



September 8, 2023

ADDENDUM NO. 02



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UMMC #209-576
MS CENTER FOR MEDICALLY FRAGILE CHILDREN
P.O. Box 1122
Jackson, MS 39215

NOTICE TO ALL DOCUMENT HOLDERS:

The following modifications and clarifications to the drawings and specifications are to be included as part of the Contract Documents. All items/questions up to and from the pre-bid conference not addressed in this Addendum will be addressed in future addenda.

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GENERAL ITEMS

ITEM NO. 01 INSPECTION & TESTING RESPONSIBILITIES

CLARIFICATION: Refer to section 014100 for special inspections & testing procurement requirements. *SECTION 014100 (UMMC) "Contractor shall employ and pay for services of an independent testing laboratory to perform specified inspection & testing."*

ITEM NO. 02 FOOD SERVICE EQUIPMENT PROVIDER

CLARIFICATION: GC to include foodservice equipment, supplies & installation in base bid.

ITEM NO. 03 PROJECT SITE LOCATION

CLARIFICATION: Project site is located due south from 3881 Eastwood Dr, Jackson, MS 39211

ITEM NO. 04 CORNER GUARDS

CLARIFICATION: Corner guards to be located at all corners along corridors & spaces accessible by patients.

ITEM NO. 05 METAL LOCKERS

CLARIFICATION: Lockers to be located in room 35 – “Kitchen”. Refer to sheet A-801 – Equipment Plan (For Reference Only).

ITEM NO. 06 DRILLED PIER UNIT COSTS

CLARIFICATION: Added unit costs for adjustments to contract amount based on actual depth of drilled piers.

ITEM NO. 07 TEMPORARY DRILLED PIER CASING UNIT COSTS

CLARIFICATION: Added unit costs for temporary drilled pier casings.

ITEM NO. 08 EXTERIOR WALL FURRING

CLARIFICATION: Omit references to Metal Z-furring at exterior walls. Replace with vertical treated wood furring.

ITEM NO. 09 DOOR GLAZING FIRE-RESISTANCE RATINGS

CLARIFICATION: All glazing in and around interior, 20-minute fire-rated doors to be 20-minute rated per note 20 A-500. Exterior Aluminum Storefront Doors & associated Glazing are not required to be fire-resistance rated.

ITEM NO. 10 PRECAST STRUCTURAL CONCRETE GROUT MATERIALS

CLARIFICATION: Sand/ Cement grout for Keyways & Butt Joints is structurally acceptable

SPECIFICATIONS

ITEM NO. 11 SPEC SECTION 004200 – BID PROPOSAL FORM

REPLACE: Section in its entirety with attached revised form. Added Drilled Pier Length & Temporary Casing Unit Costs to Bid Form.

ITEM NO. 12 SPEC SECTION 074646– FIBER CEMENT SIDING – 2.1 FIBER CEMENT SIDING -

ADD: “AZEK Building Products Board & Batten Siding” and “AZEK PaintPro Trim” as an approved products equal to James Hardie Building Products, Inc.

ITEM NO. 13 SPEC SECTION 27100 – COMMUNICATIONS HORIZONTAL CABLING

OMIT: All references to concrete encasement for conduits. Install as noted and detailed on drawings.

ITEM NO. 14 SPEC SECTION 275223 – NURSE CALL AND PATIENT PROTECTION SYSTEMS

REPLACE: Section in its entirety with attached section.

DRAWINGS

ITEM NO. 15 SHEET C-6.1 – UTILITY PLAN – ALTERNATE 1

REPLACE: Sheet in its entirety with attached sheet C-6.1. Added suggested tank manufacturer.

ITEM NO. 16 SHEET S-401 – FOUNDATION SECTIONS AND DETAILS

REPLACE: Sheet in its entirety with attached sheet S-401. Added “Dtl. 10 – Equipment pads details at slab on ground”

ITEM NO. 17 SHEET A-500 – DOOR SCHEDULE

OMIT: References to GL1 Glazing type in SCW 20-minute fire rated doors. Replace with GL4 – 20-minute fire rated glazing. AL SF doors and glazing to remain un-rated.

ITEM NO. 18 SHEET A-521 – ROOF/ WALL DETAILS: DTL 2 – EAVE DETAIL

OMIT: References to Metal Soffit Panel. Replace with Vented Fiber Cement Soffit Panel.

ITEM NO. 19 SHEET E-000 – LUMINAIRE SCHEDULE

OMIT: Luminaire type “CL1” in its entirety.

ITEM NO. 20 SHEET E-204 – FIRE ALARM & MECHANICAL SYSTEMS PLAN

REPLACE: Sheet in its entirety with attached sheet E-204R. Added smoke detectors in Corridors & Day Rooms.

Q & A

ITEM NO. 21

QUESTION: On legend sheet E-000, there is a symbol for a recessed box with dual power and low voltage compartment that measures 10x10. This box has (1) receptacle, (1) comm, and (1) HDMI. Electrical detail 6, sheet E-002 shows similar symbol but a 3-gang box. On sheet E-202, I notice the same symbol as on E-000 in all of the beds and isolation rooms. However, beside it, there appears to be a similar symbol without the rectangle. Can you provide clarification?

RESPONSE: Detail 5/E-002 is intended for wall mount TV locations. It is noted as 3-gang box. Contractor shall provide and install all three devices behind the TV locations, but each device shall be installed in a 1-gang box. The 3-gang box is not required at the TV locations. Detail 6/E-002 is a floor pocket. These shall be installed flush in the floor at locations marked with “FP” inside a rectangle.

ITEM NO. 22

QUESTION: Division 26 specifications are missing from the electrical specifications for the emergency generator and automatic transfer switch. In document E-001, there is a power riser detail sheet that displays and 800 amp common buss box which both generators are connected to before connecting to the NEMA 3R wireway trough. It seems that the generators are linked in parallel in the 800 amp common buss box. Can you please provide information on how the connection between the generator and the five disconnect is established within this buss box? Is this connection made with power distribution blocks or is there a specific part number that can be referred for the 800 amp common buss box?

RESPONSE:

The generators and ATS are provided by the owner, installed by the contractor. The generators are intended to be paralleled together. The 800 amp common buss box is intended to represent the connection point for the (2) generators. This can be buss, terminal strips, mechanical lugs, or similar. Wiring taps for each disconnect as noted, will be connected to this common "buss" or "taps". Wiring for each disconnect will then be routed to respective electrical panel, ATS, etc. The "controls" connection is for control power to the generators that upon start signal both generators will crank and transfer power once synchronized together. All of the generators connections and interfacing will be coordinated on site with the successful contractor once the project has started and generator and ATS have been purchased.

NO MORE ITEMS

Encl: C-6.1, S-401, E-204R (24x36), Section 004200 (2 pages 8.5x11) Section
275223 (17 pages 8.5x11)
Cc: All Document Holders

**Mississippi Center for
 Fragile Children**
 Jackson, MS

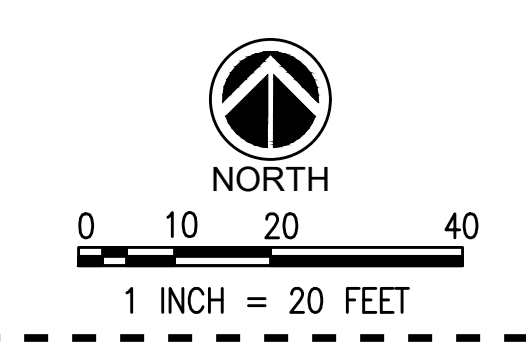
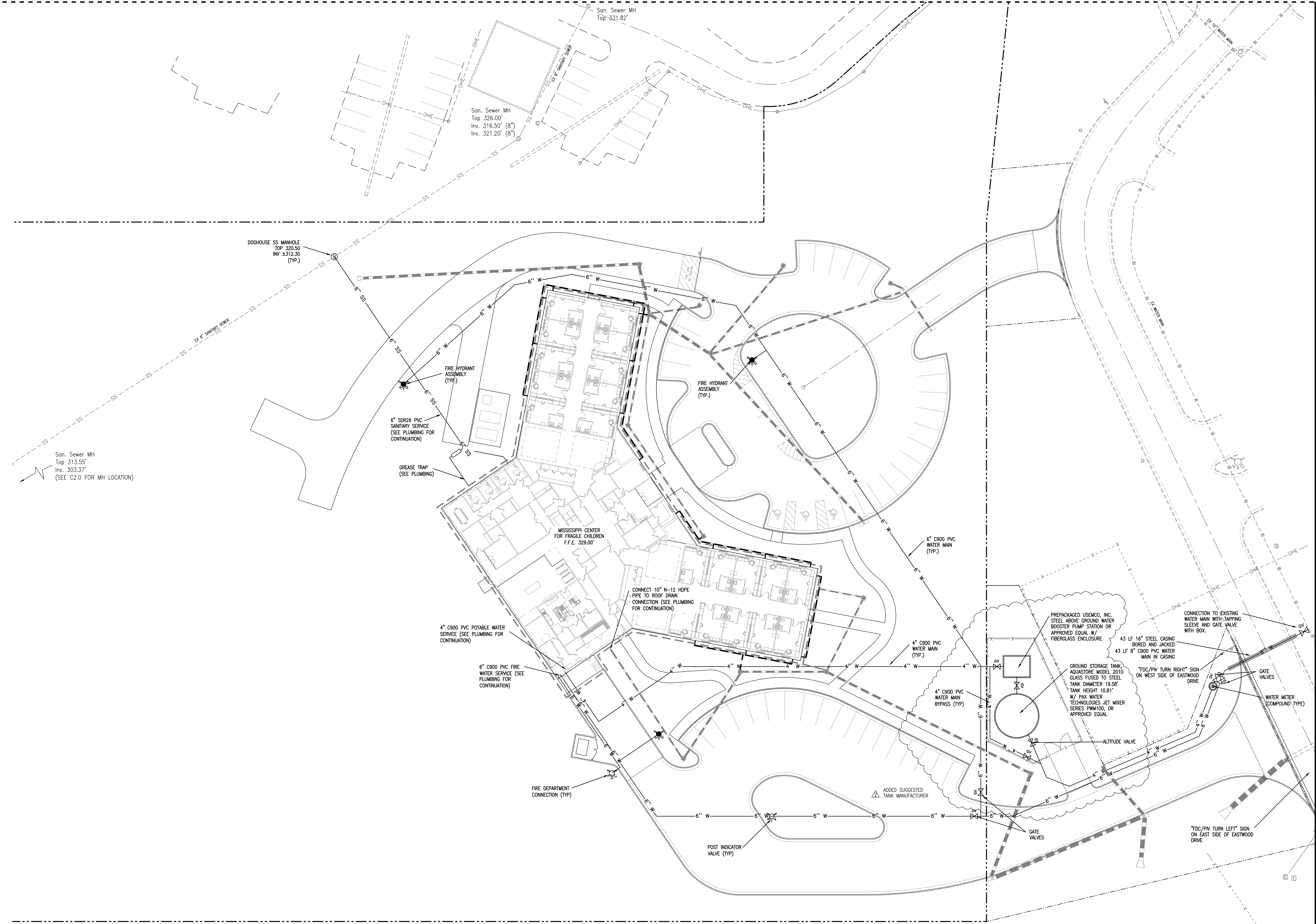


Construction Documents

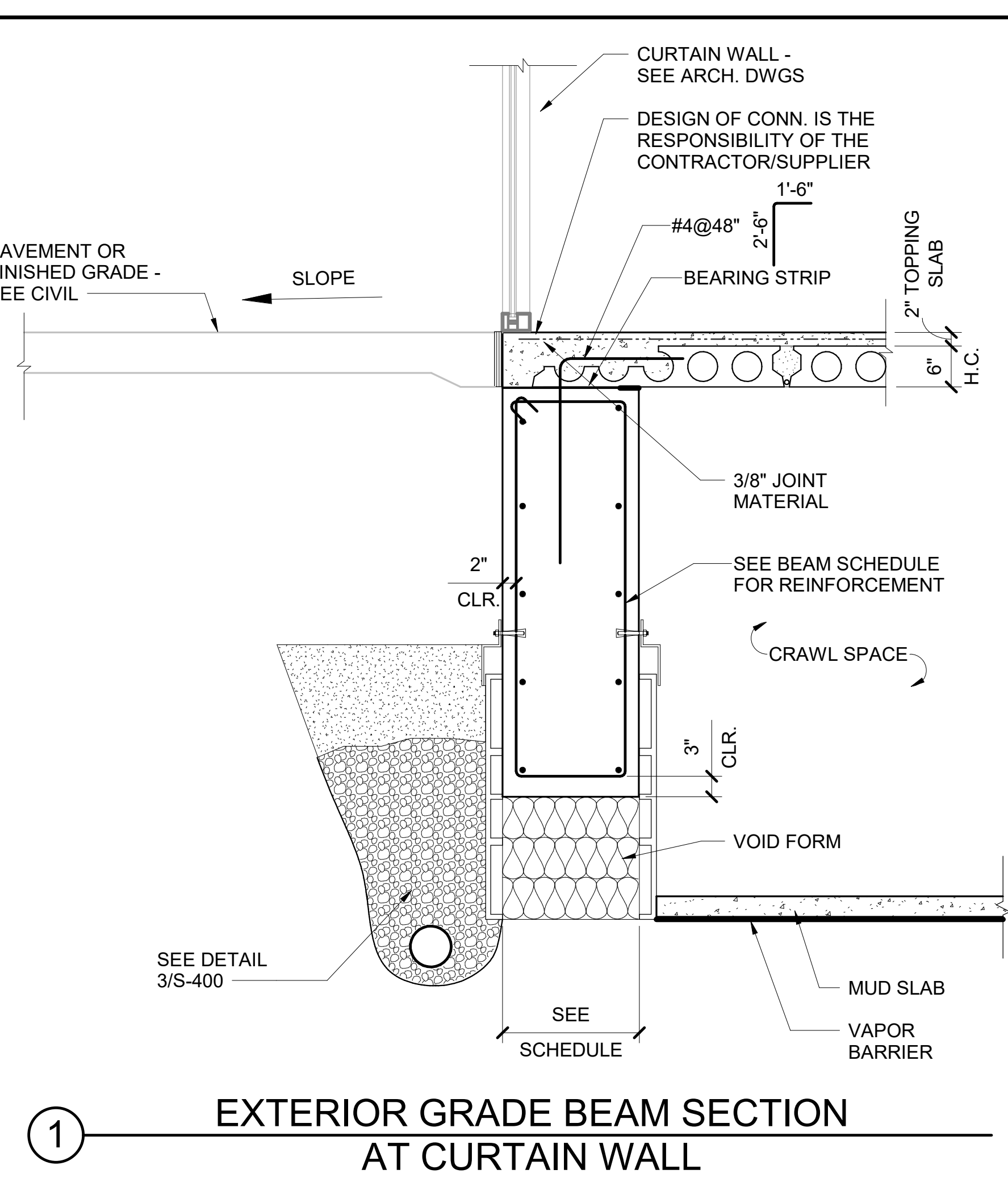
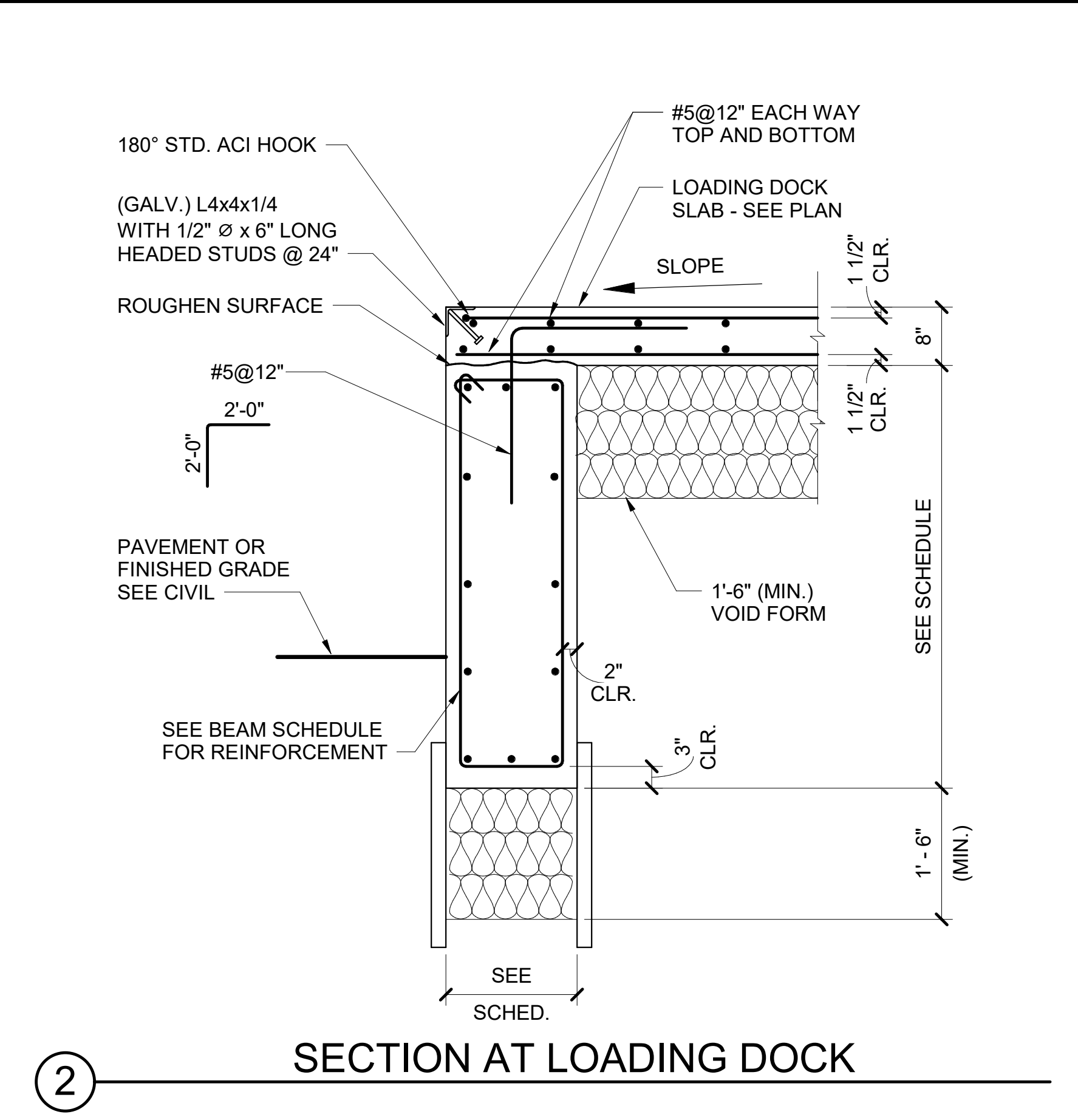
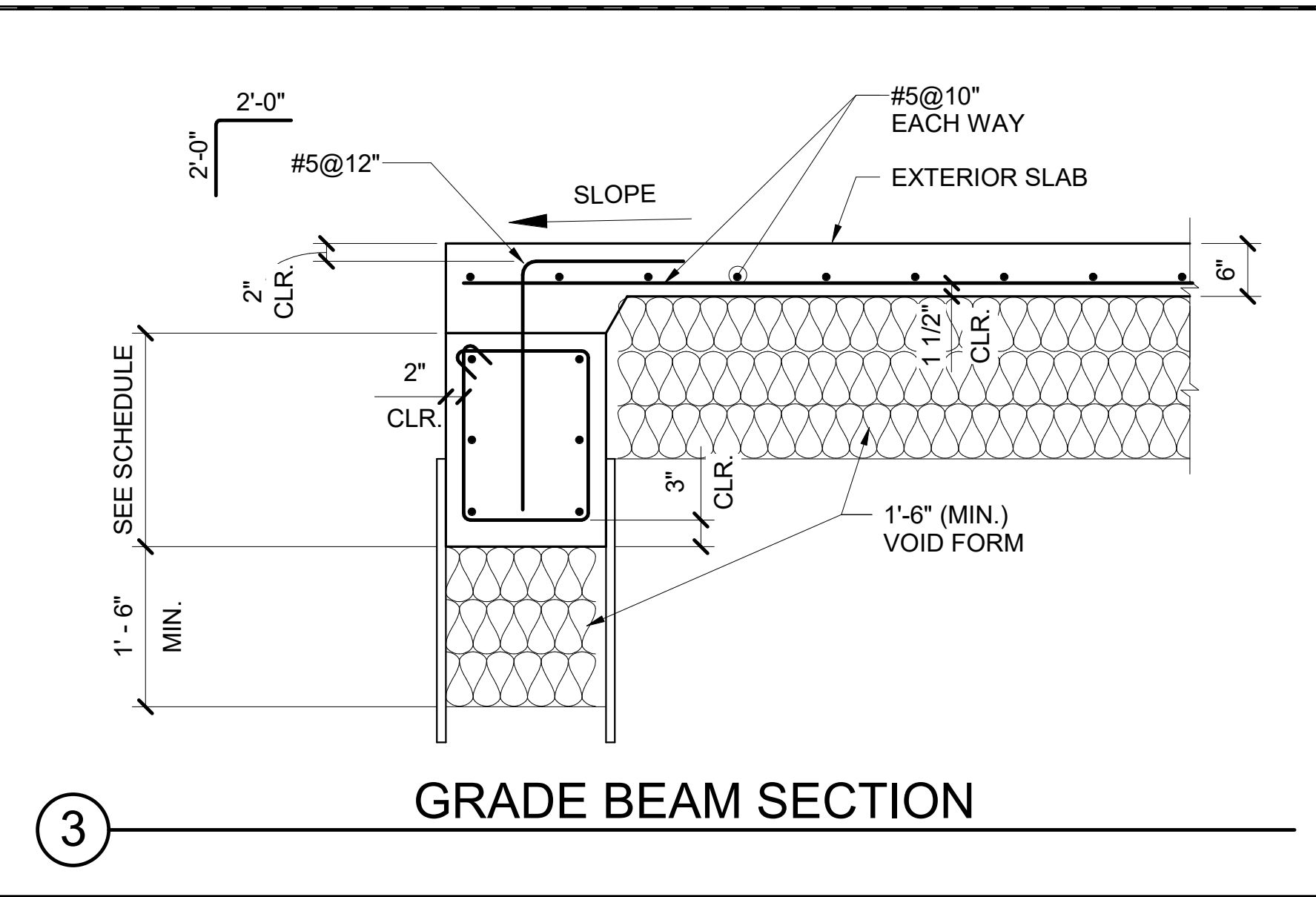
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Date:	7/13/23
Drawn By:	SB
Checked:	PR
Revisions:	ADDENDUM 2-8-23
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Utility Plan - Alternate 1

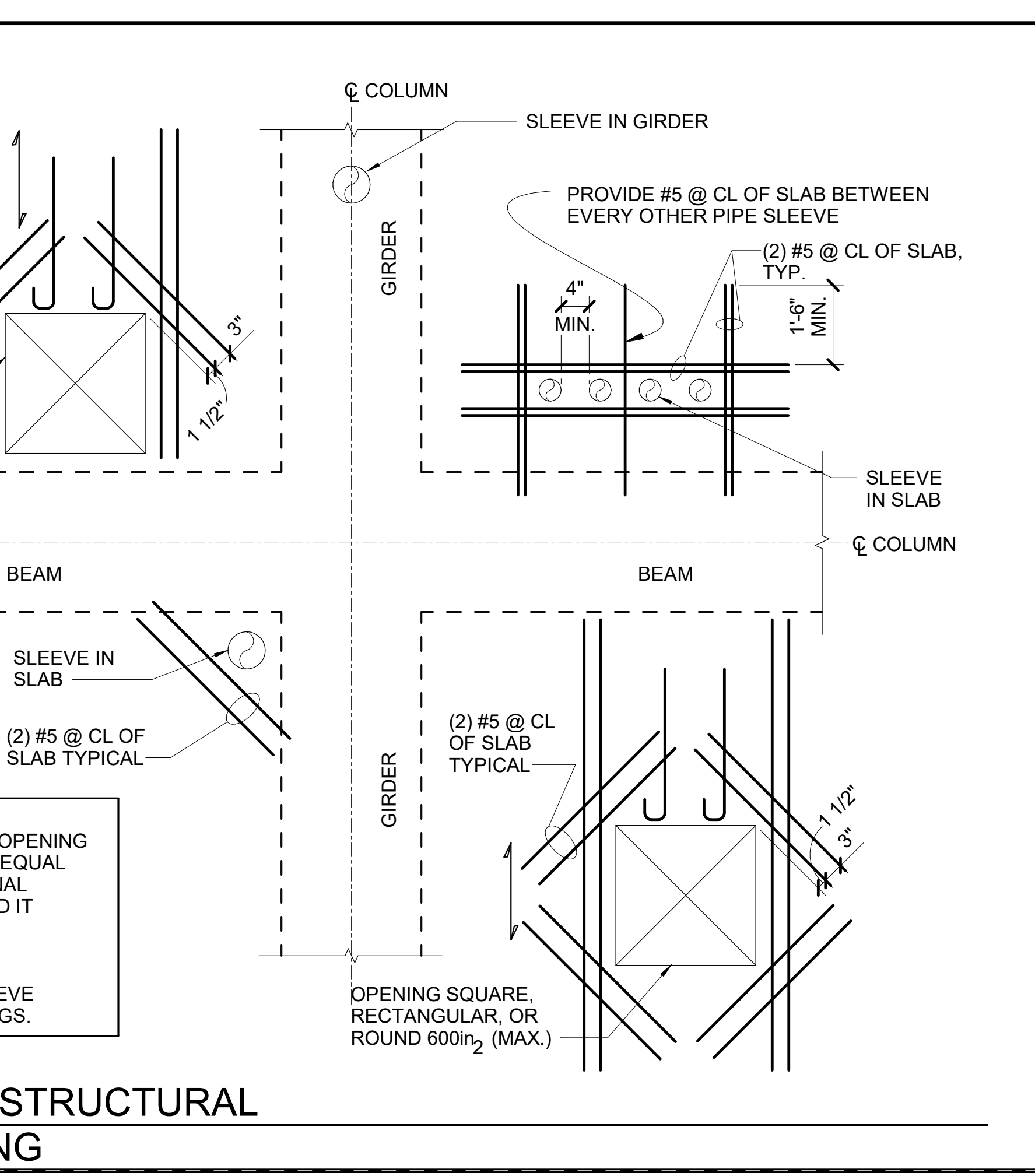
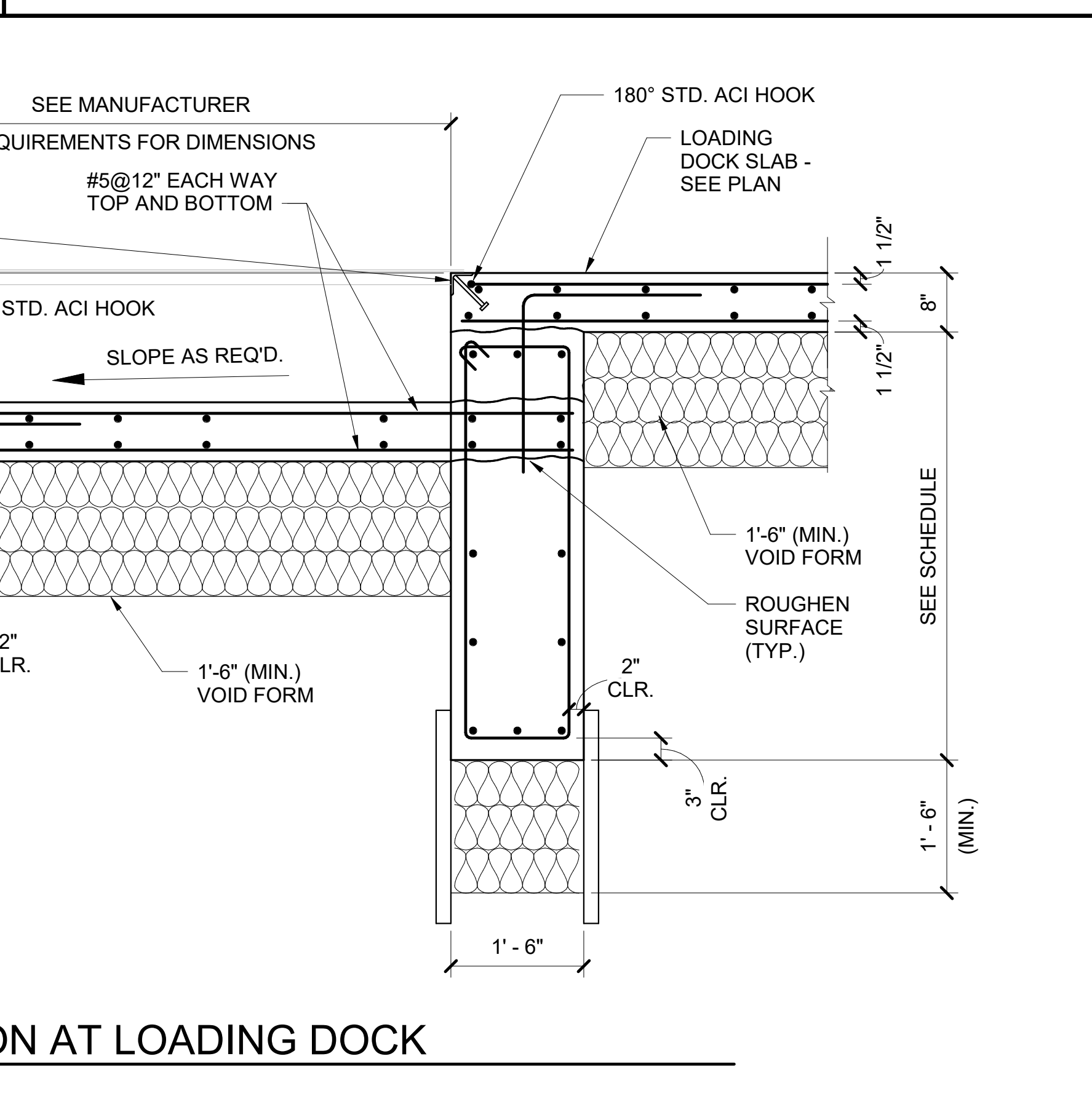
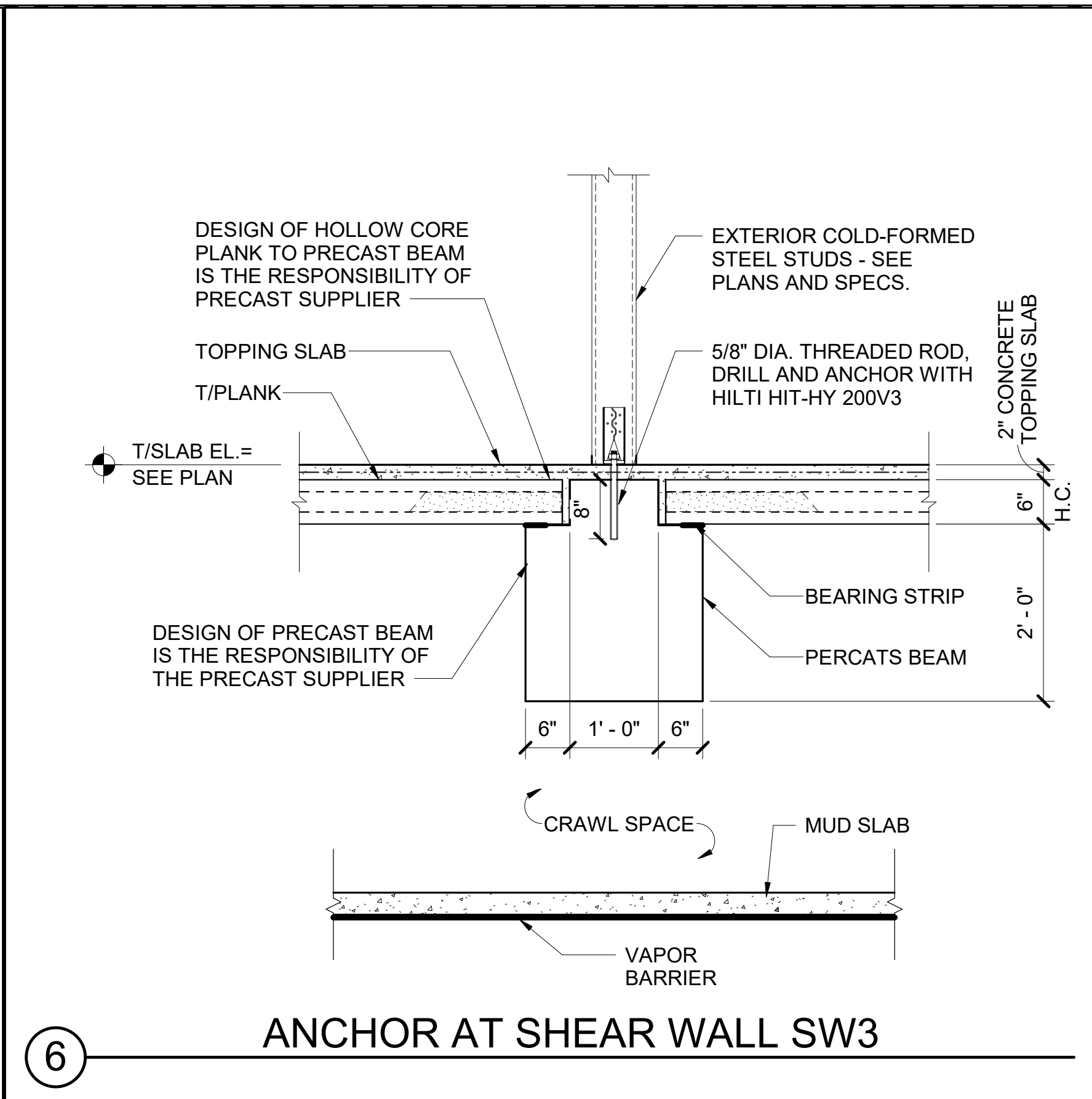
C-6.1



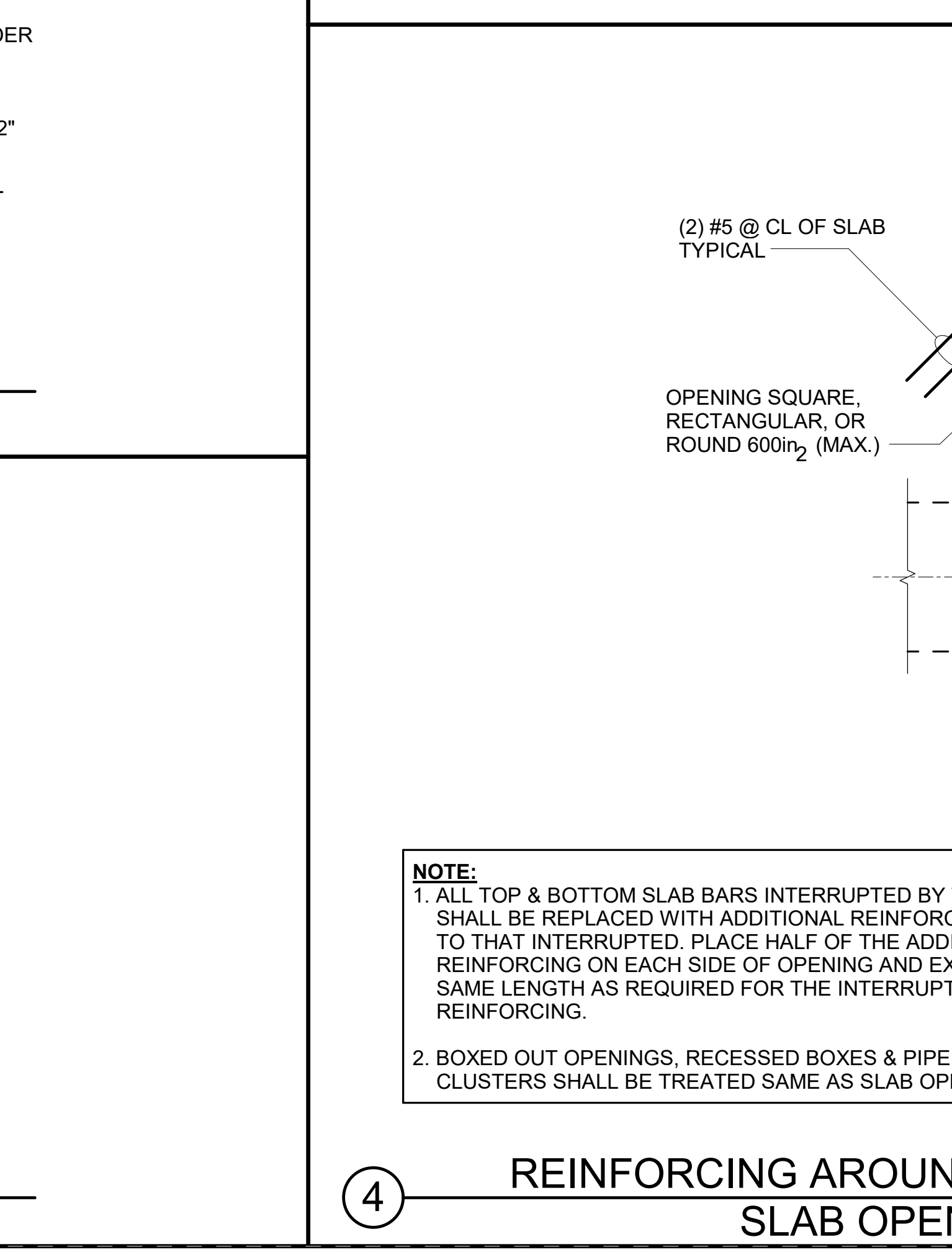
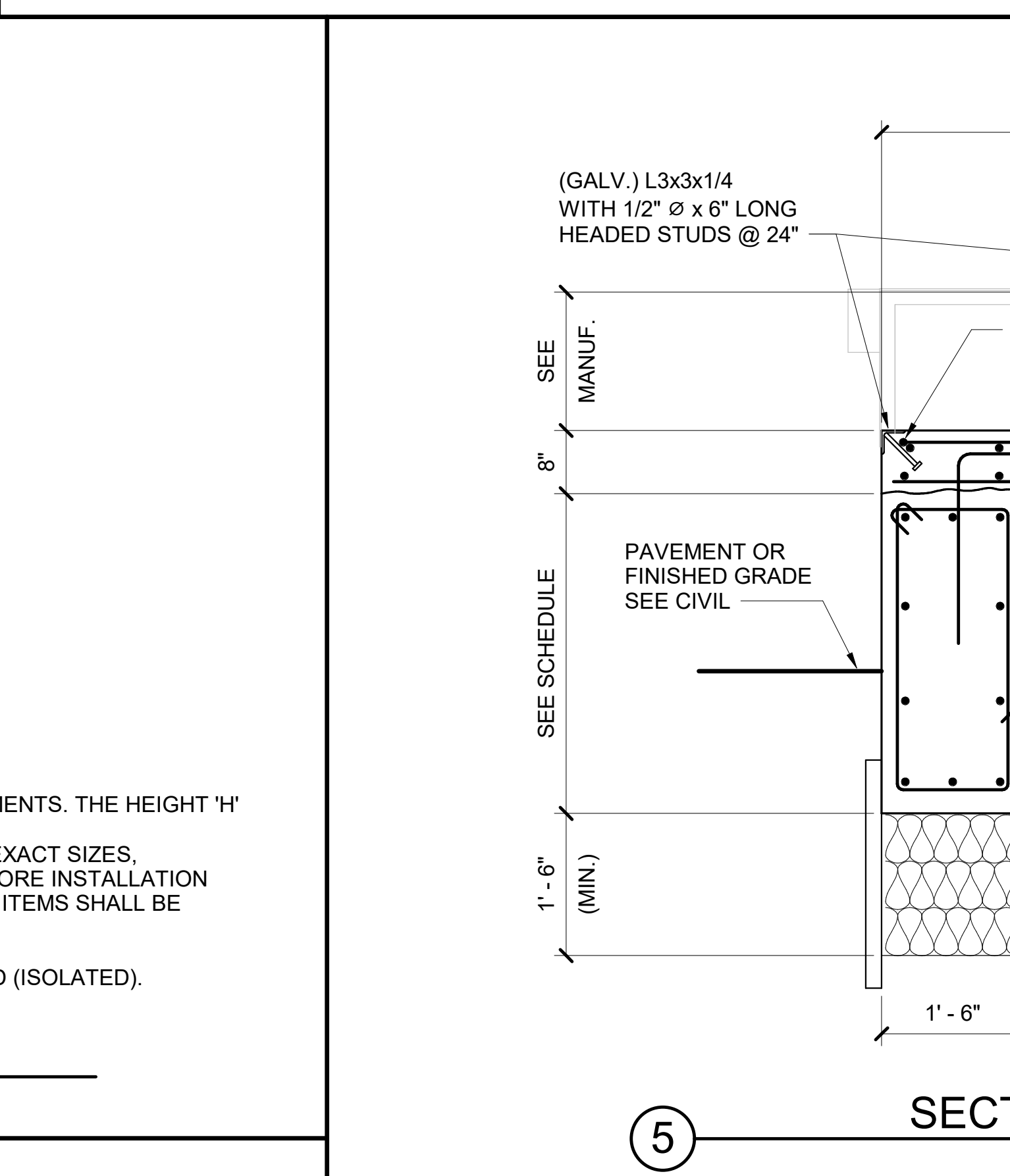
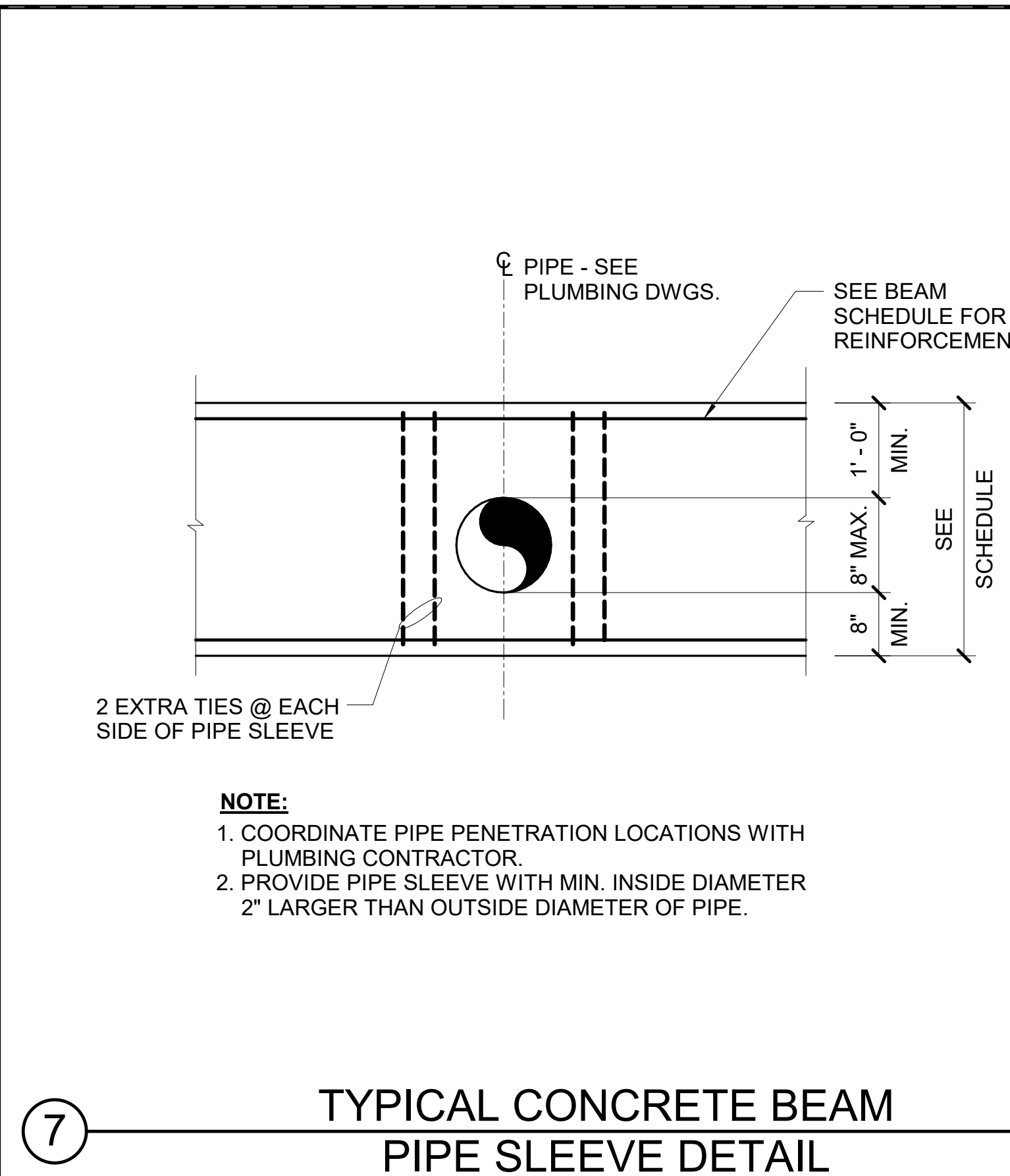
Pickering
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 Transportation • Natural / Water Resources
 2001 Airport Road, Suite 201
 Flowood, MS 39232
 601.956.3663
 PFI Project No. 25350.00



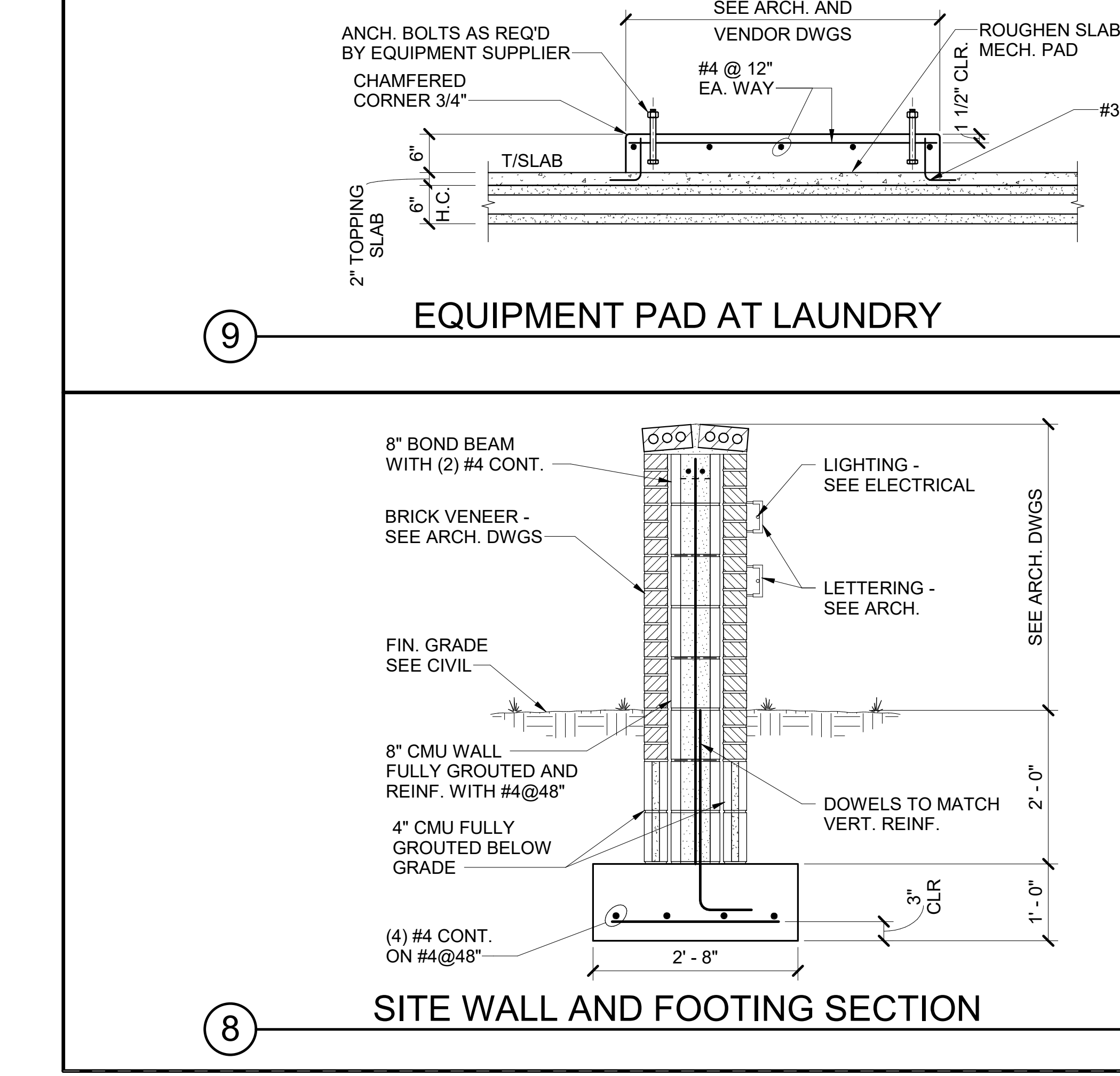
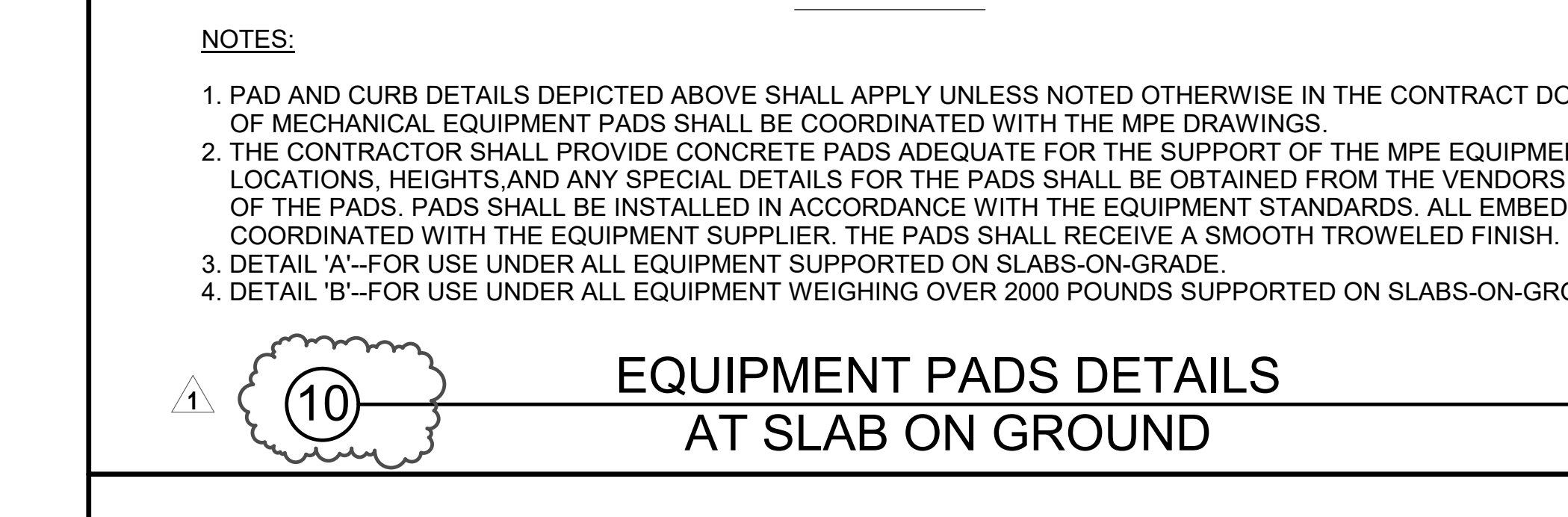
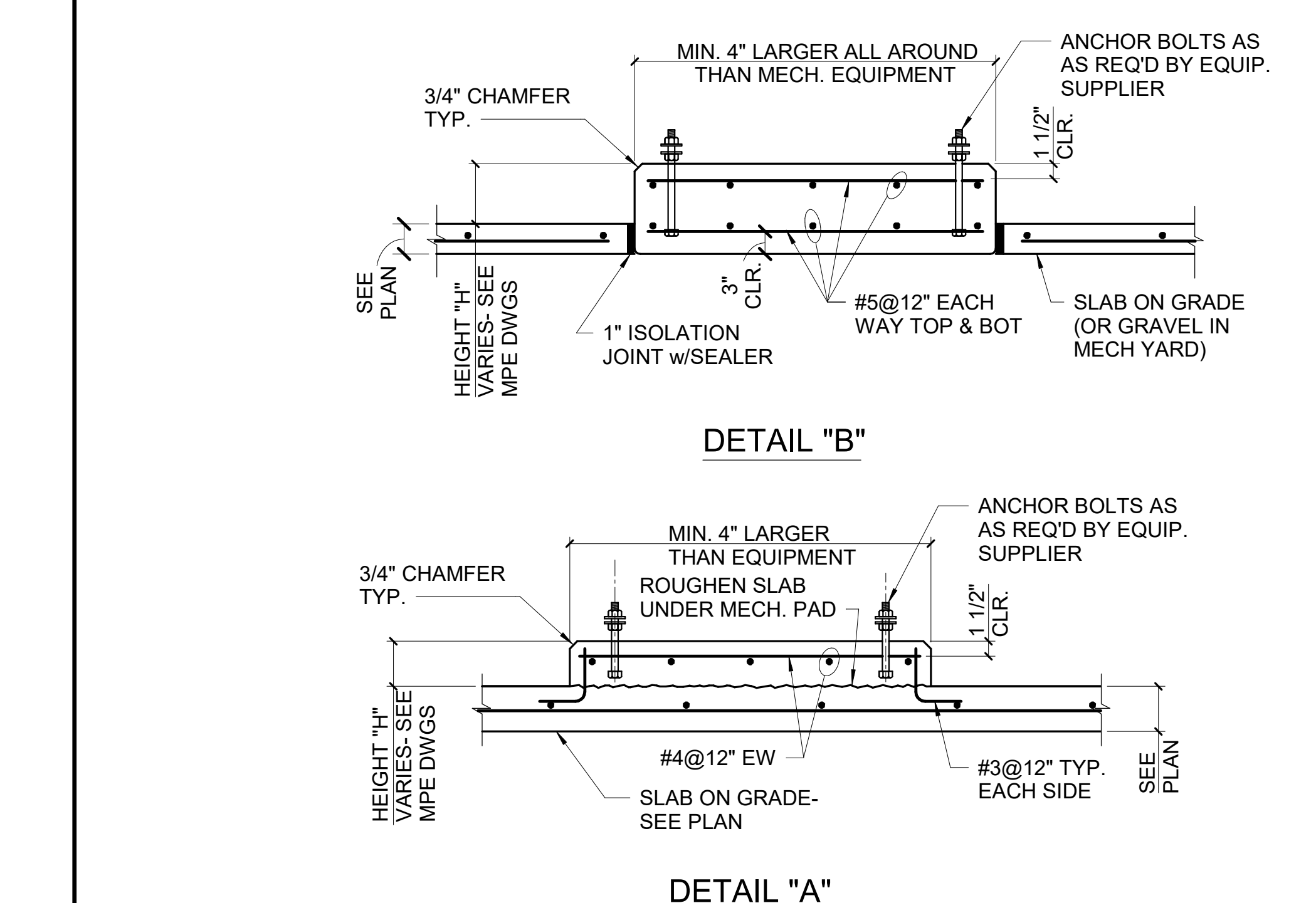
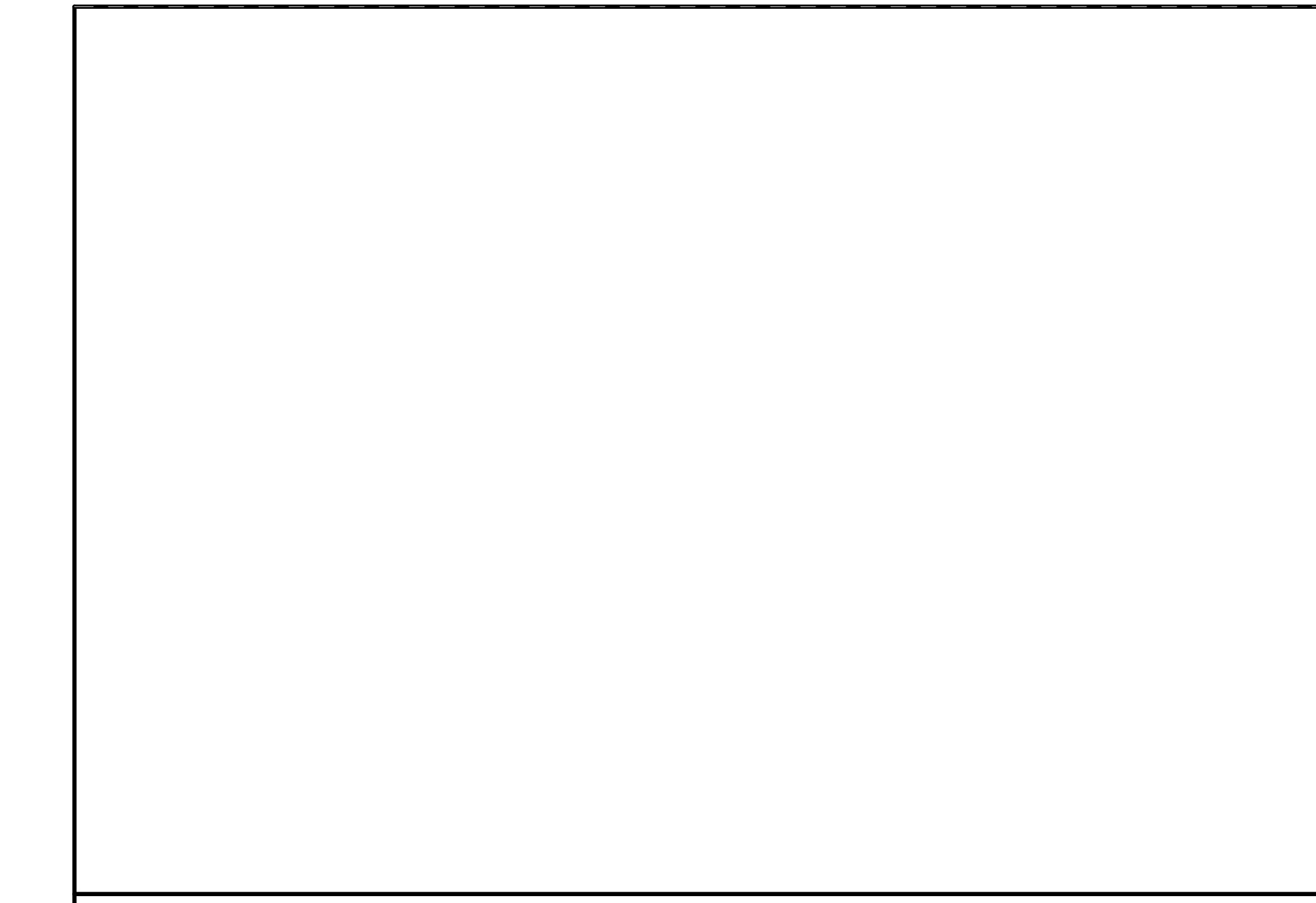
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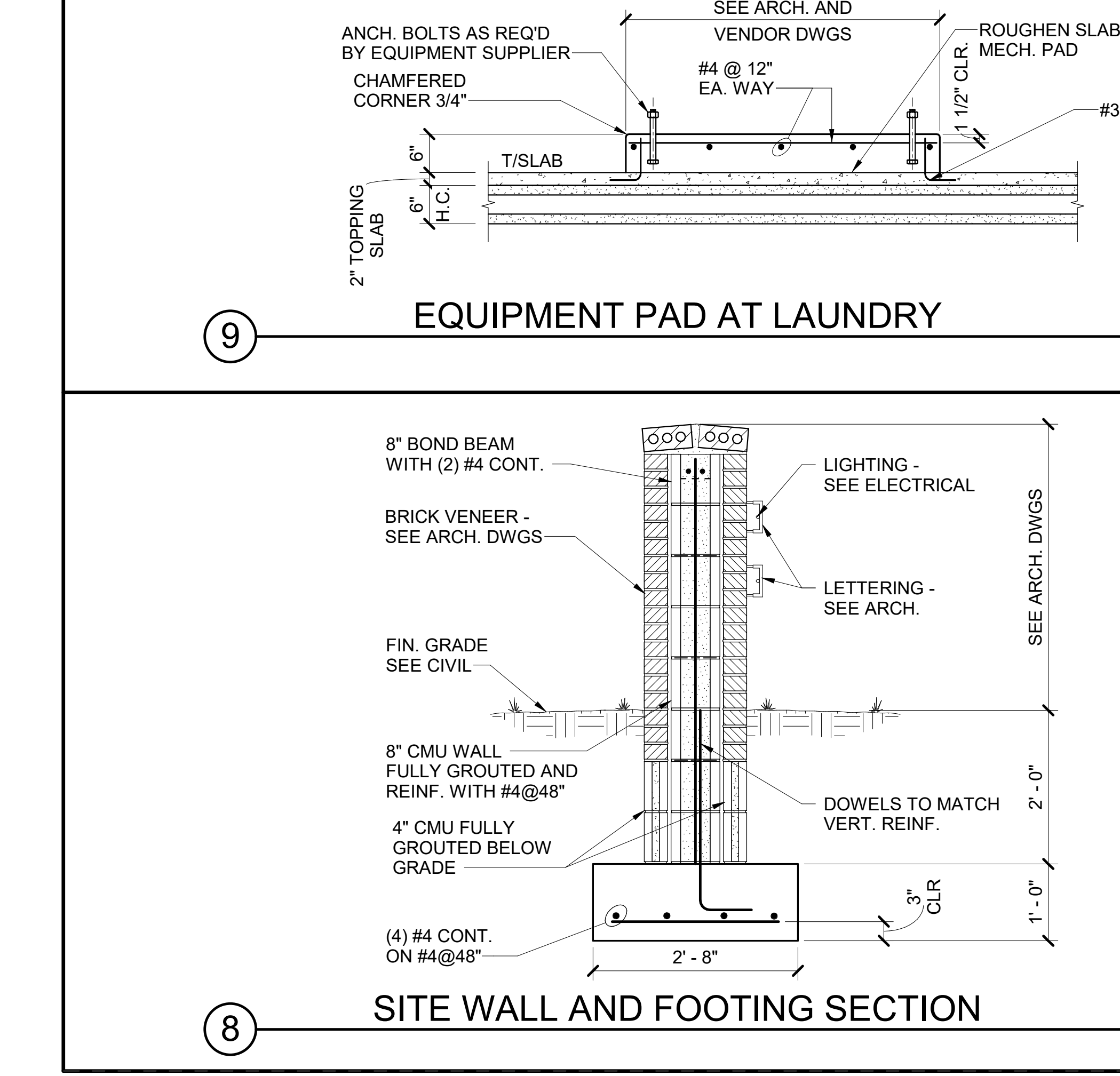
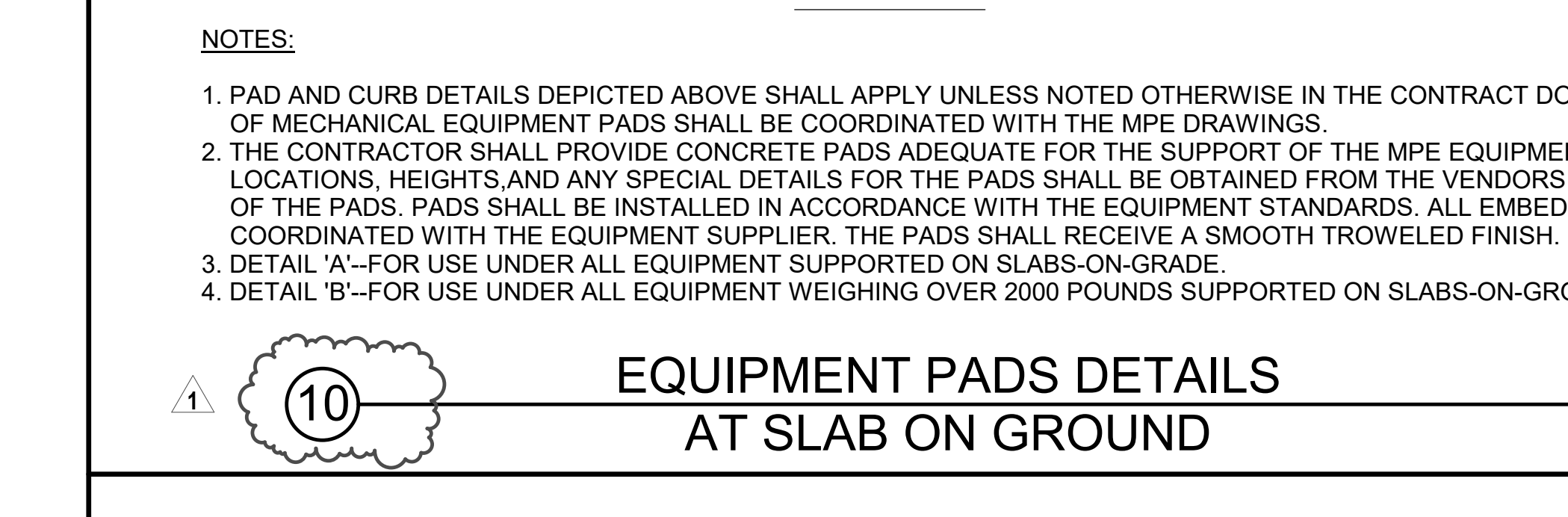
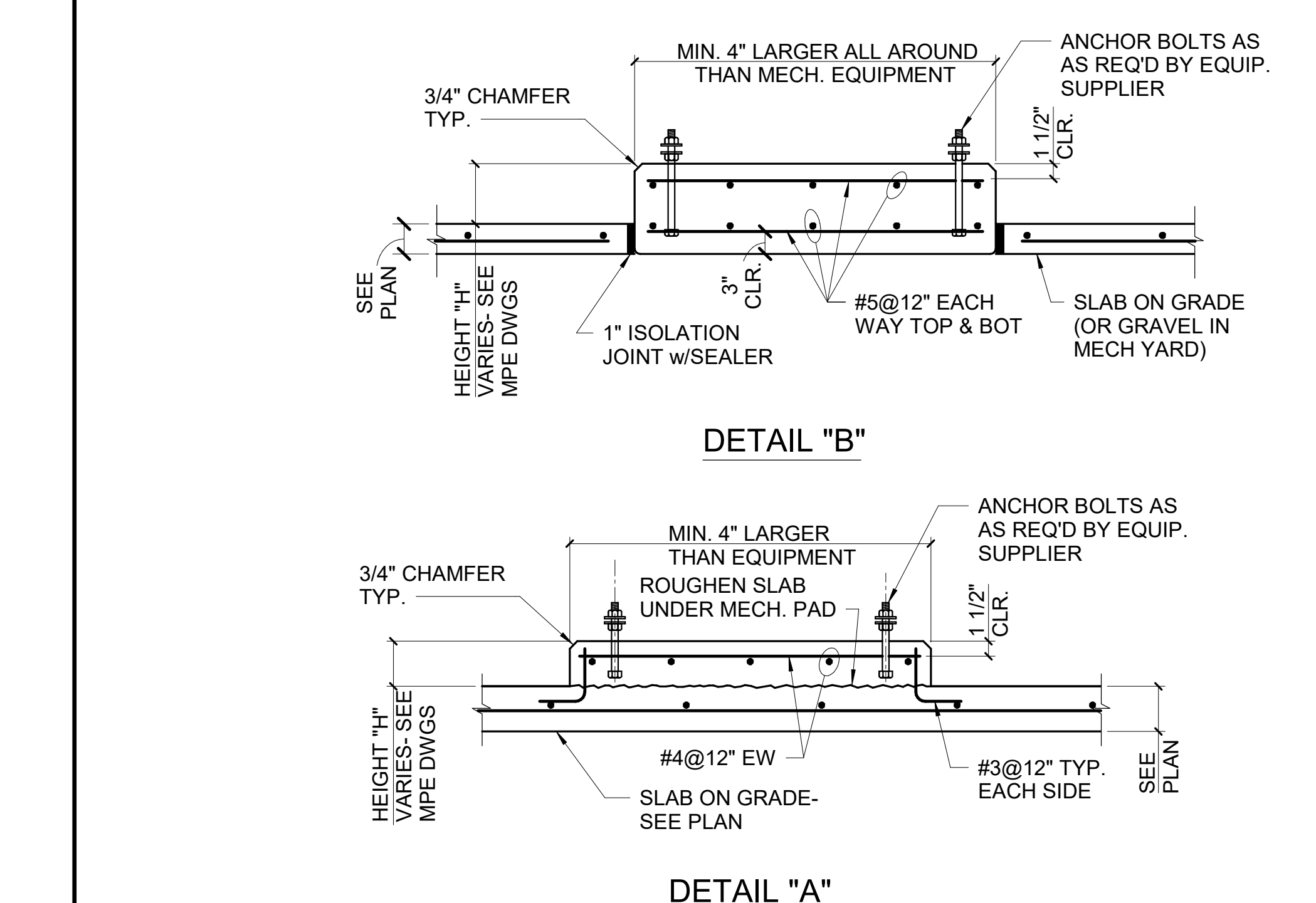
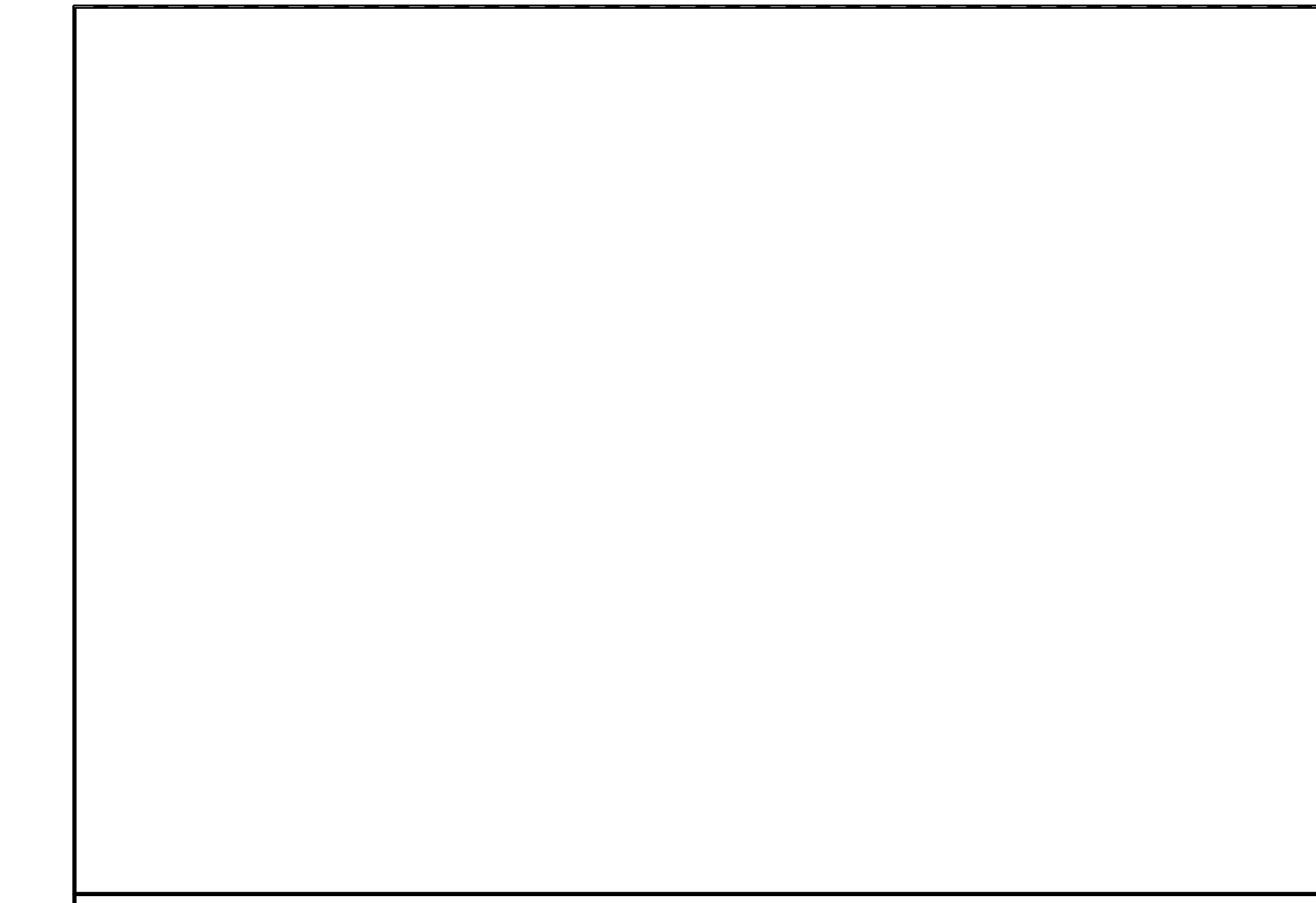
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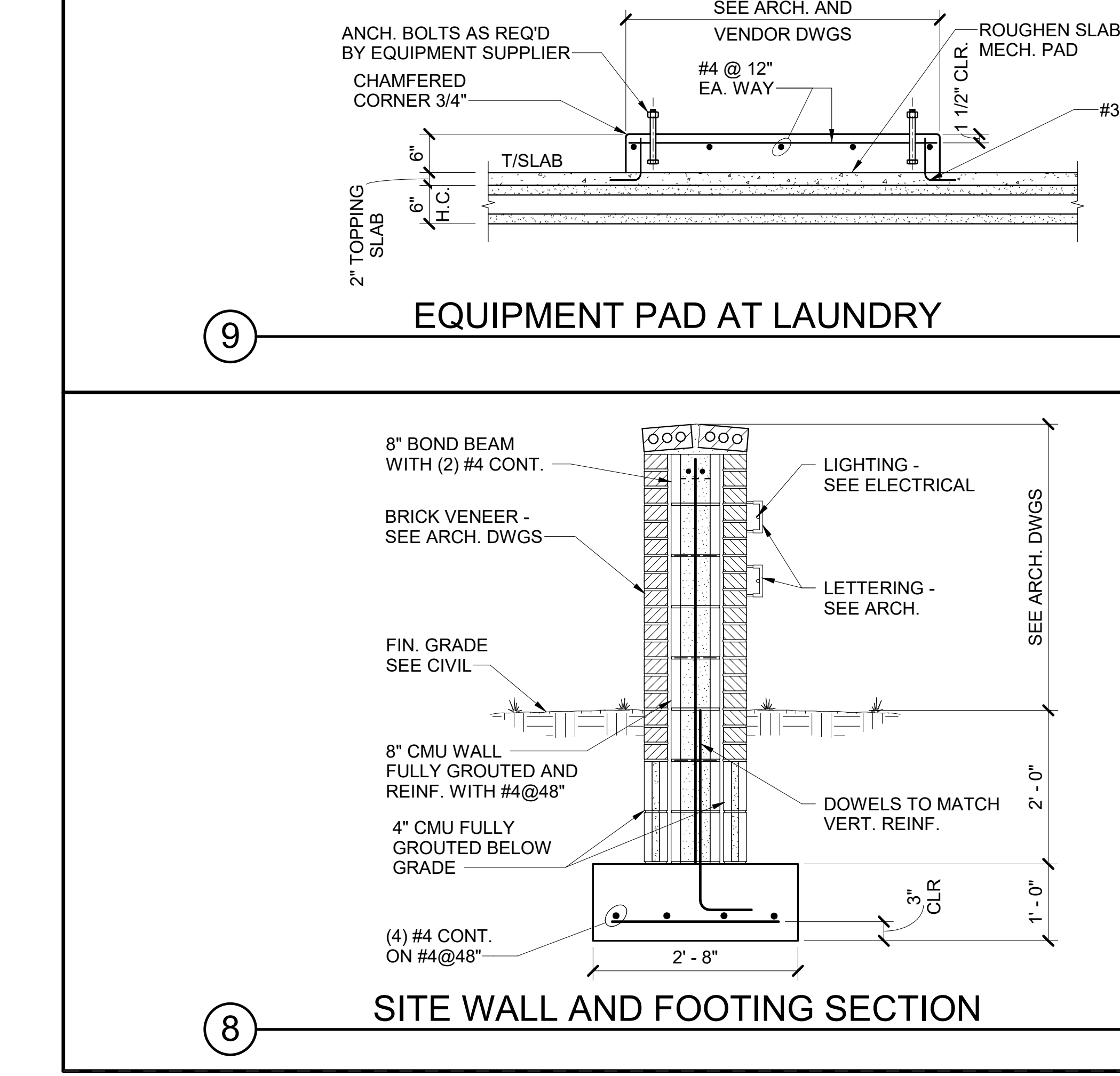
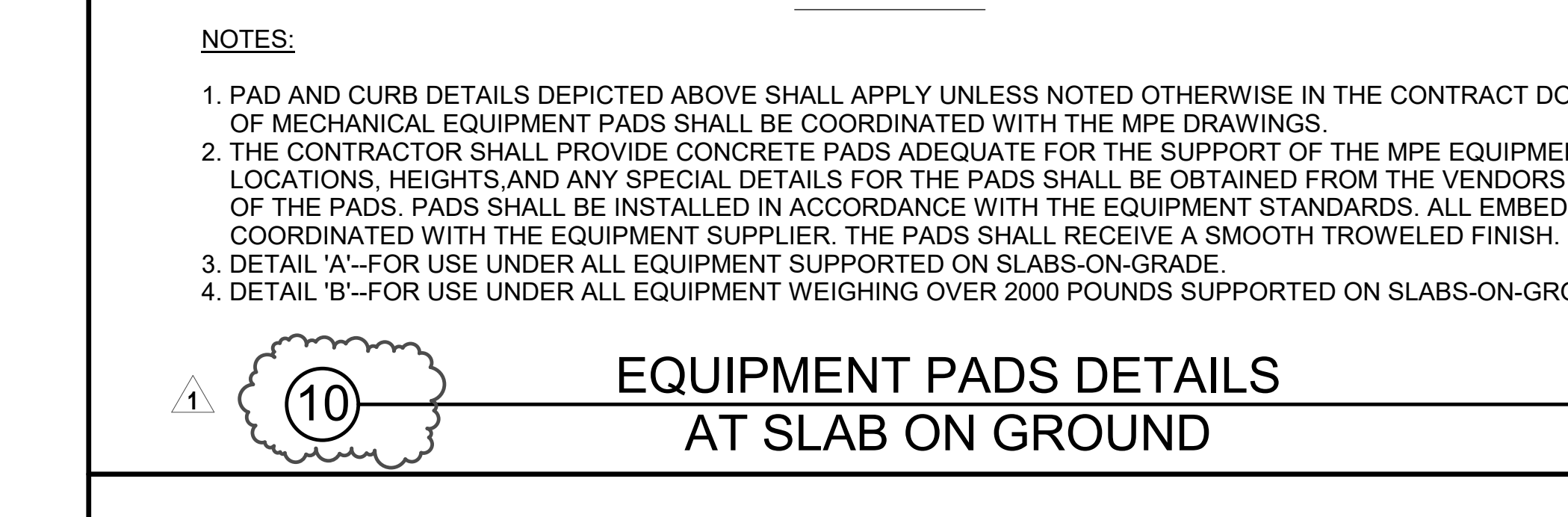
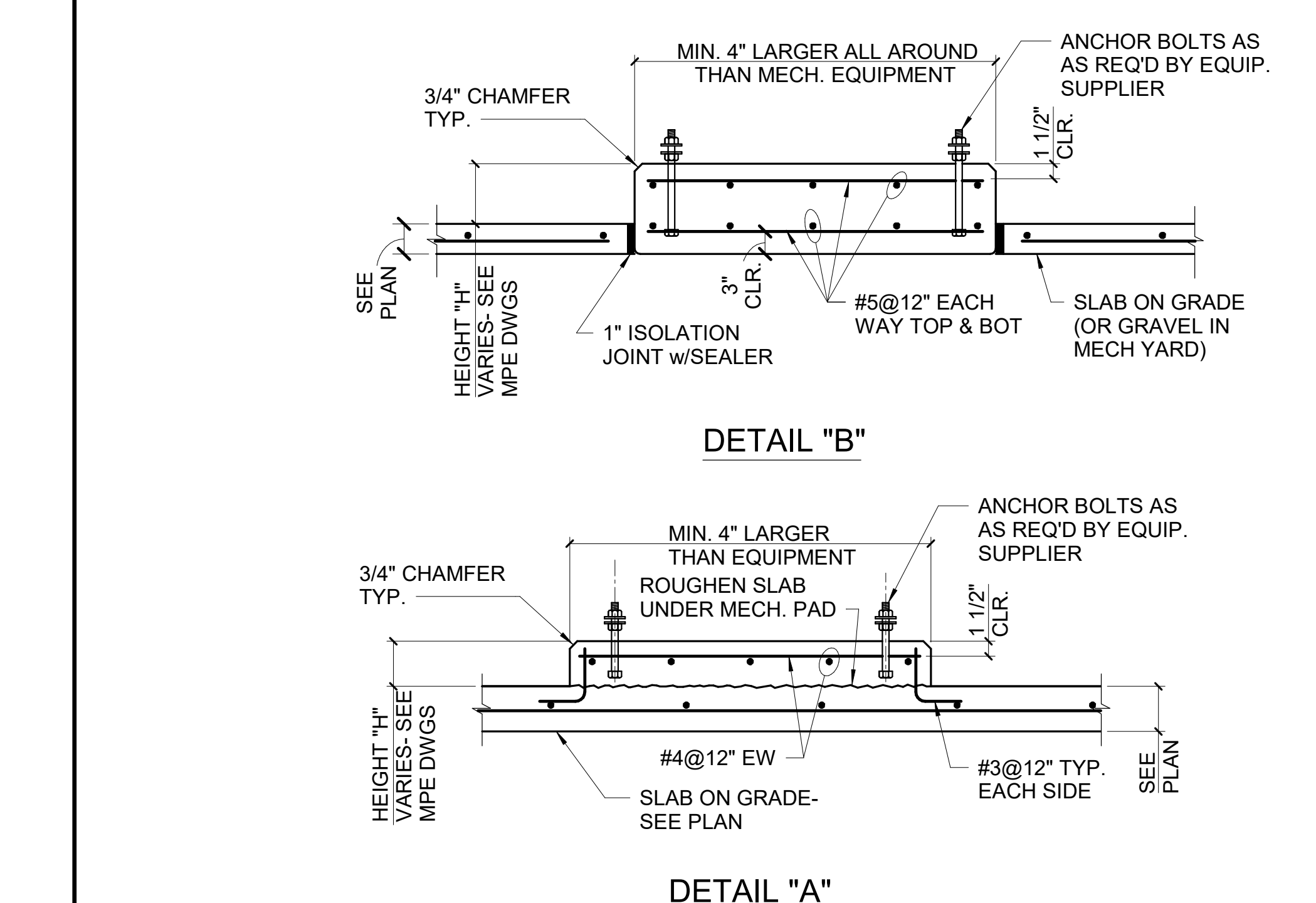
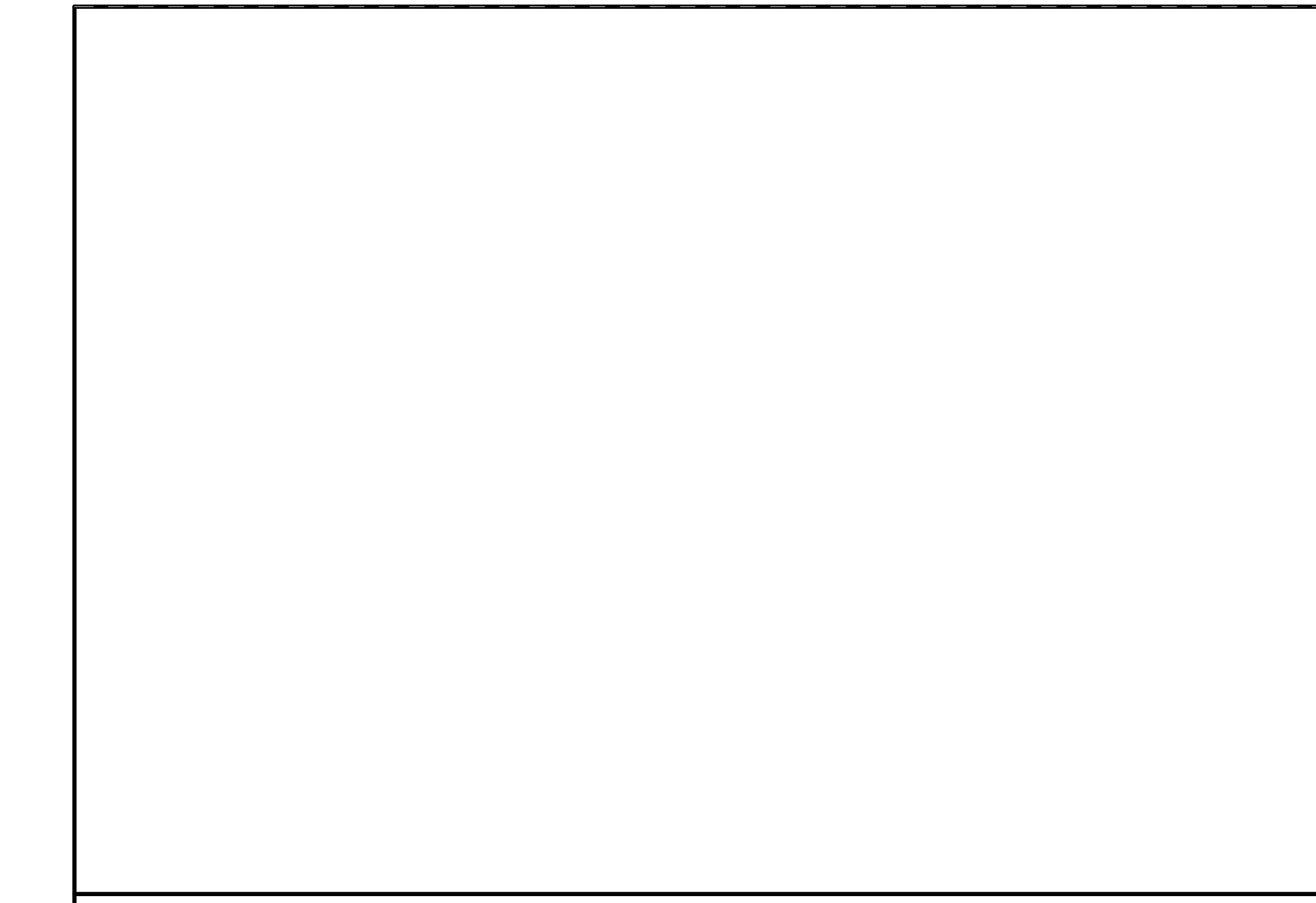
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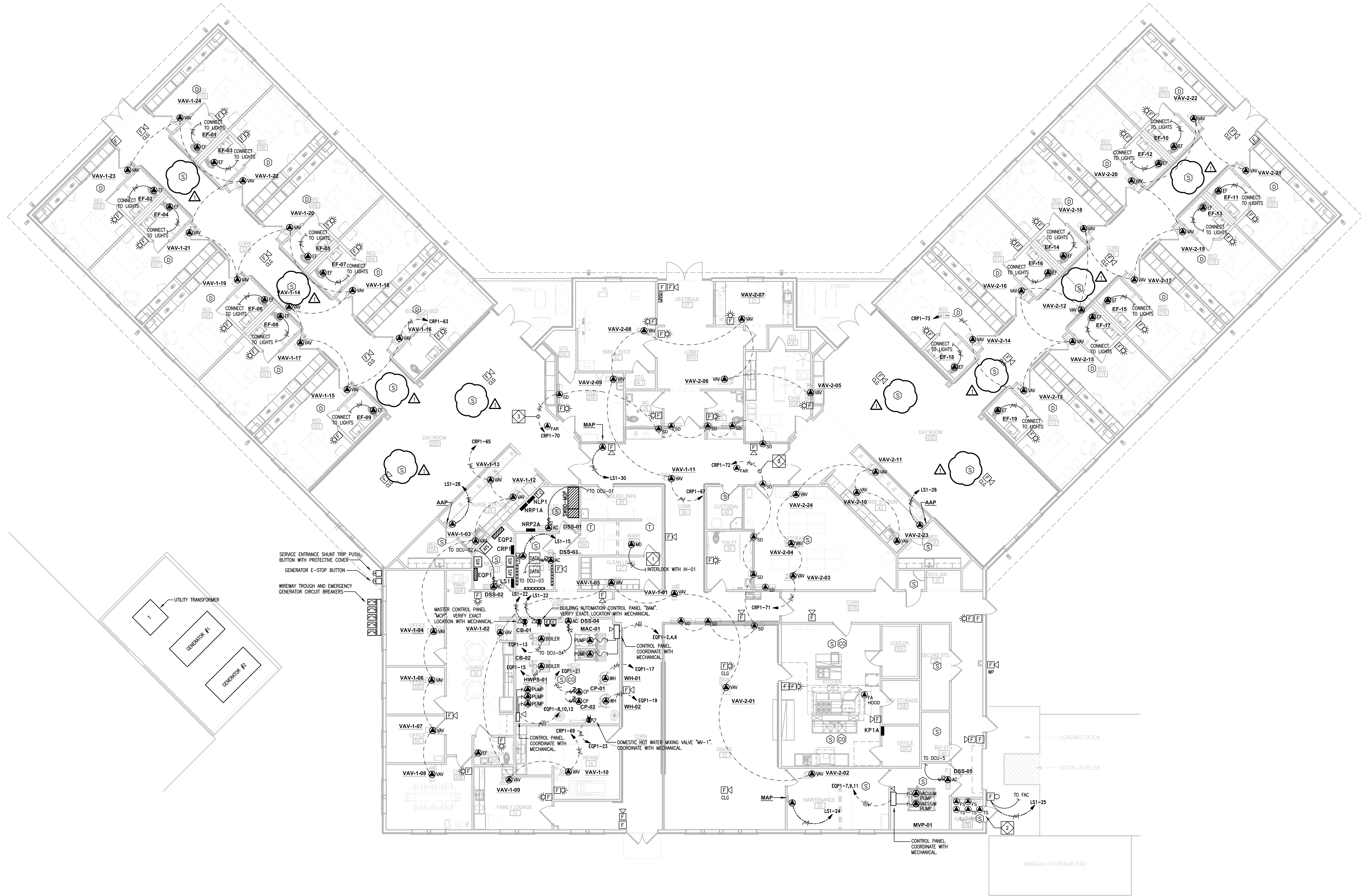
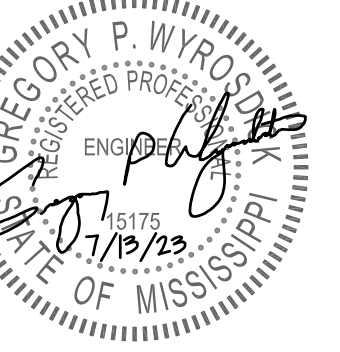
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10



1 FIRE ALARM & MECHANICAL SYSTEMS PLAN
1/8" = 1'-0"

- SPECIFIC FIRE ALARM & MECHANICAL SYSTEMS NOTES:**
- 1. MOTORIZED DAMPER WITH AUXILIARY CONTACT. INTERLOCK WITH ROOF HOOD "TH-01" TO OPEN UPON ACTIVATION OF DRYER.
 - 2. SPRINKLER VALVE AND SWITCH CONNECTIONS SHOWN FOR REFERENCE. CONTRACTOR SHALL COORDINATE WITH SPRINKLER CONTRACTOR AND PROVIDE ALL SWITCHES AS REQUIRED.
 - 3. ROUTE CIRCUIT THROUGH ADDRESSABLE, NORMALLY CLOSED, FIRE ALARM RELAY. INTERCONNECT TO FIRE ALARM PANEL FOR SMOKE DAMPER OPERATION. SMOKE DAMPERS SHALL BE POWERED "OPEN". DAMPERS SHALL CLOSE DURING FIRE ALARM EVENT.



BID PROPOSAL FORM

Date: _____

Proposal From: _____
(Bidder)

Facilities Services
The University of Mississippi Medical Center
2500 North State Street
Jackson, Mississippi 39216-4505

RE: Bid File # _____

To whom it may concern:

Having carefully examined the Contract Documents and all addenda for the referenced Project, as well as the premises and conditions affecting the work, I, the undersigned, propose to furnish all labor, materials, and services required by the Contract Documents in accordance with the conditions of said Contract Documents for the sums set forth below:

BASE BID:
_____ (\$ _____).

ALTERNATE #1:
_____ (\$ _____).

UNIT COSTS: DRILLED PIER LENGTH: TEMPORARY CASING:
ADD \$_____/LF ADD \$_____/LF
DEDUCT \$_____/LF

I (We) agree to hold our bid open for acceptance for sixty (60) calendar days from the date of bid opening.

If awarded this Contract, I, (We), agree to execute a Contract and start Work on a date to be set in a Notice to Proceed and to complete the entire work in _____ days, subject to the terms and conditions of the Contract.

As required by Section 002113-1.6, "Bid Security", Bid Security in the form of a _____ is attached hereto in the amount of _____ and shall become the property of the Owner in the event the Agreement and required Bonds are not executed within the time set forth herein before as liquidated damages for the delay and additional expense to the Owner caused thereby.

ADDENDUM RECEIPT: The receipt of the following Addenda to the Bidding Documents is hereby acknowledged:

- Addendum No. _____ dated _____
- Addendum No. _____ dated _____
- Addendum No. _____ dated _____
- Addendum No. _____ dated _____
- Addendum No. _____ dated _____

Our Corporation is chartered under the laws of the State of _____, and the names, titles and business addresses of the principal officers are as follows (non-residents Bidders see Section 002113, Paragraph 1.5):

Name: _____ Title: _____

Address: _____

Name: _____ Title: _____

Address: _____

Name: _____ Title: _____

Address: _____

(TO BE FILLED IN IF A PARTNERSHIP)

Our Partnership is composed of the following individuals:

Name: _____ Title: _____

Address: _____

Name: _____ Title: _____

Address: _____

Name: _____ Title: _____

Address: _____

Notice of acceptance of our bid may be mailed, telegraphed or delivered to:

SIGNED: _____

BY: _____

TITLE: _____

CERTIFICATE OF RESPONSIBILITY NO.: _____
(TO BE FILLED IN IF A CORPORATION)

SECTION 27 52 23

NURSE CALL AND PATIENT PROECTION SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

- A. Provisions of the General and Supplementary Conditions and Division 01 apply to this section.
- B. Furnish and install all equipment, accessories, and materials in accordance with these specifications and drawings to provide a complete and operating Nurse/Patient Communications System.
- C. Related Sections:
 - 1. Section 26 01 00: Basic Electrical Requirements
 - 2. Section 26 05 33: Raceway and Boxes for Electrical Systems.
- D. Section Includes:
 - 1. Nurse call servers
 - 2. Master stations
 - 3. Patient stations
 - 4. Staff/Duty stations
 - 5. Staff assist/code blue stations
 - 6. Emergency pull cords
 - 7. Dome/Zone lights
 - 8. Nurse call cabling system
- E. Products Furnished and Installed by Owner:
 - 1. Owner provide IP-based Network / LAN, WAN: Core switch(es), routers, firewalls, distribution switches, access switches, PoE switches
 - 2. WLAN Access: Access points, radios, authentication/controller, network appliances.

1.02 SCOPE OF WORK

- A. Furnish and install a Nurse / Patient Communications System comprised of nurse consoles, telephone wall and desk stations, and wiring as shown on the drawings
- B. All necessary equipment required to meet the intent of these specifications, whether or not enumerated within these specifications, shall be supplied and installed to provide a complete and operating nurse/patient communications network.

1.03 SYSTEM SUPPLIER QUALIFICATIONS

- A. The System Supplier shall be an established communications and electronics contractor that has had and currently maintains a locally run and operated business for at least five years. The System Supplier shall hold all applicable state and local licenses.
- B. The System Supplier shall be an Authorized Distributor for the product proposed with full manufacturer's warranty privileges.
- C. The System Supplier shall employ technicians who have attended and successfully completed the manufacturer's technical certification classes for the proposed system.

- D. The System Supplier shall show satisfactory evidence, upon request, that he maintains a fully equipped service organization capable of furnishing adequate inspection and service to the system on a 24-hour / 7-day basis. The System Supplier shall maintain at his facility the necessary spare parts in the proper proportion as recommended by the manufacturer to maintain and service the equipment being supplied.

1.04 SUBMITTALS

- A. Provide in accordance with Division 01.

- B. Each submittal shall consist of the following:

- Page 1: Name of System Supplier and project name
- Page 2: In the following order, a listing of: component quantities, equipment manufacturer, model number, and description of each component being supplied. If equipment being supplied is not the specified equipment manufacturer's model, alongside the submitted model number and description, list the specification paragraph that corresponds to the equivalent specified model. Failure to provide this information will result in the rejection of submittals.
- Page 3: Recently dated (within one year from submittal date) support letter from manufacturer stating that the supplying contractor is an Authorized Distributor of the product being supplied.
- Page 4: Statement of warranty policy from manufacturer.
- Page 5: Copy of the installing technician(s) certificate of completion from the manufacturer's training school for the equipment being proposed.
- Page 6: Statement by System Supplier of how and when they will complete In-Service Training, including the exact number of hours being provided per system, procedures they will follow, what training aids are provided (manuals, video tapes, etc.) and how contractor will conduct training.
- Page 7: Statement from System Supplier of exactly how they will test installed equipment and wiring, including recommendations by manufacturer, prior to commissioning of system.
- Page 8: Provide a list of recommended spare parts to maintain all systems specified after the warranty period. Also provide the purchase price and turn around cost associated with each item. List separately the cost of an annual maintenance contract based on service levels outlined in WARRANTY paragraph of this section. Show the hourly, purchased labor rates for both regular and emergency service. State any additional charges that may accompany labor charges such as travel charges.
- Pages 9+: One catalog sheet per product of equipment listed on page 2; in the exact order as listed on page 2. Each catalog sheet shall describe, mechanical, electrical and functional equipment specifications. The catalog sheet must also include a photograph of the product. Photocopy duplications of the manufacturer's original equipment catalog sheets will be allowed as long as they provide adequate clarity of both the printed word and graphics/pictures. Submittals that are not of adequate clarity or content may be rejected and re-submission may not be allowed.

Last Page(s) or Separate: Provide all inter-equipment wiring diagrams and drawings necessary to install the equipment being supplied. These drawings will show all wiring types by wire gauge, conductors and wire manufacturer. These drawings must be updated prior to completion of any work to reflect changes that may have been made during actual installation.

1.05 GUARANTEE

- A. Provide a 1 year labor warranty.
- B. Warranty period begins at substantial completion or project acceptance for beneficial occupancy.
- C. The System Supplier shall provide a warranty on the system which shall include all necessary labor and equipment to maintain the system(s) in full operation for a period of one year from the date of acceptance.
- D. In addition, the equipment (parts) warranty for all core system components including control / switching equipment, power supplies, patient stations, sub-stations, and nurse consoles shall extend to a total of at least five (5) years. Warranty for ancillary devices and call cords shall extend to a total of at least two (2) years.
- E. Manufacturer shall provide, free of charge, product firmware/software upgrades throughout the warranty period for any product feature enhancements.

1.06 WORK DESCRIPTION

- A. The work of this section includes final design, pre-installation planning, materials, accessories, fasteners, etc., and the labor and associated services necessary for a complete working nurse call system within the hospital expansion and clinic addition to interface with the existing hospital Rauland-Borg Responder V System, herein "System", including, but not limited to, the following:
 - 1. Pathways, cable support devices, etc. (such as cable hangers) to augment the primary pathways (provided under other sections) and support the System's cables and wires
 - 2. Consoles, stations, equipment, firmware, etc
 - 3. Cables, wires, and terminations
- B. Provide final design services as follows.
 - 1. Verify the design shown in the Contract Documents. Coordinate issues and conflicts with the Engineer.
 - 2. User Group Meetings
 - a. Conduct user group meetings with the managers/representatives of the nursing units. Meetings shall (at a minimum) gather details specific to each unit.
 - b. Document the System's operation, call priorities, coverage, staffing patterns, communications routing, and other pertinent details that will affect the final design.
 - c. Produce a staff member list including wireless numbers (pagers, mobile phones, Ascom/Vocera, etc) for input into the System's programming.
 - d. Conduct follow up meetings with the managers/user groups. Meetings shall (at a minimum) review the shop drawings – floor plans, system diagrams, etc., to confirm the function and operation of the System and equipment, and confirm System programming.
 - e. Conduct meetings with the manager of the existing nurse call system to fully understand the existing server-based support and reporting applications.
- C. Provide pre-installation coordination and integration services, including the following (at a minimum):

1. Coordinate design and implementation tasks with the Owner's Representative, particularly the network. Coordinate the information required regarding network settings (e.g., VLAN build, etc.).
 2. Schedule the entire implementation.
 3. Coordinate wiring routes, maintenance access, trim features, and finishes to present a unified design appearance at locations receiving System stations and/or devices.
 4. Coordinate the implementation tasks throughout the entire construction team – e.g., electrical contractor for power service and telecom contractor for pathways, etc.
 5. Coordinate with the security contractor for control during a code blue event.
- D. Provide post-installation services, including the following (at a minimum):
1. Manufacturer shall provide to Owner telephone technical support services on a 24-hour per day basis.
 2. Manufacturer shall maintain access to parts and to emergency maintenance and repair on a 24-hour per day basis with a 24-hour maximum response time to Owner.
- E. Work Provided by Owner:
1. "Hospital Network" – IP-based wired network (access switches, PoE switches, core switches, routers, firewalls, etc.) and wireless network (access points, radios, authentication/controller, network appliances, etc.)
 2. Equipment room and room fit-up, such as equipment racks, backboard, etc.

1.07 SYSTEM DESCRIPTION

- A. The System's stations, components, hardware, accessories, software, and firmware shall be from a single manufacturer.
- B. The System's manufacturer shall have sole control over all of the System's software source code.
- C. Regulatory Requirements
1. The System shall be UL1069 listed.
 2. The System shall comply with FGI's "Guidelines".
 3. The System shall facilitate for the Owner's compliance to HIPAA, and no software or other component shall inhibit or hinder such compliance.
- D. Integration and/or Interface Requirements with Other Systems
1. The System shall fully operate (engage every feature) with the Owner's existing nurse call system.
 2. The System shall support the facility's Code Blue equipment and Owner's procedures.
 3. The System shall interface with the facility's network.
 4. The System shall integrate with the facility's telephone system via an open standards interface.
 5. The System shall integrate with the facility's paging system via an open standards interface.
 6. The System shall integrate with the facility's wireless staff communications (for example, Ascom/Vocera) in that the nurse consoles, staff terminals, and associated call display stations shall list active calls to/from these wireless staff communications devices.
 7. The System shall integrate with the facility's RTLS system and shall support the following:
 - a. Patient/staff/asset tracking, showing locations on screen
 - b. Automated nurse tracking, call response, call cancel
 - c. Nurse console shall display RTLS data including graphical format (e.g., floor plan)
 8. The System shall interface with the facility's bed systems ("smart beds" and bed management software).
- E. System Features and Capabilities
1. PC Console: The System shall come with a computer system loaded with "PC Console" software for system programming, control, and monitoring.

- a. This PC Console shall interface with System's overall software, server-based applications, and reporting software.
 - b. This PC Console shall be compatible with thin-client installations.
 2. The System's configuration and operation shall be 'programmable'. Configuration changes to the System shall not require any exchange of parts and/or components. Programming, software, and/or firmware changes/upgrades shall be accomplished on a working system without interruption to the basic (code-compliant) operation of the system. A single command shall switch all upgraded components to the new programming change / firmware upgrade. In the event of an error or failure in the update process, the System shall revert back to the previous firmware.
 3. Stations and other System elements shall feature non-volatile memory/storage of operating firmware and software.
 4. Supervision: The System shall supervise stations for operational status (diagnose power lost, troubled connections, signal communications, audio communications, etc) including the following stations: master stations, staff stations, duty stations, corridor/dome lights, patient stations, controllers, and work flow stations. The System shall report problems to any designated console, PC, e-mail, or wireless device. Remote diagnostics shall quickly locate and identify the problem.
 5. System communications (nurse consoles, staff stations, duty stations, patient stations, etc.) shall be full duplex audio.
 6. The System shall feature 'group call' to pre-assigned groups of stations and for 'group monitor' of pre-assigned groups of stations. Groups shall be easily changed in real-time.
 7. The System shall have the capability to selectively monitor a station (for example, patient station) at any time from a nurse console. During monitoring mode, the monitored station shall illuminate a "monitor" indicator whenever the nurse console (or other staff station) is in audio contact with the monitored station.
 8. Code Blue Support
 - a. The System shall include a Code Blue annunciation device in the Hospital's 24-Hour Monitoring Center. The System shall route Code Blue calls to the Monitoring Center, shown on the Code Blue annunciation device.
 - b. The System shall issue a text page to Code Blue teams during a Code Blue call event.
- F. System Stations:
1. Nurse Console: Nurse consoles shall feature audio communications (to any audio station within the System) and a display (listing calls, etc).
 2. Staff Terminals: Staff terminals shall feature audio communications, audible annunciation of calls/alarms, and touch-screen for work flow input.
 3. Staff Station: Staff stations shall feature audio communications and audible annunciation of calls/alarms.
 4. Duty Station: Duty stations shall feature audio communications and audible and visual annunciation of calls/alarms.
 5. Remote Audio Station: Duty stations shall feature audible annunciation of calls/alarms.
 6. Patient Station: Patient stations shall feature normal call initiation (nurse calling), audio communications, CODE alarm initiation (via button) and locking alarms initiations.
 7. Pull Cord Stations: Pull cord stations shall feature emergency alarm initiation (via cord), normal call initiation (via button), and audio communications.
- G. Call Types: The System shall feature programmable call types. Programmable shall mean configurable through the PC console. Call types shall include, at a minimum, the following:
1. Code Blue Emergency
 2. Staff Emergency (Staff Assist)
 3. Emergency Call – Patient Station

4. Emergency Call – Toilet/ Shower
 5. Routine/Normal Call
- H. Call Management: The System shall manage each call based on System programming, such as the following:
1. The System shall prioritize calls based on programmed call priority types, such as emergency calls before routine calls.
 2. Nurse consoles and remote call displays shall display calls in order based on programmed criteria, such as emergency and/or in the order the calls were initiated.
 3. Nurse consoles shall annunciate via an audible signal when a call remains unanswered within a programmed time period.
 4. The System shall automatically upgrade in priority “Lavatory/Toilet Emergency”, “Shower Emergency”, or “Staff Assist” (emergency) calls if not answered in a preset amount of time. When an ‘overtime’ condition exists, the following shall occur:
 - a. Call initiating station shall remain in an illuminated mode
 - b. The associated corridor light and zone light shall slowly flash 1 light segment a reset color.
 - c. The associated nurse console shall display and flash the following wording or approved similar for the respective calls:
 - 1) “Lavatory/Toilet” and “Overtime”
 - 2) “Shower” and “Overtime”
 - 3) “Staff Assist” and “Overtime”
 - d. The associated nurse console shall display the call’s initiating station/room number and (as applicable) bed number/letter with description/word “staff assist” or “emergency” adjacent to room/bed number, with wording slow flashing
 - e. The associated nurse console, staff stations, and duty stations shall increase audible annunciation/tone to 1-second intervals
 - f. The associated staff and duty stations shall flash slowly the call indicator (or URGENT indicator).
 - g. Priority calls shall be canceled by any of the following:
 - 1) Pull-cord emergency stations: pushing activated station’s cancel button
 - 2) Pushbutton-type emergency stations: pressing two “reset” points simultaneously on front panel of activated station; space ‘reset’ points to prevent accidental reset of station and unmarked as to function
 5. The System shall automatically upgrade in priority “Routine”, “Locking”, or “Cord Out” calls if not answered within a preset duration. When an ‘overtime’ condition exists, the following shall occur:
 - a. Call initiating station shall remain in an illuminated mode
 - b. The associated corridor light and zone light shall slowly flash 1 light segment a reset color.
 - c. The associated nurse console, staff stations, and duty stations shall increase audible annunciation/tone to 1-second intervals
 - d. The associated staff and duty stations shall flash slowly the call indicator (or URGENT indicator).
 - e. The associated nurse console shall display and flash the following wording or approved similar for the respective calls:
 - 1) “Overtime” for “Routine” calls
 - 2) “Room stat” for overtime “Locking” calls
 - 3) “Cord stat” for overtime “Cord Out” calls.
 - f. Priority calls shall be canceled by any of the following:
 - 1) Momentarily pressing the ‘reset’ button on the calling station
- I. Call Log: The System shall log call information into the existing System’s database, including the following information:
1. Date and time stamp
 2. Unit

3. Staff
4. Call initiating station's ID / location / room
5. Call type
6. Patient information
7. Duration to answer/cancel

PART 2 - PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Components, parts, accessories, wires/cables, and similar System products shall be listed for their intended purpose and for flammability requirements.
- B. Flush-Mounted Devices
 1. Stations, such as patient stations and emergency call button stations, shall be flush mounted using snap-tight cover plates. Fasteners/screws shall be hidden.
 2. Sub-plates shall be slotted and adjustable for trimming the mounting for "squaring" the vertical and horizontal fit.
- C. Sealed User interface
 1. Stations, such as patient and staff stations, shall feature a bio-seal cover over buttons and other user interfaces – resistant to disinfectant cleaners.

2.02 MANUFACTURING CRITERIA

- A. Equipment shall be manufactured using surface mount technology (SMT) and manufacturing testing shall utilize Automated Test Equipment (ATE) to assure the highest quality production. Specifying authority may request test procedures and/or results of tests on specific equipment being supplied. Manufacturer's testing procedures must be available upon request, including test equipments model number, serial numbers and date of last calibration.

2.03 MANUFACTURER

- A. General
 1. This specification is based on Rauland-Borg's "Responder V" system - the existing nurse call system presently employed within the existing hospital. Provide the latest production release of electronic hardware and software at the time of installation.
 2. The System shall be UL1069 rated and therefore all parts must be furnished and installed according to how the UL rating applies.
- B. Manufacturers
 1. Rauland-Borg Responder V – new system shall have interface/integration to the existing system within the existing hospital.

2.04 TERMINAL CABINET

- A. Terminal cabinets shall be UL listed
- B. Terminal cabinets shall be fabricated of heavy gage cold-rolled steel, shall be fully enclosed, shall have hinged doors, and shall be lockable.
- C. Terminal cabinets shall be suitable for wall mounting – either surface mounted or flush mounted (within a standard framed wall).
- D. Terminal cabinets shall come equipped with two duplex electrical receptacles, NEMA 5-15 type, to serve the power supplies.
- E. Terminal cabinet shall feature multiple knock-outs for conduit connectors.

- F. Manufacturer and Product:
 - 1. Rauland-Borg
 - a. Rauland-Borg #351102 wall mounting terminal cabinet

2.05 POWER SUPPLY

- A. Power supply shall be fully compatible with terminal cabinet.
- B. Power supply shall provide proper voltage and power into System.
- C. Manufacturer and Product:
 - 1. Rauland-Borg
 - a. Rauland-Borg #351003 power supply

2.06 REGIONAL CONTROLLER

- A. Regional controllers shall be fully compatible with terminal cabinet.
- B. Regional Controller features:
 - 1. Supports up to 96 room controllers/corridor lights
 - 2. Up to 16 nurse consoles assignable to each central logic (as indicated) with independent operation for each nurse control station and the ability to tie central logic panels together so master stations can all communicate with each other
 - 3. Non-volatile software and firmware – stores nurse console, staff terminal, corridor light, and station configurations
 - 4. Continuously supervises nurse consoles, staff terminals, corridor lights, and stations
- C. Manufacturer and Product:
 - 1. Rauland-Borg
 - 2. Rauland-Borg #351000 branch regional controller

2.07 NETWORK SWITCH

- A. Network switch shall be fully compatible with terminal cabinet.
- B. Network Switch features:
 - 1. Each port shall be 10/100/1000mbps Ethernet, compliant to IEEE 802.3ab.
 - 2. Each port shall supply Power-over-Ethernet (PoE), compliant to IEEE 802.3af.
- C. Manufacturer and Product:
 - 1. Rauland-Borg
 - a. Rauland-Borg #351004 network switch, 8 ports

2.08 NURSE CONSOLE

- A. Nurse consoles shall operate independently though communicate globally.
- B. Nurse console shall be able to place “CODE” calls while connected to any patient station, staff station, or duty station, and have call indications at all associated stations displayed in exactly the same manner as when “CODE” calls are originated by appropriate stations.
- C. Nurse console shall be able to answer calls not answered by another nurse console in another unit, or to receive calls from a master station that has failed or has been unplugged, or otherwise not receiving the call.
- D. Nurse console shall be able to ‘program’ individual patient station call priorities, swing an individual room or any group of rooms by touching one labeled touch point, and group monitor. Room(s) and consoles may be assigned anywhere within hospital nurse/patient communications network.

- E. Nurse console shall come with an integrated handset and key pad (for dialing), though the console shall also have a 'soft key pad' (on the console screen) for touch-screen dialing.
- F. Nurse console shall have group monitor capabilities either pre-assigned groups of stations (also tying into pre-assigned shifts) or 'programmable' (stations selected by operator)
- G. In areas where paging occurs, nurse console shall interface with paging system to permit local paging from nurse console.
- H. Nurse console shall have password protection, with enable/disable capability.
- I. Nurse console shall be desk or wall-mountable.
- J. Communications and Call Modes
 - 1. Handset and hands-free (via built-in speaker and microphone)
 - 2. Full duplex between nurse console and: patient stations, staff stations, duty stations, wireless communications devices (Ascom)
 - 3. Different tones (adjustable level) with a frequency and repetition rate based upon the highest priority call registered.
 - 4. While monitoring a group of stations, quickly select any station and temporarily mute the others without having to dial that room selectively
 - 5. Optional tone/mute of calls in progress
 - 6. Ability to block all nurse call loudspeaker paging (for a low-noise patient environment)
 - 7. Place calls on 'Hold'
 - 8. Automatic tone muting of routine calls when master station is 'in use'
 - 9. Single-touch tone muting of 'priority', 'emergency', and 'CODE' calls at master station with automatic self-restoration to normal tone mode after cancellation of call
- K. Display
 - 1. Color display
 - 2. Time of day, either 12 or 24 hour (set by user)
- L. Display Content and Control
 - 1. Simultaneously display 5 (minimum) calls from any combination of stations with automatic prioritizing of calls by type and time of call placement – each with an individual elapsed timer; elapsed timer shall track and log the duration from when the call was placed to when the call was answered
 - 2. Call list shall display room number and (as applicable) bed number
 - 3. Call list shall display call type and priority
 - 4. Scroll to see incoming calls
 - 5. Direct selection of calls displayed for answering or automatic answering of calls by priority and age
 - 6. Automatic redisplay and priority upgrade of "overtime" and "service needed" calls
- M. Time Synchronization: Time shall synchronize to hospital standard network time
- N. Power: Nurse console shall be powered via network connection (PoE).
- O. Manufacturer and Product:
 - 1. Rauland-Borg
 - a. Rauland-Borg #351200 "Responder 5" nurse console
 - 2. Or Equal

2.09 STAFF TERMINAL

- A. Staff Terminal station shall be 'programmable' through the System control software to accept and/or produce various call routines, notifications, status conditions, priorities, etc. as described in "System Description".
- B. Staff terminal station shall be a touch screen programmable device.

- C. Staff terminal station shall be able to place “CODE” calls while connected to any patient station, nurse console, or duty station, and have call indications at all associated stations displayed in exactly the same manner as when “CODE” calls are originated by appropriate stations.
- D. Audio Communications:
 - 1. Staff Terminal station shall have an integrated (built-in) speaker and microphone to facilitate for two-way hands-free communication.
 - 2. During calls with the master station (and/or other stations), the staff terminal shall illuminate a "monitor" (or similar) indicator.
- E. Call Management
 - 1. Staff Terminal station shall simultaneously support up to 3 calls, displaying these calls individually,
 - 2. Staff Terminal station shall allow the user control over individual calls (via a touch screen, arrow buttons, or similar).
- F. Staff Terminal station shall have one “Staff Assist” (or similar) soft button.
- G. Staff Terminal station shall have a “Cancel” (or similar) soft button for call cancellation.
- H. Manufacturer and Product:
 - 1. Rauland-Borg
 - a. Rauland-Borg #351300 “Responder 5” staff terminal
 - 2. Or Equal

2.10 ROOM CONTROLLER AND CORRIDOR LIGHTS

- A. Room controllers and corridor lights shall control the System devices within a room.
 - 1. Room controllers occur where visual annunciation is not required and control of devices and interface to the System ‘zone’ (unit) is required
 - 2. Corridor lights occur where visual annunciation is required. The light’s controller shall connect to both the System ‘zone’ (unit) and the wiring to stations within the room. Corridor and zone lights shall include a controller and a cover with integrated lights.
- B. Corridor and zone lights shall be double-sided, allowing for 180-degree horizontal visibility of light. Each side shall include four sections. Each section shall include a lamp and lens.
 - 1. Lamp: Each lamp shall be a long life, RGB LED capable of producing the following 7 colors: Blue, Red, White, Green, Orange, Yellow, and Pink.
 - 2. Lens: Lens shall be diffusion type made of high-impact thermoplastic.
- C. Corridor and zone lights shall be capable of producing colors and patterns per call type as defined during the User Group meetings.
- D. Manufacturer and Product:
 - 1. Rauland-Borg
 - a. Rauland-Borg #352000 room controller + 4-position corridor light
 - b. Rauland-Borg #352020 room controller (no light)
 - 2. Or Equal

2.11 STAFF STATION

- A. Staff station shall be ‘programmable’ through the System control software to accept and/or produce various call routines, notifications, status conditions, priorities, etc. as described in “System Description”.
- B. Audio Communications:
 - 1. Staff station shall have an integrated (built-in) speaker and microphone

- to facilitate for twoway hands-free communication.
 - 2. During calls with the master station (and/or other stations), the staff station shall illuminate a "monitor" (or similar) indicator.
- C. Call Management
 - 1. Staff station shall simultaneously support up to 3 calls, displaying these calls individually,
 - 2. Staff station shall allow the user control over individual calls (via a touch screen, arrow buttons, or similar).
- D. Staff station shall have one "Staff Assist" (or similar) button.
- E. Staff station shall have a "Cancel" (or similar) button for call cancellation.
- F. Manufacturer and Product:
 - 1. Rauland-Borg
 - a. Rauland-Borg #353101 "Responder 5" staff console
 - 2. Or Equal

2.12 DUTY STATION

- A. Duty station shall be 'programmable' through the System control software to accept and/or produce various call routines, notifications, status conditions, priorities, etc. as described in "System Description". Duty station shall include integrated lights for visual annunciation.
- B. Audio Communications:
 - 1. Duty station shall have an integrated (built-in) speaker and microphone to facilitate for twoway hands-free communication.
 - 2. During calls with the master station (and/or other stations), the Duty station shall illuminate a "monitor" (or similar) indicator.
- C. Visual Communications: Duty station shall visually annunciate alarm calls.
- D. Duty station shall have one "Staff Assist" (or similar) button.
- E. Duty station shall have a "Cancel" (or similar) button for call cancellation.
- F. Manufacturer and Product:
 - 1. Rauland-Borg
 - a. Rauland-Borg #353100 "Responder 5" duty station
 - 2. Or Equal

2.13 PATIENT STATION

- A. Patient station shall be 'programmable' through the System control software to accept and/or produce various call routines, notifications, status conditions, priorities, etc. as described in "System Description".
- B. Patient stations shall be of all solid-state construction and containing no mechanical switches, incandescent lamps, or relays.
- C. Patient station shall accept any call cord and/or pillow speaker described elsewhere in this Section.
- D. Audio Communications:
 - 1. Patient station shall have an integrated (built-in) speaker and microphone to facilitate for two-way hands-free communication via the built-in speaker/microphone or the pillow speaker (plugged into the patient station).
 - 2. During calls with the master station (and/or other stations), the patient station shall illuminate a "monitor" (or similar) indicator.
 - 3. Patient station shall have the ability to be placed into a "privacy" mode, where the master station cannot monitor the patient's room without first sounding a distinct pre-announce tone at the patient station. Provide "privacy mode" to be programmable from the nurse master control station. By placing a station in "privacy," all other stations in the same room become "private" to prevent monitoring a "private" station via another station.
- E. Patient station shall have the following controls / buttons / indicators:

1. 1 "CODE" button
 2. 1 "Staff Assist" button
 3. 1 audio monitor indicator (e.g., LED)
 4. 1 "Cancel" (or similar) button to cancel calls at the station
- F. Patient station shall have the following connections:
1. 1 1/4-inch auxiliary jack (for connecting and monitoring of pump/ventilator type alarms)
 2. 1 20-pin connection (for pillow speaker)
- G. Patient station shall generate a "cord out" call when the pillow speaker or other programmed corded device is removed from the station.
- H. Patient station shall have a "Reset" (or similar) button or feature to allow changing of cord-sets and/or pillow speakers without generating a "cord out" call.
- I. Manufacturer and Product:
1. Rauland-Borg
 - a. Rauland-Borg #353001 "Responder 5" enhanced single patient station
 2. Or Equal

2.14 PULL CORD EMERGENCY CALL STATION

- A. Pull cord type emergency call station shall operate in conjunction with/connected to a room controller, patient station, staff station, or duty station of this Section.
- B. Audio Communications:
1. Pull cord station, where indicated, shall have an integrated (built-in) speaker and microphone to facilitate for two-way hands-free communication via a built-in speaker/microphone.
- C. Pull cord emergency call station shall be suitable for deployment in toilet rooms and shower rooms.
- D. Pull cord emergency call station shall be of solid-state construction, incandescent lamps or relays.
- E. Pull cord type emergency call station shall have the following controls / buttons / indicators:
1. 1 pull cord to initiate call
 2. 1 "Call" (or similar) button to initiate call
 3. 1 "CODE" (or similar) button, blue, to initiate CODE call
 4. 1 "Cancel" (or similar) button to cancel calls at the station
 5. 1 call-initiated indicator (e.g., LED)
 6. 1 monitor indicator (e.g., LED) – at audio stations
- F. Manufacturer and Product:
1. Rauland-Borg
 - a. Rauland-Borg #354000 "Responder 5" pull cord station with call button and audio
 - b. Rauland-Borg #354001 "Responder 5" pull cord station
 - c. Rauland-Borg #354002 "Responder 5" pull cord station with call button
 2. Or Equal

2.15 EMERGENCY CALL STATION – STAFF ASSIST AND/OR CODE

- A. Staff Assist/Code emergency call station shall operate in conjunction with/connected to a corridor light (and zone light as applicable)
- B. Staff Assist/Code emergency call station shall initiate the following call/alarm types:
1. CODE Blue
 2. Staff Assist (emergency)
- C. Emergency call station shall have the following controls / buttons / indicators:
1. 1 "CODE" (or similar) button, blue, to initiate CODE Blue call
 2. 1 "Staff Assist" (or similar) button, to initiate staff emergency call
 3. 1 "Cancel" (or similar) button to cancel calls at the station
 4. 1 call-initiated indicator (e.g., LED)

- D. Manufacturer and Product:
 - 1. Rauland-Borg
 - a. Rauland-Borg #354011 "Responder 5" CODE emergency call station
 - b. Rauland-Borg #354012 "Responder 5" Staff Assist call station
 - c. Rauland-Borg #354015 "Responder 5" Staff Assist + CODE emergency call station
 - 2. Or Equal

2.16 CANCEL STATION

- A. Cancel station shall operate in conjunction with other call initiation stations through a room controller, and shall cancel emergency calls placed with the immediate set of stations.
- B. Manufacturer and Product:
 - 1. Rauland-Borg
 - a. Rauland-Borg #354010 "Responder 5" call cancel station
 - 2. Or Equal

2.17 PILLOW SPEAKER

- A. Pillow speakers shall fully function with any standard hospital-grade TV or shall interface with a third-party patient entertainment system or other menu-driven system. TV control shall be a programmed function of the System.
- B. Pillow speakers shall be enclosed in a UL 94V-O rated molded plastic case and shall be biomedically sealed.
- C. Pillow speakers and associated cords shall be electro-static discharge (ESD) shielded for protection of patients and staff.
- D. Pillow speaker shall have the following functions and controls:
 - 1. Speaker/microphone for full duplex communications to master station; speaker also for TV audio
 - 2. 1 "Nurse" (or similar) call button
 - 3. 2, min, additional call buttons (customizable function)
 - 4. TV power (on/off)
 - 5. TV volume control (up/down and mute)
 - 6. TV channel control (up/down)
 - 7. TV channel select keypad (e.g., numbers)
 - 8. TV closed caption control (on/off)
 - 9. Light control for 2 lights
 - 10. Patient entertainment system menu control buttons (control arrows)
- E. When the pillow speaker is plugged into a patient station, the System shall transfer audio communications to the pillow speaker.
- F. Manufacturer and Product:
 - 1. Rauland-Borg
 - a. Rauland-Borg #350202 "Responder" enhanced pillow speaker + patient entertainment system menu control buttons
 - 2. Or Equal

2.18 CALL CORD

- A. Call cord shall consist of switch, cord, and plug.
 - 1. Switch: momentary pushbutton switch in high-impact molded plastic housing
 - 2. Cord: 2 conductor, stranded, with PVC jacket, 10 feet
 - 3. Plug: molded right-angle ¼" plug
- B. Manufacturer and Product:
 - 1. Rauland-Borg

- a. Rauland-Borg #CC200 single call cord set
2. Or Equal

2.19 JACK STATION

- A. Jack station shall come equipped with two standard isolated 1/4" jacks for auxiliary equipment to annunciate alarms generated by the auxiliary equipment.
- B. Manufacturer and Product:
 1. Rauland-Borg
 - a. Rauland-Borg #354018 "Responder" 2 jack station
 - b. Or Equal

2.20 "DIN" STATION

- A. DIN station shall come equipped with one standard 8-pin DIN receptacle for connection to pillow speaker.
- B. Manufacturer and Product:
 1. Rauland-Borg
 - a. Rauland-Borg #350300 "Responder" remote tilt DIN station
 - b. Or Equal

2.21 FEATURE BED CONTROL MODULE

- A. Feature bed control module shall interface between the room system (connection to a room controller) and feature beds to transfer nurse call and patient entertainment system functions..
- B. Manufacturer and Product:
 1. Rauland-Borg
 - a. Rauland-Borg #350302 feature bed control module
 - b. Or Equal

2.22 INPUT MODULE

- A. Input module shall accept dry contact from external system, such as fire alarm or door alarm, for redundant annunciation through System.
- B. Manufacturer and Product:
 1. Rauland-Borg
 - a. Rauland-Borg #354100 2-point input module
 2. Or Equal

2.23 SIGNAL CABLE

- A. Application:
 1. Suitable for indoor installation, within non-plenum spaces in primary and secondary pathways, within overhead cable support.
 2. Suitable for use in listed nurse call system and within System's L-Net, M-Net and D-Net component wiring configurations.

- B. Conductors:
 - 1. Insulated Conductors: 24 AWG solid copper, fully insulated with a flame retardant thermoplastic material (material = PVC, or equivalent).
 - 2. Twisted Pairs: Two insulated conductors "twisted" into a "pair" (twisted pair) with individually color-coded twisted pairs to industry standards (ANSI/ICEA Publication S-80- 576-1994, and EIA-230).
- C. Cable Sheath:
 - 1. Provide unshielded cable with a seamless outer jacket (material = LS-PVC, or equivalent) applied to and completely cover the internal components (twisted pairs).
 - 2. Flame Rating: NEC (Article 800) rated as CMR, and UL listed as such.
 - 3. Electrical Performance: Meet or exceed TIA/EIA-568-B requirements for CAT5E UTP cabling.
- D. Manufacturer and Product:
 - 1. As recommended by device manufacturer.

2.24 POWER CABLE

- A. Application: Suitable for indoor installation, within non-plenum spaces in primary and secondary pathways, within overhead cable support to deliver power to stations components
- B. Conductors:
 - 1. Insulated Conductors: 18 AWG solid (preferred) or stranded copper, fully insulated with a flame retardant thermoplastic material (material = PVC, or equivalent).
 - 2. Twisted Pairs: Two insulated conductors "twisted" into a "pair" (twisted pair)
- C. Cable Sheath:
 - 1. Shielding: none
 - 2. Jacket: seamless PVC, or equivalent, applied to and completely cover the internal components (twisted pairs).
 - 3. Flame Rating: NEC (Article 725) rated as CL2R or (Article 760) rated as FPLR, and UL listed as such.
- D. Manufacturer:
 - 1. Genesis #2114; 1 pair 18 AWG, CL2R
 - 2. West Penn #980; 1 pair 18 AWG, FRLR
 - 3. Or Equal

2.25 SHIELDED PATCH CORD

- A. Application: cord between the telecommunications structured cabling device/outlet and the nurse console.
- B. Cord shall be assembled from a single, continuous length of cordage, homogenous in nature, and terminated at both ends via 8 position shielded modular plugs. Splices are not permitted anywhere.
- C. Cordage
 - 1. Source: Nurse call system integrator to supply shielded patch cable.
 - 2. Insulated Conductors: 23 AWG solid copper, fully insulated with a flame retardant thermoplastic material (such as PVC, or equivalent).
 - 3. Twisted Pairs: Two insulated conductors "twisted" into a

“pair” (twisted pair), and individually color coded.

4. Shielded sheath and flame-retardant polyvinyl chloride (PVC) jacketed.
- D. Flame Rating: NEC CM (or higher) rated, and UL listed as such.

2.26 LABELS

- A. Labels for Wires and Cables
 1. Labels shall be machine-printable via a laser printer, ink jet printer, thermal transfer printer, or hand-held printer
 2. Labels shall be adhesive backed labels and self-laminating feature.
 3. Labels shall fit the cables’ diameters (i.e., shall fully wrap around the cable’s jacket).
 4. Printable Area Size: 1”x1.5”, minimum
 5. Printable Area Color: white
- B. Manufacturer:
 1. Panduit
 - a. #S100X150YA labels for cable diameters 0.16”-0.32”, white, laser or ink jet printer
 2. Or equal

PART 3 - EXECUTION

3.01 SUPERVISION

- A. System shall be installed, maintained and serviced by or under the supervision of manufacturer certified technicians

3.02 IN-SERVICE TRAINING

- A. The System Supplier shall provide thorough training of all nursing staff assigned to those nursing units receiving new nurse/patient communications equipment. This training shall be developed and implemented to address two different types of staff. Floor nurses/staff shall receive training from their perspective, and likewise, unit secretaries (or any person whose specific responsibilities include answering patient calls and dispatching staff) shall receive operational training from their perspective. A separate training room will be set up that allows this type of individualized training utilizing in-service training unit, prior to cut over of the new system.

3.03 ELECTRICAL POWER CONNECTIONS

- A. It shall be the responsibility of the facility to provide a dedicated 120 VAC, 60 HZ conduit feed into the equipment cabinet. This power feed shall not have any other devices connected directly to it. A 20 AMP circuit breaker located in the electrical sub-panel labeled “nurse call” will control this circuit. This electrical circuit will be connected to the facility’s emergency power system for automatic power switch over during loss of utility power.
- B. Connect all network system power supplies and equipment cabinets to a common earth ground utilizing a 14 AWG, or larger, solid conductor which is at minimum the same conductor size as the AC feed wires.

3.04 PROTECTION OF NETWORK DEVICES

- A. Contractor shall protect network devices during unpacking and installation by wearing manufacturer approved ESD wrist straps tied to chassis ground. The wrist strap shall meet OSHA requirements for prevention of electrical shock, should technician come in contact with high voltage.

3.05 CLEANING AND PATCHING

- A. It shall be the responsibility of the System Supplier to keep their work area clear of debris and to clean the area at completion of work each day.
- B. It shall be the responsibility of the contractor to patch and paint any wall or surface that has been disturbed by the execution of this work.

3.06 DRAWINGS

- A. Provide as built drawings of all installed network components and associated wiring on building plans. Final payment for work will not be authorized unless these drawings are supplied.

END OF SECTION