exceptions:

Areas designated as security or emergency areas that must be continuously illuminated.

Lighting in stairways or corridors that are elements of the means of egress.

3. Master switch at entry to hotel/motel guest room.
 4. Individual dwelling units separately metered.
 5. Each space provided with a manual control to provide uniform light reduction by at least 50%.

Exceptions:

Only one luminaire in space;

An occupant-sensing device controls the area;

The area is a corridor, storeroom, restroom, public lobby or sleeping unit.

Areas that use less than 0.6 Watts/sq.ft.

6. Automatic lighting shutoff control in buildings larger than 5,000 sq.ft.

Exceptions:

Sleeping units, patient care areas; and spaces where automatic shutoff would endanger safety or security.

7. Photocell/astronomical time switch on exterior lights.

Exceptions:

Lighting intended for 24 hour use.

8. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).



COMcheck Software Version 3.6.0
**Interior Lighting Application
 Worksheet**

2006 IECC

Section 1: Allowed Lighting Power Calculation

A Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts (B x C)
Transportation	4600	1	4600
Total Allowed Watts =			4600

Section 2: Proposed Lighting Power Calculation

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Transportation (4600 sq.ft.)				
Linear Fluorescent 1: F1: Industrial Fluorescent / 48" T8 32W / Electronic	4	16	105	1680
Linear Fluorescent 2: F2: Recessed Fluorescent / 48" T8 32W / Electronic	3	4	80	320
Linear Fluorescent 3: F3: Surface Fluorescent / 48" T8 32W / Electronic	3	1	80	80
Total Proposed Watts =				2080

Section 3: Compliance Calculation

If the Total Allowed Watts minus the Total Proposed Watts is greater than or equal to zero, the building complies.

Total Allowed Watts = 4600
 Total Proposed Watts = 2080
 Project Compliance = 2520

Interior Lighting PASSES: Design 55% better than code.



COMcheck Software Version 3.6.0
**Exterior Lighting Compliance
 Certificate**

2006 IECC

Section 1: Project Information

Project Type: **New Construction**

Project Title : UDOT Maintenance Station #4435A

Construction Site:
 50 Front Street
 Scofield, UT 84526

Owner/Agent:
 William Juszczak
 Utah Department of Transportation
 4501 South 2700 West
 Box 148250
 Salt Lake City, UT 84114-8250
 801-964-4522
 bjusacak@utah.gov

Designer/Contractor:
 Archiplex Group
 255 Crossroad Square
 South Salt Lake City, UT 84115
 (801) 961-7070

Section 2: Exterior Lighting Area/Surface Power Calculation

A Exterior Area/Surface	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (C x D)	F Proposed Watts
Parking area(s)	11960 ft2	0.15	Yes	1794	1335
				Total Tradable Watts* =	1794
				Total Allowed Watts =	1794
				Total Allowed Supplemental Watts** =	90

* Wattage tradeoffs are only allowed between tradable areas/surfaces.

** A supplemental allowance equal to 5% of total allowed wattage may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Section 3: Exterior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)	
Parking area(s) (11960 ft2): Tradable Wattage					
HID 1: F5: MH WALL PACK / Metal Halide 250W / Pulse start	1	1	285	285	
HID 2: F4: MH WALL PACK / Metal Halide 100W / Pulse start	1	1	120	120	
HID 3: F6: MH FLOOD LIGHT / Ceramic Metal Halide 400W / Pulse start	1	2	465	930	
				Total Tradable Proposed Watts =	1335

Section 4: Requirements Checklist

Lighting Wattage:

- 1. Within each non-tradable area/surface, total proposed watts must be less than or equal to total allowed watts. Across all tradable areas/surfaces, total proposed watts must be less than or equal to total allowed watts.

Compliance: Passes.

Controls, Switching, and Wiring:

- 2. All exemption claims are associated with fixtures that have a control device independent of the control of the nonexempt lighting.
- 3. All lighting fixtures are controlled by a photosensor or astronomical time switch that is capable of automatically turning off the fixture when sufficient daylight is available or the lighting is not required.

Exceptions:

Covered vehicle entrance/exit areas requiring lighting for safety, security and eye adaptation.

Exterior Lighting Efficacy:

- 4. All exterior building grounds luminaires that operate at greater than 100W have minimum efficacy of 60 lumen/watt.

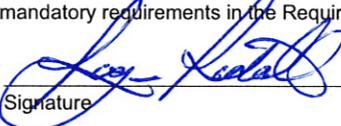
Exceptions:

Controlled by motion sensor or exempt from consideration under the provisions of Section 505.6.2.

Exterior Lighting PASSES: Design 26% better than code.

Section 5: Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2006 IECC requirements in COMcheck Version 3.6.0 and to comply with the mandatory requirements in the Requirements Checklist.

ROGER RIDDLE PROJECT MGR		2-13-09
Name - Title	Signature	Date



COMcheck Software Version 3.5.2

Mechanical Compliance Certificate

2006 IECC

Report Date: 02/13/09

Data filename: X:\Projects\2008\08278.00.01- Scofield Maint. Sta\Energy Compliance Report.cck

Section 1: Project Information

Project Type: **New Construction**

Project Title : UDOT Maintenance Station #4435A

Construction Site:
50 Front Street
Scofield, UT 84526

Owner/Agent:
William Juszczak
Utah Department of Transportation
4501 South 2700 West
Box 148250
Salt Lake City, UT 84114-8250
801-964-4522
bjusacak@utah.gov

Designer/Contractor:
Archiplex Group
255 Crossroad Square
South Salt Lake City, UT 84115
(801) 961-7070

Section 2: General Information

Building Location (for weather data): **Scofield, Utah**
Climate Zone: **6b**
Heating Degree Days (base 65 degrees F): **10480**
Cooling Degree Days (base 50 degrees F): **824**

Section 3: Mechanical Systems List

Quantity System Type & Description

- | | |
|---|---|
| 1 | HVAC System 1: Heating: Radiant Heater, Propane / Single Zone |
| 1 | HVAC System 2: Heating: Central Furnace, Propane / Cooling: Split System, Capacity <54 kBtu/h, Air-Cooled Condenser / Single Zone |

Section 4: Requirements Checklist

Requirements Specific To: HVAC System 1 :

None

Requirements Specific To: HVAC System 2 :

- 1. Newly purchased heating equipment meets the heating efficiency requirements
- 2. Equipment minimum efficiency: Split System: 10.0 SEER

Generic Requirements: Must be met by all systems to which the requirement is applicable:

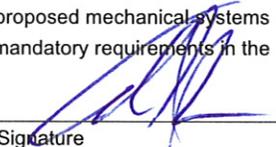
- 1. Load calculations per 2001 ASHRAE Fundamentals
- 2. Plant equipment and system capacity no greater than needed to meet loads
 - Exception: Standby equipment automatically off when primary system is operating
 - Exception: Multiple units controlled to sequence operation as a function of load
- 3. Minimum one temperature control device per system
- 4. Minimum one humidity control device per installed humidification/dehumidification system
- 5. Thermostatic controls has 5 degrees F deadband
 - Exception: Thermostats requiring manual changeover between heating and cooling
- 6. Automatic Controls: Setback to 55 degrees F (heat) and 85 degrees F (cool); 7-day clock, 2-hour occupant override, 10-hour backup

- Exception: Continuously operating zones
- Exception: 2 kW demand or less, submit calculations
- 7. Outside-air source for ventilation; system capable of reducing OSA to required minimum
- 8. R-5 supply and return air duct insulation in unconditioned spaces R-8 supply and return air duct insulation outside the building R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
 - Exception: Ducts located within equipment
 - Exception: Ducts with interior and exterior temperature difference not exceeding 15 degrees F.
 - Exception: Continuously welded and locking-type longitudinal joints and seams on ducts operating at static pressures less than 2 inches w.g. pressure classification
- 9. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
- 10. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
- 11. Hot water pipe insulation: 1 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in. Chilled water/refrigerant/brine pipe insulation: 1 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in. Steam pipe insulation: 1.5 in. for pipes <=1.5 in. and 3 in. for pipes >1.5 in.
 - Exception: Piping within HVAC equipment
 - Exception: Fluid temperatures between 55 and 105 degrees F
 - Exception: Fluid not heated or cooled
 - Exception: Runouts <4 ft in length
- 12. Operation and maintenance manual provided to building owner
- 13. Balancing devices provided in accordance with IMC 603.15
- 14. Motorized, automatic shutoff dampers required on exhaust and outdoor air supply openings
 - Exception: Gravity dampers acceptable in buildings <3 stories
 - Exception: Gravity dampers acceptable in systems with outside or exhaust air flow rates less than 300 cfm where dampers are interlocked with fan
- 15. Stair and elevator shaft vents are equipped with motorized dampers

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2006 IECC requirements in COMcheck Version 3.5.2 and to comply with the mandatory requirements in the Requirements Checklist.

ALAN STENDLOVE P.E.
Name - Title


Signature

2/13/09
Date



COMcheck Software Version 3.5.2

Mechanical Requirements Description

2006 IECC

Report Date:

Data filename: X:\Projects\2008\08278.00.01- Scofield Maint. Sta\Energy Compliance Report.cck

The following list provides more detailed descriptions of the requirements in Section 4 of the Mechanical Compliance Certificate.

Requirements Specific To: HVAC System 1 :

None

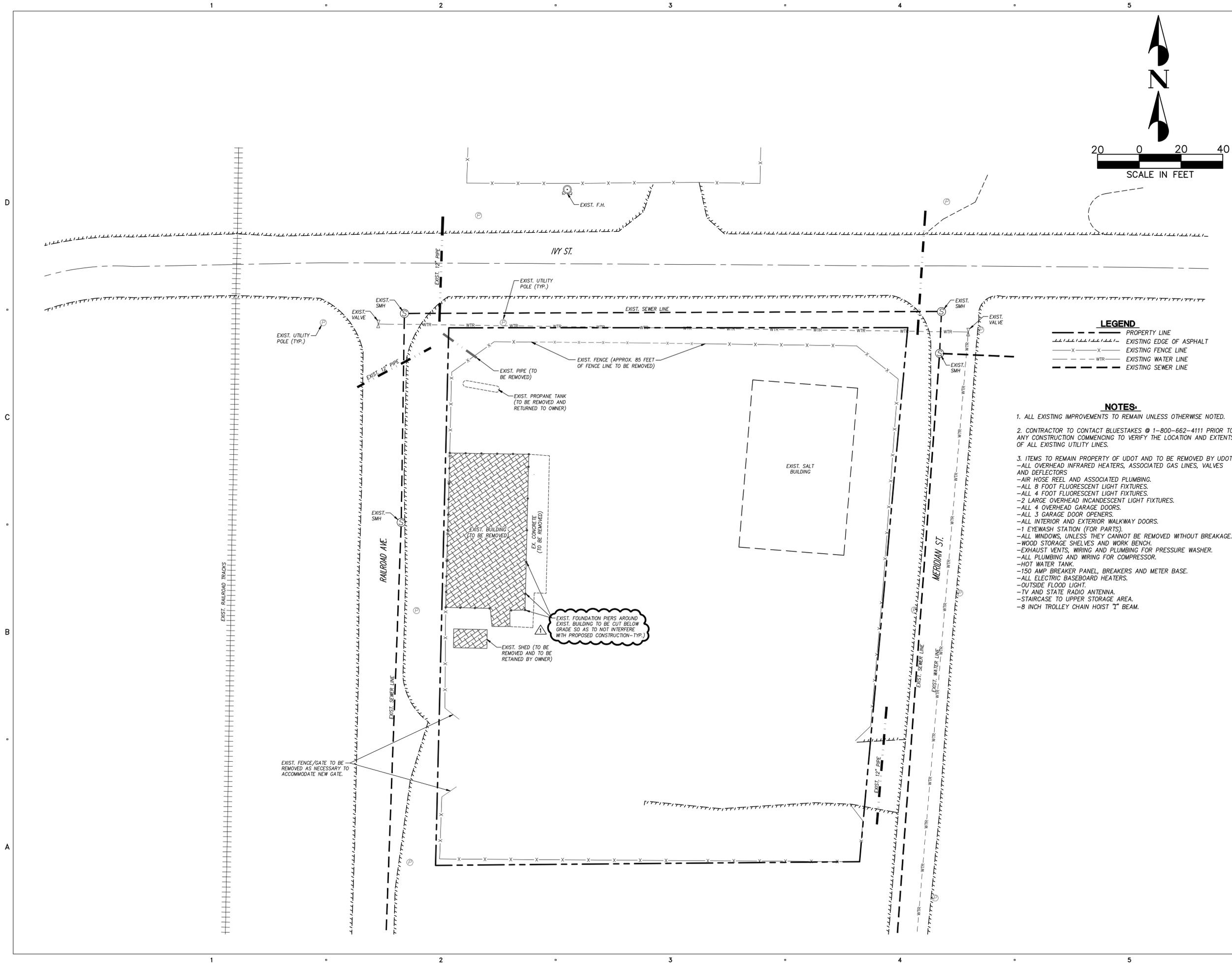
Requirements Specific To: HVAC System 2 :

1. The specified heating equipment is covered by Federal minimum efficiency requirements. New equipment of this type can be assumed to meet or exceed ASHRAE 90.1 Code requirements for equipment efficiency.
2. The specified heating and/or cooling equipment is covered by ASHRAE 90.1 Code and must meet the following minimum efficiency: Split System: 10.0 SEER

Generic Requirements: Must be met by all systems to which the requirement is applicable:

1. Design heating and cooling loads for the building must be determined using procedures in the ASHRAE Handbook of Fundamentals or an approved equivalent calculation procedure.
2. All equipment and systems must be sized to be no greater than needed to meet calculated loads. A single piece of equipment providing both heating and cooling must satisfy this provision for one function with the capacity for the other function as small as possible, within available equipment options.
 - Exception: The equipment and/or system capacity may be greater than calculated loads for standby purposes. Standby equipment must be automatically controlled to be off when the primary equipment and/or system is operating.
 - Exception: Multiple units of the same equipment type whose combined capacities exceed the calculated load are allowed if they are provided with controls to sequence operation of the units as the load increases or decreases.
3. Each heating or cooling system serving a single zone must have its own temperature control device.
4. Each humidification system must have its own humidity control device.
5. Thermostats controlling both heating and cooling must be capable of maintaining a 5 degrees F deadband (a range of temperature where no heating or cooling is provided).
 - Exception: Deadband capability is not required if the thermostat does not have automatic changeover capability between heating and cooling.
6. The system or zone control must be a programmable thermostat or other automatic control meeting the following criteria:a) capable of setting back temperature to 55 degrees F during heating and setting up to 85 degrees F during coolingb) capable of automatically setting back or shutting down systems during unoccupied hours using 7 different day schedulesc) have an accessible 2-hour occupant overridden) have a battery back-up capable of maintaining programmed settings for at least 10 hours without power.
 - Exception: A setback or shutoff control is not required on thermostats that control systems serving areas that operate continuously.
 - Exception: A setback or shutoff control is not required on systems with total energy demand of 2 kW (6,826 Btu/h) or less.
7. The system must supply outside ventilation air as required by Chapter 4 of the International Mechanical Code. If the ventilation system is designed to supply outdoor-air quantities exceeding minimum required levels, the system must be capable of reducing outdoor-air flow to the minimum required levels.
8. Air ducts must be insulated to the following levels:a) Supply and return air ducts for conditioned air located in unconditioned spaces (spaces neither heated nor cooled) must be insulated with a minimum of R-5. Unconditioned spaces include attics, crawl spaces, unheated basements, and unheated garages.b) Supply and return air ducts and plenums must be insulated to a minimum of R-8 when located outside the building.c) When ducts are located within exterior components (e.g., floors or roofs), minimum R-8 insulation is required only between the duct and the building exterior.
 - Exception: Duct insulation is not required on ducts located within equipment.
 - Exception: Duct insulation is not required when the design temperature difference between the interior and exterior of the duct or plenum does not exceed 15 degrees F.
 - Exception: Continuously welded and locking-type longitudinal joints and seams on ducts operating at static pressures less than 2 inches w.g. pressure classification.
9. Mechanical fasteners and seals, mastics, or gaskets must be used when connecting ducts to fans and other air distribution equipment, including multiple-zone terminal units.

10. All joints, longitudinal and transverse seams, and connections in ductwork must be securely sealed using weldments; mechanical fasteners with seals, gaskets, or mastics; mesh and mastic sealing systems; or tapes. Tapes and mastics must be listed and labeled in accordance with UL 181A and shall be marked '181A-P' for pressure sensitive tape, '181A-M' for mastic or '181A-H' for heat-sensitive tape. Tapes and mastics used to seal flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked '181B-FX' for pressure-sensitive tape or '181B-M' for mastic. Unlisted duct tape is not permitted as a sealant on any metal ducts.
11. All pipes serving space-conditioning systems must be insulated as follows: Hot water piping for heating systems: 1 in. for pipes \leq 1 1/2-in. nominal diameter 2 in. for pipes $>$ 1 1/2-in. nominal diameter. Chilled water, refrigerant, and brine piping systems: 1 in. insulation for pipes \leq 1 1/2-in. nominal diameter 1 1/2 in. insulation for pipes $>$ 1 1/2-in. nominal diameter. Steam piping: 1 1/2 in. insulation for pipes \leq 1 1/2-in. nominal diameter 3 in. insulation for pipes $>$ 1 1/2-in. nominal diameter.
 - Exception: Pipe insulation is not required for factory-installed piping within HVAC equipment.
 - Exception: Pipe insulation is not required for piping that conveys fluids having a design operating temperature range between 55 degrees F and 105 degrees F.
 - Exception: Pipe insulation is not required for piping that conveys fluids that have not been heated or cooled through the use of fossil fuels or electric power.
 - Exception: Pipe insulation is not required for runout piping not exceeding 4 ft in length and 1 in. in diameter between the control valve and HVAC coil.
12. Operation and maintenance documentation must be provided to the owner that includes at least the following information: a) equipment capacity (input and output) and required maintenance actions b) equipment operation and maintenance manuals c) HVAC system control maintenance and calibration information, including wiring diagrams, schematics, and control sequence descriptions; desired or field-determined set points must be permanently recorded on control drawings, at control devices, or, for digital control systems, in programming comments d) complete narrative of how each system is intended to operate.
13. Each supply air outlet or diffuser and each zone terminal device (such as VAV or mixing box) must have its own balancing device. Acceptable balancing devices include adjustable dampers located within the ductwork, terminal devices, and supply air diffusers.
14. Outdoor air supply and exhaust systems must have motorized dampers that automatically shut when the systems or spaces served are not in use. Dampers must be capable of automatically shutting off during pre-occupancy building warm-up, cool-down, and setback, except when ventilation reduces energy costs (e.g., night purge) or when ventilation must be supplied to meet code requirements. Both outdoor air supply and exhaust air dampers must have a maximum leakage rate of 3 cfm/ft² at 1.0 in w.g. when tested in accordance with AMCA Standard 500.
 - Exception: Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height.
 - Exception: Systems with a design outside air intake or exhaust capacity of 300 cfm (140 L/s) or less that are equipped with motor operated dampers that open and close when the unit is energized and de-energized, respectively.
15. Stair and elevator shaft vents must be equipped with motorized dampers capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems. All gravity outdoor air supply and exhaust hoods, vents, and ventilators must be equipped with motorized dampers that will automatically shut when the spaces served are not in use. Exceptions: - Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height above grade. - Ventilation systems serving unconditioned spaces.



- LEGEND**
- PROPERTY LINE
 - - - - - EXISTING EDGE OF ASPHALT
 - x - x - EXISTING FENCE LINE
 - - - - - WTR EXISTING WATER LINE
 - - - - - EXISTING SEWER LINE

- NOTES:**
- ALL EXISTING IMPROVEMENTS TO REMAIN UNLESS OTHERWISE NOTED.
 - CONTRACTOR TO CONTACT BLUESTAKES @ 1-800-662-4111 PRIOR TO ANY CONSTRUCTION COMMENCING TO VERIFY THE LOCATION AND EXTENTS OF ALL EXISTING UTILITY LINES.
 - ITEMS TO REMAIN PROPERTY OF UDOT AND TO BE REMOVED BY UDOT:
 - ALL OVERHEAD INFRARED HEATERS, ASSOCIATED GAS LINES, VALVES AND DEFLECTORS
 - AIR HOSE REEL AND ASSOCIATED PLUMBING.
 - ALL 8 FOOT FLUORESCENT LIGHT FIXTURES.
 - ALL 4 FOOT FLUORESCENT LIGHT FIXTURES.
 - 2 LARGE OVERHEAD INCANDESCENT LIGHT FIXTURES.
 - ALL 4 OVERHEAD GARAGE DOORS.
 - ALL 3 GARAGE DOOR OPENERS.
 - ALL INTERIOR AND EXTERIOR WALKWAY DOORS.
 - 1 EYEWASH STATION (FOR PARTS).
 - ALL WINDOWS, UNLESS THEY CANNOT BE REMOVED WITHOUT BREAKAGE.
 - WOOD STORAGE SHELVES AND WORK BENCH.
 - EXHAUST VENTS, WIRING AND PLUMBING FOR PRESSURE WASHER.
 - ALL PLUMBING AND WIRING FOR COMPRESSOR.
 - HOT WATER TANK.
 - 150 AMP BREAKER PANEL, BREAKERS AND METER BASE.
 - ALL ELECTRIC BASEBOARD HEATERS.
 - OUTSIDE FLOOD LIGHT.
 - TV AND STATE RADIO ANTENNA.
 - STAIRCASE TO UPPER STORAGE AREA.
 - 8 INCH TROLLEY CHAIN HOIST "I" BEAM.

CLIENT

UDOT
CONNECTING COMMUNITIES

STATION #4435A
160 EAST HWY 96
SCOFIELD, UTAH 84526

DESIGNER

ARCHIPLEX GROUP

architecture • planning • design services

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CONSULTANTS

PEPG ENGINEERING, L.L.C.

8805 S. SANDY PARKWAY • SANDY, UT 84070
PHONE: (801) 562-2521 • FAX: (801) 562-2551

PROFESSIONAL SEAL

ISSUE

NO.	DATE	DESCRIPTION
1	4-23-09	ADDENDUM #2
2	2-09	CONSTRUCTION DOCUMENTS
3	1-20-09	90% REVIEW SUBMITTAL

MARK	DATE	DESCRIPTION
DFCM PROJECT NO:		08300900
DFCM CONTRACT NO:		97236
ARCHIPLEX PROJECT NO:		0837.01
PEPG PROJECT NO:		6600.0818
DRAWN BY:		BCB
CHECKED BY:		DRS
SCALE:		1"=20'
DATE:		APRIL, 2009

SHEET TITLE

DEMOLITION PLAN

C100

DESIGNER

ARCHIPEX
 GROUP
 architecture • planning • design services
 235 Crossroad Square
 Salt Lake City, UT 84115
 P: (801) 961-7070
 F: (801) 961-7573

CONSULTANTS

PERG ENGINEERING, LLC
 8805 S. SANDY PARKWAY • SANDY, UT 84070
 PHONE: (801) 562-2521 • FAX: (801) 562-2551

PROFESSIONAL SEAL



ISSUE

4-23-09	ADDENDUM #2	
2-09	CONSTRUCTION DOCUMENTS	
1-20-09	90% REVIEW SUBMITTAL	
MARK	DATE	DESCRIPTION

DFCM PROJECT NO.: 08300900
 DFCM CONTRACT NO.: 97236
 ARCHIPEX PROJECT NO.: 0837.01
 PERG PROJECT NO.: 6600.0818
 DRAWN BY: BCB
 CHECKED BY: DNS
 SCALE: 1"=20'
 DATE: APRIL, 2009

SITE & UTILITY PLAN

C200

SHEET TITLE



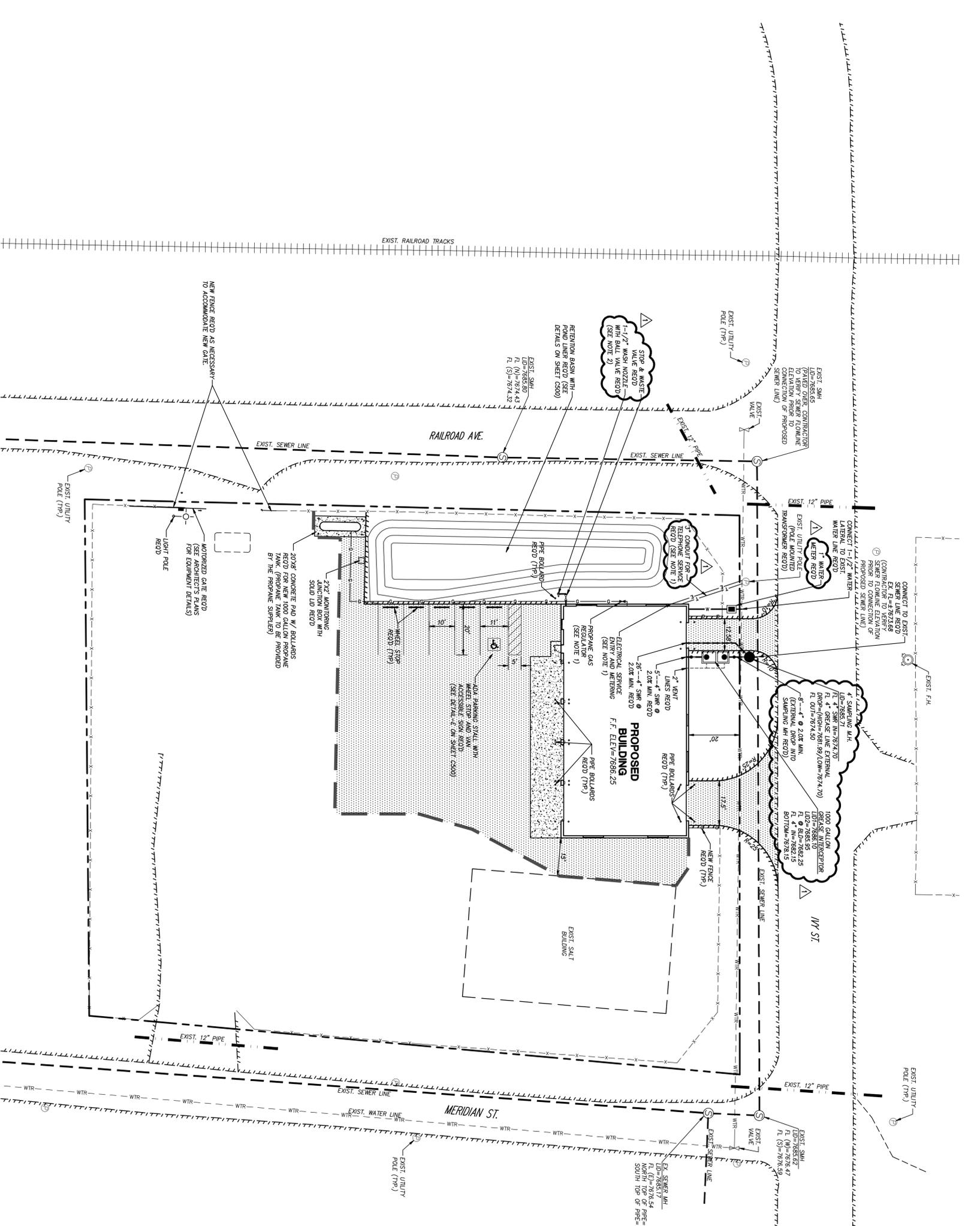
LEGEND

- PROPERTY LINE
- ==== PROPOSED EDGE OF ASPHALT
- PROPOSED LIMIT LINE
- PROPOSED FENCE LINE
- PROPOSED SEWER LINE
- PROPOSED WATER LINE
- PROPOSED PROPANE GAS LINE
- PROPOSED ELECTRICAL LINE
- PROPOSED TELEPHONE LINE
- PROPOSED CONCRETE AREA
- PROPOSED ASPHALT AREA
- EXISTING EDGE OF ASPHALT
- EXISTING FENCE LINE
- EXISTING SEWER LINE
- EXISTING WATER LINE

PARKING SUMMARY

REGULAR PARKING	4 STALLS
VAN ACCESSIBLE PARKING	1 STALLS
TOTAL	5 STALLS

NOTES:
 1. CONTRACTOR TO VERIFY ALL UTILITY CONNECTION POINTS AND TENS WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION.
 2. ALL PIPE AFTER STOP & WASTE VALVE TO BE GALVANIZED PIPE REQD. WASH NOZZLE TO EXTEND NO MORE THAN 3 FEET MAX. ABOVE FINISH GRADE.



KEYNOTES

- 02513.A0 CONCRET ASPHALT PAVING
- 03053.A0 CONCRETE WATER PROOFING ADMIXTURE
- 03054.A0 OLIOPHOBIC TOPICAL SEALER
- 03055.A0 SALT AND WATER BARRIER
- 03300.A0 CONCRETE - SLAB ON GRADE
- 03300.D0 CONCRETE PAD
- 03300.N0 CONCRETE CURB

- 04200.A2 CMU (SIZE)
- 04200.R0 CONTROL JOINT

- 05120.D1 TUBE STEEL COLUMN - SEE STRUCTURAL
- 05500.J1 PIPE BOLLARD (DIAMETER) GALVANIZED & PAINTED

- 06402.H1 ADJUSTABLE SHELVES (FINISH)
- 06402.X0 WORKBENCH (DEPTH)
- 06651.B0 SOLID SURFACE COUNTER TOP

- 07210.C1 RIGID INSULATION (CONTINUOUSLY ADHERED TO CMU) W/FOIL FACED VAPOR BARRIER TOWARDS INTERIOR (R-VALUE)
- 07410.A2 DOWNSPOUT W/CONTINUOUS HEAT TAPE
- 07410.T1 STANDING SEAM METAL CANOPY

- 08360.A0 HEAVY DUTY OVERHEAD SECTIONAL DOOR

- 10100.C0 MARKER BOARD (L X H)
- 10425.A0 ROOM SIGNAGE
- 10425.A1 OIL SIGNAGE
- 10425.B1 WELDING SIGNAGE
- 10425.C1 ACCESSIBLE SIGNAGE
- 10425.D1 ACCESSIBLE/UNISEX RESTROOM SIGNAGE
- 10500.A0 METAL LOCKERS (WIDTH)
- 10500.B0 METAL STORAGE CABINETS
- 10522.A0 FIRE EXTINGUISHER
- 10800.B1 SEMI-RECESSED PAPER TOWEL DISPENSER & WASTE RECEPTACLE
- 10800.D0 MOP RACK

- 12511.A0 HORIZONTAL LOUVER BLINDS

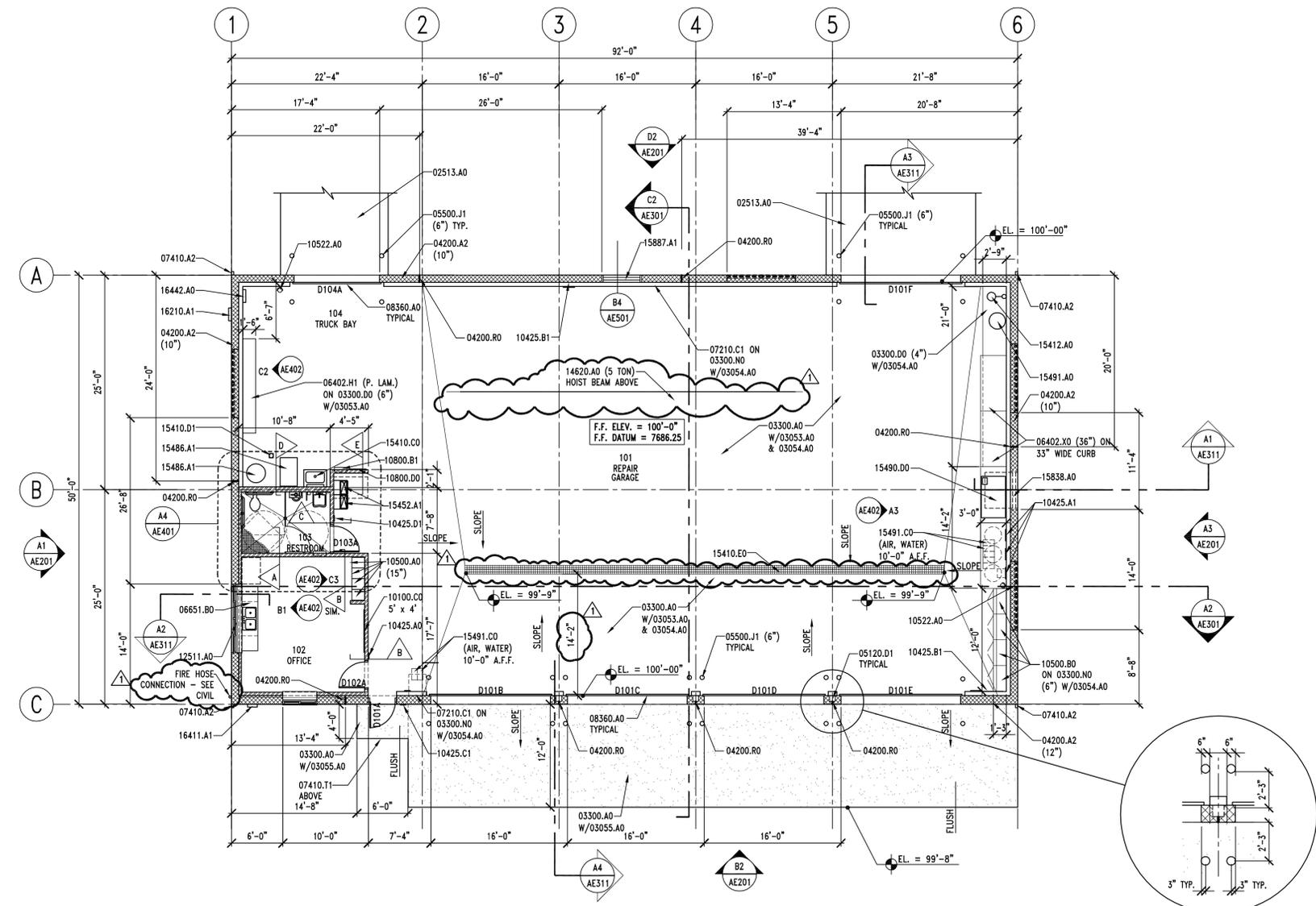
- 14620.A0 TROLLEY HOIST (SIZE) SEE STRUCTURAL

- 15410.C0 UTILITY SINK
- 15410.D1 FLOOR SINK
- 15410.E0 TRENCH DRAIN
- 15412.A0 EMERGENCY SHOWER & EYE WASH
- 15452.A1 DRINKING FOUNTAIN
- 15486.A1 FUEL FIRED WATER HEATERS
- 15490.D0 280 GAL. DOUBLE WALL WASTE OIL TANK
- 15491.A0 AIR COMPRESSOR
- 15491.C0 OVERHEAD HOSE REELS
- 15811.A1 PROPANE GAS FIRED FURNACE
- 15838.A0 EXHAUST FAN - SEE MECHANICAL
- 15887.A1 LOUVER WITH BIRD SCREEN

- 16210.A1 ELECTRICAL METER - SEE ELECTRICAL DRAWINGS
- 16411.A1 EMERGENCY DISCONNECT - SEE ELECTRICAL
- 16442.A0 ELECTRICAL PANEL - SEE ELECTRICAL DRAWINGS

GENERAL NOTES

1. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
2. DO NOT SCALE DRAWINGS.
3. SEE CIVIL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR MORE INFORMATION.
4. PROVIDE BACKING BEHIND ALL SURFACE MOUNTED EQUIPMENT AND/OR FIXTURES PER DETAIL C2/AE401
5. SEE SHEET C1/AE501 FOR WALL TYPES.
6. TWO BOLLARDS REQUIRED PER SECTIONAL DOOR JAMB. ALIGN WITH DOOR JAMB. SEE DETAILS A1 & A2/AE402.
7. SEE STRUCTURAL DRAWINGS FOR CONSTRUCTION/CONTROL JOINT LOCATIONS IN CONCRETE SLAB.
8. ALL DIMENSIONS ARE TO FACE OF WALL, UNLESS NOTED OTHERWISE.
9. PROVIDE 03053.A0 AT ALL CONCRETE CURBS, PIERS, SLABS, STEM WALL ETC. U.N.O.
10. PROVIDE 03054.A0 OVER ENTIRE FLOOR SLAB AT ROOMS 101 & 104.
11. SEE SHEET AE402 FOR ALL SIGNAGE DETAILS



A1 FLOOR PLAN

AE101 REF. SCALE: 1/8" = 1'-0"

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NO.	DATE	DESCRIPTION
1	4-23-09	ADDENDUM #2
2	2-09	CONSTRUCTION DOCUMENTS
3	1-20-09	90% REVIEW SUBMITTAL

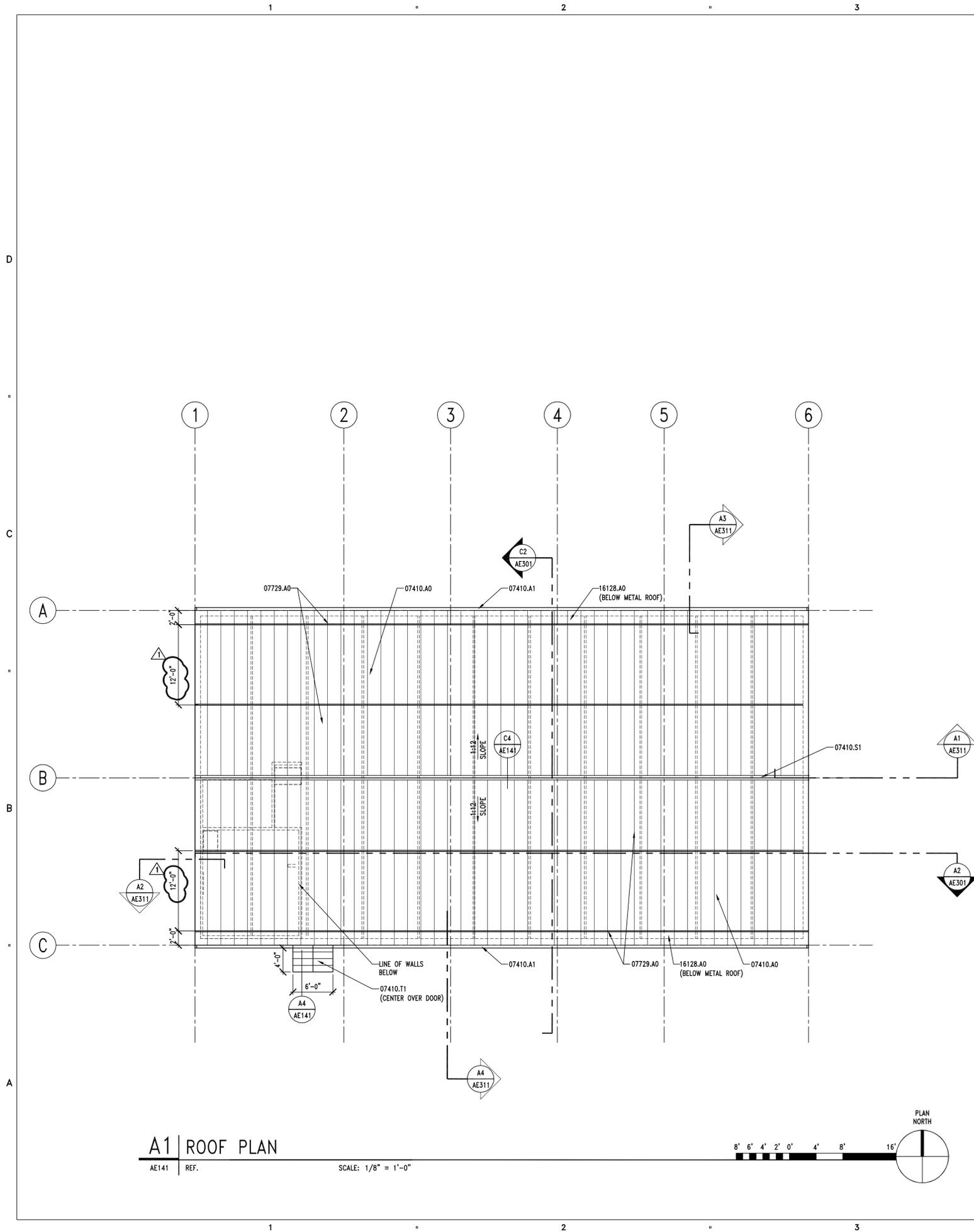
MARK DATE DESCRIPTION

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DFCM CONTRACT NO:	97236
ARCHIPLEX PROJECT NO:	0837.01
DRAWN BY:	A. PHILLIPS
CHECKED BY:	R. STANISLAW
SCALE:	1/8" = 1'-0"
DATE:	FEBRUARY, 2009

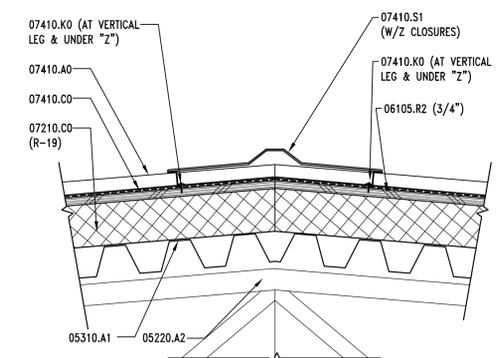
SHEET TITLE

FLOOR PLAN

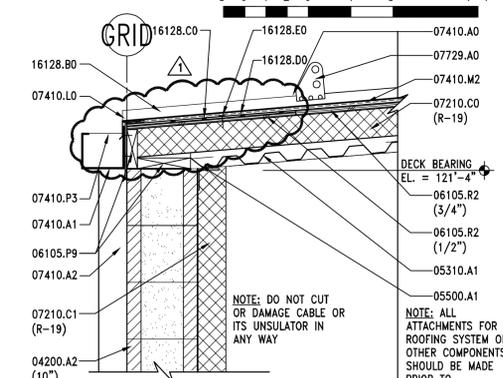
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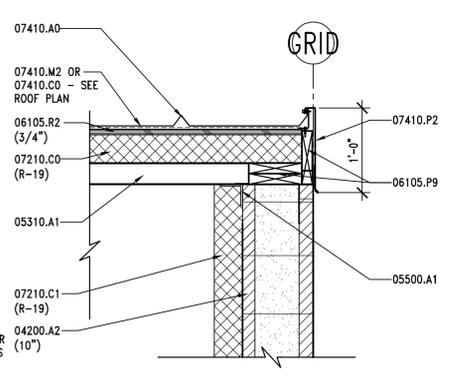
A1 | ROOF PLAN
 AE141 REF. SCALE: 1/8" = 1'-0"



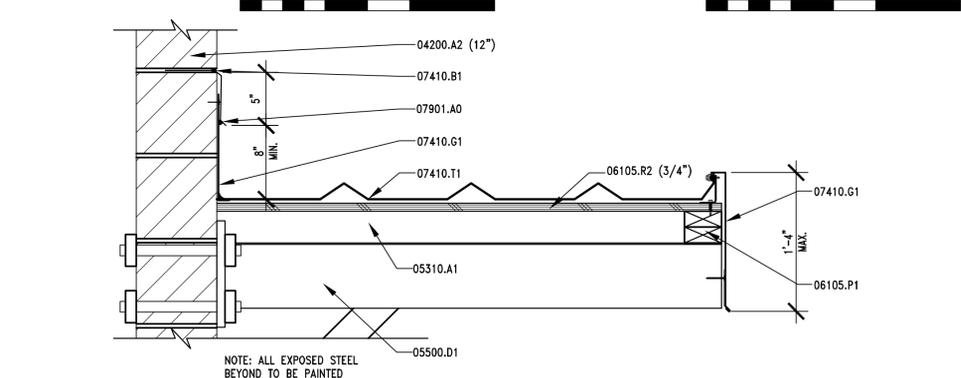
C4 | ROOF RIDGE DETAIL
 AE141 REF. AE141 SCALE: 1-1/2" = 1'-0"



B4 | ROOF DETAIL
 AE141 REF. AE311 SCALE: 1' = 1'-0"



B5 | ROOF DETAIL
 AE141 REF. AE311 SCALE: 1' = 1'-0"



A4 | REGLET DETAIL
 AE141 REF. AE201 SCALE: 1-1/2" = 1'-0"

KEYNOTES

- 04200.A0 CMU
- 04200.A2 CMU (SIZE)
- 05220.A2 STEEL JOISTS - SEE STRUCTURAL - PRIMED AND PAINTED
- 05310.A1 METAL DECK - SEE STRUCTURAL
- 05500.A1 STEEL ANGLE - SEE STRUCTURAL
- 05500.D1 CHANNEL - SEE STRUCTURAL
- 06105.P1 2X4
- 06105.R2 SHEATHING - PLYWOOD (THICKNESS)
- 07210.CO RIGID INSULATION FOILED FACED W/VAPOR BARRIER
- 07210.C1 RIGID INSULATION (CONTINUOUSLY ADHERED TO CMU) W/FOIL FACED VAPOR BARRIER TOWARDS INTERIOR (R-VALUE)
- 07410.A0 STANDING SEAM METAL ROOF
- 07410.A1 RAIN GUTTER WITH CONTINUOUS HEAT TAPE
- 07410.A2 DOWNSPOUT WITH CONTINUOUS HEAT TAPE
- 07410.B1 METAL REGLET
- 07410.CO ROOFING FELT
- 07410.G1 FLASHING, FINISH TO MATCH ROOF COLOR
- 07410.K0 SEALANT
- 07410.L0 METAL FACIA
- 07410.M2 ICE & WATER SHIELD
- 07410.P2 RAKE TRIM
- 07410.P3 GUTTER STRAPS
- 07410.S1 STANDING SEAM METAL ROOF RIDGE
- 07410.T1 STANDING SEAM METAL ROOF CANOPY
- 07729.A0 STANDING SEAM METAL ROOF 2 PIPE SNOWGUARD SYSTEM
- 07901.A0 CONTINUOUS SEALANT
- 16128.A0 LOW VOLTAGE DE-ICING SNOW MELTING CABLE SYSTEM
- 16128.B0 LOW VOLTAGE DE-ICING CABLING BOARD W/PRE CUT GROOVES
- 16128.CO LOW VOLTAGE DE-ICING CABLE
- 16128.D0 LOW VOLTAGE DE-ICING CABLE PROTECTOR
- 16128.E0 ATTACHMENT AS PER MANUFACTURER RECOMMENDATIONS

GENERAL NOTES

1. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
2. DO NOT SCALE DRAWINGS.
3. SEE STRUCTURAL AND MECHANICAL DRAWINGS FOR MORE INFORMATION.
4. SEE SHEET AE201 FOR EXTERIOR FINISH COLORS.
5. SEE STRUCTURAL DRAWINGS FOR CANOPY DETAILS.

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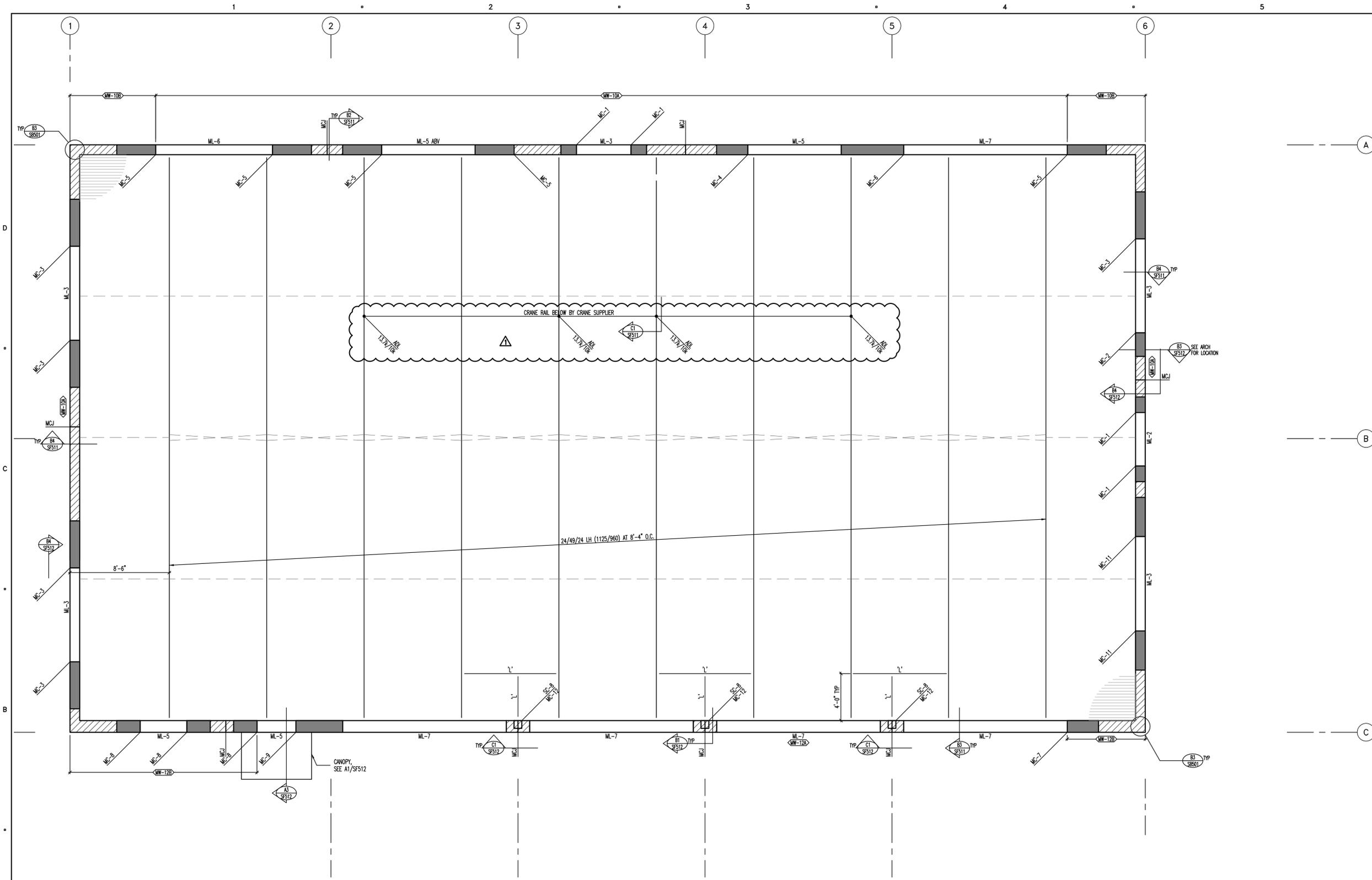
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△	4-23-09	ADDENDUM #2
	2-09	CONSTRUCTION DOCUMENTS
	1-20-09	90% REVIEW SUBMITTAL

MARK	DATE	DESCRIPTION
		DFCM PROJECT NO: 08300900
		DFCM CONTRACT NO: 97236
		ARCHIPLEX PROJECT NO: 0837.01
		DRAWN BY: A. PHILLIPS
		CHECKED BY: R. STANISLAW
		SCALE: AS SHOWN
		DATE: FEBRUARY, 2009

SHEET TITLE

ROOF PLAN AND ROOF DETAILS

AE141



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

- ROOF FRAMING PLAN NOTES**
- VERIFY ALL ROOF OPENINGS FOR MECHANICAL SHAFTS, DRAINS, ETC. WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
 - JOIST SUPPLIER SHALL DESIGN ALL ROOF JOIST BEARING ENDS AT MASONRY WALLS TO TRANSFER 1500# (ALLOWABLE) AXIAL LOAD THROUGH JOIST BEARING SHAPE.
 - ALL JOISTS SHALL HAVE 6" DEEP BEARING ENDS (LND).
 - ALL ROOF OPENINGS GREATER THAN, OR EQUAL TO, 12" x 12" SHALL BE FRAMED AS INDICATED IN DETAILS A1/SF511. FOR OPENINGS WHICH CUT LESS THAN TWO DECK FLUTES, SEE DETAIL A3/SF511.
 - SEE DETAIL A4/SF511 WHEN CONCENTRATED LOADS ARE LOCATED MORE THAN 6" FROM JOIST OR JOIST ORDER PANEL POINT.
 - SEE DETAIL B1/SF511 WHEN MECHANICAL UNITS ARE HUNG BELOW JOISTS.
 - VERIFY SIZE, WEIGHT, AND LOCATION OF ALL ROOF TOP MECHANICAL UNITS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. SEE DETAIL A2/SF511 FOR STEEL FRAMES AT ALL ROOF TOP EQUIPMENT. COORDINATE OPENINGS WITH MECHANICAL, ELECTRICAL, AND GENERAL CONTRACTORS.
 - LOCATE MISCELLANEOUS MECHANICAL OPENINGS BETWEEN JOISTS, NOT UNDERNEATH THEM.
 - OPEN WEB STEEL JOISTS AND JOIST GRIDDERS SHALL BE DESIGNED BY THE MANUFACTURER TO SUPPORT THE MECHANICAL AND LATERAL LOADS SHOWN ON THE ROOF FRAMING PLANS IN ADDITION TO THE UNIFORM AND POINT LOADS SHOWN.
 - JOIST BRIDGING SHOWN ON PLANS IS FOR REPRESENTATION ONLY; ACTUAL SIZE, QUANTITY, AND LOCATION WILL BE DETERMINED BY THE JOIST SUPPLIER PER "SJI" REQUIREMENTS. ALL BRIDGING AND BRIDGING ANCHORS NEED TO BE IN PLACE BEFORE APPLYING ANY LOADS. WHERE SKYLIGHT OR MECHANICAL UNITS/DUCTS INTERRUPT HORIZONTAL BRIDGING, PROVIDE CROSS BRIDGING AT JOIST SPACES ON EACH SIDE OF THE OPENING. WHERE DIAGONAL BRIDGING CONFLICTS WITH MECHANICAL DUCTS, REMOVE DIAGONAL BRIDGING AND REPLACE WITH HORIZONTAL BRIDGING AFTER ROOF DECK IS IN PLACE.
 - JOIST DESIGNER SHALL DESIGN JOISTS AND SUPPLY ADDITIONAL BRIDGING AS REQUIRED FOR UPLIFT DUE TO WIND. ASSUME:
DEAD LOAD = 12psf WIND UPLIFT = 20psf (GROSS)
NO 1/3 STRESS INCREASE ALLOWED.
 - SEE DETAIL C2/SB502 FOR ADDITIONAL REINFORCING AT MISCELLANEOUS OPENINGS IN MASONRY WALLS.
 - SEE DETAIL C3/SB502 FOR CONDITION AT RECESSES IN MASONRY WALLS.
 - SEE DETAIL B2/SB502 FOR TYPICAL CONTROL JOINTS IN MASONRY WALLS.
 - SEE DETAIL B1/SB502 FOR TERMINATION OF HORIZONTAL REINFORCING IN MASONRY WALLS.
 - SEE ARCHITECTURAL PLANS FOR DIMENSIONS TO ALL STEEL COLUMNS.

MARKS AND SYMBOLS LEGEND

	SECTION MARK SHEET NUMBER	*	INDICATES THAT THESE JOISTS SHALL BE DESIGNED FOR AN ADLOAD OF 1000# AT ANY POINT.
	INDICATES MASONRY WALL WHICH EXTENDS ABOVE ROOF DECK.	LH (**/**)	INDICATES LH-SERIES JOIST WITH ALLOWABLE TOTAL LOAD / ALLOWABLE LIVE (SNOW) LOAD.
	INDICATES MASONRY WALL WHICH STOPS AT ROOF DECK.	SC-x	INDICATES STEEL COLUMN. SEE SCHEDULE ON SHEET SF601.
	INDICATES METAL ROOF DECK. SEE GENERAL STRUCTURAL ON SHEET SJ001.	MC-x	INDICATES MASONRY COLUMN TYPE. SEE SCHEDULE ON SHEET SF601.
	INDICATES MASONRY WALL TYPE, SEE SCHEDULE ON SHEET SB601.	ML-x	INDICATES MASONRY LINTEL TYPE. SEE SCHEDULE ON SHEET SF601.
	INDICATES MASONRY CONTROL JOINT, SEE DETAIL B2/SB502.	MCJ	INDICATES MASONRY CONTROL JOINT, SEE DETAIL B2/SB502.

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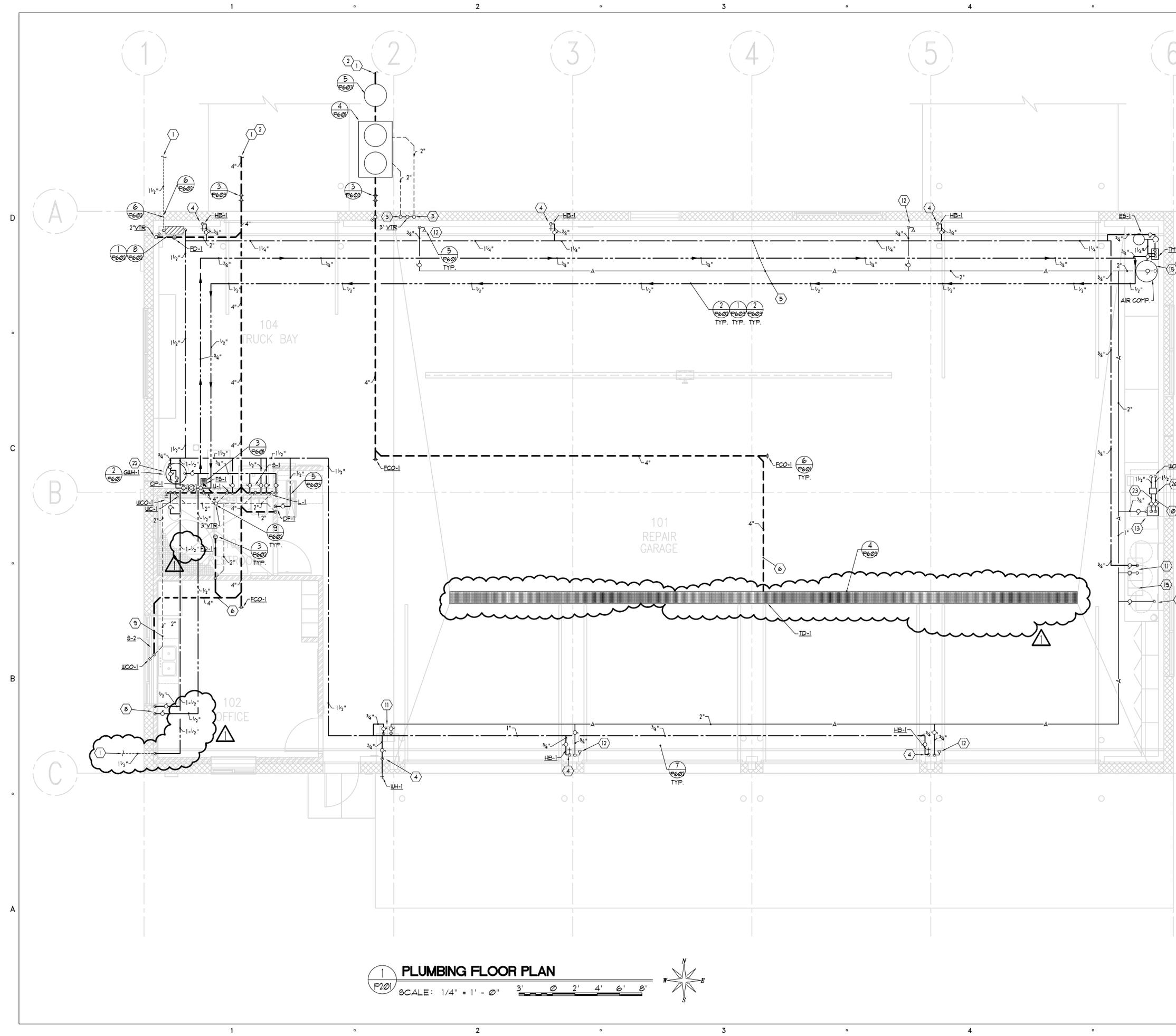
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	2-09	CONSTRUCTION DOCUMENTS
	1-20-09	90% REVIEW SUBMITTAL

MARK	DATE	DESCRIPTION
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		DFCM CONTRACT NO:
		ARCHIPLEX PROJECT NO:
		DRAWN BY:
		CHECKED BY:
		SCALE:
		DATE: FEBRUARY, 2009

SHEET TITLE
ROOF FRAMING PLAN
SF111

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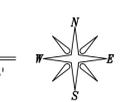
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KEYED NOTES:

- 1 SEE SITE DRAWINGS FOR CONTINUATION.
- 2 SEE CIVIL DRAWINGS FOR INVERT ELEVATION. GENERAL CONTRACTOR IS TO COORDINATE WITH HIS SUBS TO VERIFY SITE SANITARY SEWER AND BUILDING SANITARY SEWER PIPE WILL PROPERLY CONNECT PRIOR TO INSTALLING ANY SANITARY PIPE IN THE SITE OR BUILDING. IF A PROBLEM EXISTS, THE CONTRACTOR IS TO INFORM THE ARCHITECT OF THE PROBLEM PRIOR TO INSTALLING ANY PIPE. IF PIPE IS INSTALLED AND A PROBLEM ARISES, THE CONTRACTOR, AT HIS EXPENSE, SHALL PERFORM ANY WORK REQUIRED SUCH THAT THE SANITARY PIPE CAN BE INSTALLED CORRECTLY TO CODE STANDARDS.
- 3 VENTS FROM SAND/OIL SEPARATOR MAY BE COMBINED AFTER THEY ARE 10' ABOVE FLOOD RIM OF SEPARATOR AND THEN CONNECTED TO VEHICLE STORAGE BAY WASTE SYSTEM VENT PIPE.
- 4 PROVIDE PVC COVER OVER INSULATION TO 8'-0" AFF. MOUNT HB-1 3'-0" AFF.
- 5 ROUTE PIPING ABOVE STRUCTURE.
- 6 ALL WASTE PIPING 3" AND GREATER TO SLOPE 1/8" PER FOOT.
- 7 PIPE SLEEVES REQUIRED ON THIS PROJECT. IF CONTRACTOR FAILS TO INSTALL PIPE SLEEVES, THE CONTRACTOR SHALL REMOVE PIPE, INSTALL SLEEVE AND REINSTALL PIPE AT NO ADDITIONAL EXPENSE TO THE OWNER.
- 8 RUN HOT AND COLD WATER PIPE UNDER CABINET TO SINK.
- 9 RUN VENT LINE UNDER CABINET UNTIL IT CLEARS THE WINDOW.
- 10 CONNECT OIL DRAIN LINE TO DRAIN PUMP. RUN DRAIN LINE FROM PUMP TO 4-WAY VALVE AND TO WOT-1 (WASTE OILTANK). PROVIDE SHUTOFF VALVE AND UNION TO CATCH TANK. DRAIN PUMP BY CONTRACTOR. FIELD VERIFY LOCATION EXACT LOCATION OF TANK AND OIL DRAIN CONNECTION POINT LOCATION. INSTALL PER MANUFACTURERS INSTRUCTIONS.
- 11 CONNECT 1" COMPRESSED AIR LINE AND 3/4" CU LINE TO OVERHEAD HOSE REEL. PROVIDE SHUTOFF AND UNION. HOSE REEL BY CONTRACTOR.
- 12 3/4" COMPRESSED AIR DROP DOWN TO QUICK DISCONNECT. PROVIDE SHUTOFF VALVE. VERIFY MOUNTING HEIGHT WITH OWNER. REFER TO DETAIL 5/P601.
- 13 DROP 3/4" COMPRESSED AIR DOWN TO OIL DRAIN PUMP. PROVIDE SHUTOFF VALVE.
- 14 DROP 1" COMPRESSED AIR LINE TO LUBE BARRELS. PROVIDE SHUTOFF VALVE. LUBE BARRELS BY OWNER, INSTALLED BY CONTRACTOR.
- 15 AIR COMPRESSOR BY CURRENTLY ON SITE. SALVAGED BY CONTRACTOR AND INSTALLED IN LOCATION SHOWN. CONNECT 2" COMPRESSED AIR LINE TO COMPRESSOR. PROVIDE SHUTOFF VALVE, UNION, ISOLATION PADS AND FLEXIBLE HOSE CONNECTION.
- 16 GAS LINE DOWN TO BURNER. PROVIDE SHUTOFF VALVE, UNION AND APPLIANCE REGULATOR REFERENCE DETAIL 2/P1603.
- 17 DROP AIR LINE DOWN COLUMN FACE AND TERMINATE WITH QUICK COUPLER 3'-0" A.F.F.
- 18 CONNECT TO EXISTING BUILDING SANITARY SEWER. FIELD VERIFY EXACT LOCATION AND INVERT ELEVATION TO PROVIDE PROPER FLOW TO NEW SEPTIC DRAIN FIELD.
- 19 7 EACH TOTAL HOSE REELS FOR GREASE, OIL, LUBE, AIR AND WATER.
- 20 4-WAY VALVE. INSTALL PER MANUFACTURERS INSTRUCTIONS.
- 21 RELOCATE EXISTING AIR COMPRESSOR TO APPROXIMATE SHOWN LOCATION.
- 22 MOUNT GAS WATER HEATER 18" A.F.F. PROVIDE EXPANSION TANK AS SPECIFIED BY MANUFACTURER.
- 23 CONNECT OIL SUCTION LINE FROM TANK TO DRAIN PUMP. RUN SUCTION LINE FROM INSIDE (BOTTOM) WOT-1 (WASTE OILTANK) THRU 4-WAY VALVE TO PUMP. PROVIDE SHUTOFF VALVE AND UNION TO CATCH TANK. DRAIN PUMP BY CONTRACTOR. FIELD VERIFY LOCATION EXACT LOCATION OF TANK AND OIL DRAIN CONNECTION POINT LOCATION. INSTALL PER MANUFACTURERS INSTRUCTIONS.

1 PLUMBING FLOOR PLAN
 SCALE: 1/4" = 1' - 0"
 3' 0" 2' 4' 6' 8'



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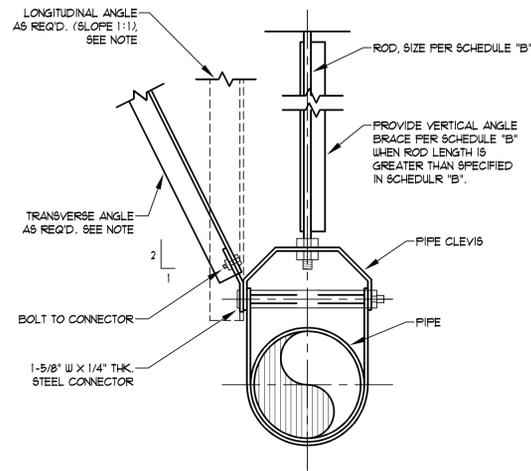
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DFCM CONTRACT NO:		97236
ARCHIPLEX PROJECT NO:		0837.01
DRAWN BY:		JB
CHECKED BY:		ADS
SCALE:		
DATE:		FEBRUARY, 2009

SHEET TITLE

PLUMBING FLOOR PLAN

P201

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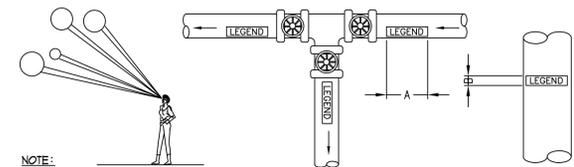


PIPING BRACING NOTES:

- DESIGN SUPPORT SYSTEM FOR SEISMIC ZONE 4.
- REFERENCE SMACNA SEISMIC RESTRAINT MANUAL.
- SEISMIC BRACING IS REQUIRED FOR ALL PIPING 2-1/2" AND LARGER.
- DO NOT USE BRANCH SECTIONS TO BRACE PIPING MAINS.
- PROVIDE FLEXIBLE COUPLINGS AT PENETRATIONS THROUGH BUILDING SEISMIC AND EXPANSION JOINTS AND WHERE PIPING IS RIGIDLY CONNECTED TO EQUIPMENT.
- FOR EQUIPMENT REQUIRING SEISMIC BRACING, INSTALL BRACES AS FOLLOWS:
 - DO NOT USE JOIST BRIDGING FOR SUPPORT OF ANY LOAD.
 - IF SUPPORTING LOADS ABOVE 50 LBS. BETWEEN JOIST PANEL POINTS REINFORCE BOTTOM CORD OF JOIST AS PER STRUCTURAL ENGINEERS REQUIREMENTS. REFER TO SUPPORT DETAILS ON STRUCTURAL DRAWINGS.

SCHEDULE "B" TRANSVERSE BRACING FOR PIPE

PIPE SIZE INCHES	BOLTS TO ANGLES	LONGITUDINAL TRANSVERSE & VERTICAL ANGLES	ROD DIAMETER INCHES	MAXIMUM ROD LENGTH	MAXIMUM INTERVAL OF BRACES IN FEET	
					40-S STEEL OR CAST IRON	COPPER TUBE
1	3/8"	1-1/2" X 1-1/2" X 3/16"	3/8"	19'	24.2	12.1
1-1/4	3/8"	1-1/2" X 1-1/2" X 3/16"	3/8"	19'	24.2	12.1
1-1/2	3/8"	1-1/2" X 1-1/2" X 3/16"	3/8"	19'	27.5	13.2
2	3/8"	1-1/2" X 1-1/2" X 3/16"	1/2"	25'	31.9	15.4
2-1/2	3/8"	2" X 2" X 5/16"	1/2"	25'	35.2	16.5
3	3/8"	2" X 2" X 5/16"	1/2"	25'	37.4	18.7
3-1/2	3/8"	2" X 2" X 5/16"	1/2"	25'	39.6	19.8
4	3/8"	2" X 2" X 5/16"	5/8"	31'	42.9	20.9
5	1/2"	2" X 2" X 5/16"	5/8"	31'	45.1	22.0
6	1/2"	2" X 2" X 5/16"	3/4"	37'	49.5	24.2
8	1/2"	2-1/2" X 2-1/2" X 1/4"	7/8"	43'	53.9	26.6
10	1/2"	3" X 3" 1/4"	7/8"	43'	59.4	30.8



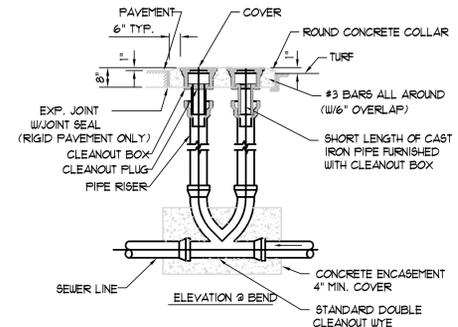
NOTE: IDENTIFICATION MARKERS OR STRIPS TO BE PLACED ON ALL EXPOSED COVERED AND UNCOVERED PIPES AT 50'-0" INTERVALS AND AT ALL VALVES, BRANCHES, CHANGE IN DIRECTION OF FLOW AND ON BOTH SIDES OF WALLS WHERE PIPES PASS THROUGH SAME. ARROWS OF SAME COLOR AS IDENTIFICATION MARKERS SHALL ALSO BE PLACED ON PIPES POINTING AWAY FROM MARKER INDICATION DIRECTION OF FLOW.

OUTSIDE DIAMETER OF PIPE OR COVERING		LENGTH OF COLOR FIELD A		SIZE OF LETTERS B	
INCHES	MM	INCHES	MM	INCHES	MM
3/4" TO 1-1/4"	19 TO 32	8"	200	1/2"	13
1-1/2" TO 2"	38 TO 51	8"	200	3/4"	19
2-1/2" TO 6"	64 TO 150	12"	300	1-1/4"	32
8" TO 10"	200 TO 250	24"	600	2-1/2"	64
OVER 10"	OVER 250	32"	800	3-1/2"	89

SERVICE	BACKGROUND OR COLOR BAND	IDENTIFICATION MARKER
DOMESTIC COLD WATER	GREEN	WHITE ON GREEN
DOMESTIC HOT WATER	YELLOW	BLACK ON YELLOW
DOMESTIC HOT WATER RETURN	YELLOW	BLACK ON YELLOW
FIRE PROTECTION (SPRINKLER)	RED	WHITE ON RED
NATURAL GAS	YELLOW	BLACK ON YELLOW
SANITARY DRAIN	GREEN	WHITE ON GREEN
STORM WATER	GREEN	WHITE ON GREEN

2 PIPE IDENTIFICATION DETAIL

P603 NO SCALE

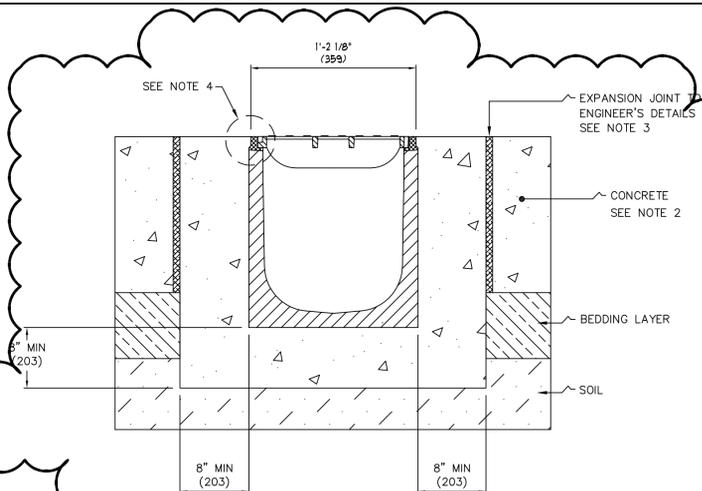


3 2-WAY DOUBLE CLEANOUT DETAIL

P603 NO SCALE

1 TRANSVERSE PIPING SWAY BRACING DETAIL

P603 NOT TO SCALE



4 TYPICAL 12 INCH TRENCH DRAIN DETAIL - JR SMITH #9828

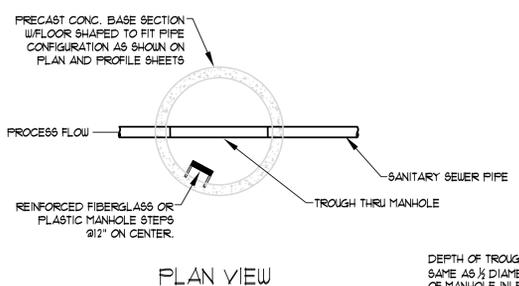
P603 NO SCALE

- NOTE:** INSTALL PER MANUFACTURERS REQUIREMENTS
- NOTES:**
- IT IS NECESSARY TO ENSURE THE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR THE EXISTING GROUND CONDITIONS.
 - A MINIMUM CONCRETE STRENGTH OF 3000 PSI IS RECOMMENDED. THE CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
 - EXPANSION AND CRACK CONTROL JOINTS ARE RECOMMENDED TO PROTECT THE CHANNEL AND THE CONCRETE SURROUND.
 - THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" (3) ABOVE THE TOP OF THE CHANNEL EDGE.
 - REFER TO JAY R. SMITH'S LATEST INSTALLATION INSTRUCTIONS FOR COMPLETE DETAILS.

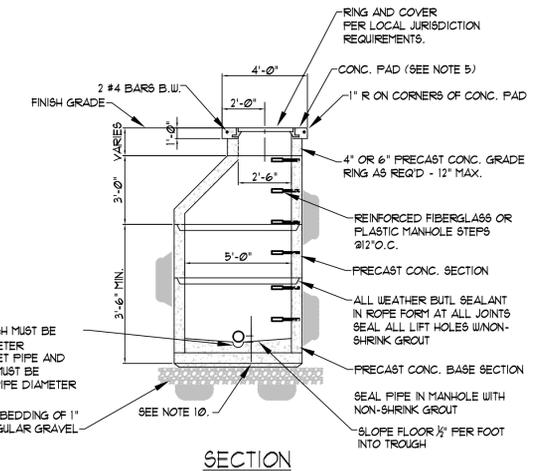
NOTES:

- PIPING, CLEANOUT CONFIGURATION, SIZE AND TYPE OF PIPING MATERIAL AS PER CITY OR SANITARY DISTRICT, INSPECTION BY SANITARY DISTRICT PRIOR TO BACKFILLING.
- WIDTH OF TROUGH IN MANHOLE MUST BE SAME SIZE AS THE INLET PIPE INTO MANHOLE. DEPTH OF TROUGH MUST BE THE SAME AS 1/2 OF INLET PIPE DIAMETER.
- CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
- REINFORCEMENT STEEL SHALL BE ASTM A615 GRADE 60.
- THE CONCRETE COVER OVER REINFORCEMENT STEEL SHALL BE A MINIMUM OF 1-1/2 INCHES.
- THE STRUCTURE SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF UTAH.
- THE STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LOADING CRITERIA:
 - WALLS DESIGNED FOR A SATURATED EQUIVALENT FLUID AT-REST SOIL PRESSURE OF 90 PCF PLUS TRUCK SURCHARGES
 - TRUCK LOADING USING AN MASHTO H-20 TRUCK LOAD.
- MANHOLES WILL HAVE STAINLESS OR PLASTIC STEPS.
- ALL MANHOLES MUST HAVE ROUND NOTCHED COVERS WITH PICK HOLE FOR REMOVAL.
- FOR NEW CONSTRUCTION BOTTOM OF INLET PIPE INTO MANHOLE MUST BE AT LEAST 3 INCHES ABOVE THE BOTTOM OF THE TROUGH THRU THE MANHOLE.

NOTE: SANITARY PIPING FROM TOILETS MUST TIE IN DOWNSTREAM FROM SAMPLING MANHOLE.



PLAN VIEW



SECTION

5 SAMPLING MANHOLE DETAIL

P603 NO SCALE

CLIENT



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PROFESSIONAL SEAL



ISSUE

MARK	DATE	DESCRIPTION
▲	4-23-09	ADDENDUM #2
	2-09	CONSTRUCTION DOCUMENTS
	1-19-09	90% REVIEW SUBMITTAL

MARK	DATE	DESCRIPTION

DFCM PROJECT NO:	08300900
DFCM CONTRACT NO:	97236
ARCHIPLEX PROJECT NO:	0837.01
DRAWN BY:	JB
CHECKED BY:	ADS
SCALE:	
DATE:	FEBRUARY, 2009

SHEET TITLE

PLUMBING
DETAILS

P603

Dr. expenditure: Apr 21, 2008 - 12:02pm. A:\p\p\p\p\2008\0827\06.01 - Scofield Inlet. dwg\901-0827\06.dwg