



## **ADDENDUM NO. ONE**

ORANGE BEACH SEWER DEPARTMENT OFFICE BUILDING  
ORANGE BEACH, ALABAMA

ADDENDUM NO. ONE (1) – DATED APRIL 30, 2020

This addendum is directed to the contractor to whom the City of Orange Beach has issued drawings and specifications. The following conditions, drawings, specification changes, etc., take precedence over any conflicting conditions in the drawings and specifications or other contract and bid documents. Portions of the contract documents not changed by addendum remain in effect. The plans, specifications and addendum are complimentary and intended to provide a complete project with the exception of 'NIC' (not in contract). If major discrepancies occur, contact the consultant and qualify the bid. The following changes to the contract documents are to be incorporated into the contract:

### **GENERAL:**

**ITEM 01                      PRE-BID MEETING SIGN-IN SHEET - Please see attached Document**

## **A. INSTRUCTIONS TO BIDDERS AND GENERAL CONDITIONS**

### **1. Builder's Risk Insurance**

- a) Contractor shall provide Builders' Risk Insurance and indicate 100% of the total deductible amount below. All unclaimed deductible amounts will be reimbursed to the Owner at project completion as a deductive change order to the contract. Contractor shall provide evidence from insurer of 100% deductible amount within 48 hours of bid.

### **2. Permits**

- a) City of Orange Beach permit will be required; however, the fee will be waived.

## **B. SPECIFICATIONS:**

### **1. Bid Form, Section 004100 - ATTACHED**

- a) See revised bid form which includes allowance for Builder's Risk Insurance.

### **2. Supplementary Conditions, Section 007300**

- a) Provide for Substantial Completion as November 18, 2020.

### **3. Geotechnical Report, Section 023001**

- a) Geotechnical Report is attached for Section 023001.

**4. Unit Masonry Assemblies, Section 048100**

- a) Delete face brick allowance.

**5. Fluid Applied Weather Barrier System, Section 072726**

- a) Air-Shield SMP is an approved manufacturer.

**6. TPO-Single-Ply Membrane Roofing, Section 075520**

- a) 2.01 - Versico Versiweld is an approved manufacturer.
- b) 2.02 - Provide for 6" of rigid foam insulation.

**7. Flashing and Sheet Metal, Section 076000**

- a) Cap flashing shall be secured with concealed clips and extend 6" on the sidewall (each side). Limit laps to the fullest extent. Laps shall extend 24" minimum from joint and be sealed.

**8. Flush Wood Doors, Section 082110**

- a) Refer to Sheet A2.2 and A2.5: All interior doors shall be stain grade for stain finish. Stain to be selected by architect.

**7. Ceramic Tile, Section 093100**

- a) Delete reference to stair nosing.

**8. Signage, Section 101400**

- a) Delete all references to dimensional letters and numbers.

**9. Electric Hand Dryer, Section 108010**

- a) Saniflow Corp. Electric Hand Dryer, model M17A-UL, is an approved product.

**10. Toilet and Bath Accessories, Section 108010**

- a) Saniflow Corp. Baby Changing station, model CP0016HSC-ASTM, is an approved product.

**11. Projection Screen, Section 115213**

- a) Delete Section 115213. Projector and projector screen equipment to be provided by owner.

**12. Grounding and Bonding for Electrical Systems, Section 260526**

- a) Delete lightning protection.

**B. DRAWINGS:**

**1. Sheet S0.0, S1.0, S2.0, S3.0, S4.0 – ATTACHED**

- a) Please see attached revised structural drawings and note that in addition to other changes indicated, all masonry cells are to be grout-filled.

**2. Sheet C1.0 - ATTACHED**

- a) See revised sheet.

**3. Sheet LS1.0**

- a) Life Safety Plan/Building Code Summary: Note that project does not require sprinkler or fire alarm system.

**4. Sheet A1.1**

- a) In reference to Locker Room No. 114, lockers to be provided by owner.

**5. Sheet A2.0**

- a) Window type: All windows shall be fixed storefront, large missile impact units.  
b) Provide for ceramic tile base in all bathrooms (Rooms 110, 111, 116, 117)

**6. Sheets A3.0 and A3.1**

- a) Contractors shall include prefabricated aluminum column and canopy structure. Note that structural engineered drawings will be required by supplier.

**7. Sheet E1.1**

- a) An existing 400 Amp breaker is located approximately 100 Linear Feet from the NW corner of the proposed building. The breaker is in an outdoor pedestal mounted panelboard.  
b) Conduit shall be run underground, 36" minimum below finished grade.  
c) Data/Tel cable TV conduits: Install conduits to 5' outside of construction limits. Cap, protect and mark conduit locations. Conduits shall be left empty with pull string.  
d) Grinder pump conduit: Conduit shall be (1) 2" conduit.

**8. Sheet E1.2**

- a) Provide two (2) each WAP (see detail on drawing). Provide one (1) in Corridor 107 and one (1) in Corridor 121. Exact location to be determined by Owner.

This addendum forms a part of the Contract Documents and modifies the Construction Documents dated April 2, 2020.



Stedmann B. McCollough  
McCollough Architecture, Inc.

**Attachments:**

- Pre-Bid Meeting Sign-in Sheet
- Revised Bid Form
- Geotechnical Report
- Revised Architectural: Sheet C1.0
- Revised Structural: Sheets S0.0, S1.0, S2.0, S3.0, S4.0

**END OF ADDENDUM #1**

**ORANGE BEACH SEWER DEPARTMENT OFFICE BUILDING  
PRE-BID CONFERENCE SIGN-IN**

Thursday, April 23, 2020  
Orange Beach City Hall, 10:00 AM  
Project No. 20-03

	<b>NAME</b>	<b>COMPANY</b>	<b>PHONE</b>	<b>EMAIL</b>
1.	Adam Holliday	Termac Construction	251-422-1173,	aholladay@termac-construction.com
2.	Andy Hill	Bayou Concrete	251-656-8244	ahill@bayouconcretellc.com
3.	John Ott	M.W. Rogers Construction	251-479-5350	john@mwrogers.net
4.	Kelliagh Spivey	Suncoast Builders	251-943-4344	admin@suncoastbuildersal.net
5.	Wright Cox	Persons Services	251-525-6472	wcox@personsservices.com
6.	Jeff Applelay	D&B Builders, Inc.	850-587-3597	Jeffapplelay1960@gmail.com
7.	Russell Smith	Green Simmons Construction	850-429-0144	russell@green-simmons.com
8.	David Hinote	C. Roberds General Contractors	251-279-0018	David@croberdsgc.com
9.	John Roberts	A&R Construction	205-604-9514	jon@anrgroup.com
10.	Matthew Reed	Reed Hays Construction	251-586-8642	mreed@reedhaysconstruction.com
11.	Ryan Long	Highland Group	251-213-7454	r.long@highlandsgroup.org
12.	Mike Fitzgerald	Fitzgerald Construction	251-550-7720	Fitz@fitzllc.com
13.	Jerry Gordon	Phil Harris Construction	251-968-7128	jerry@harrisconstruction.net
14.	John Jurkiewicz	B.J. Builders	251-943-1112	Office@ejbuilders.com
15.	Mark Rogers	Trip Tek Construction	334-332-2187,	mark@triptekllc.com
16.	Richard Dees	Cunningham Delaney Construction	251-988-1230	richard@cunninghamdelaney.com
17.	Ronnie Johnson	BCM Moring Construction	251-219-6902	rjohnson@bcmmoring.com
18.	Michael Kelly	Empire Builders Group	850-712-1291	estimator@empirebuildersgroup.com



PROPOSAL FORM (REVISED)

TO: **The City of Orange Beach**, Orange Beach, Alabama, hereinafter called the Owner

Date: \_\_\_\_\_

In compliance with the Invitation to Bid and subject to all the conditions thereof, the undersigned

\_\_\_\_\_  
*(Legal Name of Bidder)*

hereby proposes to furnish all labor and materials and perform all work required for the construction of  
WORK: Orange Beach Sewer Department Office Building

in accordance with Drawings and Specifications, dated \_\_\_\_\_, prepared by  
McCollough Architecture, Architect/Engineer.

The Bidder, which is organized and existing under the laws of the State of \_\_\_\_\_,  
having its principal offices in the City of \_\_\_\_\_,  
is: a Corporation a Partnership an individual (other) \_\_\_\_\_.

LISTING OF PARTNERS OR OFFICERS: If Bidder is a Partnership, list all partners and their addresses; if  
Bidder is a Corporation, list the names, titles, and business addresses of its officers:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

BIDDER'S REPRESENTATION: The Bidder declares that it has examined the site of the Work, having become  
fully informed regarding all pertinent conditions, and that it has examined the Drawings and Specifications  
(including all Addenda received) for the Work and the other Bid and Contract Documents relative thereto,  
and that it has satisfied itself relative to the Work to be performed.

ADDENDA: The Bidder acknowledges receipt of Addenda Nos. \_\_\_\_\_ through \_\_\_\_\_ inclusively.

ALLOWANCES: (Allowance No. 1) Contractor shall provide Builders' Risk Insurance and indicate 100% of  
the total deductible amount below. All unclaimed deductible amounts will be reimbursed to the Owner at  
project completion as a deductive change order to the contract. Contractor shall provide evidence from  
insurer of 100% deductible amount within 48 hours of bid.

\_\_\_\_\_  
Dollars (\$ \_\_\_\_\_)

BASE BID: For construction complete as shown and specified, the sum of

\_\_\_\_\_  
Dollars (\$ \_\_\_\_\_)

**TOTAL BID (including BASE BID and ALLOWANCE):** \_\_\_\_\_

\_\_\_\_\_  
Dollars (\$ \_\_\_\_\_)

Attach Section 004102 – Bid Proposal Form Attachment "A" to this Bid Proposal Form.

ALTERNATES: If alternates as set forth in the Bid Documents are accepted, the following adjustments are to be made to the Base Bid: Alternates are further described in Section 01 2300.

BID SECURITY: The undersigned agrees to enter into a Construction Contract and furnish the prescribed Performance and Payment Bonds Alternates and evidence of insurance within fifteen calendar days, or such other period stated in the Bid Documents, after the contract forms have been presented for signature, provided such presentation is made within 30 calendar days after the opening of bids, or such other period stated in the Bid Documents. As security for this condition, the undersigned further agrees that the funds represented by the Bid Bond (or cashier's check) attached hereto may be called and paid into the account of the Awarding Authority as liquidated damages for failure to so comply.

Attached hereto is a: (Mark the appropriate blank and provide the applicable information.)

\_\_\_\_\_ Bid Bond, executed by \_\_\_\_\_ as Surety,  
\_\_\_\_\_ a cashier's check on the \_\_\_\_\_ Bank of \_\_\_\_\_,  
for the sum of \_\_\_\_\_ Dollars  
(\$ \_\_\_\_\_) made payable to the Owner.

**BIDDER'S ALABAMA LICENSE:**

State License for General Contracting: \_\_\_\_\_  
License Number Bid Limit Type(s) of Work

CERTIFICATIONS: The undersigned certifies that he or she is authorized to execute contracts on behalf of the Bidder as legally named, that this proposal is submitted in good faith without fraud or collusion with any other bidder, that the information indicated in this document is true and complete, and that the bid is made in full accord with State law. Notice of acceptance may be sent to the undersigned at the address set forth below.

The Bidder also declares that a list of all proposed major subcontractors and suppliers will be submitted at a time subsequent to the receipt of bids as established by the Architect in the Bid Documents but in no event shall this time exceed twenty-four (24) hours after receipt of bids.

**Legal Name of Bidder** \_\_\_\_\_  
Mailing Address \_\_\_\_\_  
**\* By (Legal Signature)** \_\_\_\_\_  
**\* Name (type or print)** \_\_\_\_\_ (Seal)  
**\* Title** \_\_\_\_\_  
Telephone Number \_\_\_\_\_

\* If other than the individual proprietor, or an above-named member of the Partnership, or the above named president, vice-president, or secretary of the Corporation, attach written authority to bind the Bidder. Any modification to a bid shall be over the initials of the person signing the bid, or of an authorized representative.

- END OF PROPOSAL FORM -



## Report of Geotechnical Exploration

**Proposed New Orange Beach Sewer Department Building**  
3900 William Silver Boulevard  
Orange Beach, Alabama

GeoCon Project No. DL 2165-20

Prepared For:

Mr. Nickolas Klarman  
Via Email

Date: April 14, 2020

Prepared By:  
GeoCon Engineering & Materials Testing, Inc.  
22885 McAuliffe Drive  
Robertsdale, Alabama 36567

# GeoCon

Engineering & Materials Testing, Inc.

April 14, 2020

**Mr. Nickolas Klarman**  
Via Email

**RE: Report of Geotechnical Exploration**  
Proposed New Orange Beach Sewer Department Building  
3900 William Silver Boulevard  
Orange Beach, Alabama  
GeoCon Project No. DL 2165-20

Dear Mr. Klarman:

GeoCon Engineering & Materials Testing, Inc. is pleased to submit this report of geotechnical exploration for the above referenced project. Included in this report is a summary of our understanding of the project, results of the field exploration, and our recommendations for site grading and foundation design. This testing has been performed in general accordance with our signed proposal and our earlier discussions with you.

Enclosed please find our report with evaluations and recommendations followed by an Appendix which includes a Site Location Map, Test Location Plan, graphical logs of the soundings, a Unified Soils Classification Chart, important notes about your Geotechnical Report and the terms and conditions that govern our work.

We appreciate the opportunity to have provided you with our geotechnical engineering services. If you have any questions concerning this report, or if we can be of any further assistance, please contact our office.

Sincerely,

GeoCon, Inc.

  
**Jason J. Christian, P.E.**  
Geotechnical Engineer



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## **1.0 Project Description**

The project subject to this report is the construction of a new Orange Beach Sewer Department building located at 3900 William Silver Boulevard in Orange Beach, Alabama. The location of the site is shown on the attached Site Location Map (Figure 1). During our April 2020 field exploration, the building pad had been rough graded with several feet of sandy fill soils and capped off with crushed aggregate material.

The provided information indicated that the new building will be a single-story CMU structure exhibiting a footprint of about 4,176 square feet with a concrete slab-on-grade floor. We understand the proposed building will be supported on shallow foundations. Structural loading information was not available; however, we anticipate maximum wall loads of less than 2.5 kips per linear foot.

Topographic information was not available at the time of this report; however, existing ground elevations across the proposed new building area appeared to be relatively flat. We anticipate that the finished floor elevation (FFE) of the new building will be within 12 inches of the existing ground surface.

Note: If our understanding of the above project information differs from the actual project plans and specifications or if revisions to the project plans are made after this report, we should be contacted for analysis and comment as needed.

## **2.0 Geotechnical Exploration**

Soil conditions were investigated by performing three (3) Cone Penetration Test (CPT) soundings to depths of about 20 to 22 feet below the existing ground surface in the proposed new building area. The soundings were located at the site by GeoCon engineering personnel who used the provided site plan and existing site features as reference. The general sounding locations are shown on the attached Test Location Plan (Figure 2).

CPT testing was performed in accordance with ASTM D-5778 using a Vertek S4 electronic CPT rig. CPT testing includes pushing an electronic cone on a series of rods into the ground at a constant rate. The electronic cone collects continuous measurements of the resistance to penetration of the cone tip and side friction sleeve. Correlations between Cone Resistance values and Standard Penetration Test (SPT) "N" values were performed using methods developed by Robertson, Campanella and Wightman. The CPT logs attached in the appendix shows the cone tip friction, sleeve friction, pore pressure, correlated "N" value and the soil behavior type (SBT).

At each test sounding location, a manual hand auger boring was also performed to collect soil samples in the upper 4 feet of the soil-profile. Samples from the hand auger borings were visually classified by GeoCon, Inc. personnel, placed in containers and transported to our laboratory for further testing and for further review by our engineering staff. Samples will be retained at our lab for a period of 60 days after the date of this report. If no written instructions are given to GeoCon, we will discard the samples after 60 days.

### **3.0 Soil Conditions Encountered**

The soundings initially penetrated about 4 to 5 inches of crushed aggregate material, followed by about 2 feet of sandy "fill" material. Below the "fill" material, the soundings penetrated sand soils with varying amounts of silt to depths of about 13 feet, followed by silty clay and clay soils with sand layers to sounding termination at depths of about 20 to 22 feet below the existing ground surface.

Correlated N-Values indicated that the sand soils penetrated in the upper 13 feet of the soil profile were generally in a firm to very dense condition. The deeper silty clay and clay soils penetrated below depths of about 13 feet were generally in a very soft to firm condition. The soil conditions encountered are described in more detail on the CPT Sounding Logs attached in the Appendix.

### **4.0 Ground Water Conditions Encountered**

Ground water was encountered at depths of about 6 feet below the existing ground surface at the sounding locations at the time of the field exploration. Ground water conditions are subject to seasonal variations and are expected to fluctuate in response to local variations in precipitation and drainage conditions. Considering the relatively short time frame of the field exploration, ground water levels may not have had sufficient time to stabilize. Therefore, actual depths to ground water may vary. Based on the boring data, we do not anticipate that natural ground water will affect shallow foundation construction.

### **5.0 Site Preparation Recommendations**

#### **5.1 General Site Preparation**

Areas beneath and 5 feet beyond the building footprint should be designated as the "controlled area". The building pad had been rough graded prior to our geotechnical testing. The building pad included about 2 feet of fill soils that consisted of quality sand material and appeared to be in a firm and stable condition. The building pad was capped off with about 4 to 5 inches of crushed aggregate material. The crushed aggregate material could remain in-place provided a substantial amount of fill is not required to establish the final subgrade elevation of the building pad. We recommend that additional crushed aggregate material be used to fine grade the building pad. The intent is for the material on top of the pad to be uniform and not to have a layer of sand above the crushed aggregate. If required, the crushed aggregate material can be removed and utilized in areas outside the building pad.

#### **5.2 Site Drainage**

Positive drainage should be maintained throughout the project construction process. The "controlled areas" should be maintained in a well-drained condition that will promote the continual removal of surface water that may flow over the construction areas. Saturation of subgrade soils can result in substantial time delays in the construction and significant decreases in soil strengths. During construction (both site grading and building), the contractor should exercise caution during inclement weather to ensure the subgrade and



structural fill courses are not degraded by construction traffic. Water should not be allowed to pond against the building during and following construction. Ponding water adjacent to the building foundation can lead to settlement due to deterioration of the foundation bearing soils.

### 5.3 Placement of Structural Fill

Structural fill required to establish final subgrade elevations should include structural fill from an off-site borrow source and should meet the following minimum requirements:

- 1) Exhibit SP or SP-SM soil classification according to the Unified Soil Classification System
- 2) Have a maximum of 10% soil fines passing the No. 200 sieve
- 3) Have a maximum Liquid Limit (LL) of 20%
- 4) Have a Plasticity Index (PI) of 0% (Non-Plastic)
- 5) Have a minimum standard Proctor (ASTM D-698) maximum dry density of 99 pcf

Structural fill should be placed in 8 inch loose lifts and compacted to 98% ASTM D-698 standard compaction at moisture contents within +/- 3% of the material's optimal moisture content. Once the surface of each lift of structural fill is ready for the next lift, the exposed soil should be maintained at the placed moisture content until the next lift of fill is placed. The surface of the lifts should not be exposed to weather, especially drying, for an extended period of time.

### 5.4 Testing Requirements

The geotechnical consultant should monitor and document the results of the topsoil stripping, debris removal, subgrade proof-rolling, correction of weak soil conditions and the conditions of the final subgrades, foundation construction, and floor slab bearing soils.

During fill placement, field density testing should be performed to confirm that the specified compaction criteria is being achieved. We recommend that at least 6 compaction tests be performed for each lift of fill in the building area. Sufficient samples of on-site soils should be collected for Proctor compaction tests to provide the moisture-density relationships needed for compaction control. Sufficient samples of structural fill materials should be submitted by the contractor for classification and Proctor density tests to show substantial compliance with the specifications and to provide the moisture-density relationships needed for compaction control. It is important that proper quality assurance testing be performed during site grading.

A minimum of one field density test should be performed per each 150 linear feet (per each 2 ft. of vertical thickness) of fill placed at utility trenches extending through the "controlled areas". Current OSHA regulations should be followed with respect to excavations for this project. Heavy construction traffic and stockpiling of excavated earth should not be permitted near the top of open unsupported excavations.



## **6.0 Shallow Foundation Recommendations**

Provided the test soundings, the proposed new building can be supported by typical reinforced concrete spread foundations bearing at shallow depths in properly compacted native soils and/or compacted structural fill. Foundations can be designed using a net allowable soil bearing pressure up to 2,000 psf. The allowable soil bearing pressure applies to dead loads plus design live loads. The allowable soil bearing pressure may be increased by one-third when considering total loads that include transient loads such as wind and seismic. Perimeter wall foundations should bear at a minimum depth of 18 inches below finished subgrade levels. The bottom of interior foundations should bear at a minimum depth of 12 inches below the top of the concrete floor slab.

Following foundation excavation, the footing bearing soils should be thoroughly compacted with mechanical compaction equipment prior to placement of reinforcing steel (rebar) and concrete. Footing bearing soils should be compacted to at least 100% standard density. Proper compaction of footing bearing soils is important to help limit excessive foundation settlement.

GeoCon, Inc. should be called to observe and perform compaction testing on the footing excavations prior to the placement of reinforcing steel (rebar) and concrete to determine if the bearing soils are satisfactory for support of the foundations. Excessively loose footing bearing soils will require re-compaction or stabilization as per the recommendations of GeoCon's geotechnical engineer.

We recommend that all footing excavations be extended to final grade and the footings constructed as soon as possible to reduce the potential for disturbance of the bearing soils. The foundation bearing areas should be level or suitably benched and be free of loose soil, ponded water, mud and debris.

Soils exposed in the bottom of all satisfactory excavations should be protected against disturbance, excessive drying, freezing or rain. Surface runoff should be drained away from excavations and not allowed to pond. The saturation of soils at the footing bearing elevation level can reduce their strength and load carrying ability. Foundation concrete should not be placed on soils that have been disturbed by ground water seepage or rain water. If the bearing soils are softened by ground water intrusion or exposure, the softened soils must be removed from the foundation excavation bottoms prior to placement of concrete. Concrete for foundations should be placed as soon after completion of the excavations as possible. If a delay in concrete placement is expected or if exposed to wet weather, a 2 to 3 inch "mud mat" consisting of lean concrete should be placed in the footing excavations to protect the bearing soils.

Lateral and uplift loads can be resisted by passive pressure of the soil acting against the side of the individual footings and/or the friction developed between the base of the footing and the underlying soil. For compacted backfill and firm native soils, the passive pressure may be taken as the equivalent to the pressure exerted by a fluid weighing 350 pounds per cubic foot (pcf). A coefficient of friction equal to 0.32 may be used for calculating the frictional resistance at the base of spread footings. These lateral resistance values are based on the assumption



that the foundations can withstand horizontal movements on the order of ¼ inch. Spread foundation depths can be increased for uplift resistance as required. A soil unit weight of 100 pcf can be used for backfill atop foundations.

Provided foundations bear atop firm compacted in-place fill material, we anticipate that total settlements will be less than about one inch. We anticipate that differential settlements will be less than about ½ inch. The "frost penetration" depth in the area of this project is generally taken to be less than 10 inches. Provided our recommendations for the development of the foundation, floor slab and pavements are followed, we do not expect that the "frost penetration" will have any detrimental effects on the performance of foundations, floor slabs or pavements.

### **7.0 Ground Floor Slabs**

The subgrade soil beneath all ground supported floor slabs should consist of properly compacted structural fill as described in the Grading Section of this report. A plastic vapor barrier should be installed over the subgrade prior to installation of the floor slab. The plastic vapor barrier should be properly lapped and all joints and intrusions properly taped and sealed. Special attention should be given to properly compacting utility trenches in the building area. Utility trenches below the slab area should be compacted to 95% ASTM D-698 standard density.

### **8.0 Closure**

This report has been prepared for the exclusive use of the City of Orange Beach and their project design professionals for specific application to the above referenced project in accordance with generally accepted current standards of geotechnical engineering practice common to the local area.

The comments and recommendations of this report provide manageable and reasonable solutions to the advancement of the project based on the collected test data and the provided design information. Significant changes in site conditions or project design may result in alternative solutions to the design required or may permit more manageable and economical construction techniques. Should such significant changes occur, we will be available to offer supplemental comment.

The comments and recommendations of this report are based upon our interpretation of the information supplied by the client, the data collected at the three (3) CPT soundings and the site conditions observed at the time of testing. A significant amount of interpolation was necessary. Because it is not possible to know or predict detailed conditions hidden beneath the ground surface, our comments and recommendations are presented as opinions and judgements, as opposed to statements of fact.

Improper site preparation, extremes in climatic conditions, significant changes in grade, time, etc., can affect the ground water, surface and subsurface conditions. If conditions are encountered as the construction advances which vary significantly from those described by this report, we should be contacted for additional comment.

We have not intended to reflect specific volumes of subsurface conditions at the site. Volumetric estimates often require a large number of borings placed on a close grid with the collected data associated with civil engineering cross-sections. If volume estimates are required of us for the design/development of this project to advance, please contact us for further comment.

Again, we appreciate the opportunity to provide our geotechnical engineering services for this project. To ensure that our recommendations are correctly interpreted and followed during construction, we recommend that the owner retain GeoCon, Inc. to provide construction observation and construction materials testing for the project.

# **APPENDIX**

- A-1 Site Location Map
- A-2 Test Location Plan
- A-3 Graphical Logs of the Soundings
- A-4 Unified Soil Classification Chart
- A-5 Important Notes About Your Geotechnical Report
- A-6 Terms & Conditions Sheet





Figure 1

NOT TO SCALE

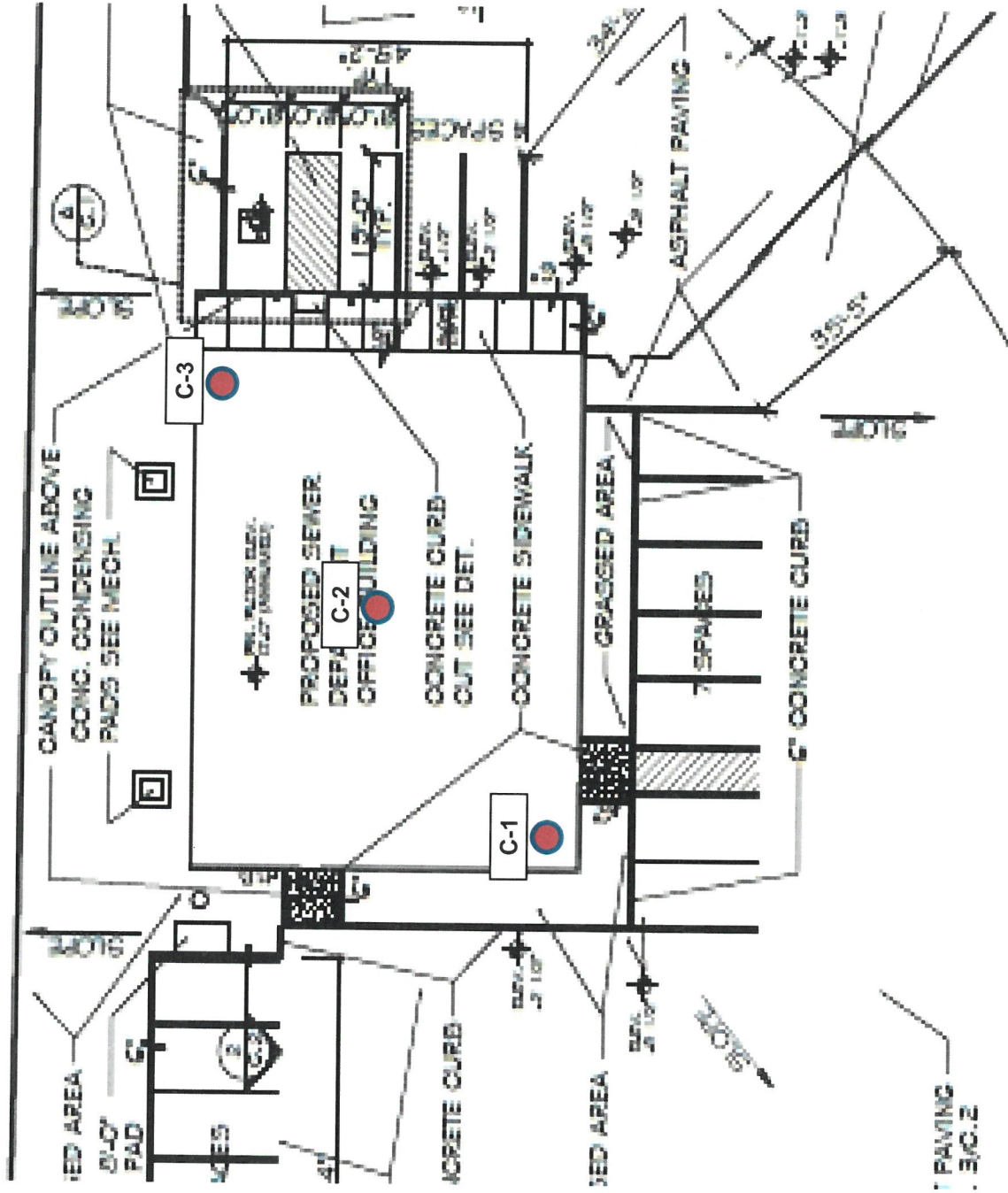
**SITE LOCATION MAP**

Proposed Orange Beach Sewer Department Building  
 3900 William Silver Boulevard  
 Orange Beach, AL  
 DL 2165-20

**GEOCON, INC.**

22885 McAuliffe Drive  
 Robertsdale, Alabama 36567

Date  
 4/8/2020



**GEOCON, INC.**

22885 McAuliffe Drive  
Robertsdale, AL 36567

NOT TO SCALE

**TEST LOCATION PLAN**

Proposed Orange Beach Sewer Department Building  
3900 William Silver Boulevard  
Orange Beach, AL  
DL 2165-20

Figure 2

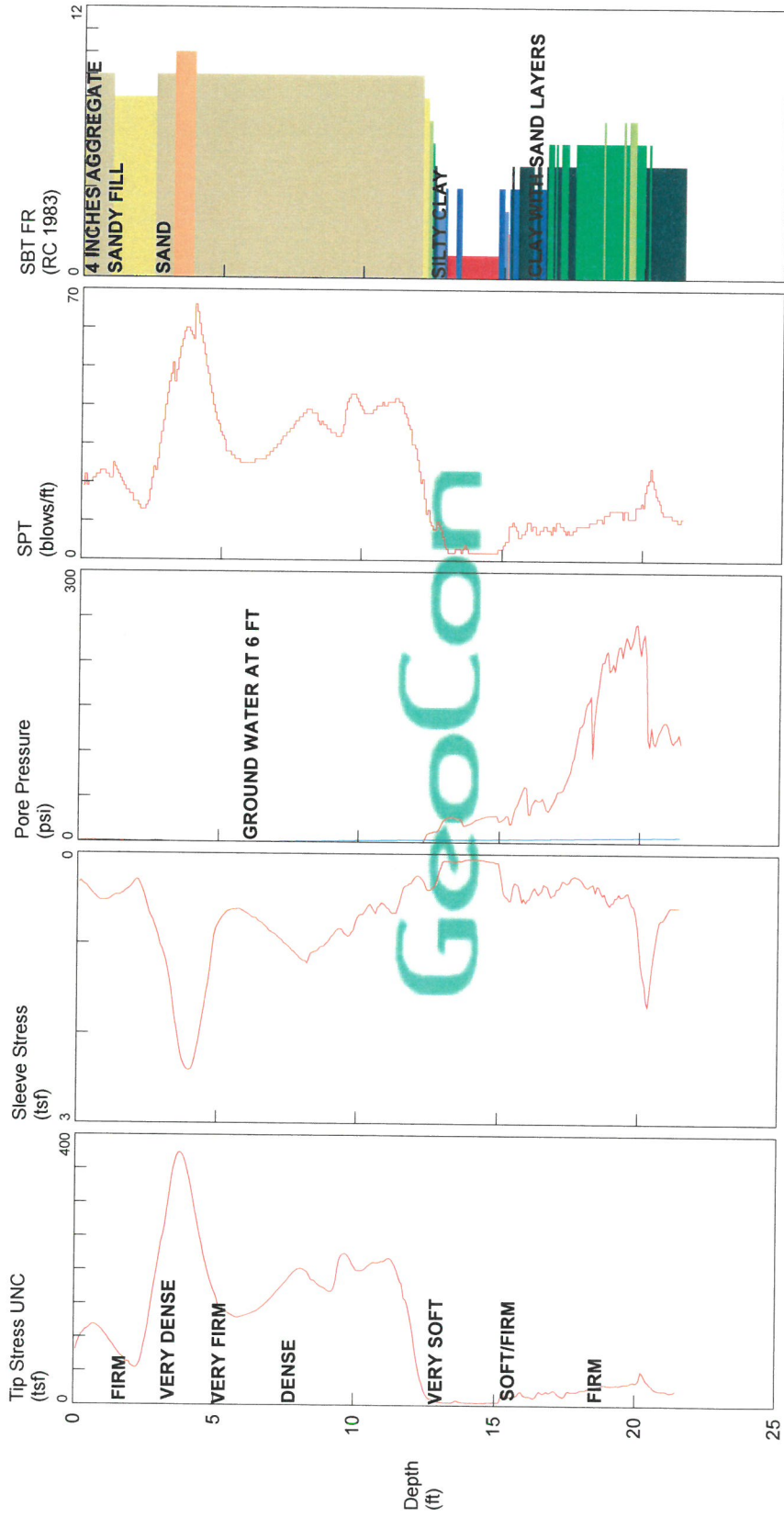
Date  
4/8/2020



# C-1

CPT Testing Done By: GeoCon  
 Proposed : Orange Beach Sewer Department Building  
 CUSTOMER: City of Orange Beach  
 LOCATION: Orange Beach, AL  
 HOLE NUMBER: C-1

JOB NUMBER: DL 2165-20  
 TEST DATE: 4/8/2020  
 OPERATOR: Chris Rea

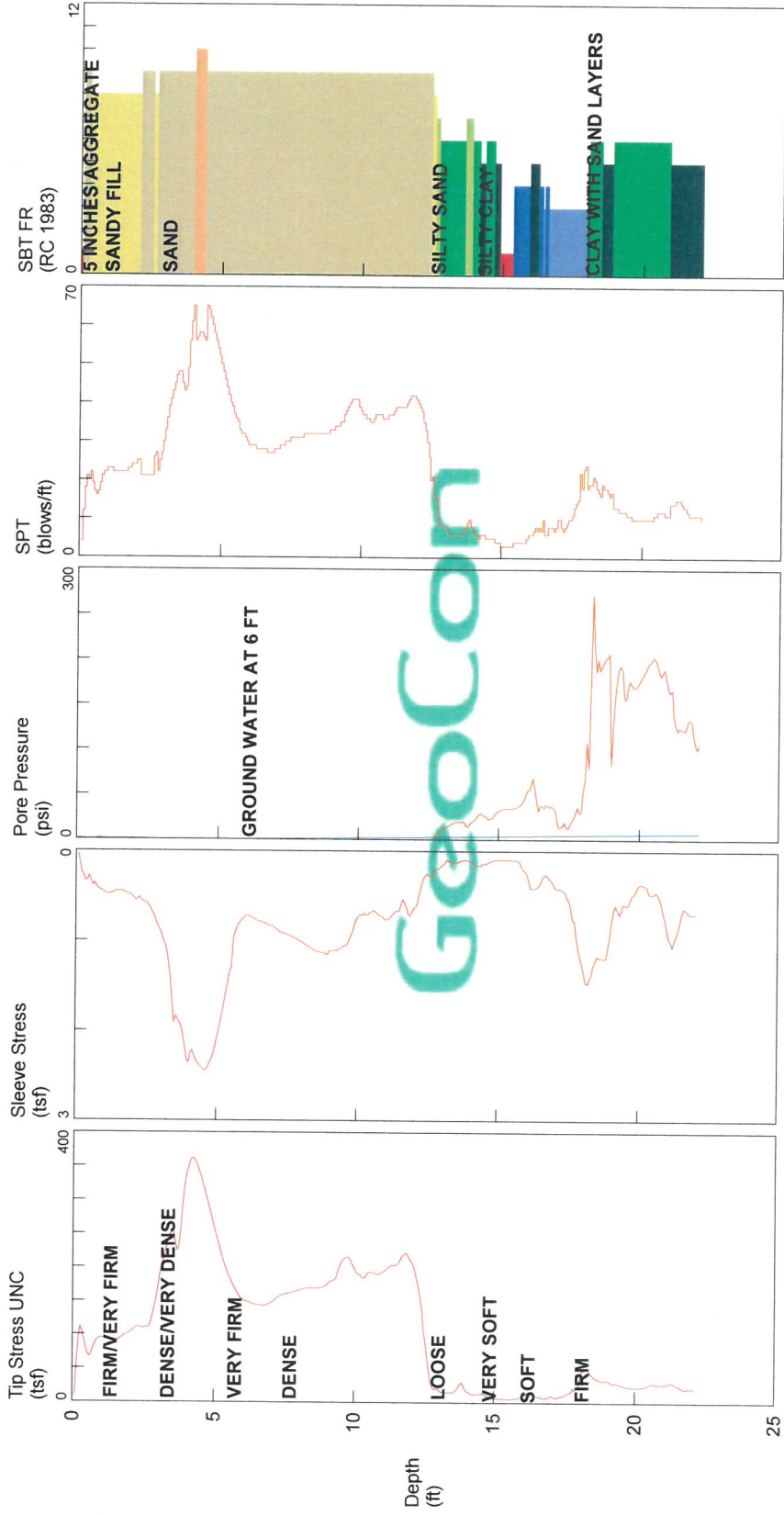


- 1 sensitive fine grained
  - 2 organic material
  - 3 clay
  - 4 silty clay to clay
  - 5 clayey silt to silty clay
  - 6 sandy silt to clayey silt
  - 7 silty sand to sandy silt
  - 8 sand to silty sand
  - 9 sand
  - 10 gravelly sand to sand
  - 11 very stiff fine grained (\*)
  - 12 sand to clayey sand (\*)
- \*SBT/SPT CORRELATION: UBC-1983

# C-2

CPT Testing Done By: GeoCon  
 Proposed : Orange Beach Sewer Department Building  
 CUSTOMER: City of Orange Beach  
 LOCATION: Orange Beach, AL  
 HOLE NUMBER: C-2

JOB NUMBER: DL 2165-20  
 TEST DATE: 4/8/2020  
 OPERATOR: Chris Rea



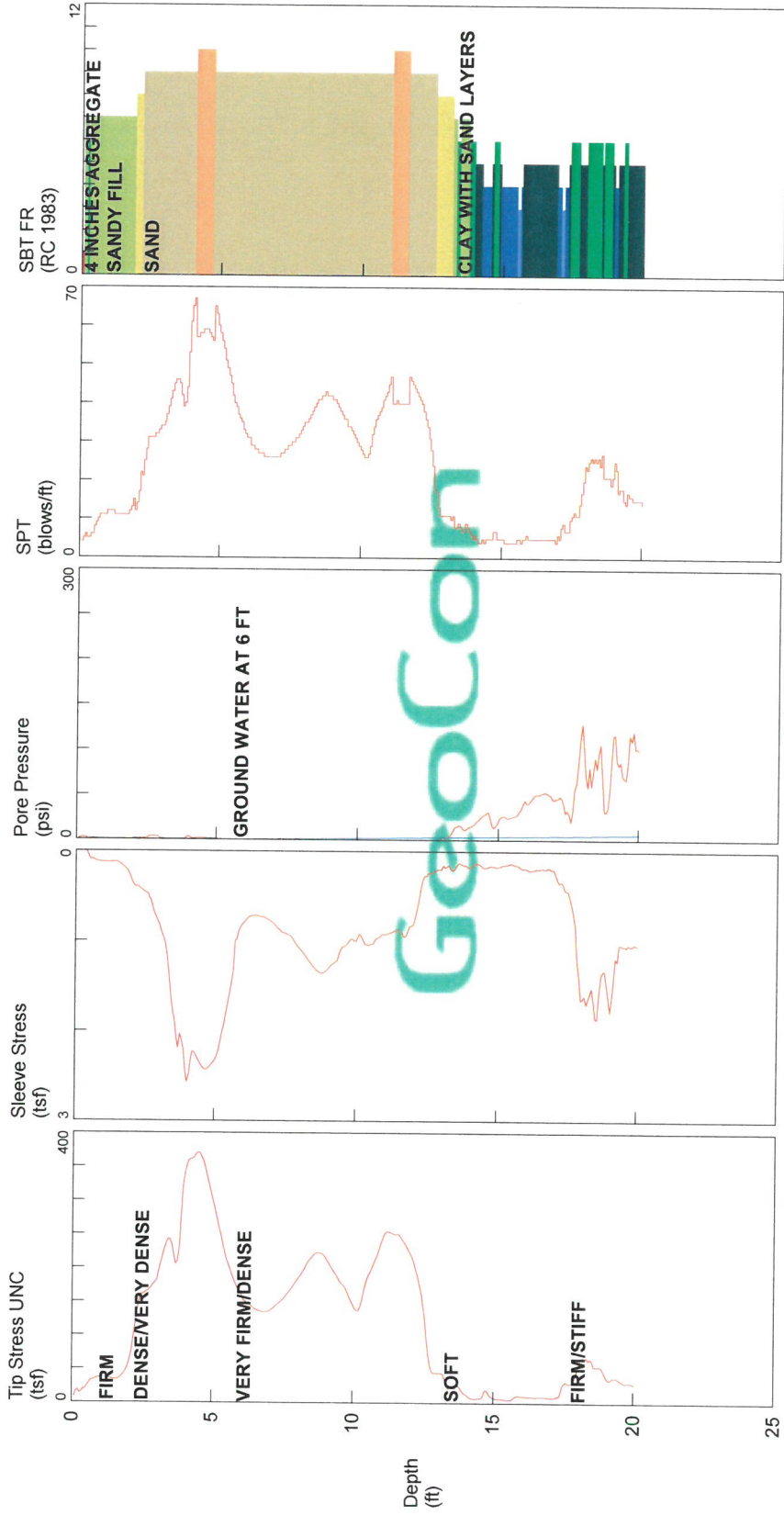
- 1 sensitive fine grained
  - 2 organic material
  - 3 clay
  - 4 silty clay to clay
  - 5 clayey silt to silty clay
  - 6 sandy silt to clayey silt
  - 7 silty sand to sandy silt
  - 8 sand to silty sand
  - 9 sand
  - 10 gravelly sand to sand
  - 11 very stiff fine grained (\*)
  - 12 sand to clayey sand (\*)
- \*SBT/SPT CORRELATION: UBC-1983



# C-3

CPT Testing Done By: GeoCon  
 Proposed : Orange Beach Sewer Department Building  
 CUSTOMER: City of Orange Beach  
 LOCATION: Orange Beach, AL  
 HOLE NUMBER: C-3

JOB NUMBER: DL 2165-20  
 TEST DATE: 4/8/2020  
 OPERATOR: Chris Rea



- 1 sensitive fine grained
  - 2 organic material
  - 3 clay
  - 4 silty clay to clay
  - 5 clayey silt to silty clay
  - 6 sandy silt to clayey silt
  - 7 silty sand to sandy silt
  - 8 sand to silty sand
  - 9 sand
  - 10 gravelly sand to sand
  - 11 very stiff fine grained (\*)
  - 12 sand to clayey sand (\*)
- \*SBT/SPT CORRELATION: UBC-1983

# Important Information about Your Geotechnical Engineering Report

*Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.*

*While you cannot eliminate all such risks, you can manage them. The following information is provided to help.*

## **Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects**

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply the report for any purpose or project except the one originally contemplated.*

## **Read the Full Report**

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

## **A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors**

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

## **Subsurface Conditions Can Change**

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

## **Most Geotechnical Findings Are Professional Opinions**

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

## **A Report's Recommendations Are *Not* Final**

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual



subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

### **A Geotechnical Engineering Report Is Subject to Misinterpretation**

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

### **Do Not Redraw the Engineer's Logs**

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

### **Give Contractors a Complete Report and Guidance**

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time to perform additional study.* Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

### **Read Responsibility Provisions Closely**

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that

have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

### **Geoenvironmental Concerns Are Not Covered**

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

### **Obtain Professional Assistance To Deal with Mold**

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

### **Rely on Your ASFE-Member Geotechnical Engineer for Additional Assistance**

Membership in ASFE/THE BEST PEOPLE ON EARTH exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.

## **ASFE THE GEOPROFESSIONAL BUSINESS ASSOCIATION**

8811 Colesville Road/Suite G106, Silver Spring, MD 20910  
Telephone: 301/565-2733 Facsimile: 301/589-2017  
e-mail: info@asfe.org www.asfe.org

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## TERMS AND CONDITIONS

**SERVICES TO BE PROVIDED.** GeoCon Engineering & Material Testing, Inc. (hereinafter GeoCon) is an independent consultant and agrees to provide Client, for its sole benefit and exclusive use, consulting services set forth in our proposal.

**PAYMENT TERMS.** Client agrees to pay our Invoice upon receipt. If payment is not received within 30 days from the invoice date, Client agrees to pay a service charge on the past due amount at a rate of 1.5% per month, and GeoCon reserves the right to suspend all work until payment is received. No deduction shall be made from our invoice on account of liquidated damages or other sums withheld from payments to contractors or others.

**TERMINATION.** Either party may terminate this Agreement without cause upon 20 days advance notice in writing. In the event Client requests termination prior to completion of the proposed services, Client agrees to pay GeoCon for all costs incurred plus reasonable charges associated with termination of the work.

**PROFESSIONAL LIABILITY.** Notwithstanding any other provision of this Agreement, the Engineer's and GeoCon's total liability to the Owner for any loss or damages from claims arising out of or in connection with this Agreement from any cause including the Engineer's strict liability, breach of contract, or professional negligence, errors and omissions (whether claimed in tort, contract, strict liability, nuisance, by statute or otherwise) shall not exceed the lesser of the total contract price of this Agreement or the proceeds paid under Engineer's liability insurance in effect at the time such claims are made. The Owner hereby releases the Engineer from any liability exceeding such amount. In no event shall either party to this Agreement be liable to the other for special, indirect, incidental or consequential damages, whether or not such damages were foreseeable at the time of the commencement of the work under this Agreement.

**SITE OPERATIONS.** Client will arrange for right-of-entry to all applicable properties for the purpose of performing studies, tests and evaluations pursuant to the agreed services. Client represents that it possesses necessary permits and licenses required for its activities at the site.

**OWNERSHIP AND USE OF PROJECT DOCUMENTS.** All documents are instruments of service in respect to the Services, and Engineer shall retain an ownership and proprietary property interest therein (including the right of reuse at the discretion of the Engineer) whether or not the Services are completed. Client may make and retain copies of documents for information and reference in connection with the services by Client. Such documents are not intended or represented to be suitable for reuse by Client or others on extensions of the services or on any other project. Any such reuse or modification without written verification or adaptation by Engineer, as appropriate for the specific purpose intended, will be at Client's sole risk and without liability or legal exposure to Engineer or to Engineer's consultants. Client shall indemnify and hold harmless Engineer and Engineer's consultants from all claims, damages, and expenses including attorneys' fees arising out of or resulting therefrom.

**ADDITIONAL SERVICES OF CONSULTANT.** If authorized in writing by the Client, GeoCon shall furnish additional services that are not considered as an integral part of the Scope of Services outlined in the Proposal Acceptance Sheet. Under this Agreement, all costs for additional services will be negotiated as to activities and compensation. In addition, it is possible that unforeseen conditions may be encountered that could substantially alter the original scope of services. If this occurs, GeoCon will promptly notify and consult with Client and any additional services will be negotiated.

**ASSIGNABILITY.** GeoCon shall not assign any interest on this Agreement, and shall not transfer any interest in the same (whether by assignment or novation), without the prior written consent of the Client; provided, however, that claims for money by GeoCon against Client under this Agreement may be assigned to a bank, trust company, or other financial institution without such approval. Written notice of any such assignment or transfer shall be promptly furnished to the Client.

**SERVICES TO BE CONFIDENTIAL.** All services, including opinions, designs, drawings, plans, specifications, reports and other services and information, to be furnished by GeoCon under this Agreement are confidential and shall not be divulged, in whole or in part, to any person, other than to duly authorized representatives of the client, without prior written approval of the Client, except by testimony under oath in a judicial proceeding or as otherwise required by law. GeoCon shall take all necessary steps to ensure that no member of its organization divulges any such information except as may be required by law.

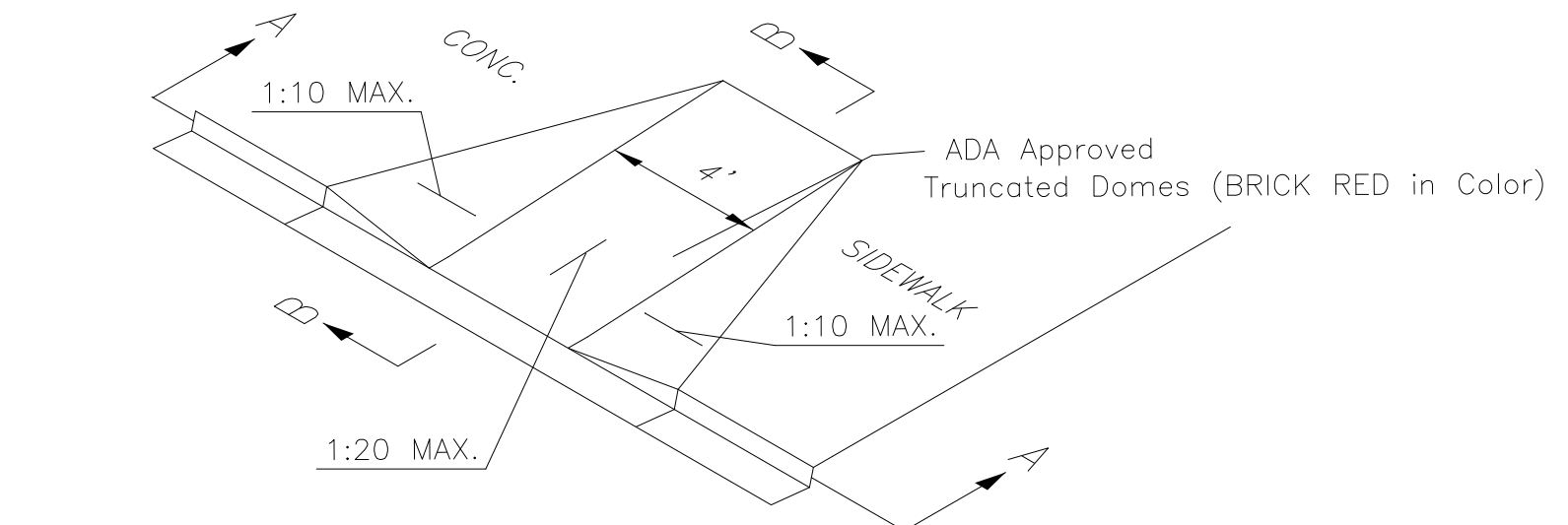
**CLAIMS.** The parties agree to attempt to resolve any dispute without resort to litigation. However, in the event a claim is made that results in litigation, and the claimant does not prevail at trial, then the claimant shall pay all costs incurred in defending the claim, including reasonable attorney's fees. The claim will be considered proven if the judgment obtained and retained through any applicable appeal is at least ten percent greater than the sum offered to resolve the matter prior to the commencement of trial.

**SEVERABILITY.** It is understood and agreed by the parties hereto, that if any part, term or provision of this Agreement is held by any court of competent jurisdiction to be illegal or in conflict with any applicable law, the validity of the remaining portion or portions of this Agreement shall not be affected and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term or provision held to be invalid.

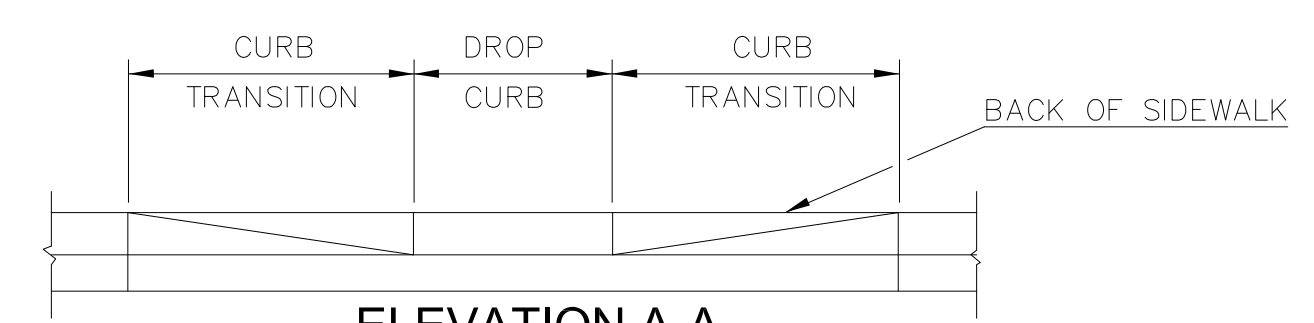
**SURVIVAL.** All obligations arising prior to the termination of this Agreement and all provisions of this Agreement allocating responsibility or liability between Client and GEOCON shall survive the completion of the services and the termination of this Agreement.

**INTEGRATION.** This Agreement, the attached documents and those incorporated herein constitute the entire Agreement between the parties and cannot be changed except by a written instrument signed by both parties.

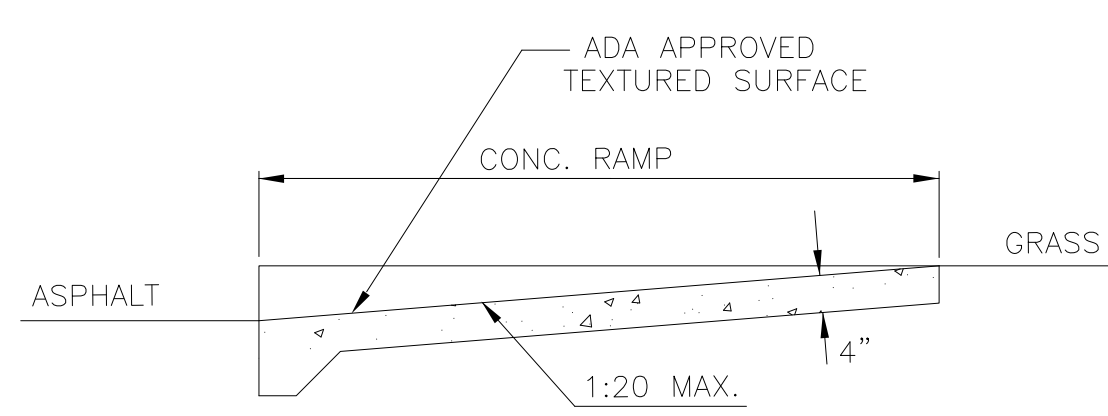
**GOVERNING LAW.** This Agreement shall be governed in all respects by the laws of the State of Alabama and venue shall be in Baldwin County, Alabama.



ISOMETRIC VIEW



ELEVATION A-A



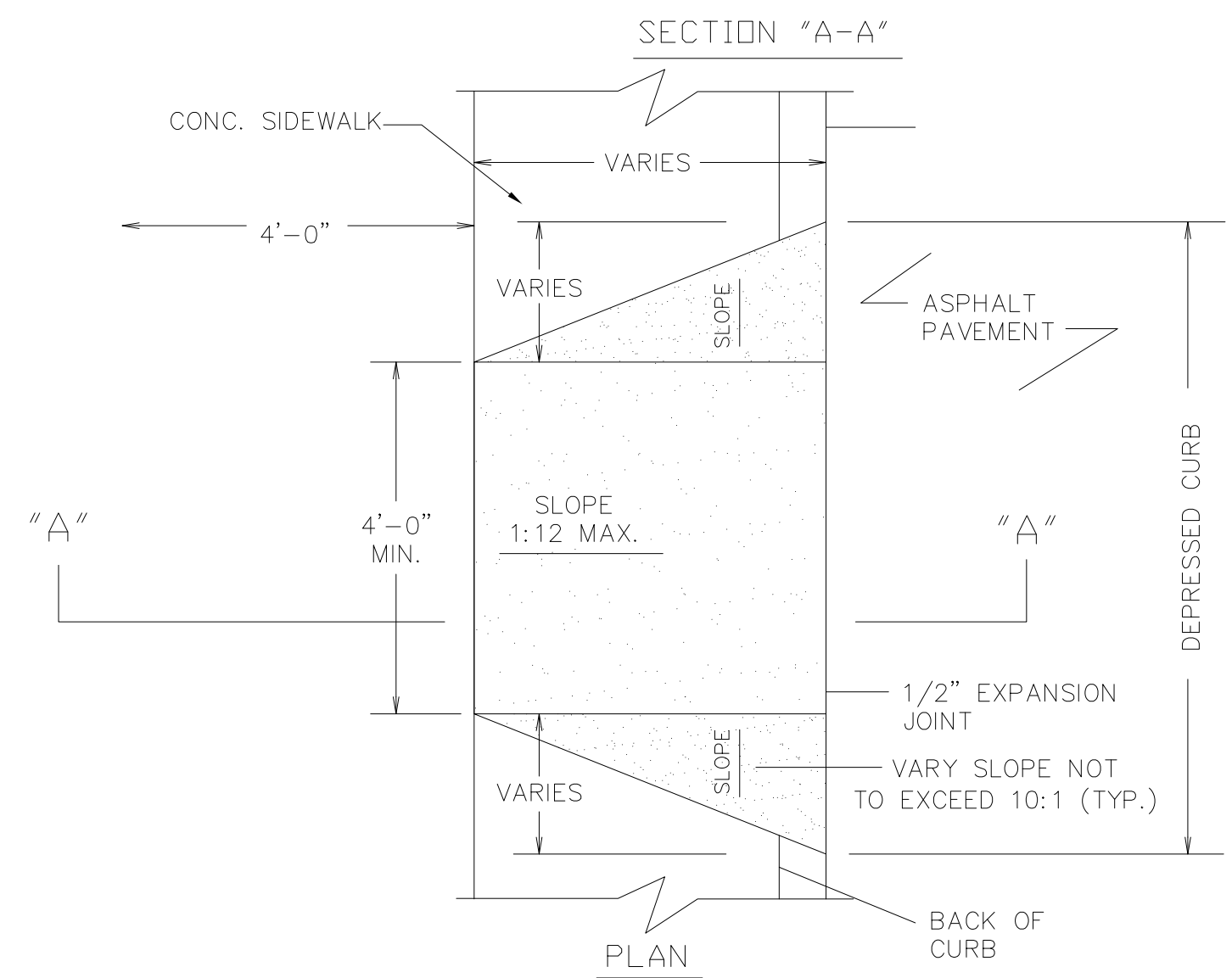
SECTION B-B

**SIDEWALK HANDICAP RAMP**

N.T.S.

**NOTES:**

1. RAMPS ARE DESIGNED TO THE UNIFORM FEDERAL ACCESSIBILITY STANDARDS TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT.
2. RAMPS SHALL HAVE A TACTILE SURFACE, TEXTURED TO A DEPTH NOT EXCEEDING 1/8" BY USE OF TAMP OR ROLLER.



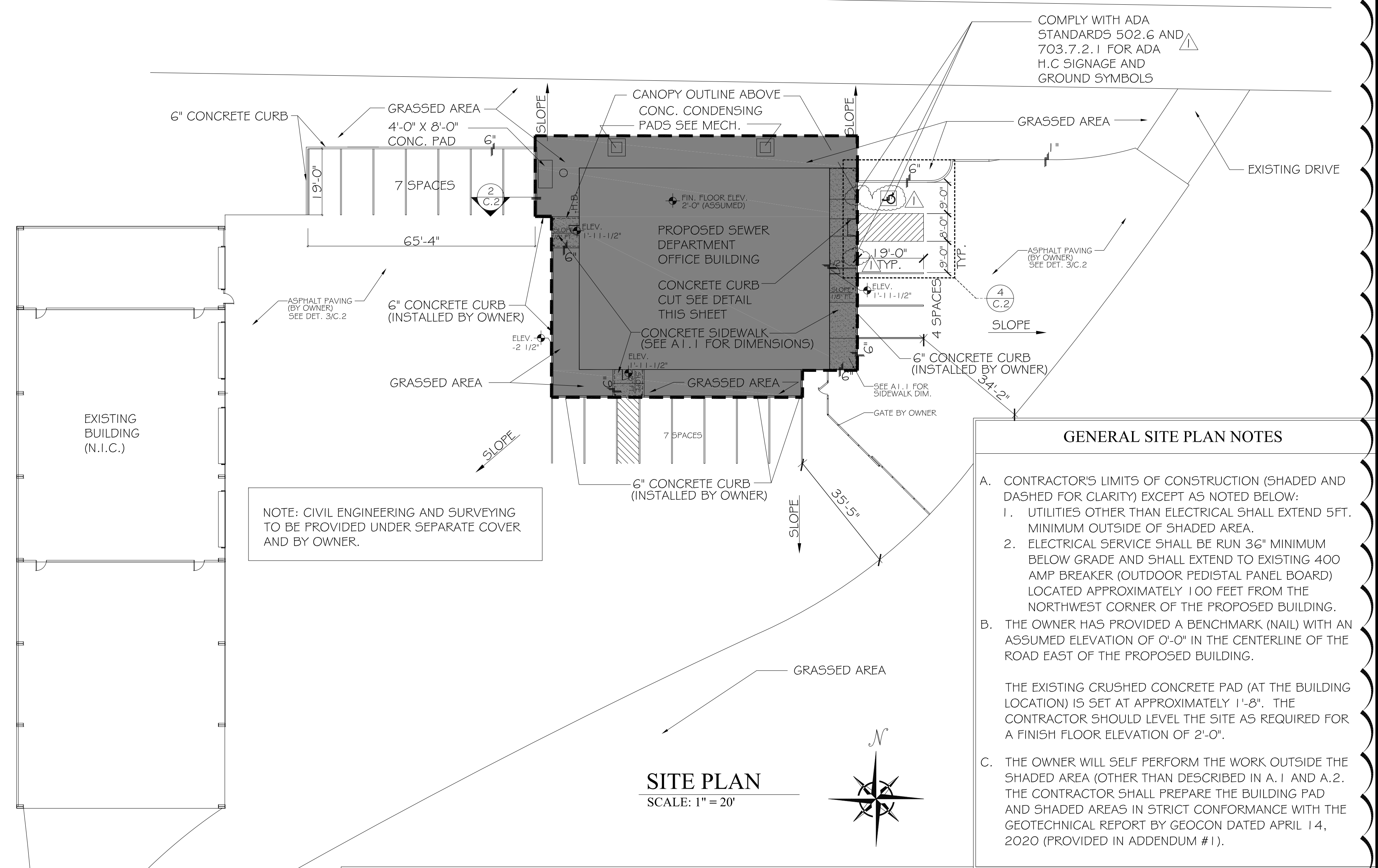
**HANDICAPPED WHEELCHAIR RAMP DETAILS**

N.T.S.

**NOTES:**

1. RAMPS ARE DESIGNED TO THE UNIFORM FEDERAL ACCESSIBILITY STANDARDS TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT.
2. RAMPS SHALL HAVE A TACTILE SURFACE, TEXTURED TO A DEPTH NOT EXCEEDING 1/8" BY USE OF TAMP OR ROLLER.
3. SEE A.D.O.T. SPECIAL DRAWING NO. SW-618 FOR FUTHER DETAILS.

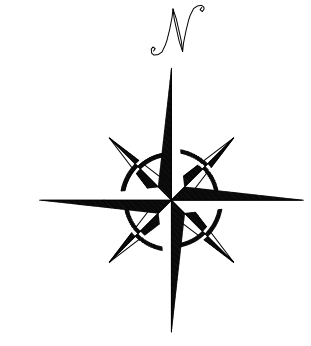
**A** **DETAIL**  
C.1 N.T.S.



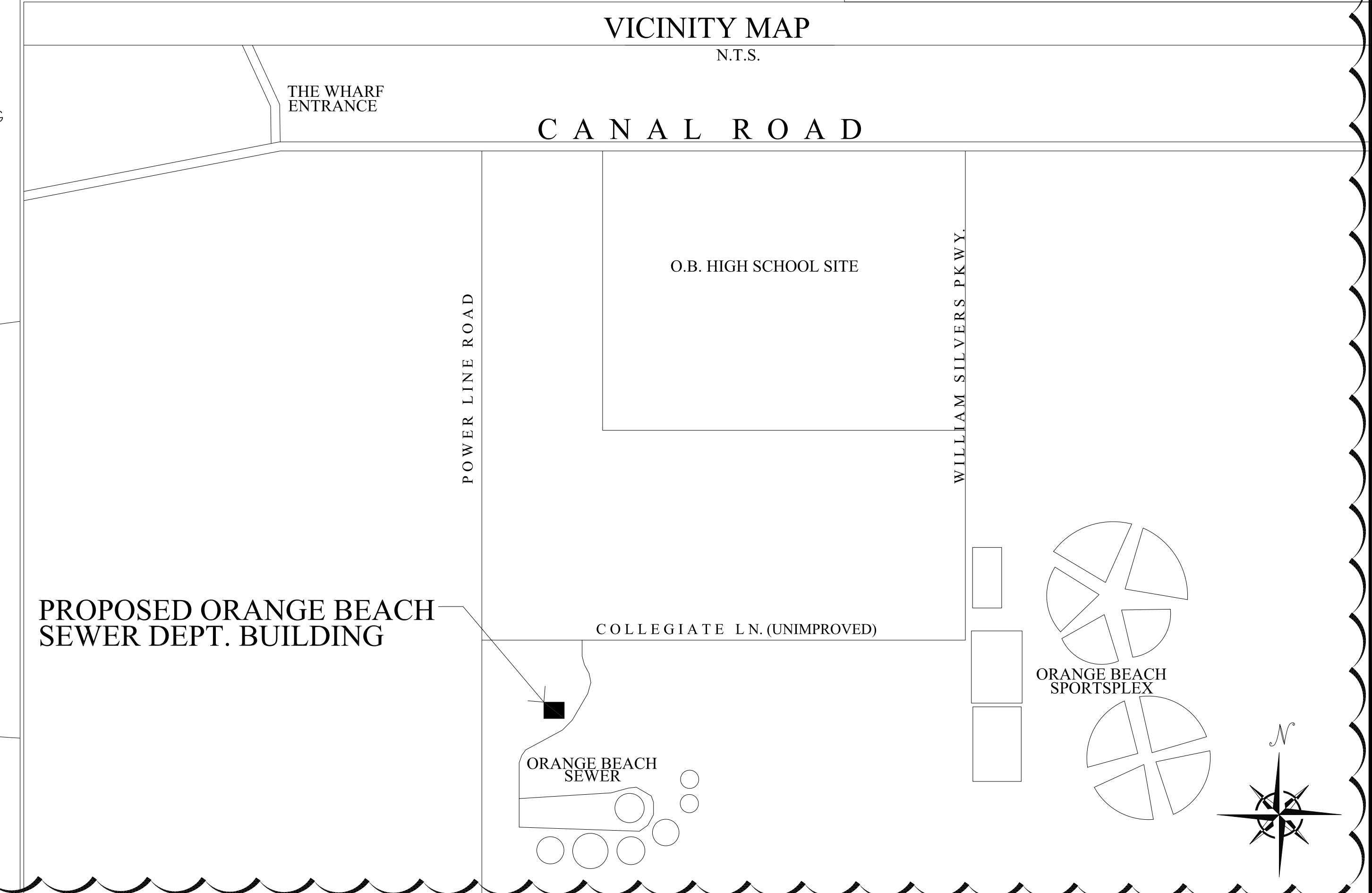
**GENERAL SITE PLAN NOTES**

- A. CONTRACTOR'S LIMITS OF CONSTRUCTION (SHADED AND DASHED FOR CLARITY) EXCEPT AS NOTED BELOW:
    1. UTILITIES OTHER THAN ELECTRICAL SHALL EXTEND 5FT. MINIMUM OUTSIDE OF SHADED AREA.
    2. ELECTRICAL SERVICE SHALL BE RUN 36" MINIMUM BELOW GRADE AND SHALL EXTEND TO EXISTING 400 AMP BREAKER (OUTDOOR PEDISTAL PANEL BOARD) LOCATED APPROXIMATELY 100 FEET FROM THE NORTHWEST CORNER OF THE PROPOSED BUILDING.
  - B. THE OWNER HAS PROVIDED A BENCHMARK (NAIL) WITH AN ASSUMED ELEVATION OF 0'-0" IN THE CENTERLINE OF THE ROAD EAST OF THE PROPOSED BUILDING.
- THE EXISTING CRUSHED CONCRETE PAD (AT THE BUILDING LOCATION) IS SET AT APPROXIMATELY 1'-8". THE CONTRACTOR SHOULD LEVEL THE SITE AS REQUIRED FOR A FINISH FLOOR ELEVATION OF 2'-0".
- C. THE OWNER WILL SELF PERFORM THE WORK OUTSIDE THE SHADED AREA (OTHER THAN DESCRIBED IN A.1 AND A.2). THE CONTRACTOR SHALL PREPARE THE BUILDING PAD AND SHADED AREAS IN STRICT CONFORMANCE WITH THE GEOTECHNICAL REPORT BY GEOCON DATED APRIL 14, 2020 (PROVIDED IN ADDENDUM #1).

**SITE PLAN**  
SCALE: 1" = 20'



**VICINITY MAP**  
N.T.S.



**McCullough**  
**ARCHITECTURE, INC.**  
P.O. BOX 6310  
GULF SHORES, ALABAMA  
36547-6310  
PHONE: 251-968-7222

**A NEW BUILDING**  
**FOR**  
**ORANGE BEACH SEWER DEPT.**  
 ORANGE BEACH  
 ALABAMA

**JOB NO.:**  
**DRAWN:** JAG  
**CHECKED:** SBM  
**DATE:** 2019.07.23  
**REVISION:**  
 ▲ 2019.12.18 STATE REVIEW COMMENTS  
 ▲ ADDENDUM #1  
**SCALE:** 1" = 20'  
**SHEET NO.:**  
**C1.0**  
 SITE PLAN



**GENERAL NOTES:**

**DISCLAIMER**

1. THE FOLLOWING SPECIFICATIONS ARE AN OUTLINE OF MINIMUM MATERIAL REQUIREMENTS AND THEIR APPLICATION. MANUFACTURER SPECIFICATION AND LOCAL CODE REQUIREMENTS, WHEN IN EXCESS OF MINIMUM SPECIFICATION, SHALL CONTROL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW AND SUBMIT ALL SHOP DRAWINGS AND REPORT ALL DOCUMENT DISCREPANCIES TO THE STRUCTURAL ENGINEER PRIOR TO FABRICATION OR ERECTION.
2. AT CONSTRUCTION ISSUE, THESE DRAWING REPRESENT STRUCTURAL COMPONENTS IN THEIR FINAL AND FINISHED STATE. CONSTRUCTION PROCEDURES, BRACING METHODS, SAFETY PRECAUTIONS OR MECHANICAL REQUIREMENTS USED TO ERECT THEM ARE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR OR SUBCONTRACTOR PERFORMING THE WORK.

**BUILDING DESIGN CRITERIA:**

**A. CODES**

2018 INTERNATIONAL BUILDING CODE  
 2017 COASTAL CONSTRUCTION SUPPLEMENT  
 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)  
 BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES (ACI 531)  
 ASCE 7-16

**B. DESIGN LOADS**

ROOF DEAD LOAD 50 PSF  
 ROOF LIVE LOAD 100 PSF - REDUCIBLE

**C. WIND LOADS PER 2018 IBC & ASCE 7-16**

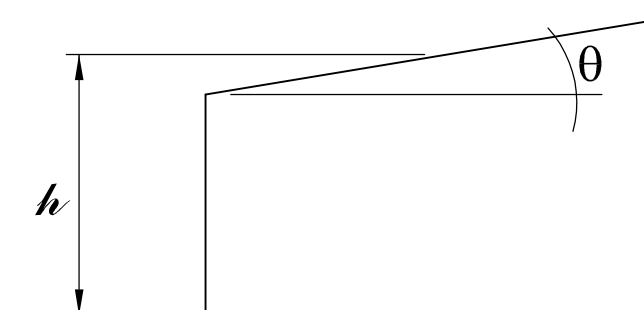
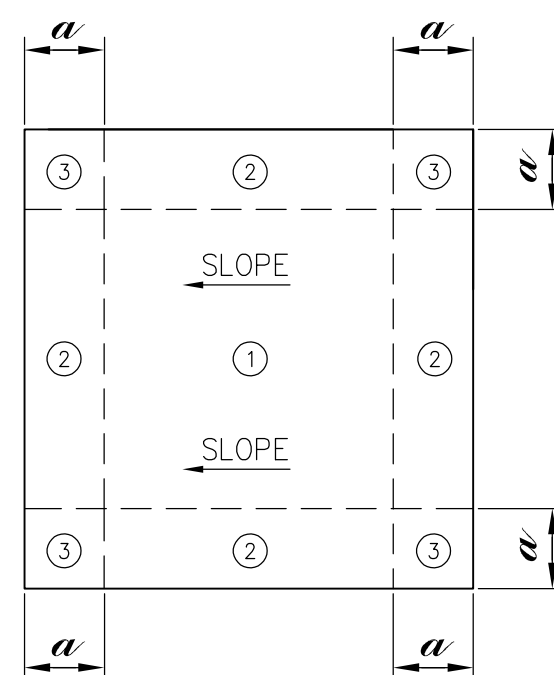
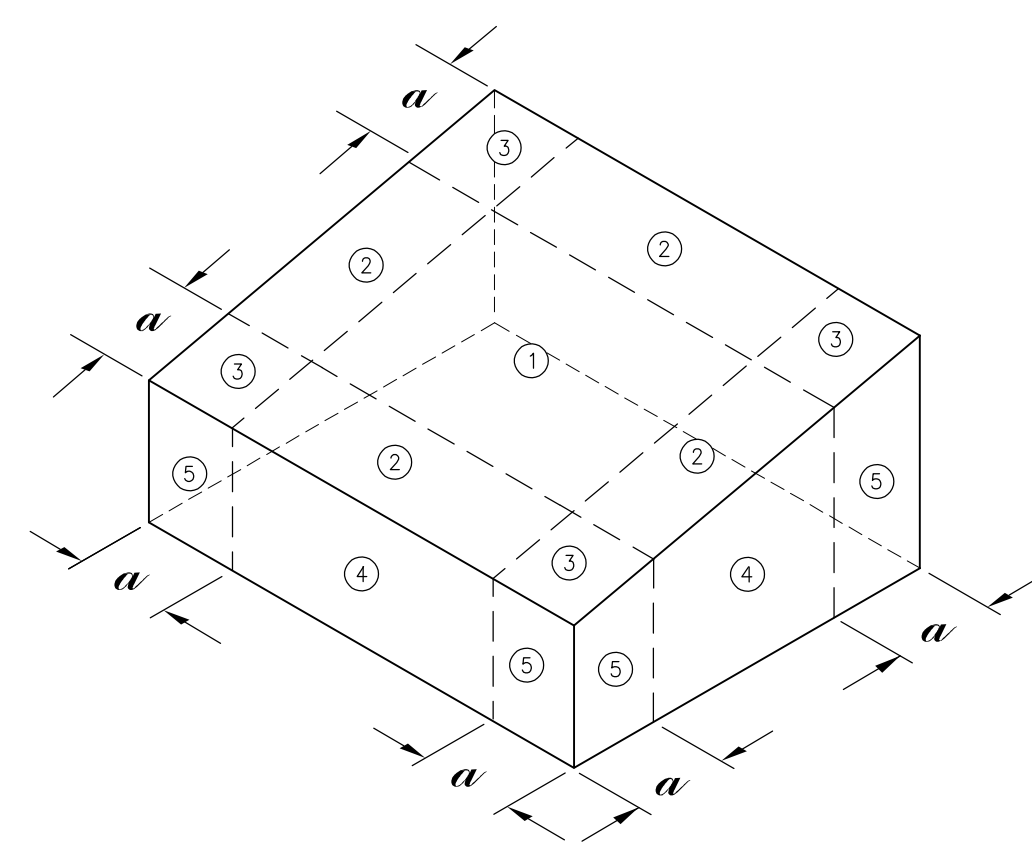
RISK CATEGORY III  
 ULTIMATE DESIGN WIND SPEED,  $V_{ult} = 170$  MPH ♦  
 NOMINAL DESIGN WIND SPEED,  $V_{nsd} = 132$  MPH \*  
 EXPOSURE CATEGORY = C  
 MEAN ROOF HEIGHT,  $h < 15$  FT  
 ADJUSTMENT FACTOR FOR HEIGHT AND EXPOSURE,  $K = 1.19$   
 TOPOGRAPHIC FACTOR,  $K_{zt} = 1.00$   
 $\alpha = \pm 5.8$  FEET  
 ROOF PITCH = 1.25/12  
 ROOF SLOPE,  $\theta = 5.95^\circ$

COMPONENTS AND CLADDING ASD DESIGN PRESSURES (PSF)\*\*  
 REFERENCE: CHAPTER 30 OF ASCE 7-16

ZONE	TRIB. AREA	COMPONENT PRESSURE		
		POSITIVE (+)	NEGATIVE (-)	
ROOF	1	10	+15.5	-38.0
		20	+14.5	-37.0
		50	+13.2	-35.7
	2	10	+12.2	-34.7
		20	+11.5	-33.7
		50	+10.2	-32.4
	3	10	+11.5	-33.7
		20	+10.5	-32.5
		50	+9.2	-31.2
	4	10	+12.2	-34.7
		20	+11.5	-33.7
		50	+10.2	-32.4
WALL	5	10	+38.0	-41.2
		20	+36.2	-39.5
		50	+34.0	-37.2
	5	10	+32.3	-35.5
		20	+30.0	-33.8
		50	+28.0	-32.4

REFERENCE FIGURES BELOW:

DESIGN ALL WINDOWS AND DOORS AS IMPACT RESISTANT FOR PRESSURE ABOVE



**DESIGN WIND LOAD NOTES:**

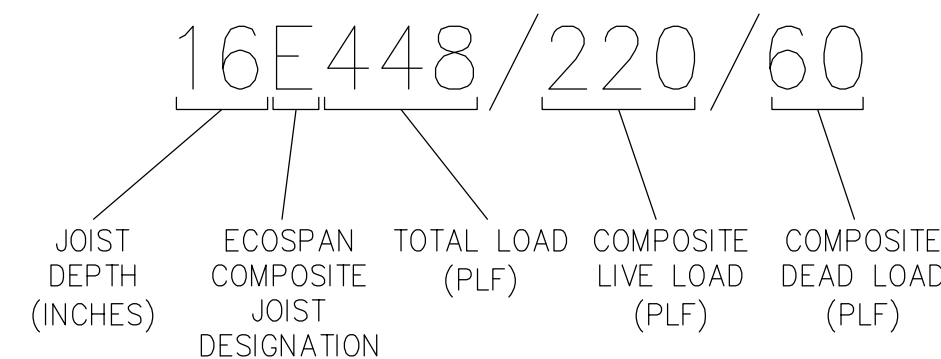
♦	PER CITY OF ORANGE BEACH, RISK CAT. III BUILDINGS ARE REQUIRED TO BE DESIGNED FOR AN ULTIMATE WIND SPEED ( $V_{ult}$ ) OF 170 MPH.  NOTE THAT 2018 IBC REFERS TO THIS WIND SPEED AS THE BASIC DESIGN WIND SPEED, $V$ .
*	REFERENCE SECTION 1609.3.1 AND/ OR TABLE 1609.3.1 OF THE 2018 INTERNATIONAL BUILDING CODE FOR CONVERSION OF $V$ TO $V_{nsd}$ .
**	SHOWN IN THIS TABLE ARE NET DESIGN WIND PRESSURES, $P_{net}$ , DETERMINED PER CHAPTER 30 OF ASCE 7-16. THESE PRESSURES ARE BASED ON ASD WIND SPEED, $V_{nsd}$ LISTED ABOVE AND SHALL BE APPLIED NORMAL TO EACH BUILDING SURFACE.  NOTE THAT THESE WIND PRESSURES REPRESENT 0.6W COMPONENT LISTED WITHIN ASD LOAD COMBINATIONS OF ASCE 7-16, CHAPTER 2.

**ROOF DECK:**

1. STEEL ROOF DECK SHALL BE 1½"-22 GAGE COMPOSITE GALVANIZED DECK. ATTACH AND ERECT PER MANUFACTURERS REQUIREMENTS.
2. PROVIDED ROOF DECK SHALL BE ATTACHED USING #10 SCREWS AT SIDELAPS AND #12 SCREWS AT BEARING LOCATIONS.
3. PROVIDED ROOF DECK SHALL BE SCREW ATTACHED, DO NOT WELD.
4. ATTACH DECK TO ALL BEARING MEMBERS.

**ECOSPAN JOISTS:**

1. JOISTS:ECO SPAN JOISTS ARE TO BE 10" OR 14" DEEP.
2. DECKING: ECOSPAN UTILIZES MULTI-SPAN SHEETS OF STEEL DECKING. 1.5"-24 GAGE COMPOSITE STEEL DECK
3. DETAIL BELOW ILLUSTRATES THE FORMAT USED TO DESIGNATE AN E-SERIES JOIST. LOADING NUMBERS ARE SHOWN IN POUNDS PER LINEAL FOOT (PLF). TOTAL LOAD IS THE SUMMATION OF THE UN-FACTORED LIVE LOAD, NON-COMPOSITE DEAD LOAD AND COMPOSITE DEAD LOAD.
4. SUBMIT SHOP DRAWINGS TO ENGINEER PRIOR TO FABRICATION.



**MASONRY:**

1. HOLLOW CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C- 90 LIGHTWEIGHT, TYPE N-1 WITH A MINIMUM COMPRESSIVE STRENGTH  $f'_m = 1500$  PSI.
2. ALL MORTAR FOR USE IN MASONRY SHALL CONFORM TO ASTM C 270, TYPE M OR S. GROUT USED IN MASONRY SHALL BE MINIMUM 2500 PSI AND CONFORM TO ASTM C 476. MINIMUM 8 SACK MIX.
3. REINFORCING BARS TO BE GRADE 60 AND MEET ASTM A 615.
4. GROUT FILL ALL CELLS BELOW GRADE.
5. LAY ALL MASONRY IN A RUNNING BOND PATTERN.
6. PROVIDE #9 TRUSS TYPE JOINT REINFORCEMENT AT 16" O.C. FOR TYPICAL HORIZONTAL REINFORCING.
7. PROVIDE AT LEAST 2-#5 VERTICAL BARS AT EACH END AND CORNERS OF ALL WALLS. SEE WALL DETAILS FOR TYPICAL VERTICAL REINFORCING.
8. VERTICAL AND HORIZONTAL REINFORCING SHALL BE CONTINUOUS AND LAPPED A MINIMUM OF 40 BAR DIAMETERS.
9. VERTICAL BARS SHALL BE STRAIGHT AND TRUE AND CENTERED IN WALL.
10. ALL REINFORCED MASONRY WALL SECTIONS REQUIRE DOWELS FROM FOOTING, SAME SIZE AND QUANTITY AS VERTICAL REINFORCEMENT.
11. PROVIDE A MINIMUM OF 1" GROUT BETWEEN MAIN REINFORCING AND MASONRY UNITS.

**STEEL:**

1. STRUCTURAL STEEL SHALL MEET THE LATEST AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
2. ALL STRUCTURAL STEEL TO MEET ASTM A992-  $f'_y = 50$ ksi. ALL TUBING TO MEET ASTM A500, GRADE B -  $f'_y = 46$ ksi.
3. WELDING SHALL CONFORM TO THE STANDARDS SET FORTH IN AWS PUBLICATION "WELDING IN BUILDING CONSTRUCTION".
4. ALL SHOP CONNECTIONS TO HAVE 3/16" FILLET WELDS MINIMUM UNLESS NOTED AS BOLTED CONNECTIONS.
5. ALL FIELD WELDS TO BE WITH E70XX ELECTRODES.
6. ALL ERECTION DRAWINGS SHALL SHOW ALL FIELD WELDS REQUIRED.
7. STRUCTURAL STEEL SHALL HAVE SP3 GRADE "POWER TOOL" CLEANING IN ACCORDANCE WITH THE STRUCTURAL STEEL PAINTING COUNCIL.
8. STRUCTURAL STEEL SHALL HAVE ONE COAT OF PRIMER EXCEPT THOSE MEMBERS THAT ARE GALVANIZED.
9. THE STEEL FRAME IS "NON-SUPPORTING". ADEQUATE TEMPORARY SUPPORT MUST BE PROVIDED BY THE CONTRACTOR UNTIL REQUIRED CONNECTIONS OR ELEMENTS ARE IN PLACE.
10. ANCHOR BOLTS SHALL NOT BE MODIFIED UNLESS APPROVED BY ENGINEER.

**FOUNDATIONS:**

1. REFERENCE GEOTECHNICAL REPORT DATED 14 APRIL 2020 BY GEOCON ENGINEERING & MATERIALS TESTING, INC. FOR FILL, COMPACTION, AND PREPARATION OF SOILS.
2. ALL FOOTINGS, OR PORTIONS THEREOF, BELOW GRADE MAY BE EARTH FORMED BY NEAT EXCAVATIONS.
3. FOOTINGS TO BE CENTERED ON WALLS OR COLUMNS UNLESS NOTED OTHERWISE.
4. ALLOWABLE SOIL BEARING = 2000 psf

**CONCRETE WORK:**

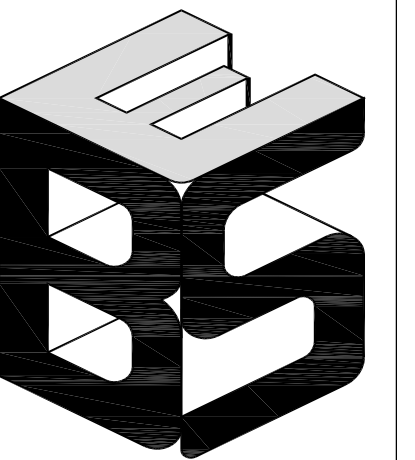
1. CONCRETE (NORMAL WEIGHT) COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE 3000 PSI FOR FOUNDATIONS, 4000 PSI FOR ELEVATED SLABS, UNLESS NOTED.
2. ALL REINFORCING SHALL MEET ASTM A615, GRADE 60. ALL WELDED WIRE FABRIC (WWF) SHALL MEET ASTM A185.
3. CONCRETE COVERAGE OF REINFORCEMENT SHALL BE:  
 FOOTINGS 3" BOTTOM AND SIDES  
 WALLS 1½"  
 SLABS ¾"  
 PEDESTALS 1½" CLEAR OF TIES
4. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE CURRENT "ACI MANUAL OF CONCRETE PLACEMENT".
5. PORTLAND CEMENT SHALL CONFORM TO ASTM C 150, TYPE I OR II.
6. ALL AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL MEET ASTM C 33.
7. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED PER CRSI AND ACI STANDARDS, INCLUDING CONCRETE COVER AND BAR SUPPORTS. LAP BARS AT ALL SPLICES, INCLUDING CORNER BARS AND DOWELS, IN ACCORDANCE WITH SPLICE SCHEDULE OR IN LIEU THEREOF 40 BAR DIAMETERS. LAP WWF 6" OR ONE FULL MESH, WHICHEVER IS GREATER.

**WIND BORNE DEBRIS PROTECTION FOR EXTERIOR WINDOWS IBC 2018**

1. WINDOWS TO BE DESIGNED FOR AN ASD DESIGN WIND PRESSURE OF ±50 PSF REFERENCE CHART.
2. THE CONTRACTOR MUST USE IMPACT RESISTANT WINDOWS PER ASTM E-1886 & E-1996.

**STRUCTURAL DRAWING INDEX:**

- S0.0 - STRUCTURAL NOTES
- S1.0 - FOUNDATION PLAN
- S2.0 - ROOF FRAMING PLAN
- S3.0 - SECTIONS AND DETAILS
- S4.0 - SECTIONS AND DETAILS



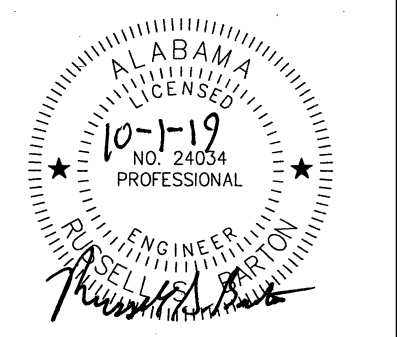
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 MOBILE, AL 36606  
 PHONE: 251-219-4942

**STRUCTURAL NOTES  
ORANGE BEACH SEWER**

**ORANGE BEACH, ALABAMA**

LOCATION:



**REVISIONS:**

- 15 APRIL 2020
- 30 APRIL 2020

DRAWN BY: TDL

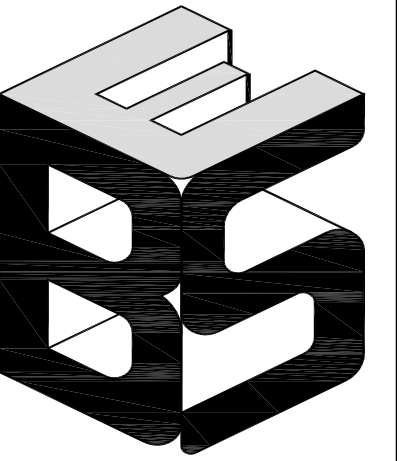
DESIGNED BY: RSB

DATE: 01 OCT 2019

SHEET

S0.0

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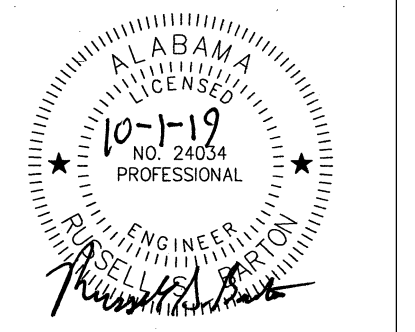
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**FOUNDATION PLAN  
ORANGE BEACH SEWER**

ORANGE BEACH, ALABAMA

LOCATION:



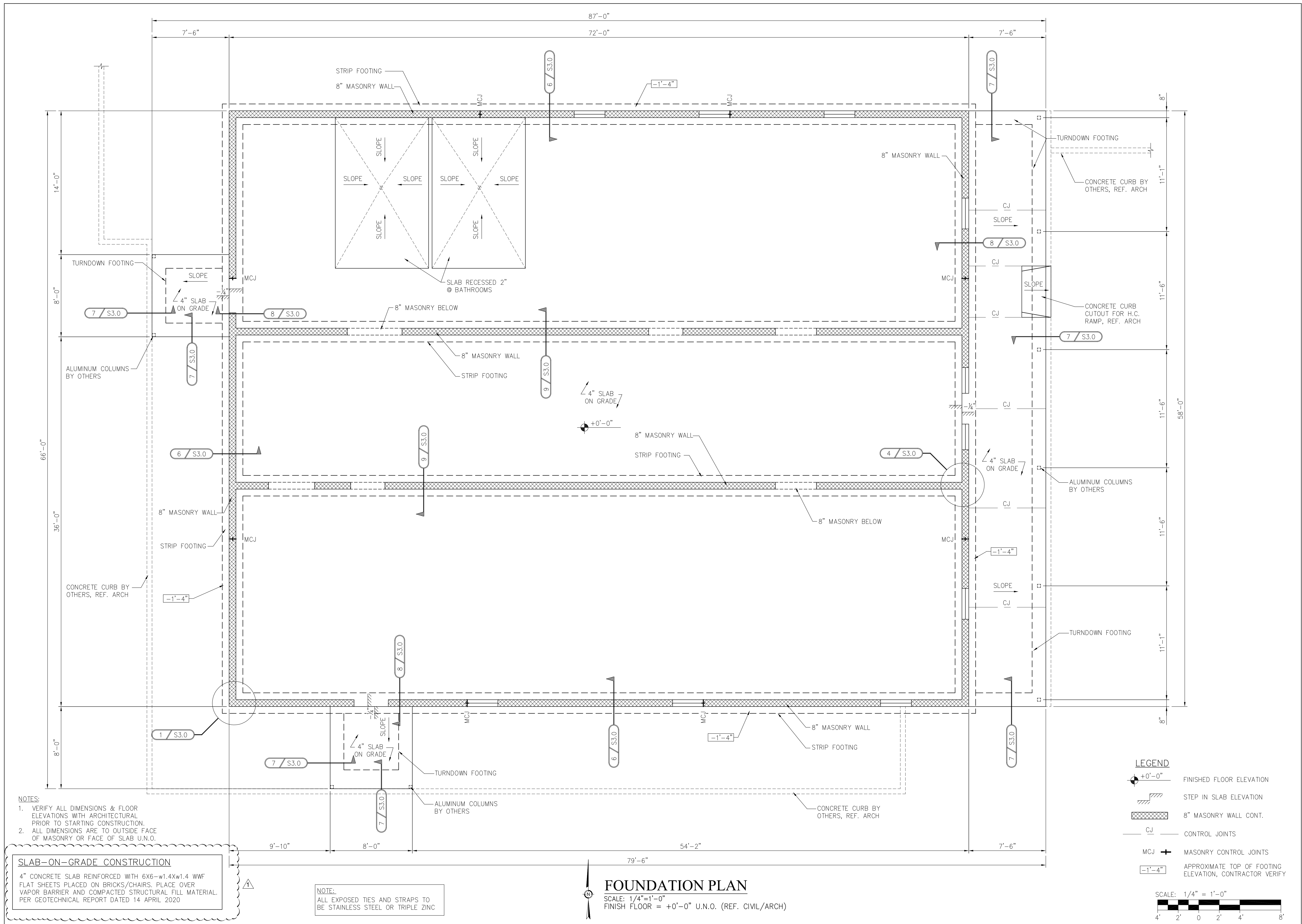
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1	15 APRIL 2020
2	30 APRIL 2020

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DESIGNED BY: RSB

DATE: 01 OCT 2019  
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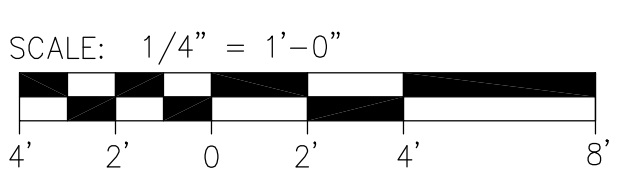
- NOTES:**
1. VERIFY ALL DIMENSIONS & FLOOR ELEVATIONS WITH ARCHITECTURAL PRIOR TO STARTING CONSTRUCTION.
  2. ALL DIMENSIONS ARE TO OUTSIDE FACE OF MASONRY OR FACE OF SLAB U.N.O.

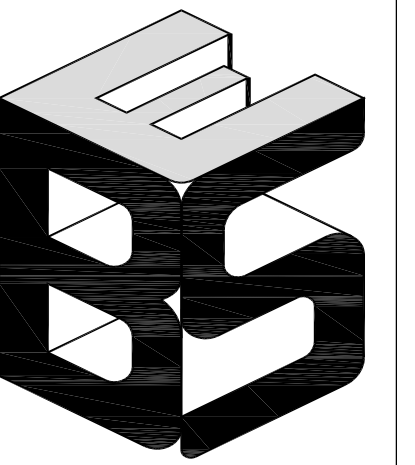
**SLAB-ON-GRADE CONSTRUCTION**  
4" CONCRETE SLAB REINFORCED WITH 6X6-w1.4Xw1.4 WWF FLAT SHEETS PLACED ON BRICKS/CHAIRS. PLACE OVER VAPOR BARRIER AND COMPACTED STRUCTURAL FILL MATERIAL. PER GEOTECHNICAL REPORT DATED 14 APRIL 2020

**NOTE:**  
ALL EXPOSED TIES AND STRAPS TO BE STAINLESS STEEL OR TRIPLE ZINC

**FOUNDATION PLAN**  
SCALE: 1/4"=1'-0"  
FINISH FLOOR = +0'-0" U.N.O. (REF. CIVIL/ARCH)

- LEGEND**
- +0'-0" FINISHED FLOOR ELEVATION
  - STEP IN SLAB ELEVATION
  - 8" MASONRY WALL CONT.
  - CJ CONTROL JOINTS
  - MCJ MASONRY CONTROL JOINTS
  - 1'-4" APPROXIMATE TOP OF FOOTING ELEVATION, CONTRACTOR VERIFY





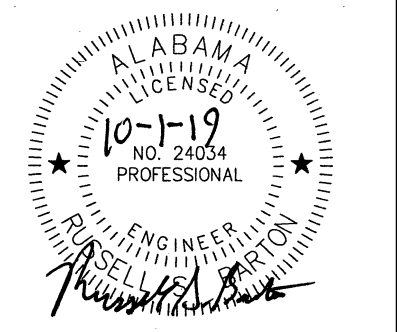
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**ROOF FRAMING PLAN  
ORANGE BEACH SEWER**

ORANGE BEACH, ALABAMA

LOCATION:



REVISIONS:  
 1 15 APRIL 2020  
 2 30 APRIL 2020

DRAWN BY: TDL

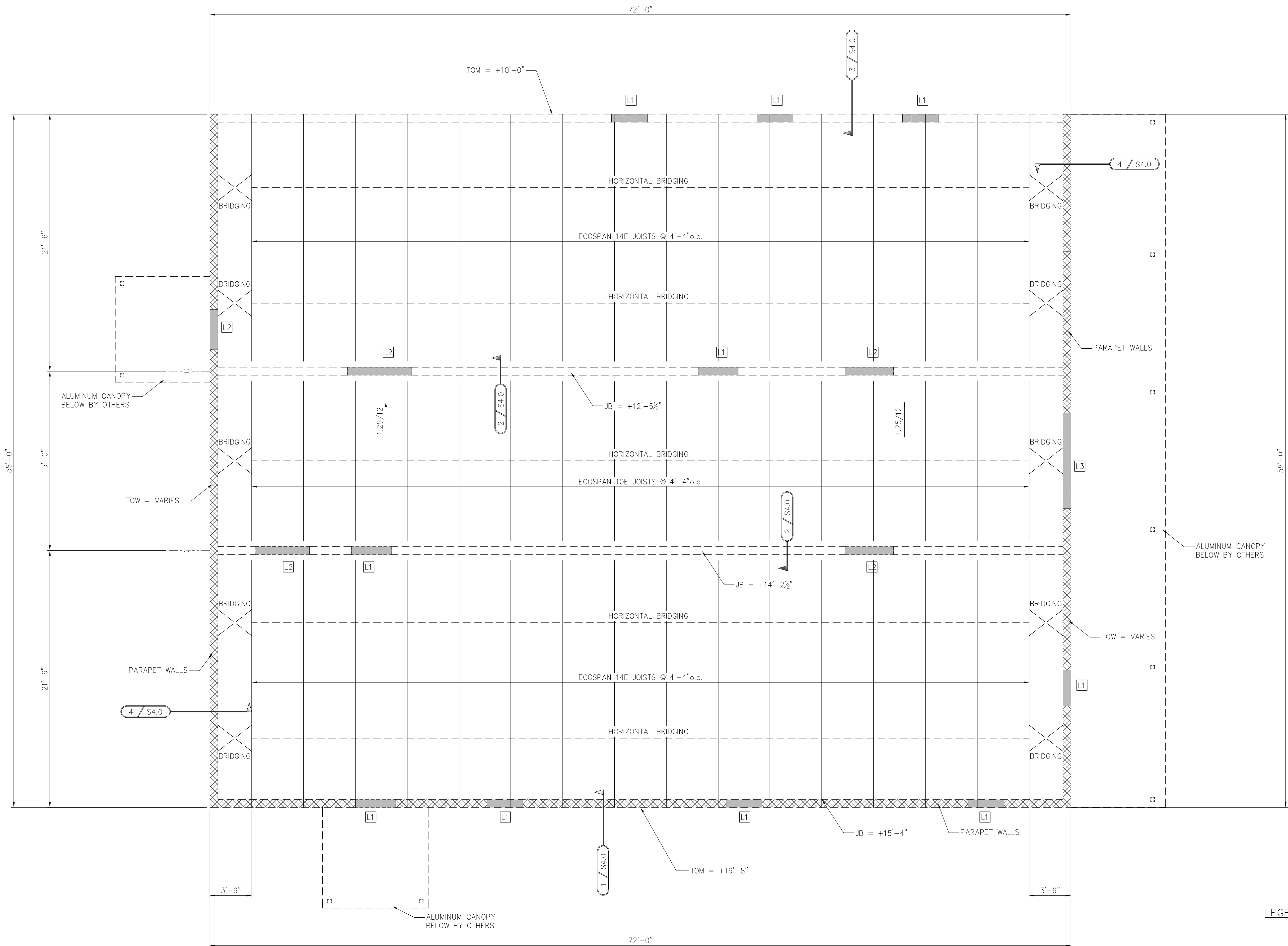
DESIGNED BY: RSB

DATE: 01 OCT 2019

SHEET

**S2.0**

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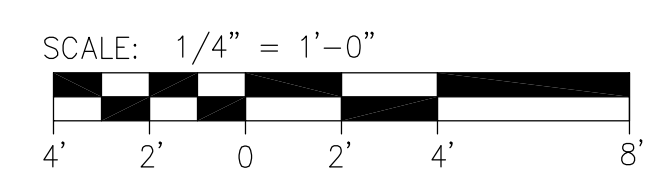
**TYPICAL ELEVATED SLAB CONSTRUCTION**  
 2 1/2" TOTAL CONCRETE ON 1 1/2"-22 GAGE COMPOSITE GALVANIZED METAL FORM DECK. REINFORCE SLAB WITH 6X6 W1.4xW1.4 FLAT SHEETS SET 1" CLEAR FROM TOP OF SLAB. TOTAL THICKNESS = 4".

**ROOF FRAMING PLAN**  
 SCALE: 1/4"=1'-0"  
 TOP OF MASONRY = +16'-8" U.N.O. = JOIST BEARING

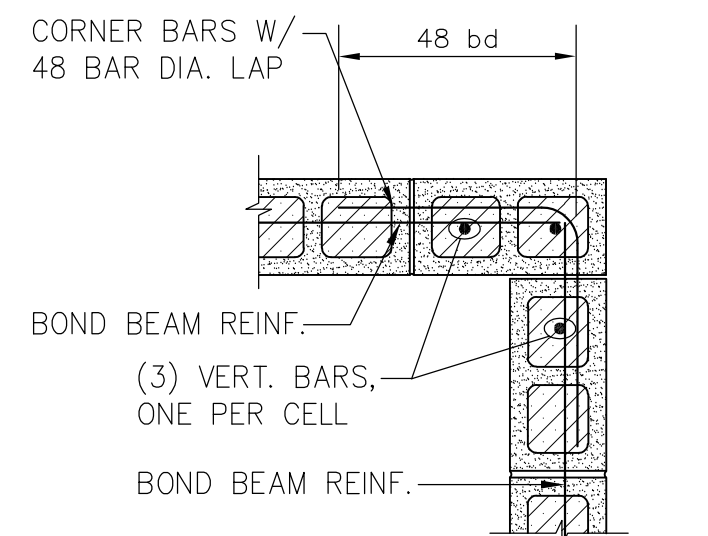
CONCRETE LINTEL SCHEDULE					
MARK	MAX OPENING SIZE	LINTEL WIDTH	LINTEL DEPTH	BTM REINF.	TOP REINF.
L1	4'-0"	8"	8"	(1)#5 BAR	---
L2	6'-0"	8"	16"	(1)#5 BAR	(1)#5 BAR
L3	8'-0"	8"	16"	(2)#5 BARS	(1)#5 BAR

**LEGEND**

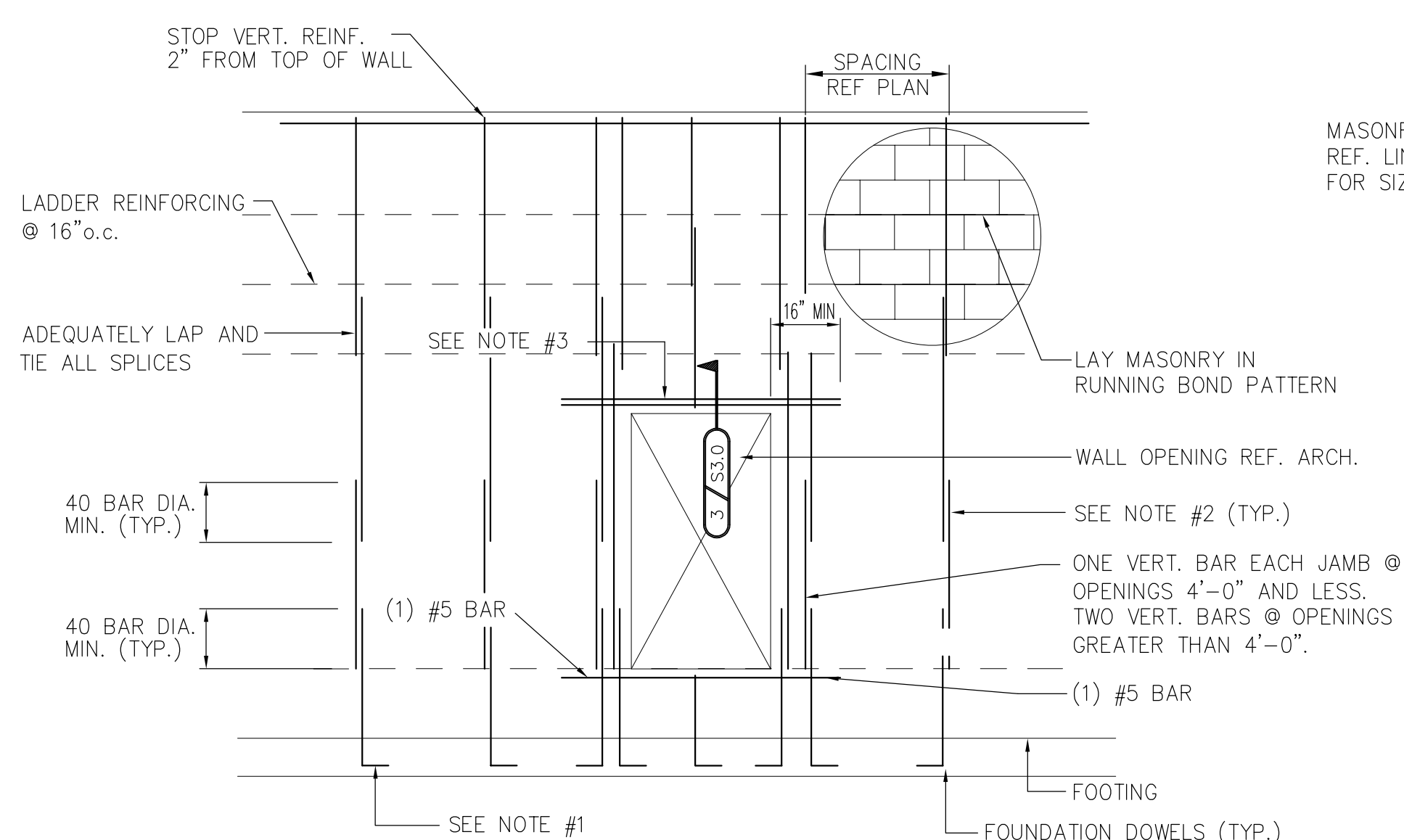
- TOM TOP OF MASONRY
- TOB TOP OF BEAM
- JB JOISTS BEARING







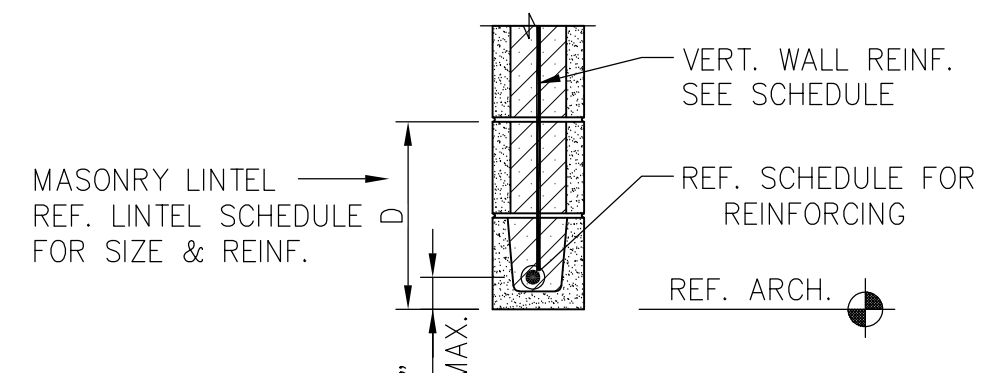
TYPICAL CMU CORNER REIN.  
DETAIL 1  
NOT TO SCALE S3.0



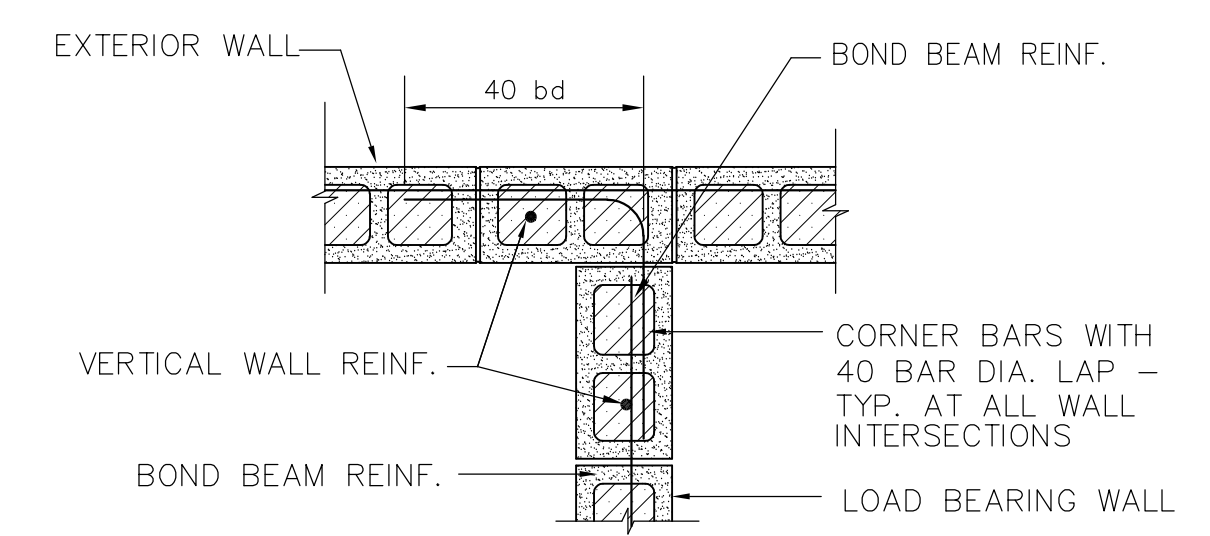
TYPICAL EXTERIOR MASONRY WALL REINFORCING  
DETAIL 2  
NOT TO SCALE S3.0

MASONRY WALL REINFORCING NOTES

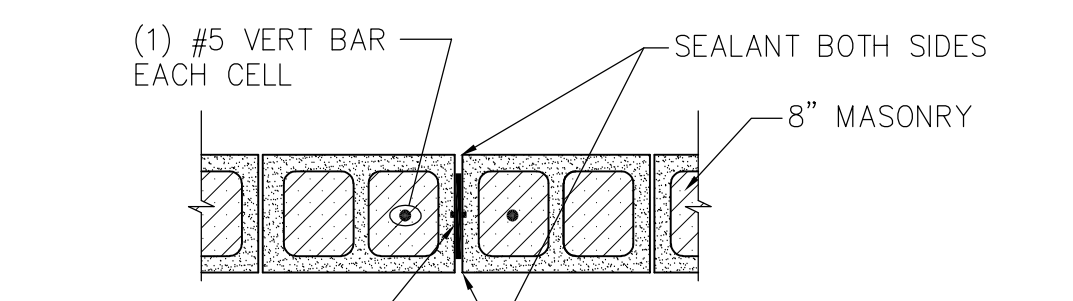
- VERTICAL WALL REINFORCING SHALL ALIGN WITH VERTICAL FOUNDATION DOWELS. DOWELS SHALL BE PLACED IN CENTER OF CMU WALL U.N.O. WITH ACI STANDARD HOOK. PLACE HOOKS DIRECTLY ON TOP OF BOTTOM LAYER OF FOOTING REINFORCING.
- TYPICAL VERTICAL WALL REINFORCEMENT TO BE PLACED IN CENTER OF WALL U.N.O. GROUT CELLS FULL THAT CONTAIN REINFORCEMENT FOR CLARITY, ALL VERTICAL AND HORIZONTAL REINFORCING IS SHOWN CONTINUOUS, HOWEVER VERTICAL SHALL BE LAPPED AND SPLICED TO ACCOMMODATE MAXIMUM GROUT LIFTS OF 4'-0" AND HORIZONTAL BARS SHALL BE LAPPED AND SPLICED AS REQUIRED. ALL VERTICAL BARS SHALL BE ACCURATELY LOCATED WITHIN THE CELL WITH REBAR POSITIONERS PRIOR TO PLACING GROUT IN CELLS. ALL LAPS SHALL BE 40 BAR DIAMETERS UNLESS NOTED OTHERWISE.
- REFERENCE CMU LINTEL SCHEDULE FOR SIZE, LOCATION, AND QUANTITY OF LINTEL REINFORCEMENT.
- ALL VERTICAL REINFORCING SHALL STOP 2" CLEAR FROM TOP OF WALL UNLESS NOTED.
- HORIZONTAL JOINT REINFORCING SHALL BE LADDER TYPE AT 16" o.c.
- REFERENCE SECTIONS AND DETAILS FOR SIZE AND LOCATION OF BOND BEAMS AND QUANTITY OF REINFORCING. PROVIDE HORIZONTAL BOND BEAMS IN ALL INTERIOR MASONRY WALLS, 8" HIGH WITH (1)-#5 CONT. AT TOP OF WALL. PROVIDE CORNER BARS AT ALL BOND BEAM INTERSECTIONS TO MATCH HORIZONTAL REINFORCING.
- REFERENCE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF ALL OPENINGS IN MASONRY WALLS.



MASONRY LINTEL SECTION  
DETAIL 3  
NOT TO SCALE S3.0

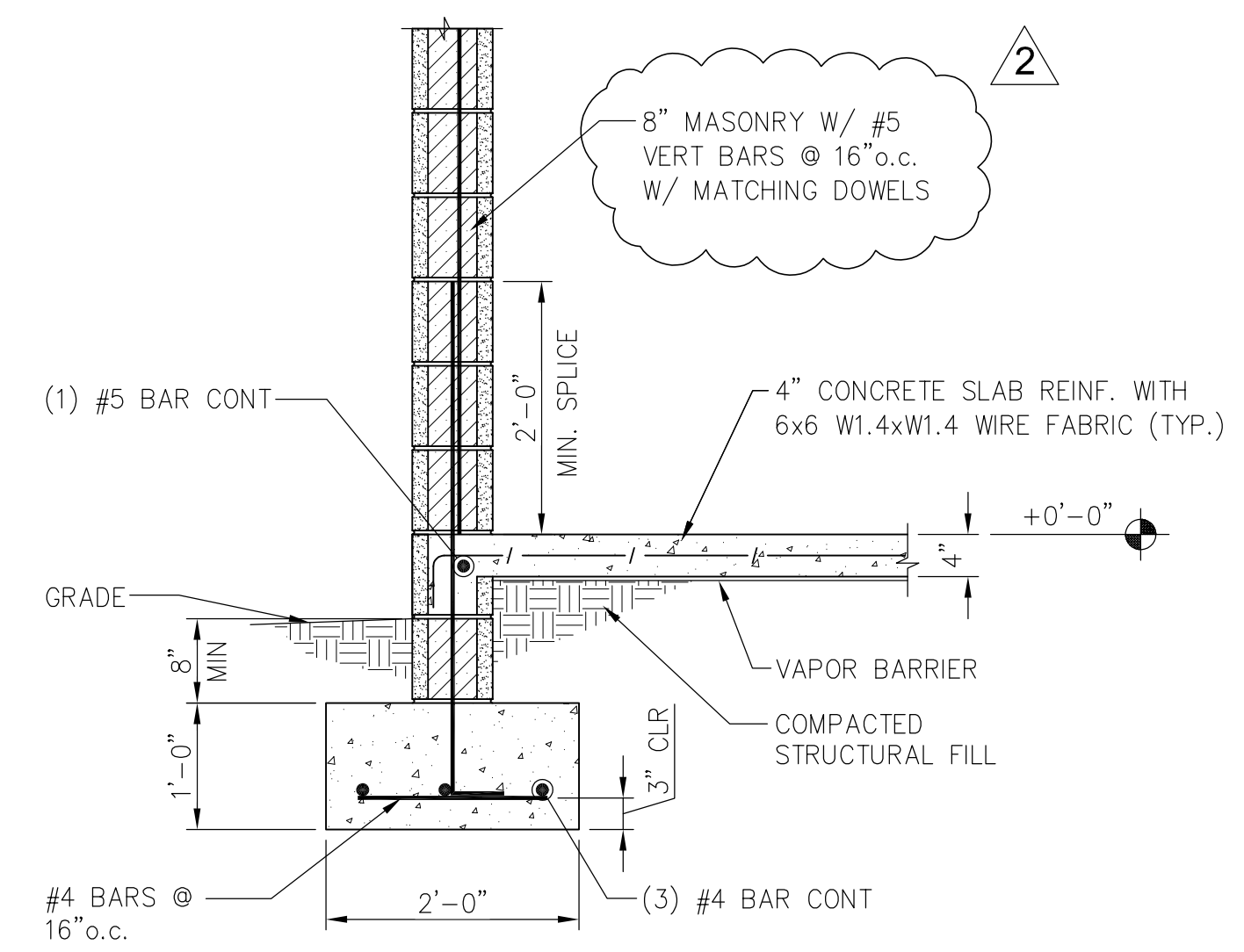


TYPICAL BOND BEAM INTERSECTION  
DETAIL 4  
SCALE: 3/4"=1'-0" S3.0

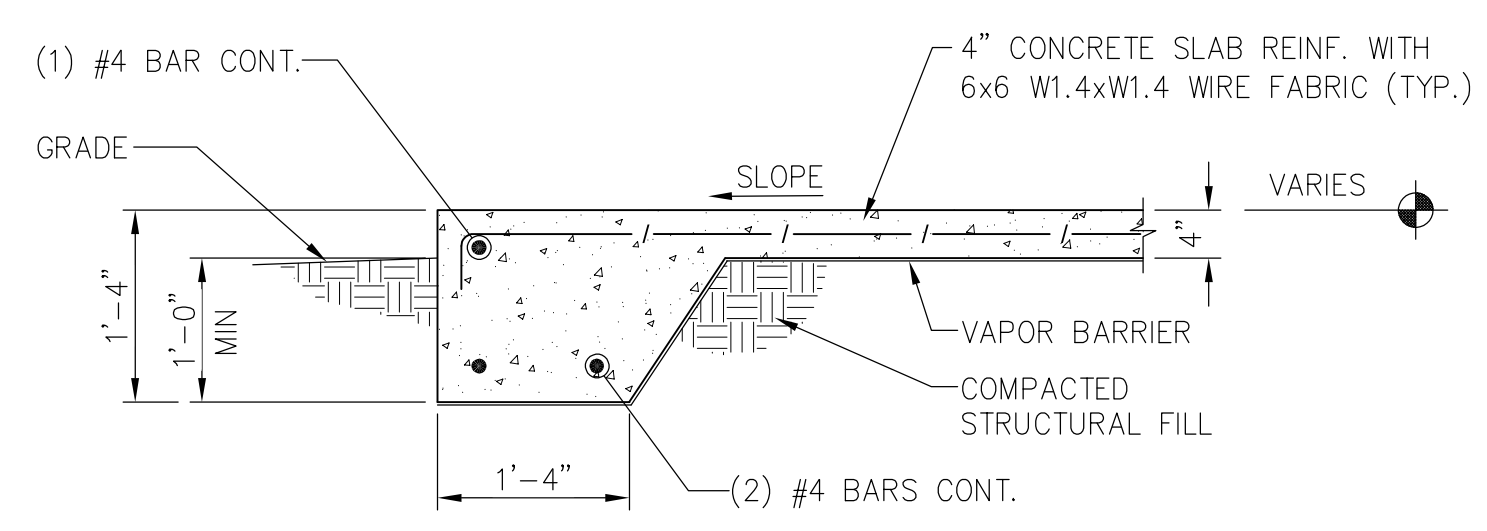


MASONRY CONTROL JOINT  
DETAIL 5  
NOT TO SCALE S3.0

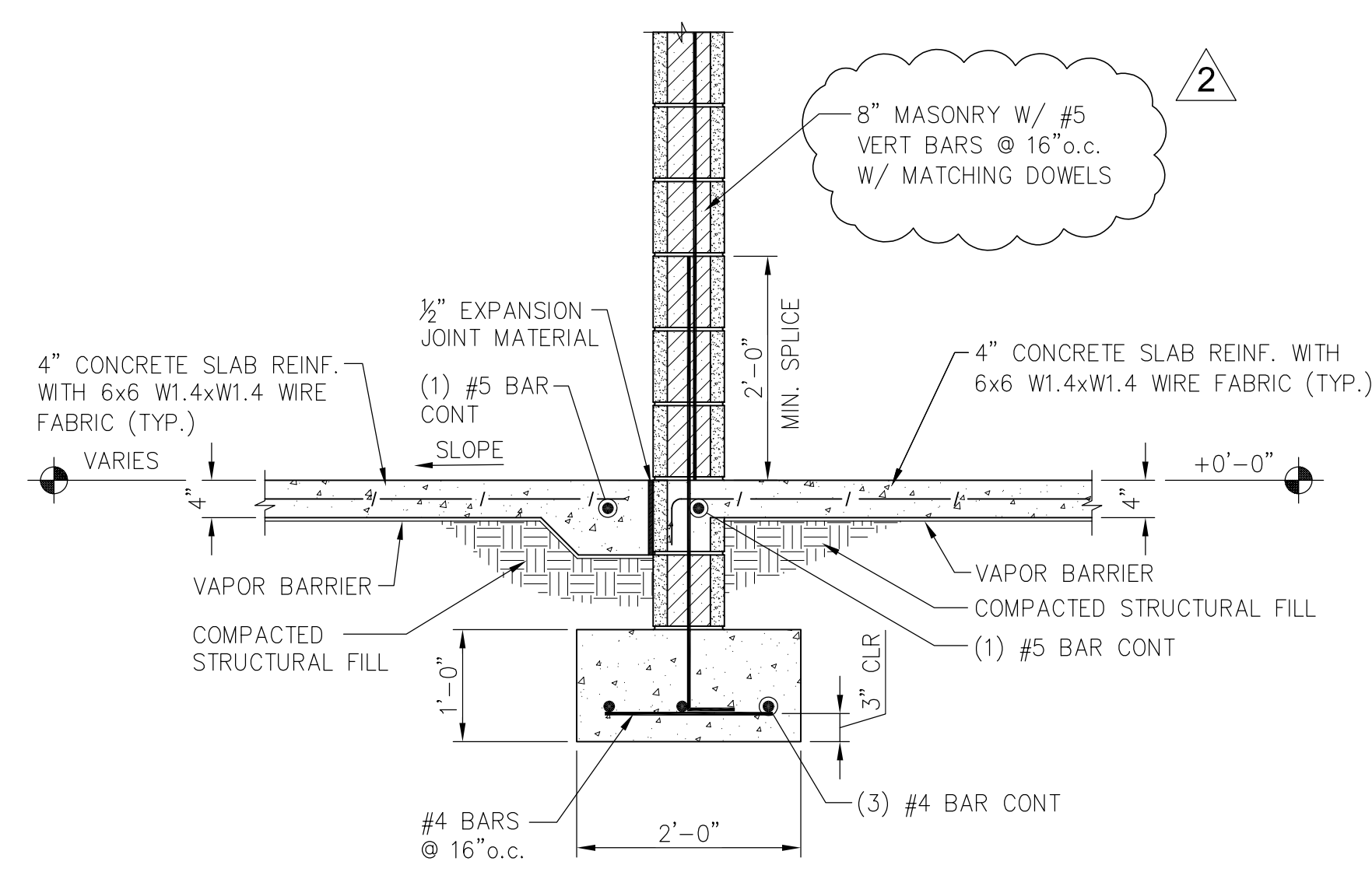
NOTE:  
ALL MASONRY CELLS ARE TO BE GROUT FILLED.



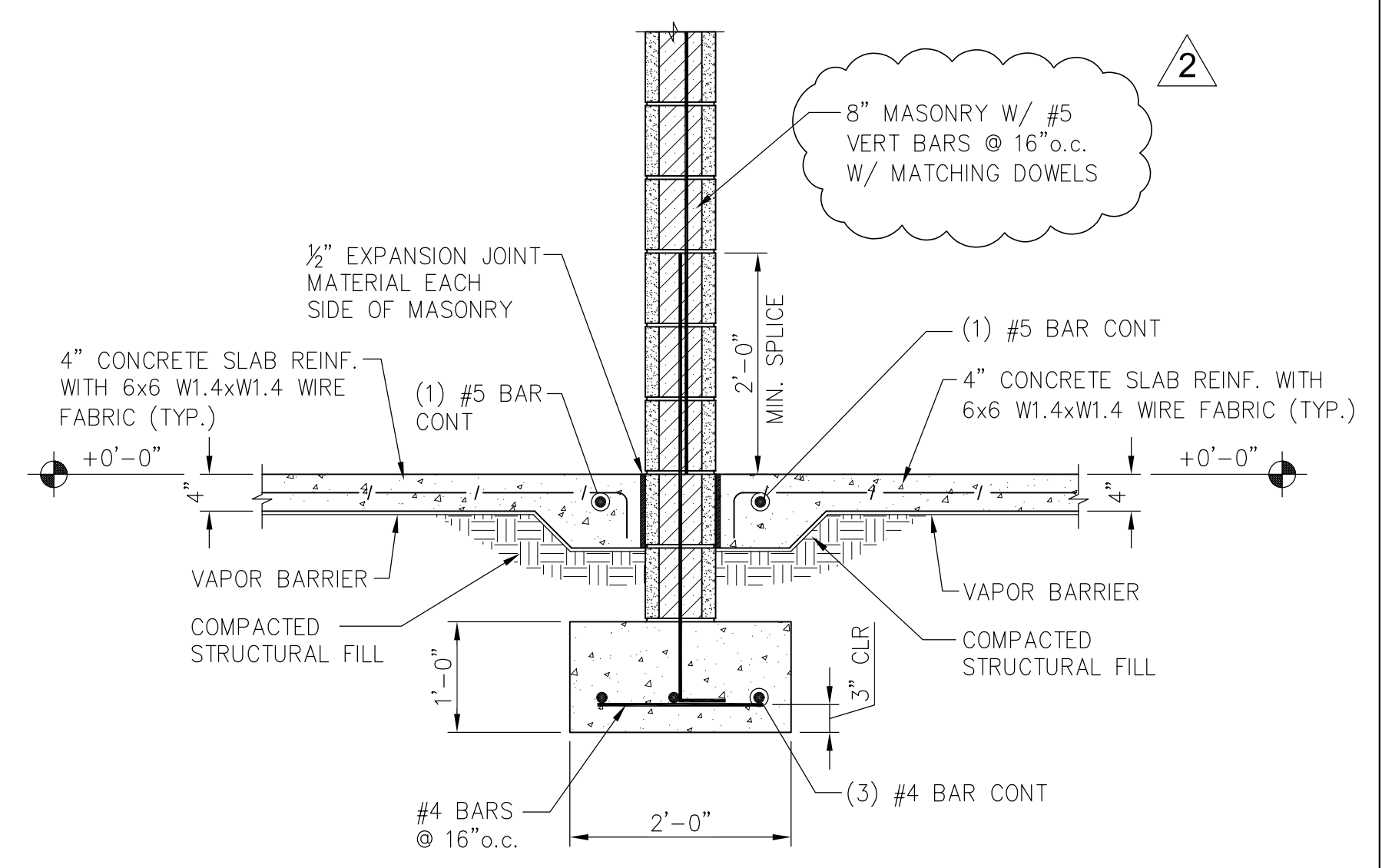
EXTERIOR WALL  
SECTION 6  
SCALE: 3/4"=1'-0" S3.0



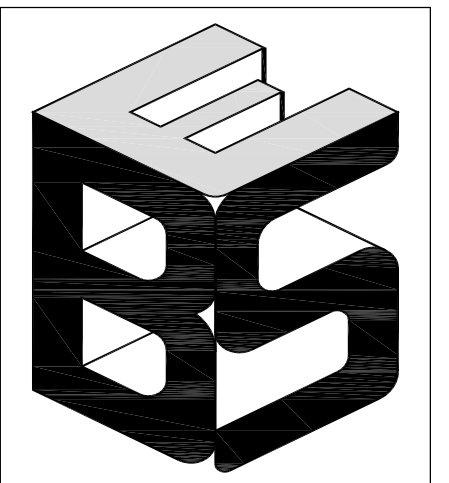
SLAB EDGE  
SECTION 7  
SCALE: 3/4"=1'-0" S3.0



EXTERIOR WALL @ SLAB EDGE  
SECTION 8  
SCALE: 3/4"=1'-0" S3.0



INTERIOR LOAD BEARING WALL  
SECTION 9  
SCALE: 3/4"=1'-0" S3.0

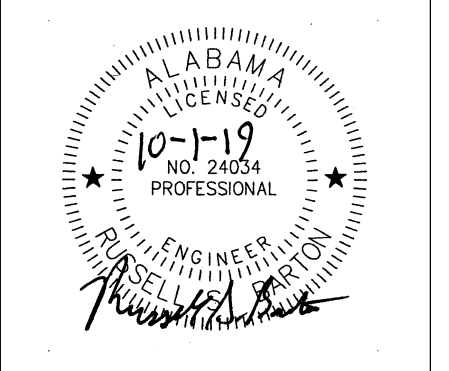


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SECTIONS AND DETAILS  
ORANGE BEACH SEWER

ORANGE BEACH, ALABAMA



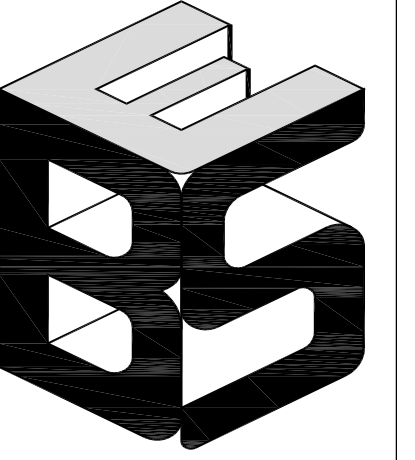
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S3.0



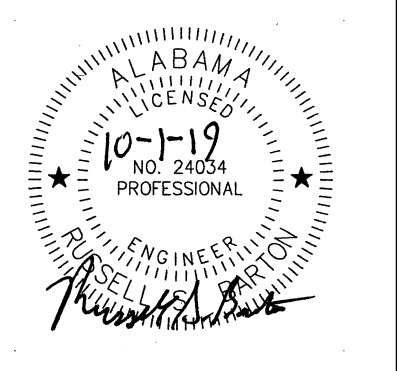
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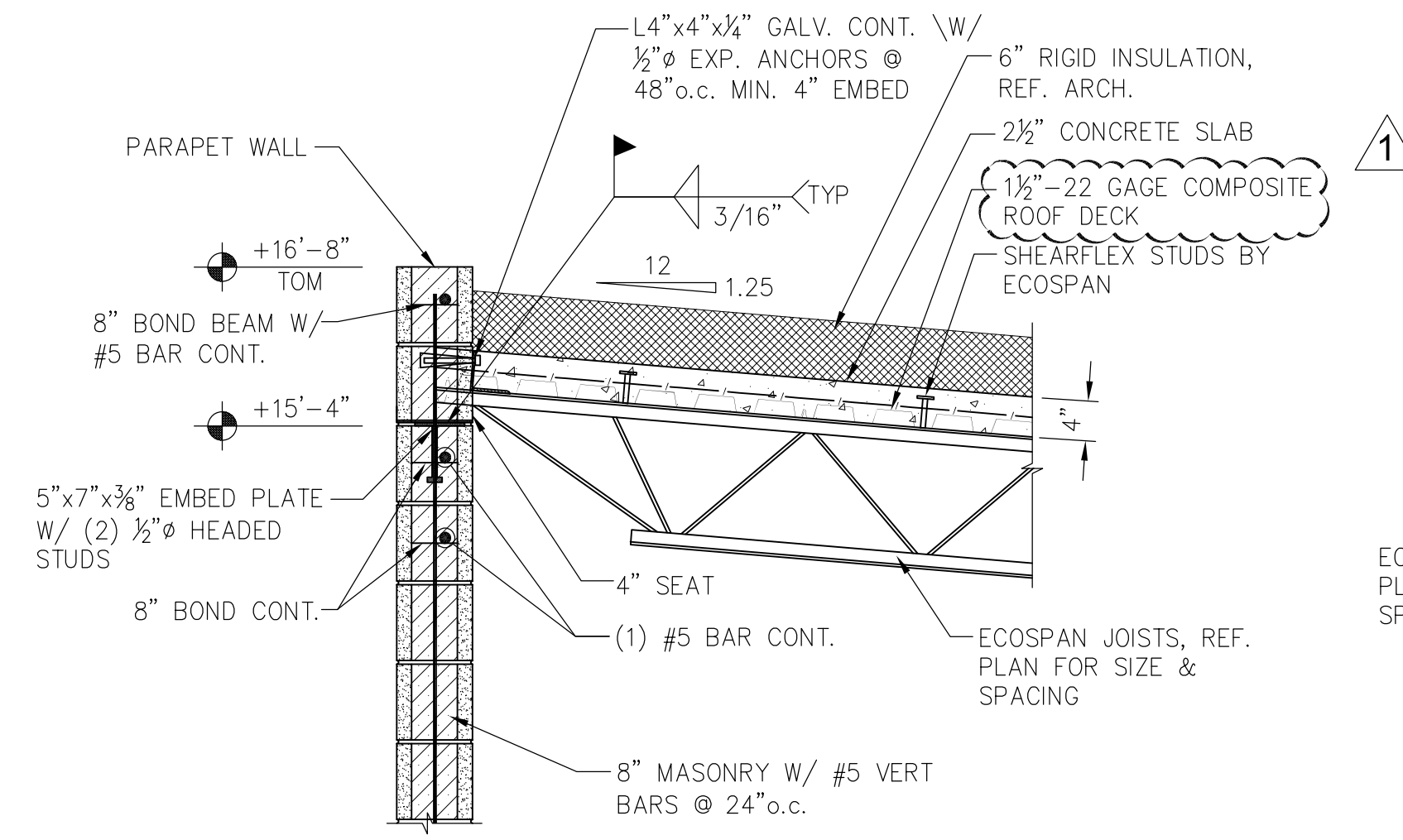
**SECTIONS AND DETAILS  
ORANGE BEACH SEWER**

ORANGE BEACH, ALABAMA

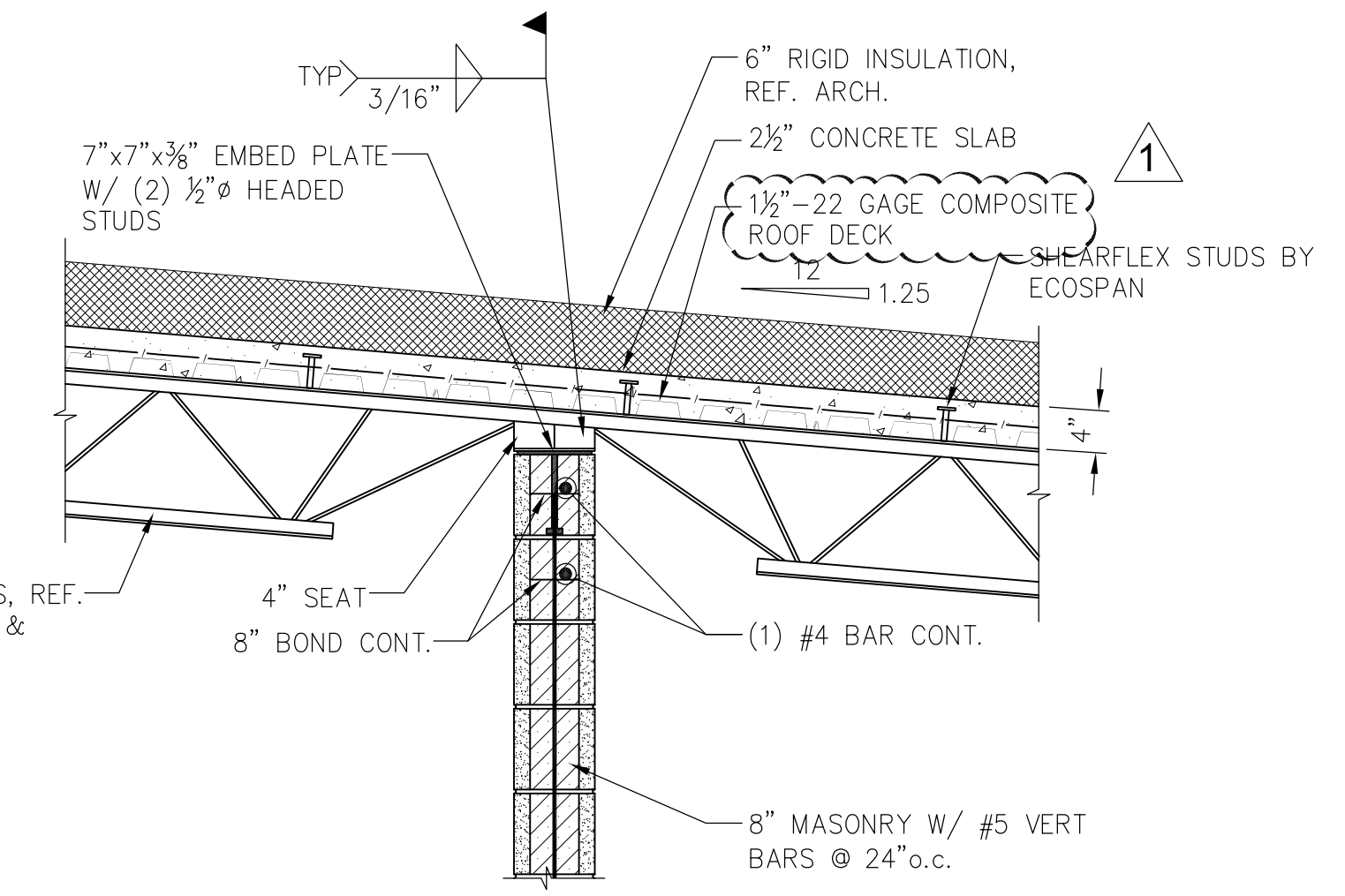
LOCATION:



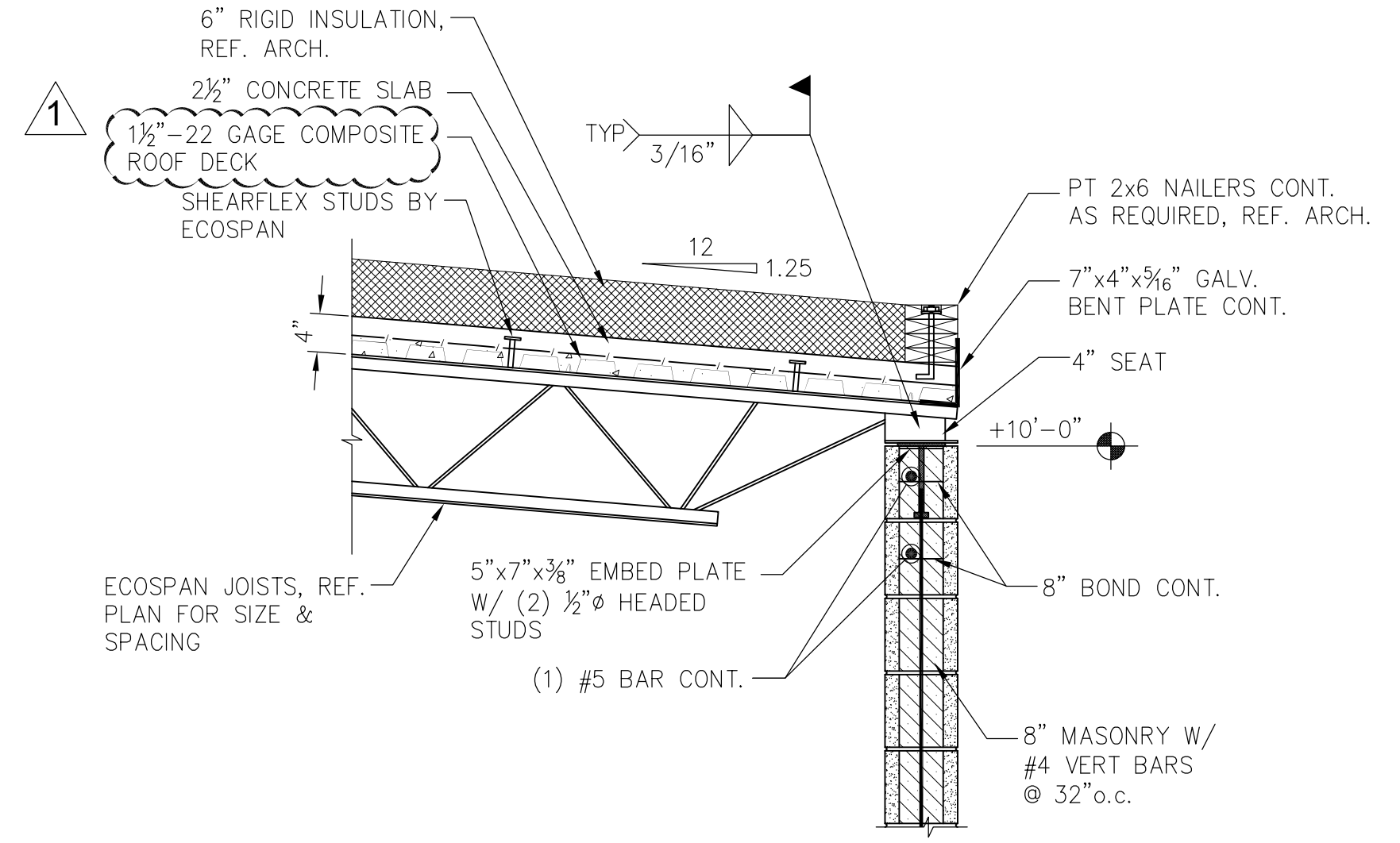
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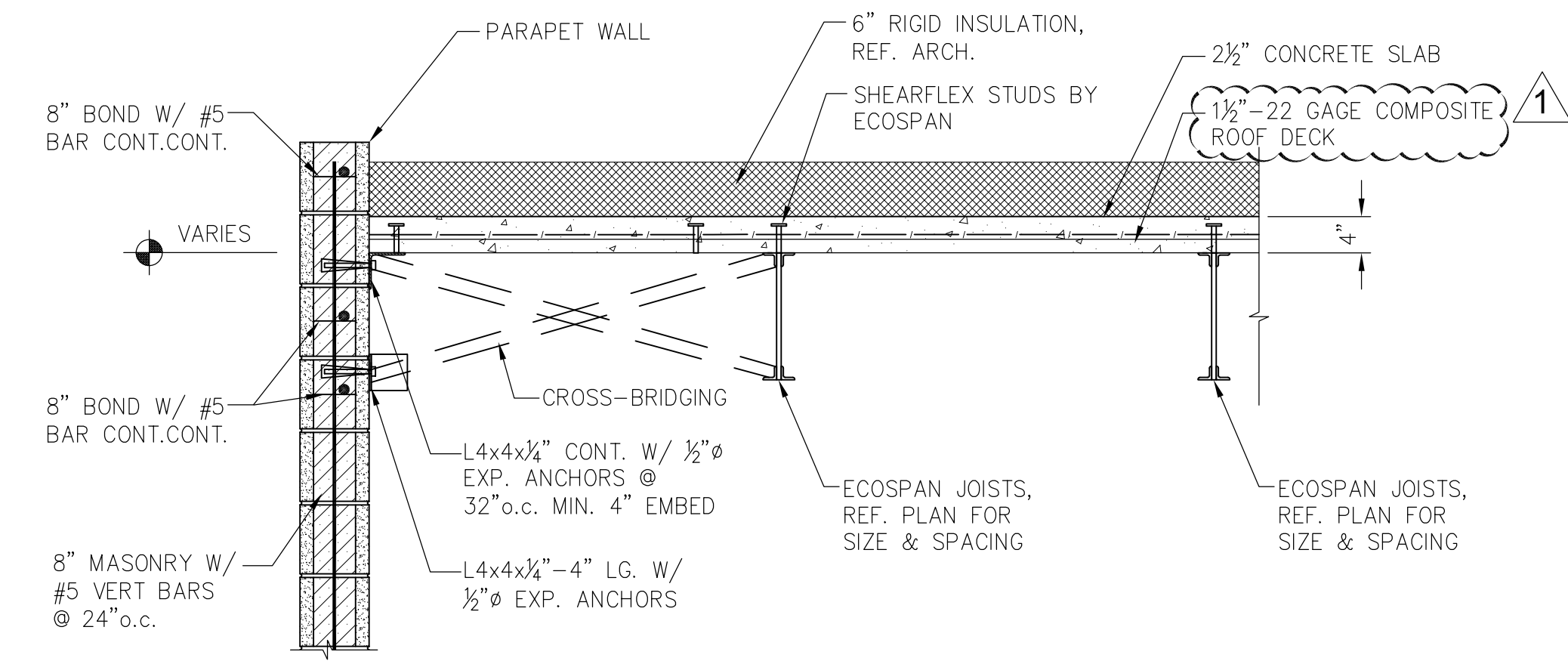
ROOF FRAMING  
SECTION 1  
SCALE: 3/4"=1'-0" S4.0



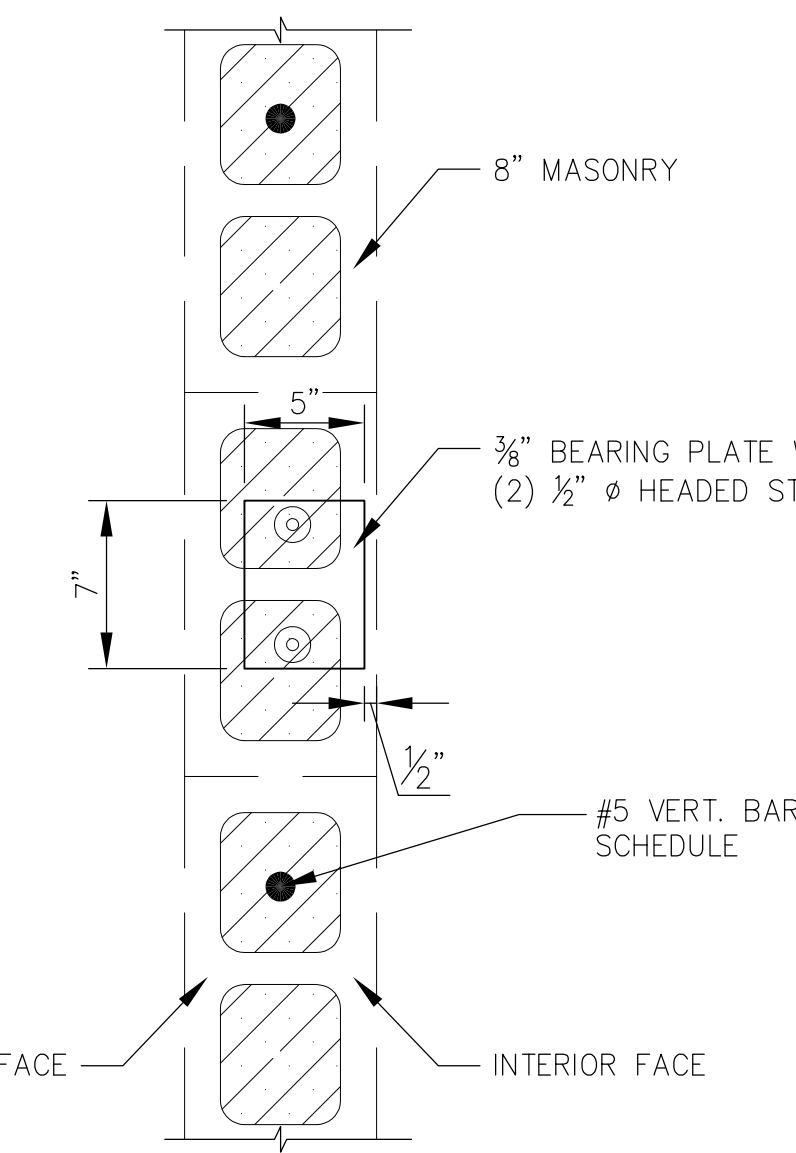
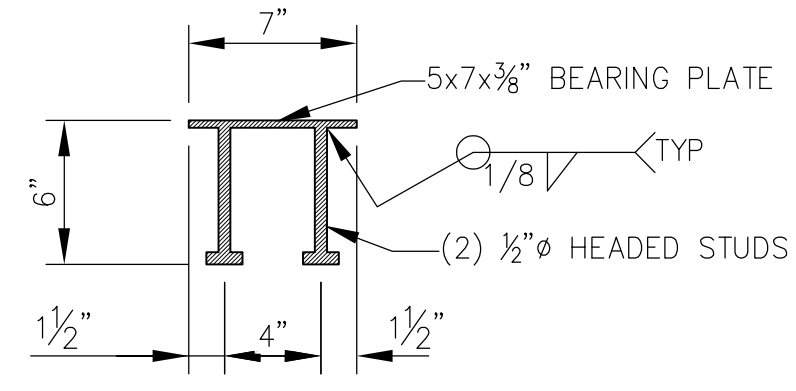
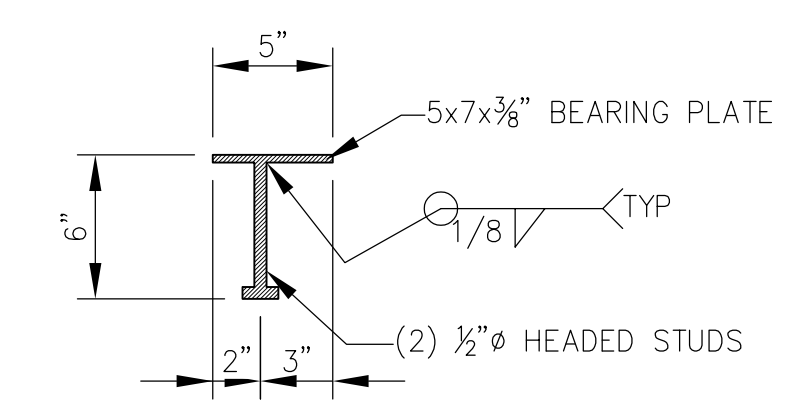
ROOF FRAMING  
SECTION 2  
SCALE: 3/4"=1'-0" S4.0



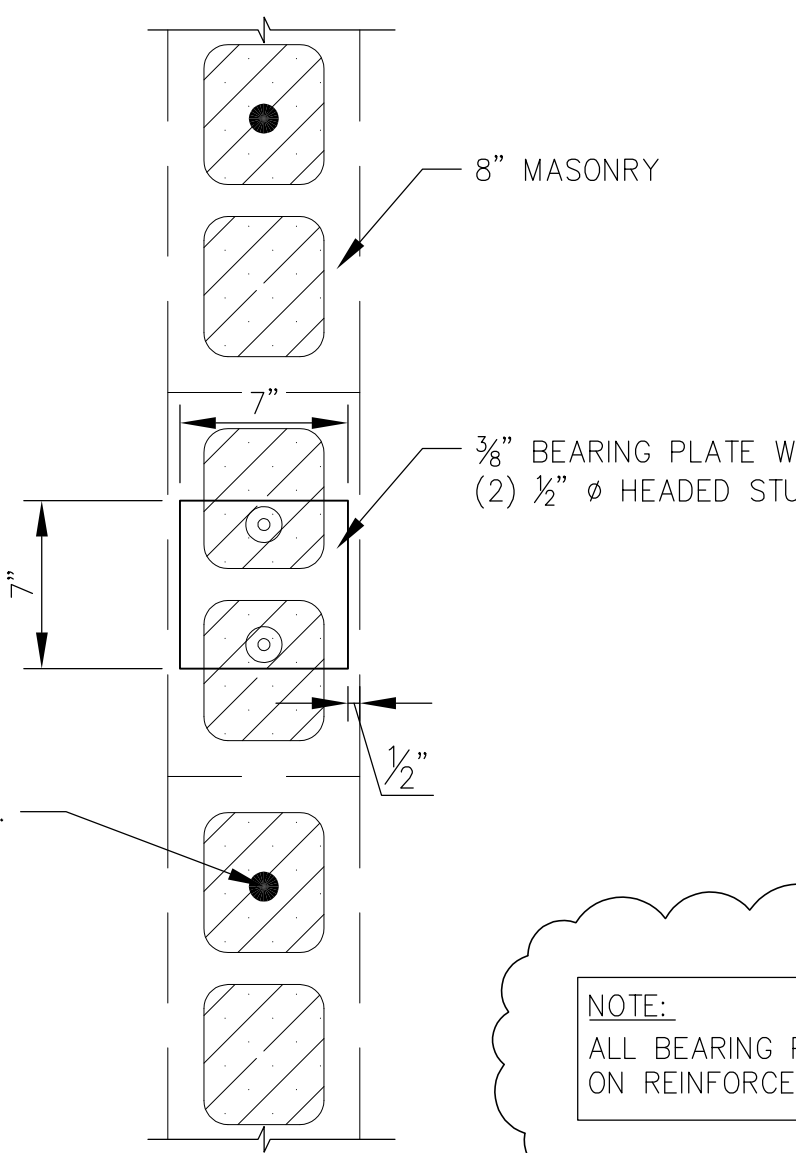
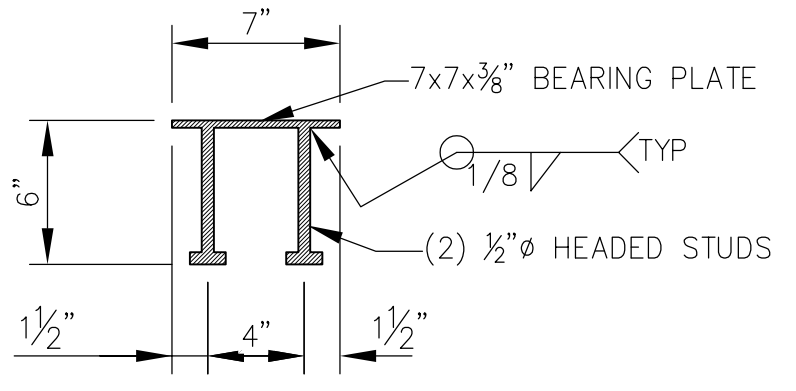
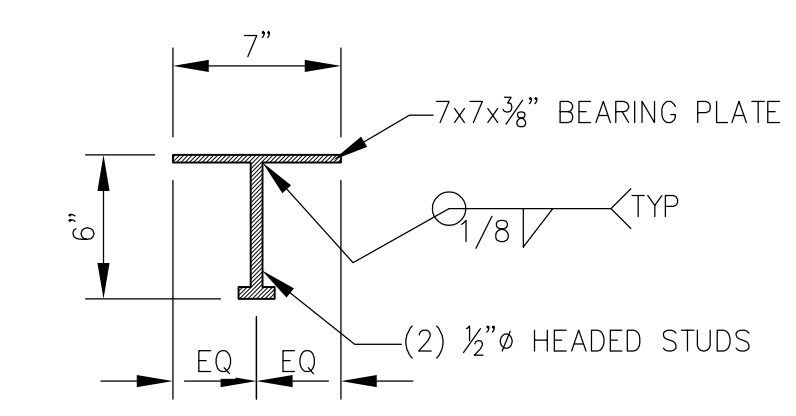
ROOF FRAMING  
SECTION 3  
SCALE: 3/4"=1'-0" S4.0



ROOF FRAMING @ GABLE END  
SECTION 4  
SCALE: 3/4"=1'-0" S4.0



EXTERIOR BEARING  
DETAIL 5  
SCALE: 1 1/2"=1'-0" S4.0



INTERIOR BEARING  
DETAIL 6  
SCALE: 1 1/2"=1'-0" S4.0

NOTE:  
ALL BEARING PLATES SHOULD BE ON REINFORCED CELLS.

NOTE:  
ALL MASONRY CELLS ARE TO BE GROUT FILLED.