ADDENDUM NO. 01

February 13, 2025

ZHS Locker Room Addition & PVE Site Drainage
1000 Mulberry St., Zionsville, IN 46077 &
4700 S 975 E. Zionsville, IN 46077

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications, and the Drawings dated January 21, 2025, by Fanning Howey Associates. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 1-1 through ADD 1 - 4 and attached Fanning Howey Associates, Inc. Addendum No. 01, dated February 11, 2025, consisting of 3 pages and 42 drawings.

A. 00 20 00 – INFORMATION AVAILABLE TO BIDDERS

1. Add the following paragraphs to be included as part of this specification section:

B. The Subsurface Investigation & Geotechnical Recommendation prepared by Alt & Witzig Engineering, Inc. dated August 7, 2024, is included as part of Addendum 01 for reference by Bidding Contractors. This document is not a Contractual Document; however, it is included for reference and guidance to be used in relation to Work performed as part of the project.

C. The Test Pit Investigation for Zionsville High School Locker Room Existing Foundations prepared by Alt & Witzig Engineering, Inc. dated August 8, 2024, is included as part of Addendum 01 for reference by Bidding Contractors. This document is not a Contractual Document; however, it is included for reference and guidance to be used in relation to Work performed as part of the project.

D. Bidding Contractor question and answer log through February 12, 2025 is included as part of Addendum 01 for reference by Bidding Contractors.

E. **01 12 00 – MULTIPLE CONTRACT SUMMARY**

1. Incorporate the following revisions to the Multiple Contract Summary as noted below as part of Addendum 01.

A. BID CATEGORY NO. 01 – GENERAL TRADES AT PVE

Add the specification sections:
Section 04 01 20.52 – Masonry Cleaning

B. BID CATEGORY NO. 02 – GENERAL TRADES AT ZHS

Add the specification sections:
Section 06 16 00 – Sheathing
Section 07 95 13.13 – Interior Expansion Joint Covers
Section 10 43 13 – Defibrillator Cabinets

Delete the following clarification:
13. Section 07 21 00 Thermal Insulation that is below grade shall be provided by the General Trades Contractor. Section 07 21 00 Thermal Insulation cavity wall insulation behind the masonry veneer shall be provided by the Masonry Contractor. All other Section 07 21 00 Thermal Insulation shall be provided by Drywall Contractor.

Add the following clarifications:
26. General Trades Contractor is responsible to install and maintain temporary enclosure at every exterior opening. Each opening shall receive minimum of 2x framed lumber with ¾" plywood. First floor exterior door openings shall be framed in lumber with adequate door hardware to allow full operation of temporary door openings for material access. All openings must be able to be locked and secured.

27. The General Trades Contractors shall include the demolition and/or removal of the temporary partitions noted in Clarification #26 upon direction of the Construction Manager. The openings will remain in place immediately following CMU masonry until permanent frames are available.

28. In regard to 06 16 00 – Sheathing, the Metal Stud, Drywall & Ceiling Contractor is responsible for the glass may gypsum sheathing. The Roofing Contractor is responsible for nailbase, sheathing and lumber required as part of their roofing system. The General Trades Contractor is responsible for all other sheathing, dan backing and wall blocking.

C. BID CATEGORY NO. 03 – MASONRY

Add the specification sections:
Section 04 01 20.52 – Masonry Cleaning

Delete the following clarification:
3. Section 07 21 00 Thermal Insulation that is below grade shall be provided by the General Trades Contractor. Section 07 21 00 Thermal Insulation cavity wall insulation behind the masonry veneer shall be provided by the Masonry Contractor. All other Section 07 21 00 Thermal Insulation shall be provided by Drywall Contractor.

Add the following clarification:
8. As part of specification section 07 21 00 – Thermal Insulation, the Masonry Contractor is responsible for mineral wool insulation, spray foam insulation and sealant at top of masonry wall conditions to close any gaps or voids at structure or adjacent surface intersections.
9. Masonry Contractor shall clean all existing masonry surfaces that become exposed interior surfaces.

E. BID CATEGORY NO. 05 – ROOFING

Add the specification sections:
Section 06 16 00 – Sheathing

Add the following clarification:
5. In regard to 06 16 00 – Sheathing, the Metal Stud, Drywall & Ceiling Contractor is responsible for the glass may gypsum sheathing. The Roofing Contractor is responsible for nailbase, sheathing and lumber required as part of their roofing system. The General Trades Contractor is responsible for all other sheathing, dan backing and wall blocking.

F. BID CATEGORY NO. 06 – METAL STUDS, DRYWALL & CEILINGS

Delete the following clarification:
2. Section 07 21 00 Thermal Insulation that is below grade shall be provided by the General Trades Contractor. Section 07 21 00 Thermal Insulation cavity wall insulation behind the masonry veneer shall be provided by the Masonry Contractor. All other Section 07 21 00 Thermal Insulation shall be provided by Drywall Contractor.

Add the following clarification:
8. As part of specification section 07 21 00 – Thermal Insulation, this Contractor is responsible for mineral wool insulation, spray foam insulation and sealant at top of metal stud wall conditions to close any gaps or voids at structure or adjacent surface intersections.
9. In regard to 06 16 00 – Sheathing, the Metal Stud, Drywall & Ceiling Contractor is responsible for the glass may gypsum sheathing. The Roofing Contractor is responsible for nailbase, sheathing and lumber required as part of their roofing system. The General Trades Contractor is responsible for all other sheathing, dan backing and wall blocking.

K. BID CATEGORY NO. 11 – FIRE SUPPRESSION

Add the following clarification:
10. Contractor is responsible for joint sealing all of their penetrations. This is to include any necessary acoustic joint sealants.

L. BID CATEGORY NO. 12 – PLUMBING & HVAC

Add the following clarification:

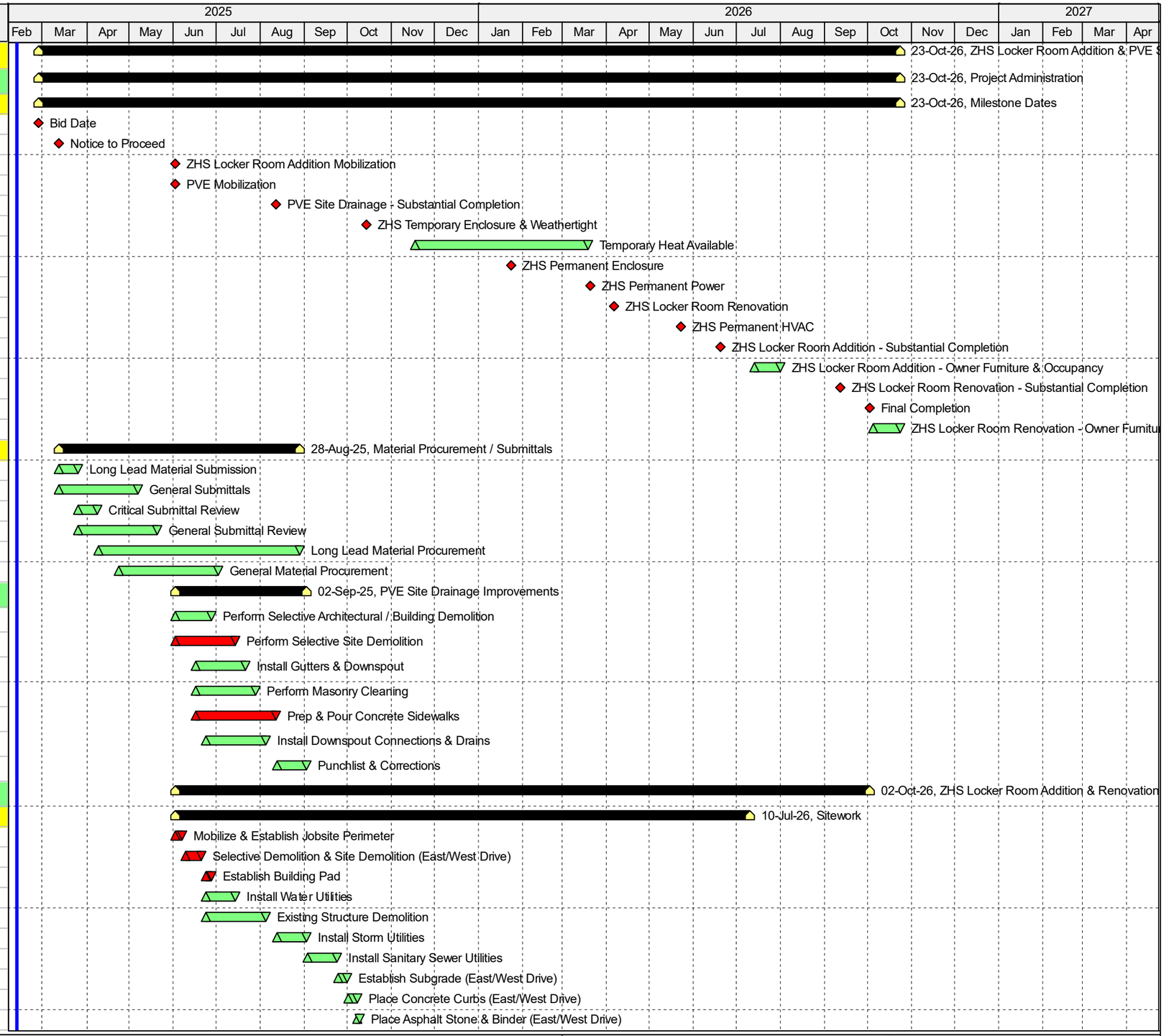
8. Contractor is responsible for joint sealing all of their penetrations. This is to include any necessary acoustic joint sealants.

M. BID CATEGORY NO. 13 – ELECTRICAL & TECHNOLOGY

Add the following clarification:

9. Contractor is responsible for joint sealing all of their penetrations. This is to include any necessary acoustic joint sealants.

Activity Name	Original Duration	Start	Finish
ZHS Locker Room Addition & PVE Site Drainag	685	26-Feb-25 A	23-Oct-26
Project Administration	685	26-Feb-25 A	23-Oct-26
Milestone Dates	685	26-Feb-25 A	23-Oct-26
Bid Date	0	26-Feb-25 A	
Notice to Proceed	0	12-Mar-25*	
ZHS Locker Room Addition Mobilization	0	02-Jun-25*	
PVE Mobilization	0	02-Jun-25*	
PVE Site Drainage - Substantial Completion	0		11-Aug-25*
ZHS Temporary Enclosure & Weathertight	0		14-Oct-25
Temporary Heat Available	85	17-Nov-25*	18-Mar-26
ZHS Permanent Enclosure	0		23-Jan-26
ZHS Permanent Power	0		20-Mar-26
ZHS Locker Room Renovation	0	06-Apr-26*	
ZHS Permanent HVAC	0		22-May-26
ZHS Locker Room Addition - Substantial Completion	0		19-Jun-26*
ZHS Locker Room Addition - Owner Furniture & Occupancy	15	13-Jul-26	31-Jul-26
ZHS Locker Room Renovation - Substantial Completion	0		11-Sep-26*
Final Completion	0		02-Oct-26
ZHS Locker Room Renovation - Owner Furniture & Occupancy	15	05-Oct-26	23-Oct-26
Material Procurement / Submittals	120	12-Mar-25	28-Aug-25
Long Lead Material Submission	10	12-Mar-25	25-Mar-25
General Submittals	40	12-Mar-25	06-May-25
Critical Submittal Review	10	26-Mar-25	08-Apr-25
General Submittal Review	40	26-Mar-25	20-May-25
Long Lead Material Procurement	100	09-Apr-25	28-Aug-25
General Material Procurement	50	23-Apr-25	02-Jul-25
PVE Site Drainage Improvements	65	02-Jun-25	02-Sep-25
Perform Selective Architectural / Building Demolition	20	02-Jun-25	27-Jun-25
Perform Selective Site Demolition	30	02-Jun-25	14-Jul-25
Install Gutters & Downspout	25	16-Jun-25	21-Jul-25
Perform Masonry Cleaning	30	16-Jun-25	28-Jul-25
Prep & Pour Concrete Sidewalks	40	16-Jun-25	11-Aug-25
Install Downspout Connections & Drains	30	23-Jun-25	04-Aug-25
Punchlist & Corrections	15	12-Aug-25	02-Sep-25
ZHS Locker Room Addition & Renovation	345	02-Jun-25	02-Oct-26
Sitework	285	02-Jun-25	10-Jul-26
Mobilize & Establish Jobsite Perimeter	5	02-Jun-25	06-Jun-25
Selective Demolition & Site Demolition (East/West Drive)	10	09-Jun-25	20-Jun-25
Establish Building Pad	5	23-Jun-25	27-Jun-25
Install Water Utilities	15	23-Jun-25	14-Jul-25
Existing Structure Demolition	30	23-Jun-25*	04-Aug-25
Install Storm Utilities	15	12-Aug-25	02-Sep-25
Install Sanitary Sewer Utilities	15	03-Sep-25	23-Sep-25
Establish Subgrade (East/West Drive)	5	24-Sep-25	30-Sep-25
Place Concrete Curbs (East/West Drive)	5	01-Oct-25	07-Oct-25
Place Asphalt Stone & Binder (East/West Drive)	2	08-Oct-25	09-Oct-25



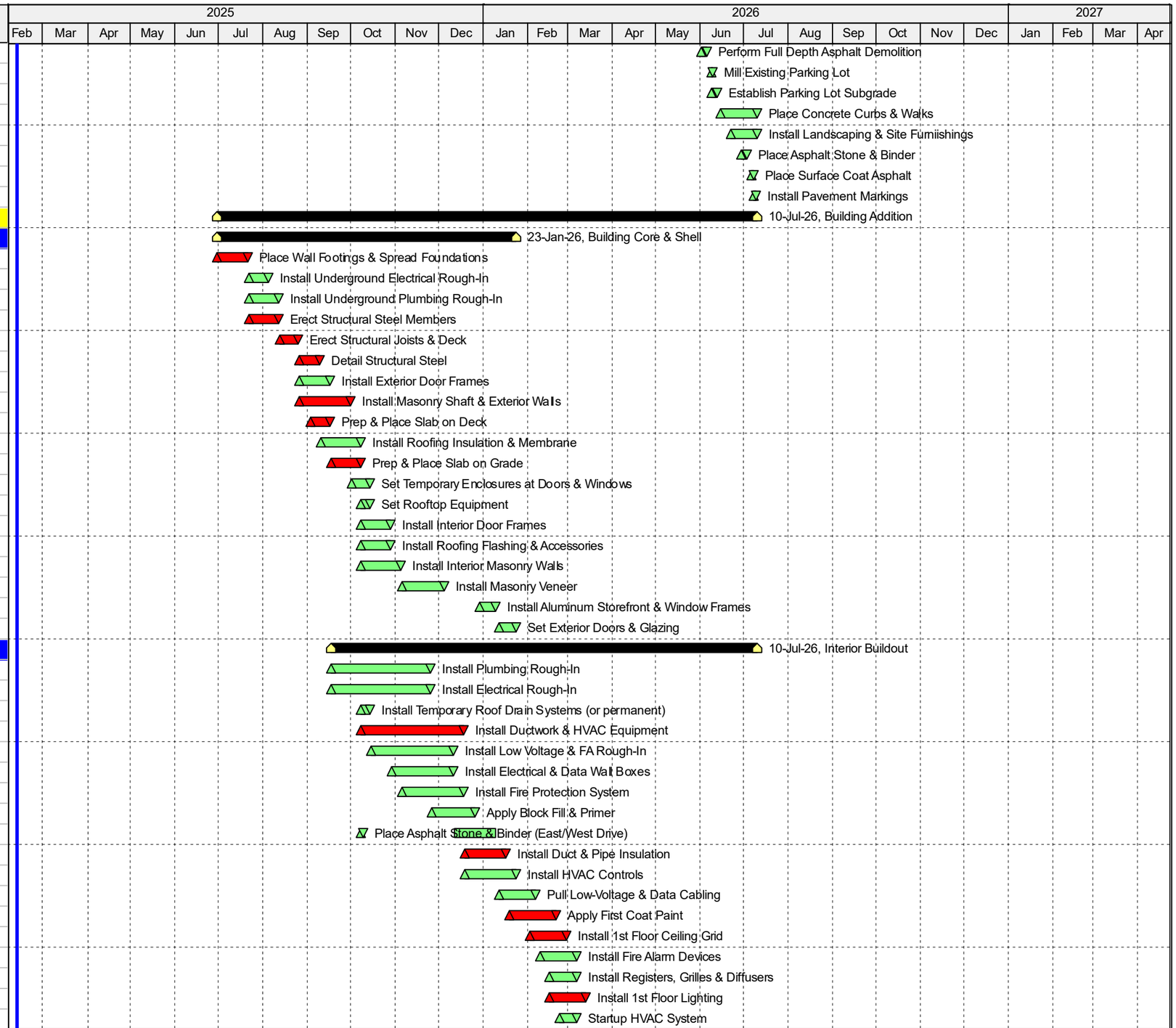
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

ZHS Locker Room Addition PVE Site Drainage

Guideline Schedule

SKILLMAN

Activity Name	Original Duration	Start	Finish
Perform Full Depth Asphalt Demolition	5	01-Jun-26*	05-Jun-26
Mill Existing Parking Lot	2	08-Jun-26	09-Jun-26
Establish Parking Lot Subgrade	5	08-Jun-26	12-Jun-26
Place Concrete Curbs & Walks	20	15-Jun-26	10-Jul-26
Install Landscaping & Site Furniishings	15	22-Jun-26	10-Jul-26
Place Asphalt Stone & Binder	5	29-Jun-26	03-Jul-26
Place Surface Coat Asphalt	2	06-Jul-26	07-Jul-26
Install Pavement Markings	2	08-Jul-26	09-Jul-26
Building Addition	265	30-Jun-25	10-Jul-26
Building Core & Shell	145	30-Jun-25	23-Jan-26
Place Wall Footings & Spread Foundations	15	30-Jun-25	21-Jul-25
Install Underground Electrical Rough-In	10	22-Jul-25	04-Aug-25
Install Underground Plumbing Rough-In	15	22-Jul-25	11-Aug-25
Erect Structural Steel Members	15	22-Jul-25	11-Aug-25
Erect Structural Joists & Deck	10	12-Aug-25	25-Aug-25
Detail Structural Steel	10	26-Aug-25	09-Sep-25
Install Exterior Door Frames	15	26-Aug-25	16-Sep-25
Install Masonry Shaft & Exterior Walls	25	26-Aug-25	30-Sep-25
Prep & Place Slab on Deck	10	03-Sep-25	16-Sep-25
Install Roofing Insulation & Membrane	20	10-Sep-25	07-Oct-25
Prep & Place Slab on Grade	15	17-Sep-25	07-Oct-25
Set Temporary Enclosures at Doors & Windows	10	01-Oct-25	14-Oct-25
Set Rooftop Equipment	5	08-Oct-25	14-Oct-25
Install Interior Door Frames	15	08-Oct-25	28-Oct-25
Install Roofing Flashing & Accessories	15	08-Oct-25	28-Oct-25
Install Interior Masonry Walls	20	08-Oct-25	04-Nov-25
Install Masonry Veneer	20	05-Nov-25	04-Dec-25
Install Aluminum Storefront & Window Frames	10	29-Dec-25	09-Jan-26
Set Exterior Doors & Glazing	10	12-Jan-26	23-Jan-26
Interior Buildout	210	17-Sep-25	10-Jul-26
Install Plumbing Rough-In	50	17-Sep-25	25-Nov-25
Install Electrical Rough-In	50	17-Sep-25	25-Nov-25
Install Temporary Roof Drain Systems (or permanent)	5	08-Oct-25	14-Oct-25
Install Ductwork & HVAC Equipment	50	08-Oct-25	18-Dec-25
Install Low Voltage & FA Rough-In	40	15-Oct-25	11-Dec-25
Install Electrical & Data Wall Boxes	30	29-Oct-25	11-Dec-25
Install Fire Protection System	30	05-Nov-25	18-Dec-25
Apply Block Fill & Primer	20	26-Nov-25	26-Dec-25
Pull Power Cabling	20	12-Dec-25	09-Jan-26
Install Duct & Pipe Insulation	20	19-Dec-25	16-Jan-26
Install HVAC Controls	25	19-Dec-25	23-Jan-26
Pull Low-Voltage & Data Cabling	20	12-Jan-26	06-Feb-26
Apply First Coat Paint	25	19-Jan-26	20-Feb-26
Install 1st Floor Ceiling Grid	20	02-Feb-26	27-Feb-26
Install Fire Alarm Devices	20	09-Feb-26	06-Mar-26
Install Registers, Grilles & Diffusers	15	16-Feb-26	06-Mar-26
Install 1st Floor Lighting	20	16-Feb-26	13-Mar-26
Startup HVAC System	10	23-Feb-26	06-Mar-26



Actual Work
Remaining Work
Critical Remaining Work
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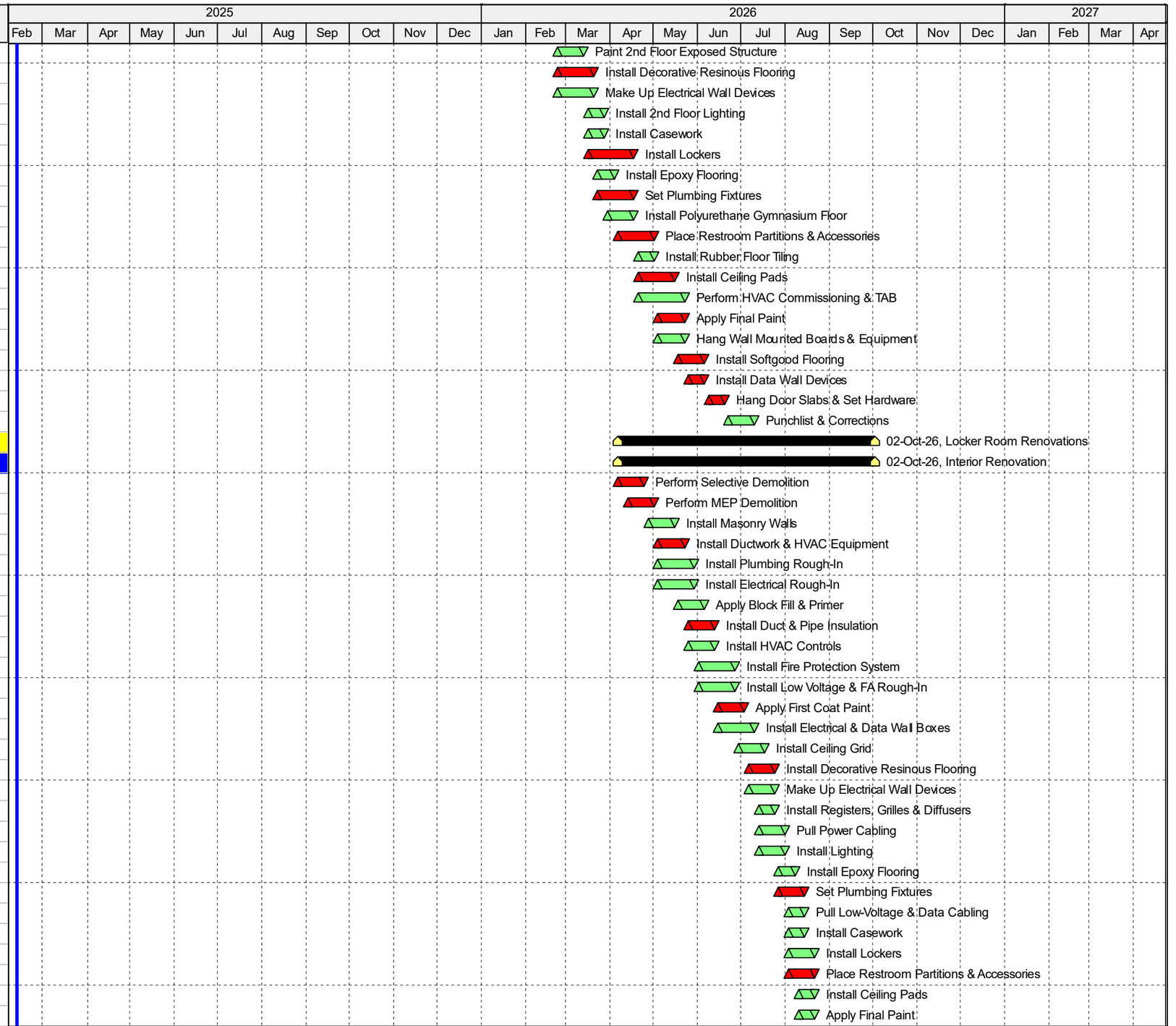
ZHS Locker Room Addition PVE Site Drainage

Guideline Schedule

SKILLMAN

Activity Name	Original Duration	Start	Finish
Paint 2nd Floor Exposed Structure	15	23-Feb-26	13-Mar-26
Install Decorative Resinous Flooring	20	23-Feb-26	20-Mar-26
Make Up Electrical Wall Devices	20	23-Feb-26	20-Mar-26
Install 2nd Floor Lighting	10	16-Mar-26	27-Mar-26
Install Casework	10	16-Mar-26	27-Mar-26
Install Lockers	25	16-Mar-26	17-Apr-26
Install Epoxy Flooring	10	23-Mar-26	03-Apr-26
Set Plumbing Fixtures	20	23-Mar-26	17-Apr-26
Install Polyurethane Gymnasium Floor	15	30-Mar-26	17-Apr-26
Place Restroom Partitions & Accessories	20	06-Apr-26	01-May-26
Install Rubber Floor Tiling	10	20-Apr-26	01-May-26
Install Ceiling Pads	20	20-Apr-26	15-May-26
Perform HVAC Commissioning & TAB	25	20-Apr-26	22-May-26
Apply Final Paint	15	04-May-26	22-May-26
Hang Wall Mounted Boards & Equipment	15	04-May-26	22-May-26
Install Softgood Flooring	15	18-May-26	05-Jun-26
Install Data Wall Devices	10	25-May-26	05-Jun-26
Hang Door Slabs & Set Hardware	10	08-Jun-26	19-Jun-26
Punchlist & Corrections	15	22-Jun-26	10-Jul-26
Locker Room Renovations	130	06-Apr-26	02-Oct-26
Interior Renovation	130	06-Apr-26	02-Oct-26
Perform Selective Demolition	15	06-Apr-26	24-Apr-26
Perform MEP Demolition	15	13-Apr-26	01-May-26
Install Masonry Walls	15	27-Apr-26	15-May-26
Install Ductwork & HVAC Equipment	15	04-May-26	22-May-26
Install Plumbing Rough-In	20	04-May-26	29-May-26
Install Electrical Rough-In	20	04-May-26	29-May-26
Apply Block Fill & Primer	15	18-May-26	05-Jun-26
Install Duct & Pipe Insulation	15	25-May-26	12-Jun-26
Install HVAC Controls	15	25-May-26	12-Jun-26
Install Fire Protection System	20	01-Jun-26	26-Jun-26
Install Low Voltage & FA Rough-In	20	01-Jun-26	26-Jun-26
Apply First Coat Paint	15	15-Jun-26	03-Jul-26
Install Electrical & Data Wall Boxes	20	15-Jun-26	10-Jul-26
Install Ceiling Grid	15	29-Jun-26	17-Jul-26
Install Decorative Resinous Flooring	15	06-Jul-26	24-Jul-26
Make Up Electrical Wall Devices	15	06-Jul-26	24-Jul-26
Install Registers, Grilles & Diffusers	10	13-Jul-26	24-Jul-26
Pull Power Cabling	15	13-Jul-26	31-Jul-26
Install Lighting	15	13-Jul-26	31-Jul-26
Install Epoxy Flooring	10	27-Jul-26	07-Aug-26
Set Plumbing Fixtures	15	27-Jul-26	14-Aug-26
Pull Low-Voltage & Data Cabling	10	03-Aug-26	14-Aug-26
Install Casework	10	03-Aug-26	14-Aug-26
Install Lockers	15	03-Aug-26	21-Aug-26
Place Restroom Partitions & Accessories	15	03-Aug-26	21-Aug-26
Install Ceiling Pads	10	10-Aug-26	21-Aug-26
Apply Final Paint	10	10-Aug-26	21-Aug-26



Actual Work
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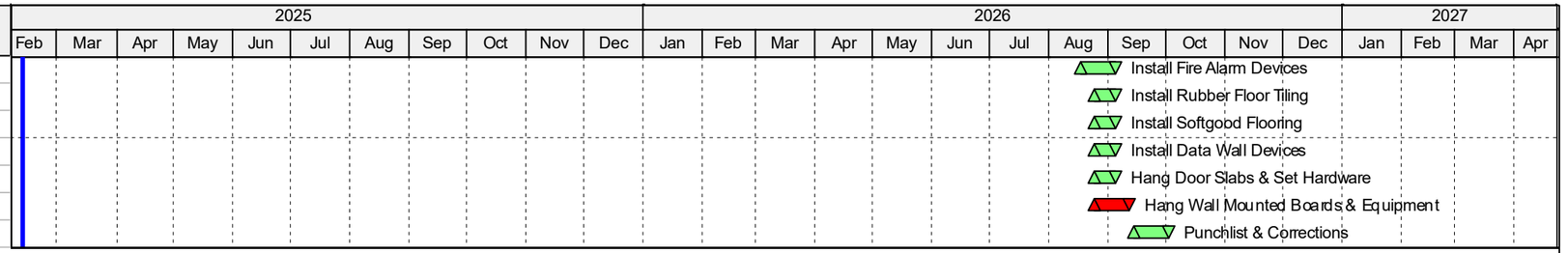
ZHS Locker Room Addition PVE Site Drainage

Guideline Schedule

SKILLMAN

Activity Name	Original Duration	Start	Finish
Install Fire Alarm Devices	15	17-Aug-26	04-Sep-26
Install Rubber Floor Tiling	10	24-Aug-26	04-Sep-26
Install Softgood Flooring	10	24-Aug-26	04-Sep-26
Install Data Wall Devices	10	24-Aug-26	04-Sep-26
Hang Door Slabs & Set Hardware	10	24-Aug-26	04-Sep-26
Hang Wall Mounted Boards & Equipment	15	24-Aug-26	11-Sep-26
Punchlist & Corrections	15	14-Sep-26	02-Oct-26



Actual Work
Remaining Work
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ZHS Locker Room Addition PVE Site Drainage

Guideline Schedule

SKILLMAN

A D D E N D U M N O. 1

Zionsville Community High School Athletic Locker Room Additions

Pleasant View Elementary School – Site Drainage Improvements

Zionsville Community Schools
Zionsville, Indiana

Project No. 224018.00
Project No. 223126.00

Index of Contents

Addendum No. 1, 11 items, 3 pages
New Project Manual Sections: 07 95 13.13 – Interior Expansion Joint Cover Assemblies and 10 43 13 – Defibrillator Cabinets
New Drawing Sheet: S4-05
Revised Drawing Sheets: Index, G1-01, G2.00, A-00, AP-01, AD-01, AD-02, A-11, A-12, AC-11, AC-12, AR-01, A2-01, A3-01, A3-02, A3-03, A3-04, A3-05, A3-10, A3-11, A3-12, A4-02, A4-03, A5-02, A6-01, A6S-01, AI-11, AI-12, AI-22, AQ-11, AQ-12, AQ-61, E-02, E-61, ED-11, ED-12, EF-11, EL-11, EL-12, EP-11, EP-12 and ET-11
Geotechnical Report
Existing Foundation Investigation Report
Pre-Bid Clarification Log

Date: February 11, 2025

I hereby certify that this Addendum was prepared by me or under my direct supervision and that I am a duly registered Architect/Engineer under the Laws of the State of Indiana.

FANNING/HOWEY ASSOCIATES, INC.
ARCHITECTS/ENGINEERS/CONSULTANTS

Paul A. Miller
Registration Number AR10800161

TO: ALL BIDDERS OF RECORD

ADDENDUM NO. 1 to Drawings and Project Manual, dated January 24, 2025, for Zionsville Community High School Athletic Locker Room Additions and Various Projects for Zionsville Community Schools, 900 Mulberry Street, Zionsville, Indiana, 46077; as prepared by Fanning/Howey Associates, Inc., Indianapolis, Indiana. This Addendum shall hereby be and become a part of the Contract Documents the same as if originally bound thereto.

The following clarifications, amendments, additions, revisions, changes, and modifications change the original Contract Documents only in the amount and to the extent hereinafter specified in this Addendum.

Each bidder shall acknowledge receipt of this Addendum in his proposal or bid.

NOTE: Bidders are responsible for becoming familiar with every item of this Addendum. (This includes miscellaneous items at the very end of this Addendum.)

RE: ALL BIDDERS

ITEM NO. 1. PROJECT MANUAL, TABLE OF CONTENTS

A. Page 00 00 20-3, DIVISION 07: Add Section 07 95 13.13 – Interior Expansion Joint Cover Assemblies

B. Page 00 00 20-4, DIVISION 10: Add Section 10 43 13 – Defibrillator Cabinets.

ITEM NO. 2. NEW PROJECT MANUAL SECTIONS

A. New Project Manual Sections 07 95 13.13 – Interior Expansion Joint Cover Assemblies and 10 43 13 – Defibrillator Cabinets are included with and hereby made a part of this Addendum.

ITEM NO. 3. PROJECT MANUAL, SECTION 00 20 00 – INFORMATION AVAILABLE TO BIDDERS

A. Add paragraph B., as follows:

"B. The Soils Exploration Report and Soil Boring Logs were prepared for the Owner by Alt & Witzig Engineering, Inc., 4105 West 99th Street, Carmel, Indiana 46032 for use in design. The following Subsurface Investigation Report is not a part of the construction Contract Documents and is enclosed within this document for informational use only.

1. The opinions expressed in this report are those of a geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by geotechnical engineer.
2. The enclosed report and Log of Borings, and any interpolations of conditions between test borings is not a warrant or guarantee by the Owner or Architect/Engineer of subsurface conditions.
3. The Contractor should visit the site and acquaint himself with all existing conditions. Prior to bidding, bidders may make their own subsurface investigations to satisfy themselves as to the site and subsurface conditions, but such subsurface investigations shall be performed only under the time schedules and arrangements approved in advance by the Owner. Any additional information, needed by the Contractor, shall be obtained by the Contractor at no cost to the Owner.
4. Structural design has been based on the report and assumes that existing soils are clean and can be compacted and will achieve the densities specified in the earthwork section. It shall be the Contractor's responsibility to determine for himself existing Site and or soil conditions.
5. Additional investigation information concerning the existing foundations is also included for reference.

ITEM NO. 4. PROJECT MANUAL, SECTION 05 50 00 – METAL FABRICATIONS

A. Replace 2.11, B., 1., as follows:

"1. Type 3A: Model #503A tubular rail low parapet access ladder with platform."

B. Delete 2.11, B., 2., in its entirety.

ITEM NO. 5. PROJECT MANUAL, SECTION 09 21 16 – GYPSUM BOARD ASSEMBLIES

A. Delete 2.1, A., 1., in its entirety.

B. Delete 2.6, B., in its entirety.

C. Replace 3.10, B., 6., b., as follows:

"b. Provide this level over impact resistant gypsum board on large bulkheads in the 2nd floor activity area. Multiple layers of Level 5 finish process may be required due to absorption of gypsum board panels."

ITEM NO. 6. PROJECT MANUAL, SECTION 09 67 23 – DECORATIVE RESINOUS FLOORING

A. Article 1.1, C: Delete "quartz and" between "colored" and "flakes/chips" in first sentence.

B. Delete 2.3, B., 1., a., in its entirety.

C. Replace 2.3, C., 1., e., as follows:

"e. Aggregates: Vinyl Flake."

ITEM NO. 7. PROJECT MANUAL, SECTION 09 96 00 – HIGH-PERFORMANCE COATINGS

A. Add 3.9, A., 3., as follows:

"3. Epoxy/Epoxy/Polyurethane system: (Code #5.331).
   a. Prime Coat: Primed as part of work for Division 05 Section "Structural Steel Framing".
   b. Intermediate Coat:
      1) Tnemec Series N69, Hi-Build Epoxoline at 2.0 to 3.0 mils d.f.t.
      2) PPG; Amerlock 600 at 3.0 to 4.0 mils d.f.t.
      3) Sherwin Williams; Macropoxy 646
   c. Topcoat:
      1) Tnemec Series 1094 Endura-Shield at 3.0 to 4.0 mils d.f.t., gloss.
      2) PPG Durethane DTM Polyurethane Gloss at 3.0 to 4.0 mils d.f.t.
      3) Sherwin Williams; Hi-Solids Polyurethane B65W at 3.0 to 4.0 mils d.f.t.
   d. Applications include, but is not limited to:
      1) Exposed structural (existing) steel columns or beams."

ITEM NO. 8. PROJECT MANUAL, SECTION 10 14 19 – DIMENSIONAL LETTER SIGNAGE

A. Replace 2.2, A., 5., a., as follows:

"a. Powder-Coat Finish: Custom color to match "school color" as supplied by A/E and Owner."

ITEM NO. 9. PROJECT MANUAL, SECTION 32 17 13 – PARKING BUMPERS

A. Add 1.1 B., as follows:

"B. Decorative concrete bollard."

B. Add 2.1, B., as follows:

"B. Decorative concrete bollard: As indicated and detailed on the Drawings."

ZIONSVILLE COMMUNITY HIGH SCHOOL ATHLETIC LOCKER ROOM ADDITIONS

ITEM NO. 10. NEW DRAWING SHEET

A. Drawing Sheet No. S4-05 – Masonry Wall Elevations is included with and hereby made a part of this Addendum.

ITEM NO. 11. REVISED DRAWING SHEETS

A. Drawing Sheets: Index, G1-01, G2.00, A-00, AP-01, AD-01, AD-02, A-11, A-12, AC-11, AC-12, AR-01, A2-01, A3-01, A3-02, A3-03, A3-04, A3-05, A3-10, A3-11, A3-12, A4-02, A4-03, A5-02, A6-01, A6S-01, AI-11, AI-12, AI-22, AQ-11, AQ-12, AQ-61, E-02, E-61, ED-11, ED-12, EF-11, EL-11, EL-12, EP-11, EP-12 and ET-11 have been revised, dated 2/11/25, and are included with and hereby made a part of this Addendum. These Drawings supersede the original documents.

END OF ADDENDUM

SECTION 07 95 13.13 – INTERIOR EXPANSION JOINT COVER ASSEMBLIES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes interior expansion joint cover assemblies.

B. Related Sections include the following:
1. Division 04 Section "Unit Masonry" for masonry wall joint systems.
2. Division 07 Section "Fire-Resistive Joint Systems" for liquid-applied joint sealants in fire-resistive building joints.
3. Division 07 Section “Preformed Joint Seals” for performed foam joint seals typically at expansion joints.
4. Division 07 Section "Joint Sealants" for liquid-applied joint sealants and performed foam joint seals.

1.2 DEFINITIONS

A. Architectural Joint System: Any filler or cover used to span, fill, cover, or seal a joint, except expanding foam seals and poured or foamed in-place sealants.

B. Fire Barriers: Any material or material combination, when fire tested after cycling, designated to resist passage of flame and hot gases through a movement joint.

C. Cyclic Movement: Periodic change between widest and narrowest joint widths in an automatically mechanically controlled system.

D. Maximum Joint Width: Widest linear gap a joint system tolerates and in which it performs its designed function without damaging its functional capabilities.

E. Minimum Joint Width: Narrowest linear gap a joint system tolerates and in which it performs its designed function without damaging its functional capabilities.

F. Movement Capability: Value obtained from the difference between widest and narrowest widths of a joint opening typically expressed in numerical values (mm or inches) or a percentage (plus or minus) of nominal value of joint width.

G. Nominal Joint Width: The width of the linear opening specified in practice and in which the joint system is installed.

1.3 ACTION SUBMITTALS

A. Product Data: For each manufactured product specified, product specified, including data sheets, installation instructions, and as required templates to explain construction and to provide for incorporation of the product into the Project.

1.4 QUALITY ASSURANCE

A. Accessibility Requirements: Comply with applicable provisions in ICC A117.1.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Conspec Systems, Inc.
   2. Balco, Inc.
   3. MM Systems Corporation
   4. Watson Bowman Acme, BASF Corp.
   5. Nystrom Building Products
   6. Architectural Art Mfg. Division, Pittcon Architectural Metals, LLC
   7. Jointmaster by Inpro Corp.

B. Products of other manufacturers will be considered for acceptance provided they equal or exceed the material requirements and functional qualities of the specified product. The “Substitution Request Form” and complete technical data for evaluation must accompany request for A/E’s approval. All materials for evaluation must be received by the Project Manager and Specification Department at least 10 days prior to bid due date. Additional approved manufacturers will be issued by Addendum.

2.2 SYSTEM DESCRIPTION

A. General: Provide expansion control systems of design, basic profile, materials, and operation indicated. Provide units with capability to accommodate variations in adjacent surfaces.
   1. Furnish units in longest practicable lengths to minimize field splicing. Install with hairline mitered corners where expansion control systems change direction or abut other materials.
   2. Include factory-fabricated closure materials and transitions pieces, T-joints, corners, curbs, cross-connections, and other accessories as required to provide continuous expansion control systems.

B. Provide factory fabricated architectural joint systems capable of withstanding the types of loads and of accommodating the kinds of movement, and the other functions for which they are designed including those specified below, without failure. Types of failure include those listed in Appendix X3 of ASTM E1399.
   1. Joints in Fire Resistance Rated Assemblies: Maintain fire resistance ratings of assemblies.
   2. Joints in Smoke Barriers: Maintain integrity of smoke barrier.
   3. Other Joints: Where indicated, provide joint systems that prevent penetration of water, moisture, and other substances deleterious to building components or content.

2.3 MATERIALS

A. Aluminum: ASTM B 221, Alloy 6063-T5 for extrusions; ASTM B 209, Alloy 6061-T6 for sheet and plate.
   1. Apply manufacturer's standard protective coating on aluminum surfaces to be placed in contact with cementitious materials.
   2. Class II, Clear Anodic Finish: AA-M12C22A31 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, clear coating 0.010 mm or thicker) complying with AAMA 611.

B. Elastomeric Seals: Manufacturer’s standard preformed elastomeric membranes or extrusions to be installed in metal frames.

C. Non-Metallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, non-metallic aggregate grout, noncorrosive nonstaining, mixed with water to consistency suitable for application and a 30 minute working time.

D. Accessories:
1. Manufacturer's standard anchors, clips, fasteners, set screws, spacers, and other accessories compatible with material in contact, as indicated or required for complete installations.

2.4 ARCHITECTURAL JOINT SYSTEMS, GENERAL

A. Design Criteria:
1. Nominal Joint Width: As indicated.

2.5 FLOOR EXPANSION JOINT COVERS

A. Metal-Plate Floor Joint Cover (Gym/Stage – Threshold/Transition): Metal cover plate fixed on one side of joint gap and free to slide on other.
1. Manufacturers: Subject to compliance with requirements; provide one of the following:
a. GYMF; C/S Systems.
b. GF-2P (Gym Floor Cover); Balco.
c. SP-2-2; MM Systems.
d. Model FJF; Watson Bowman Acme.
e. DT-6; Nystrom Building Products.
f. K-15-11-11 (K-Series); Architectural Art Mfg., Inc.
g. 801-A01; Jointmaster/Inpro.
2. Application: Floor to floor.
3. Installation: Surface mounted.
4. Load Capacity:
a. Uniform Load: 50 lb/sq. ft.
b. Concentrated Load: 300 lb.
c. Maximum Deflection: 0.0625 inch.
5. Cover-Plate Design: Plain.
6. Exposed Metal:
a. Aluminum: Clear anodic, Class I, unless otherwise noted.

2.6 WALL EXPANSION JOINT COVERS

A. Metal-Plate Wall Joint Cover: Metal cover plate fixed on one side of joint gap and free to slide on other.
1. Manufacturers: Subject to compliance with requirements; provide one of the following:
a. ASM Series; C/S Systems.
b. WD Series; Balco.
c. EX-K Systems; MM Systems.
d. Wabo Fastwall EWH; Watson Bowman Acme Corp.
e. WJ Series; Nystrom Building Products.
f. GXX-59-14; Architectural Art Manufacturing, Inc.
g. 811 Series; InPro Corporation.
2. Application: Wall to wall and wall to wall corner.
3. Exposed Metal:
a. Aluminum: Clear anodic, Class I.

2.7 FABRICATION

A. Provide expansion joint cover assemblies of design, basic profile, materials, and operation indicated. Select units comparable to those indicated or required to accommodate joint size, variations in adjacent surfaces, and structural movement. Furnish units in longest practicable lengths to minimize number of end joints. Provide hairline mitered corners where joint changes directions or abuts other materials. Include closure materials and transition pieces, tee-joints, corners, cross-connections, and other accessories as required to provide continuous joint cover assemblies.

2.8 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable.

2.9 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces where architectural joint systems will be installed for installation tolerances and other conditions affecting performance of work.

B. Notify A/E where discrepancies occur that will affect proper expansion joint cover assembly installation and performance.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Prepare substrates according to architectural joint system manufacturer's written instructions.

B. Coordinate and furnish anchorages, setting drawings, and instructions for installing expansion joint cover assemblies. Provide fasteners of metal, type, and size to suit type of construction indicated and to provide for secure attachment of expansion joint cover assemblies.

3.3 INSTALLATION

A. Comply with manufacturer's written instructions for storing, handling, and installing architectural joint assemblies and materials unless more stringent requirements are indicated.

B. Metal Frames: Perform cutting, drilling, and fitting required to install joint systems.
   1. Install in true alignment and proper relationship to joints and adjoining finished surfaces measured from established lines and levels.
   2. Adjust for differences between actual structural gap and nominal design gap due to ambient temperature at time of installation. Notify A/E where discrepancies occur that will affect proper joint installation and performance.
   3. Cut and fit ends to accommodate thermal expansion and contraction of metal without buckling of frames.
   4. Repair or grout blockout as required for continuous frame support using nonmetallic, shrinkage-resistant grout.
   5. Locate in continuous contact with adjacent surfaces.
      a. Standard-Duty Systems: Shim to level where required. Support underside of frames continuously to prevent vertical deflection when in service.
   6. Locate anchors at interval recommended by manufacturer, but not less than 3 inches from each end and not more than 24 inches o.c.

C. Install with hairline mitered corners where expansion joint cover assemblies change direction or abut other materials.

D. Terminate exposed ends of expansion joint cover assemblies with field- or factory-fabricated termination devices.

3.4 PROTECTION

A. Do not remove protective covering until finish work in adjacent areas is complete. When protective covering is removed, clean exposed metal surfaces to comply with manufacturer's written instructions.

B. Protect the installation from damage by work of other Sections. Where necessary due to heavy construction traffic, remove and properly store cover plates or seals and install temporary protection over joints. Reinstall cover plates or seals prior to Substantial Completion of the Work.

END OF SECTION 07 95 13.13

SECTION 10 43 13 – DEFIBRILLATOR CABINETS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes furnishing and installation of:
   1. Cabinets for automatic external defibrillators (AEDs).
   2. Automatic external defibrillators.

B. Related Requirements:
   1. Division 10 Section “Fire Extinguisher Cabinets.”

1.2 REFERENCES

A. Reference Standards: The publications listed below form a part of this Section to the extent referenced. The publications are referred to within the text by the basic designation only.
   1. American Heart Association (AHA): 2005 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Sequencing:
   1. Comply with defibrillator cabinet manufacturer’s written recommendations for sequencing construction operations.
   2. Comply with manufacturer’s ordering instructions and lead time requirements to avoid construction delays.

B. Coordination
   1. Coordinate size of automated external defibrillator cabinets to ensure that type and capacity of automated external defibrillators indicated are accommodated.
   2. Coordinate sizes and locations of automated external defibrillator cabinets with wall depths.

1.4 ACTION SUBMITTALS

A. Product Data: For specified products:
   1. Cabinets: Materials description for defibrillator cabinets include roughing-in dimensions, details showing mounting methods, relationships to surrounding construction, door hardware, cabinet type and materials, trim style and door construction, door style and materials.
   2. Installation instructions for each product specified.

1.5 CLOSEOUT SUBMITTALS:

A. General: Closeout Submittals are to be submitted with O and M Manuals only. Do not submit with other ACTION and INFORMATIONAL Submittals:
   1. Operation and Maintenance Data: For installed products. Include manufacturer’s instructions covering maintenance requirements.

1.6 QUALITY ASSURANCE

A. Qualifications:
   1. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction and approving application method.
   2. Installer: Experienced in performing work of this Section who has specialized in assembly and installation of work similar to that required for this Project.

B. Single-Source Responsibility: Provide both defibrillator cabinet and alarm mechanism from a single manufacturer.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Delivery and Acceptance Requirements: Deliver materials in manufacturer's original packaging with identification labels intact.

B. Storage and Handling Requirements: Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Cabinet Products: Subject to compliance with requirements, select from one of the following.
1. Lifestart 1400 Series by JL Industries Division, Activar Construction Products Group.
2. 180 Series by Modern Metal Products Division of Technico Inc.
3. PFE7023D by Philips Healthcare Division of Royal Philips Electronics N.V.

B. Defibrillators: Select from one of the following:
1. Powerheart AED G3 Plus by Cardiac Science, Opto Cardiac Care Ltd.
2. HeartStart OnSite (HS1) AED by Philips Healthcare Div'n of Royal Philips Electronics N.V.
3. Medtronic LifePak CR Plus AED by Physio-Control Inc.
4. AED Plus by ZOLL Medical Div'n of Asahi Kasei Corp.

C. Products of other manufacturers will be considered for acceptance provided they equal or exceed the material requirements and functional qualities of the specified product. Requests for A/E's approval must be accompanied by the "Substitution Request Form" and complete technical data for evaluation. All materials for evaluation must be received by the Project Manager and Specification Department at least ten days prior to bid due date. Additional approved manufacturers will be issued by Addendum.

2.2 CABINETS FOR AUTOMATIC EXTERNAL DEFIBRILLATORS (AEDs)

A. Cabinet with Steel Trim and Door:
1. Cabinet Style: Semi-recessed.
2. Components:
a. Tub: Cold-rolled steel.
1) Finish: Factory-applied powder coat paint finish.
a) Standard Color: White.
b. Door and Trim Construction: Cold-rolled steel; flush doors with 5/8 inch door stop attached by continuous hinge and equipped with zinc-plated with roller catch.
1) Finish: Factory-applied powder coat paint finish.
a) Standard Color: White.
2) Door Style:
a) Full Tempered Glazing; Pull & AED Decal
c. Trim Style and Depth:
2) Semi-Recessed Cabinet:
a) Rolled Edge: 3 inch.
4) Trim Dimensions: 1-3/4 inch face trim on door and frame.
4. Alarms: Standard: 85 db Commander (audible) cabinet-mounted alarm standard (battery operated) to protect against theft or tampering. Alarm deactivated when door is closed.
5. Wall Signs and Cabinet Lettering:
a. AED wall signs.

2.3 AUTOMATED EXTERNAL DEFIBRILLATOR (AED)

A. Automated External Defibrillator: Portable automated external defibrillator capable of automatically diagnosing life-threatening cardiac arrhythmias, suitable for use on adult or pediatric patients. Lid release on/off button operation. Type, size, and capacity for each cabinet indicated.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide Activar Construction Products Group, Inc. – JL Industries; LIFEPAK CR2 Defibrillator or comparable product.
   2. Battery Capacity: 13 hours.
   3. Standby Life: 6 years.
   4. Accessories: Pediatric Pad-Pak.

2.4 ACCESSORIES

A. Cabinet seals or pull seals (to monitor if AED has been accessed or handled).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Site Verification of Conditions:
   1. Prior to installation of defibrillator cabinets, verify that substrates previously installed under other sections or contracts are acceptable for product installation in accordance with manufacturer's instructions.
   2. Examine conditions affecting performance of work, with Installer present, for compliance with requirements and other conditions.
   3. Inform A/E of unacceptable conditions immediately upon discovery.
   4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Comply with manufacturer's Product Data and written installation instructions applicable to products and applications indicated, including product technical bulletins, product catalog installation instructions, and product carton installation instructions to comply with applicable regulations.

B. Automated External Defibrillator Cabinets: 48 inches above finished floor to top of defibrillator.

C. Automated External Defibrillator Cabinets: Fasten cabinets to structure, square and plumb.
   1. Fasten mounting brackets to inside surface of automated external defibrillator cabinets, square and plumb.

D. Identification
   1. Apply decals or vinyl lettering at locations indicated.

3.3 ADJUSTING

A. Adjust defibrillator cabinet doors to achieve smooth operation.

3.4 CLEANING

A. Upon completing installation, remove surplus and excess materials, rubbish, tools, and equipment.

3.5 CLOSEOUT ACTIVITIES

A. Demonstration:
   1. Instruct Owner's designated maintenance personnel in care, adjustment, and operation of defibrillator cabinets.
   2. Forward statement to A/E countersigned by maintenance personnel confirming that these instructions have been provided.

3.6 PROTECTION

A. Protect installed products from damage during construction.

END OF SECTION 10 43 13

SUBSURFACE INVESTIGATION &
GEOTECHNICAL RECOMMENDATIONS

ZIONSVILLE HIGH SCHOOL LOCKER ROOM
ZIONSVILLE, INDIANA
A&W PROJECT NO.: 24IN0394

PREPARED FOR:
TLF, INC.
INDIANAPOLIS, INDIANA

PREPARED BY:
ALT & WITZIG ENGINEERING, INC.
GEOTECHNICAL DIVISION

AUGUST 7, 2024

Alt & Witzig Engineering, Inc.

4105 West 99th Street • Carmel, Indiana • 46032
Ph (317) 875-7000 • Fax (800) 875-6028

August 7, 2024

TLF, Inc.
3901 West 86th Street, Suite 200
Indianapolis, Indiana 46268
Attn: Ms. Tracy Chariton

Report of Subsurface Investigation and Geotechnical Recommendations

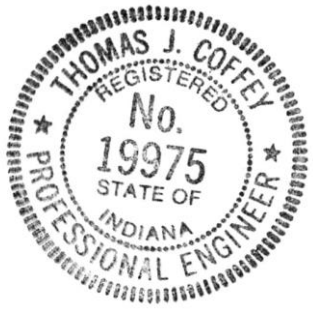
RE: Zionville High School Locker Room
1000 Mulberry Street
Zionsville, Indiana
Alt & Witzig File: 24IN0394

Dear Ms. Chariton:

In compliance with your request, we have conducted a subsurface investigation and geotechnical evaluation for the above referenced project. It is our pleasure to transmit an electronic copy of the report.

The purpose of this subsurface investigation was to determine the various soil profile components, the engineering characteristics of the subsurface materials, and to provide criteria for use by the design engineers in assessing the site for construction, preparation of site grading plans, and determination of appropriate foundation types. A detailed discussion of our subsurface investigation results and recommendations are presented herein.

We appreciated the opportunity to work with you on this project. Often, because of design and construction details that occur on a project, questions arise concerning the soil conditions. If we can give further service in these matters, please contact us at your convenience.



Sincerely,
Alt & Witzig Engineering, Inc.

Nicholas K. Hayes, E.I.

Thomas J. Coffey, P.E.

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INTRODUCTION

This report presents the results of a subsurface investigation performed for the proposed additions to Zionsville High School in Zionsville, Indiana. Our investigation was conducted for TLF, Inc. of Indianapolis, Indiana. Authorization to perform this investigation was in the form of a proposal prepared by Alt & Witzig, Engineering, Inc. (Alt & Witzig Proposal: *2406G007)* that was authorized by a representative of the client.

The scope of this investigation included a review of geological maps of the area and a review of geologic and related literature, a reconnaissance of the immediate site, a subsurface exploration, field and laboratory testing, and engineering analysis and evaluation of the materials.

The purpose of this subsurface investigation was to determine the various soils profile components, the engineering characteristics of the subsurface materials, and to provide criteria for use in assessing the site for construction and evaluating subsurface conditions.

The scope or purpose of this investigation did not either specifically or by implication provide an environmental assessment of the site.

DESCRIPTION OF SITE

The site is located at Zionsville High School, at the street address of 1000 Mulberry Street in Zionsville, Indiana. The proposed building addition is to be constructed on the south side of the school, immediately east of the aquatics center. An aerial photograph of the site taken in 2022 is provided in *Exhibit 1* below.

Exhibit 1 – 2022 Aerial Photograph of Site; Google Earth

Site Description

The proposed building addition area is relatively flat, with an estimated elevation difference of one (1) foot across the proposed area, with elevations ranging between 901 feet to 902 feet per Google Earth. Ground cover across the site during drilling operations consisted of grass, landscaping, asphalt pavement, and concrete sidewalks. The immediate surrounding areas are developed with Zionsville High School, along with associated infrastructure and sporting fields.

Site History

Based on a review of historical aerial photographs, it appears that earthwork was conducted south of the proposed building addition, as shown in *Exhibit 2* below. It is understood that a new driving lane and roundabout will be constructed in this area.

Exhibit 2 – 2010 Aerial Photograph of Site; Google Earth

Exhibit 3 – 2012 Aerial Photograph of Site; Google Earth

Exhibit 4 – 2014 Aerial Photograph of Site; Google Earth

FIELD INVESTIGATION

Boring Locations

Field investigations to determine the engineering characteristics of the subsurface materials included a reconnaissance of the project site and performing five (5) soil borings, at locations selected by the client, located approximately as shown on the *Boring Location Plan*, performing standard penetration tests, and obtaining soil samples retained in the standard spilt-spoon sampler for further laboratory testing. The apparent groundwater level at each boring location was also determined.

Drilling and Sampling Procedures

The soil borings were drilled using a truck-mounted drilling rig equipped with a rotary head. Hollow-stem augers were used to advance the holes. The advancement of the borings was temporarily stopped at regular intervals in order to perform standard penetration tests in accordance with ASTM Procedure D-1586 to obtain the standard penetration value of the soil.

The standard penetration test involves driving a split spoon soil sampler into the ground by dropping a 140-pound hammer, thirty (30) inches. The number of hammer drops required to advance the split-spoon sampler one (1) foot into the soil is defined as the standard penetration value. The soil samples retained in the split-spoon sampling device as a result of the penetration tests were obtained, classified, and labeled for further laboratory investigation.

Water Level Measurements

The apparent groundwater level at each boring location was measured during and upon completion of the drilling operations.

These water level measurements consisted of observing the depth at which water was encountered on the drilling rods during the soil sampling procedure and measuring the depth to the top of any water following removal of the hollow stem augers. It should be noted that the groundwater level measurements recorded on the individual *Boring Logs* in Appendix A of this report are accurate only for the specific dates on which the measurements were performed. It must be understood that the groundwater levels will fluctuate throughout the year and the *Boring Logs* do not indicate these fluctuations.

Ground Surface Elevation

Ground surface elevations were not available at the time of this report. However, available topographic information provided by Google Earth indicates that the proposed addition area varies in elevation from approximately 901 to 902 feet.

LABORATORY INVESTIGATION

In addition to field investigations, a supplemental laboratory investigation was conducted to ascertain additional pertinent engineering characteristics of the subsurface materials. The laboratory-testing program included:

- Classification of soils in general accordance with ASTM D-2488
- Moisture content tests in general accordance with ASTM D-2216
- Samples of the cohesive soil were frequently tested in unconfined compression by use of a calibrated spring testing machine.
- A soil Penetrometer was used as an aid in determining the strength of the soil.

The values of the unconfined compressive strength as determined on soil samples from the split-spoon sampling must be considered, recognizing the manner in which they were obtained since the split-spoon sampling techniques provide a representative but somewhat disturbed soil sample.

SUBSURFACE CONDITIONS

General

The types of foundation materials encountered have been visually classified and are described in detail on the *Boring Logs*. The results of the field penetration tests, strength tests, water level observations and laboratory water contents are presented on the *Boring Logs* in numerical form. Representative samples of the soils encountered in the field were placed in sample jars and are now stored in our laboratory for further analysis if desired. Unless notified to the contrary, all samples will be disposed of after two (2) months.

Soil Conditions

The borings conducted in the grass areas encountered approximately two (2) to five (5) inches of topsoil at the ground surface. Boring B-03, conducted in the asphalt pavement, encountered approximately three (3) inches of asphalt underlain by twelve (12) inches of crushed stone at the ground surface.

Beneath the surface materials, borings B-01, B-02, and B-04 encountered fill materials consisting of cohesive and granular soils to depths ranging from four (4) to eleven (11) feet. It should be noted that boring B-01 encountered brick debris within the soil layer between nine (9) and eleven (11) feet. The soils then transitioned to medium stiff to stiff cohesive soils to the termination depths of the borings. Boring B-01 encountered a soft layer of cohesive soil at a depth of twenty-one (21) feet. Also, boring B-02 encountered a layer of medium dense granular soil at a depth of seventeen (17) to twenty-one (21) feet.

Detailed soil descriptions at each boring location have been included on the *Boring Logs* in Appendix A of this report.

According to the *Soil Survey of Boone County, Indiana* published by the United States Department of Agriculture Soil Conservation Service, the majority of the shallow soil covering this site is classified as Crosby-Urban land-Treaty complex (YctA) and Miami silt loam-Urban land complex (YmsB2). The *Custom Soil Resource Report for Boone County, Indiana* has been included in Appendix B.

Bedrock Geology

Geologic maps published by the Indiana Geological Survey indicate the bedrock at this site consists of the New Albany Group, which is characterized by shale, dolomite, and sandstone of the Devonian/Mississippian age. The approximate elevation of this bedrock is mapped to be 700 feet, which is estimated to be greater than 100 feet of the existing ground surface.

Seismic Design Considerations

Based on the field and laboratory tests performed on the subsurface materials and an assumption that the bedrock surface is greater than 100 feet below the existing ground surface, this site should be considered a Site Class D in accordance with the current Indiana Building Code.

The location of the site was entered into the website www.seismicmaps.org to determine seismic parameters. Maximum spectral response acceleration values of Ss=0.152 and S_1=0.083 g were generated by the program. Additional parameters are included in the printout in Appendix B.

Groundwater

Groundwater levels taken during and upon completion of the boring operations yielded measurements greater than eight (8) feet below the ground surface. The exact location of the water table may fluctuate somewhat depending upon normal seasonal variations in precipitation and surface runoff.

The *Soil Survey of Boone County, Indiana* indicates a seasonal high groundwater table as shallow as six (6) inches below the natural ground surface. Again, it should be noted that the groundwater level measurements recorded on the individual *Boring Logs* included in Appendix B of this report, are accurate **only** for the dates on which the measurements were performed.

GEOTECHNICAL ANALYSIS & RECOMMENDATIONS

Project Description

It is anticipated that the proposed addition will be two-story, slab-on-grade addition, constructed on south ends of the existing building. Also, a new driving lane and roundabout will be constructed south of the proposed addition. The location of the soil borings in relation to the layout of the site is shown on the enclosed *Boring Location Plan*.

Grading plans were not available at the time of this report. It is assumed that finished grade will match the existing structure. Based on the existing topography of the site, approximately one (1) foot of relief exists across the footprint of the proposed addition.

It is assumed that structural loads for the building addition will be transferred to the soils by spread footings and continuous wall footings founded at a shallow depth, if possible. Maximum column loads of 100 kips and wall loads of 6 klf were provided by TLF, Inc.

Existing Structure/Utility Concerns

As previously mentioned, the Zionsville High School Building occupies the site. Also, a small building occupies the location of the proposed driving lane and roundabout. It is understood that the small building will be demolished and removed. Shallow, uncontrolled fills should be anticipated from activities associated with past construction. Care should be taken to properly abandon any existing utilities located in the area of the addition. At no time should new foundations be placed on or above abandoned utilities, old floor slabs, or foundations.

Upon completion of the demolition process, it is recommended that Alt & Witzig Engineering, Inc. evaluate the soil conditions in the area of the previous structure prior to backfilling. It is further recommended that if backfilling is required, a representative of Alt & Witzig Engineering, Inc. be present to assure that proper compaction is achieved.

Adjacent Foundations

New foundations to be placed near or adjacent to existing foundations should be constructed such that undermining of adjacent footings and lateral loading of footings located at a different elevation is

avoided. If it is necessary to construct the new foundations within the "influence area" of the existing structure, shoring or underpinning of the existing structure will be necessary to allow for construction. The lateral loads applied by the existing footing should be considered in design of the proposed foundation. This investigation did not include the evaluation of the existing structure or foundation system. Caution must be exercised during construction to not undermine existing foundations or jeopardize the integrity of the existing structure.

Foundation Recommendations

Considering the encountered soil conditions at the boring locations, the estimated loads of the structure, and the relative economics of the available foundation types, conventional spread and continuous wall footings were considered, as well as helical piers.

Conventional Footings

As mentioned, borings B-01, B-02, and B-04 encountered fill materials to depths of four (4) to eleven (11) feet. Due to the uncontrolled nature of the fill materials, it is recommended that these materials be undercut to firm natural soils.

Net allowable bearing pressures of **2,500** and **2,000 psf** are recommended for dimensioning spread footings and continuous wall footings, respectively, provided they are founded on firm natural soil or properly compacted structural fill.

Wherever unsuitable materials are encountered, these footing areas should be undercut to firm natural soils to minimize potential settlement. Since the site limitation do not appear to allow for widening of potential footing excavations to accommodate compacted structural fill in the areas of the undercut, it is recommended that, if it is not desired to extend the footings to this depth, the original bottom of footing elevation may be reestablished using lean concrete. Care must be taken to undercut and re-establish the footing elevation in accordance with the *Undercut Detail for Footing Excavation in Unstable Materials* diagram in Appendix A of the report.

It is recommended that a representative of Alt & Witzig Engineering, Inc. inspect all foundation excavations prior to the placement of concrete. At the time of this inspection, Housel penetrometer or other approved tests may be performed in order to confirm that suitable materials are present.

Helical Piers

Due to the depth and nature of the fill materials, particularly in boring B-01, we have also considered helical piers as an option for the foundation system. Helical piers will also be advantageous to avoid overlapping loads from the existing footings and the new footings as well.

Helical piers utilize a central bar or pipe outfitted with a helical auger on the end that is rotated into the ground to a specified depth. The piers can accept loading immediately upon installation and are typically installed by either a backhoe or bobcat-mounted equipment.

The capacity of the helical piers depends on the size of the helix selected and the depth into the firm underlying soils that the piers are installed. Typically, individual working pier capacities in the range of 30 to 80 kips are feasible. Higher capacities may be available as well. The capacity of each individual pier may be determined at the time of installation through real-time monitoring measurements. It is recommended that as a minimum the piers be extended to the stiff cohesive soils encountered approximately fourteen and one-half (14½) feet below the existing ground surface. The depth and capacity of the piers should be designed by the specialty contractor.

General

The above recommended bearing pressures will help reduce differential settlements associated with footings founded on soil with varying stiffness across the building pad. Using the above-mentioned bearing pressure and recommendations for limiting settlements, total settlements of less than one (1) inch and differential settlements of one half (½) inch or less can be anticipated. In utilizing the above-mentioned net allowable pressures for dimensioning footings, it is necessary to consider only those loads applied above the finished floor elevation.

In order to alleviate the effects of seasonal variation in moisture content on the behavior of the footings and eliminate the effects of frost action, all exterior foundations should be founded a minimum of three (3) feet below the final grade.

Some modifications to the recommendations provided in this report may be necessary based on potential complications or modifications to the design plan. The modifications may influence the overall cost of the project and construction sequence. If complications become apparent to the design

team or owner, this information should be provided to Alt & Witzig Engineering, Inc. at the earliest possible date.

Floor Slab Recommendations

It is typically desirable to place the floor slab as a slab-on-grade supported by the soil. In the areas where the existing grade is above the final floor elevation, the building area should be undercut and a well-draining granular material placed beneath the slab. In those areas where the existing grade is below the final floor elevation, a well-compacted structural fill will be necessary to raise the site to the desired grade. All fill materials may consist of approved materials if proper moisture content and compaction procedures are maintained.

Prior to elevating the site, all topsoil should be stripped from the site. The subgrade soils must then be proofrolled with approved equipment. It is recommended that a representative of Alt & Witzig Engineering, Inc. be present to determine the exact depth of undercutting and to monitor backfilling operations if necessary. Areas of shallow unstable materials should be anticipated in most areas due to the encountered fill materials. The exact remediation method used will be dependent upon the size of the area and the types of materials encountered, as well as the project schedule. If weather conditions are favorable, the soils may be aerated, dried, and recompacted or undercut and replaced. Remediation will be dictated by the field conditions upon construction.

After the building area has been raised to the proper elevation, a layer of well-draining granular material should be placed immediately beneath all floor slabs. It is recommended that the materials within the subgrade area, above footing elevation, be compacted to a minimum density of 93 percent of maximum density in accordance with ASTM D-1557.

A modulus of subgrade reaction, k_{30}, of 75 pci is recommended for the shallow cohesive soils and fill materials. It should be noted that the fill materials may require some remediation prior to utilizing the 75 pci modulus of subgrade reaction.

Pavement Recommendations

The strength of the subgrade soils at this site depends upon several variables including compaction and drainage. It is, therefore, extremely important that all paved areas be designed to prevent water from collecting or ponding immediately beneath the pavement. This can be accomplished by sheet

draining the parking area and sloping the subgrade soils and outletting them to a drain or a ditch to allow for subgrade drainage, or by the installation of a subsurface drainage system. It is recommended that underdrains be installed at the transitions from concrete to asphalt as well.

For these soils to provide adequate support for pavement, it will also be necessary that the earthmoving contractor follow proper site work techniques. The exposed subgrade should be proof-rolled with equipment approved by a representative of Alt & Witzig Engineering, Inc. This proof-rolling will assist in identifying pockets of soft unstable materials beneath exposed subgrades. As mentioned before, an existing building is located in the area of the new driving lane and roundabout. It is recommended that upon completion of the demolition process, it is recommended that Alt & Witzig Engineering, Inc. evaluate the soil conditions in the area of the previous structure prior to backfilling. It is further recommended that if backfilling is required, a representative of Alt & Witzig Engineering, Inc. be present to assure that proper compaction is achieved.

In areas where fill will be required to raise the site to proposed grade, the performance of the pavements will be greatly affected by the quality of compaction achieved in the subgrade soils. Thus, it is recommended that all pavement areas be compacted to 93 percent of the material's maximum dry density as determined by ASTM D-1557.

Lateral Earth Pressures on Subsurface Walls

The amount of pressure exerted by the backfill on the walls will depend on the height of the wall, drainage provisions, type of backfill, method of placing the backfill, and the proximity of nearby shallow foundations. The free draining material should be placed behind the wall and include an area on a 1:1 slope from the heel of the wall up to the ground surface.

It is recommended that the material used as backfill consist of clean sand and gravel containing less than five (5) percent fines by weight. A representative of Alt & Witzig Engineering, Inc. should inspect this material to determine its suitability. It is recommended that the granular backfill immediately adjacent to the wall be placed with a moderate amount of tamping and compacting.

The lateral earth pressure will be minimized if the backfill is a clean granular material, and if the backfill is placed with a minimum amount of tamping. For design purposes, it is recommended that coefficient of at rest earth pressure (k_o) of 0.5 be used for structurally designing subsurface

walls where minimal compactive effort can be used on the backfill. Also, an active coefficient (k_a) of 0.3 and passive earth coefficient (k_o) of 3.3 should be considered.

Assuming the unit weight of the backfill is 125 pcf, a k_o = 0.5 would correspond to an equivalent fluid pressure of 63 pcf per foot of wall height. This equivalent fluid pressure would increase linearly from 0 psf at ground surface to a maximum at the bottom of the footing. Please note that the above pressures are applicable during a fully drained condition.

CONSTRUCTION CONSIDERATIONS

Site Preparation

Excessively organic topsoil and loose dumped fill materials will generally undergo high volume changes that are detrimental to the behavior of pavements, floor slabs, structural fills, and foundations placed upon them. It is recommended that all topsoil and/or loose materials be stripped from the construction areas and wasted or stockpiled for later use.

The depth and consistency of these materials will vary across the site. It should be noted that the soil borings only indicate the apparent topsoil and asphalt pavement thickness at their specific locations. Borings do not indicate variations in the thickness of these layers between selected locations. Thus, borings only provide a general indication of the amount of stripping.

The condition of the subgrade at the time of earthmoving operations and the methods used by the contractor will influence the depth of stripping. A representative of Alt & Witzig Engineering, Inc. in the field should determine the exact depth of stripping and undercutting at the time of stripping operations.

It is recommended that after the above-mentioned stripping procedures have been performed, the exposed subgrade should be proofrolled with approved equipment. This proofrolling will determine where areas of soft unsuitable materials are encountered. Due to the encountered fill materials, it is anticipated that some subgrade soils will not favorably pass a proofroll inspection. It is recommended that a representative of Alt & Witzig Engineering, Inc. be present for this phase of this project.

After the existing subgrade soils are excavated to design grade, proper control of subgrade compaction and fill, and structural fill replacement should be maintained in accordance with the *Recommended Specifications for Compacted Fills and Backfills*, presented in Appendix A of this report; thus minimizing volume changes and differential settlements which are detrimental to behavior of shallow foundations, floor slabs, and pavements.

Groundwater

Depending upon the time of the year and the weather conditions when the excavations are made, seepage from surface runoff may occur into shallow excavations or soften the subgrade soils. Since

these foundation materials tend to loosen when exposed to free water, every effort should be made to keep the excavations dry should water be encountered. Sump pumps or other conventional dewatering procedures should be sufficient for this purpose within the cohesive soils.

It is also recommended that all concrete for footings be poured the same day the excavation is made.

STATEMENT OF LIMITATIONS

This report is solely for the use of TLF, Inc. and any reliance of this report by third parties shall be at such party's sole risk and may not contain sufficient information for purposes of other parties for other uses. This report shall only be presented in full and may not be used to support any other objectives than those set out in the scope of work, except where written approval and consent are provided by TLF, Inc. and Alt & Witzig Engineering, Inc.

An inherent limitation of any geotechnical engineering study is that conclusions must be drawn based on data collected at a limited number of discrete locations. The geotechnical parameters provided in this report were developed from the information obtained from the test borings that depict subsurface conditions only at these specific locations and on the date indicated on the boring logs. Soil conditions at other locations may differ from conditions encountered at these boring locations and groundwater levels shall be expected to vary with time. The nature and extent of variations between the borings may not become evident until the course of construction.

The exploration and analysis reported herein is considered in sufficient detail and scope to form a reasonable basis for design. The recommendations submitted are based on the available soil information and assumed design details enumerated in this report. If actual design details differ from those specified in this report, this information should be brought to the attention of Alt & Witzig Engineering, Inc. so that it may be determined if changes in the foundation recommendations are required.

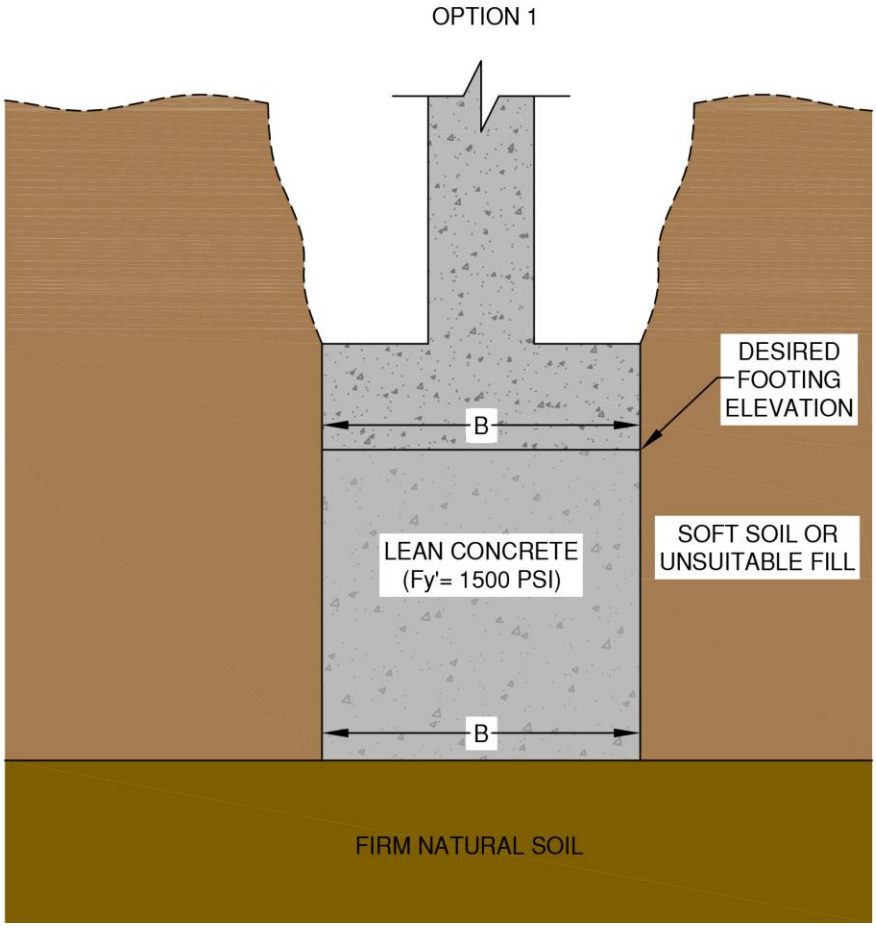
APPENDIX A

Recommended Specifications for Compacted Fills and Backfills
Undercut Detail for Footing Excavation in Unstable Materials
Boring Location Plan
Boring Logs
General Notes

RECOMMENDED SPECIFICATIONS FOR COMPACTED FILLS AND BACKFILLS

All fill shall be formed from material free of vegetable matter, rubbish, large rock, and other deleterious material. Prior to placement of fill, a sample of the proposed fill material should be submitted to Alt & Witzig Engineering, Inc. for approval. The surface of each layer will be approximately horizontal but will be provided with sufficient longitudinal and transverse slope to provide for runoff of surface water from every point. The fill material should be placed in layers not to exceed eight (8) inches in loose thickness. Each layer should be uniformly compacted by means of suitable equipment of the type required by the materials composing the fill. Under no circumstances should a bulldozer or similar tracked vehicles be used as compacting equipment. Material containing an excess of water so the specified compaction limits cannot be attained should be spread and dried to a moisture content that will permit proper compaction. The addition of water may be required if the fill is below moisture content that will permit compaction. All fill should be compacted to the specified percent of the maximum density obtained in accordance with ASTM density Test D-1557 (95 percent of maximum dry density below the base of footing elevation, 93 percent of maximum dry density beneath floor slabs and pavements). Should the results of the in-place density tests indicate that the specified compaction limits are not obtained; the areas represented by such tests should be reworked and retested as required until the specified limits are reached.

UNDERCUT EXCAVATION FOR ISOLATED FOOTINGS IN UNSTABLE MATERIALS



Undercut Detail for Footing Excavation in Unstable Material

PROJECT: **Zionsville HS Locker Room Addition**
LOCATION: **Zionsville, IN**
CLIENT: **TLF, Inc.**
A&W File No.: 24IN0394

Alt & Witzig Engineering Inc.
4105 W. 99th Street ·Carmel, IN 46032
TEL (317)875-7000 · FAX (317) 876-3705
www.altwitzig.com

BORING LOCATION PLAN

PROJECT: Zionsville High School Locker Room
LOCATION: Zionsville, IN
PREPARED FOR: TLF, Inc.
PROJECT NO: 24IN0394

Project Manager:NH
Checked By:TC
Drawn By:JT
Date: 07/24

Alt & Witzig Engineering, Inc.
4105 West 99th Street • Carmel, IN 46032
Telephone: (317) 875-7000 • Fax (800) 875-6028

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **TLF, Inc.**

BORING # **B-01**

PROJECT NAME **Zionsville High School Locker Room Addition**

ALT & WITZIG FILE # **24IN0394**

PROJECT LOCATION **Zionsville, IN**

DRILLING and SAMPLING INFORMATION

Date Started **7/25/24** Hammer Wt. **140** lbs.

Date Completed **7/25/24** Hammer Drop **30** in.

Boring Method **HSA** Spoon Sampler OD **2** in.

Driller **C. Peterman** Rig Type **D-50 Track ATV**

STRATA ELEV. / SOIL CLASSIFICATION / SURFACE ELEVATION	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % / *Dry Unit Weight (pcf)*	Remarks
TOPSOIL	0.2										
Brown Sandy CLAY *(FILL)*	4.0		1	SS			11			12.5	
		5	2	SS			3				
Brown SAND with a Trace of Clay *(FILL)*	9.0		3	SS			3				
		10	4	SS			5				
Brown Sandy Silty CLAY with Brick *(FILL)*	11.0										
		15	5	SS			13	4.3		11.2	
Gray Sandy Silty CLAY		20	6	SS		○	4		0.5	14.7	
		25	7	SS			16		4.5	9.3	
End of Boring at 26 feet	26.0										

Sample Type

SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater

○ During Drilling *23.0 ft.*
▽ At Completion *ft.*

Boring Method

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **TLF, Inc.**

BORING # **B-02**

PROJECT NAME **Zionsville High School Locker Room Addition**

ALT & WITZIG FILE # **24IN0394**

PROJECT LOCATION **Zionsville, IN**

DRILLING and SAMPLING INFORMATION

Date Started	**7/25/24**	Hammer Wt.	**140** lbs.
Date Completed	**7/25/24**	Hammer Drop	**30** in.
Boring Method	**HSA**	Spoon Sampler OD	**2** in.
Driller	**C. Peterman**	Rig Type	**D-50 Track ATV**

TEST DATA

STRATA ELEV.	SOIL CLASSIFICATION / SURFACE ELEVATION	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % *Dry Unit Weight (pcf)*	Remarks
	TOPSOIL	0.2										
	Brown SAND and GRAVEL *(FILL)*	4.0		1	SS			34				
			5	2	SS			11		3.0	11.8	
				3	SS			10		2.0	11.5	
	Brown Sandy Silty CLAY		10	4	SS			6		1.8	11.8	
		15.0	15	5	SS			8	1.4		15.4	
	Gray Sandy Silty CLAY	17.0										
	Gray, Moist Clayey SAND with Gravel		20	6	SS			10				
	End of Boring at 21 feet	21.0										

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *Dry ft.*
▽ At Completion *Dry ft.*

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **TLF, Inc.**

PROJECT NAME **Zionsville High School Locker Room Addition**

PROJECT LOCATION **Zionsville, IN**

BORING # **B-03**

ALT & WITZIG FILE # **24IN0394**

DRILLING and SAMPLING INFORMATION

Date Started **7/25/24**
Date Completed **7/25/24**
Boring Method **HSA**
Driller **C. Peterman**

Hammer Wt. **140** lbs.
Hammer Drop **30** in.
Spoon Sampler OD **2** in.
Rig Type **D-50 Track ATV**

TEST DATA

STRATA ELEV.	SOIL CLASSIFICATION / SURFACE ELEVATION	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % / *Dry Unit Weight (pcf)*	Remarks
	3" Asphalt	0.3										
	12" Crushed Stone	1.3										
				1	SS			11	2.6	3.0	13.3	
			5	2	SS			10	1.4		11.6	
	Brown Sandy Silty CLAY			3	SS		▽	8		1.3	10.8	
			10	4	SS		○	8		2.5	11.4	
		13.0										
	Gray Sandy Silty CLAY		15	5	SS			7		1.0	12.0	
			20	6	SS			50/5"				
		21.0										
	End of Boring at 21 feet											

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *12.0 ft.*
▽ At Completion *8.0 ft.*

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **TLF, Inc.**

BORING # **B-04**

PROJECT NAME **Zionsville High School Locker Room Addition**

ALT & WITZIG FILE # **24IN0394**

PROJECT LOCATION **Zionsville, IN**

DRILLING and SAMPLING INFORMATION

Date Started	**7/25/24**	Hammer Wt.	**140** lbs.
Date Completed	**7/25/24**	Hammer Drop	**30** in.
Boring Method	**HSA**	Spoon Sampler OD	**2** in.
Driller	**C. Peterman**	Rig Type	**D-50 Track ATV**

TEST DATA

STRATA ELEV.	SOIL CLASSIFICATION / SURFACE ELEVATION	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % *Dry Unit Weight (pcf)*	Remarks
	TOPSOIL	0.2										
	Brown SAND with Crushed Stone *(FILL)*			1	SS			41				
		4.0										
	Brown and Gray Silty CLAY		5	2	SS			10		3.5	20.7	
		7.0										
				3	SS			7	1.3		12.8	
	Brown Sandy Silty CLAY		10	4	SS			5		1.5	12.5	
			15	5	SS			11		1.0	13.0	
		18.0										
	Gray Sandy Silty CLAY		20	6	SS			38		4.5	9.2	
		21.0										
	End of Boring at 21 feet											

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *Dry ft.*
▽ At Completion *Dry ft.*

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **TLF, Inc.**

BORING # **B-05**

PROJECT NAME **Zionsville High School Locker Room Addition**

ALT & WITZIG FILE # **24IN0394**

PROJECT LOCATION **Zionsville, IN**

DRILLING and SAMPLING INFORMATION

Date Started **7/25/24** Hammer Wt. **140** lbs.

Date Completed **7/25/24** Hammer Drop **30** in.

Boring Method **HSA** Spoon Sampler OD **2** in.

Driller **C. Peterman** Rig Type **D-50 Track ATV**

STRATA ELEV.	SOIL CLASSIFICATION / SURFACE ELEVATION	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % / *Dry Unit Weight (pcf)*	Remarks
	TOPSOIL	0.4										
				1	SS			4	1.4	2.0	13.7	
	Brown Sandy Silty CLAY		5	2	SS			6	1.6		12.9	
				3	SS			6	1.7		13.2	
			10	4	SS			8	2.1	1.3	12.2	
	End of Boring at 11 feet	11.0										

TEST DATA

Sample Type
- SS - Driven Split Spoon
- ST - Pressed Shelby Tube
- CA - Continuous Flight Auger
- RC - Rock Core
- CU - Cuttings
- CT - Continuous Tube

Groundwater
- ○ During Drilling *Dry ft.*
- ▽ At Completion *Dry ft.*

Boring Method
- HSA - Hollow Stem Augers
- CFA - Continuous Flight Augers
- DC - Driving Casing
- MD - Mud Drilling

MATERIAL GRAPHICS LEGEND


ASPHALT: Asphalt


CL-ML: USCS Low Plasticity Silty Clay


FILL: Fill (made ground)


SC: USCS Clayey Sand


TOPSOIL


GRAVEL/COBBLES

SOIL PROPERTY SYMBOLS

N: *Standard "N" penetration value. Blows per foot of a 140-lb hammer falling 30" on a 2" O.D. split-spoon.*

Qu: *Unconfined Compressive Strength, tsf*

PP: *Pocket Penetrometer, tsf*

LL: *Liquid Limit, %*

PL: *Plastic Limit, %*

PI: *Plasticity Index, %*

DRILLING AND SAMPLING SYMBOLS

GROUNDWATER SYMBOLS

○ *Apparent water level noted while drilling.*

▽ *Apparent water level noted upon completion.*

▼ *Apparent water level noted upon delayed time.*

SAMPLER SYMBOLS

SS: Split Spoon

RELATIVE DENSITY & CONSISTANCY CLASSIFICATION (NON-COHESIVE SOILS)

TERM	*BLOWS PER FOOT*
Very Loose	0 - 5
Loose	6 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	>51

RELATIVE DENSITY & CONSISTANCY CLASSIFICATION (COHESIVE SOILS)

TERM	*BLOWS PER FOOT*
Very Soft	0 - 3
Soft	4 - 5
Medium Stiff	6 - 10
Stiff	11 - 15
Very Stiff	16 - 30
Hard	>31

Alt & Witzig

Telephone:
Fax:

GENERAL NOTES

Project: Zionsville High School Locker Room Addition

Location: Zionsville, IN

Number: 24IN0394

APPENDIX B

Seismic Design Parameters
Custom Soil Resource Report for Boone County, Indiana

24IN0394

Latitude, Longitude: 39.960303, -86.273066

Date	7/29/2024, 10:57:19 AM
Design Code Reference Document	IBC-2015
Risk Category	III
Site Class	D - Stiff Soil

Type	Value	Description
S_S	0.152	MCE_R ground motion. (for 0.2 second period)
S_1	0.083	MCE_R ground motion. (for 1.0s period)
S_{MS}	0.243	Site-modified spectral acceleration value
S_{M1}	0.2	Site-modified spectral acceleration value
S_{DS}	0.162	Numeric seismic design value at 0.2 second SA
S_{D1}	0.133	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	C	Seismic design category
F_a	1.6	Site amplification factor at 0.2 second
F_v	2.4	Site amplification factor at 1.0 second
PGA	0.07	MCE_G peak ground acceleration
F_{PGA}	1.6	Site amplification factor at PGA
PGA_M	0.112	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	0.152	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	0.167	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.083	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.096	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.6	Factored deterministic acceleration value. (Peak Ground Acceleration)

Type	Value	Description
PGA_{UH}	0.07	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration
C_{RS}	0.909	Mapped value of the risk coefficient at short periods
C_{R1}	0.864	Mapped value of the risk coefficient at a period of 1 s
C_V		Vertical coefficient

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United States Department of Agriculture

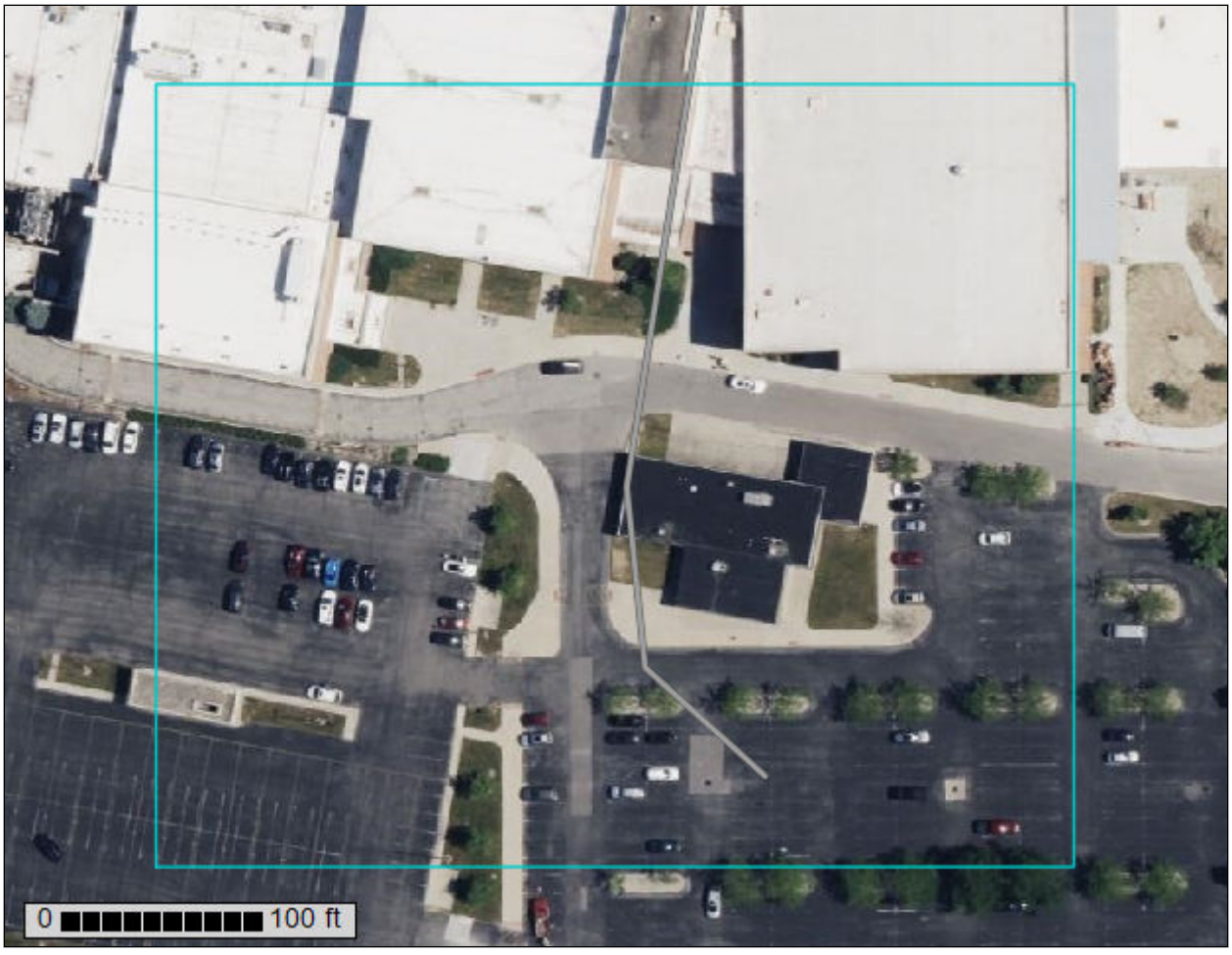
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Boone County, Indiana

24IN0394



June 26, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,000 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 45 90 180 270

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Boone County, Indiana
Survey Area Data: Version 26, Sep 1, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 15, 2022—Jun 21, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
YctA	Crosby-Urban land-Treaty complex, fine-loamy subsoil, 0 to 2 percent slopes	1.8	43.2%
YmsB2	Miami silt loam-Urban land complex, 2 to 6 percent slopes, eroded	2.3	56.8%
Totals for Area of Interest		**4.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Boone County, Indiana

YctA—Crosby-Urban land-Treaty complex, fine-loamy subsoil, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2xf6n
Elevation: 700 to 1,040 feet
Mean annual precipitation: 37 to 46 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 145 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Crosby and similar soils: 50 percent
Urban land: 30 percent
Treaty, drained, and similar soils: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Crosby

Setting

Landform: Recessionial moraines, ground moraines, water-lain moraines
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty material or loess over loamy till

Typical profile

Ap - 0 to 10 inches: silt loam
Btg - 10 to 17 inches: silty clay loam
2Bt - 17 to 29 inches: clay loam
2BCt - 29 to 36 inches: loam
2Cd - 36 to 79 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 24 to 40 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.20 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 55 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F111XA008IN - Wet Till Ridge

Hydric soil rating: No

Description of Treaty, Drained

Setting

Landform: Swales, water-lain moraines, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Silty material or loess over loamy till

Typical profile

Ap - 0 to 10 inches: silty clay loam
A - 10 to 14 inches: silty clay loam
Btg1 - 14 to 36 inches: silty clay loam
2Btg2 - 36 to 59 inches: loam
2C - 59 to 79 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F111XA007IN - Till Depression Flatwood
Hydric soil rating: Yes

YmsB2—Miami silt loam-Urban land complex, 2 to 6 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2w586
Elevation: 180 to 1,040 feet
Mean annual precipitation: 37 to 46 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 145 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Miami, eroded, and similar soils: 50 percent
Urban land: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Miami, Eroded

Setting

Landform: Till plains
Landform position (two-dimensional): Backslope, shoulder, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess over loamy till

Typical profile

Ap - 0 to 8 inches: silt loam
Bt - 8 to 13 inches: silty clay loam
2Bt - 13 to 31 inches: clay loam
2BCt - 31 to 36 inches: loam
2Cd - 36 to 79 inches: loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: 24 to 40 inches to densic material
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.20 in/hr)
Depth to water table: About 24 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 45 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F111XA009IN - Till Ridge
Other vegetative classification: Trees/Timber (Woody Vegetation)
Hydric soil rating: No

Minor Components

Williamstown

Percent of map unit: 5 percent
Landform: Till plains
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F111XA009IN - Till Ridge
Other vegetative classification: Trees/Timber (Woody Vegetation)

Hydric soil rating: No

Treaty

Percent of map unit: 5 percent
Landform: Till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F111XA007IN - Till Depression Flatwood
Other vegetative classification: Mixed/Transitional (Mixed Native Vegetation)
Hydric soil rating: Yes

Crosby

Percent of map unit: 5 percent
Landform: Till plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: F111XA008IN - Wet Till Ridge
Other vegetative classification: Trees/Timber (Woody Vegetation)
Hydric soil rating: No

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Alt & Witzig Engineering, Inc.
4105 West 99th Street • Carmel, Indiana • 46032
Ph (317) 875-7000 • Fax (800) 875-6028

August 8, 2024

TLF, Inc.
3901 W. 86th St., Suite 200
Indianapolis, Indiana 46268
Attention: Ms. Tracy Chariton

RE: Test-pit Investigation
Zionsville High School Locker Room
Existing Foundations
Zionsville, Indiana
Alt & Witzig Project: **24IN0418**

Dear Ms. Chariton:

Pursuant to our recent discussions we have performed observations of test pits excavated at the above referenced project site. The test pits were performed on July 25 and 26, 2024. A mini-excavator with an 18-inch bucket was used to excavate the test pits.

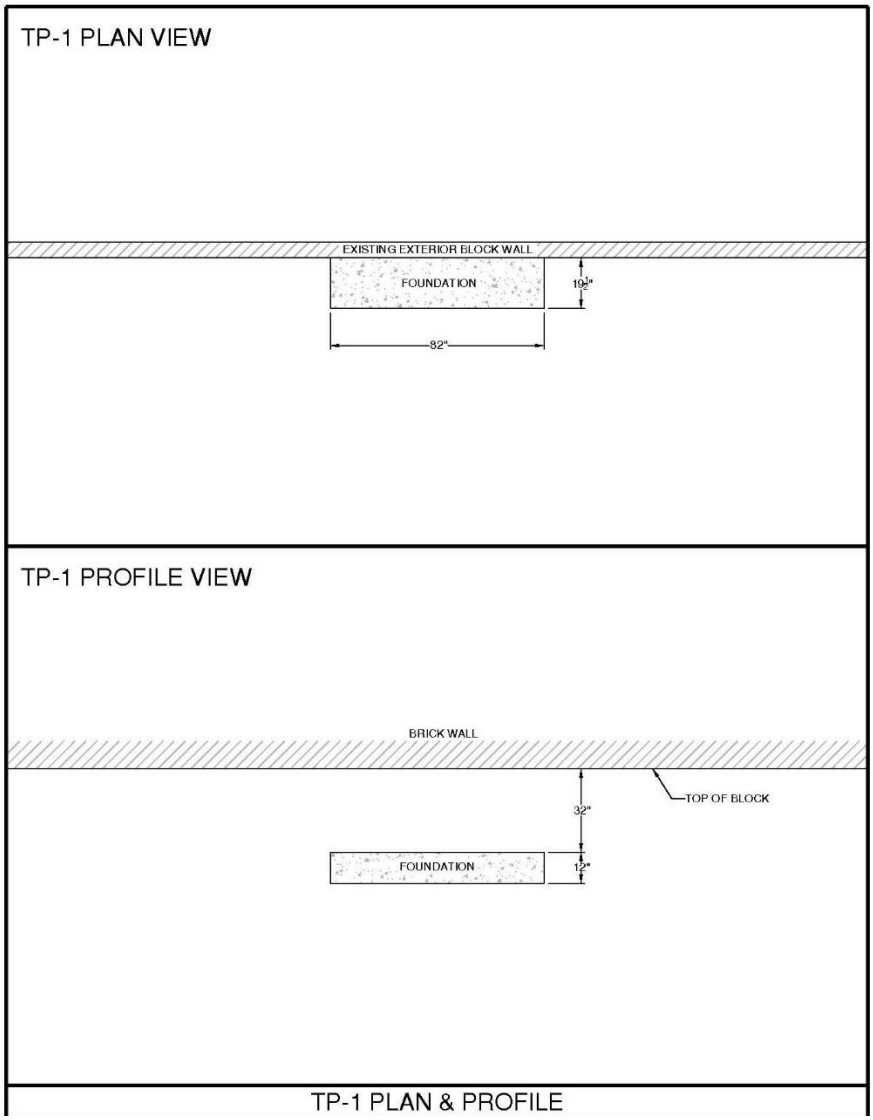
Excavations were performed at four (4) locations on the south side of the existing school, east of the natatorium. Locations were adjusted to avoid conflict with underground utilities. A Test Pit Location plan is provided as an attachment to this report.

The purpose of the excavation was to evaluate the size and depth of foundations at the test pit locations. The results of the investigation are presented on the following pages that include photos of the test pits and sketches showing the measured sizes and depths of the foundations.

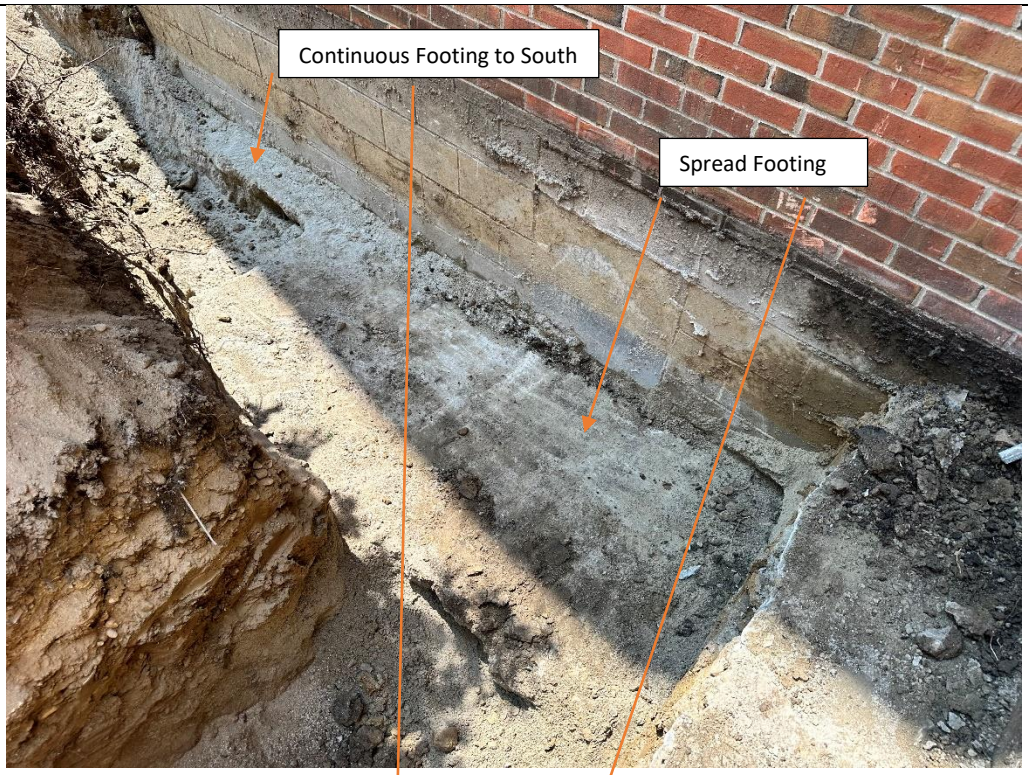
Location TP-1

Foundation at Location TP-1

Foundation at TP-1



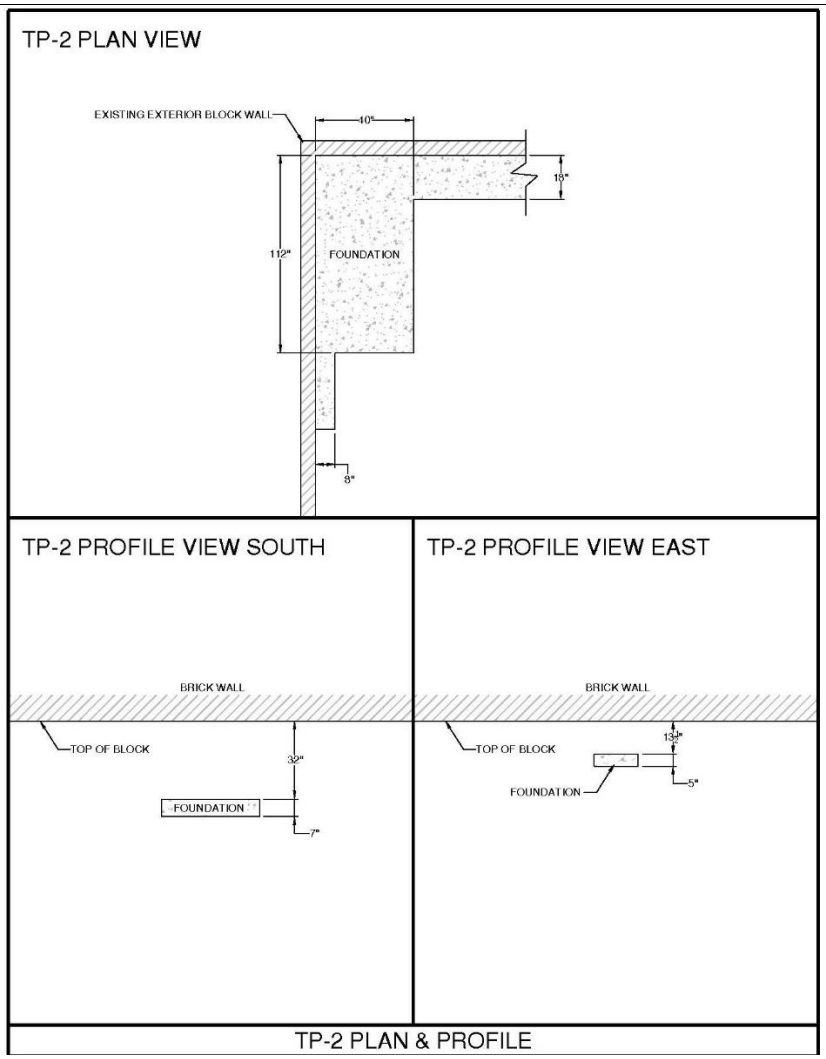
TP-1 Plan and Profile Dimensions



TP-2

TP-2

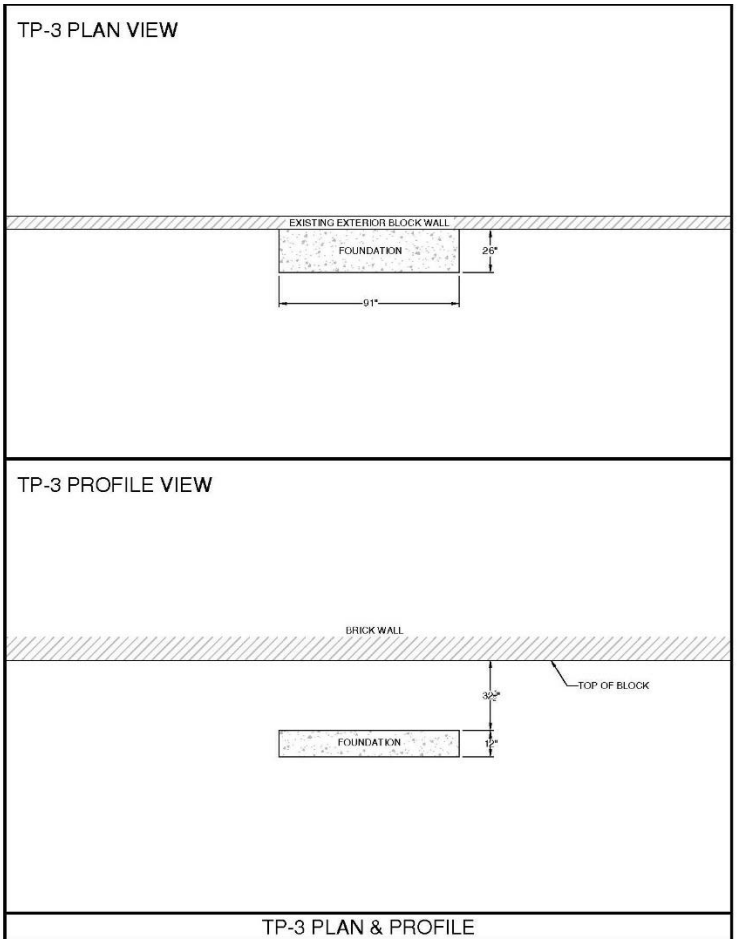
TP-2 Looking North



TP-2 Plan and Profile Dimensions

TP-3

TP-3 Looking West



TP-3 Plan and Profile Dimensions

TP-4

TP-4 Looking Northwest

At the location of TP-4 the test pit was excavated to a depth of 61-inches. A foundation was not encountered in the test pit excavation. The test pit was terminated at this depth due to the location of the existing water line (shown by the blue flag on the left side of the picture above) and the limitations of the equipment.

The test pits were backfilled and areas of TP-1, 3, and 4 were seeded and covered with straw as shown below.

TP-1, 3, and 4 Restoration

Restoration of the area at TP-2 included backfilling the test pit and placing mulch as shown below.

Thank you for this opportunity to be of service. Feel free to contact us if you have any questions regarding this report.

Very truly yours,

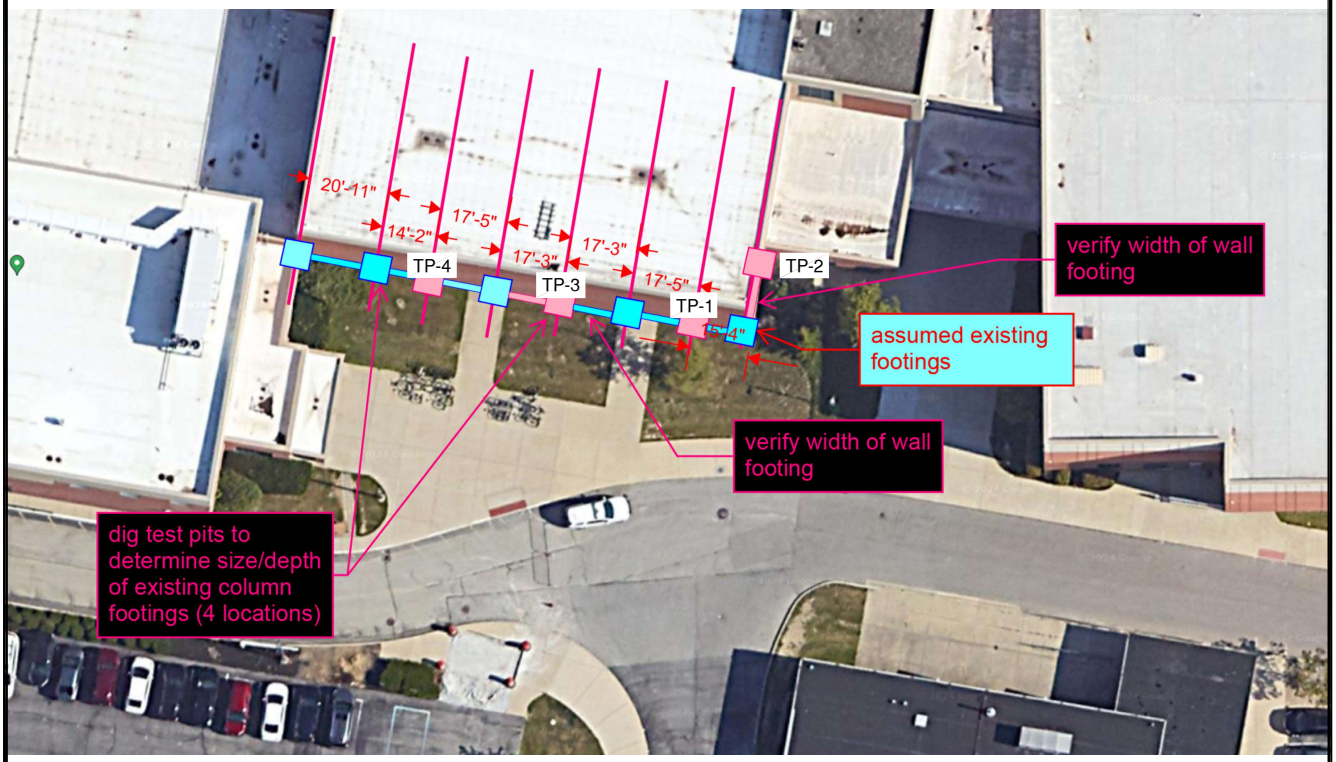
ALT & WITZIG ENGINEERING, INC.

Nicholas Hayes, E.I.

Thomas J. Coffey, P.E.

APPENDIX

Test Pit Location Plan



LEGEND

- Assumed existing foundations
- Proposed Test Pit Locations

N

Scale: 1" = 50'

0 25 50

TEST PIT LOCATION PLAN

PROJECT: Zionsville High School Locker Room
LOCATION: Zionsville, IN
PREPARED FOR: TLF, Inc.
PROJECT NO: 24IN0418

Project Manager: NH
Checked By: TC
Drawn By: JT
Date: 07/24

Alt & Witzig Engineering, Inc.
4105 West 99th Street • Carmel, IN 46032
Telephone: (317) 875-7000 • Fax (800) 875-6028

FANNING HOWEY

PRE-BID REQUEST FOR INTERPRETATION/CLARIFICATION LOG				
RFI#	**Date Received**	**Request for Interpretation Item**	**Dwg./Spec.**	**Response**
Project No. 224018.00 - Zionsville Community High School Athletic Locker Room Additions and Renovations and Various Projects				
1	2/10/25	Sheet S4-05 is missing from the documents. It's not noted in the sheet index, but it's called-out on structural (see S1-01). Please provide the missing sheet.		Sheet S4-05 Will be added as part of addendum 1
2	2/10/25	Please advise on the size of the building expansion joint (keynote 8 on A-11). Enlarged detail 8 on A5-03 does not provide any information.		Addressed in addendum 1
3	2/10/25	The exterior wall detail on AP-01 shows 2-1/8" rigid insulation over Air Barrier. Details on A6-01 point to the masonry cavity insulation calling it "*Thermal and Air Barrier Assembly*". There is no spec for insulation as air barrier system, but there is a "*Vapor-Permeable, Fluid-Applied Membrane Air Barrier*" spec section. It's our understanding that the detail on AP-01 is correct (separate insulation and air barrier products), but can you please confirm?		Addressed in addendum 1
4	2/10/25	There are a few areas in the new building addition that do not have wall tags. Most of the rooms are shown on A4-02 and A4-03, but areas at Vestibule and Office (such as A166 and A167) do not have tags. Please provide.		Addressed in addendum 1
5	2/10/25	On sheet A3-11 section 1, there is a note regarding demo of existing counterflashing. Is removal of existing masonry required, or can the flashing be cut flush with the face of the brick, mortar joint grinded-out and tuck-pointed?		Addressed in addendum 1
6	2/10/25	Is the existing brick, that will be visible to the new interior, required to be cleaned?		Addressed in addendum 1
7	2/10/25	Is there a vertical reinforcement requirement for the interior walls that sit on thicken slab? Detail 5 on S3-03 does not indicate any, but detail 2 on S4-01 says "see plan", but nothing noted on the plans. Please note, almost all of the walls are partial height walls, extending 4" above ceiling.		Future addendum