



PROJECT:	CENTENNIAL PUBLIC SCHOOL ADDITION AND RENOVATION	PROJECT NO.	L13030
FROM:	BVH ARCHITECTS	DATE:	OCT. 04, 2013
TO:	CHEEVER CONSTRUCTION	ADDENDUM NO.	2

This Addendum is issued by the Architect to all bidders of record after receipt of proposals. Bidders shall acknowledge receipt of this addendum by so indicating on the Proposal Form. Failure to do so may subject Bidder to disqualification.

All information and instructions given herein shall become a part of the Contract Documents.

GENERAL

1. Precast concrete panels along Gridlines A, C, 2, 2.2, and X1, excluding all walls surround MULTI-PURPOSE ROOM 125, shall have a 4" exterior wythe, 4" insulation, and 3" interior wythe to accommodate thin brick or fluted texture as described in Alternates #1 and #2.
2. Thin brick, as shown in the base bid, shall be in the same plane as the face of precast concrete.

PROJECT MANUAL

1. Section 034500 – PRECAST ARCHITECTURAL CONCRETE is replaced in its entirety and is enclosed.

DRAWINGS

1. Sheet A1.1, FIRST FLOOR PLAN – AREA A, revised sheet attached
 - A. DETAIL A1, FIRST FLOOR PLAN – AREA A
 1. West wall of STOR 126 moved 1'-4" east.
 2. Cast in place concrete walls along Gridline X4, at doors 100A, and 100B, allow for a 6'-8" rough opening.
 3. MEN RR 132, WOMEN RR 133, LOCKER'S 134, 135,136, 137, COACHES 161, 164, STOR 138, AND JC 157 all moved north 4". This allows the southernmost CMU wall to bear entirely on a new foundation.
 4. Southwest exterior wall in MEN RR 132 moved west to allow for a larger mechanical chase.
2. Sheet A1.2, FIRST FLOOR PLAN – AREA B, revised sheet attached
 - A. DETAIL A1, FIRST FLOOR PLAN – AREA B

1. Removed wall between IND. TECH. STATIONS 116 AND IND. TECH. CLASSROOM 119.
 2. Adjusted precast panel layout with window/door openings along Gridline 3.
 3. Moved RADIO 117, AND STOR 118 further west.
 4. Replaced CMU walls at outdoor storage area to the north of shop spaces with precast concrete panels. See EXHIBIT B for additional information.
 5. The north wall of the entry alcoves at doors 108A, 109A, 109B, 116A and 119A have shifted south 8".
 6. The south wall of the entry alcoves at doors 110A and 112A have shifted north 8".
3. EXHIBIT A – Reference Sheet A1.1 – FIRST FLOOR PLAN – AREA A
- A. DETAIL 1, MEN'S RESTROOM PARTIAL PLAN
 1. Southwest exterior wall in MEN RR 132 moved west to allow for a larger mechanical chase.
4. EXHIBIT B – Reference Sheet A1.2 – FIRST FLOOR PLAN – AREA B
- A. DETAIL 1, OUTDOOR STOR AREA PRECAST PANEL LAYOUT PLAN
 1. Replaced CMU walls at outdoor storage area to the north of shop spaces with precast concrete panels.
 2. Gates will be comprised of structural steel tubing and will require imbed plates to anchor hinges and latch assemblies. Location and detail of imbeds will be forthcoming.

END OF ADDENDUM

SECTION 034500
PRECAST ARCHITECTURAL CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Architectural precast concrete wall panels with integral insulation and non-insulated wall panels.
- B. Supports, anchors, and attachments.
- C. Grouting under panels.

1.02 RELATED REQUIREMENTS

- A. Section 013000 - Delegated Design Submittals.
- B. Section 014000 - Delegated Design Submittals.
- C. Section 016000 - Delegated Design Submittals.
- D. Section 033000 - Cast-in-Place Concrete: Concrete Reinforcing and Admixtures.
- E. Section 051200 - Structural Steel Framing: Furnishing and installing connections attached to structural steel framing.
- F. Section 079005 - Joint Sealers: Perimeter joints with sealant and backing.
- G. Mechanical and Electrical Contract Documents.

1.03 REFERENCE STANDARDS

- A. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International; 2010.
- B. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International; 2011.
- C. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2008.
- D. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2012.
- E. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- F. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2012.
- G. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2010.
- H. ASTM A497/A497M - Standard Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete; 2007.
- I. ASTM A563 - Standard Specification for Carbon and Alloy Steel Nuts; 2007a.
- J. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2012.
- K. ASTM A767/A767M - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement; 2009.
- L. ASTM A884/A884M - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement; 2012.
- M. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field; 2012.
- N. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2011a.
- O. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2012.

- P. ASTM C150/C150M - Standard Specification for Portland Cement; 2012.
- Q. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a.
- R. ASTM C330 - Standard Specification for Lightweight Aggregates for Structural Concrete; 2009.
- S. ASTM C979/C979M - Standard Specification for Pigments for Integrally Colored Concrete; 2010.
- T. ASTM C1088 - Standard Specification for Thin Veneer Brick Units Made From Clay or Shale; 2012.
- U. ASTM D3963/D3963M - Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Reinforcing Steel Bars; 2001 (Reapproved 2007).
- V. ASTM F436 - Standard Specification for Hardened Steel Washers; 2011.
- W. ASTM F959 - Standard Specification for Compressible-Washer-Type Direct Tension Indicators for Use with Structural Fasteners; 2009.
- X. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2010.
- Y. AWS D1.4/D1.4M - Structural Welding Code - Reinforcing Steel; American Welding Society; 2011.
- Z. IAS AC157 - Accreditation Criteria for Fabricator Inspection Programs for Reinforced and Precast/Prestressed Concrete; 2010.
- AA. PCI MNL-116 - Manual for Quality Control for Plants and Production of Structural Precast Concrete Products; Precast/Prestressed Concrete Institute; Current Edition.
- AB. PCI MNL-120 - PCI Design Handbook - Precast and Prestressed Concrete; Precast/Prestressed Concrete Institute; Seventh Edition, 2010.
- AC. PCI MNL-122 - Architectural Precast Concrete; Precast/Prestressed Concrete Institute; 2007, Third Edition.
- AD. PCI MNL-123 - Design and Typical Details of Connections for Precast and Prestressed Concrete; Precast/Prestressed Concrete Institute; 1988, Second Edition.
- AE. PCI MNL-135 - Tolerance Manual for Precast and Prestressed Concrete Construction; Precast/Prestressed Concrete Institute; 2000.

1.04 DESIGN REQUIREMENTS

- A. Design units to withstand design loads as calculated in accordance with 2009 IBC code erection forces, and as indicated. Calculate structural properties of units in accordance with ACI 318.
- B. Design units to withstand static loads and anticipated dynamic loading, including positive and negative wind loads and thermal movement loads.
- C. Design and size components to withstand seismic loads and sway displacement as calculated in accordance with 2009 IBC code.
- D. Design units to accommodate construction tolerances, deflection of building structural members, and clearances of intended openings.
- E. Design component connections to accommodate building movement and thermal movement. Provide adjustment to accommodate misalignment of structure without unit distortion or damage.
- F. Panels shall be designed while maintaining a thermal break between the inside and outside wythes.

1.05 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate layout, unit locations, configuration, unit identification marks, reinforcement, connection details, support items, location of lifting devices, dimensions, openings, and relationship to adjacent materials. Provide erection drawings.

1. Include structural design calculations.
- C. Product data and instructions for manufactured materials and products. Include mix designs, certifications, and laboratory test reports as required.
- D. Samples: See Mock-Up requirements below.
- E. Welding Certificates: Copies of certificates for welding procedure specifications (WPS) and personnel certification.
- F. Delegated Design Submittal: Include analysis data signed and sealed by qualified professional structural engineer responsible for their preparation.

1.06 QUALITY ASSURANCE

- A. Design Engineer Qualifications: Design precast concrete units under direct supervision of a Professional Structural Engineer experienced in design of precast concrete and licensed in State of Nebraska.
- B. Perform the work of this section in accordance with PCI MNL-120, PCI MNL-122, PCI MNL-123, PCI MNL-116, PCI MNL-135, and ACI 318. Perform welding in accordance with AWS D1.1.
 1. Maintain one copy of each document on site.
- C. Fabricator Qualifications:
 1. Any manufacturer holding a minimum PCI Group CA, Category C3 Plant Certification for wall panels; see www.pci.org.
- D. Design modifications may be made only as necessary to meet field conditions and to ensure proper fitting of the work and only as acceptable to Architect. Maintain general design concept shown without increasing or decreasing sizes of members or altering profiles and alignment shown. Provide complete design calculations and drawings prepared by a professional engineer registered in State where project is located, if design modifications are anticipated.
- E. Welder: Qualified within previous 12 months in accordance with AWS D1.1 and AWS D1.4.
- F. Erector's Qualifications: A precast concrete erector with minimum 5 years of experience in erecting similar projects and with erecting organization and all erecting crews Certified and designated, prior to beginning work at project site, by PCI's Certificate of Compliance to erect the type of precast wall panels included in the building design.
- G. Fire Resistance: Where indicated, provide architectural precast concrete units whose fire resistance rating meets the prescriptive requirements of the governing code and has been calculated according to PCI MNL 124, Design of Fire Resistance of Precast Prestressed Concrete.

1.07 MOCK-UP

- A. Color Samples: Submit 12 x 12 inch sample indicating color and surface texture for initial approval of color/texture.
- B. Sample Panels: After color sample is approval for color and texture, but before fabricating architectural precast concrete units, produce a minimum of two (2) sample panels approximately 36 sf in size each for review by Architect. Incorporate full-scale details of architectural features, all different textures specified reveals and range of colors.
 1. Locate panels as directed by Architect.
 2. Damage part of an exposed-face surface for each finish, color, and texture, and demonstrate adequacy of repair techniques proposed for repair of surface blemishes.
 3. After acceptance of repair technique, maintain one sample panel at the fabricator's plant and one at the Project site in an undisturbed condition as a standard for judging the completed Work.
 4. Demolish and remove sample panels when directed.
- C. Mockups: After sample panel approval but before production of architectural precast concrete units, construct one full-sized mockup panel to verify selections made under sample submittals

and to demonstrate aesthetic effects and set quality standards for materials and execution. Mockup to be representative of the finished work including sealants. Build mockups to comply with the following requirements, using materials indicated for the completed work:

1. Build mockups in the location and of the size indicated in Contract Documents or, if not indicated, as directed by Architect.
2. Notify Architect in advance of dates and times when mockups will be constructed.
3. Obtain Architect's approval of mockups before starting fabrication of precast concrete units.
4. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
5. Mockups may be incorporated in the finished work if undamaged at the time of Substantial Completion.
6. Approval of mockups does not constitute approval of deviations from the Contract Documents unless such deviations are specifically approved by Architect in writing.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Handling: Lift and support precast units only from support points.
- B. Blocking and Lateral Support During Transport and Storage: Use materials that are clean, non-staining, and non-harmful to exposed surfaces. Provide temporary lateral support to prevent bowing and warping.
- C. Protect units to prevent staining, chipping, or spalling of concrete.
- D. Mark units with date of production in location that will be concealed after installation.
- E. Furnish loose connection hardware and anchorage items to be embedded in or attached to other construction without delaying the Work. Provide locations, setting diagrams, templates, instructions, and directions, as required, for installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Architectural Precast Concrete:
 1. Concrete Industries, Inc.-Lincoln, Nebraska.
 2. Core Slab Structures.
 3. Substitutions: See Section 016000 - Product Requirements.

2.02 MOLD MATERIALS

- A. Form Liners: Units of face design, texture, arrangement, and configuration indicated. Provide solid backing and form supports to ensure that form liners remain in place during concrete placement. Use manufacturer's recommended form-release agent that will not bond with, stain, or adversely affect hardening of precast concrete surfaces and will not impair subsequent surface or joint treatments of precast concrete.
- B. Manufacturer: Architectural Polymers
 1. Pattern: #206-3/4" Standard Fractured Fin.
 2. See drawings for additional details and pattern orientation and locations.

2.03 PRECAST UNITS

- A. Precast Architectural Concrete Units: Comply with PCI MNL-116, PCI MNL-120, PCI MNL-122, PCI MNL-123, PCI MNL-135, and ACI 318.

2.04 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615/A615M Grade 40 (280).
 1. Deformed billet-steel bars.
- B. Pre-stressing Strand to be seven wire 270ksi low relaxation: ASTM A 416.
 1. Galvanized in accordance with ASTM A767/A767M, Class I.

2.05 CONCRETE MATERIALS

- A. Cement: ASTM C150, Type I - Normal Portland type.
 - 1. Use white, of same type, brand, and mill source throughout the precast concrete production.
- B. Fine and Coarse Structural Aggregates: ASTM C33 except as modified by PCI MNL 116 and absorption of less than 11 percent.
 - 1. Face-Mixture Fine Aggregates: Selected, natural, or manufactured sand of a material compatible with coarse aggregate to match selected Sample finish.
 - a. Gradation: Uniformly graded.
- C. Fly Ash: ASTM C 618, Class C or F with maximum loss on ignition of 3 percent.
- D. Metakaolin: ASTM C 618, Class N.
- E. Silica Fume: ASTM C 1240 with optional chemical and physical requirements.
- F. Ground Granulated Blast Furnace Slag: ASTM C 989, Grade 100 or 120.
- G. Water: Clean and not detrimental to concrete.
- H. Air Entrainment Admixture: ASTM C260, certified by manufacturer to be compatible with other required admixtures.

2.06 THIN BRICK

- A. Thin Brick: ASTM C1088.
 - 1. Type: TBX.
 - 2. Size: Manufacturer's standard Modular (2 1/4" x 7 5/8").
 - 3. Thickness: 3/4 inch.
 - 4. Tolerances: 1/16 inch or as otherwise required by fabricator for proper fit into mold.
 - a. Strict tolerance on size of brick must be maintained for proper insertion and fit of brick in mold to avoid misaligned or "tipped" brick.
 - 5. Manufacturer: Yankee Hill Brick & Tile.
 - 6. Color and Texture: Medium Red Velour.

2.07 SUPPORT DEVICES

- A. Connecting and Support Devices: ASTM A 36/A 36M steel; hot-dip galvanized in accordance with ASTM A153/A 153M. all connecting devices shall be recessed and covered with precast blocks that match the panel so as to conceal connection devices from view. See drawings for panel connection details
 - 1. Clean surfaces of rust, scale, grease, and foreign matter.
- B. Grout: Nonmetallic, Non-shrink Grout: Premixed, prepackaged non-ferrous aggregate, noncorrosive, non-staining grout containing selected silica sands, portland cement, shrinkage-compensating agents, plasticizing and water-reducing admixtures, complying with ASTM C 1107, Grade A for dry pack and Grades B and C for flowable grout and of consistency suitable for application within a 30-minute working time. Water-soluble chloride ion content of grout with less than 0.06 percent chloride ion by weight of cement when tested in accordance with ASTM C 1218/C 1218M.
- C. Wythe Connectors: manufactured to connect wythes of precast concrete panels. Any of the following types. Provide holes in insulation for connector placement at least 4 in. (100 mm) and no more than 12 in. (0.30 m) from edges of panel or openings. Insulated Sandwich Panel Connectors: Non-conductive, non-corrosive, fiber composite connectors.
 - 1. Epoxy coated carbon fiber grid.
 - 2. Fiberglass truss.

2.08 INSULATION

- A. Integral Insulation: Extruded polystyrene Board Insulation complying with ASTM C 578, Type IV, 1.55 lbs/ft³ Density:

1. Thermal Resistance: ASTM C518-Minimum R=5.0 per inch.
2. Edge: Square.
3. Four (4) inches total thickness.
4. Provide holes in insulation for connector placement at least 4 in. (100 mm) and no more than 12 in. (0.30 m) from edges of panel or openings.

2.09 ACCESSORIES

- A. Bearing Pads: Provide one of the following:
 1. High-Density Plastic: Multimonomer, nonleaching, plastic strip capable of supporting loads with no visible overall expansion.
 2. Elastomeric Pads: AASHTO M 251, plain, vulcanized, 100 percent polychloroprene (neoprene) elastomer, molded to size or cut from a molded sheet, 50 to 70 Shore A durometer according to ASTM D 2240, minimum tensile strength 2250 psi (15.5 MPa) per ASTM D 412.
 3. Frictionless Pads: Tetrafluoroethylene (Teflon), glass-fiber reinforced, bonded to stainless or mild-steel plates, or random-oriented, fiber-reinforced elastomeric pads, of type required for in-service stress.
 4. Random-Oriented, Fiber-Reinforced Elastomeric Pads: Preformed, randomly oriented synthetic fibers set in elastomer. Surface hardness of 70 to 90 Shore A durometer according to ASTM D 2240. Capable of supporting a compressive stress of 3000 psi (20.7 MPa) with no cracking, splitting, or delaminating in the internal portions of the pad. Test one specimen for each 200 pads used in Project.
- B. Sealant: Exterior Weatherseal Silicone type specified in Section 079005.
- C. Sealer, Weatherproofing and Anti-Graffiti coating.
 1. Clear-drying coating for sealing and weatherproofing precast concrete surfaces and protecting them from graffiti attacks.
 2. Clear-drying, water based silicone emulsion.
 3. Product: Sure Klean Weather Seal Blok-Guard & Graffiti Control II by PROSOCO, Inc. or approved equal.
 4. To be used for sealing exterior precast units as well as interior precast units exposed to human contact.
 - a. All interior and exterior wall panels from ground/floor line up to horizontal reveal at elevation 107'-4".
 - 1) For Alternate No. 2, in addition to 2.08.C.4.a above, anti-graffiti coating shall be installed at all fluted texture portions of precast panels.
 5. Install coating per manufacturer's instructions.

2.10 MIX

- A. Concrete: Minimum 5000 psi, 28 day strength, air entrained to 5 to 7 percent in accordance with ACI 301 in the face wythe mix. The screed or back-face of the panel to have no air entrainment to permit proper finishing.
 1. Permissible use of fly ash is between 10 to 15 percent replacement of portland cement by weight; ground granulated blast furnace slag is between 10 to 15 percent of portland cement by weight; and metakaolin and silica fume is between 5 to 10 percent of portland cement by weight.
 2. Limit water-soluble chloride ions to the maximum percentage by weight of cement permitted by ACI 318 (ACI 318M) or PCI MNL 116 when tested in accordance with ASTM C 1218/C 1218M.
 3. Maximum Water-Cementitious Materials Ratio: 0.45.
 4. Water Absorption: 6 percent by weight or 14 percent by volume, tested according to ASTM C 642, except for boiling requirement.

2.11 FABRICATION

- A. Cast-in Anchors, Inserts, Plates, Angles, and Other Anchorage Hardware: Fabricate anchorage hardware with sufficient anchorage and embedment to comply with design requirements. Accurately position for attachment of loose hardware and secure in place during pre-casting operations. Locate anchorage hardware where it does not affect position of main reinforcement or concrete placement.
 - 1. Weld headed studs and deformed bar anchors used for anchorage according to AWS D1.1/D1.1M and AWS C5.4, "Recommended Practices for Stud Welding."
- B. Furnish loose hardware items including steel plates, clip angles, seat angles, anchors, dowels, cramps, hangers, and other hardware shapes for securing architectural precast concrete units to supporting and adjacent construction.
- C. Cast in openings larger than 10 in. (250 mm) in any dimension. Do not drill or cut openings or pre-stressing strand without Architect's approval.
- D. Reinforcement: Comply with recommendations in PCI MNL 116 for fabrication, placing, and supporting reinforcement.
 - 1. Clean reinforcement of loose rust and mill scale, earth, and other materials that reduce or destroy the bond with concrete. When damage to epoxy-coated reinforcing exceeds limits specified in ASTM A 775/A 775M, repair with patching material compatible with coating material and epoxy coat bar ends after cutting.
 - 2. Accurately position, support, and secure reinforcement against displacement during concrete- placement and consolidation operations. Completely conceal plastic tipped or corrosion resistant metal or plastic chair support devices to prevent exposure on finished surfaces.
 - 3. Place reinforcing steel and pre-stressing tendon to maintain at least 3/4 in. (19 mm) minimum concrete cover. Increase cover requirements for reinforcing steel to 1 1/2 in. (38 mm) when units are exposed to corrosive environment or severe exposure conditions. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position while placing concrete. Direct wire tie ends away from finished, exposed concrete surfaces.
 - 4. Install welded wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh spacing and wire tie laps, where required by design. Offset laps of adjoining widths to prevent continuous laps in either direction.
- E. Reinforce architectural precast concrete units to resist handling, transportation and erection stresses, and specified in-place loads, whichever governs.
- F. Pre-stress tendons for architectural precast concrete units by pre-tensioning or post-tensioning methods. Comply with PCI MNL 116.
 - 1. Delay de-tensioning or post-tensioning of precast, pre-stressed architectural precast concrete units until concrete has reached its indicated minimum design release compressive strength as established by test cylinders cured under the same conditions as concrete unit.
 - 2. De-tension pre-tensioned tendons either by gradually releasing tensioning jacks or by heat-cutting tendons, using a sequence and pattern to prevent shock or unbalanced loading.
 - 3. If concrete has been heat cured, de-tension while concrete is still warm and moist to avoid dimensional changes that may cause cracking or undesirable stresses.
 - 4. Protect strand ends and anchorages with bituminous, zinc-rich, or epoxy paint to avoid corrosion and possible rust spots.
- G. Place face mixture to a minimum thickness after consolidation of the greater of 1 in. (25 mm) or 1.5 times the nominal maximum aggregate size, but not less than the minimum reinforcing cover as indicated on Contract Drawings.
 - 1. Use a single design mixture for those units in which more than one major face (edge) is exposed.

2. Where only one face of unit is exposed, at the fabricator's option, either of the following mixture design/casting techniques may be used:
 - a. A single design mixture throughout the entire thickness of panel.
 - b. Separate mixtures for face and backup concrete; using cement and aggregates for each type as appropriate, for consecutive placement in the mold. Use cement and aggregate specified for face mixture. Use cement and aggregate for backup mixture complying with specified criteria or as selected by the fabricator.
- H. Place concrete in a continuous operation to prevent cold joints or planes of weakness from forming in precast concrete units.
 1. Place backup concrete to ensure bond with face-mixture concrete.
- I. Thoroughly consolidate placed concrete by internal and/or external vibration without dislocating or damaging reinforcement and built-in items, and minimize pour lines, honeycombing, or entrapped air voids on surfaces. Use equipment and procedures complying with PCI MNL 116.
 1. Place self-consolidating concrete without vibration in accordance with PCI TR-6 "Interim Guidelines for the Use of Self-Consolidating Concrete." If face and backup concrete is used, ensure adequate bond between concrete mixtures.
- J. Comply with PCI MNL 116 procedures for hot- and cold-weather concrete placement.
- K. Identify pickup points of architectural precast concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint or permanently mark casting date on each architectural precast concrete unit on a surface that will not show in finished structure.
- L. Cure concrete, according to requirements in PCI MNL 116, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture. Cure units until the compressive strength is high enough to ensure that stripping does not have an effect on the performance or appearance of final product.
- M. Repair damaged architectural precast concrete units to meet acceptability requirements in PCI MNL 116 and Architect's approval.
- N. Coordinate with mechanical and electrical contract documents for placement of conduits, junction boxes, pipe, back-boxes, power and data outlets and all other electrical equipment that will be cast into the precast wall panels. All of these items shall be cast into the walls unless specifically indicated to be surface mounted.
- O. Mold Fabrication: Accurately construct molds, mortar tight, of sufficient strength to withstand pressures due to concrete placement and vibration operations and temperature changes, and for pre-stressing and detensioning operations. Coat contact surfaces of molds with release agent before reinforcement is placed. Avoid contamination of reinforcement and pre-stressing tendons by release agent.
 1. Place form liners accurately to provide finished surface texture indicated. Provide solid backing and supports to maintain stability of liners during concrete placement. Coat form liner with form-release agent.

2.12 INSULATED PANEL CASTING

- A. Cast, screed and consolidate bottom concrete wythe supported by mold.
- B. Place insulation boards, abutting edges and ends of adjacent boards. Insert wythe connectors through insulation holes, and consolidate concrete around connectors according to connector manufacturer's written instructions.
- C. Ensure bottom wythe or insulation layer are not disturbed after bottom wythe reaches initial set.
- D. Cast and screed top wythe to meet required finish.
- E. Maintain temperature below 150 deg. F (65 deg. C) in bottom concrete wythe.

2.13 FINISH - PRECAST UNITS

- A. Finish: Exposed panel faces shall be free of joint marks and other obvious defects. Corners, including false joints shall be uniform and straight. Finish exposed-face surfaces of architectural precast concrete units to match approved Mock Up.
- B. Do not begin fabrication until Mock Up panel has been approved. Ensure exposed-to-view "back" surfaces of precast units are uniform in color and appearance, texture and surface flatness.
 - 1. Color: As selected.
 - a. Interior wythe and all solid (non-insulated) panels shall be standard gray color.
 - b. Exterior wythe-exposed to view shall be buff color as selected by architect from color numbers 9058W1 or 9058W2.
 - 2. Texture: See drawings for further information.
 - a. Fluted texture, vertical orientation.
 - 3. Finish unformed surfaces of precast concrete as follows:
 - a. Screed Finish where not exposed to view
 - b. Three pass steel trowel or power trowel finish where exposed to view.
- C. Textured-Surface Finish: Impart texture by form liners to match accepted mockup units for acceptable surface air voids, sand streaks, and honeycombs, with uniform color and texture.
 - 1. Standard Form Finish with Form Liner: Normal plant-run finish produced in forms with form liners that impart a textured finish to concrete with no vertical or horizontal form joint marks. Small surface holes caused by air bubbles and normal color variation will be tolerated. Major or unsightly imperfections, holes, honeycombs or structural defects are not permitted. Fill all air pockets and voids over 3/8 inch in size with sand-cement paste, matching color of adjacent surface. Fill all holes between 1/4 inch and 3/8 inch that occur in high concentration (more than 10 per 144 square inches).
 - 2. Standard Form Finish without Form Liner: Light Sandblast.

2.14 FABRICATION TOLERANCES

- A. Conform to PCI MNL-116 except as specifically amended below. Tolerances shall also apply as well as position tolerances for cast-in items.
 - 1. Location of blockouts: Plus or minus 1/4 inch.
 - 2. Size of blockouts: Plus or minus 1/4 inch.
- B. Acceptability of Architectural Features: The finished face or surface shall have no obvious imperfections other than minimal color and texture variations from the approved samples or mock-up panels when viewed in good typical daylight illumination with the unaided naked eye at a 20 foot viewing distance. Appearance of the surface shall not be evaluated when light is illuminating the surface from an extreme angle as this tends to accentuate minor surface irregularities.

2.15 SOURCE QUALITY CONTROL

- A. Quality-Control Testing: Test and inspect precast concrete according to PCI MNL 116 requirements. See Section 014000 for further information. If using self-consolidating concrete also test and inspect according to PCI TR-6 "Interim Guidelines for the Use of Self-Consolidating Concrete" and ASTM C 1611/C 1611M, ASTM C 1712, ASTM C 1610/1610M, and ASTM C 1621/C 1621M.
- B. Testing: If there is evidence that strength of precast concrete units may be deficient or may not comply with ACI 318 (ACI 318M) requirements, fabricator will employ an independent testing agency to obtain, prepare, and test cores drilled from hardened concrete to determine compressive strength according to ASTM C 42/C 42M and ACI 318/ACI 318M.
 - 1. A minimum of three representative cores will be taken from units of suspect strength, from locations directed by Architect.
 - 2. Cores will be tested in an air-dry condition.

3. Strength of concrete for each series of three cores will be considered satisfactory if the average compressive strength is equal to at least 85 percent of the 28-day design compressive strength and no single core is less than 75 percent of the 28-day design compressive strength.
 - a. Project identification name and number.
 - b. Date when tests were performed.
 - c. Name of precast concrete fabricator.
 - d. Name of concrete testing agency.
 - e. Identification letter, name, and type of precast concrete unit(s) represented by core tests; design compressive strength; type of break; compressive strength at breaks, corrected for length-diameter ratio; and direction of applied load to core in relation to horizontal plane of concrete as placed.
- C. Patching: If core test results are satisfactory and precast concrete units comply with requirements, clean and dampen core holes and solidly fill with precast concrete mixture that has no coarse aggregate, and finish to match adjacent precast concrete surfaces.
- D. Acceptability: Architectural precast concrete units that do not comply with acceptability requirements in PCI MNL 116, including concrete strength, manufacturing tolerances, and color and texture range are unacceptable. Chipped, spalled, or cracked units may be repaired, if repaired units match the visual mock-up. The Architect reserves the right to reject any unit if it does not match the accepted sample panel or visual mock-up. Replace unacceptable units with precast concrete units that comply with requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that building structure, anchors, devices, and openings are ready to receive work of this section.

3.02 PREPARATION

- A. Provide for erection procedures and induced loads during erection. Maintain temporary bracing in place until final support is provided.
- B. Furnish anchorage devices for precast concrete units to be embedded in or attached to the building structural frame or foundation before start of such Work. Provide locations, setting diagrams, templates and instructions for the proper installation of each anchorage device.

3.03 ERECTION

- A. Erect units without damage to shape or finish. Replace or repair damaged panels.
- B. Precaster or erector to supply and install miscellaneous steel pre-weld connection hardware in the field.
- C. Erect architectural precast concrete level, plumb, and square within the specified allowable erection tolerances. Provide temporary supports and bracing as required to maintain position, stability, and alignment of units until permanent connections are completed.
 1. Install temporary steel or plastic spacing shims as precast concrete units are being erected. Surface weld steel shims to each other to prevent shims from separating.
 2. Maintain horizontal and vertical joint alignment and uniform joint width as erection progresses.
 3. Remove projecting lifting devices and use sand-cement grout to fill voids within recessed lifting devices flush with surface of adjacent precast concrete surfaces when recess is exposed.
 4. Unless otherwise indicated, provide for uniform joint widths of 3/4 in. (19 mm).
- D. Connect architectural precast concrete units in position by bolting, welding, grouting, or as otherwise indicated on Shop (Erection) Drawings. Remove temporary shims, wedges, and spacers as soon as practical after connecting and/or grouting are completed.

1. Disruption of roof flashing continuity by connections is not permitted; concealment within roof insulation is acceptable.
- E. Welding: Comply with applicable AWS D1.1/D1.1M, AWS D1.4/D1.4M and D1.6/D1.6M requirements for welding, welding electrodes, appearance of welds, quality of welds, and methods used in correcting welding work.
 1. Protect architectural precast concrete units and bearing pads from damage during field welding or cutting operations and provide noncombustible shields as required.
 2. Welds not specified shall be continuous fillet welds, using not less than the minimum fillet as specified by AWS D 1.1/D 1.1M, D 1.4/D 1.4M or D1.6/D1.6M.
 3. Clean weld- affected metal surfaces with chipping hammer followed by brushing or power tool cleaning and then re-prime damaged painted surfaces in accordance with paint manufacturer's recommendations.
 4. Visually inspect all welds critical to precast concrete connections. Visually check all welds for completion and remove re-weld or repair all defective welds, if services of AWS-certified welding inspector are not furnished by Owner.
- F. At bolted connections, use upset threads, thread locking compound or other approved means to prevent loosening of nuts after final adjustment.
 1. Where slotted connections are used, verify bolt position and tightness at installation. For sliding connections, properly secure bolt but allow bolt to move within connection slot.
 2. For slip critical connections, one of the following methods shall be used to assure proper bolt pretension:
 - a. Turn-of-Nut - in accordance with AISC.
 - b. Calibrated Wrench - in accordance with AISC.
 - c. Twist-off Tension Control Bolt - meeting ASTM F 1852.
 - d. Direct-Tension Control Bolt - meeting ASTM F 1852.
 3. For slip critical connections, the method to be used and the inspection procedure to be used shall be approved by the Architect and coordinated with the inspection agency.
- G. Grouting or Dry-Packing Connections and Joints: Indicate joints to be grouted and any critical grouting sequences on Shop (Erection) Drawings. Grout connections where required or indicated on Shop (Erection) Drawings. Retain flowable grout in place until it gains sufficient strength to support itself. Alternatively pack spaces with stiff dry pack grout material, tamping until voids are completely filled. Place grout and finish smooth, level, and plumb with adjacent concrete surfaces. Promptly remove grout material from exposed surfaces before it affects finishes or hardens. Keep grouted joints damp for at least 24 hours after initial set.
- H. Seal perimeter and intermediate panel joints, both on exterior and interior side of wall in accordance with Section 079005.
 1. Install two rows at exterior side and two rows at interior side of panel joints; 1 inch closed cell backer rod each having a minimum R-value of 3.38 per inch of foam. Total R-value of 13.52.
- I. Apply weatherproof sealer/anti-graffiti coating as indicated and as per manufacturer's instructions.

3.04 TOLERANCES

- A. Erect architectural precast concrete units level, plumb, square, and in alignment without exceeding the noncumulative erection tolerances of PCI MNL 116, Appendix I or as may be modified below.
- B. Maximum Variation from Plane of Location: 1/4 inch in 10 feet, and 3/8 inch in 100 feet, non-cumulative.
- C. Maximum Offset from true alignment between two adjoining units: 1/4 inch.
- D. Joint Tolerance: Plus or minus 1/8 inch.

- E. Erect members level and plumb within allowable tolerances. Conform to PCI MNL-135, except as specifically amended below.
 - 1. Plan Location from Building Grid Datum: Plus or minus 1/2 in.
 - 2. Top Elevation from Nominal Top Elevation: Plus or minus 1/2 inch.
 - 3. Maximum Plumb Variation Over Height of Structure: Plus or minus 1/2 inch.
 - 4. Exposed Joint Dimension: Plus or minus 1/4 inch.
 - 5. Maximum Jog in Alignment of Matching Faces or Edges: Plus or minus ¼ inch.
 - 6. Differential Bowing or Camber as Erected Between Similar Adjacent Members: Plus or minus ¼ inch.

3.05 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections and prepare reports:
 - 1. Erection of load-bearing precast concrete members.
- B. Repairs will be permitted provided structural adequacy of units and appearance are not impaired.
 - 1. Repair damaged units to meet acceptability requirements of PCI MNL 116.
 - 2. Mix patching materials and repair units so cured patches blend with color, texture, and uniformity of adjacent exposed surfaces and show no apparent line of demarcation between original and repaired work, when viewed in typical daylight illumination from a distance of 20 ft (6 m).
 - 3. Prepare and repair damaged galvanized coatings with galvanizing repair paint according to ASTM A 780/A 780M.
 - 4. Wire brush, clean, and paint damaged prime-painted components with same type of shop primer.
 - 5. Remove and replace damaged architectural precast concrete units when repairs do not comply with specified requirements.

3.06 CLEANING

- A. Clean exposed facings to remove dirt and stains on units after erection and completion of joint treatments. Wash and rinse in accordance with precast manufacturer's recommendations. protect other work from damage due to cleaning operations. Do not use cleaning materials or processes that could change the character of exposed concrete finishes.
- B. Clean mortar, plaster, fireproofing, weld slag, and any other deleterious material from concrete surfaces and adjacent materials immediately.
- C. Clean exposed surfaces of precast concrete units after erection and completion of joint treatment to remove weld marks, dirt, stains and other markings.
 - 1. Perform cleaning procedures, if necessary, according to precast concrete fabricator's recommendations. Protect adjacent work from staining or damage due to cleaning operations.
 - 2. Do not use cleaning materials or processes that could change the appearance of exposed concrete finishes or damage adjacent materials.

END OF SECTION



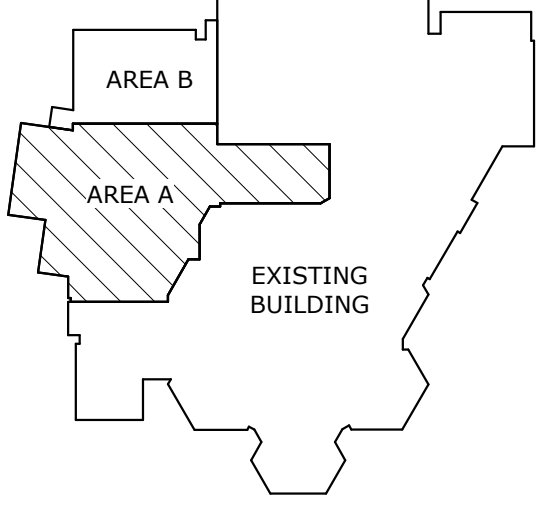
ARCHITECT
 BAHN VERMEER HAECKER ARCHITECTS
 440 N 8TH ST STE 100
 LINCOLN NE 68508
 V: 402.475.4551
 F: 402.475.0226
 bvh.com

STRUCTURAL ENGINEER
 VOSS & ASSOCIATES, INC.
 201 N 7TH STREET, STE 200
 LINCOLN NE 68504
 V: 402.476.6365
 F: 402.476.6414
 voss-assoc.com

MECHANICAL/ELECTRICAL ENGINEER
 ENGINEERING TECHNOLOGIES, INC.
 825 M STREET, STE 310
 LINCOLN NE 68508
 V: 402.476.1273
 et-engineers.com

CIVIL ENGINEER
 REGA ENGINEERING GROUP, INC.
 1620 S 10TH STREET, STE 103
 LINCOLN NE 68506
 V: 402.484.7342
 F: 402.484.7344
 regaengineering.com

REVISIONS SCHEDULE		
MARK	DATE	DESCRIPTION
B	10.04.2013	ADDENDUM #2



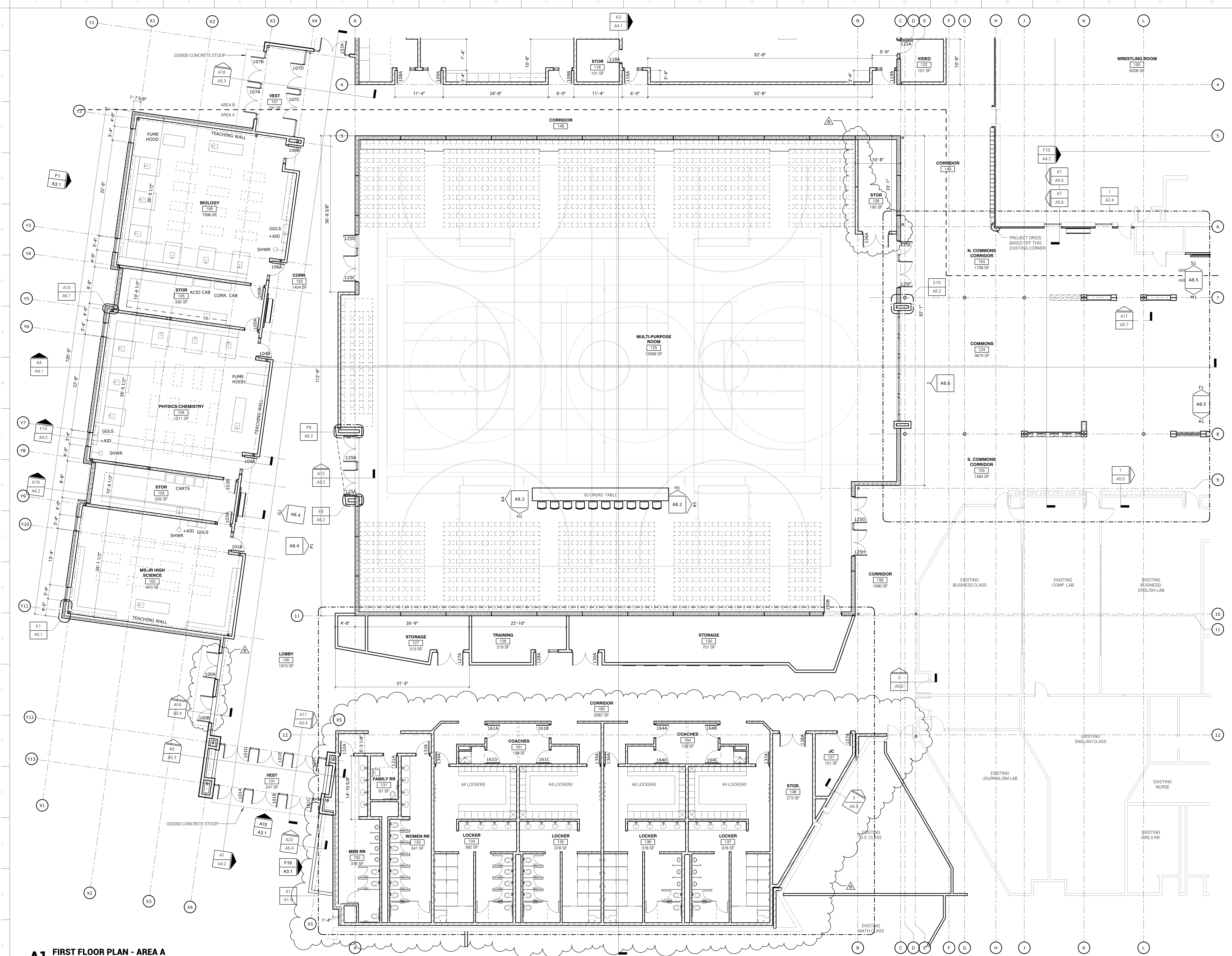
CENTENNIAL PUBLIC SCHOOL ADDITION AND RENOVATION

PROJECT: L13030 DATE: SEPT 23, 2013
 033000 CONCRETE STOOP

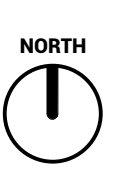
THIS SHEET FOR REFERENCE ONLY

FIRST FLOOR PLAN - AREA A

BP-3R A1.1



A1 FIRST FLOOR PLAN - AREA A
 1/8" = 1'-0"





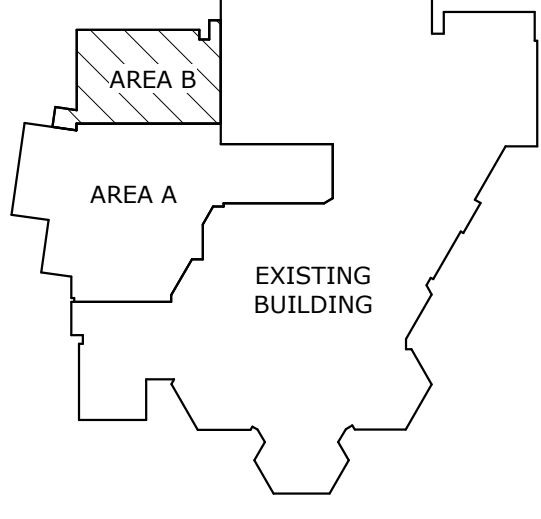
ARCHITECT
BVH VERMEER HAECKER ARCHITECTS
 440 N 8TH ST STE 100
 LINCOLN NE 68508
 V: 402.475.4551
 F: 402.475.0226
 bvh.com

STRUCTURAL ENGINEER
VOSS & ASSOCIATES, INC.
 201 N 7TH STREET, STE 200
 LINCOLN NE 68504
 V: 402.476.6365
 F: 402.476.6414
 voss-assoc.com

MECHANICAL/ELECTRICAL ENGINEER
ENGINEERING TECHNOLOGIES, INC.
 825 M STREET, STE 310
 LINCOLN NE 68508
 V: 402.476.1273
 et-engineers.com

CIVIL ENGINEER
REGA ENGINEERING GROUP, INC.
 1620 S 10TH STREET, STE 103
 LINCOLN NE 68506
 V: 402.484.7342
 F: 402.484.7344
 regaengineering.com

REVISIONS SCHEDULE		
MARK	DATE	DESCRIPTION
B	10.04.2013	ADDENDUM #2



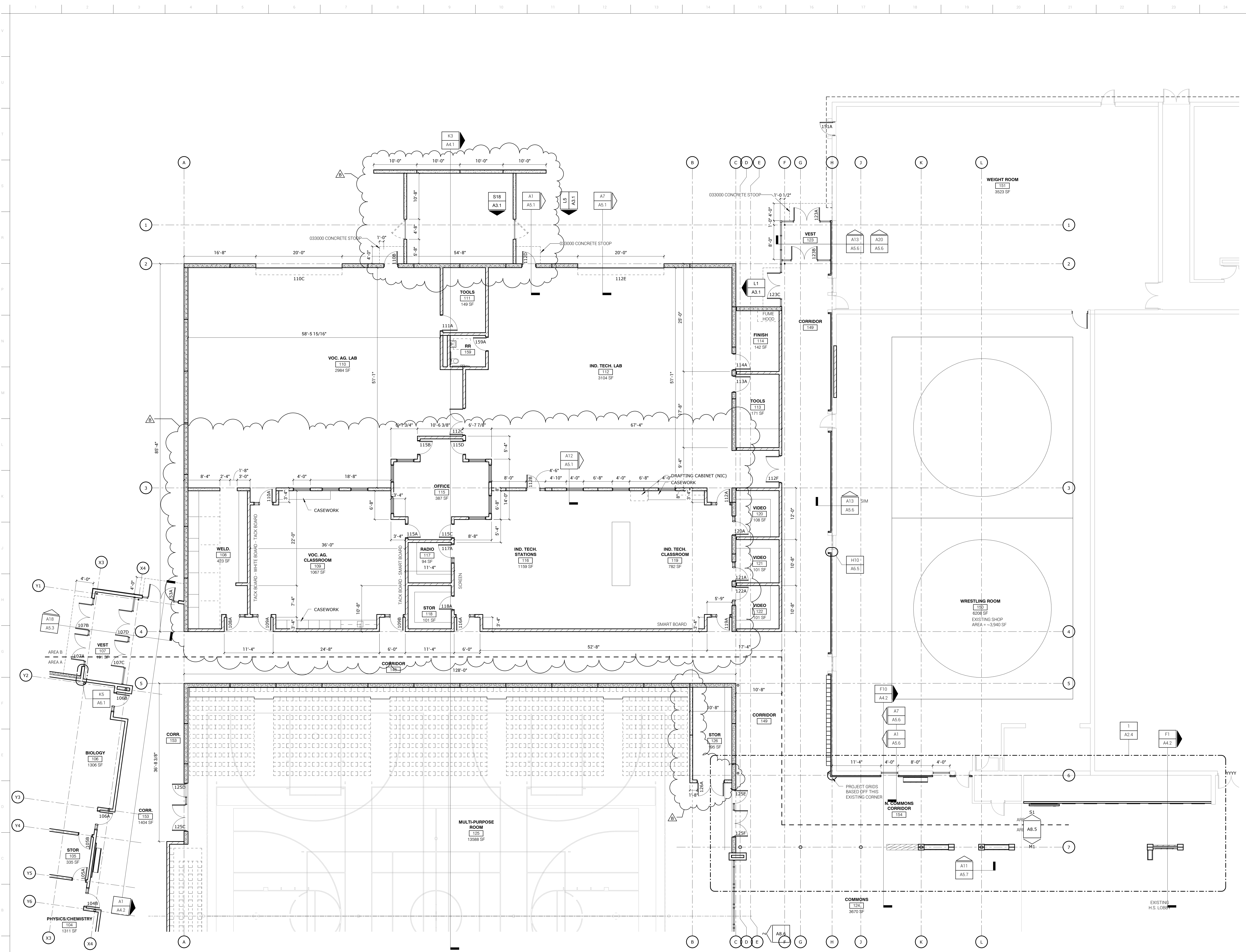
CENTENNIAL PUBLIC SCHOOL ADDITION AND RENOVATION

PROJECT: L13030 DATE: SEPT 23, 2013

THIS SHEET FOR REFERENCE ONLY

FIRST FLOOR PLAN - AREA B

BP-3R
A1.2



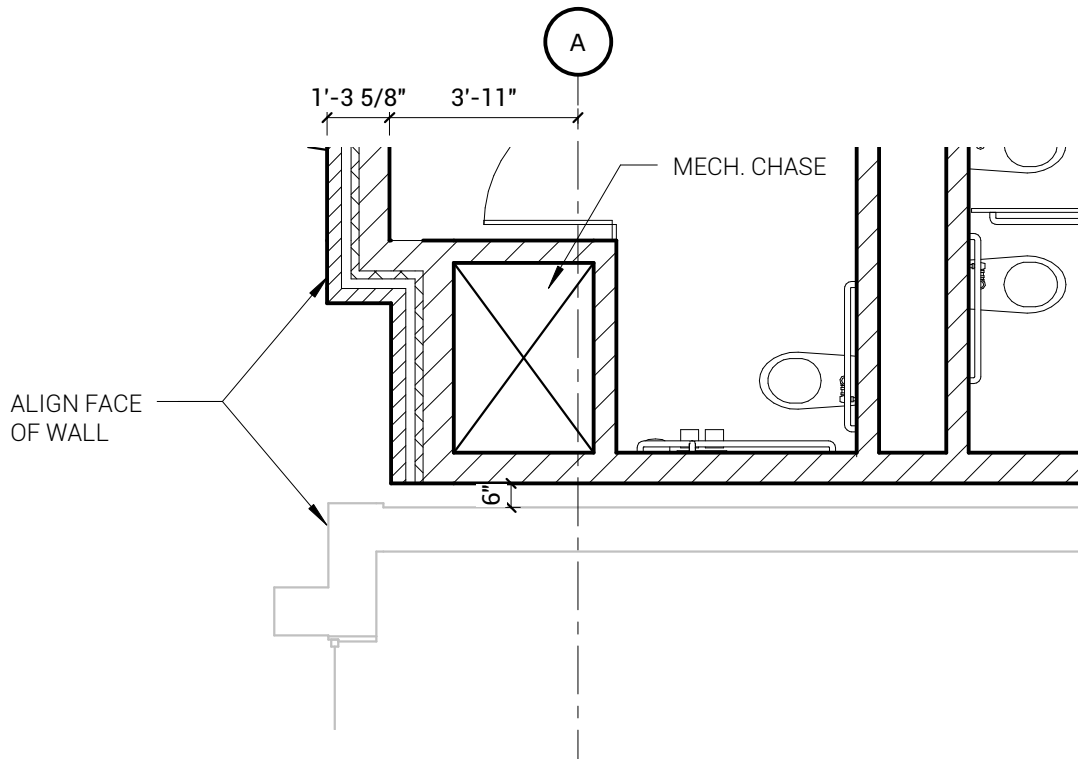
A1 FIRST FLOOR PLAN - AREA B
 1/8" = 1'-0"





CENTENNIAL PUBLIC SCHOOL ADDITION AND RENOVATION ADD #2 - EXHIBIT A

DATE: 10/04/13



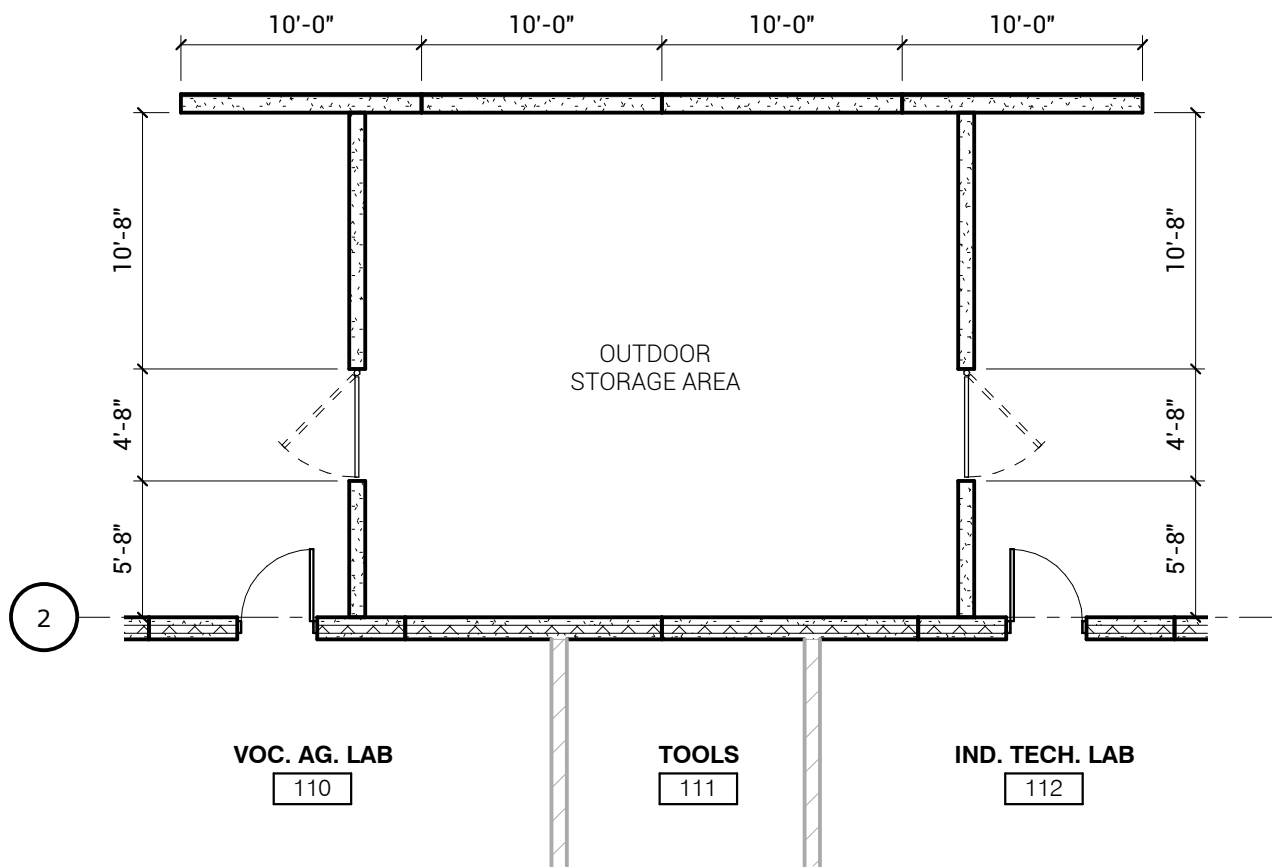
1 MEN'S RESTROOM PARTIAL PLAN

1/4" = 1'-0"



CENTENNIAL PUBLIC SCHOOL ADDITION AND RENOVATION ADD #2 - EXHIBIT B

DATE: 10/04/13



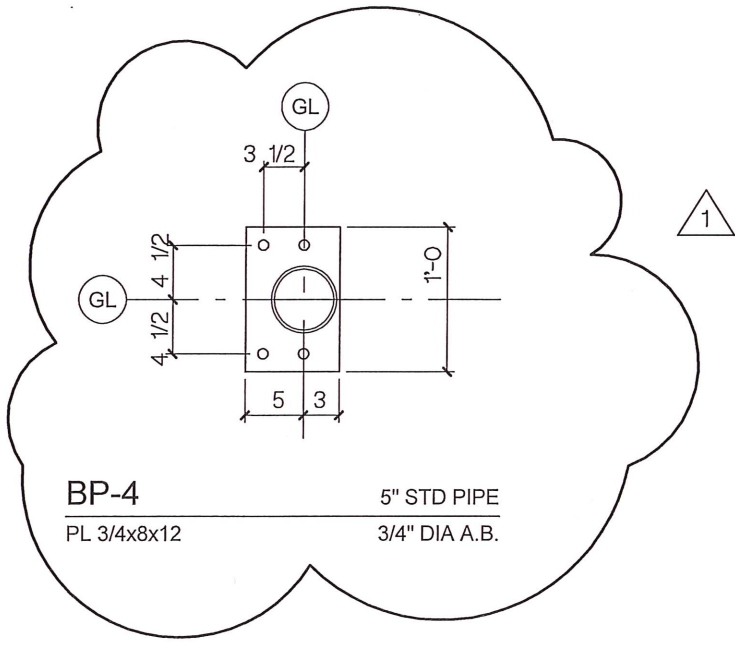
1

OUTDOOR STOR AREA PRECAST PANEL LAYOUT PLAN

1/8" = 1'-0"



CENTENNIAL PUBLIC SCHOOL
ADDITION AND RENOVATION
ADD #2 - S1.2
DATE: 10/04/13



COLUMN SCHEDULE AND DETAILS

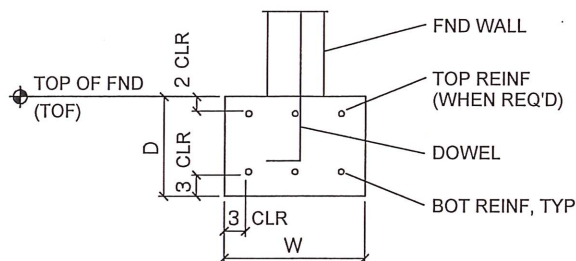


CENTENNIAL PUBLIC SCHOOL ADDITION AND RENOVATION ADD #2 - S1.2

DATE: 10/04/13

1

MK	WIDTH	DEPTH	REINFORCING
CF-1	2'-0	3'-0	3 - #5 CONTINUOUS @ TOP & BOT
CF-2	1'-0	3'-0	2 - #5 CONTINUOUS @ TOP & BOT
CF-3	2'-6	3'-0	4 - #6 CONTINUOUS @ TOP & BOT
CF-4	2'-0	1'-0	2 - #5 CONTINUOUS @ BOT
CF-5	3'-4	1'-0	3 - #5 CONTINUOUS @ BOT
CF-6	2'-6	1'-0	3 - #5 CONTINUOUS @ BOT
CF-7	1'-4	2'-8	2 - #5 CONTINUOUS @ TOP & BOT
CF-8	2'-0	4'-4	4 - #5 CONTINUOUS @ TOP & BOT
CF-9	1'-4	1'-0	2 - #5 CONTINUOUS @ BOT
CF-10	2'-6	3'-0	4 - #5 CONTINUOUS @ TOP & BOT
CF-11	4'-6	3'-0	6 - #5 CONTINUOUS @ TOP & BOT



CONTINUOUS FOOTING SCHEDULE



ARCHITECT
 BAHR VERMEER HAECKER ARCHITECTS
 440 N 8TH ST STE 100
 LINCOLN NE 68508
 V 402 475 4551
 F 402 475 0226
 bvh.com

STRUCTURAL ENGINEER
 VOSS & ASSOCIATES INC.
 201 NORTH 7TH ST, STE 200
 LINCOLN NE 68508
 V 402 476 6365
 F 402 476 6414
 voss-assoc.com

MECHANICAL/ELECTRICAL ENGINEER
 ENGINEERING TECHNOLOGIES, INC.
 825 M STREET, STE 310
 LINCOLN NE 68508
 V 402 476 1273
 et-engineers.com

CIVIL ENGINEER
 REGA ENGINEERING GROUP, Inc.
 1620 S 70TH STREET, STE 103
 LINCOLN NE 68606
 V 402 484 7342
 F 402 484 7344
 regaengineering.com

REVISIONS SCHEDULE		
MARK	DATE	DESCRIPTION
B	10.04.2013	ADDENDUM #2

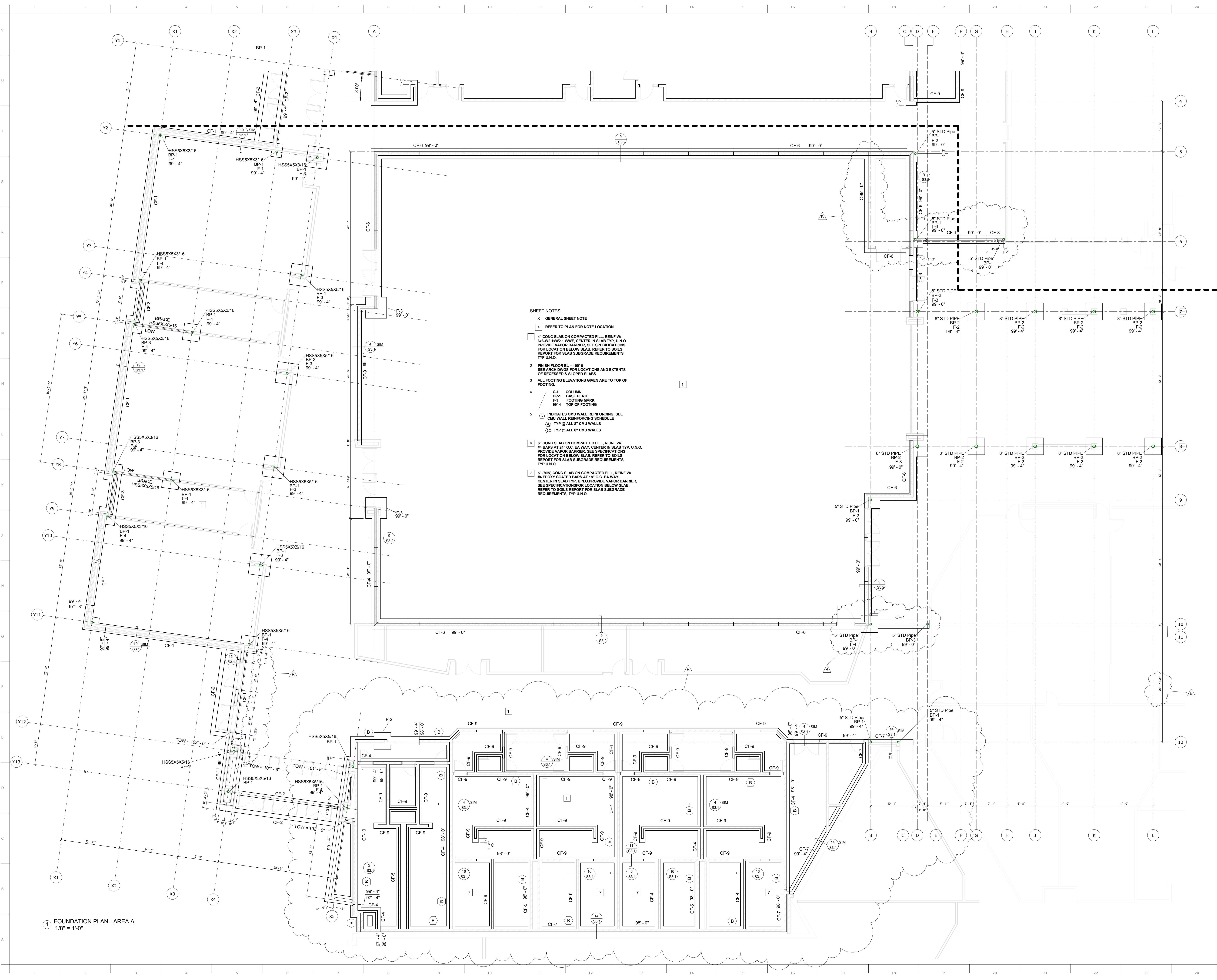
CENTENNIAL PUBLIC SCHOOL ADDITION AND RENOVATION

PROJECT: L13030 DATE: 23 Sept 2013
 © COPYRIGHT BAHR VERMEER HAECKER ARCHITECTS



FOUNDATION PLAN - AREA A

NORTH
 BP-3R
S2.1



- SHEET NOTES:**
- X GENERAL SHEET NOTE
 - X REFER TO PLAN FOR NOTE LOCATION
 - 1 4" CONC SLAB ON COMPACTED FILL, REINF W/ #4 BARS AT 24" O.C. EA WAY, CENTER IN SLAB TYP, U.N.O. PROVIDE VAPOR BARRIER, SEE SPECIFICATIONS FOR LOCATION BELOW SLAB. REFER TO SOILS REPORT FOR SLAB SUBGRADE REQUIREMENTS, TYP U.N.O.
 - 2 FINISH FLOOR EL = 100'-0" SEE ARCH DWGS FOR LOCATIONS AND EXTENTS OF RECESSED & SLOPED SLABS.
 - 3 ALL FOOTING ELEVATIONS GIVEN ARE TO TOP OF FOOTING.
 - 4 C-1 COLUMN
 BP-1 BASE PLATE
 F-1 FOOTING MARK
 9'-4" TOP OF FOOTING
 - 5 INDICATES CMU WALL REINFORCING, SEE CMU WALL REINFORCING SCHEDULE
 A TYP @ ALL 6" CMU WALLS
 C TYP @ ALL 6" CMU WALLS
 - 6 6" CONC SLAB ON COMPACTED FILL, REINF W/ #4 BARS AT 24" O.C. EA WAY, CENTER IN SLAB TYP, U.N.O. PROVIDE VAPOR BARRIER, SEE SPECIFICATIONS FOR LOCATION BELOW SLAB. REFER TO SOILS REPORT FOR SLAB SUBGRADE REQUIREMENTS, TYP U.N.O.
 - 7 5" (MIN) CONC SLAB ON COMPACTED FILL, REINF W/ #4 EPOXY COATED BARS AT 18" O.C. EA WAY, CENTER IN SLAB TYP, U.N.O. PROVIDE VAPOR BARRIER, SEE SPECIFICATIONS FOR LOCATION BELOW SLAB. REFER TO SOILS REPORT FOR SLAB SUBGRADE REQUIREMENTS, TYP U.N.O.

1 FOUNDATION PLAN - AREA A
 1/8" = 1'-0"



ARCHITECT
 BAHR VERMEER HAECKER ARCHITECTS
 440 N 8TH ST STE 100
 LINCOLN NE 68508
 V 402 475 4551
 F 402 475 0226
 bvh.com

STRUCTURAL ENGINEER
 VOSS & ASSOCIATES INC.
 201 NORTH 7TH ST, STE 200
 LINCOLN NE 68508
 V 402 476 6365
 F 402 476 6414
 voss-assoc.com

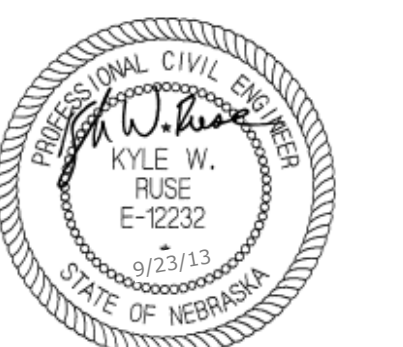
MECHANICAL/ELECTRICAL ENGINEER
 ENGINEERING TECHNOLOGIES, INC.
 825 M STREET, STE 310
 LINCOLN NE 68508
 V 402 476 1273
 et-engineers.com

CIVIL ENGINEER
 REGA ENGINEERING GROUP, Inc.
 1625 S 70TH STREET, STE 103
 LINCOLN NE 68506
 V 402 484 7342
 F 402 484 7344
 regaengineering.com

REVISIONS SCHEDULE		
MARK	DATE	DESCRIPTION
B	10.04.2013	ADDENDUM #2

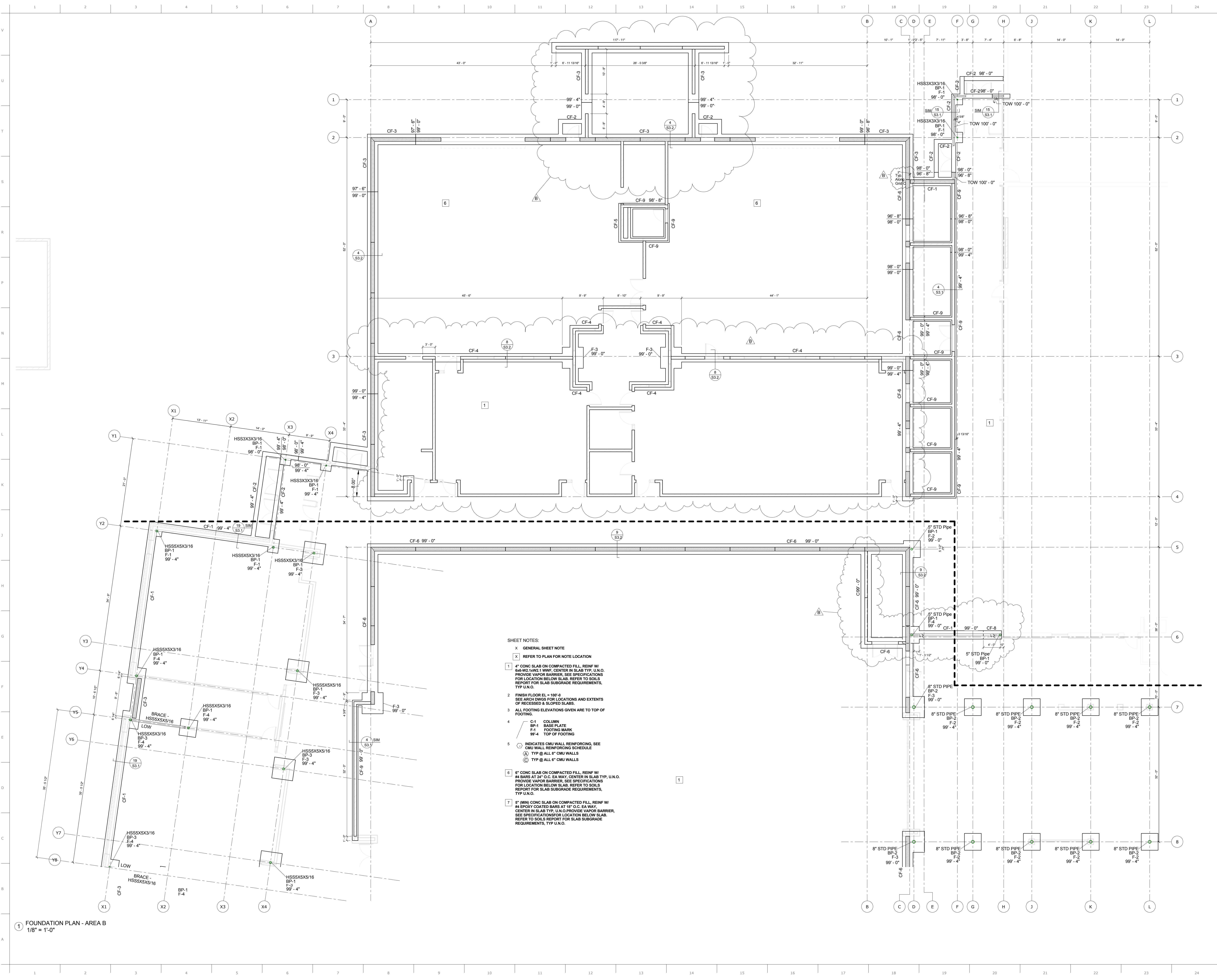
CENTENNIAL PUBLIC SCHOOL ADDITION AND RENOVATION

PROJECT: L13030 DATE: 23 Sept 2013
 © COPYRIGHT BVH ARCHITECTS



FOUNDATION PLAN - AREA B

BP-3R
S2.2



- SHEET NOTES:
- X GENERAL SHEET NOTE
 - X REFER TO PLAN FOR NOTE LOCATION
 - 1 4" CONC SLAB ON COMPACTED FILL, REINF W/ #4-BARS @ 24" O.C. EA WAY, CENTER IN SLAB TYP, U.N.O. PROVIDE VAPOR BARRIER. SEE SPECIFICATIONS FOR LOCATION BELOW SLAB. REFER TO SOILS REPORT FOR SLAB SUBGRADE REQUIREMENTS, TYP U.N.O.
 - 2 FINISH FLOOR EL = 100'-0" SEE ARCH DWGS FOR LOCATIONS AND EXTENTS OF RECESSED & SLOPED SLABS.
 - 3 ALL FOOTING ELEVATIONS GIVEN ARE TO TOP OF FOOTING.
 - 4 C-1 COLUMN
BP-1 BASE PLATE
F-1 FOOTING MARK
94-1 TOP OF FOOTING
 - 5 INDICATES CMU WALL REINFORCING. SEE CMU WALL REINFORCING SCHEDULE.
A TYP @ ALL 8" CMU WALLS
C TYP @ ALL 6" CMU WALLS
 - 6 6" CONC SLAB ON COMPACTED FILL, REINF W/ #4-BARS @ 24" O.C. EA WAY, CENTER IN SLAB TYP, U.N.O. PROVIDE VAPOR BARRIER. SEE SPECIFICATIONS FOR LOCATION BELOW SLAB. REFER TO SOILS REPORT FOR SLAB SUBGRADE REQUIREMENTS, TYP U.N.O.
 - 7 8" MINI CONC SLAB ON COMPACTED FILL, REINF W/ #4 EPOXY COATED BARS AT 18" O.C. EA WAY, CENTER IN SLAB TYP, U.N.O. PROVIDE VAPOR BARRIER. SEE SPECIFICATIONS FOR LOCATION BELOW SLAB. REFER TO SOILS REPORT FOR SLAB SUBGRADE REQUIREMENTS, TYP U.N.O.

1 FOUNDATION PLAN - AREA B
 1/8" = 1'-0"



ARCHITECT
 BAHR VERMEER HAECKER ARCHITECTS
 440 N 8TH ST STE 100
 LINCOLN NE 68508
 V 402 475 4551
 F 402 475 0226
 bvh.com

STRUCTURAL ENGINEER
 VOSS & ASSOCIATES, INC.
 201 N 7TH STREET, STE 200
 LINCOLN NE 68504
 V 402 476 6365
 F 402 476 6414
 voss-assoc.com

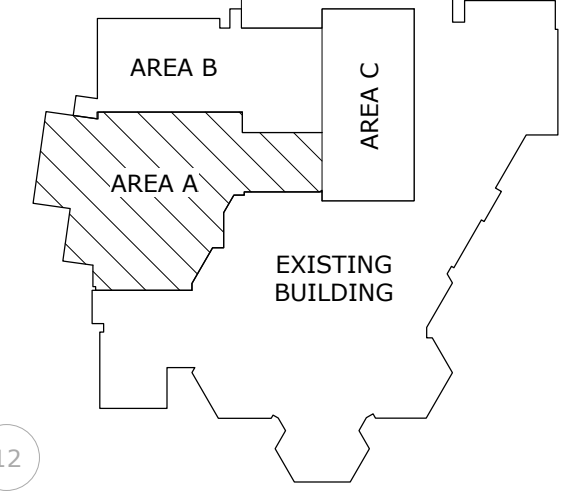
MECHANICAL/ELECTRICAL ENGINEER
 ENGINEERING TECHNOLOGIES, INC.
 825 M STREET, STE 310
 LINCOLN NE 68508
 V 402 476 1273
 ETI Project #2013-077
 et-engineers.com

CIVIL ENGINEER
 REGA ENGINEERING GROUP, INC.
 1620 S 70TH STREET, STE 103
 LINCOLN NE 68606
 V 402 484 7342
 F 402 484 7344
 regaengineering.com

SHEET NOTES

1. FOR LIGHTING IN THIS AREA, SEE PARTIAL FIRST FLOOR LIGHTING - AREA A, SHEET E2.3.

REVISIONS SCHEDULE		
MARK	DATE	DESCRIPTION
B	10.04.2013	ADDENDUM #2



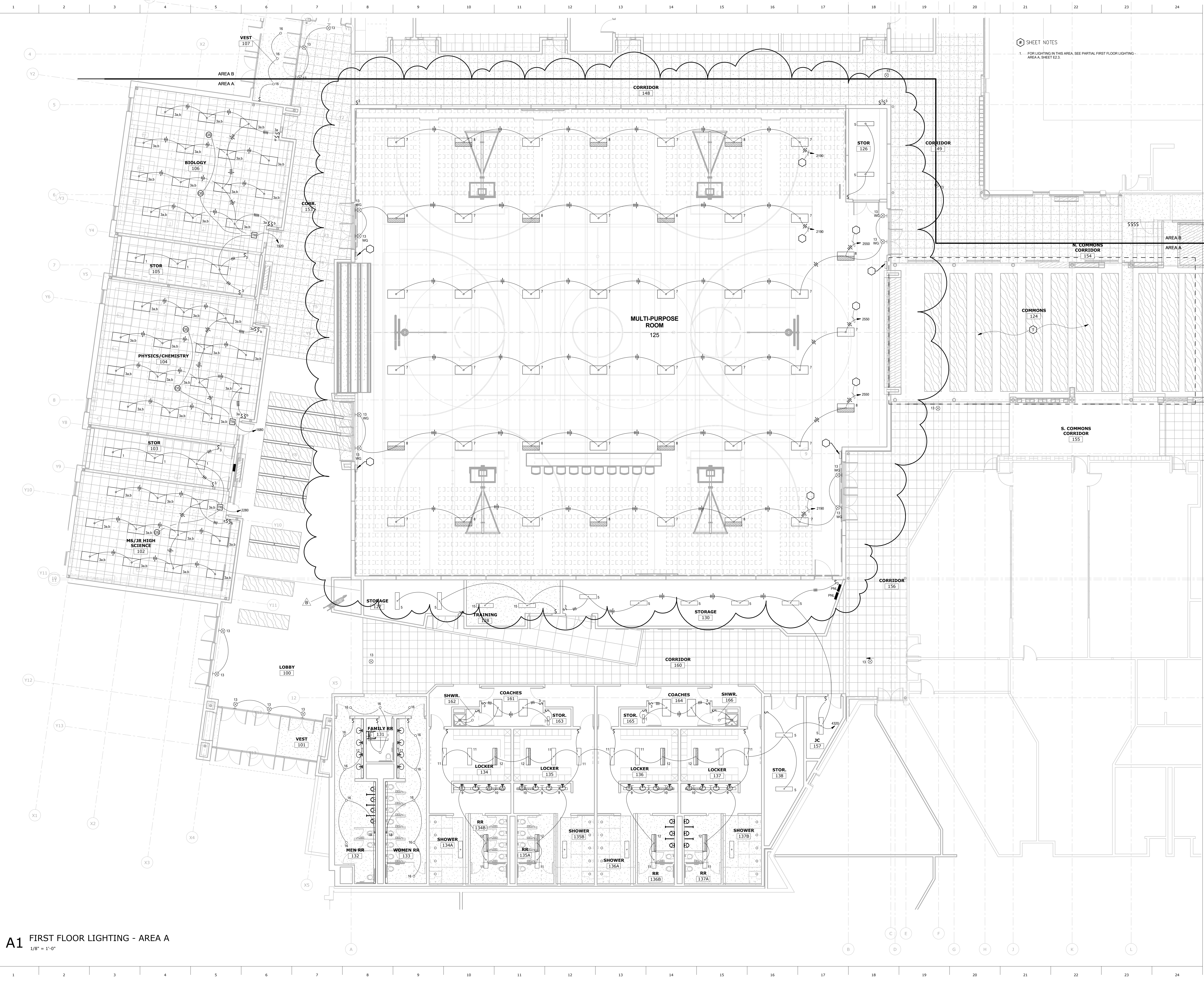
CENTENNIAL PUBLIC SCHOOL ADDITION AND RENOVATION

PROJECT: L13030 DATE: SEPT 23, 2013
 © COPYRIGHT BVH ARCHITECTS

THIS SHEET FOR REFERENCE ONLY

FIRST FLOOR LIGHTING - AREA A

BP-3R
E2.1



A1 FIRST FLOOR LIGHTING - AREA A

1/8" = 1'-0"



SHEET NOTES
1. START HERE



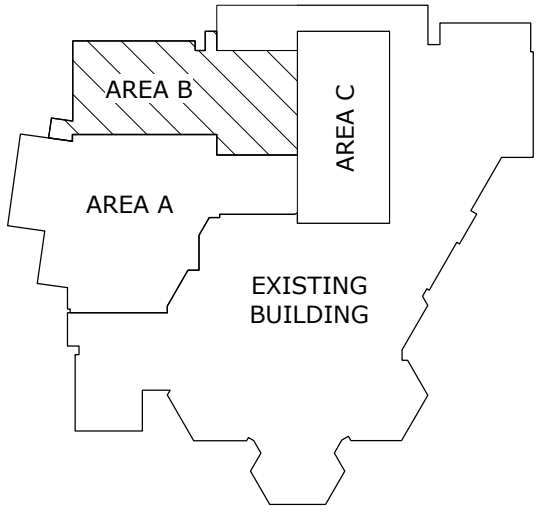
ARCHITECT
BAHR VERMEER HAECKER ARCHITECTS
440 N 8TH ST STE 100
LINCOLN NE 68508
V 402 475 4551
F 402 475 0226
bvh.com

STRUCTURAL ENGINEER
VOSS & ASSOCIATES, INC.
201 N 7TH STREET, STE 200
LINCOLN NE 68504
V 402 476 6365
F 402 476 6414
voss-associ.com

MECHANICAL/ELECTRICAL ENGINEER
ENGINEERING TECHNOLOGIES, INC.
825 M STREET, STE 310
LINCOLN NE 68508
V 402 476 1273
ETI Project #2013-077
eti-engineers.com

CIVIL ENGINEER
REGA ENGINEERING GROUP, INC.
1620 S 70TH STREET, STE 103
LINCOLN NE 68606
V 402 484 7342
F 402 484 7344
regaengineering.com

REVISIONS SCHEDULE		
MARK	DATE	DESCRIPTION
B	10.04.2013	ADDENDUM #2



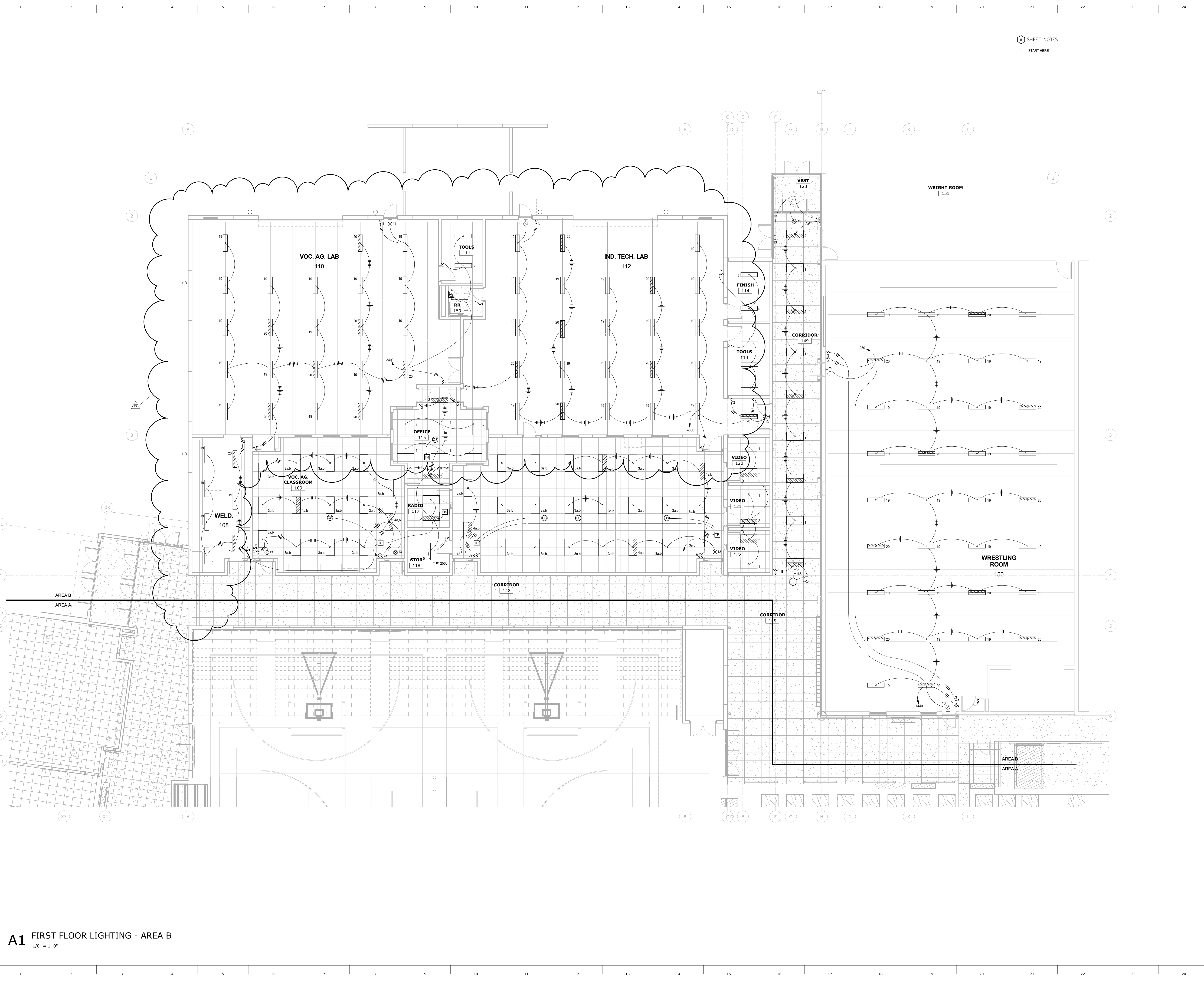
CENTENNIAL PUBLIC SCHOOL ADDITION AND RENOVATION

PROJECT: L13030 DATE: SEPT 23, 2013
© COPYRIGHT BAHVERMEERHAECKER.COM

THIS SHEET FOR REFERENCE ONLY

FIRST FLOOR LIGHTING - AREA B

NORTH
BP-3R
E2.2



A1 FIRST FLOOR LIGHTING - AREA B
1/8" = 1'-0"



ARCHITECT
BAHR VERMEER HAECKER ARCHITECTS
440 N 8TH ST STE 100
LINCOLN NE 68508
V 402 475 4551
F 402 475 0226
bvh.com

STRUCTURAL ENGINEER
VOSS & ASSOCIATES, INC.
201 N 7TH STREET, STE 200
LINCOLN NE 68504
V 402 476 6365
F 402 476 6414
voss-assoc.com

MECHANICAL/ELECTRICAL ENGINEER
ENGINEERING TECHNOLOGIES, INC.
825 M STREET, STE 310
LINCOLN NE 68508
V 402 476 1273
ETI Project #2013-077
eti-engineers.com

CIVIL ENGINEER
REGA ENGINEERING GROUP, INC.
1620 S 70TH STREET, STE 103
LINCOLN NE 68506
V 402 484 7342
F 402 484 7344
regaengineering.com

SHEET NOTES

1. MOUNT ABOVE BACKSPLASH, BUT BELOW MIRROR. ALL OUTLETS SHALL BE GFCI (TYPICAL)
2. PROVIDE POWER TO WIRELESS SCOREBOARD
3. PORTER POWER-TOUCH 2.5 ELECTRONIC TOUCHPAD #1 SHALL CONTROL DIVIDER CURTAIN AND BASKETBALL LIFTS AND HEIGHT ADJUSTERS.
4. GYM CONTROL PANELS. SEE PORTER GYMNASIUM CONTROL ON SHEET E-2.
5. SEE SPECIFICATIONS FOR MULTI-PURPOSE SOUND SYSTEM
6. PROVIDE 4-POLE TWIST LOCK RECEPTACLE IN 4" SQUARE BOX MOUNTED WITHIN 3'-0" OF WINCH LOCATION.
7. COORDINATE LOCATION OF RECEPTACLE WITH HVAC CONTRACTOR PRIOR TO ROUGH-IN. DO NOT MOUNT ON ACCESS PANEL.
8. PROVIDE TWO MICROPHONE CABLES AND OUTLETS, TWO DATA CABLES AND JACKS, AND ONE DUPLEX RECEPTACLE.
9. PROVIDE DISCONNECT SWITCH FOR ELECTRICALLY OPERATED BLEACHERS. VERIFY EXACT LOCATION AND REQUIREMENTS WITH OWNER AND ARCHITECT PRIOR TO INSTALLING.
10. CONNECT THROUGH RELAY IN GYM CONTROL PANEL IN STORAGE 130.
11. DIVIDER CURTAIN. PROVIDE 4-POLE TWIST LOCK RECEPTACLE IN 4" SQUARE BOX MOUNTED WITHIN 3'-0" OF WHICH CONTROLS BY TOUCHPAD.
12. EXTEND CABLE TO SOUND SYSTEM RACK IN STORAGE 130.
13. RECEPTACLE TO BE MOUNTED IN TOE SPACE

N. COMMONS CORRIDOR

154

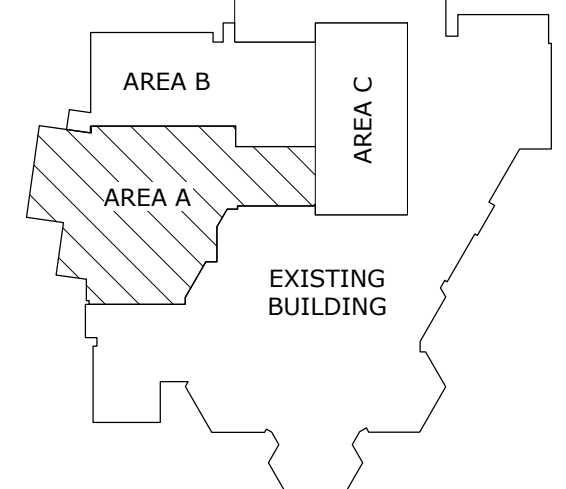
COMMONS

124

S. COMMONS CORRIDOR

155

REVISIONS SCHEDULE		
MARK	DATE	DESCRIPTION
B	10.04.2013	ADDENDUM #2



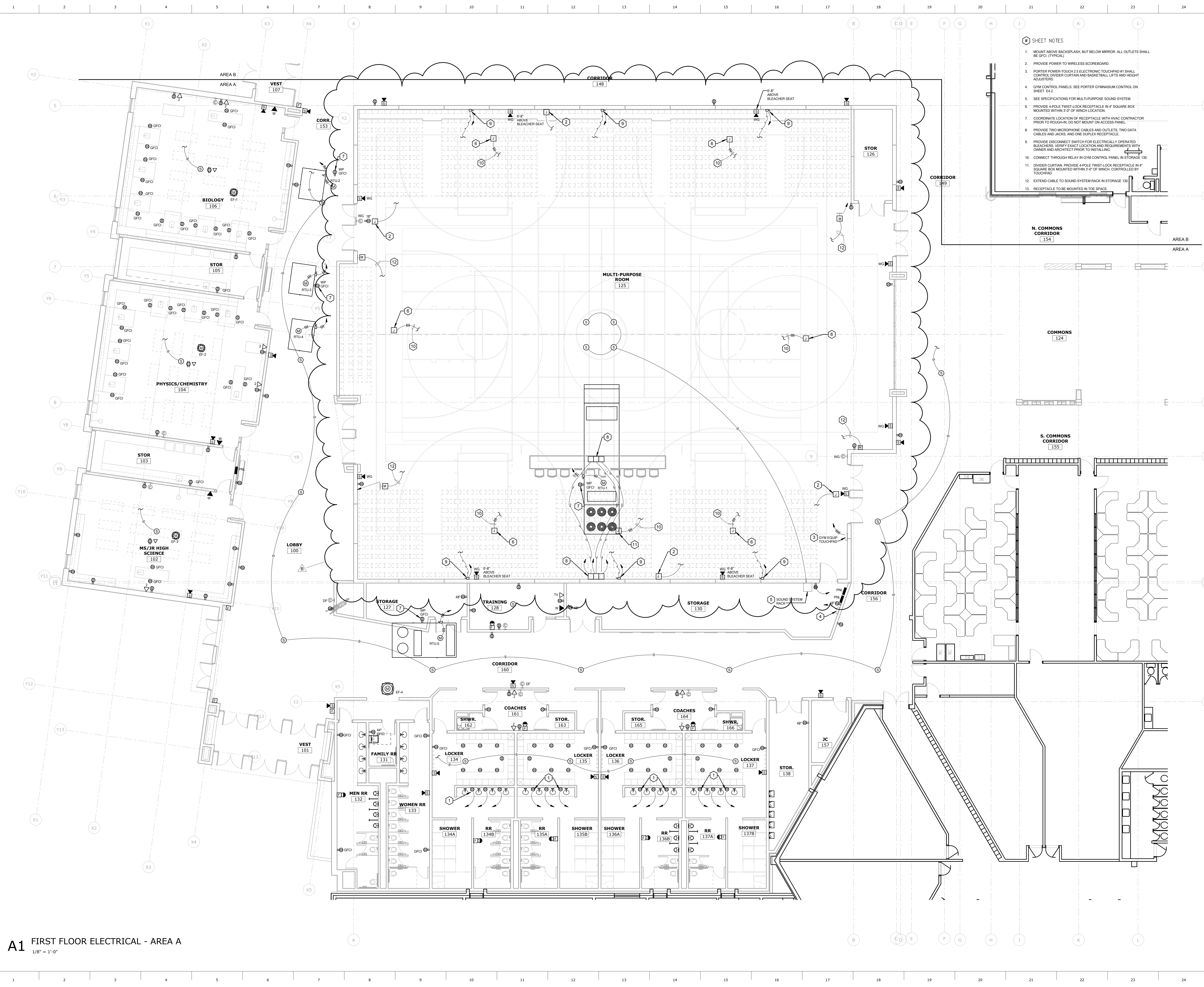
CENTENNIAL PUBLIC SCHOOL ADDITION AND RENOVATION

PROJECT: L13030 DATE: SEPT 23, 2013
© COPYRIGHT BVH ARCHITECTS

THIS SHEET FOR REFERENCE ONLY

FIRST FLOOR ELECTRICAL - AREA A

NORTH
BP-3R
E3.1



A1 FIRST FLOOR ELECTRICAL - AREA A
1/8" = 1'-0"



ARCHITECT
BAHR VERMEER HAECKER ARCHITECTS
440 N 8TH ST STE 100
LINCOLN NE 68508
V 402 475 4551
F 402 475 0226
bvh.com

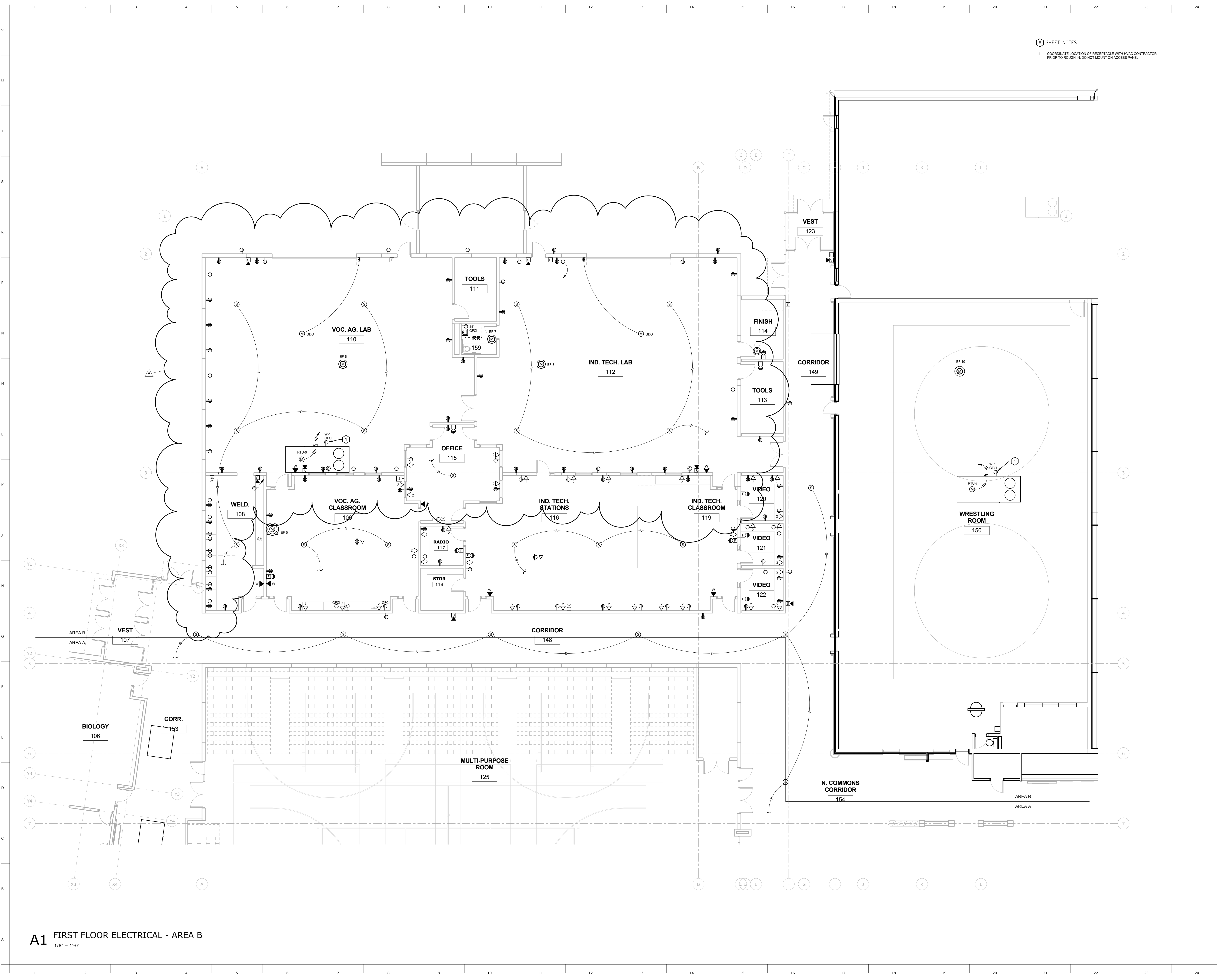
STRUCTURAL ENGINEER
VOSS & ASSOCIATES, INC.
201 N 7TH STREET, STE 200
LINCOLN NE 68504
V 402 476 6365
F 402 476 6414
voss-assoc.com

MECHANICAL/ELECTRICAL ENGINEER
ENGINEERING TECHNOLOGIES, INC.
825 M STREET, STE 310
LINCOLN NE 68508
V 402 476 1273
ETI Project #2013-077
eti-engineers.com

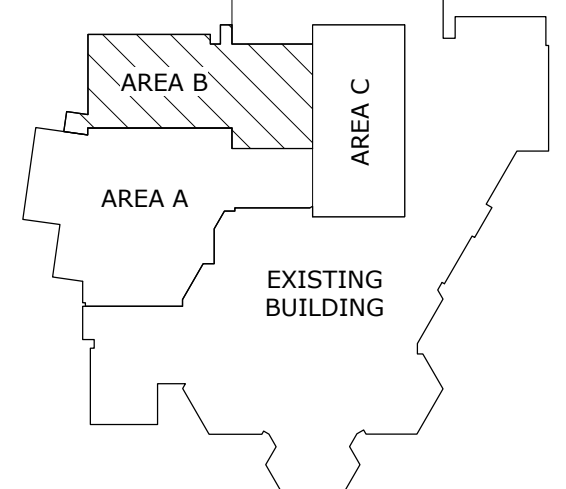
CIVIL ENGINEER
REGA ENGINEERING GROUP, INC.
1620 S 70TH STREET, STE 103
LINCOLN NE 68606
V 402 484 7342
F 402 484 7344
regaengineering.com

SHEET NOTES

1. COORDINATE LOCATION OF RECEPTACLE WITH HVAC CONTRACTOR PRIOR TO ROUGH-IN. DO NOT MOUNT ON ACCESS PANEL.



REVISIONS SCHEDULE		
MARK	DATE	DESCRIPTION
B	10.04.2013	ADDENDUM #2



CENTENNIAL PUBLIC SCHOOL ADDITION AND RENOVATION

PROJECT: L13030 DATE: SEPT 23, 2013
© COPYRIGHT BVH ARCHITECTS

THIS SHEET FOR REFERENCE ONLY

FIRST FLOOR ELECTRICAL - AREA B

NORTH
 BP-3R
E3.2

A1 FIRST FLOOR ELECTRICAL - AREA B
1/8" = 1'-0"