



Capital Projects Contract Administration, Capital Planning & Development  
Oregon State University 3015 SW Western Blvd, Corvallis, Oregon 97333  
T 541-737-9635 | F 541-737-4810

June 12, 2014

Oregon State University  
Capital Projects Contract Administration  
Agricultural Systems Management Center

### ADDENDUM NO. 2

THIS ADDENDUM IS BEING ISSUED for clarification and/or revisions of the drawings and specifications as noted. This document is hereby made a part of the Contract Documents to the extent as though it was originally included herein.

### CLARIFICATIONS

- Item 1      See Architectural Drawing A3.1, Floor Plan for bollard locations and quantities. See Civil Drawing C5.3, Details for bollard construction. Coordinate with storm drain laterals and downspouts receivers.
  
- Item 2      Fill Sand Ground-Loop Heat-Pump Piping Bedding not required in base bid. Unit Pricing will be used for Ground-Loop Heat-Pump Piping Bedding if conditions deviate from clean soil.
  
- Item 3      Per City of Corvallis Development Services: “the construction entrance may not consume the entire width of Campus Way. A smooth hard surface pedestrian/bicycle access needs to be maintained at all times.”
  
- Item 4      Openings 102B, 103A, 103B, 108 are electronic access. Provide access control pathways and standby power. Electronic access control panel on east wall of Data Entrance 101 needs standby power as well as a data pathway for future LAN connection.



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The following changes shall be made to the TECHNICAL SPECIFICATIONS:

- Item 5      Replace Bid Form in its entirety with the attached “Revised 6/12/14” Bid Form. Note change in bid date, bid time, the addition of Alternate No. 5 and Unit Price No. 1.
- Item 6      Add Section 01 22 00, Unit Prices.
- Item 7      Replace Section 01 23 00 with the attached “Revised 6/12/14” Section 01 23 00. Note the addition of Alternate #5.
- Item 8      Section 08 71 00 Door Hardware  
A. Change 2.04, D, to read: “Electronic Access Devices and Controls”  
B. Change 2.04, D, Note 1 to read: “Provide complete electronic access devices and control system for local and remote monitoring and access control of the doors indicated. Including but not limited to: electronic locks and strikes, transfer hinges, door contacts, integral keypad and proxy readers, standby power and data pathways, controllers, modules, power supplies, batteries, software.  
C. Change 2.04, D, Note 2 to read: “Provide Hirsch Velocity System to suit or approved equal. Locate Model 8 Controller Board on East Wall of Data Entrance 101. Provide data conduit pathway for future NIC connection to OSU LAN.”
- Item 9      Section 23 05 15 Variable Frequency Drives  
A. Refer to paragraph 2.02.A; Add Danfoss to list of approved manufacturers
- Item 10     Section 23 05 93 Testing, Adjusting, and Balancing for HVAC  
A. Refer to paragraph 3.01.F; Add Accurate Balancing Agency Inc. to list of pre-qualified TAB agencies.
- Item 11     Section 23 21 14 Hydronic Specialties  
A. Refer to paragraph 2.01.A; Add Elbi of America to list of approved manufacturers.  
B. Refer to paragraph 2.02.A; Add American Wheatley to list of approved manufacturers.  
C. Refer to paragraph 2.03.A; Add Elbi of America to list of approved manufacturers.  
D. Refer to paragraph 2.04.A; Add Spirax-Sarco to list of approved manufacturers.



- E. Refer to paragraph 2.05.A; Add Elbi of America to list of approved manufacturers.
- F. Refer to paragraph 2.06.A; Add Titan to list of approved manufacturers.
- G. Refer to paragraph 2.07.A; Add American Wheatley to list of approved manufacturers.
- H. Refer to paragraph 2.07.A; Add Patterson to list of approved manufacturers.
- I. Refer to paragraph 2.08.A; Add Kunkle to list of approved manufacturers.
- J. Refer to paragraph 2.09.A; Add Pro Hydronic Specialties and Nutech to list of approved manufacturers.
- K. Refer to paragraph 2.10.A; Add Pro Hydronic Specialties and Nutech to list of approved manufacturers.
- L. Refer to paragraph 2.11.A; Add Pro Hydronic Specialties to list of approved manufacturers.
- M. Refer to paragraph 2.12.A; Add Pro Hydronic Specialties to list of approved manufacturers.
- N. Refer to paragraph 2.14.A; Add Vector Industries to list of approved manufacturers.

Item 12

Section 23 21 23 Hydronic Pumps

- A. Refer to paragraph 2.02.A; Add Patterson to list of approved manufacturers.
- B. Refer to paragraph 2.03.A; Add Wilo to list of approved manufacturers.

Item 13

Section 23 33 00 Air Duct Accessories

- A. Refer to paragraph 2.08.A; Add Nailor to list of approved manufacturers.
- B. Refer to paragraph 2.09.A; Add Nailor to list of approved manufacturers.

Item 14

Section 23 34 16 Centrifugal HVAC Fans

- A. Refer to paragraph 2.01.A; Add Twin City to list of approved manufacturers.
- B. Refer to paragraph 2.02.A; Add Twin City to list of approved manufacturers.

Item 15

Section 23 34 23 HVAC Power Ventilators

- A. Refer to paragraph 2.02.A; Add Twin City to list of approved manufacturers
- B. Refer to paragraph 2.03.A; Add Twin City to list of approved manufacturers.

Item 16

Section 23 37 00 Air Outlets and Inlets

- A. Refer to paragraph 2.02.A; Add Nailor to list of approved manufacturers.
- B. Refer to paragraph 2.03.A; Add Nailor to list of approved manufacturers.
- C. Refer to paragraph 2.04.A; Add Nailor to list of approved manufacturers.

Item 17

Section 23 35 16 Engine Exhaust Systems

- A. Refer to paragraph 2.01.A; Add Monoxivent to list of approved manufacturers.



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- Item 18      Section 23 57 00 Heat Exchangers for HVAC  
A. Refer to paragraph 2.01.A; Add Sondex USA to list of approved manufacturers.
- Item 19      Section 23 81 24 Computer Room Air Conditioners-Floor Mounted  
A. Refer to paragraph 2.01.B; Add BASX Solutions to list of approved manufacturers.
- Item 20      Specification Section 23 81 49 Water-to-Air Geothermal Heat Pumps  
A. Refer to paragraph 2.01.A; Add Mammoth to list of approved manufacturers.
- Item 21      Section 26 05 37 Boxes  
A. Refer to paragraph 2.05.A; Change 800 amp rating to 1200 amp rating.
- Item 22      Section 26 05 73 Overcurrent Protective Device Coordination Study  
A. Change Paragraph 1.05-E.4.1 to read as follows: "Circuit breakers feeding emergency egress lighting (Panel LS4) and the Feeder and Plug in Busway and the upstream circuit breakers which serve these circuit breakers shall coordinate to .01 seconds in both normal and emergency modes, including UPS operation. All other circuit breakers shall coordinate to .1 seconds."  
B. Refer to Paragraph 2.01A: Add Square D Company, Siemens Industry, General Electric Company, and Eaton Corporation to list of acceptable agencies.
- Item 23      Section 26 09 23 Lighting Control Devices  
A. Refer to paragraph 2.02.A; Add Leviton and System Sensor to list of approved manufacturers of occupancy sensors.  
B. Refer to paragraph 2.03.A; Add Leviton, Wattstopper and System Sensor to list of approved manufacturers of relay panels.  
C. Refer to paragraph 2.04.A; Add Leviton, Wattstopper and System Sensor to list of approved manufacturers of timer switches.  
D. Refer to paragraph 2.06.A; Add Leviton, Wattstopper and System Sensor to list of approved manufacturers of daylight sensors.
- Item 24      Section 26 24 13 Switchboards  
A. Paragraph 2.02L: Add subparagraph 12 to read as follows: "Each digital breaker shall have a display indicating breaker status."
- Item 25      Section 26 25 01 Feeder and Plug In Busway



- A. Refer to paragraph 2.01.A; Add General Electric to list of approved manufacturers.

Item 26 Section 26 26 00 Power Distribution Units

- A. Refer to paragraph 2.01.A; Add General Electric and Eaton to list of approved manufacturers, provided that circuit breakers used in the Power Distribution Units are compatible with the power monitoring system.

Item 27 Section 26 33 53 Static Uninterruptible Power Supply

- A. Change Paragraph 2.01 to read as follows:
  - A. General Electric TLE series B.
  - B. Eaton 9395 Series C.
  - C. APC Symmetra PX Series.
- B. Change Paragraph 2.02 A to read as follows: "Install (2) standalone 400 KW UPS assemblies with external bypass switch."
- C. Delete Paragraph 2.03.

Item 28 Specification Section 27 10 05 Structured Cabling for Voice and Data – Inside Plant

- A. Add the following Paragraph 2.09 to read:

"2.09 NETWORK EQUIPMENT RACKS: Equipment to be furnished and installed under Alternate Bid #5:

  - A. Quantity: thirty seven (37) – CPI Terraframe P/N: TS1021925 "glacier white" w/chimney (Locations 101-122 & 126-146).
  - B. Quantity: one (1) - CPI Terraframe P/N: NF5T-143C-E42 "glacier white" w/chimney (Location 125).
  - C. Provide data cabinets with integral chimneys (vertical exhaust) at locations indicated; coordinate installation with base bid gasketed ceiling sleeves. All Data Cabs complete with HOTLOK snap-In filler modules to restrict/control airflow.
  - D. Use manufacturer standard filler panels to block airflow at top, bottom and sides of enclosure - 1U Chatsworth P/N: 34537-E00 and 2U Chatsworth P/N: 34538-E0.
  - E. All rack locations are shown on Drawing E1.1."
- B. Add the following Paragraphs 3.03 and 3.04:

"3.03 GROUNDING

  - A. All metallic cable trays, ladder racks, raceways, cable sheath/armor, enclosures, equipment racks and other conductive surfaces shall be properly bonded to the grounding system. All paint and other coatings shall be removed at all contact surfaces to ensure proper ground.



- B. Furnish and install an insulated 6AWG insulated copper ground wire from a copper ground bus in each telecommunication room to the main building electrical ground point in the main electrical room. Drawing notes indicating a larger size shall take precedence.
- C. All grounding shall be in compliance with NEC Article 800, Article 250, as well as EIA/TIA Standard 607.

#### 3.04 RACK SYSTEMS

- A. Free standing racks must be securely fastened to the floor and must be attached to the wall with ladder rack at the top. This top ladder rack is for wire management, as all wire entering the rack is to be placed neatly on the ladder. Additionally, the ladder rack shall be securely fastened to provide earthquake support.
- B. All racks must be bonded with a 6 AWG insulated copper ground.
- C. Seismic Requirements: Installation shall be in accordance with ASCE Standard 7-02 requirements.”

#### The following changes shall be made to the DRAWINGS:

- Item 29      Structural Working Drawing Sheets:
  - A. Replace five (5) Structural Working Drawing Sheets: with the attached: S2.0 Foundation Plan, S2.10 Foundation Details, S2.11 Foundation Details, S2.12 Foundation Details, S3.10 Catwalk Framing Details.
  
- Item 30      Sheet A3.3:
  - A. Change Datacom Plan Notes, Note.12, to read: “Not used.”
  
- Item 31      Sheet P2:
  - A. Note 31 “Trap Primer Location.” Add “Provide Trap Primers at Mechanical Room 103B, MEP Loft 109, and Ag Ed Welding Shop 117. Install in accessible location and provide union required for maintenance.”
  
- Item 32      Sheet M3.3 HVAC Schedules
  - A. Control valve information added to schedule. Refer to attached revised sheet M3.3, dated 06/11/14.
  
- Item 33      Sheet E1.1 Electrical Floor Plan
  - A. Replace last sentence in Note #13 with the following: See specification section 26 05 37 for generator interface box requirements.



- B. Revise UPS and PDU layout and quantity per attached drawing E1.1R. Revise Bus duct home runs per attached drawing E1.1R, dated 06/12/14.
- C. Add the following sentences to Note #17: Existing conduit from HAMB transfer switch terminates at Panel EDP2 location. See one line diagram for wiring requirements.
- D. Add the following sentences to Note #19: Existing conduit from HAMB communication cabinet terminates at ASMC data rack location. Coordinate locations with Owner's Authorized Representative (OAR).
- E. Add the following sentences to Note #20: Change to read as follows: "Provide 1" conduit from panel F4 to northeast corner of building for future trash compactor. Extend conduit beyond concrete apron, cap and install monument indicating location."

Item 34 Sheet E6.1 Electrical One Line Diagram

- A. Revise UPS and PDU quantity, configuration and rating per attached drawing E6.1R – Revise Bus duct home runs per attached drawing E6.1R, dated 06/12/14. Replace 1200/3 circuit breaker in Panel EDP4 with (2) 600/3 circuit breakers. Replace 600 amp feeder to UPS assembly with (2) 600 amp feeders.

Item 35 Sheet E6.2 Panel Schedules

- A. Replace 1200 amp breaker with 600 amp trip with (2) 600 amp 3 pole circuit breakers with 400 amp trip.

Item 36 Sheet E6.3 Panel Schedules

- A. Change UPS panel circuit breakers to (2) 300 amp circuit breakers. Provide at each UPS. If 400 kW PDU's are used in lieu of 225 KW PDU's both UPS panels can be deleted.

Item 37 Sheets E6.3 and E6.4 Panel Schedules

- A. Panels PDU1, PDU2, PDU3 and PDU4 – Change all (3) 300/3 circuit breakers to 225/3. Add (2) 20/1 circuit breakers in 100 amp subpanel in PDU 1 with provisions for 27 future circuit breakers. Delete 100/3 and 20/1 circuit breakers and 100 amp panelboard from PDU-2, 3 and 4. At Contractor's option, (2) 400 kW PDU's can be used in lieu of the (4) 225 KW PDU's shown on the drawings. Under this option add (3) 225 / 3 circuit breaker to PDU 1 and add (3) 225 /3 circuit breakers to PDU 2.

Item 38 Sheet E6.4 Panel Schedules



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- A. Main Distribution Panel: Add 1600 amp main breaker to the main distribution panel. Main breaker shall have an arc flash reduction maintenance switch.

Item 39

Sheet E0.1 Light Fixture Schedule

- A. Add Lithonia FOB series for fixture Types A and AD.
- B. Add Daybrite FBF series for fixture Types A and AD.
- C. Add Daybrite HDI series for fixture Type B.
- D. Add LSI F232 32 SSOR F Series for fixture Type B.
- E. Add Lightolier 80-91 PWHW series for fixture Type D.
- F. Add Evenlite SOVACG1C series for fixture Type E.
- G. Add HE William Exit/EL-SF-G-CP-AN-AC series for fixture Type E.
- H. Add Daybrite CB232W series for fixture Type G.
- I. Add LSI BR-232-SSOR series for fixture Type G.
- J. Add Cooper B1 232 Series for fixture Type G
- K. Add Daybrite SJ232 series for fixture Type H.
- L. Add HE Williams 20-4-232-A-GMF series for fixture Type H.
- M. Add HE Williams 20-4-232-A-FMF series for fixture Type H.
- N. Add Cooper CR 232 Series for Fixture Type H.
- O. Add Daybrite SJ232 series for fixture Type H.
- P. Add Daybrite FBF series for fixture Types R and RD.
- Q. Add Gardco 161-CWL-4-110LA-4553 series for fixture Type T.
- R. Add Gardco 121-4-50LA series for fixture Type T2.
- S. Add Lithonia DSXW2 30C 700 series for fixture Type T.
- T. Add Lithonia DSXW2 20C 530 series for fixture Type T2

APPROVALS

All product approvals are as noted in revised specifications above or as listed below for Mechanical and Electrical items. Submitted items not referenced in the applicable revised Specification sections in this Addendum (above) or listed below were not approved.

Plumbing Approvals:

- P4 Acorn Safety S0706-BFB Eyewash  
Acorn Controls ET71-1, ST7069, & MV17 Mixing Valves

Electrical Approvals:





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- 26 25 01 GE/Zenith Series DPB Busway
- 26 26 00 GE/Zenith Series MDU Power Distribution Units (PDU)
- 26 33 53 GE Critical power TLE 400kW with eBoost Technology Uninterruptable Power Supply

### QUESTIONS/ANSWERS

Question: Are the hot aisle/cold aisle barriers flexible or made of rigid material?  
Response: See Contract Documents. See Specification Section 27 11 16 Communications Enclosures.

Question: I am having a hard time determining the dimensions of the Communications Enclosure and if it suspended from the ceiling? Can you help with that, please? Also, is Clean Agent Fire Suppression required within it?  
Response: 8'-0"x48'-0"x12'-3"+/- See Contract Documents.

Question: Exterior wall near grid line "A" 3/A5.2 shows metal stud framing, go to A5.4 detail 4 shows PEB framing.  
Response: Exterior structural wall framing is PEB, bents, columns, and girts see structural. However all exterior walls includes elements of LGMF as well, back-up for sheathing, furring, etc.

Question: What gauge is the hat channel and LGMF interior sheathing back up that is attached to PEB structure?  
Response: To suit conditions/spans.

Question: Insulated roof panels and exterior vertical wall panels; is there a specific manufacturer, R value and color called out can't seem to find it.  
Response: See Contract Documents. See Specification Section 07 41 63 Fabricated Roof Panels Assemblies and 07 42 13 Metal Wall Panels



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END OF ADDENDUM NO. 2

OREGON UNIVERSITY SYSTEM

STANDARD PUBLIC IMPROVEMENT CONTRACT

BID FORM

OUS CAMPUS: OREGON STATE UNIVERSITY

PROJECT: AGRICULTURAL SYSTEMS MANAGEMENT CENTER (ASMC)

BID CLOSING: JUNE 24, 2014 2:30PM

BID OPENING: JUNE 24, 2014 2:30PM

FROM: Name of Contractor

TO: The State of Oregon, acting by and through the Oregon State Board of Higher Education, on behalf of Oregon State University ("Owner") Capital Projects Contract Administration 3015 SW Western Blvd. Corvallis, Oregon 97331

1. The Undersigned (check one of the following and insert information requested):

- a. An individual doing business under an assumed name registered under the laws of the State of ; or
b. A partnership registered under the laws of the State of ; or
c. A corporation organized under the laws of the State of ; or
d. A limited liability corporation/company organized under the laws of the State of ;

hereby proposes to furnish all material and labor and perform all work hereinafter indicated for the above project in strict accordance with the Contract Documents for the Basic Bid as follows:

Dollars (\$ )

and the Undersigned agrees to be bound by the following documents:

- Notice of Public Improvement Contract Opportunity
• Instructions to Bidders
• Bid Bond
• Performance Bond and Payment Bond
• Supplemental OUS Public Improvement General Conditions
• Payroll and Certified Statement Form
• Drawings and Details
• Supplemental Instructions to Bidders
• Public Improvement Agreement Form
• OUS Public Improvement General Conditions
• Prevailing Wage Rates
• Plans and Specifications
• ADDENDA numbered through , inclusive (fill in blanks)

2. The work shall be completed within the time stipulated and specified in Division 1, Section 01 11 00, of the Specifications.

3. The Undersigned proposes to add to or deduct from the Base Bid indicated above the items of work relating to the following Alternate(s) as designated in the Specifications:

ALTERNATE 1: Remove building, concrete slab/foundations, and exterior flatwork from Gridline “E” to “H”.

ADD: \$ \_\_\_\_\_

ALTERNATE 2: Remove selected interior building elements between Gridlines “B” to “E”.

ADD: \$ \_\_\_\_\_

ALTERNATE 3: Remove generator.

ADD: \$ \_\_\_\_\_

ALTERNATE 4: Provide fire suppression dry pipe sprinkler system including integral fire detection and alarm for a complete system.

ADD: \$ \_\_\_\_\_

ALTERNATE 5: Provide data cabinets with integral chimneys (vertical exhaust) at locations indicated.

ADD: \$ \_\_\_\_\_

4. The Undersigned proposes to add to or deduct from the Base Bid indicated above the items or work relating to the following Unit Price(s) as designated in the Specifications, for which any adjustments in the Contract amount will be made in accordance with Section D of the OUS General conditions.

UNIT PRICE #1: Six inches deep ground-loop heat-pump piping trench bedding, fill sand measured per ton.

\$ \_\_\_\_\_

5. The Undersigned certifies that: (1) This Bid has been arrived at independently and is being submitted without collusion with and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment or services described in the invitation to bid designed to limit independent bidding or competition; and (2) The contents of the Bid have not been communicated by the Undersigned or its employees or agents to any person not an employee or agent of the Undersigned or its surety on any Bond furnished with the Bid and will not be communicated to such person prior to the official opening of the Bid.

6. The undersigned **HAS, HAS NOT** (*circle applicable status*) paid unemployment or income taxes in Oregon within the past 12 months and **HAS, HAS NOT** (*circle applicable status*) a business address in Oregon..

7. The Undersigned agrees, if awarded a contract, to comply with the provisions of ORS 279C.800 through 279C.870 pertaining to the payment of the prevailing rates of wage.

8. Contractor's CCB registration number is \_\_\_\_\_. As a condition to submitting a bid, a Contractor must be registered with the Oregon Construction Contractors Board in accordance with ORS 701.035 to 701.055, and disclose the registration number. Failure to register and disclose the number will render the bid unresponsive and it will be rejected, unless contrary to federal law.

9. The successful Bidder hereby certifies that all subcontractors who will perform construction work as described in ORS 701.005(2) were registered with the Construction Contractors Board in accordance with ORS 701.035 to 701.055 at the time the subcontractor(s) made a bid to work under the Contract.

10. The successful Bidder hereby certifies that, in compliance with the Worker's Compensation Law of the State of Oregon, its Worker's Compensation Insurance provider is \_\_\_\_\_, Policy No. \_\_\_\_\_, and that Contractor shall submit Certificates of Insurance as required.

11. Contractor's Project Manager for this project is: \_\_\_\_\_,  
Office Phone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_.

12. The Undersigned certifies that it has not discriminated against minority, women, or emerging small businesses in obtaining any subcontracts for this project.

13. Accompanying herewith is Bid Security which is equal to ten (10) percent of the total amount of the Basic Bid.

14. The Undersigned further agrees that the Bid Security accompanying the Bid is left in escrow with the Board; that the amount thereof is the measure of liquidated damages which the Owner will sustain by the failure of the Undersigned to execute and deliver the above-named Agreement Form, Performance Bond and Payment Bond, and, that if the Undersigned defaults in either executing the Agreement Form or providing the Performance Bond and Payment Bond within twenty (20) calendar days after receiving the Contract Documents, then the Bid Security may become the property of the Owner at the Owner's option; but if the Bid is not accepted within thirty (30) calendar days of the time set for the opening of the Bids, or if the Undersigned executes and timely delivers said Agreement Form, Performance Bond and Payment Bond, the Bid Security shall be returned.

15. The Undersigned agrees, if awarded the Contract, to execute and deliver to Owner, within twenty (20) calendar days after receiving the Contract Documents, an Agreement Form and a satisfactory Performance Bond and Payment Bond, each in an amount equal to one hundred (100) percent of the Contract sum, using forms provided by the Owner. The surety requested to issue the Performance Bond and Payment Bond will be: \_\_\_\_\_.

*(name of surety company – not insurance agency)*

The Undersigned hereby authorizes said surety company to disclose any information to the Owner concerning the Undersigned's ability to supply a Performance Bond and Payment Bond each in the amount of the Contract.

*(remainder of page left blank intentionally)*

By signature below, Contractor agrees to be bound by this Bid.

NAME OF FIRM \_\_\_\_\_

ADDRESS \_\_\_\_\_

\_\_\_\_\_

FEDERAL TAX ID \_\_\_\_\_

TELEPHONE NO \_\_\_\_\_

FAX NO \_\_\_\_\_

SIGNATURE 1) \_\_\_\_\_

Sole Individual - Signature

\_\_\_\_\_

Sole Individual - Printed Name

or 2) \_\_\_\_\_

Partner

or 3) \_\_\_\_\_

Authorized Officer of Corporation - Signature

\_\_\_\_\_

Authorized Officer of Corporation Printed Name

(SEAL)

\_\_\_\_\_

Attested: Secretary of Corporation

*Payment information will be reported to the IRS under the name and taxpayer ID # provided above. Information not matching IRS records could subject Contractor to 31 percent backup withholding.*

**\*\*\*\*\* END OF BID \*\*\*\*\***

UNIT PRICES  
Section 01 22 00

**PART 1 GENERAL**

1.01 DESCRIPTION

- A. Provide unit prices for the Work described herein.

1.02 QUALITY ASSURANCE

- A. For each unit price item which is performed, coordinate the work of the various trades involved, and modify surrounding work as required to complete the project, as intended.
- B. In the figure for each unit price, include incidental costs which, as attributable to adjustments in the work of other trades, may be required to achieve the contemplated final conditions.
- C. If there is a question regarding the extent, scope, nature, or intent of the unit price work, contact the Owner for clarification. Failure on the part of the Contractor to clarify any unclear items shall not relieve the Contractor of the responsibility for performing the Work in accordance with the intent and requirements of the Project Manual or Drawings.
- D. The description of unit price items listed hereinafter is qualitative. The quantities listed are estimated quantities and are included for the purpose of award of the Contract. Actual quantities of labor and materials required to execute the unit price items of Work will be determined by project conditions and with concurrence of the Owner's Authorized Representative.

**PART 2 PRODUCTS**

2.01 GENERAL

- A. The applicable Sections of the Specifications apply to the Work under each unit price item.

**PART 3 EXECUTION**

3.01 LIST OF UNIT PRICE ITEMS OF WORK

- A. Unit Price #1: Six inches deep ground-loop heat-pump piping trench bedding. Fill Sand measured per ton. Contractor to notify Owner's Authorized Representative (OAR) when conditions deviate from clean soil.

END OF SECTION

## **SECTION 01 23 00**

### **ALTERNATES**

#### **PART 1 - GENERAL**

##### **1.01 SECTION INCLUDES**

- A. The alternates described in this Section may be exercised at the option of the Owner within 60 days of the execution of the Contract.
- B. It is generally the practice of the Owner to exercise alternates in numerical order.
- C. The Owner reserves the right to accept the alternates without regard to order or sequence; but, such acceptance shall not impair the selection of a low, responsible and responsive bidder to whom the Contract may be awarded under an equitable bid procedure.

##### **1.02 QUALITY ASSURANCE**

- A. For each alternate which is accepted, coordinate the work of the various trades involved, and modify surrounding work as required to complete the project as intended.
- B. In the change-in-price figure for each alternate, include incidental costs which are attributable to adjustments in the work of other trades which may be required to achieve the contemplated and final conditions.
- C. Questions:
  - 1. If there is a question regarding the extent, scope, nature, or intent of the alternates, contact the Owner's Authorized Representative for clarification.
  - 2. Failure on the part of the Contractor to clarify any unclear items shall not relieve the Contractor of the responsibility for performing the selected alternates in accordance with the intent and requirements of the Project Manual and Drawings.
  - 3. The description of the alternates hereinafter is qualitative and not quantitative; the Contractor shall determine the quantities of labor and materials and the extent of same required to execute the selected alternates in accordance with the intent and requirements of the Project Manual and Drawings.
  - 4. The applicable Sections of the Specifications apply to the work under each alternate.

##### **1.03 LIST OF ALTERNATES**

- A. Alternate 1: Remove building, concrete slab/foundations, and exterior flatwork from Gridline "E" to "H".
  - 1. Mechanical, Electrical and Plumbing (MEP) provide as indicated the capacity for future expansion and park all MEP systems at Gridline "E".



2. Gridline "E" becomes end wall.
  3. Remove door 116F but provide rough-in door 116F framing at end-wall.
  4. Mirror door 115 to interior office wall but provide rough-in door 115 framing at end-wall.
- B. Alternate 2: Remove selected interior building elements between Gridlines "B" to "E".
1. Remove interior walls/partitions, doors and associated Mechanical, Electrical, and Plumbing elements.
  2. Remove light fixtures and their associated pathways.
  3. Provide all MEP envelope elements located at exterior walls:
    - Louvers and dampers etc.
    - Conduit, outlets, exterior lighting, etc.
    - Hose bibs, etc.
  4. Rough-in all plumbing below finished floor. Stub-up as required for future installation. Locate as indicated on Contract Documents.
  5. Install all sensors except those mounted on Alt #2 removed from piping, ductwork, or wall (partitions).
  6. Programming and graphics for the entire base bid Building Automation and Control Systems will remain even with an accepted Alternate #2.
  7. Cap 1" hydronic piping intended for WAHP-1 18" above finished floor just inside exterior wall.
  8. 3-Hour Fire Barrier at Gridline "B" and Gridline "3" (from "B" to "B2") wall to remain in Project.
  9. Remove all casework.
- C. Alternate 3: Remove Generator.
1. Remove Generator only, all downstream system infrastructures to remain in Project.
  2. Coordinate conduit rough-in locations with Owner's Authorized Representative (OAR).
- D. Alternate 4: Provide fire suppression Dry Pipe Sprinkler System including integral Fire Detection and Alarm for a complete system.
1. Include Rooms:
    - Farm Service Shop – 104
    - Compressor – 105
    - New Oil – 106
    - Use Oil – 107

- Sample Prep – 108
  - Hallway – 110
  - Men – 111
  - Women – 112
  - Farm Office – 113
  - Ag Ed Office – 115
  - Secured Farm Equipment Storage – 120
2. Contractor design and provide power supply to the air compressor and the low air pressure alarm device.
  3. Include capacity within the completed system to additionally include gridline “E” to gridline “H” in the future.
  4. Cap and end dry pipe system at gridline “E” for future expansion.
  5. Supply plumbing to the riser for the dry pipe system included in Base Bid.
- E. Alternate 5: Provide data cabinets with integral chimneys (vertical exhaust) at locations indicated; coordinate installation with base bid gasketed ceiling sleeves. All data cabins complete with HOTLOK snap-in filler modules to restrict/control airflow.
1. Quantity: thirty-seven (37) – CPI Terraframe P/N: TS1021925 “glacier white” w/chimney (Locations 101-122 & 126-146)
  2. Quantity: one (1) – CPI Terraframe P/N: NF5T-143C-E42 “glacier white” w/chimney (Location 125)
  3. Quantity: Manufacturer standard – 1U Chatsworth P/N: 34537-E00 and 2U Chatsworth P/N: 34538-E00

**END OF SECTION**





**CSE ENGINEERING, INC.**  
CONSULTING STRUCTURAL ENGINEERS

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**OSU AGRICULTURE EDUCATION & FARM SERVICES SHOP**  
**OREGON STATE UNIVERSITY**  
**CORVALLIS, OREGON**

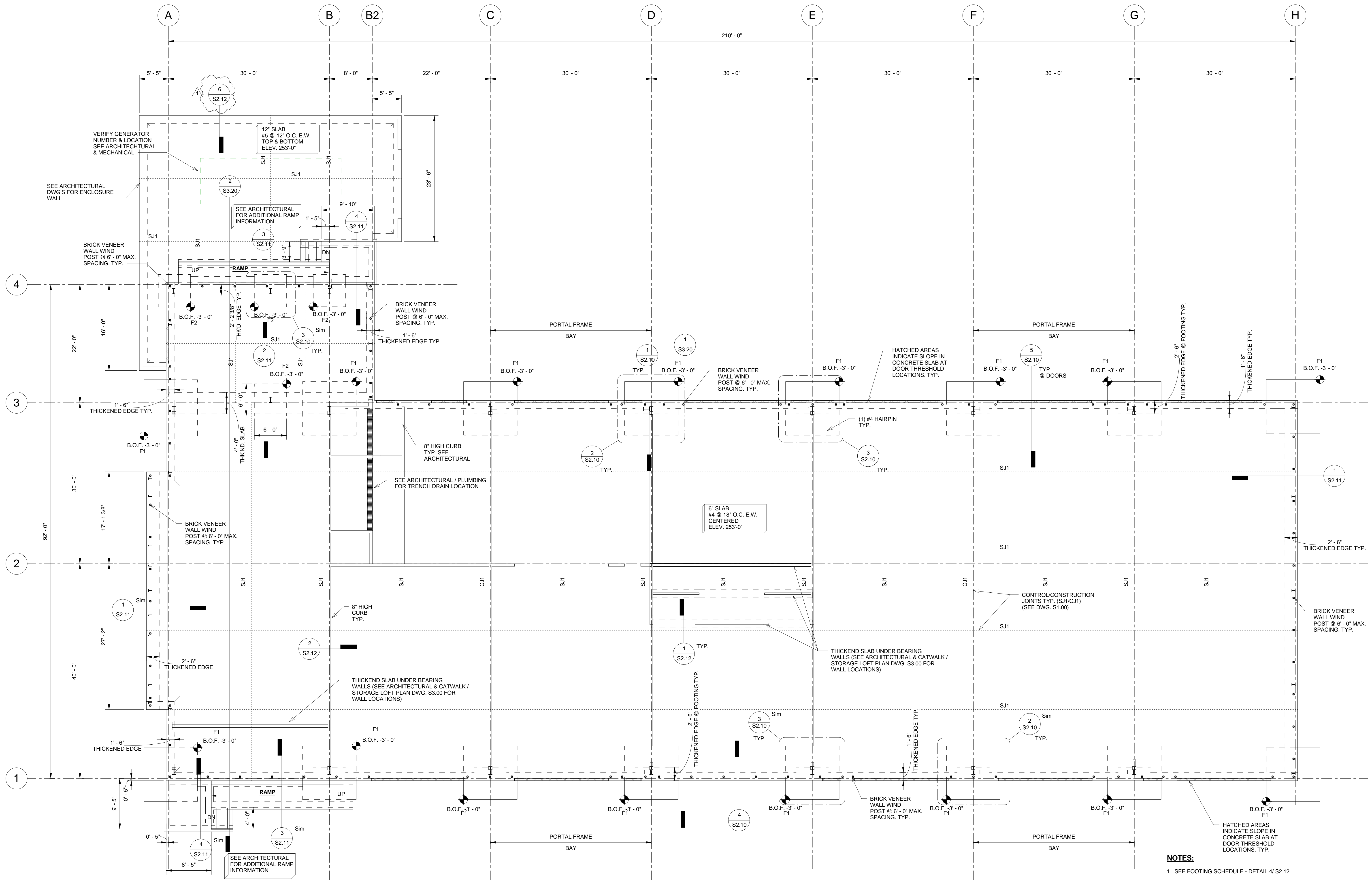
**FOUNDATION PLAN**

Revision Schedule		
Rev.	Desc.	Date
1	GENERAL	05/20/14

date: 06/10/13  
scale: As indicated  
drawn: DRC  
job no.: 11-08  
checked: DRC

SHEET:

**S2.00**



**1** FOUNDATION PLAN  
1/8" = 1'-0"

- NOTES:**
- SEE FOOTING SCHEDULE - DETAIL 4/ S2.12
  - ALL FOOTINGS CENTERED UNDER BUILDING COLUMN, U.N.O.
  - SEE DWG. S1.00 FOR CONTROL / CONSTRUCTION JOINTS.
  - SEE DETAIL 3/S2.12 FOR BRICK VENEER TIE REQUIREMENTS.
  - USE STANDARD HOOKS FOR ALL REBAR U.N.O. (SEE DWG. S1.00)
  - VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
  - FOOTINGS ARE PRELIMINARY AND REQUIRE ENGINEER OF RECORD VERIFICATION WITH PRE-ENGINEERED BUILDING MANUFACTURER FINAL FRAME REACTIONS PRIOR TO CONSTRUCTION OF FOOTINGS.

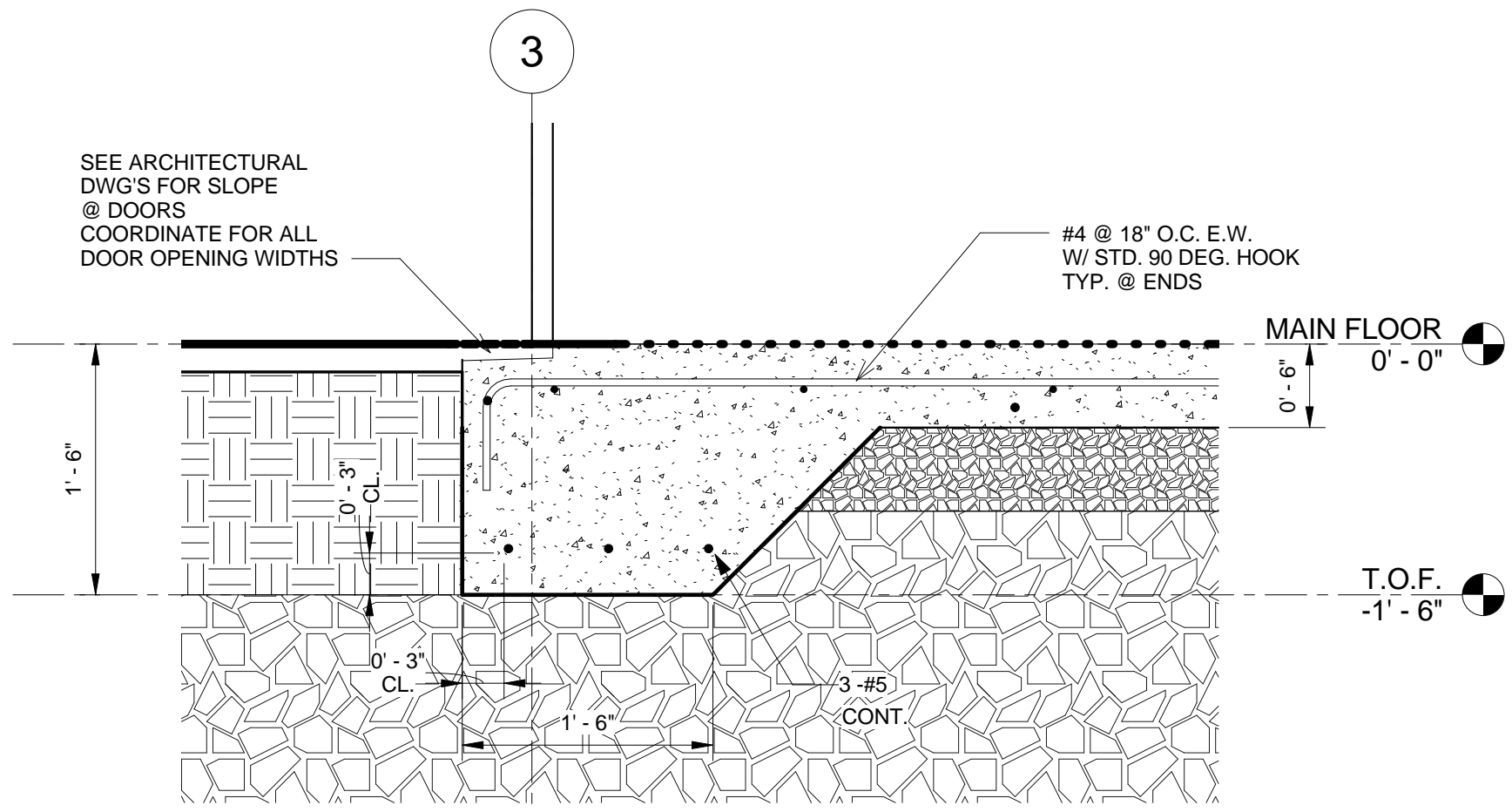
**FOUNDATION DETAILS**

Revision Schedule		
Rev.	Desc.	Date
1	GENERAL	05/20/14

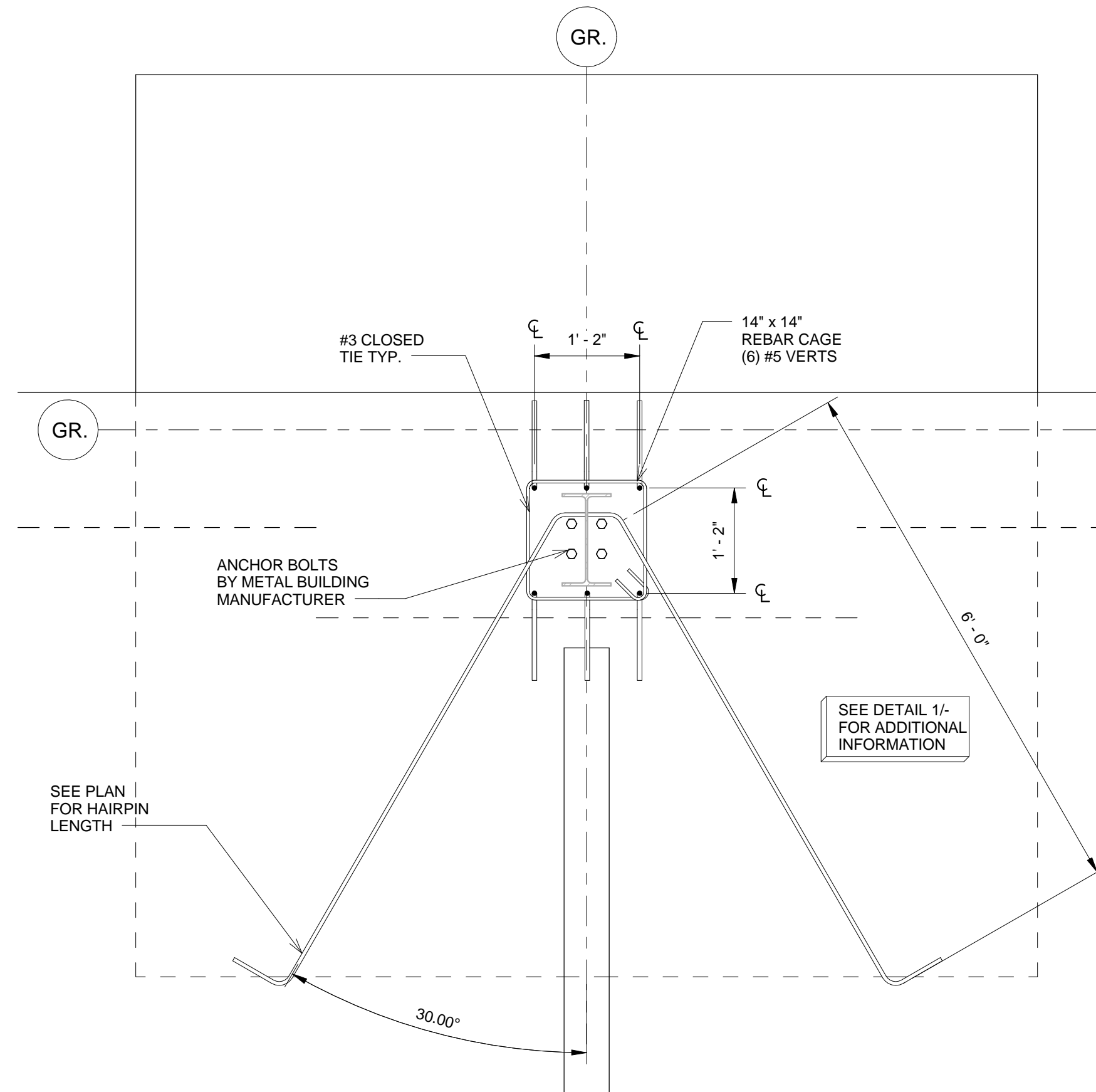
date: 06/10/13  
scale: As indicated  
drawn: DRC  
job no.: 11-08  
checked: DRC

SHEET:

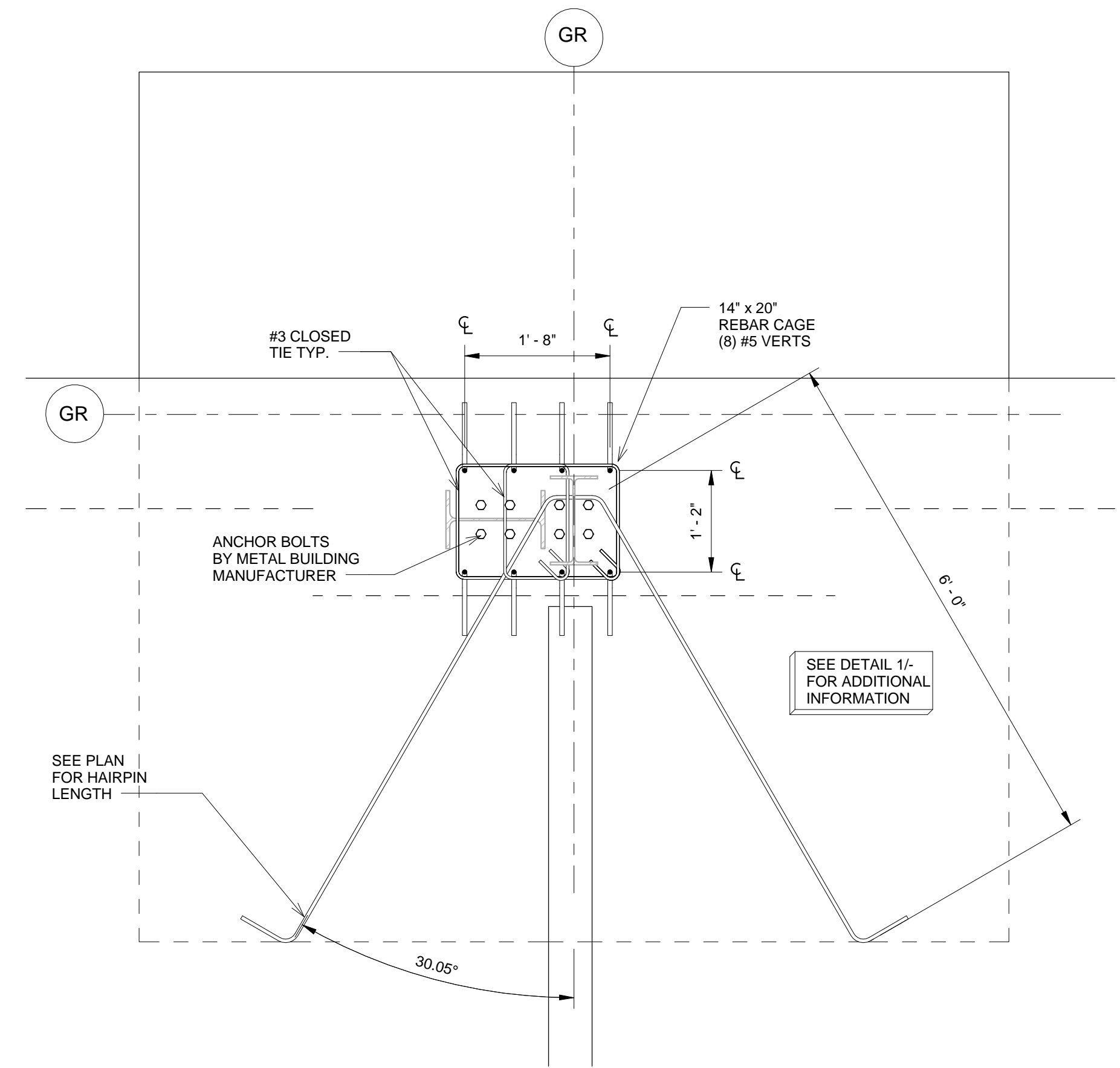
**S2.10**



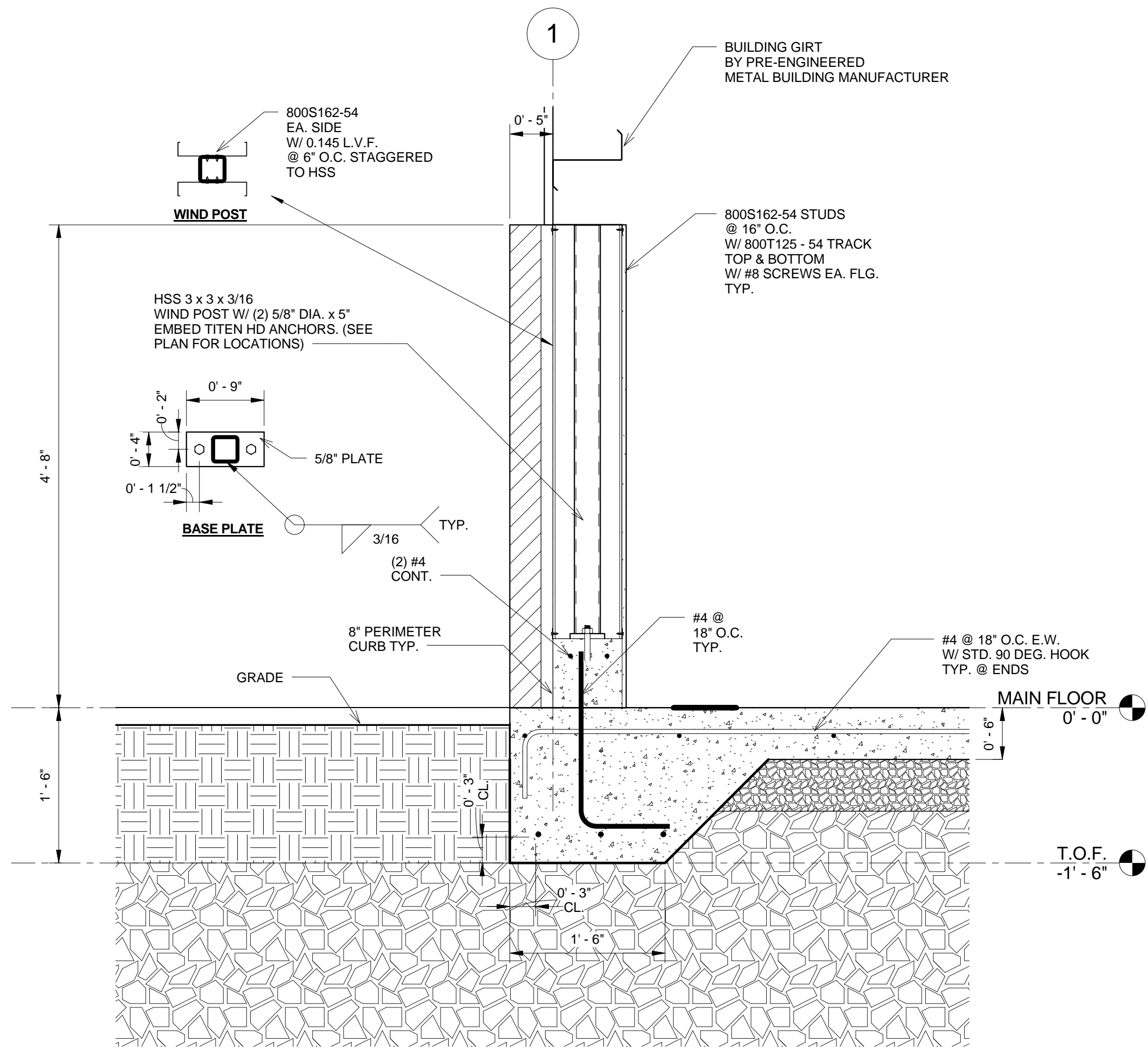
3 TYPICAL THICKENED EDGE @ DOORS  
1" = 1'-0"



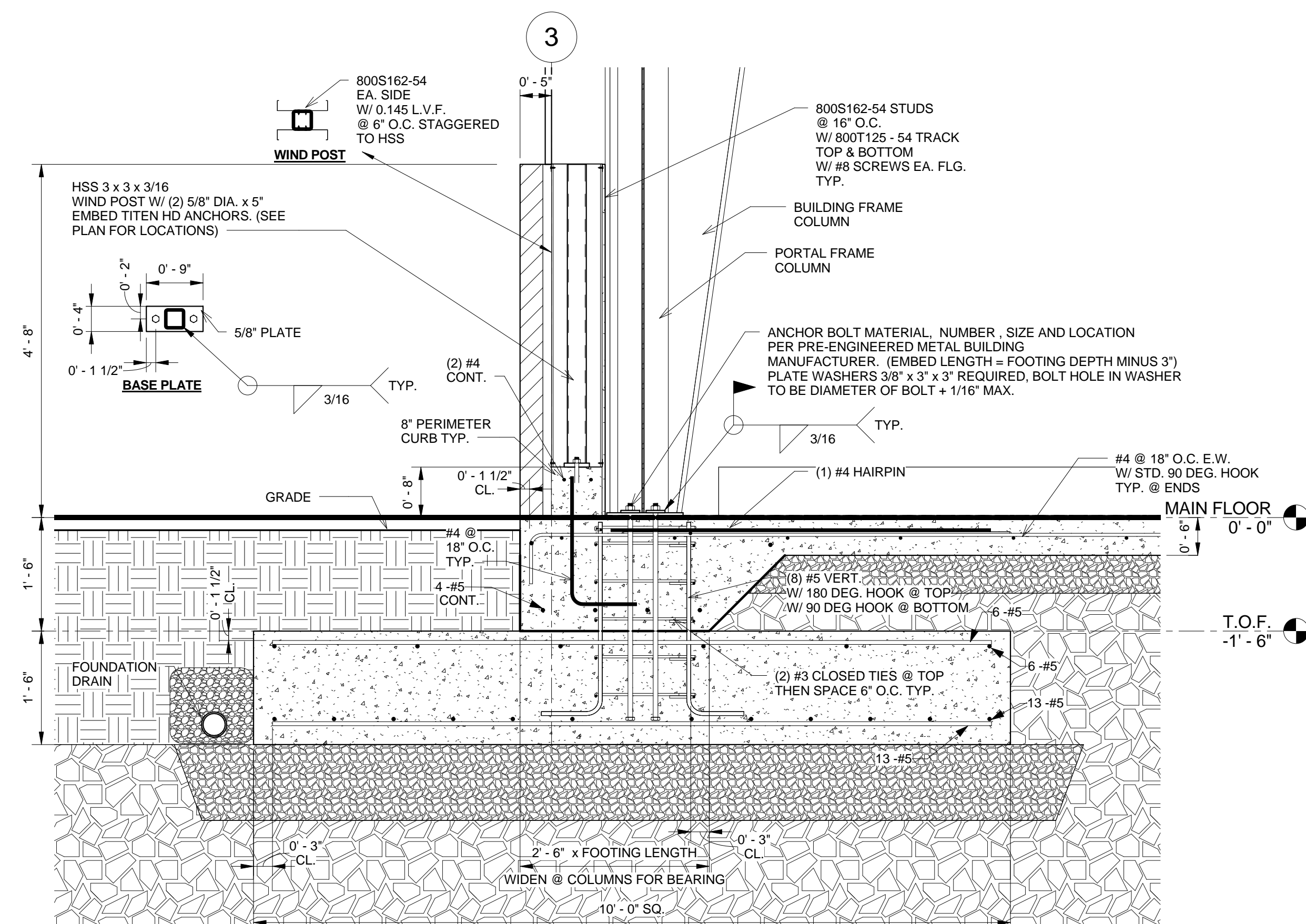
1 PILASTER @ NON - PORTAL FRAME  
DETAIL  
3/4" = 1'-0"



2 PILASTER @ PORTAL FRAME  
DETAIL  
3/4" = 1'-0"



1 TYPICAL THICKENED EDGED DETAIL  
1" = 1'-0"



3 TYPICAL "F1" BUILDING FRAME FOOTING  
3/4" = 1'-0"



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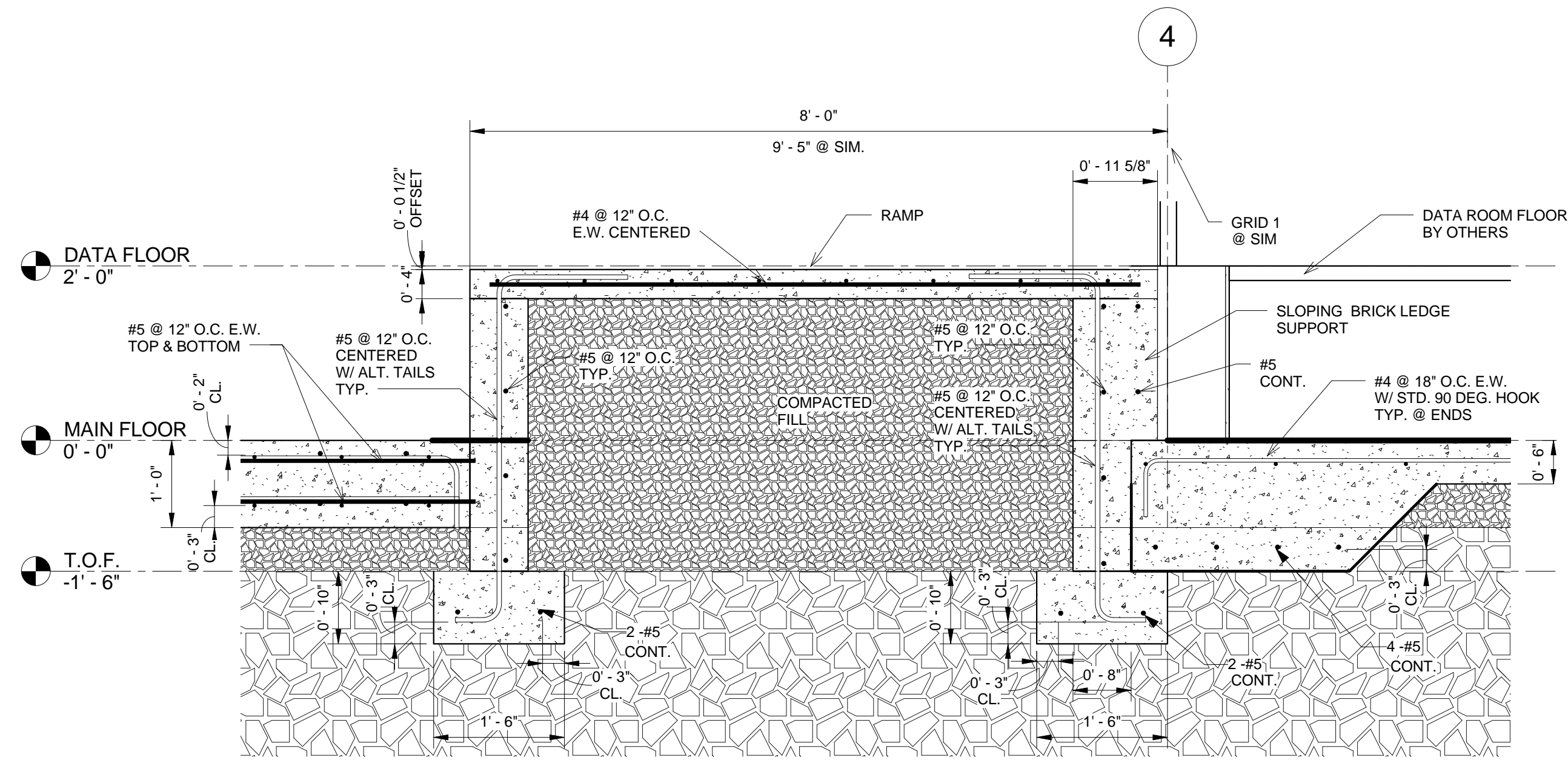
**FOUNDATION DETAILS**

Revision Schedule		
Rev.	Desc.	Date
1	GENERAL	05/20/14

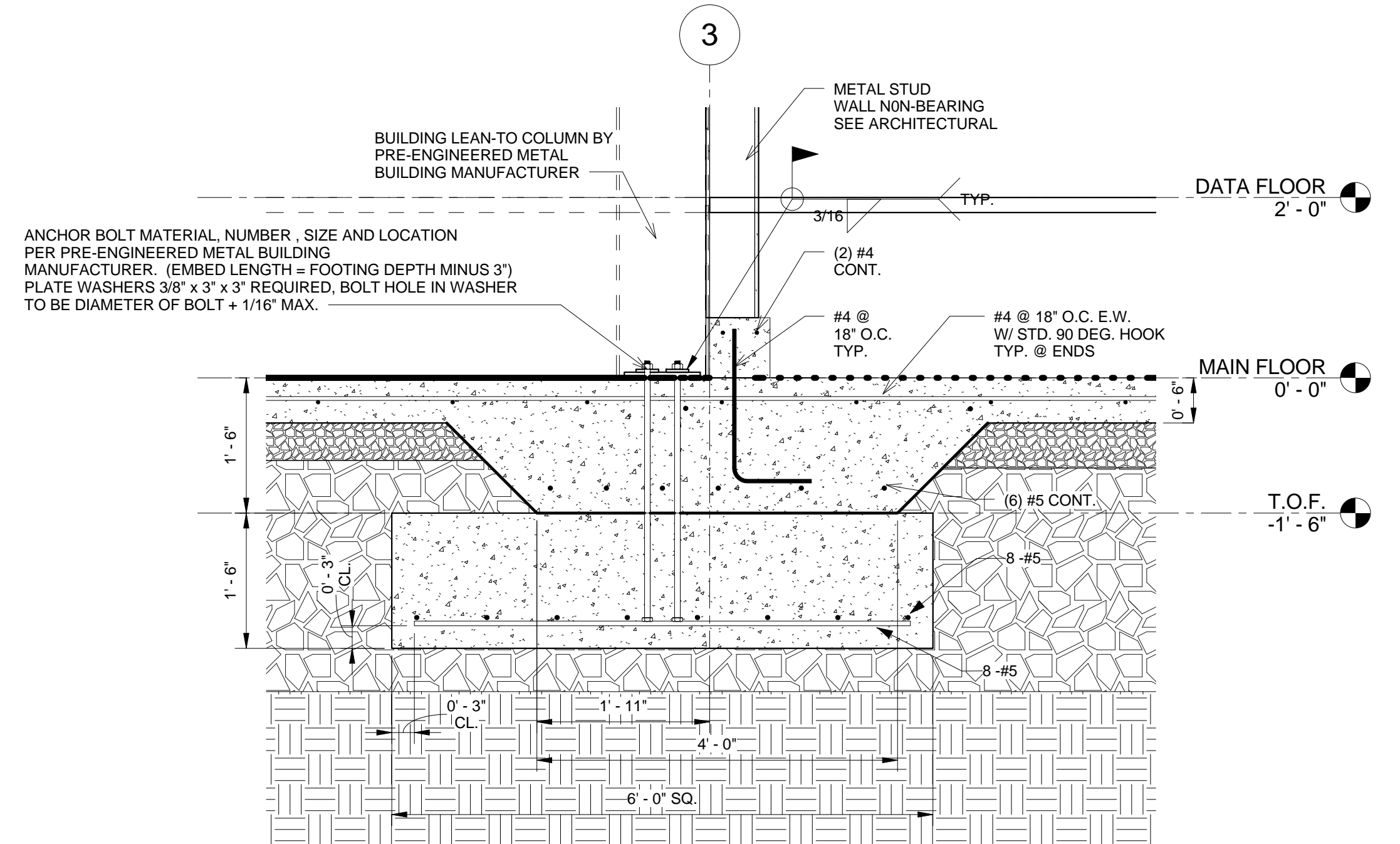
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scale: 3/4" = 1'-0"  
drawn: DRC  
job no.: 11-08  
checked: DRC

SHEET:

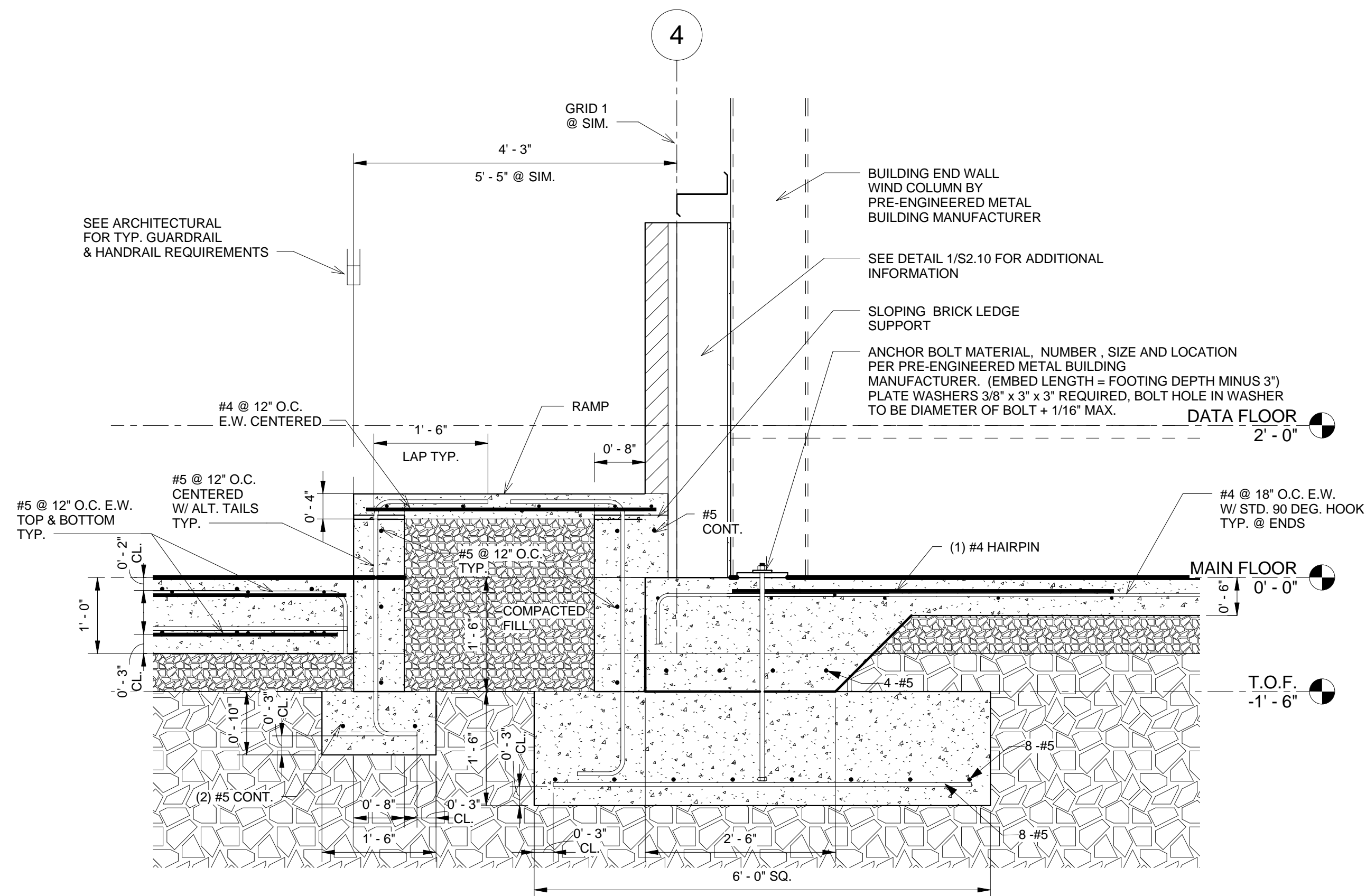
**S2.11**



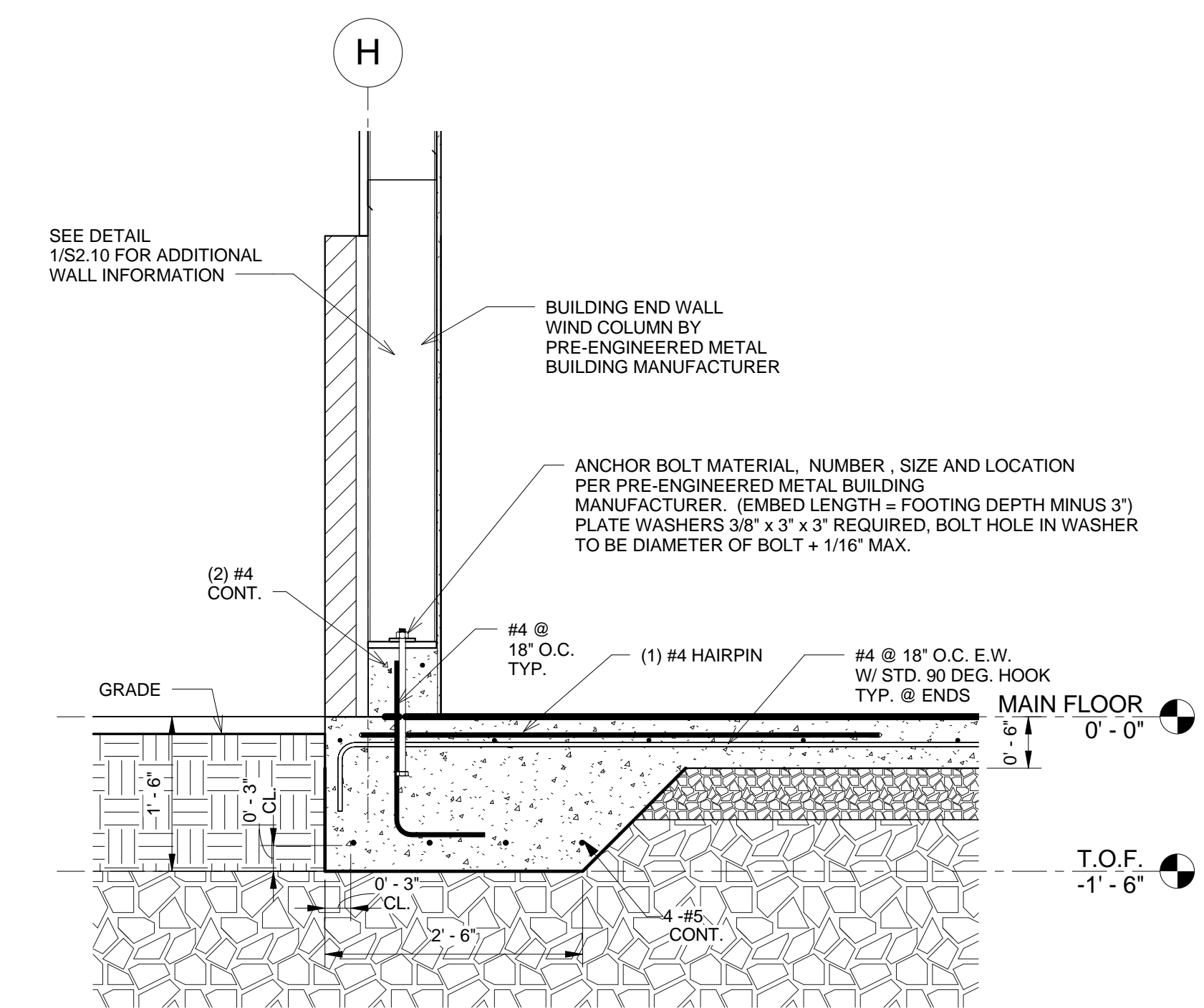
4 SECTION @ RAMP LANDING  
3/4" = 1'-0"



2 INTERIOR "B" FOOTING  
3/4" = 1'-0"



3 SECTION @ RAMP  
3/4" = 1'-0"



1 END WALL THICKENED EDGE  
3/4" = 1'-0"



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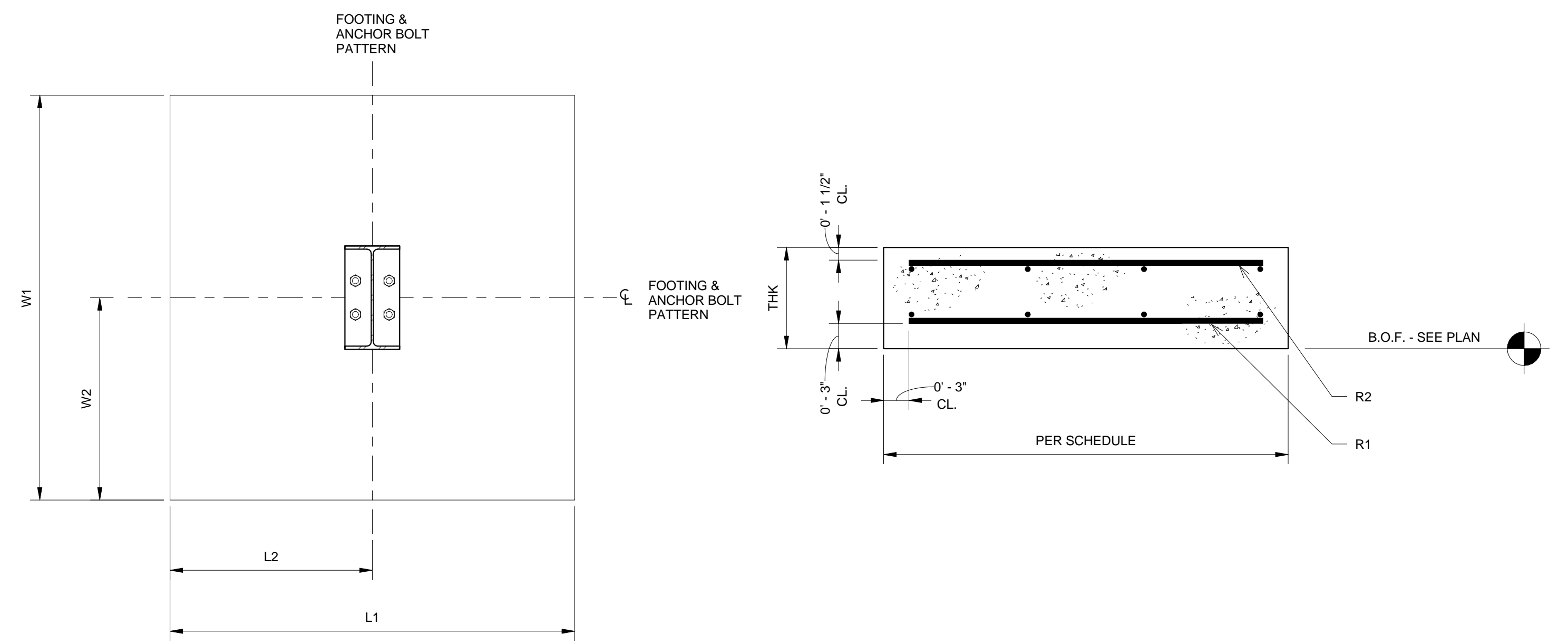
**FOUNDATION DETAILS**

Revision Schedule		
Rev.	Desc.	Date
1	GENERAL	05/20/14

date: 06/10/13  
scale: 1" = 1'-0"  
drawn: DRC  
job no.: 11-08  
checked: DRC

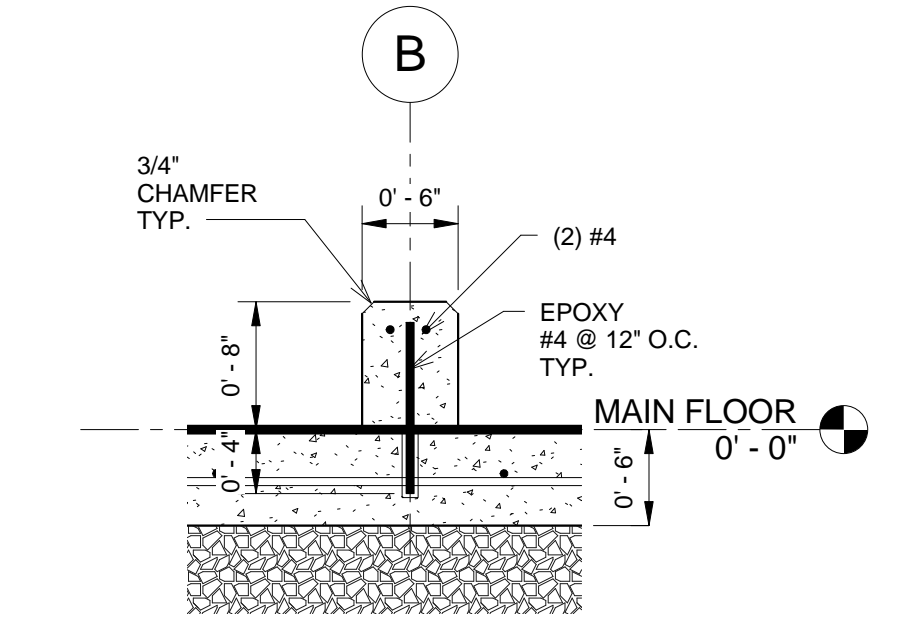
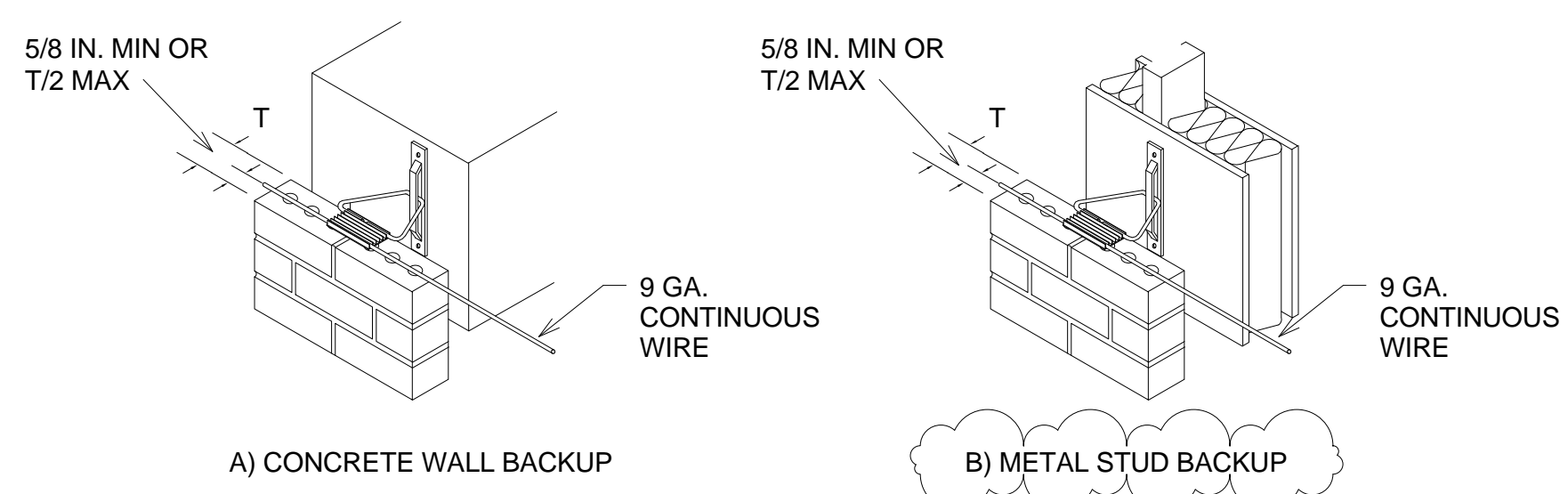
SHEET:

**S2.12**



Mark	LONG DIRECTION		SHORT DIRECTION		THK	BOTTOM REINFORCEMENT		TOP REINFORCEMENT	
	L1	L2	W1	W2		R1 (LONG)	R1 (SHORT)	R2 (LONG)	R2 (SHORT)
	F1	10' - 0"	5' - 0"	10' - 0"		5' - 0"	1' - 6"	(13) #5	(13) #5
F2	6' - 0"	3' - 0"	6' - 0"	3' - 0"	1' - 6"	(8) #5	(8) #5	-	-

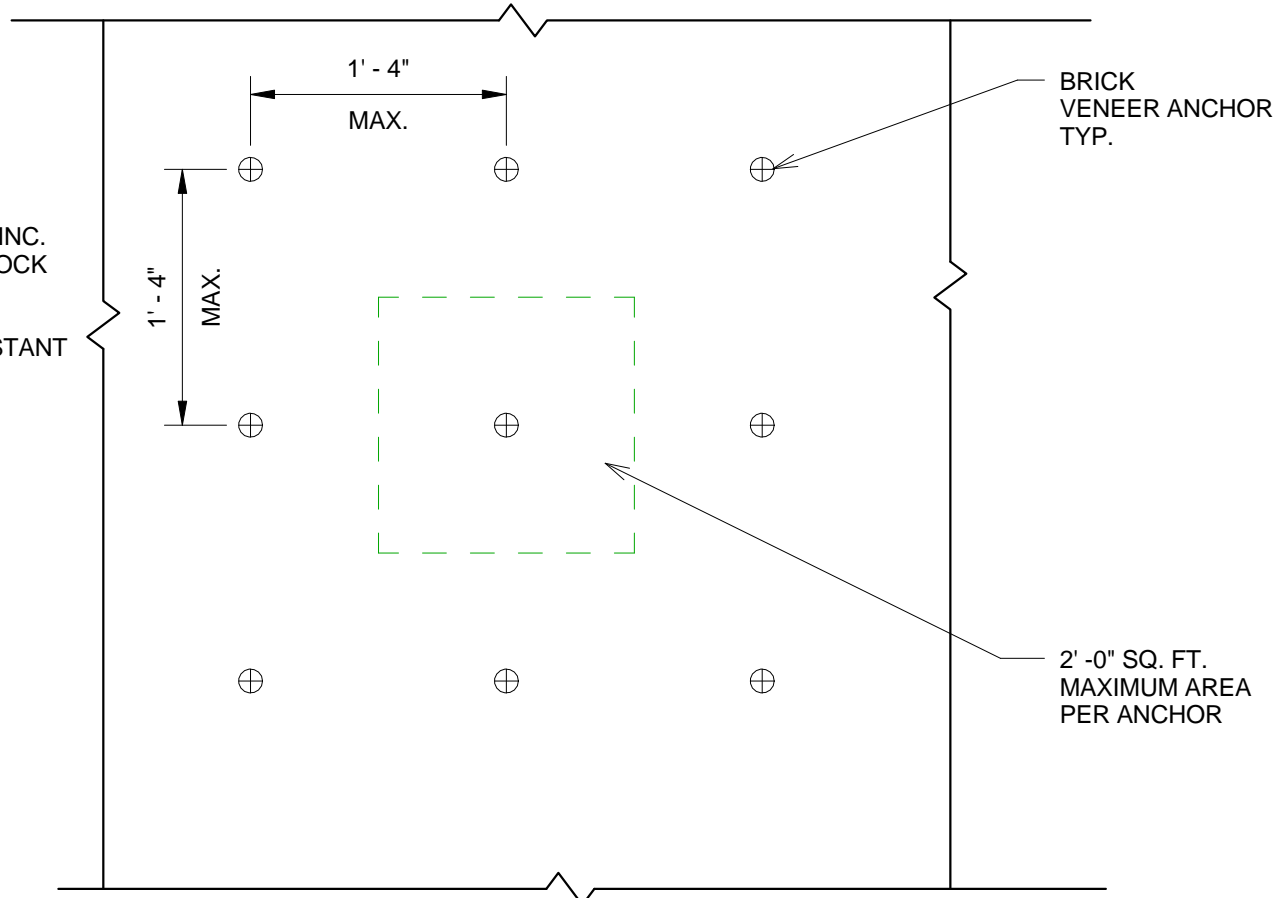
④ FOOTING SCHEDULE  
1" = 1'-0"



② CONTAINMENT CURB DETAIL  
1" = 1'-0"

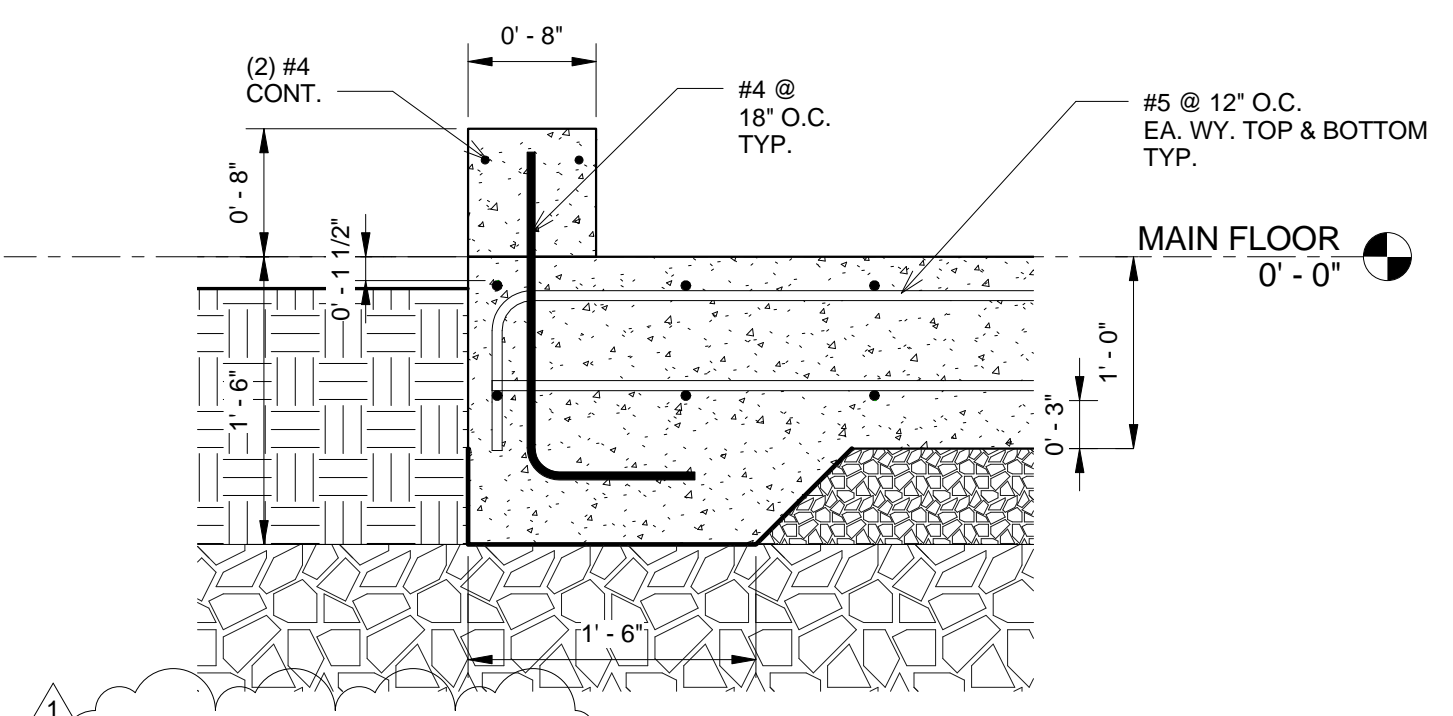
**NOTES:**

- USE "TWO-PIECE" HOHMANN & BARNARD, INC. ADJUSTABLE DW-10HS SEISMICLIP INTERLOCK SYSTEM VENEER ANCHOR OR EQUAL.
- PROVIDE COMPATIBLE CORROSION RESISTANT WOOD SCREWS AND CONCRETE ANCHOR (EXPANSION, TAPCON, ETC.) TO ANCHOR VENEER CLIP TO BACKING MATERIAL.

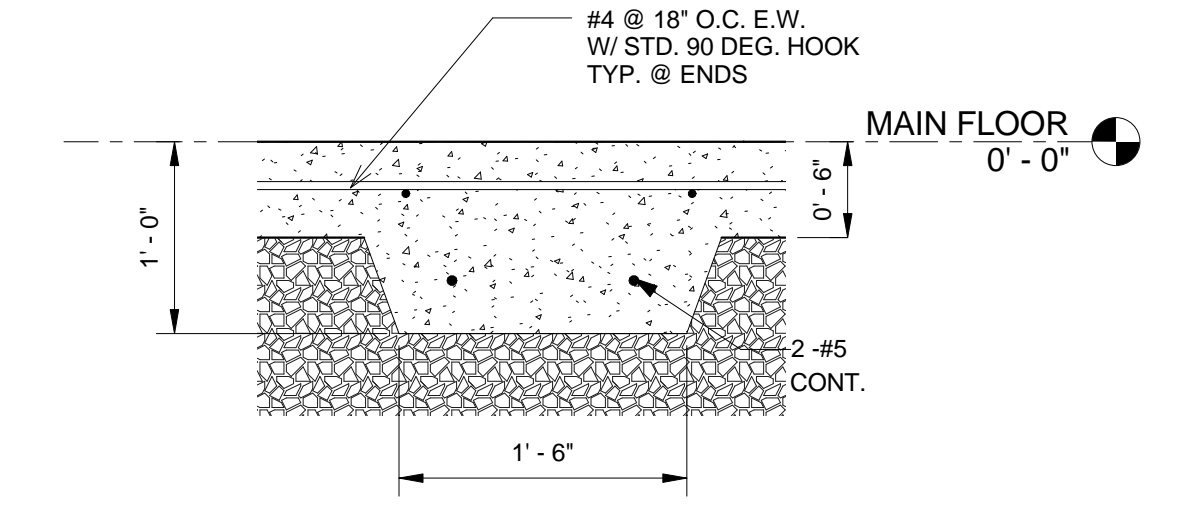


**TYPICAL BRICK VENEER ANCHOR WALL LAYOUT**

③ BRICK VENEER ANCHORAGE  
1" = 1'-0"



⑥ GENERATOR PAD EDGE  
1" = 1'-0"



① BEARING WALL THICKENED SLAB FOOTING  
1" = 1'-0"



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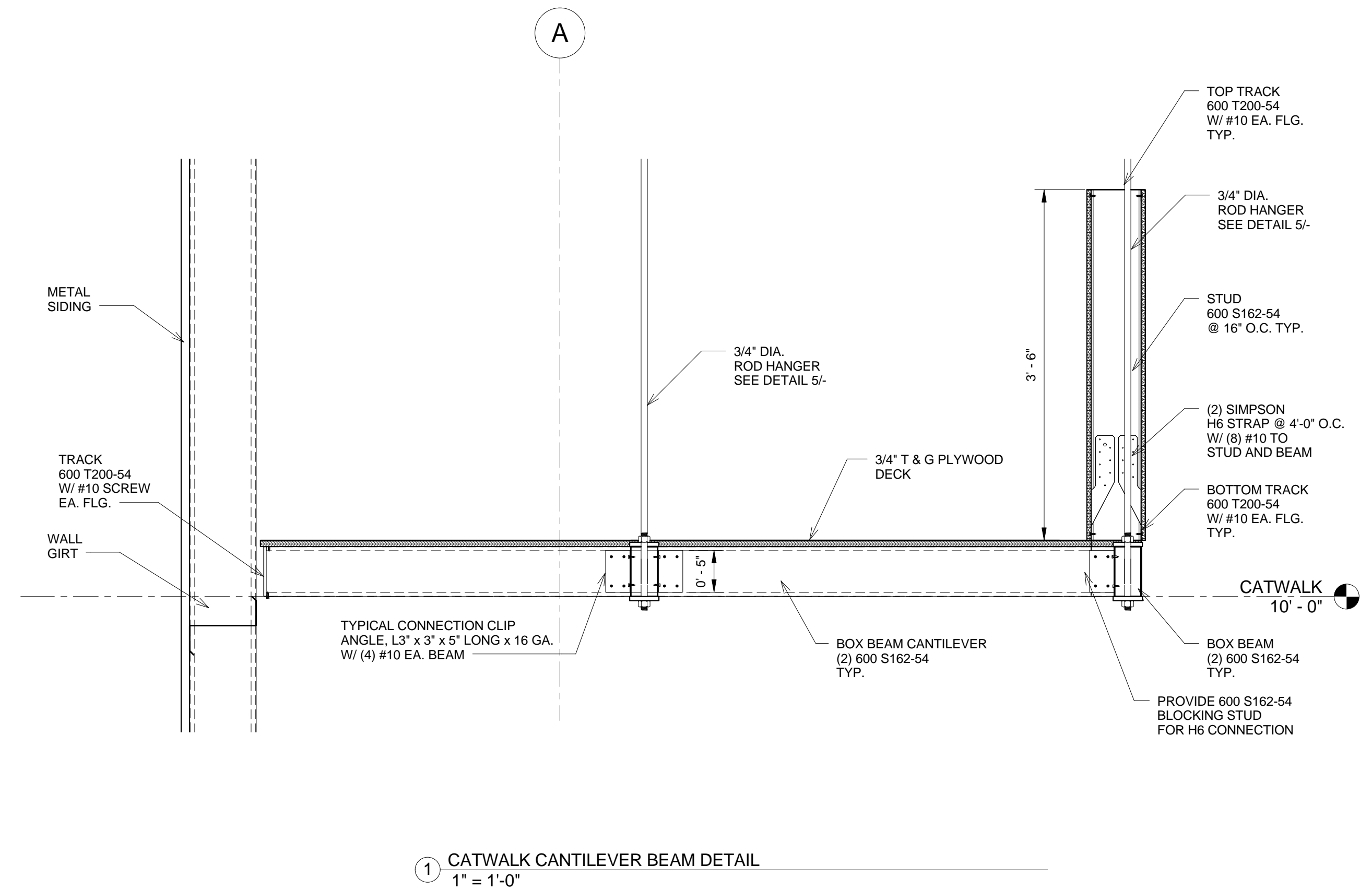
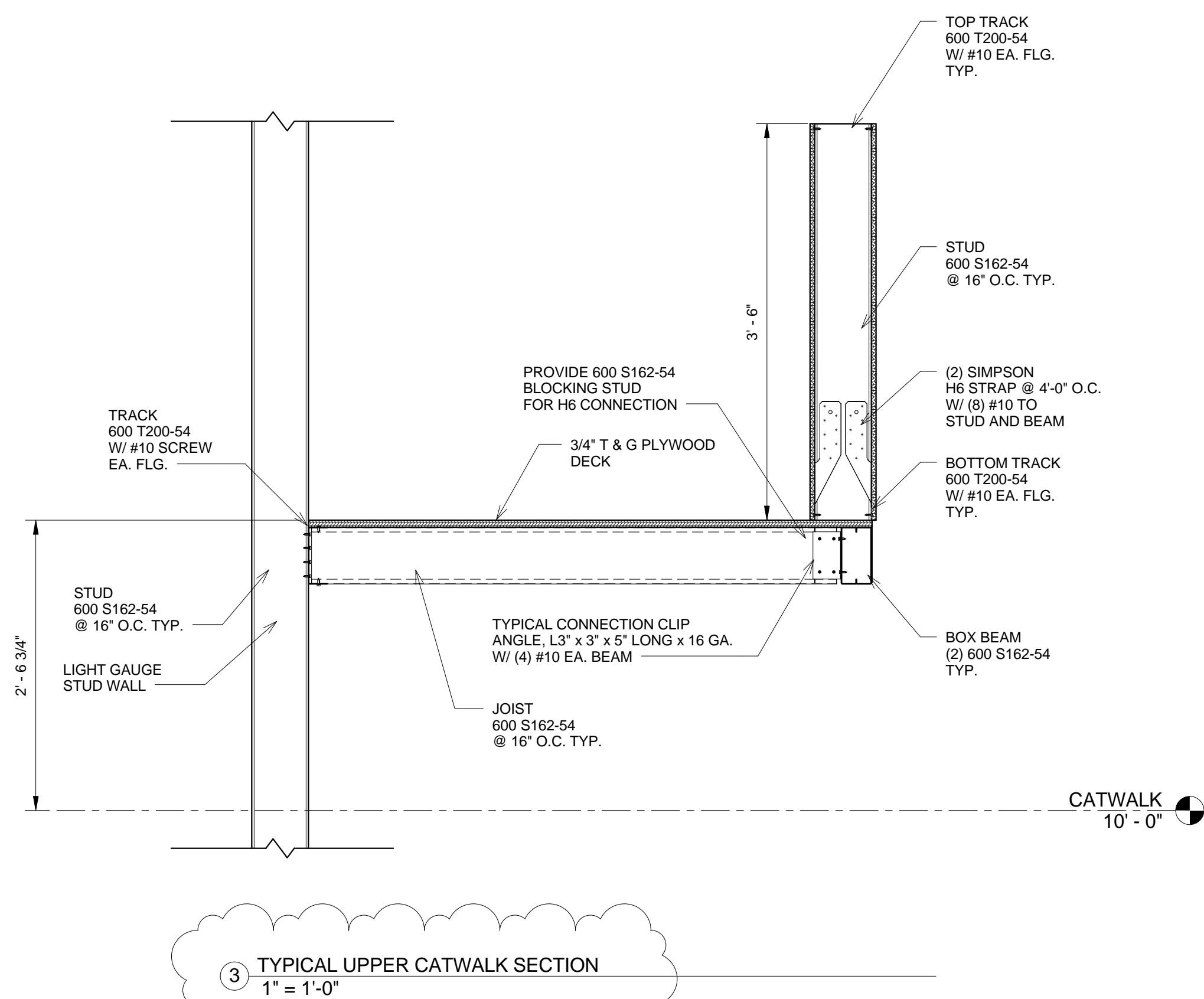
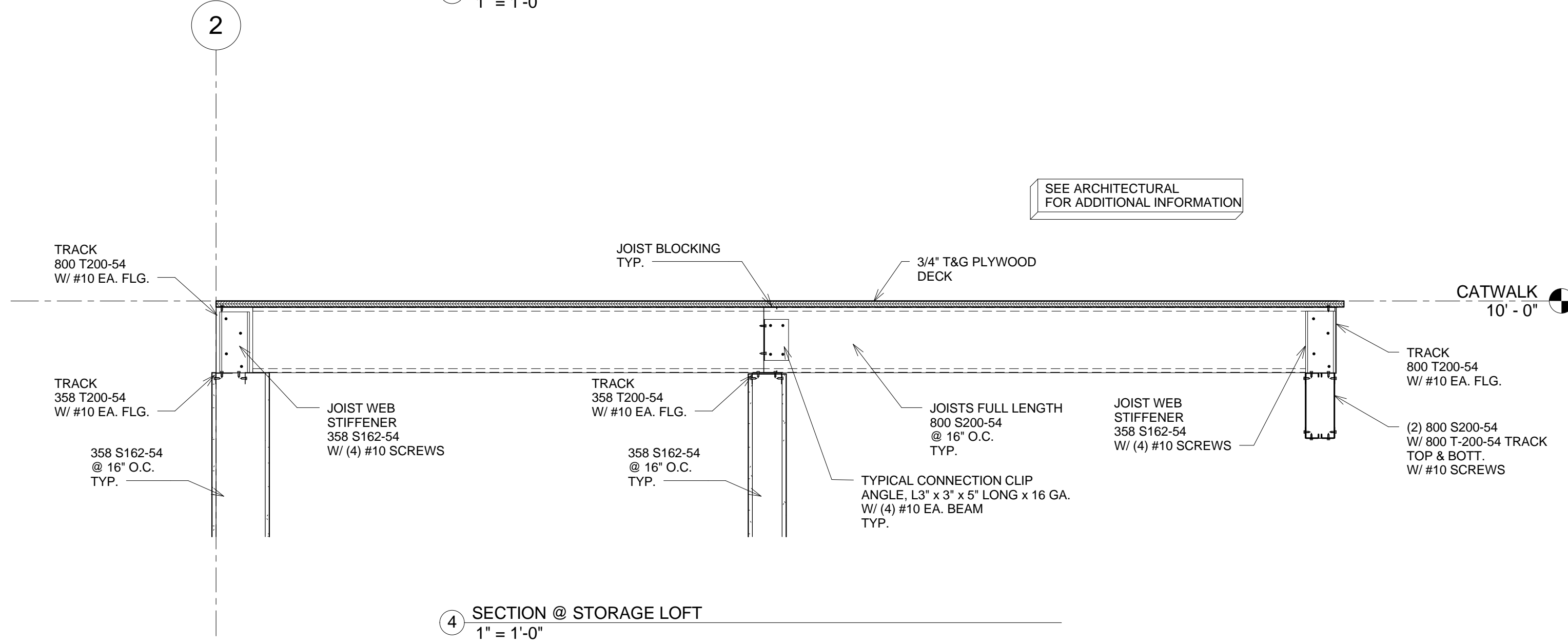
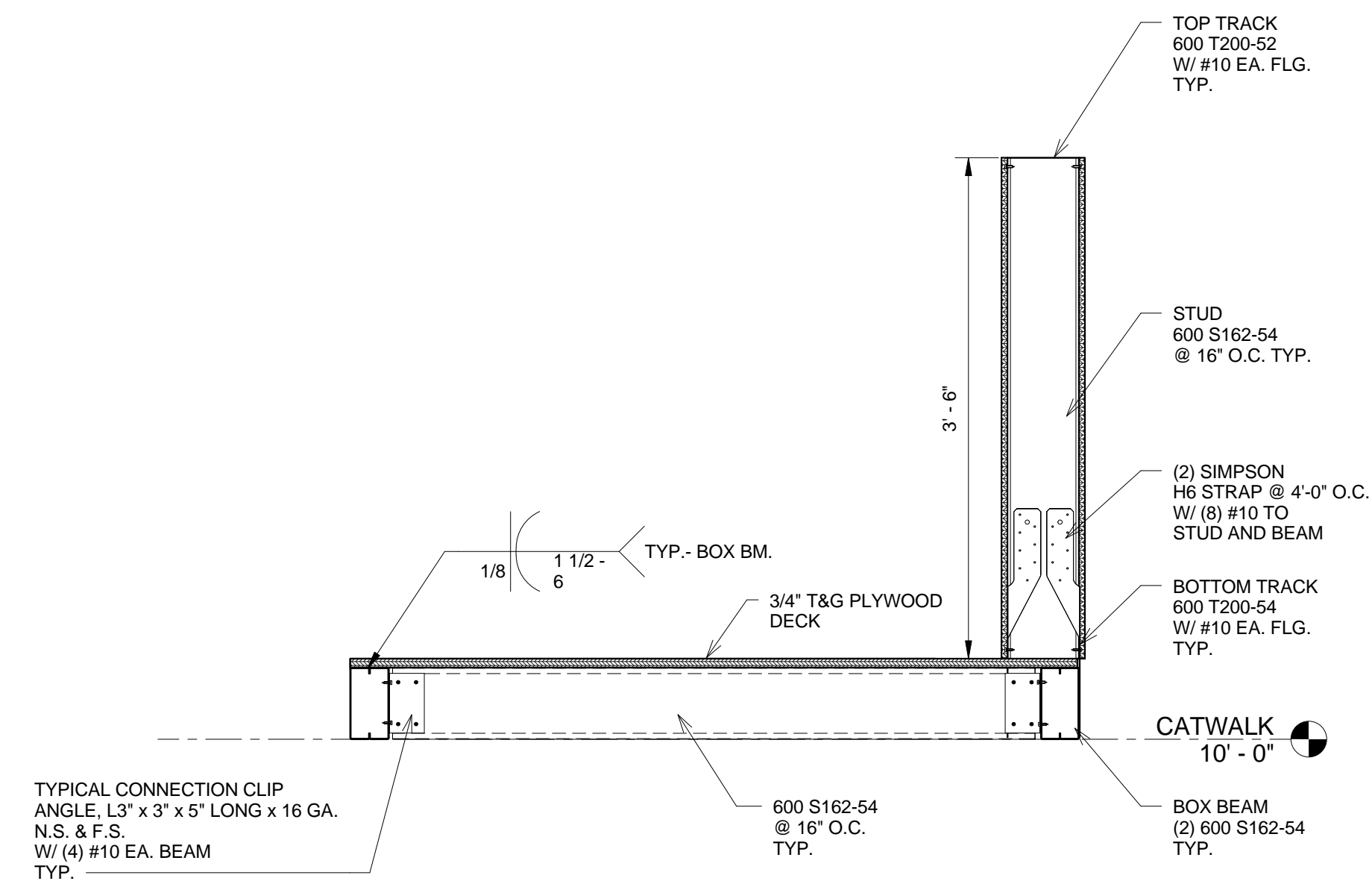
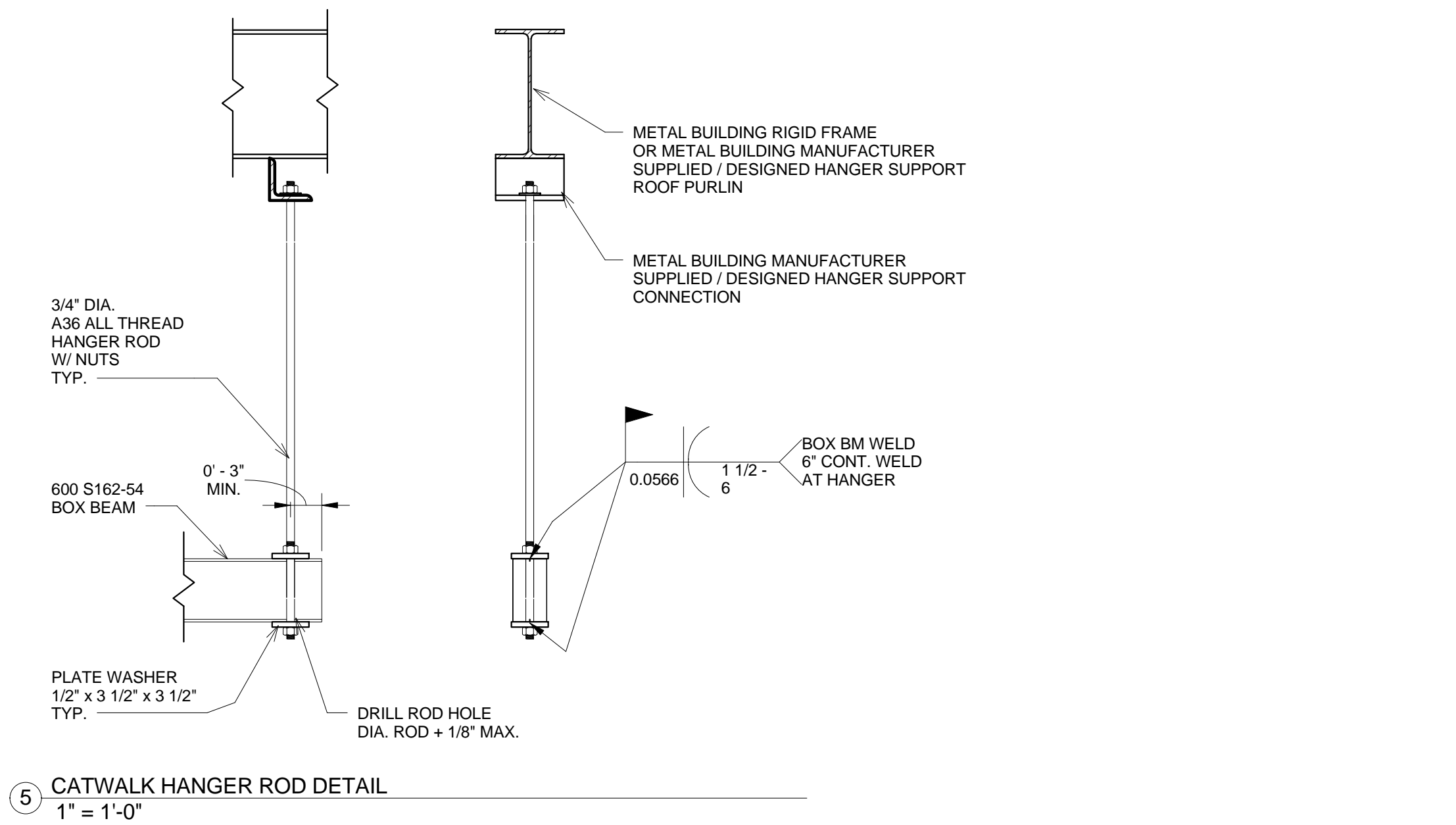
**CATWALK FRAMING DETAILS**

Revision Schedule		
Rev.	Desc.	Date
1	GENERAL	05/20/14

date: 06/10/13  
scale: 1" = 1'-0"  
drawn: DRC  
job no.: 11-08  
checked: DRC

SHEET:

**S3.10**





AIR FILTER SCHEDULE

TAG	SERVICE	BASIS OF DESIGN		MERV RATING	QUANTITY PER UNIT	MAX. FACE VELOCITY FPM	NOMINAL FILTER SIZE & DEPTH			INITIAL PRESS. DROP IN WG	NOTES
		MANUFACTURER	MODEL				WIDTH IN	HEIGHT IN	DEPTH IN		
AF-1	CRAC - OSA	CAMFIL FARR	30/30	8	12	410	24	24	2	0.20	
AF-2	CRAC - OSA	CAMFIL FARR	30/30	8	3	410	12	24	2	0.20	
AF-3	CRAC - RETURN AIR	N/A	N/A	8	10	N/A	20	16	4	N/A	FURNISHED WITH CRAC UNIT
AF-4	CRAC - RETURN AIR	N/A	N/A	8	10	N/A	25	16	4	N/A	FURNISHED WITH CRAC UNIT
AF-5	WAHP-1	CAMFIL FARR	30/30	8	2	125	24	24	2	0.05	

BID ALTERNATE #2

CONTROL VALVE SCHEDULE

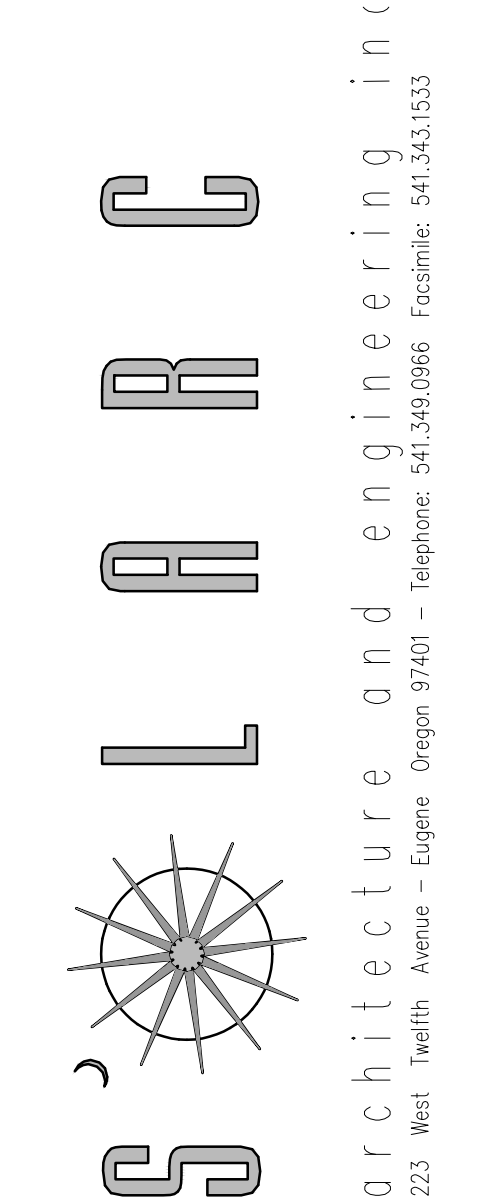
TAG	SERVICE	BASIS OF DESIGN		FLUID TYPE (1)	WPD RANGE PSI	FLUID TEMP DEG F	VALVE TYPE	VALVE PATTERN	Cv	DESIGN FLOW GPM	NOTES
		MANUFACTURER	MODEL								
CV-1	CRAC-1 COOLING COIL	BELIMO	PICCV-50-090	WATER/GLYCOL	5 - 50	45 - 60	PRESSURE INDEPENDENT	2 - WAY	NA	90	PROVIDE WITH ARX24-MFT ACTUATOR. COORDINATE CONTROL VOLTAGE WITH CONTROLS CONTRACTOR. SEE NOTE 1
CV-2	CRAC-2 COOLING COIL	BELIMO	PICCV-50-090	WATER/GLYCOL	5 - 50	45 - 60	PRESSURE INDEPENDENT	2 - WAY	NA	90	PROVIDE WITH ARX24-MFT ACTUATOR. COORDINATE CONTROL VOLTAGE WITH CONTROLS CONTRACTOR. SEE NOTE 1
CV-3	CRAC-3 COOLING COIL	BELIMO	PICCV-50-090	WATER/GLYCOL	5 - 50	45 - 60	PRESSURE INDEPENDENT	2 - WAY	NA	90	PROVIDE WITH ARX24-MFT ACTUATOR. COORDINATE CONTROL VOLTAGE WITH CONTROLS CONTRACTOR. SEE NOTE 1
CV-4	CONDENSER WATER LOOP	BELIMO	F7100HS	WATER	30 - 50	75 - 100	DIVERTING, ON/OFF	3 - WAY	600	322	
CV-5	CONDENSER WATER LOOP	BELIMO	F7100HS	WATER	30 - 50	75 - 100	MIXING, ON/OFF	3 - WAY	600	322	
CV-6	WAHP-1	BELIMO	B220	WATER	15-20	50 - 85	ON / OFF	2 - WAY	24	7.5	
CV-7	CHILLED WATER END OF LOOP BYPASS	BELIMO	B240	WATER	15 - 20	45 - 60	ON / OFF	2 - WAY	50	109	SEE NOTE 2
CV-8	EMERGENCY COOLING WATER	BELIMO	B254	WATER	20 - 30	45 - 60	ON / OFF	2 - WAY	240	160	

NOTES:  
BID ALTERNATE #2

- CRAC COOLING CHILLED WATER IS 20% GLYCOL.
- END OF LOOP BYPASS VALVE SIZED TO PROVIDE MINIMUM CHILLED WATER LOOP FLOW AT MAXIMUM LOAD PER CHILLER MANUFACTURER'S INSTRUCTIONS.

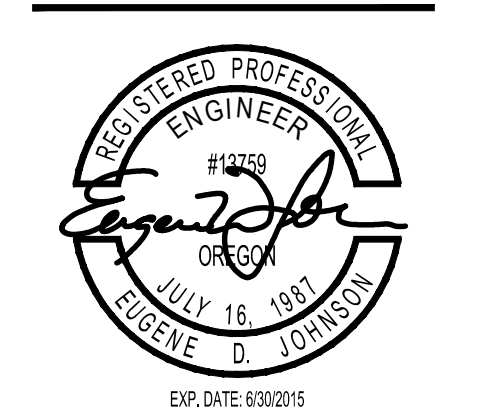
ELECTRIC UNIT HEATERS

TAG	AREA SERVED	BASIS OF DESIGN		TYPE	CFM	WEIGHT LBS.	KW	ELECTRICAL			NOTES
		MANUFACTURER	MODEL					VOLTS	PH	FLA	
EUH-1	MECH RM 103B	REZNOR	EGHB	FORCED AIR ELCTRCI UNIT HEATER	700	45	2	277	1	7.5	



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REVISIONS:  
06.11.2014 - ADDENDUM #2

AGRICULTURAL SYSTEMS MNGMNT CENTER  
OREGON STATE UNIVERSITY  
MANAGEMENT CENTER  
CAMPUS WAY  
CORVALLIS, OREGON 97331-4238



PROJECT NO: 11-036  
DRAFT DATE: 05/02/2014  
DRAWN BY: GJ/JY  
CHECKED BY: MH

HVAC  
SCHEDULES

M3.3  
SHEET OF

BID SET DRAWINGS - 05/05/2014

- DIAMOND DESIGNATES PANEL NUMBER. REFER TO PANEL SCHEDULE FOR CIRCUITING.
- GRAY-SHADED DEVICES ARE FUTURE AND NOT IN THIS CONTRACT.
- COORDINATE DISCONNECT AND VFD LAYOUT WITH MECHANICAL INSTALLATION. PROVIDE UNISTRUT SUPPORT AT PUMP IF WALL SPACE IS NOT AVAILABLE.
- GENERATOR SYSTEM BASED UPON SINGLE 600KW GENERATOR. AS AN ALTERNATIVE, CONTRACTOR MAY USE (2) 400KW GENERAC UNITS WITH ON-BOARD SYNCHRONIZING. IF ALTERNATE GENERATOR IS UTILIZED, CONTRACTOR IS RESPONSIBLE FOR COMPLETE SHOP DRAWINGS AND WIRING DIAGRAM SHOWING NEW ELECTRICAL ROOM LAYOUT WITH SYNCHRONIZING BOARD INSTEAD OF GENERATOR PANEL. COMPLY WITH CODE REQUIRED CLEARANCES. SYSTEM SHALL BE READY FOR FUTURE GENERATOR AS SHOWN.

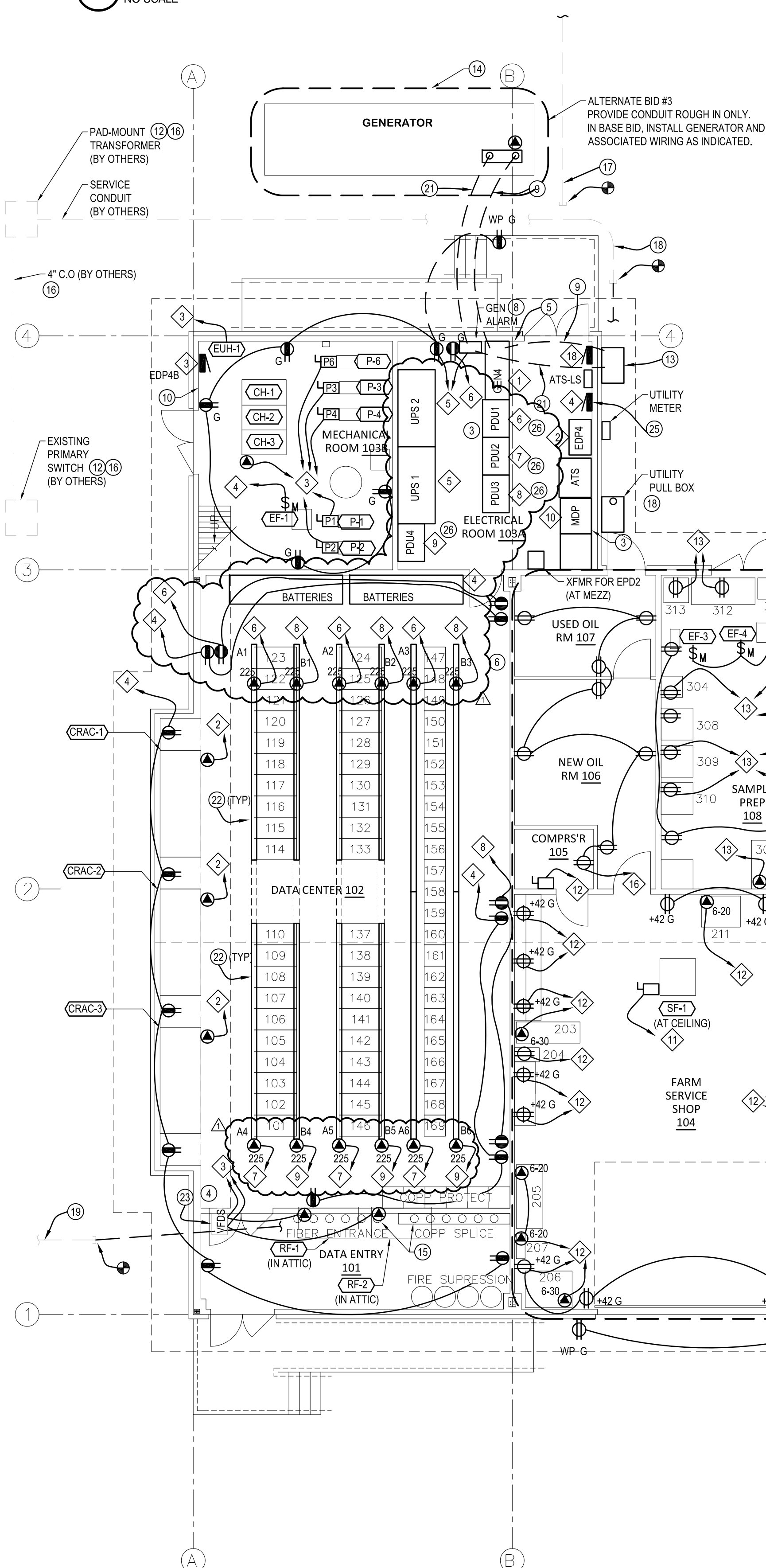
### 1 GENERAL SHEET NOTES

NO SCALE

1	GEN4	SEE PANEL SCHEDULE ON SHEET E6.2
2	EDP4	SEE PANEL SCHEDULE ON SHEET E6.2
3	EDP4B	SEE PANEL SCHEDULE ON SHEET E6.2
4	EDP2	SEE PANEL SCHEDULE ON SHEET E6.2
5	UPS	SEE PANEL SCHEDULE ON SHEET E6.3
6	PDU1	SEE PANEL SCHEDULE ON SHEET E6.3
7	PDU2	SEE PANEL SCHEDULE ON SHEET E6.3
8	PDU3	SEE PANEL SCHEDULE ON SHEET E6.3
9	PDU4	SEE PANEL SCHEDULE ON SHEET E6.4
10	MDP	SEE PANEL SCHEDULE ON SHEET E6.4
11	F4	SEE PANEL SCHEDULE ON SHEET E6.4
12	F2A	SEE PANEL SCHEDULE ON SHEET E6.4
13	F2B	SEE PANEL SCHEDULE ON SHEET E6.5
14	A4 (FUTURE)	SEE PANEL SCHEDULE ON SHEET E6.5
15	A2A (FUTURE)	SEE PANEL SCHEDULE ON SHEET E6.5
16	A4B (FUTURE)	SEE PANEL SCHEDULE ON SHEET E6.5
17	A2B (FUTURE)	SEE PANEL SCHEDULE ON SHEET E6.6
18	LS4	SEE PANEL SCHEDULE ON SHEET E6.6

- PROVIDE S/O CORD FROM CEILING SIZED ACCORDING TO CIRCUIT AMPACITY. SUPPORT WITH "KELLUM" TYPE GRIP. CORD SHALL TOUCH THE FLOOR PLUS 6-INCHES. PROVIDE CORD CAP TYPE INDICATED.
- MOUNT ON MEZZANINE / ATTIC SPACE.
- PROVIDE METERING SYSTEM GATEWAY AT MDP & AT PDU'S AS DESCRIBED ON SHEET E6.1 AND IN SPECIFICATIONS.
- PROVIDE UPS EMERGENCY STOP BUTTON. UTILIZE MUSHROOM BUTTON UNDER SAFETY COVER TO PREVENT ACCIDENTAL PRESSING. PROVIDE LABELING: "UPS EMERGENCY STOP"
- PROVIDE EMERGENCY STOP BUTTONS FOR EACH GENERATOR. UTILIZE MUSHROOM BUTTON UNDER SAFETY COVER TO PREVENT ACCIDENTAL PRESSING. PROVIDE LABELING OF EACH BUTTON: "GENERATOR #\_\_ EMERGENCY STOP"
- PROVIDE GROUNDING FOR RAISED FLOOR.
- PROVIDE RETRACTABLE CORD REEL AS SPECIFIED.
- GENERATOR CONTROL PANEL / REMOTE ANNUNCIATOR. COORDINATE WITH OWNER FOR EXACT LOCATION. PROVIDE TWO (2) 1-INCH CONDUITS FROM EACH GENERATOR TO CONTROL PANEL. INSTALL CONTROL WIRE PER GENERATOR MANUFACTURER'S REQUIREMENTS IN ONE CONDUIT, AND INSTALL BLOCK HEATER CIRCUIT IN SECOND CONDUIT.
- PROVIDE CONDUIT AND WIRING PER ONE-LINE DIAGRAM.
- MOUNT VFDs FOR P-1, P-2, P-3, P-4, AND P-6 STARTER ADJACENT TO PANEL EDP4B.
- MOUNT VFD FOR SF-1 ADJACENT TO PANEL F4.
- SEE CIVIL SITE PLAN FOR EXACT LOCATION OF UTILITY SWITCHING CABINET AND PAD MOUNT TRANSFORMER. CONFIRM LOCATION WITH ELECTRIC UTILITY.
- PROVIDE TERMINAL BOX FOR PORTABLE GENERATOR. (2) 1" C.O. AND (4) 3-1/2" CONDUITS WITH (4) #350MCM AND (1) #4/0 IN EACH. TERMINATE CONDUCTORS ON 1200 AMP NEMA 3R BUSSED GUTTER. TAP BUS FOR PORTABLE GENERATOR LUGS.
- PROVIDE 6" HOUSEKEEPING PAD FOR EMERGENCY GENERATOR AND PORTABLE/FUTURE GENERATOR. SIZE PAD TO ACCOMMODATE FUEL TANK SIZE.
- EXTEND (12) 4" UNDERGROUND COMMUNICATION CONDUITS AND STUB UP AS INDICATED. SEE CIVIL DRAWINGS FOR CONDUIT LENGTH AND ROUTING. PROVIDE FIBERGLASS ELLS. EXTEND CONDUIT 6" ABOVE FLOOR AND CAP. SEE ARCHITECTURAL DETAIL OF CONDUIT SWEEP.

- PRIMARY CONDUIT AND VAULTS TO BE INSTALLED UNDER SEPARATE CONTRACT.
- EXTEND 2.5" CONDUIT (EXISTING, FROM HAMB BUILDING) FROM POC SHOWN TO PANEL EDP2, AND PULL CONDUCTORS OUT THROUGH NEW AND EXISTING CONDUIT TO CIRCUIT BREAKER IN HAMB BUILDING.
- EXTEND PRIMARY 5-4" CONDUIT (EXISTING, INSTALLED UNDER SEPARATE CONTRACT) FROM POC SHOWN TO UTILITY PULL BOX SIZED PER PACIFIC POWER REQUIREMENTS.
- EXTEND 2-3" CONDUIT (EXISTING, INSTALLED UNDER SEPARATE CONTRACT) FROM POC SHOWN TO DATA ENTRY ROOM 101.
- PROVIDE 1" CONDUIT FROM TRASH/RECYCLING ENCLOSURE TO PANEL F4 FOR FUTURE COMPACTOR. TERMINATE AT TRASH ENCLOSURE IN 4-SQUARE BOX. REFER TO ARCHITECTURAL PLANS FOR LOCATION OF TRASH ENCLOSURE TO EAST OF BUILDING.
- 1" CONDUIT, WIRING PER SPECIFICATIONS FOR GENERATOR ALARMS AND BLOCK HEATER.
- SEE ARCHITECTURAL DETAILS FOR BUSWAY MOUNTING CONFIGURATION.
- MOUNT VFDs FOR RF-1 AND RF-2 ON WALL AT CATWALK LEVEL, IN ATTIC.
- EXTERIOR RECEPTACLES SHALL BE MOUNTED AT +18". CUT OUTLET BOXES IN THE SPLIT FACE CMU VENEER. WEATHERPROOF OUTLET PLATE SHALL MOUNT 1/8" FROM BLOCK SURFACE WITH GASKET BETWEEN BLOCK SURFACE AND COVER.
- UNDER ALTERNATE BID #4 PROVIDE 120 VOLT CORRECTION TO DRY SPRINKLER SUPPRESSION SYSTEM AND SEPARATE 120 VOLT CONNECTION TO DRY SPRINKLER COMPRESSOR FEED FROM PANELED EDP2. VERIFY EQUIPMENT LOCATIONS WITH SPRINKLER SUBCONTRACTOR.
- A FOUR PDU OPTION IS SHOWN USING (4) 225 KVA PDUS. AT CONTRACTOR'S OPTION (2) 400 KVA PDUS (NOT AVAILABLE FROM ALL VENDORS) MAY BE USED. UNDER THIS SCENARIO PDU 3 CIRCUITS WILL RUN TO PDU 2 AND PDU 4 CIRCUITS WILL RUN TO PDU 1.

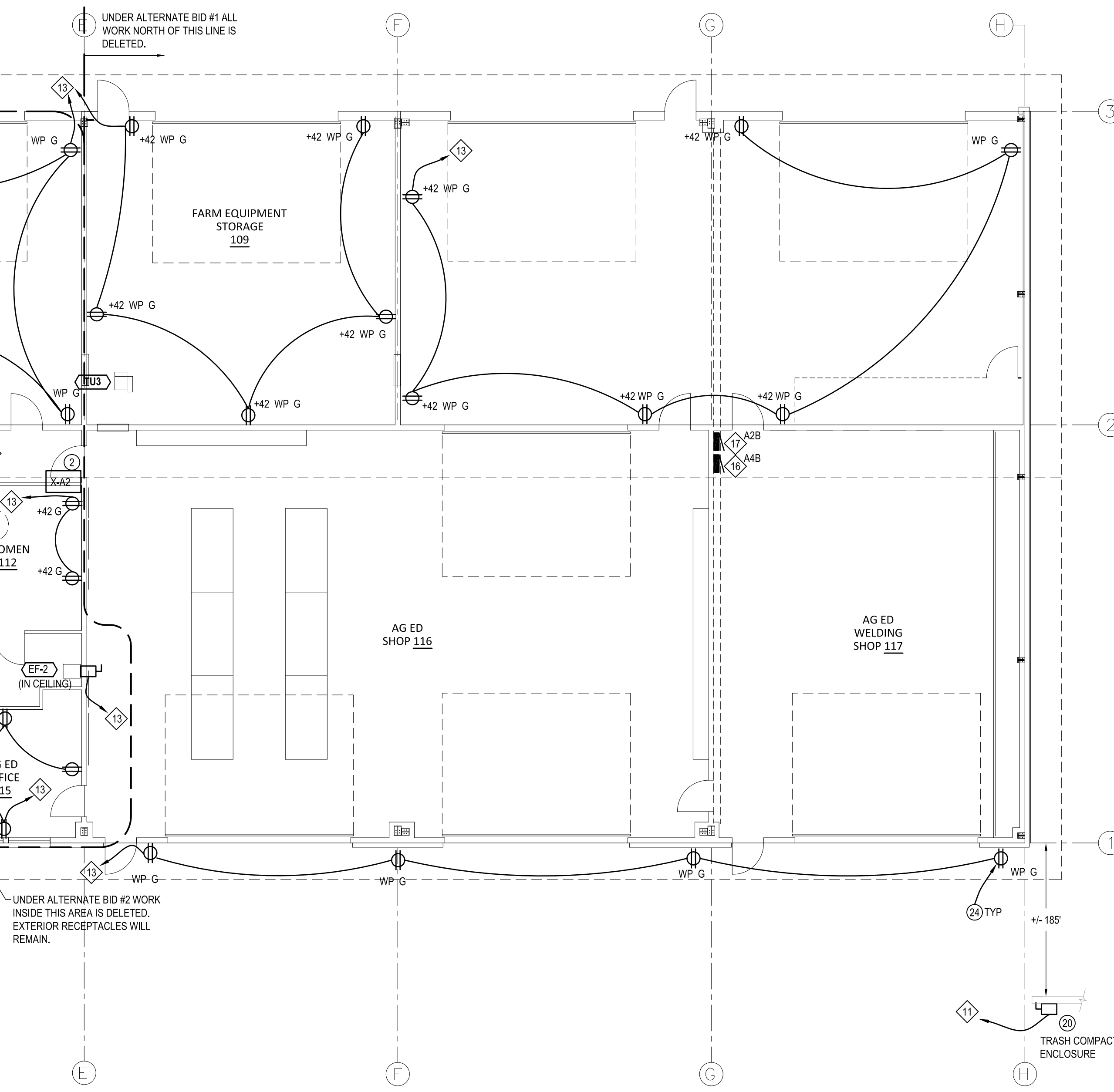


### 2 ELECTRICAL PANELS

NO SCALE

### 3 KEYED SHEET NOTES

NO SCALE



### 13 ELECTRICAL FLOOR PLAN

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

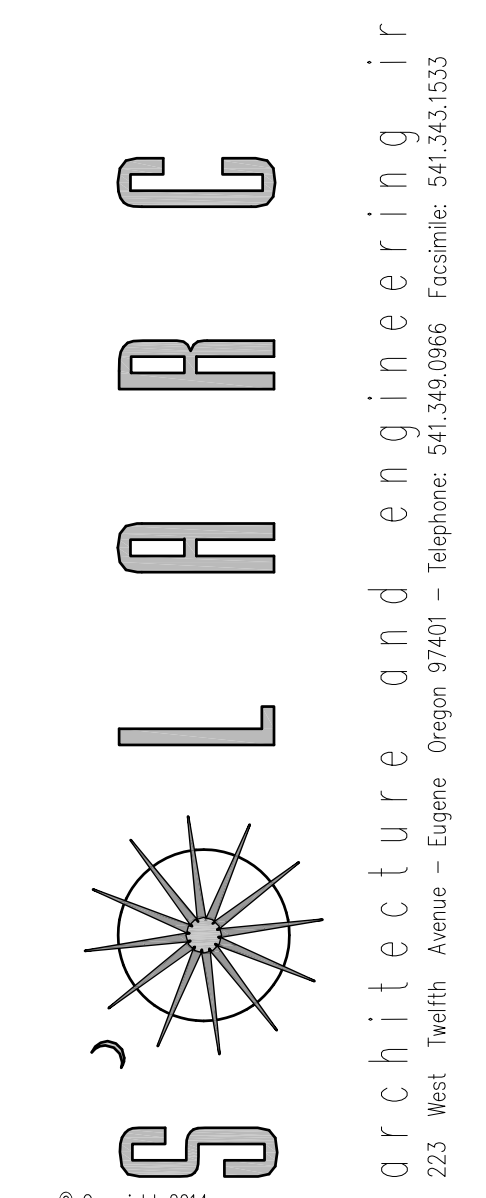
**AGRICULTURAL SYSTEMS MNGMNT CENTER**  
**OREGON STATE UNIVERSITY**  
**MANAGEMENT CENTER**  
 CAMPUS WAY  
 CORVALLIS, OREGON 97333-4238



PROJECT NO: 11-036  
 DRAFT DATE: 05/02/2014  
 DRAWN BY: JK/GJ  
 CHECKED BY: JY/EDJ  
 ADDENDUM 2 06-12-2014

**ELECTRICAL**  
**FLOOR**  
**PLAN**

**E1.1R**  
 SHEET OF



BID SET DRAWINGS - 05/05/2014

- 20B 3 #12 CU, 1 #12 GND, IN 3/4" C.
- 30B 3 #10 CU, 1 #10 GND, IN 3/4" C.
- 40B 4 #8 CU, 1 #10 GND, IN 1" C.
- 40T 2 #8 CU, 1 #10 GND, IN 1" C.
- 50A 3 #6 CU, 1 #10 GND, IN 1" C.
- 50B 4 #6 CU, 1 #10 GND, IN 1" C.
- 50T 2 #8 CU, 1 #10 GND, IN 1" C.
- 60A 3 #4 CU, 1 #8 GND, IN 1 1/4" C.
- 60B 4 #4 CU, 1 #8 GND, IN 1 1/4" C.
- 80A 3 #3 CU, 1 #8 GND, IN 1 1/4" C.
- 80B 4 #3 CU, 1 #8 GND, IN 1 1/4" C.
- 90A 3 #2 CU, 1 #8 GND, IN 1 1/4" C.
- 100A 3 #1 CU, 1 #8 GND, IN 1 1/2" C.
- 100B 4 #1 CU, 1 #8 GND, IN 1 1/2" C.
- 125A 3 #1 CU, 1 #6 GND, IN 1 1/2" C.
- 125B 4 #1 CU, 1 #6 GND, IN 1 1/2" C.
- 150A 3 #1/0 CU, 1 #6 GND, IN 2" C.
- 150B 4 #1/0 CU, 1 #6 GND, IN 2" C.
- 175A 3 #2/0 CU, 1 #6 GND, IN 2" C.
- 200A 3 #3/0 CU, 1 #6 GND, IN 2" C.
- 200B 4 #3/0 CU, 1 #6 GND, IN 2 1/2" C.
- 200T 2 #3/0 CU, 1 #6 GND, IN 2" C.
- 225A 3 #4/0 CU, 1 #4 GND, IN 2 1/2" C.
- 225B 4 #4/0 CU, 1 #4 GND, IN 2 1/2" C.
- 225C 3 #4/0 CU, 1#250 CU NEU, 1 #4 GND, IN 2 1/2" C.
- 250A 3 #250 CU, 1 #4 GND, IN 3" C.
- 300A 4 #250 CU, 1 #4 GND, IN 3" C.
- 300B 4 #350 CU, 1 #4 GND, IN 3" C.
- 300C 2 SETS OF (4 #1/0 CU, 1 #4 GND, IN 2" C.)
- 335A 4 #350 CU, 1 #2 GND, IN 3" C.
- 380B 3 #400 CU, 1 #2 GND, IN 3" C.
- 400A 4 #500 CU, 1 #2 GND, IN 3 1/2" C.
- 400B 2 SETS OF (3 #3/0 CU, 1 #2 GND, IN 2 1/2" C.)
- 450A 2 SETS OF (4 #3/0 CU, 1 #2 GND, IN 2 1/2" C.)
- 500B 2 SETS OF (3 #4/0 CU, 1 #2 GND, IN 2 1/2" C.)
- 600A 2 SETS OF (3 #350 CU, IN 3" C.)
- 600B 2 SETS OF (4 #350 CU, 1 #1/0 GND, IN 3 1/2" C.)
- 800A 3 SETS OF (3 #300 CU, 1 #2/0 GND, IN 3" C.)
- 800B 3 SETS OF (4 #300 CU, 1 #2/0 GND, IN 3 1/2" C.)
- 1200B 4 SETS OF (4 #350 CU, 1 #4/0 GND, IN 3 1/2" C.)
- 1600J 5 SETS OF (4 #400 CU IN 4" C.)
- 1 MW 3#2 15K WIRE IN 2" GRS

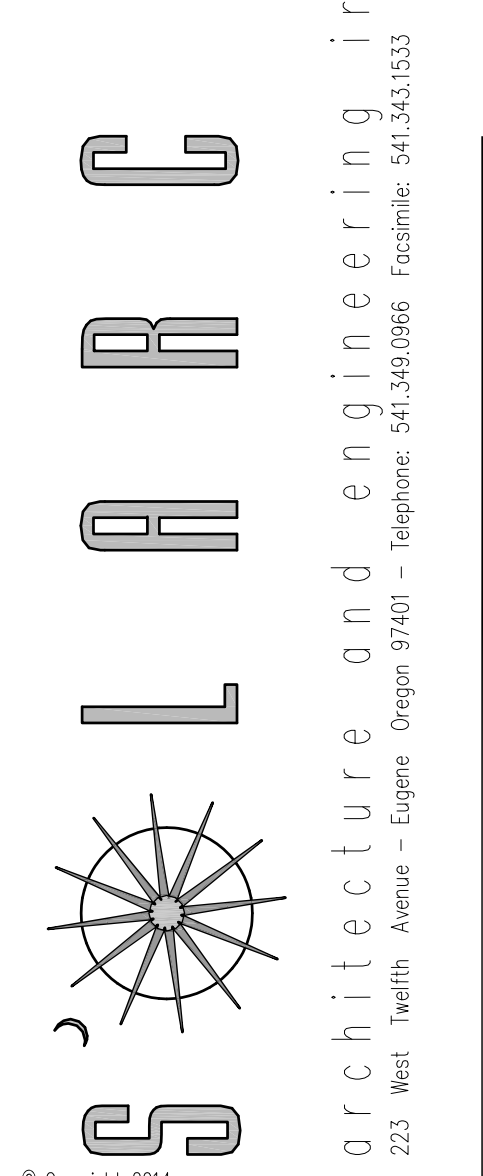
**1 FEEDER SCHEDULE**  
NO SCALE

- 1 PROVIDE MONITORING OF THE GENERATOR SYSTEM CIRCUIT BREAKER(S).
- 2 PROVIDE MONITORING FOR EACH PDU AND BUSDUCT BRANCH CIRCUIT BREAKER. DAISY CHAIN RS485 CABLE FROM GATEWAY.
- 3 PROVIDE COMPLETE MONITORING OF UPS SYSTEM AND PDU BUS DUCT CIRCUIT BREAKERS AS SHOWN AND PER SPECIFICATIONS. METERING OF THE INDIVIDUAL FEEDER CONDUCTORS INSTEAD OF THE OUTPUT BREAKER IS ACCEPTABLE.
- 4 PROVIDE MONITORING FOR ALL FEEDER BREAKERS IN PANEL MDP AS SPECIFIED. INFORMATION SHALL BE SENT TO MONITORING SYSTEM AS SPECIFIED AND PER KEYED NOTE #3.
- 5 PROVIDE AUTOMATIC TRIP UPON PHASE LOSS FOR THIS BREAKER.
- 6 BREAKER 100% RATED.
- 7 GENERATOR LOADING SEQUENCE IS AS FOLLOWS:  
1. ATS-LS  
2. UPS & EDP-2 VIA ATS-EQ  
3. CHILLER, CRAC UNITS, AND CHILLER PUMPS VIA DDC SYSTEM.
- 8 CONFIGURATION SHOWN REFLECTS SINGLE 750KW GENERATOR WITH FUTURE 750KW BACKUP.
- 9 MOTORIZED CIRCUIT BREAKER WITH INTERLOCK SUCH THAT ONLY ONE BREAKER CAN BE CLOSED.
- 10 CIRCUIT BREAKER WITH POWER MONITORING CAPABILITY. EXTEND RS485 CABLE TO POWER MONITORING SYSTEM GATEWAY.
- 11 DELETE UNDER ALTERNATE BID #2

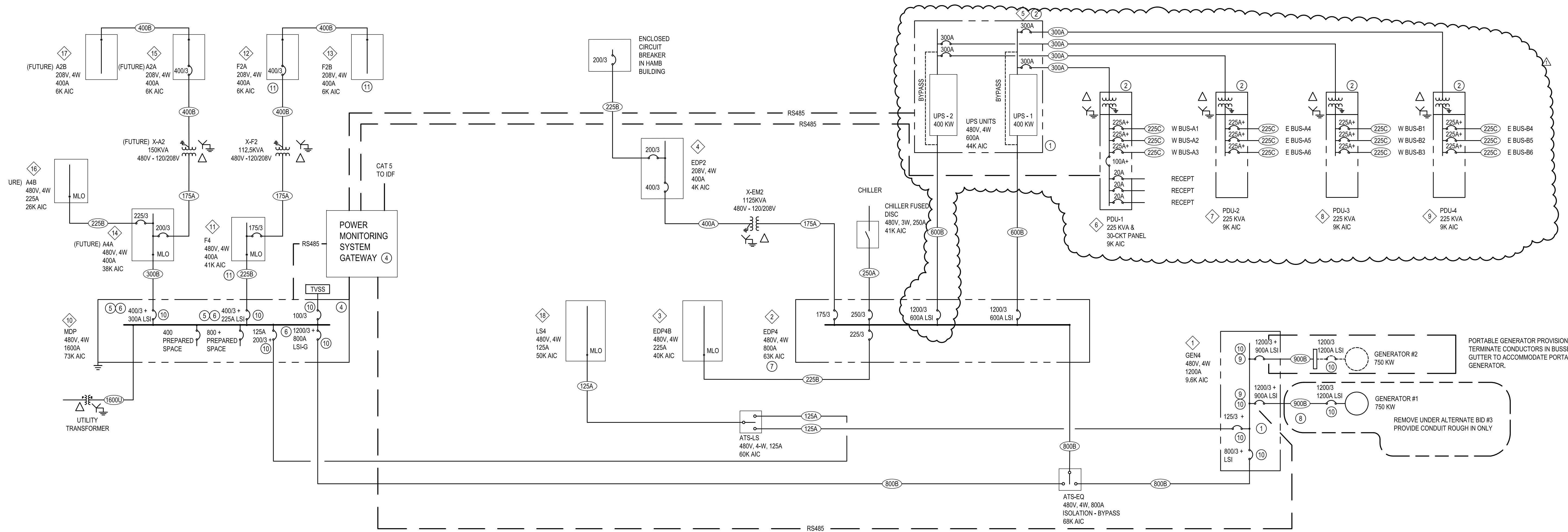
**3 KEYED NOTES**  
NO SCALE

- 1. SEE PLAN DRAWINGS FOR ROUTING
- 2. (N) NEW
- 3. (E) EXISTING
- 4. (F) FUTURE
- 5. (R/L) RELOCATE EXISTING
- 6. ANY DISTANCES OR LENGTHS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL LENGTHS.
- 7. BREAKERS WITH " + " REQUIRE CIRCUIT MONITORING.
- 8. EMERGENCY SYSTEM OVERCURRENT PROTECTION DEVICES SHALL SELECTIVELY COORDINATE. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
- 9. PROVIDE ARC FLASH HAZARD LABELS AS REQUIRED BY SPECIFICATIONS.

**4 GENERAL SHEET NOTES**  
NO SCALE



REVISIONS:



**13 ONE-LINE DIAGRAM**  
NO SCALE

**AGRICULTURAL SYSTEMS MNGMNT CENTER**  
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**PROJECT NO:** 11-036  
**DRAFT DATE:** 05/02/2014  
**DRAWN BY:** JK/EDJ  
**CHECKED BY:** JY/GJ  
 ADDENDUM 2 06-12-2014

**ELECTRICAL ONE-LINE DIAGRAM**

**E6.1R**  
SHEET OF

BID SET DRAWINGS - 05/05/2014