Shelby County EMA-IT Building Project

ADDENDUM NO. 1

Date: November 6, 2025

RE: Shelby County EMA-IT Building Project Bid

BID DATE AND TIME:
Tuesday, November 25, 2025 at 2:00 p.m. CST

Location for the bid opening remains the Shelby County Manager's Office, located at 200 West College Street, Room 123, Columbiana, Alabama, 35051

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General:

There is a Mandatory Pre-Bid Conference Meeting on November 17, 2025 at 10:00 a.m. CST for this project. The location of the pre-bid meeting is 200 West College Street, Room 123, Columbiana, Alabama, 35051.

Project Manual, Plans and Specifications:

- See attached revised Sheet A2 and A16
  - Add panic rim device to Electrical Room door in lieu of lockset. Door number on Floor Plan and Door Schedule revised to # 18.
  - Shows panic rim device on Door Elevation # 16.
- See attached revised Sheet A18
  - Add note related to the required low voltage hood switch for ADA access
  - Location shall be coordinated with electrical plan sheets during construction
- See attached revised Section 00-0010 – Manual Table of Contents
- See attached added Section 01-2100 – Allowances
- See attached added Section 01-2900 – Payment Procedures
- See attached revised Section 11-3100 – Appliance and Equipment
- See attached Geotechnical Engineering Report

Substitution Request:

- 08-4113 Aluminum-Framed Entrances and Storefronts – Coral Industries FL300T 2" x 4.5" Thermal Storefront – APPROVED

Questions and Clarifications:

Q1 –- Spec 11 3100 calls for several appliances to be furnished and installed by the contractor. But the schedule says to contact the Owner prior to installation and doesn't give any specifications for the appliances. Please indicate if we are to provide the appliances or if they are all Owner furnished, contractor installed.
A1 – See Revised Section 11 3100 (1.1A.) attached.
Refrigerator – furnished and installed by owner
Range – furnished and installed by owner
Range Hood – furnished by contractor and installed by contractor (Broan Glacier Range Hood – Model GLA2303SS – 30 inch stainless with ADA Wiring Kit)
Ice Machine – furnished and installed by owner
Microwave – furnished and installed by owner

Q2 - Drawing A19 shows a projector screen. Is this furnished and installed by the contractor? If so, please provide specifications.
A2 - The projector and all monitors will be provided and installed by the owner.

End of Addendum

ROOM NUMBER (#) DOOR NUMBER (X)

WALL LEGEND

ICC 500 STRUCTURE WALLS:
12" POURED CONCRETE

EXTERIOR WALLS:

METAL WALL PANELS ON 8"-16 GA. WALL STUDS @ 24" C/C.
FIBERGLASS THERMAL INSULATION BATTS.
EXTERIOR GYPSUM SHEATHING.
INTERIOR 5/8" GYPSUM BOARD.
MASONRY WAINSCOT

INTERIOR PARTITIONS:

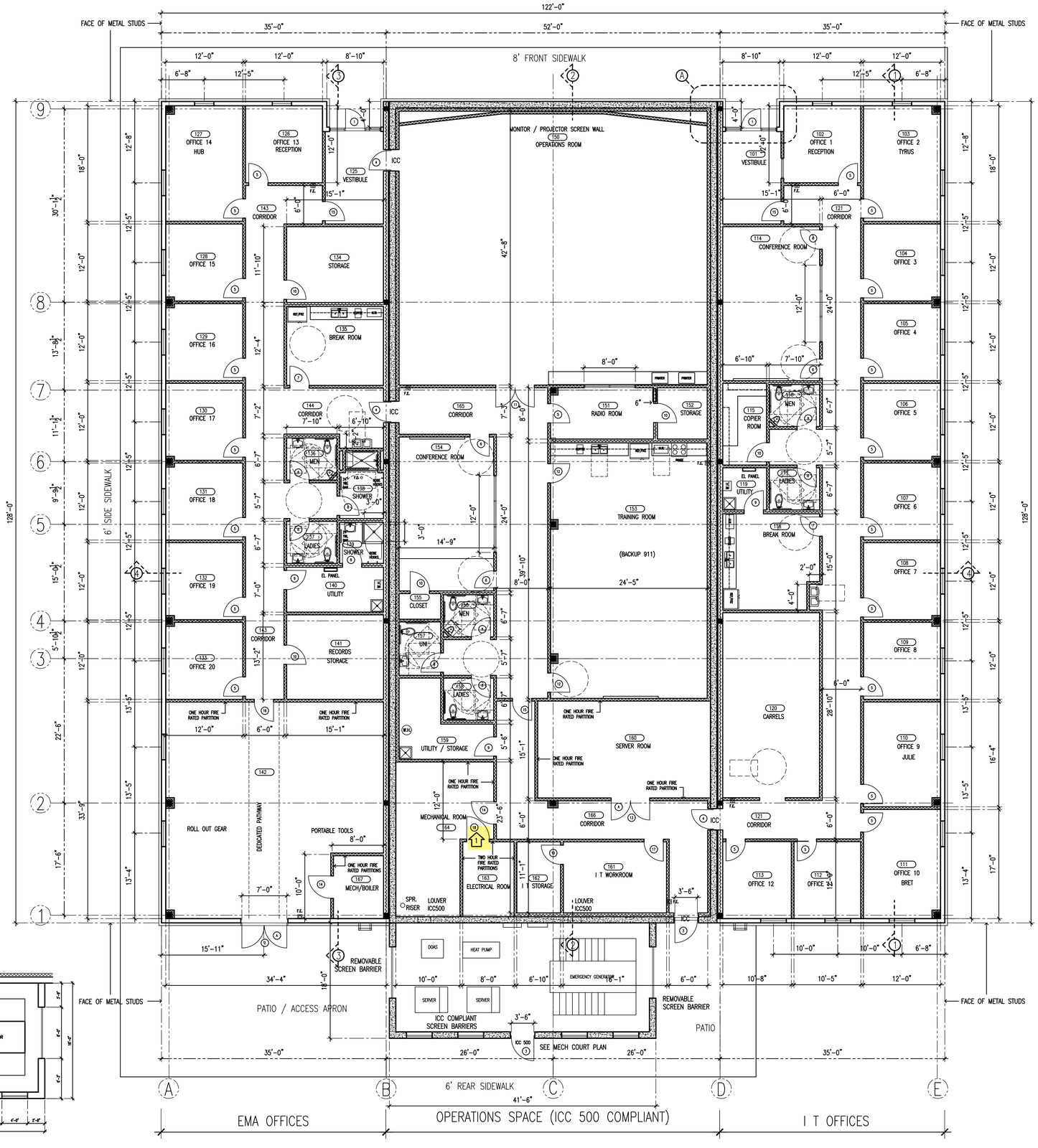
5/8" GYPSUM BOARD ON INSIDE FACE OF
8" – 16 GA. @ 4" C/C METAL STUDS AT ICC WALL

5/8" GYPSUM BOARD TYPE X BOTH SIDES OF
6"-20 GA. @ 24" C/C METAL STUDS AT ALL PLUMBING WALLS
WITH FIBERGLASS SOUND INSULATION IN ALL PARTITIONS U.O.N.*

5/8" GYPSUM BOARD TYPE X BOTH SIDES OF
3 5/8"-20 GA. @ 24" C/C METAL STUDS
WITH FIBERGLASS SOUND INSULATION IN ALL PARTITIONS U.O.N.*

ONE HOUR FIRE RATED PARTITION WHERE NOTED. EXTEND TO ROOF DECK AND SEAL AIRTIGHT WITH FIRE SEALANT.

*NOTE: PROVIDE HIGH PERFORMANCE MINERAL WOOL SOUND INSULATION BATTS AT:
CONFERENCE ROOM 114
OFFICES 103, 110, 111



1 ADD RIM DEVICE TO ELECTRICAL ROOM DOOR

REVISIONS	BY
1 11-5-2025	SJC

STATE OF ALABAMA
No. 1933
Stephen J. Coker
Birmingham, Alabama
REGISTERED ARCHITECT

Not Valid for Construction without Registration Seal

BUILDING TOTAL
122' X 128' BLDG. AREA
15,616 GROSS SF

EMA DEPT
35' X 128'
4480 SF BLDG. AREA
4348 SF FLOOR AREA
(PLG. MAX. 50 OCCS.)

I T DEPT
35' X 128'
4480 SF BLDG. AREA
4348 SF FLOOR AREA
(PLG. MAX. 50 OCC.)

ICC 500
52' X 128'
6656 SF BLDG. AREA
6127 SF FLOOR AREA
(PLG. MAX. 100)

DIMENSION FLOOR PLAN
scale: 1/8" = 1'-0"
scale is accurate on 24"x36" sheets only

Shelby County
EMA - IT FACILITY
260 - McDow Road
Shelby County, Alabama 35051

ARCH ITECTURE
Stephen Coker Architect LLC
1000 Glen View Road
Birmingham, Alabama 35222
Phone 205/595-0021
E-mail: steve@cokerarch.com

DRAWING DATE	10-27-2025
DRAWN BY	SJC
PROJECT NO.	250407

DIMENSION PLAN

SHEET NO. A2

7 OF 25(A) SHEETS

DOOR SCHEDULE

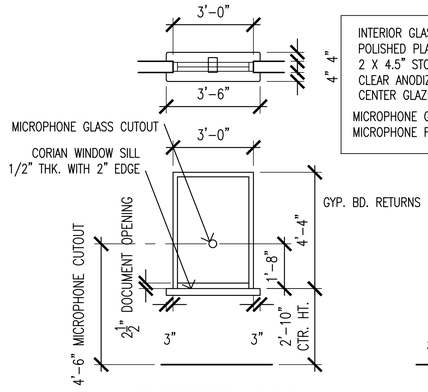
DOORS SCHEDULED BY TYPE. VERIFY QUANTITIES. HOLLOW METAL DOORS – 18 GA. STEEL HOLLOW METAL FRAMES – 16 GA. STEEL

DOOR NUM	ROOM TYPE	ELEVATION	EXPOSURE	WIDTH	HEIGHT	THK.	MATERIAL	TYPE	FRAME	GLASS	FIRE RATING	REMARKS
1	FRONT ENTRIES AT VESTIBULES	1	EXTERIOR	3'-0"	7'-0"	1 3/4"	ALUM & GLASS	STOREFRONT	STOREFRONT	YES	NO	WIDE STILE HEAVY DUTY
2	EXIT / SERVICE	2	EXTERIOR	PAIR 3'-6"	8'-0"	1 3/4"	GALVANNEALED HOLLOW METAL	FLUSH PANEL	GALVANNEALED HOLLOW METAL	NO	NO	
3	EXIT AT CORRIDOR	3	EXTERIOR	3'-6"	7'-0"	1 3/4"	REINF. STEEL	FLUSH PANEL	STEEL	NO	NO	ICC 500 COMPLIANT
4	OPERATIONS ROOM & CORRIDOR	4	INTERIOR	3'-0"	7'-0"	1 3/4"	REINF. STEEL	FLUSH PANEL	STEEL	NO	NO	ICC 500 COMPLIANT
5	OFFICES	5	INTERIOR	3'-0"	7'-0"	1 3/4"	SOLID CORE WOOD VENEER	FLUSH PANEL	K.O. HOLLOW MTL	NO	NO	
6	CONFERENCE ROOMS	6	INTERIOR	3'-0"	7'-0"	1 3/4"	SOLID CORE WOOD VENEER	FLUSH PANEL	K.O. HOLLOW MTL	NO	NO	
7	BREAK ROOMS	7	INTERIOR	3'-0"	7'-0"	1 3/4"	SOLID CORE WOOD VENEER	FLUSH PANEL	K.O. HOLLOW MTL	YES	NO	
8	REST ROOMS	8	INTERIOR	3'-0"	7'-0"	1 3/4"	SOLID CORE WOOD VENEER	FLUSH PANEL	K.O. HOLLOW MTL	NO	NO	
9	UTILITY ROOMS	9	INTERIOR	3'-0"	7'-0"	1 3/4"	SOLID CORE WOOD VENEER	FLUSH PANEL	K.O. HOLLOW MTL	NO	NO	
10	STORAGE ROOMS	10	INTERIOR	3'-0"	7'-0"	1 3/4"	SOLID CORE WOOD VENEER	FLUSH PANEL	K.O. HOLLOW MTL	NO	NO	
11	OPERATIONS ROOM	11	INTERIOR	PAIR 3'-0"	7'-0"	1 3/4"	SOLID CORE WOOD VENEER	FLUSH PANEL	K.O. HOLLOW MTL	YES	NO	
12	TRAINING ROOM	12	INTERIOR	3'-0"	7'-0"	1 3/4"	SOLID CORE WOOD VENEER	FLUSH PANEL	K.O. HOLLOW MTL	YES	NO	
13	SERVER ROOM	13	INTERIOR	PAIR 3'-0"	7'-0"	1 3/4"	HOLLOW METAL	FLUSH PANEL	K.O. HOLLOW MTL	NO	45 MIN.	
14	MECHANICAL ROOMS	14	INTERIOR	3'-6"	7'-0"	1 3/4"	HOLLOW METAL	FLUSH PANEL	K.O. HOLLOW MTL	NO	45 MIN.	
15	CORRIDORS	15	INTERIOR	3'-0"	7'-0"	1 3/4"	SOLID CORE WOOD VENEER	FLUSH PANEL	K.O. HOLLOW MTL	YES	NO	
16	CORRIDOR	16	INTERIOR	3'-0"	7'-0"	1 3/4"	HOLLOW METAL	FLUSH PANEL	K.O. HOLLOW MTL	NO	45 MIN.	
17	I T WORKROOM	17	INTERIOR	3'-0"	7'-0"	1 3/4"	SOLID CORE WOOD VENEER	FLUSH PANEL	K.O. HOLLOW MTL	NO	NO	
18	ELECTRICAL ROOM	18	INTERIOR	3'-6"	7'-0"	1 3/4"	HOLLOW METAL	FLUSH PANEL	K.O. HOLLOW MTL	NO	90 MIN. DOOR	

DOOR HARDWARE SCHEDULE

VERIFY KEYING MATRIX WITH OWNER INTERIOR DOOR HARDWARE FINISH: US 26D SATIN CHROME

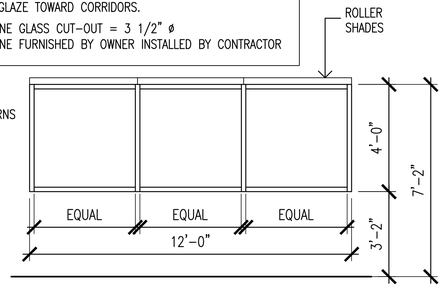
DOOR NUM	ROOM TYPE	HINGES	EXIT LOCKSET	LOCKSET	PASSAGE LATCH	PRIVACY LATCH	PUSH/PULL	CLOSER	STOP	GLASS	KICKPLATES	WEATHERSTRIP	THRESHOLD	ACCESS CONTROL	REMARKS
1	FRONT ENTRIES AT VESTIBULES	CONTINUOUS	RIM DEVICE					X	X	X		X	X	ELECTRIC STRIKE	
2	EXIT / SERVICE	8	RIM DEVICE (1)					2	X			X	X	ELECTRIC STRIKE	HEAD & FOOT BOLTS INACTIVE LEAF DUMMY TRIM
3	EXIT AT CORRIDOR	4	RIM DEVICE					X	X			X	X	ELECTRIC STRIKE	ICC 500 COMPLIANT SEE DOOR ELEVATION
4	OPERATIONS ROOM & CORRIDOR	4	RIM DEVICE					X	X					ELECTRIC STRIKE	ICC 500 COMPLIANT SEE DOOR ELEVATION
5	OFFICES	3		X					X		1				
6	CONFERENCE ROOMS	3		X					X		1				
7	BREAK ROOMS	3			X			X	X	X	1				
8	REST ROOMS	3				X			X		1				
9	UTILITY ROOMS	3		X					X		1	X			
10	STORAGE ROOMS	3		X					X		1				
11	OPERATIONS ROOM	6					X	2		X	4			MAGNETIC LOCK	
12	TRAINING ROOM	3		X				X	X	X	2				
13	SERVER ROOM	6		X				2	X			X	X	ELECTRIC STRIKE	HEAD & FOOT BOLTS INACTIVE LEAF DUMMY TRIM. 45 MIN. FIRE RATING
14	MECHANICAL ROOMS	3		X					X			X	X		45 MIN. DOOR
15	CORRIDORS	3		X				X	X	X	2	X		ELECTRIC STRIKE	
16	CORRIDOR	3	RIM DEVICE					X	X		2	X		ELECTRIC STRIKE	45 MIN. DOOR
17	I T WORKROOM	3		X				X	X		1	X		ELECTRIC STRIKE	
18	ELECTRICAL ROOM	3	RIM DEVICE						X			X	X		90 MIN. DOOR



I T RECEPTION WINDOW

INTERIOR GLASS: 1/4" SINGLE PANE
POLISHED PLATE GLASS IN
2 X 4.5" STOREFRONT SASH
CLEAR ANODIZED ALUMINUM FINISH.
CENTER GLAZE TOWARD CORRIDORS.

MICROPHONE GLASS CUT-OUT = 3 1/2" ø
MICROPHONE FURNISHED BY OWNER INSTALLED BY CONTRACTOR



CONFERENCE ROOM LITES 3 PANELS –12'-0"
RADIO ROOM LITES 2 PANELS – 8'-0"

EXIT LOCK: OPENING DOOR FROM INSIDE IS LIMITED TO A SINGLE ACTION OF TURNING LEVER. DEADBOLT AUTOMATICALLY RETRACTED WITH LATCHBOLT. CRASH BAR IS AN OPTIONAL EXIT DEVICE.

LOCKSET: THUMBTURN INSIDE LOCKS DOOR FROM OUTSIDE. OUTSIDE KEY RETRACTS LOCKBOLT. POSITION OF THUMBTURN DETERMINES OUTSIDE KNOB REMAINING LOCKED OR UNLOCKED.

ALL FUNCTIONS ALWAYS UNLOCKED FROM INSIDE. ALL OPERATING DEVICES TO BE ADA/ANSI APPROVED LEVER HANDLES UNLESS SPECIFICALLY REQUESTED BY OWNER ON NON-ADA/ANSI SPACES.

ALL OPERATING DEVICES TO BE ADA/ANSI APPROVED LEVER HANDLES.

METAL KICKPLATE ON CORRIDOR SIDE ONLY (1) EXCEPT WHERE NOTED (2) OR (4). MATCH LOCKSET FINISH.

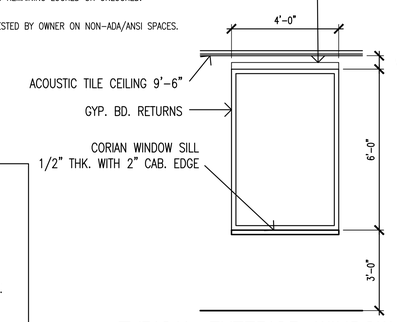
ALL HARDWARE FINISHES TO BE US 26D BRUSHED CHROME.

ANSI GRADE 1 CYLINDRICAL LEVER LOCKS AND DEADBOLTS.

LOCKSET HARDWARE ON DOORS SHALL BE FURNISHED AND INSTALLED WITHOUT KEY CYLINDER CORES.
LOCKSETS SHALL BE DESIGNED FOR AND CAPABLE OF ACCEPTING LARGE FORMT KEY CYLINDER CORES.
KEY CYLINDERS "SCHLAGE PRIMUS" FURNISHED AND INSTALLED BY OWNER.

ELECTRIC STRIKES: h.e.s / ASSA ABLOY 1006 LB
DOOR FRAME JAMBS SHOWN FOR ELECTRIC STRIKE TO COME PRE-PREPPED BY SUPPLIER, NOT FIELD CUT.
FACE CUTOUT 1 1/4" X 4 7/8" AND SIDE CUTOUT 1 11/16" X 3 3/8". FACE PLATE FOR SPECIFIED LOCKSET.
DUST BOX WITH CONDUIT CONNECTIONS WELDED TO FRAME.

MECHOSHADE 5X MANUAL ROLLER SHADES WITH 3X3 STANDARD BRACKET AND FASCIA AT OFFICE WINDOWS.

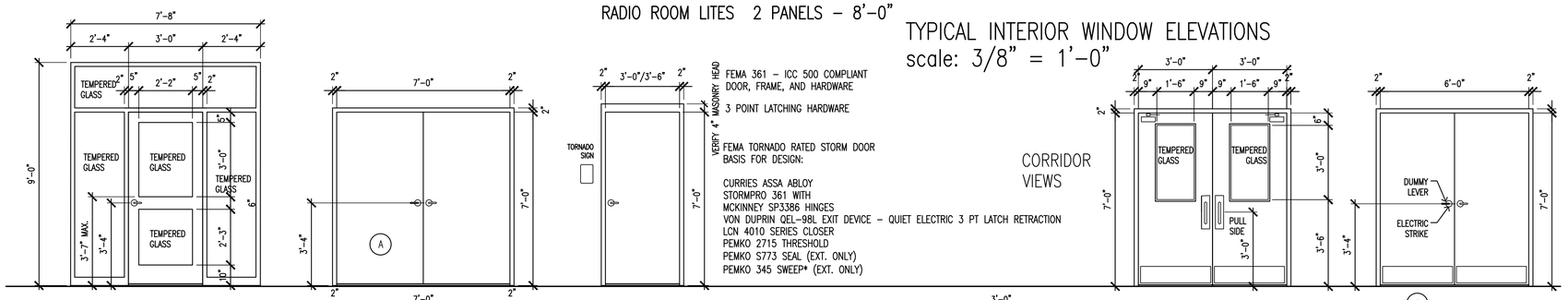


TYPICAL EXTERIOR WINDOW ELEVATION
INTERIOR SIDE SHOWN
scale: 3/8" = 1'-0"

EXTERIOR GLASS:
1" INSULATED TINTED GLASS, VITRO SOLARBAN 70 OPITGRAY.
OUTBOARD LITE 1/4" GLASS SOLARBAN OPTIGRAY,
INBOARD LITE 1/4" CLEAR.

2 X 4.5" THERMALLY-BROKEN ALUMINUM STOREFRONT SASH,
CLEAR ANODIZED FINISH . CENTER GLASS APPLICATION.

TYPICAL INTERIOR WINDOW ELEVATIONS
scale: 3/8" = 1'-0"



1 ALUMINUM SASH ELECTRIC STRIKE FRAME

ELECTRIC STRIKE AT INACTIVE LEAF 2 A ACTIVE LEAF
HOLLOW METAL DOORS AND FRAME

3 4 STEEL DOORS ELECTRIC STRIKE FRAME
ICC 500 COMPLIANT
4 FEMA DOORS REQUIRED

5 6 8 9 10 17 WOOD DOORS AND HOLLOW METAL FRAME

7 12 WOOD DOORS AND HOLLOW METAL FRAME

11 MAGNETIC LOCK BOTH LEAFS
WOOD DOORS AND HOLLOW METAL FRAME

ACTIVE LEAF A 13 ELECTRIC STRIKE AT INACTIVE LEAF
HOLLOW METAL DOOR AND HOLLOW METAL FRAME FULL PERIMETER WEATHERSTRIPPING

14 HOLLOW METAL DOORS AND HOLLOW METAL FRAMES

15 ELECTRIC STRIKE FRAME
WOOD DOORS AND HOLLOW METAL FRAMES

16 ELECTRIC STRIKE FRAME
HOLLOW METAL DOOR AND HOLLOW METAL FRAME

DOOR ELEVATIONS
scale: 3/8" = 1'-0"

NOTE: DOOR ELEVATIONS ARE NOT SHOWN HAND-SPECIFIC. SEE FLOOR PLAN FOR SWING DIRECTION.

scale is accurate on 24"x36" sheets only

REVISIONS	BY
1 11-5-2025	SJC

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DRAWING DATE	10-27-2025
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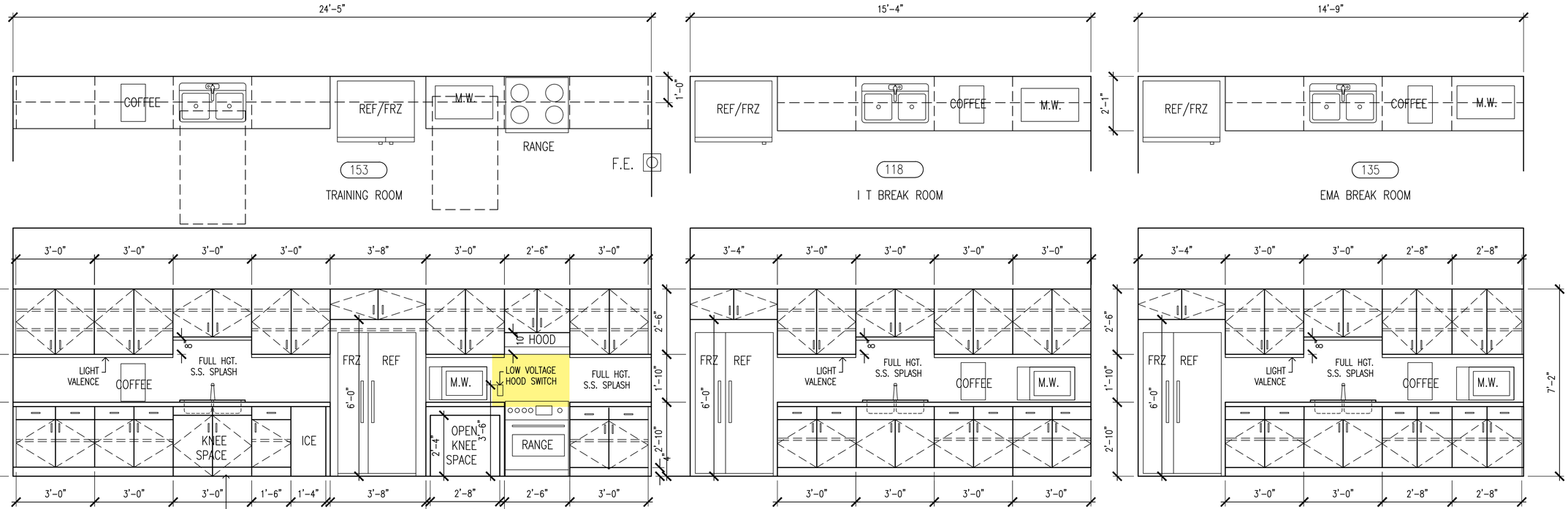
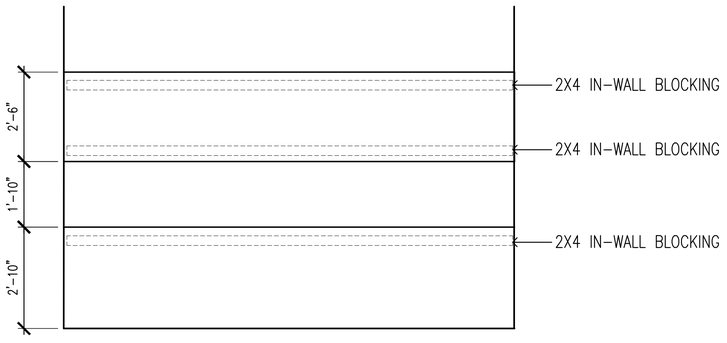
DOOR & WINDOW SCHEDULES

SHEET NO. A16

21 OF 25(A) SHEETS



NOTE MAX. ADA BASE CABINET HEIGHT IS 34". ALL UNDERCOUNTER APPLIANCES MUST BE ADA COMPLIANT AND FIT UNDER 34" HEIGHT COUNTERTOP.



BLOCKING DETAILS
scale: 1/2" = 1'-0"

CASEWORK DETAILS
scale: 3/4" = 1'-0"

CABINETRY PLASTIC LAMINATE:
WILSONART OR FORMICA.
COLOR TBD

SOLID SURFACE SS-1:
GROUP B COLOR TBD

STANDARD WHITE MELAMINE

COUNTERTOPS AND BACKSPLASH: SOLID SURFACING
CABINETS, OUTSIDE FINISHES: HIGH PRESSURE PLASTIC LAMINATE
CABINET SHELVES: HIGH PRESSURE PLASTIC LAMINATE
CABINETS, INTERIOR FINISH: MELAMINE
WIRE DOOR AND DRAWER PULLS: 4" BRUSHED CHROME

CASEWORK DETAILS
scale: 1/2" = 1'-0"

scale is accurate on 24"x36" sheets only

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DRAWING DATE	10-27-2025
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CASEWORK DETAILS 1

SHEET NO.
A18
23 OF 25(A) SHEETS

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

Contract Documents and Forms

DIVISION 01 – GENERAL REQUIREMENTS

DIVISION 07 – THERMAL LAND MOISTURE PROTECTION

DIVISION 08 - OPENINGS

DIVISION 09 - FINISHES

DIVISION 10 – SPECIALTIES

DIVISION 11 - EQUIPMENT

DIVISION 12 - FURNISHINGS

DIVISION 21 – FIRE SUPPRESSION

DIVISION 22 – PLUMBING

DIVISION 23 – HVAC

DIVISION 26 – ELECTRICAL

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

B. Types of allowances include the following:
   1. Unit-cost allowances.
   2. Contingency allowances.

C. Related Requirements:

   1. Section 012200 "Unit Prices" for procedures for using unit prices, including adjustment of quantity allowances when applicable.

1.2 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.

B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Architect from the designated supplier.

1.3 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.4 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1. UNIT-COST ALLOWANCES

   A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include freight**,** and delivery to Project site.

   B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

1. CONTINGENCY ALLOWANCES

   A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

   B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, insurance, equipment rental, and similar costs.

   C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit.

   D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1. AD USTMENT OF ALLOWANCES

   A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

      1. Include installation costs in purchase amount only where indicated as part of the allowance.
      2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
      3. Submit substantiation of a change in scope of Work, if any, claimed in Change Orders related to unit-cost allowances.
      4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

   B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. **Allowance No.1: <u>OWNER'S CONTINGENCY ALLOWANCE1:</u>**

1. Allow a lump sum of **$300,000.00** for the correction of concealed existing conditions and/or additional work, as directed by the Architect, or Owner, including purchase, any applicable taxes and fees, and all related costs.

2. Include overhead and profit associated with this allowance in Base Bid, and not as part of Allowance.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements:

1. Division 01 Section "Allowances" for procedural requirements governing the handling and processing of allowances.
2. Division 01 Section "Unit Prices" for administrative requirements governing the use of unit prices.
3. Division 01 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
4. Division 01 Section "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.2 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.3 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule. Cost-loaded Critical Path Method Schedule may serve to satisfy requirements for the schedule of values.

1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
   a. Application for Payment forms with continuation sheets.
   b. Submittal schedule.
   c. Items required to be indicated as separate activities in Contractor's construction schedule.
2. Submit the schedule of values to Architect at earliest possible date, but no later than seven working days before the date scheduled for submittal of initial Applications for Payment.
3. Subschedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values coordinated with each phase of payment.
4. Subschedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide subschedules showing values coordinated with each element.
5. Subschedules for Separate Design Contracts: Where the Owner has retained design professionals under separate contracts who will each provide certification of payment requests, provide subschedules showing values coordinated with the scope of each design services contract as described in Division 01 Section "Summary."

B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:
    a. Project name and location.
    b. Name of Architect.
    c. Architect's project number.
    d. Contractor's name and address.
    e. Date of submittal.
2. Arrange schedule of values consistent with format of AIA Document G703.
3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
    a. Related Specification Section or Division.
    b. Description of the Work.
    c. Name of subcontractor.
    d. Name of manufacturer or fabricator.
    e. Name of supplier.
    f. Change Orders (numbers) that affect value.
    g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
        1) Labor.
        2) Materials.
        3) Equipment.
4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
    a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
8. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
9. Purchase Contracts: Provide a separate line item in the schedule of values for each purchase contract. Show line-item value of purchase contract. Indicate owner payments or deposits, if any, and balance to be paid by Contractor.

10. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

    a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

11. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.4 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703; or forms acceptable to Architect and Owner for Applications for Payment. Submit forms for approval with initial submittal of schedule of values.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.

2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.

3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

1. The contractor has received written approval from the Architect and Owner to store the materials or equipment off site in advance of delivering the materials to the off-site location;

2. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.

3. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
4. Provide summary documentation for stored materials indicating the following:
    a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
    c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

F. Transmittal: Submit electronic copy of each Application for Payment to Architect by a method ensuring receipt. Include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
2. Schedule of values.
3. Contractor's construction schedule (preliminary if not final).
4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
5. Products list (preliminary if not final).
6. Schedule of unit prices.
7. Submittal schedule (preliminary if not final).
8. List of Contractor's staff assignments.
9. List of Contractor's principal consultants.
10. Copies of building permits.
11. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
12. Initial progress report.

13. Report of preconstruction conference.
14. Certificates of insurance and insurance policies.
15. Performance and payment bonds.
16. Data needed to acquire Owner's insurance.

I. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

PART 1 GENERAL

1.1 SUMMARY

A. Responsibilities:

1. Refrigerator. Furnished and Installed by Owner
2. Range: Furnished and Installed by Owner
3. Range Hood: Furnished by Contractor, Installed by Contractor - (Broan Glacier Range Hood – Model GLA2303SS – 30 inch stainless with ADA Wiring Kit)
4. Ice Machine: Furnished and Installed by Owner
5. Microwave: Furnished and Installed by Owner

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.
2. PLUMBING and ELECTRICAL sections.

1.2 DELIVERY, STORAGE AND HANDLING

A. Receive and store appliances and equipment with manufacturer's protective coverings in place; do not remove until just prior to installation.

PART 2 EXECUTION

2.1 INSTALLATION

A. Install appliances and equipment in accordance with manufacturer's instructions.

B. Set plumb, level, and aligned.

C. Connect to domestic water.

D. Connect to power supply.

2.2 ADJUSTING

A. Adjust for proper operation.

APPLIANCE DESCRIPTION	MANUFACTURER	MODEL	FINISH
Contact Owner for all appliance specifications prior to installation.			

END OF SECTION

Proposed Shelby County EMA/IT Facility

280 McDow Road

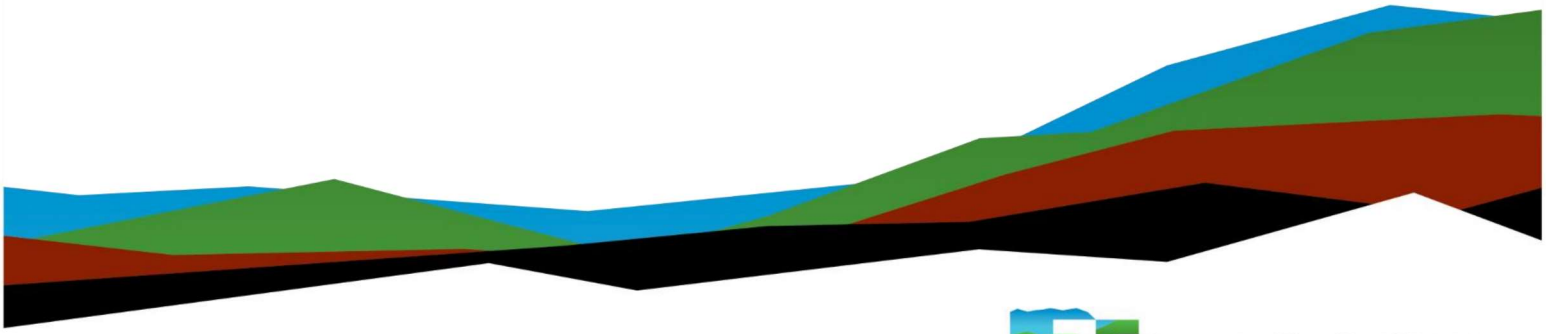
Columbiana, Alabama

Geotechnical Engineering Report

July 17, 2025 | Terracon Project No. E1255112

Prepared for:

Shelby County Department of Facilities and General Services
280 McDow Road
Columbiana, Alabama 35051



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P (205) 942-1289
Terracon.com

July 17, 2025

Shelby County Department of Facilities and General Services
280 McDow Road
Columbiana, Alabama 35051

Attn: Trey Gauntt, P.E.
Chief Facilities Management Officer
E: TGAUNTT@shelbyal.com

Re: Geotechnical Engineering Report
Shelby County EMA/IT Facility
280 McDow Road
Columbiana, AL 35051
Terracon Project No. E1255112

Dear Mr. Gauntt:

We have completed the scope of Geotechnical Engineering services for the above referenced project in general accordance with Terracon Proposal No. PE1255112 dated June 16, 2025. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs, and other site development elements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon

ALABAMA LICENSED No. 17908 PROFESSIONAL ENGINEER BRYAN C. RITENOUR

Bryan C. Ritenour, P.E.
Senior Engineer

Matthew S. McCullough, P.E.
Manager, Geotechnical Services

Table of Contents

Figures

Attachments

Note: This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the Terracon logo will bring you back to this page. For more interactive features, please view your project online at **client.terracon.com**.

Refer to each individual Attachment for a listing of contents.

Introduction

This report presents the results of our subsurface exploration and Geotechnical Engineering services performed for the proposed Shelby County EMA/IT facility to be located at 280 McDow Road in Columbiana, AL. The purpose of these services was to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Seismic site classification per IBC
- Site preparation and earthwork
- Foundation design and construction
- Floor slab design and construction

The geotechnical engineering Scope of Services for this project included the advancement test borings at 5 primary locations. However, one additional boring (B-1A) was drilled due to shallow auger refusal on an obstruction at primary boring B-1. The services also included engineering analysis and preparation of this report.

Exhibits showing the site and boring locations are shown on the **Site Location** and **Exploration Plan**, respectively. The results of the laboratory testing performed on soil samples obtained from the site during our field exploration are included on the boring logs in the **Exploration Results** section.

Project Description

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Information Provided	The proposed site location and approximate building location was provided by Mr. Trey Gauntt via email on June 5, 2025. A Site Layout Plan, prepared by Gonzalez-Strength showing the actual building locations and site grades was provided on July 16, 2025.
Project Description	The project will consist of a new facility to house the Shelby County EMA and IT Departments (See Exploration Plan).

Item	Description
Proposed Structures	New one-story building
Building Construction	Light gauge metal studs except for an interior hardened area with concrete walls, slab on grade
Finished Floor Elevation	Unknown at this time
Maximum Loads	▪ Columns: 100 - 200 kips (assumed) ▪ Walls: 3-5 kips per linear foot (klf) (assumed) ▪ Floor Slabs: 100 pounds per square foot (psf) (assumed)
Grading/Slopes	No grading plans for this project have been provided. Based on the current site elevations, we anticipate cuts of less than 2 feet and fills up to about 10 feet will be required. We anticipate slopes of similar heights.
Below-Grade Structures	None anticipated
Free-Standing Retaining Walls	None anticipated

Terracon should be notified if any of the above information is inconsistent with the planned construction, especially the structural loading and grading assumptions, as modifications to our recommendations may be necessary.

Site Conditions

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic maps.

Item	Description
Parcel Information	The project is located along McDow Road in Columbiana, AL. (See Site Location) Latitude/Longitude (approximate): 33.1835° N, 86.6265° W
Existing Improvements	None, however a previous structure has been demolished
Current Ground Cover	Grass, bare ground

Item	Description
Existing Topography	The site is relatively level to very gently to moderately sloping with existing grades ranging from about elevation El 552 to El 563.

Geotechnical Characterization

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, geologic setting and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical evaluation of the site. Conditions observed at each exploration point are indicated on the individual logs. The individual logs can be found in the **Exploration Results** and the GeoModel can be found in the **Figures** attachment of this report.

As part of our evaluation, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
1	**Surface Layer**	Topsoil 6 inches thick (No topsoil at borings B-3 and B-4)
2	**Low Consistency Existing Fill**	Sandy silt to silty sand, brown, N-values 4 blows per foot
3	**Higher Consistency Existing Fill**	Sandy silt to silty sand, brown, N-values 7 to 16 blows per foot
4	**Native Soil**	Typically, lean clay (CL) or silt (ML) with varying sand content, very stiff to hard consistency, relict shale appears with depth
5	**Remnant Topsoil**	Remnant original topsoil beneath the existing fill, gray

The borings were advanced in the dry using a solid stem auger drilling technique that allows short term groundwater observations to be made while drilling. Groundwater was not observed in any of the borings during drilling or during the relatively short period the borings remained open prior to being backfilled. Groundwater conditions may be different at the time of construction. Groundwater conditions may change because of seasonal variations in rainfall, runoff, and other conditions not apparent at the time of

drilling. Some minor seepage from the variably compacted existing fill could occur. Long-term groundwater monitoring was outside the scope of services for this project.

Site Geology

Published geologic maps indicate the site is underlain by the Parkwood Formation and Floyd Shale Undifferentiated. The Parkwood Formation consists of interbedded medium to dark-gray shale and light to medium-gray sandstone and locally contains dusky-red and grayish-green mudstone, argillaceous limestone, and clayey coal. The Floyd Shale consists of dark-gray shale with thin beds of sandstone, limestone and chert.

Seismic Site Class

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC). Based on the soil properties observed at the site and as described on the exploration logs and results, our professional opinion is that a **Seismic Site Classification of C** be considered for the project. Subsurface explorations at this site were extended to a maximum depth of 14.5 feet. The site properties below the boring depth to 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depth.

Geotechnical Overview

The site can be suitably prepared for the proposed construction based upon geotechnical conditions encountered in the test borings, provided that the recommendations provided in this report are implemented in the design and construction phases of this project.

The site is blanketed by a layer of previously-placed fill consisting of sandy silt or silty sand and extending to depths of about 3 feet to 8 feet below the existing ground surface at the boring locations. We have no records to indicate the degree of control during placement of the fill. The SPT N-values recorded within the fill ranged from 4 to 16 blows per foot (bpf) at the boring locations indicating variable consistencies of the fill. Existing fill having N-values of less than 7 blows per foot are being described as low consistency fill (Geomodel Layer 2). Existing fill having N-values of more than 7 blows per foot are

being described as higher consistency fill (Geomodel Layer 3). Boring B-1 met auger refusal at a depth of about 3 feet on an obstruction buried in the existing fill.

Beneath the fill, the borings encountered low plasticity native soils generally consisting of either stiff to hard lean clay (CL) or silt (ML) with varying amounts of sand. At borings B-1A, and B-2 through B-5, the low plasticity soil extended to the auger refusal depths ranging from about of 13.7 to 14.5 feet. Auger refusal at these borings was met on native bedrock.

After the stripping of the site and performing the planned cuts to final grades and in areas to receive fill, the exposed subgrade should be compacted and then proof-rolled under the observation of the Geotechnical Engineer as further discussed in the **Earthwork** section of this report. Any soft, loose, or otherwise unstable soils excessively deflecting during the proof-roll should be undercut and replaced with structural fill or stabilized as discussed in the **Earthwork** section of this report. The lower consistency existing fill could require complete removal or drying, and recompacting in place. The project budget should include contingencies for undercutting and replacing low consistency soils such as encountered in borings B-1, B-1A, B-2, and B-3.

Based on the conditions encountered, the proposed structure can be supported on conventional continuous or spread footing foundations bearing on medium stiff to hard native soils, approved higher consistency existing fill, or new engineered fill. The proposed floor slab can bear on the medium stiff to hard native soils, approved higher consistency existing fill, or new engineered fill. If low consistency/density soils are detected during footing excavations, the low consistency/density soils should be removed from the excavation bottom. The overexcavation can be backfilled with lean concrete to the desired bearing elevation. The project budget should include contingencies for undercutting and replacing low consistency soils detected in the footing excavations.

Support of foundations, floor slabs, and pavements on or above approved existing fill materials is discussed in this report. However, even with the recommended construction procedures, there is inherent risk for the owner that compressible fill or unsuitable material, within or buried by the fill, will not be discovered. This risk of unforeseen conditions cannot be eliminated but can be reduced by following the recommendations contained in this report. Therefore, the owner must be willing to accept the risk associated with building over the fill material. If the owner can not tolerate the risk of building on the existing fill, the existing fill should be completely removed and replaced, or Terracon can provide recommendations for a ground improvement system.

The onsite soils that are free of organics are considered suitable for re-use as structural fill. Some moisture conditioning (i.e., drying) of the existing fill and native soils should be anticipated for onsite soils to be reused. Furthermore, soils failing the proofroll test

may require additional reworking and drying to be stabilized in place, especially if earthwork is performed during the winter months.

Even after proper site preparation, the near surface soils could become unstable with typical earthwork and construction traffic, especially after precipitation events. The effective drainage should be completed early in the construction sequence and maintained after construction to avoid potential issues. If possible, the grading should be performed during the warmer and drier times of the year. If grading is performed during the winter months, an increased risk for possible undercutting and replacement of unstable subgrade will persist. Additional site preparation recommendations, including subgrade improvement and fill placement, are provided in the **Earthwork** section.

The recommendations contained in this report are based upon the results of field and laboratory testing (presented in the **Exploration Results**), engineering analyses, and our current understanding of the proposed project. The **General Comments** section provides an understanding of the report limitations.

Earthwork

Earthwork is anticipated to include clearing and grubbing, excavations, subgrade stabilization, and engineered fill placement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality criteria, as necessary, to render the site in the state considered in our geotechnical engineering evaluation for foundations, floor slabs, and pavements.

Site Preparation

Prior to grading operations, any soils saturated from being exposed to the elements or any debris remaining from site demolition should be removed from the proposed building area and base of fill slopes.

Any existing utilities present that will not serve the proposed development should be removed. Soft or loose soils are commonly encountered within existing utility trenches. If existing utilities are to be removed or rerouted from the site, all soft or loose soil should be removed, and the trenches should be properly backfilled with new structural fill.

After stripping the site and making the necessary cuts to finish subgrade, but prior to fill placement, the exposed subgrade should be compacted using a heavy vibratory sheepsfoot roller having a maximum static weight of 12,000 lbs. and capable of exerting a minimum impact energy of 20,000 lbs.

After densification/compaction as described above, the subgrade should be proofrolled with an adequately loaded vehicle such as a fully-loaded tandem-axle dump truck. The proofrolling should be performed under the observation of the Geotechnical Engineer or representative. Areas excessively deflecting under the proofroll should be delineated and subsequently addressed by the Geotechnical Engineer. Such areas should either be removed, further densified in place, or stabilized by other methods discussed in the following sections, depending on site and weather conditions. Excessively wet or dry material should either be removed or moisture conditioned and recompacted. Compacted structural fill soils should then be placed to the proposed design grade and the moisture content and compaction of subgrade soils should be maintained until foundation or pavement construction.

Based upon the subsurface conditions determined from the geotechnical exploration, subgrade soils exposed during construction are anticipated to be relatively workable if proper surface water and groundwater management is performed; however, the workability of the subgrade may be affected by precipitation, repetitive construction traffic or other factors. If unworkable conditions develop, workability may be improved by scarifying and drying.

Existing Fill

As noted in **Geotechnical Characterization**, the borings encountered previously placed fill. The SPT N-values recorded within the fill ranged from 4 to 16 blows per foot (bpf) at the boring locations indicating variable consistencies of the fill. Even after stabilization of the near surface existing fill, an inherent risk remains for the owner that compressible fill or unsuitable material, within or buried by the fill, will not be discovered. This risk of unforeseen conditions cannot be eliminated but can be reduced by following the recommendations contained in this report.

After the planned grading has been completed, the entire building subgrade areas should be proofrolled with heavy, rubber tire construction equipment, to aid in delineating areas of soft or otherwise unsuitable soil. Areas of soft or otherwise unsuitable material should be undercut and replaced with new structural fill.

Excavation

We anticipate that excavations for the proposed construction can be accomplished with conventional medium to heavy duty earthmoving equipment. The bottom of excavations should be thoroughly cleaned of loose soils and disturbed materials prior to backfill placement and/or construction.

Soil Stabilization

Unstable subgrades may develop in areas subjected to repetitive construction traffic or if earthwork is performed during the wetter and cooler periods of the year. Methods of subgrade improvement, as described below, could include scarification, moisture conditioning and recompaction, removal of unstable materials and replacement with granular fill (with or without geosynthetics). The appropriate method of improvement, if required, would be dependent on factors such as schedule, weather, the size of area to be stabilized, and the nature of the instability. More detailed recommendations can be provided during construction as the need for subgrade stabilization occurs. Performing site grading operations during warm seasons and dry periods would help reduce the amount of subgrade stabilization required.

If the exposed subgrade is unstable during proofrolling operations, it could be stabilized using one of the methods outlined below.

- **Scarification and Recompaction** - It may be feasible to scarify, dry, and recompact the exposed soils. The success of this procedure would depend primarily upon favorable weather and sufficient time to dry the soils. Stable subgrades likely would not be achievable if the thickness of the unstable soil is greater than about 1 foot, if the unstable soil is at or near groundwater levels, or if construction is performed during a period of wet or cool weather when drying is difficult.
- **Crushed Stone** - The use of crushed stone or crushed gravel is a common procedure to improve subgrade stability. Typical undercut depths would be expected to range from about 12 to 18 inches below finished subgrade elevation. The use of high modulus geotextiles (i.e., engineering fabric or geogrid) could also be considered after underground work such as utility construction is completed. Prior to placing the fabric or geogrid, we recommend that all below grade construction, such as utility line installation, be completed to avoid damaging the fabric or geogrid. Equipment should not be operated above the fabric or geogrid until one full lift of crushed stone fill is placed above it. The maximum particle size of granular material placed over geotextile fabric or geogrid should not exceed 1-1/2 inches.

Further evaluation of the need and recommendations for subgrade stabilization can be provided during construction as the geotechnical conditions are exposed.

Fill Material Types

Fill required to achieve design grade should be classified as structural fill. Structural fill is material used below, or within 10 feet of structures, pavements or constructed slopes.

Reuse of On-Site Soil: Excavated on-site soil may be selectively reused as fill. Material property requirements for on-site soil for use as structural fill are noted in the table below:

Property	Structural Fill
Composition	Free of deleterious material
Maximum particle size	4 inches
Fines content	Not limited
Plasticity	Liquid Limit less than 50 Plasticity index less than 30
GeoModel Layer Expected to be Suitable[1,2]	2, 3 and 4

1. Based on subsurface exploration.
2. Some moisture conditioning (i.e., drying) may be necessary

Imported Fill Materials: Imported fill materials should meet the following material property requirements. Regardless of its source, compacted fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade.

Soil Type [1]	USCS Classification	Acceptable Parameters (for Structural Fill)
Low Plasticity Cohesive	CL, SC, SM, ML	Liquid Limit less than 50 Plasticity index less than 30
Granular	GW, GP, GC, SW, SP, SC	Less than 50% passing No. 200 sieve

1. Structural fill should consist of approved materials free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site. Additional geotechnical consultation should be provided prior to use of uniformly graded gravel on the site.

Fill Placement and Compaction Requirements

Structural fill should meet the following compaction requirements.

Item	Structural Fill
Maximum Lift Thickness	8 inches or less in loose thickness when heavy, self-propelled compaction equipment is used 4 to 6 inches in loose thickness when hand-guided equipment (i.e. jumping jack or plate compactor) is used
Minimum Compaction Requirements [1]	98% of max.
Water Content Range [1]	Low plasticity cohesive: -2% to +2% of optimum Granular: -3% to +3% of optimum

1. Maximum density and optimum water content as determined by the standard Proctor test (ASTM D 698).

Utility Trench Backfill

Any soft or unsuitable materials encountered at the bottom of utility trench excavations should be removed and replaced with structural fill or bedding material in accordance with public works specifications for the utility be supported. This recommendation is particularly applicable to utility work requiring grade control and/or in areas where subsequent grade raising could cause settlement in the subgrade supporting the utility. Trench excavation should not be conducted below a downward 1:1 projection from existing foundations without engineering review of shoring requirements and geotechnical observation during construction.

On-site low plasticity materials are considered suitable for backfill of utility and pipe trenches, provided the material is free of organic matter and deleterious substances. However, material used as trench backfill should comply with the pipe manufacturer or governing municipality's requirements.

Trench backfill should be mechanically placed and compacted as discussed earlier in this report. Compaction of initial lifts should be accomplished with hand-operated tampers or other lightweight compactors. Where trenches are placed beneath slabs, footings, or pavements, the backfill should satisfy the gradation requirements of engineered fill discussed in this report. Flooding or jetting for placement and compaction of backfill is not recommended.

Grading and Drainage

All grades must provide effective drainage away from the building areas during and after construction and should be maintained throughout the life of the structure. Water retained next to the building can result in soil movements greater than those discussed

in this report. Greater movements can result in unacceptable differential floor slab and/or foundation movements, cracked slabs and walls, and roof leaks. In areas where hardscapes and/or paving do not abut against the structure, the roof should have gutters/drains with downspouts that discharge onto splash blocks at a distance of at least 10 feet from the building.

Exposed ground should be sloped and maintained at a minimum 5% away from the building for at least 10 feet beyond the perimeter of the building. Locally, flatter grades may be necessary to transition ADA access requirements for flatwork. After building construction and landscaping have been completed, final grades should be verified to document effective drainage has been achieved. Grades around the structure should also be periodically inspected and adjusted, as necessary, as part of the structure's maintenance program. Where paving or flatwork abuts the structure, a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.

Slope Considerations

Fill slopes will have maximum heights of about 10 feet, We recommend fill slopes be graded no steeper than 3(H):1.0(V). We recommend that structures be located no closer than 10 feet from the crest of slopes unless the foundation bearing elevation is lowered as recommended in the **Shallow Foundations** section. Proper management of surface water runoff around the slopes will also contribute to the stability of permanent slopes. Soil slopes should be covered for protection from rain, and surface runoff should be diverted away from the slopes. For erosion protection, a protective cover of vegetation should be established on slopes as soon as possible. Positive drainage should be maintained with ditches or channels at the top and bottom of the slope.

Earthwork Construction Considerations

Shallow excavations for the proposed structure are anticipated to be accomplished with conventional construction equipment. Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of grade-supported improvements such as floor slabs and pavements. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over or adjacent to construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompacted prior to floor slab construction.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local and/or state regulations.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety or the contractor's activities; such responsibility shall neither be implied nor inferred.

Construction Observation and Testing

The earthwork efforts should be observed by the Geotechnical Engineer (or others under their direction). Observation should include documentation of adequate removal of surficial materials (vegetation, topsoil, foundations/slabs, and pavements), evaluation and remediation of existing fill materials, as well as proofrolling and mitigation of unsuitable areas delineated by the proofroll.

Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, as recommended by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 1,000 square feet of compacted fill in the building areas and 5,000 square feet in pavement areas. Where not specified by local ordinance, one density and water content test should be performed for every 50 linear feet of compacted utility trench backfill and a minimum of one test performed for every 12 vertical inches of compacted backfill.

In areas of foundation excavations, the bearing subgrade should be evaluated by the Geotechnical Engineer. If unanticipated conditions are observed, the Geotechnical Engineer should prescribe mitigation options.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes.

Shallow Foundations

If the site has been prepared in accordance with the requirements noted in **Earthwork**, the following design parameters are applicable for shallow foundations.

Design Parameters – Compressive Loads

Item	Description
Maximum Net Allowable Bearing Pressure [1, 2]	2,000 psf - foundations bearing upon approved existing fill, medium stiff to hard native clayey soils, or new structural fill
Required Bearing Stratum [3]	GeoModel Layer 3, 4, or new structural fill
Minimum Foundation Dimensions	Per IBC 1809.7
Ultimate Passive Resistance [4] **(equivalent fluid pressures)**	330 pcf (cohesive backfill)
Sliding Resistance [5]	0.30 ultimate coefficient of friction – onsite soil or structural fill
Minimum Embedment below Finished Grade [6]	18 inches
Estimated Total Settlement from Structural Loads [2]	Less than about 1 inch
Estimated Differential Settlement [2, 7]	About 1/2 of total settlement

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. Values assume that exterior grades are no steeper than 20% within 10 feet of structure.
2. Values provided are for maximum loads noted in **Project Description**. Additional geotechnical consultation will be necessary if higher loads are anticipated.
3. Unsuitable or soft soils should be overexcavated and replaced per the recommendations presented in **Earthwork**.
4. Use of passive earth pressures require the sides of the excavation for the spread footing foundation to be nearly vertical and the concrete placed neat against these vertical faces or that the footing forms be removed and compacted structural fill be placed against the vertical footing face. Assumes no hydrostatic pressure. Apply a factor of safety of at least 1.5 when designing for lateral force resistance.
5. Can be used to compute sliding resistance where foundations are placed on suitable soil/materials.
6. Embedment necessary to minimize the effects of frost and/or seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure.
7. Differential settlements are noted for equivalent-loaded foundations and bearing elevation as measured over a span of 50 feet.

Design Parameters – Overturning and Uplift Loads

Uplift resistance of spread footings can be developed from the effective weight of the footing and the overlying soils with consideration to the IBC basic load combinations.

Item	Description
Soil Moist Unit Weight	120 pcf
Soil Effective Unit Weight[1]	60 pcf
Soil weight included in uplift resistance	Soil included within the prism extending up from the top perimeter of the footing at an angle of 20 degrees from vertical to ground surface

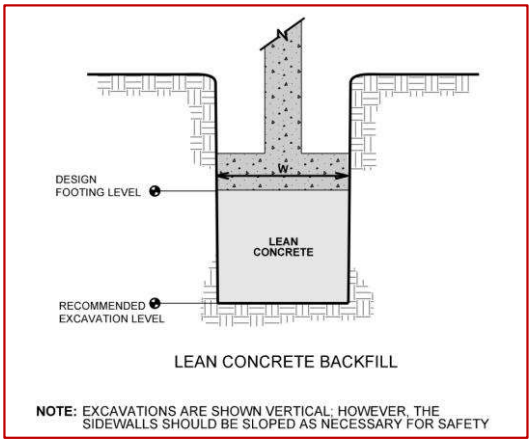
1. Effective (or buoyant) unit weight should be used for soil above the foundation level and below a water level. The high groundwater level should be used in uplift design as applicable.

Foundation Construction Considerations

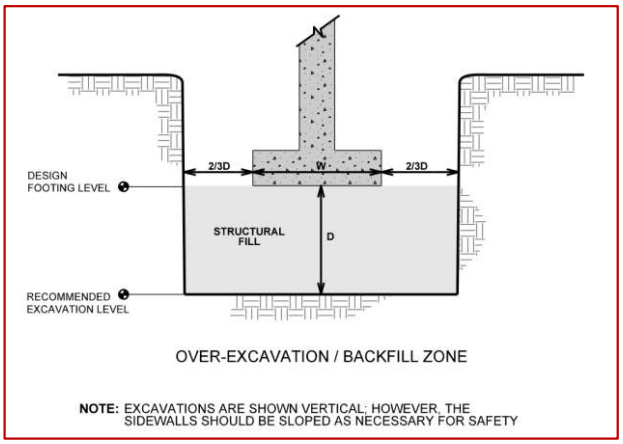
The footing excavations should be evaluated under the observation of the Geotechnical Engineer. The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material or any loose/disturbed material in the bottom of the footing excavations should be removed/reconditioned before foundation concrete is placed.

Sensitive soils exposed at the surface of footing excavations may require surficial compaction with hand-held dynamic compaction equipment prior to placing structural fill, steel, and/or concrete. Should surficial compaction not be adequate, construction of a working surface consisting of either crushed stone or a lean concrete mud mat may be required prior to the placement of reinforcing steel and construction of foundations.

If unsuitable bearing soils are observed at the base of the planned footing excavation, the excavation should be extended deeper to suitable soils, and the footings could bear directly on these soils at the lower level or on lean concrete backfill placed in the excavations. The lean concrete replacement zone is illustrated on the sketch below.



Overexcavation for structural fill placement below footings should be conducted as shown below. The overexcavation should be backfilled up to the footing base elevation, with structural fill placed, as recommended in the **Earthwork** section.



Floor Slabs

Design parameters for floor slabs assume the requirements for **Earthwork** have been followed. Specific attention should be given to positive drainage away from the structure and positive drainage of the aggregate base beneath the floor slab.

Depending upon the site and weather conditions at the time of construction, unsuitable, weak, and/or loose soils may be observed at the floor slab subgrade level. These soils should be densified in place or undercut and replaced with structural fill.

Floor Slab Design Parameters

Item	Description
Floor Slab Support[1]	Minimum 4 inches base course meeting material specifications of ACI 302 Subgrade compacted to recommendations in **Earthwork**
Estimated Modulus of Subgrade Reaction [2]	100 pounds per square inch per inch (psi/in) for point loads

1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.
2. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in **Earthwork**, and the floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.

The use of a vapor retarder should be considered beneath concrete slabs on grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, when the project includes humidity-controlled areas, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

Saw-cut contraction joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations, refer to the ACI Design Manual. Joints or cracks should be sealed with a waterproof, non-extruding compressible compound specifically recommended for heavy duty concrete pavement and wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing or other means.

Settlement of floor slabs supported on existing fill materials cannot be accurately predicted but could be larger than normal and result in some cracking. Mitigation measures, as noted in **Existing Fill** within **Earthwork**, are critical to the performance of floor slabs. In addition to the mitigation measures, the floor slab can be stiffened by adding steel reinforcement, grade beams, and/or post-tensioned elements.

Floor Slab Construction Considerations

Finished subgrade, within and for at least 10 feet beyond the floor slab, should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor slabs, the affected material should be removed, and structural fill should be added to replace the resulting excavation. Final conditioning of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer should observe the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel, and concrete. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

General Comments

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly affect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

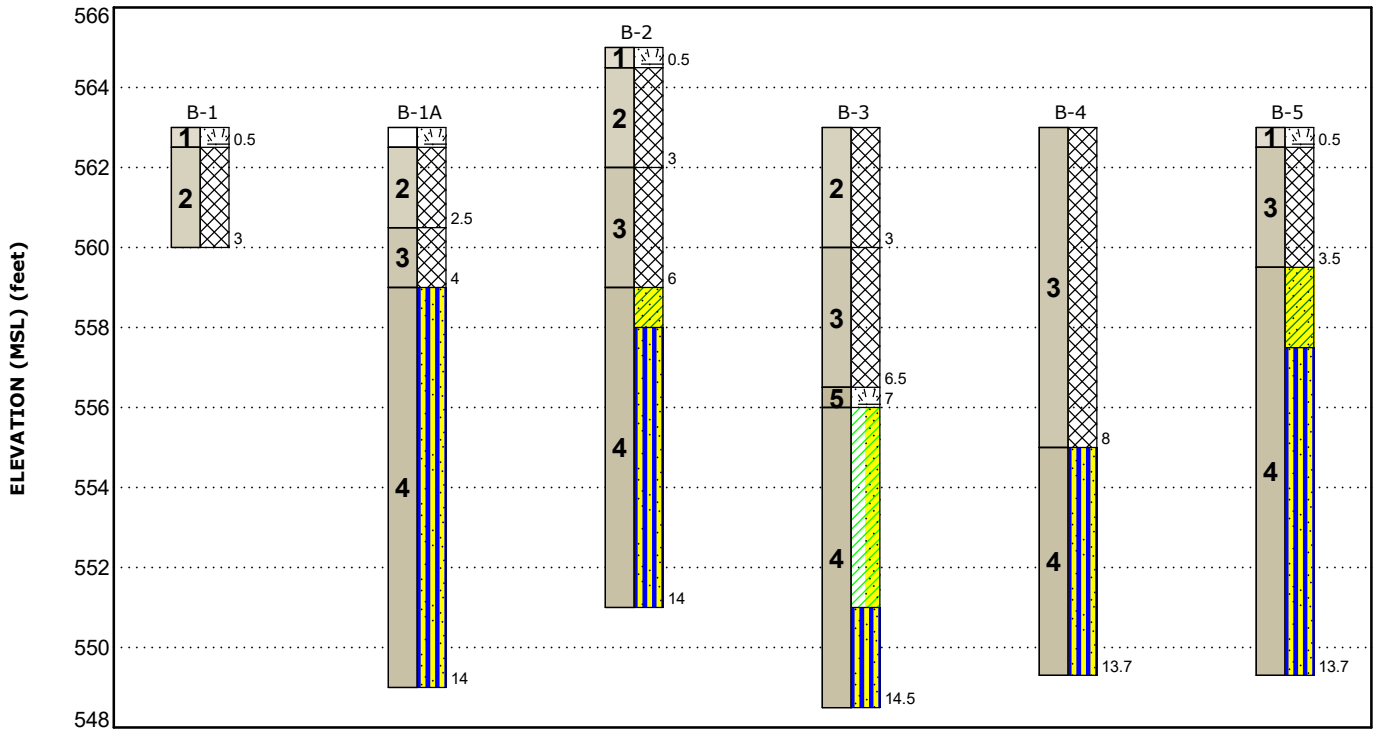
Figures

Contents:

Shelby County EMA / IT Facility
280 McDow Road | Columbiana, AL
Terracon Project No. E1255112

Terracon
2147 Riverchase Office Rd
Hoover, AL

GeoModel



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	**Surface Layer**	Topsoil 6 inches thick; (No topsoil at borings B-3 and B-4)
2	**Low Consistency Existing Fill**	Sandy silt to silty sand, brown, N-values 4 blows per foot
3	**Higher Consistency Existing Fill**	Sandy silt to silty sand, brown, N-values 7 to 16 blows per foot
4	**Native Soil**	Typically, lean clay (CL) or silt (ML) with varying sand content, very stiff to hard consistency, relict shale appears with depth
5	**Remnant Topsoil**	Remnant original topsoil beneath the existing fill, gray

Legend

Topsoil | Fill | Sandy Silt | Sandy Lean Clay | Lean Clay with Sand

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

Attachments

Exploration and Testing Procedures

Field Exploration

Number of Borings	Approximate Boring Depth (feet)	Planned Location
6	3 to 14.5	Building Footprint

Boring Layout and Elevations: Shelby County personnel staked the approximate building corner locations known at the time of our exploration. If a more precise boring layout and elevations are desired, we recommend borings be surveyed.

Subsurface Exploration Procedures: We advanced the borings with a truck-mounted rotary drill rig using continuous flight augers (solid stem and/or hollow stem, as necessary, depending on soil conditions). Four samples were obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound safety hammer hoisted by a rope and cathead falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. We observed and recorded groundwater levels during drilling and sampling. For safety purposes, all borings were backfilled with auger cuttings after their completion.

We also observed the boreholes while drilling and at the completion of drilling for the presence of groundwater. Groundwater was not observed at these times in the boreholes.

The sampling depths, penetration distances, and other sampling information were recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials observed during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests. The laboratory testing program included the following types of tests:

- Moisture Content
- Atterberg Limits
- Percent Passing 200 Sieve

The laboratory testing program often included examination of soil samples by an engineer. Based on the results of our field and laboratory programs, we described and classified the soil samples in accordance with the Unified Soil Classification System.

Site Location and Exploration Plans

Contents:

Note: All attachments are one page unless noted above.

Site Location

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES MAP PROVIDED BY MICROSOFT BING MAPS

Exploration Plan

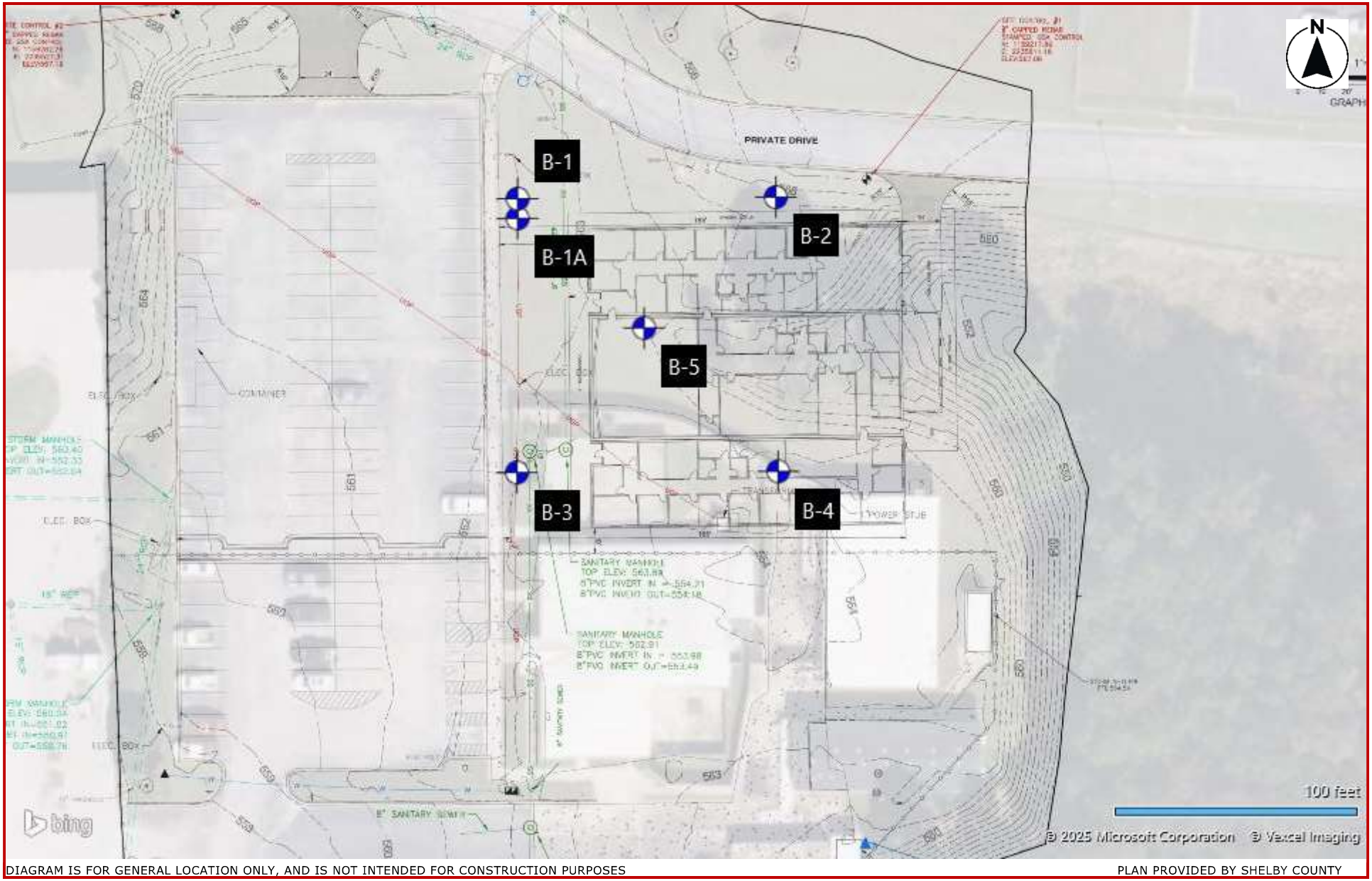


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

PLAN PROVIDED BY SHELBY COUNTY

Exploration Results

Contents:

Boring Logs (B-1, B-1A, B-2, B-3, B-4, B-5)

Note: All attachments are one page unless noted above.

Shelby County EMA / IT Facility
280 McDow Road | Columbiana, AL
Terracon Project No. E1255112

Terracon
2147 Riverchase Office Rd
Hoover, AL

Boring Log No. B-1

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 563 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
1		**TOPSOIL (6")** 0.5 / 562.5							
2		**FILL - SILTY SAND**, brown, low consistency 3.0 / 560			X	2-3-50/1" N=50+	12.4		
		Auger Refusal on Obstruction in Fill at 3 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).
See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
No water observed during drilling

Drill Rig
CME 45

Driller
Smith Drilling

Notes
See offset boring B-1A

Advancement Method
Continuous flight auger

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Logged by
BCR

Boring Started
06-25-2025

Boring Completed
06-25-2025

Shelby County EMA / IT Facility
280 McDow Road | Columbiana, AL
Terracon Project No. E1255112

Terracon
2147 Riverchase Office Rd
Hoover, AL

Boring Log No. B-1A

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 563 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
		TOPSOIL (6") 0.5 / 562.5							
2		**FILL - SILTY SAND**, brown, low consistency 2.5 / 560.5							
3		**FILL - SILTY SAND**, brown, higher consistency 4.0 / 559							
4		**SANDY SILT (ML)**, contains weathered shale seams, brown, hard	5			16-50/5" N=50+	10.8		
		contains relict bedding				20-50/5" N=50+	9.0		
			10			35-50/5" N=50+			
		14.0 / 549				50/5" N=50+			
		Boring Terminated at 14 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).
See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
No water observed during drilling

Drill Rig
CME 45

Driller
Smith Drilling

Notes
Offset 5' North of Boring B-1

Advancement Method
Continuous flight auger

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Logged by
BCR

Boring Started
06-25-2025

Boring Completed
06-25-2025

Shelby County EMA / IT Facility
280 McDow Road | Columbiana, AL
Terracon Project No. E1255112

Terracon
2147 Riverchase Office Rd
Hoover, AL

Boring Log No. B-2

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 565 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
1		**TOPSOIL (6")** 0.5 / 564.5							
2		**FILL - SILTY SAND**, with sandstone gravel, brown, low consistency 3.0 / 562				2-2-2 N=4	15.0		
3		**FILL - SILTY SAND**, brown, higher consistency 6.0 / 559	5			3-4-3 N=7	15.1		
4		**SANDY LEAN CLAY (CL)**, orange brown with light gray, hard 7.0 / 558				7-12-25 N=37	15.9		
4		**SANDY SILT (ML)**, brown, hard, relict shale bedding 14.0 / 551	10			50/3" N=50+ 50/5" N=50+			
		Boring Terminated at 14 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).
See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
No water observed during drilling

Drill Rig
CME 45

Driller
Smith Drilling

Notes

Advancement Method
Continuous flight auger

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Logged by
BCR

Boring Started
06-25-2025

Boring Completed
06-25-2025

Shelby County EMA / IT Facility
280 McDow Road | Columbiana, AL
Terracon Project No. E1255112

Terracon
2147 Riverchase Office Rd
Hoover, AL

Boring Log No. B-3

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 563 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
2		**FILL - SANDY SILT**, brown, low consistency							
		3.0 / 560			X	2-2-2 N=4	17.6		
3		**FILL - SANDY SILT**, brown, higher consistency							
			5		X	3-3-4 N=7	17.2		
		6.5 / 556.5							
5		**REMNANT TOPSOIL**, gray			X	4-3-4 N=7	27.7		
		7.0 / 556							
4		**LEAN CLAY WITH SAND (CL)**, orange brown, medium stiff to very stiff							
		becomes hard, contains light gray sand			X	10-20-50/4" N=50+			
			10						
		12.0 / 551							
		SANDY SILT (ML), brown, hard, relict shale bedding			X	20-50/5" N=50+			
		14.5 / 548.5							
		Boring Terminated at 14.5 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).
See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
No water observed during drilling

Drill Rig
CME 45

Driller
Smith Drilling

Notes

Advancement Method
Continuous flight auger

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Logged by
BCR

Boring Started
06-25-2025

Boring Completed
06-25-2025

Shelby County EMA / IT Facility
280 McDow Road | Columbiana, AL
Terracon Project No. E1255112

Terracon
2147 Riverchase Office Rd
Hoover, AL

Boring Log No. B-4

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 563 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
3		**FILL - SILTY SAND**, contains sandstone gravel, brown, higher consistency							
						6-8-8 N=16	14.5	42-26-16	
						6-4-4 N=8	12.9		39.9
			5						
						7-4-6 N=10	17.2		
		8.0 / 555							
4		**SANDY SILT (ML)**, brown, hard, relict shale bedding							
						50/5" N=50+			
			10						
		13.7 / 549.3				50/2" N=50+			
		Boring Terminated at 13.7 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).
See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
No water observed during drilling

Drill Rig
CME 45

Driller
Smith Drilling

Notes

Advancement Method
Continuous flight auger

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Logged by
BCR

Boring Started
06-25-2025

Boring Completed
06-25-2025

Shelby County EMA / IT Facility
280 McDow Road | Columbiana, AL
Terracon Project No. E1255112

Terracon
2147 Riverchase Office Rd
Hoover, AL

Boring Log No. B-5

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 563 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
1		**TOPSOIL (6")** 0.5 / 562.5							
3		**FILL - SANDY SILT**, brown, higher consistency 3.5 / 559.5				3-3-4 N=7	19.0		
4		**SANDY LEAN CLAY (CL)**, orange brown with light gray, hard 5.5 / 557.5	5			6-12-18 N=30	14.9		
		SANDY SILT (ML), brown, hard, relict shale bedding				24-50/4" N=50+	8.3		
			10			50/2" N=50+			
		13.7 / 549.3				50/2" N=50+			
		Boring Terminated at 13.7 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
No water observed during drilling

Drill Rig
CME 45

Driller
Smith Drilling

Notes

Advancement Method
Continuous flight auger

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Logged by
BCR

Boring Started
06-25-2025

Boring Completed
06-25-2025

Supporting Information

Contents:

General Notes
Unified Soil Classification System

Note: All attachments are one page unless noted above.

Terracon
2147 Riverchase Office Rd
Hoover, AL

General Notes

Sampling	Water Level	Field Tests
Standard Penetration Test	Water Initially Encountered Water Level After a Specified Period of Time Water Level After a Specified Period of Time Cave In Encountered Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	N Standard Penetration Test Resistance (Blows/Ft.) (HP) Hand Penetrometer (T) Torvane (DCP) Dynamic Cone Penetrometer UC Unconfined Compressive Strength (PID) Photo-Ionization Detector (OVA) Organic Vapor Analyzer

Descriptive Soil Classification

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

Location And Elevation Notes

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

Strength Terms

Relative Density of Coarse-Grained Soils
(More than 50% retained on No. 200 sieve.)
Density determined by Standard Penetration Resistance

Relative Density	Standard Penetration or N-Value (Blows/Ft.)
Very Loose	0 - 3
Loose	4 - 9
Medium Dense	10 - 29
Dense	30 - 50
Very Dense	> 50

Consistency of Fine-Grained Soils
(50% or more passing the No. 200 sieve.)
Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance

Consistency	Unconfined Compressive Strength Qu (tsf)	Standard Penetration or N-Value (Blows/Ft.)
Very Soft	less than 0.25	0 - 1
Soft	0.25 to 0.50	2 - 4
Medium Stiff	0.50 to 1.00	5 - 8
Stiff	1.00 to 2.00	9 - 15
Very Stiff	2.00 to 4.00	16 - 30
Hard	> 4.00	> 30

Relevance of Exploration and Laboratory Test Results

Exploration/field results and/or laboratory test data contained within this document are intended for application to the project as described in this document. Use of such exploration/field results and/or laboratory test data should not be used independently of this document.

Unified Soil Classification System

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]				Soil Classification	
				Group Symbol	Group Name [B]
Coarse-Grained Soils: More than 50% retained on No. 4 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	Cu≥4 and 1≤Cc≤3 [E]	GW	Well-graded gravel [F]
			Cu<4 and/or [Cc<1 or Cc>3.0] [E]	GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH	GM	Silty gravel [F, G, H]
			Fines classify as CL or CH	GC	Clayey gravel [F, G, H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	Cu≥6 and 1≤Cc≤3 [E]	SW	Well-graded sand [I]
			Cu<6 and/or [Cc<1 or Cc>3.0] [E]	SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH	SM	Silty sand [G, H, I]
			Fines classify as CL or CH	SC	Clayey sand [G, H, I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots above "A" line [J]	CL	Lean clay [K, L, M]
			PI < 4 or plots below "A" line [J]	ML	Silt [K, L, M]
		Organic:	$\frac{LL\ oven\ dried}{LL\ not\ dried} < 0.75$	OL	Organic clay [K, L, M, N]
					Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line	CH	Fat clay [K, L, M]
			PI plots below "A" line	MH	Elastic silt [K, L, M]
		Organic:	$\frac{LL\ oven\ dried}{LL\ not\ dried} < 0.75$	OH	Organic clay [K, L, M, P]
					Organic silt [K, L, M, Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve.
[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.
[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.
[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
[F] If soil contains ≥ 15% sand, add "with sand" to group name.
[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.
[H] If fines are organic, add "with organic fines" to group name.
[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.
[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.
[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.
[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
[N] PI ≥ 4 and plots on or above "A" line.
[O] PI < 4 or plots below "A" line.
[P] PI plots on or above "A" line.
[Q] PI plots below "A" line.