SCHOOLEY CALDWELL

ARCHITECTURE. INSPIRED.

February 27, 2025 SC 23070.00

ADDENDUM NO. 1

To the Contract Documents for:

BICENTENNIAL BARN – MCCAMMON CREEK PARK
6844 Bale Kenyon Road
Lewis Center, OH 43035

TO ALL BIDDERS:

This Addendum supplements and amends the original Bidding Documents, shall be taken into account in preparing bids, and shall become a part of the Contract Documents.

The following documents are a part of and are issued with this Addendum and are attached to this Addendum.

Pre-Bid Meeting Notes and Sign-In Sheet
Bidder Questions and Answers
Section 01 50 00 – Temporary Facilities and Controls
Section 02 42 13 – Deconstruction of Structure
Section 07 54 00 – Thermoplastic Polyolefin Roofing
Geotechnical Report

SPECIFICATIONS

ITEM 1 SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS

Replace section.

ITEM 2 SECTION 02 42 13 – DECONSTRUCTION OF STRUCTURE

Replace section.

ITEM 3 SECTION 07 54 00 – THERMOPLASTIC POLYOLEFIN ROOFING

Add new section.

DRAWINGS

ITEM 1 SHEET S101 – FOUNDATION PLAN

Shifted locations of column line 1 & 2 to the East to match architectural. Added clarifying notes in shear wall schedule for shear wall “SW6”

ITEM 2 SHEET S102 – MAIN FLOOR FRAMING PLAN

Shifted locations of column line 1 & 2 to the East to match architectural. Added clarifying notes in shear wall schedule for shear wall “SW6”

ITEM 3 SHEET S103 – ROOF FRAMING PLAN

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Shifted locations of column line 1 & 2 to the East to match architectural. Added clarifying notes in shear wall schedule for shear wall “SW6”

ITEM 4 SHEET H201 – GROUND FLOOR HVAC PLAN

Revise Sections 2, 3 and 4 to accommodate bottom return connection to fan coil units. Add reference bubbles to ACCU1, and fan coils FC6, FC7, and FC8.

ITEM 5 SHEET H601 HVAC DETAILS

Revise Details 7 and 8. Add Details 3 and 9.

ITEM 6 SHEET C105 STAKING DETAILS

Revised detail H.

ITEM 7 SHEET C200 GRADING PLAN

Revised Coded Note 5.

Revised contours on site frontage.

Revised Structure 6 location and revised the structure type to a catch basin.

Revised Headwall invert on site frontage.

Removed headwall leader.

Added structure number 6a to proposed structure

ITEM 8 SHEET C202 STORM PROFILES

Revised Storm Sewer 6-7 Profile.

Added storm structure coordinates table.

ITEM 9 SHEET C204 EROSION CONTROL PLAN

Revised contours on site frontage.

Revised Structure 6 connection and location.

Revised Headwall invert on site frontage.

ITEM 10 SHEET C300 UTILITY PLAN

Revised Coded Note 2.

Revised Water Service Coordinates.

Revised hydrant lead location.

Revised location of fittings.

ITEM 11 SHEET C301 UTILITY DETAILS

Revised profiles.

Revised Detail A.

Revised Detail B.

ITEM 12 SHEET C302 DEL-CO STANDARD DETAILS

Revised notes.

Revised Detail C.

ITEM 13 SHEET AD101 DEMOLITION PLANS

Revised General Notes.

ITEM 14 SHEET AD210 DEMOLITION ELEVATIONS

Revised General Notes.

ITEM 15 SHEET A100 SITE NEW WORK PLANS

Added General Notes.

Added labels and hatches for Landscape design intent

ITEM 16 SHEET A101 GROUND FLOOR – NEW WORK PLAN

Updated General Notes to include Pressure Washing.

ITEM 17 SHEET A102 MAIN FLOOR – NEW WORK PLAN

Updated General Notes to include Pressure Washing.

ITEM 18 SHEET A610 DOOR SCHEDULE

Added Hardware sets.

Renamed WD4 and added relevant details to description.

Provided Door Type Elevation for WD4.

ITEM 19 SHEET A701 ENLARGED PLANS & ELEVATIONS

Moved elevation 2 to 3/A801.

ITEM 20 SHEET A704 ENTRY VESTIBULE AND CANOPY DETAILS

Added keynotes and descriptive text to all details.

ITEM 21 SHEET A801 INTERIOR DETAILS

Updates to Section Detail 2.

Added Elevation 3.

Added Plan Details 4 and 5.

END OF DOCUMENT

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PRE-BID MEETING NOTES

PROJECT: **Bicentennial Barn-McCammon Creek Park**

DATE: 2/27/2025

The bid-bid walkthrough was held on 2/25/2025 at 1:00 on site at 6844 Bale Kenyon Road, Lewis Center, Ohio 43035. Participants signed on the sign-in sheet (attached here).

1. Introductions were made (Owner - PPDC, Architect – Schooley Caldwell, Engineer - Korda)
2. Bids are due on **03/13/2025 at 3:00 PM**. Bids will be opened and publicly read by PPDC.
3. Bids must be submitted in a sealed envelope labeled with the project name, bidder name, and bidder address. Bids that are mailed should be sealed inside another envelope, sealed and addressed to: **Attn: Matt Simpson, Preservation Parks of Delaware County** and marked as follows:
   - **"Bid For BICENTENNIAL BARN – MCCAMMON CREEK PARK"**
4. Project Scope
   - Dismantling and Reconstruction of the Barn is a major part and an important part of the project.
   - Allowances – Section 01 22 00
   - Alternates – Section 01 23 00
   - Owner-supplied Products – G001
5. Single Prime Construction Contract
6. This is a prevailing wage project for prime and sub-contractors, per Ohio Dept of Commerce.
7. Contractor Accepts the Building "As-is"
8. AIA Contract A101-2017 with Supplementary Conditions will be used for Owner-Contractor Agreement
9. Project is Tax Exempt
10. Construction expected to start in May 2025 and Substantial Completion expected by May 2026 or sooner.
11. This project is to be bid per Plans/Specifications
    - Front end conditions will govern during the project
12. Working conditions
    - Bale Kenyon Road is a high traffic road – exercise caution coming in and out of the site
    - Site Cleaning and waste management – keep site clean and free of debris
    - Phase 1 work – which includes the entry driveway and parking – no damage to phase 1 work
13. Site visits during bidding – contact Matt Simpson (*msimpson@preservationparks.com*)
14. Bid Period: RFIs to Kalpa Baghasingh at Schooley Caldwell by email (*kbaghasingh@schooleycaldwell.com)* by 3/6/2025 5:00 PM.
15. Substitutions
    - Include Substitution Sheet with bid
    - No substitutions will be accepted prior to bid
16. Acknowledgement of all Addendums on Bid Form

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17. Bid Procedures:
    - Fully complete all forms
    - Bid to include:
        - Bid Form
        - Bid Guaranty and Contract Bond
        - Certificate of Insurance
        - Ohio Workers' Compensation Certificate
        - Resumes of Project Managers and Superintendents that will be working on the project.
18. **Owner may decide to have a Pre-Award Meeting with apparent low bidders. Date TBD.**
19. Schooley Caldwell to procure Building Permit. Other fees, permits and licenses by Contractor.
20. Pay Application / "Pencil Copy" – use AIA form - Send to architect.
21. Submit schedule per CSI divisions.
22. Change Orders: Must be approved by Schooley Caldwell & PPDC prior to work proceeding
23. Project management and coordination: responsibility of the General Contractor
24. Preconstruction Meeting: Minutes by General Contractor
25. Pre-installation Conferences by General Contractor
26. Progress Meetings: Minutes by General Contractor
27. Coordination Meetings: Minutes by General Contractor
28. Project Identification Sign – PPDC is adding a construction sign for the public.
29. Submittal Procedures – see spec section 01 33 00
30. Temporary Facilities and Controls – see spec section 01 50 00
    - Parking on site
    - Dumpster: by General Contractor
    - Trailers: by General Contractor
    - NO burning permitted
    - Water and gas connections and use costs by General Contractor
    - *Post-meeting, the Owner found out that the electrical service was disconnected when the adjacent house (and electric meter) was demolished. Temporary electrical service connections and use costs will be by General Contractor.*
    - Temporary heat by General Contractor
    - Port-a-johns required – by General Contractor
    - Meeting Space by Contractor
31. Working Hours: Monday through Friday: 7:00 AM to 5:00 PM. Other hours upon Owner's approval at no additional cost to the Owner. Local jurisdiction permitted hours.
32. Tour of Site

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Bicentennial Barn - McCammon Creek Park
PRE-BID MEETING SIGN-IN SHEET

SC # 23070

Name/Title	Company Name/Address	E-mail Address	Office Number	Cell Number
Ronnie Davis	180 Demo		614 6195022	
Randy Smith / OWNER	Ohio Valley Barn Salvage	RSmith.ovbs@gmail.com	419-564-9803	
David Midgley	Weekley Electric	david.midgley@weekleyelectric.com	740-919-7725	
Natalie Schotts	Robertson Construction	nschotts@robertsonconstruction.net	740-929-1000	
CRAIG TURNER	FERGUSON CONST.	CTURNER@FERGUSON-CONSTRUCTION.COM	OH-369-5908	
TJ Garee	NUWAY INC	tjg@nuway incorporated.com	740-334-2937	
Graham Watkins	Korda	graham.watkins@Korda.com		
Nathan Horsley	Garber connect	nhorsley@garberconnect.com	740-601-7652	
Chris Miggo	2K General	Chris.miggo@2Kgeneral.com	614-743-2492	
Jordan Spano	Setterlin	J.Spano@Setterlin.com	330-812-0296	
Isaias Manriquez	ECS	imanriquez@ecsbuilds.com	614.334.7858	

Name/Title	Company Name/Address	E-mail Address	Office Number	Cell Number
CALEB PEES / EI	KORDA	Caleb.pees@korda.com	614-643-1222	
Brad Bloomberg / VP	Miles-McClellan	brad.bloomberg@mmbuildings.com	614.487-7744	614.679.2333
Mike McCartney	Hydro Mechanical	MMCCARTNEY@HydroMechanicalohio.com	614 285-2747	
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Shawn McDonald / PM	3 C I	SHAWN.MCDONALD@3CINDUSTRIES.com		614-578-6718
Paul Carr / Mech Eng	KORDA	Paul.carr16@gmail.com	614-487-1650	

Name/Title	Company Name/Address	E-mail Address	Office Number	Cell Number
James Braunstein Jr	Tuttle	Jacob@tuttleconstruction.com		6146018046
Eric Lipps	Steller Construction	eric@steller-construction.com		614-981-6500
Rob Reisdorf	Steller Construction	Rob@steller-construction.com		614 800 0570
Wesley Phillips Est.	Spear Mechanical	wphillips@spearmechanical.com		614-704-1627
Phillip Adu	Woahene Electrical	Woahenelectrical@gmail.com		6147432414

Name/Title	Company Name/Address	E-mail Address	Office Number	Cell Number
Kaylynn Morgan-Stulgis	Ferguson Construction	Kstulgis@ferguson-construction.com Kstulgis@ferguson-Construction		614-400-8766
MATT ALLSHOUSE	ELFORD	MALLSHOUSE@ELFORD.COM		614-216-2170
Also present were: Matt Simpson from Preservation Parks of Delaware County (msimpson@preservationparks.com) Tyler Young from Schooley Caldwell (tyoung@schooleycaldwell.com) Kalpa Baghasingh from Schooley Caldwell (kbaghasingh@schooleycaldwell.com)				

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BIDDERS QUESTIONS AND ANSWERS

PROJECT: **Bicentennial Barn-McCammon Creek Park**

DATE: 2/27/2025

Q1. Is there a geotechnical report available for this job?

A. Geotechnical Report is attached.

Q2. Please advise on whether the notes – Demolition General Notes F, G, H - on the plans are going to be explicitly required, or if means and methods will be up to the Contractor's discretion.

A. The means and methods of disassembly and reconstruction of the Barn is upto the Contractor. The notes explain our expectation but we are open to other ideas, including other cleaning methods such as power/pressure washing. We also don't expect the siding and sheathing boards to go back exactly in the same location when reconstructed.

Q3. We noticed that the door schedule does not include the hardware set numbers for each door. Can we get that added to the drawings?

A. See revised sheet A610.

Q4. The 00 52 13--Sample AIA Document A101-2017 from the specifications does not list the insurance requirements for the project and 00 73 00--Supplementary Conditions refers to the A101 form under Article 11 - Insurance and Bonds. Please provide the insurance requirements for the project.

A. The document included is only a sample blank template. Insurance requirements will be determined during the contracting process.

Q5. There is no spec for the TPO roof.

A. See Spec included in Addendum 1.

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SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.01 SUMMARY

A. This Section specifies requirements for temporary services and facilities, including temporary utilities, temporary construction and support facilities, temporary security and protection and measures to conserve energy.

1. Contractors requiring temporary service facilities before it can be provided as specified, or whose requirements with respect to a particular service differ from the service specified, shall provide service as required to meet their needs, and at their own expense.
2. Provide “lock out” tags for equipment or services temporarily taken out of service.
3. Provide temporary drainage for the work and use trenches, drains, sumps, or other necessary elements as required to afford satisfactory working conditions for execution and completion of the work of all Contractors and to protect all work.

    a. Pumping of water from excavations (including site utilities) as required for the work.
    b. No damming or ponding of water in gutters or other waterways will be permitted.

4. Maintain temporary facilities and keep in good operating condition for the entire construction period. Provide maintenance personnel necessary to perform this work. Maintenance time will include normal working hours for all trades and start up and shut down overtime as required.

B. Temporary construction and support facilities required include but are not limited to:

1. Field offices and storage sheds.
2. Temporary sanitary facilities, including drinking water.
3. Temporary construction barriers.
4. Shoring and bracing.
5. Hoists.
6. Weather protection.
7. Project identification signs.
8. Waste disposal services.

C. Temporary utilities required include but are not limited to:

1. Temporary electric service for power and light.
2. Temporary lighting.
3. Temporary water.
4. Storm and sanitary services.

D. Security and protection facilities required include but are not limited to:

1. Temporary fire protection.
2. Barricades, warning signs, lights.
3. Watchman services.

E. Related Sections:

1. Drawings and general provisions of Contract, including General Conditions and Division 01 Specification sections, apply to Work of this section.

F. General: Installation and removal of temporary facilities shall be included in the Contract Sum unless otherwise agreed. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, testing agencies, and authorities having jurisdiction.

1.02 INFORMATIONAL SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

B. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction.

1. Indicate Contractor personnel responsible for management of fire-prevention program.

1.03 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.04 PROJECT CONDITIONS

A. Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

B. Install temporary work in a manner to not interfere with permanent construction. If interferences do occur, it is the Contractor's responsibility to make required changes to overcome the interference.

C. Restore all damaged off-site and on-site paved areas used for storage and by construction vehicles to conditions equal to or better than original.

D. Coordinate and cooperate with Owner in scheduling work and using spaces, including parking spaces and driveways.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Provide new materials; if acceptable to Architect, undamaged previously used materials in serviceable condition may be used. Provide materials suitable for use intended.

B. Lumber and Plywood: Comply with requirements in Section 06 10 00 – Rough Carpentry.

1. For signs, provide exterior-type, Grade B-B high-density concrete form overlay plywood of sizes and thickness indicated.
2. Temporary enclosures for window openings during restoration of windows.
3. For enclosures, safety barriers, and similar uses, provide minimum 5/8 inch thick exterior plywood.

C. Paint: Comply with requirements of Section 09 91 00 – Painting.

1. For sign panels and applied graphics, provide exterior-grade alkyd gloss enamel over exterior primer.
2. For temporary enclosures, safety barriers and similar uses of exposure to weather, provide exterior-grade plywood painted with acrylic-latex emulsion over exterior primer. Color to be provided by Architect.

D. Tarpaulins: Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of 15 or less. For temporary weather protection and other uses, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.

E. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch-thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch-OD corner and pull posts, with 1-5/8-inch-OD top and bottom rails. Provide galvanized-steel bases for supporting posts.

2.02 EQUIPMENT

A. Provide new equipment; if acceptable to Architect, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.

B. First Aid Supplies: Comply with governing regulations.

C. Fire Extinguishers: Provide hand-carried, portable UL-rated, class "A" fire extinguishers for temporary offices and similar spaces. In other locations provide hand-carried, portable, UL-rated, class "ABC" dry chemical extinguishers, or a combination of extinguishers of NFPA recommended classes for the exposures.

1. Comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure.

PART 3 – EXECUTION

3.01 INSTALLATION, GENERAL

A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.

B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

C. Remove each temporary facility when the need has ended, when replaced by authorized use of permanent facility, or no later than Substantial Completion. Complete, or if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

3.02 TEMPORARY FIELD OFFICE AND STORAGE SHEDS

A. Field Offices: Use space in building designated by Owner. Space will accommodate needs of Owner, Architect, and construction personnel office activities and accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly.

B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials safely apart from buildings.

3.03 TEMPORARY SANITARY FACILITIES

A. Sanitary facilities include temporary toilets, wash facilities, and drinking water fixtures. Comply with regulations and health codes for the type, number, location, operation, and maintenance of fixtures and facilities. Install where facilities will best service project needs.

B. Provide temporary portable self-contained chemical type toilets, acceptable to public health authorities, quantity equal to one toilet for each 25 men/women on project. Computation of men/women present includes men/women of each Contractor, and Architect's and Owner's personnel. Shield toilets to ensure privacy. Locate temporary toilets where directed.

1. Provide toilet tissue, paper towels, and similar disposal materials for each facility. Provide covered waste containers for used materials.
2. Maintain temporary toilets in an antiseptic condition until completion of Work. Clean toilets a minimum of once a week or more often if required. Installation shall be provided in a manner acceptable to Owner, Architect, and governing Board of Health.

3.04 TEMPORARY WATER FOR CONSTRUCTION USE

A. Provide labor and material for installation and maintenance of water service for construction purposes for all trades including cost of running water service from the utility supply.

B. Furnish the necessary hoses, nozzles, connectors, accessories and temporary extensions to properly service his own requirement, and Contractors shall be held responsible for damage resulting from his careless use of water.

C. Provide potable drinking water facilities as required for the workers. The temporary water service is a potable water service. Contractor may use this as a source or provide his own water. Ice shall be provided by the Contractor, as required.

3.05 TEMPORARY CONSTRUCTION BARRIERS, FENCES, AND STAIRS

A. Provide temporary construction barriers for protection of construction in progress and when completed, from exposure, foul weather, other construction operations, and similar activities. Construction barriers shall be constructed of sound materials, properly braced, and maintained in a safe condition, meeting applicable local, state, and federal requirements, labor laws, regulations and requirements as follows.

1. Install tarpaulins securely, with incombustible wood framing and other materials.
2. Close openings through floor or roof decks and horizontal surfaces with load-bearing wood framed construction.

B. Tarpaulins: Provide waterproof, fire-resistant, UL labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures provide translucent nylon reinforced laminated polyethylene or polyvinyl chloride fire retardant tarpaulins.

C. Protection-Area Fencing: Install protection-area fencing along edges of protection areas before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people from easily entering protected area except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation. Chain-Link Fencing: Install to comply with ASTM F 567 and with manufacturer's written instructions.

1. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings.
2. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Architect. Space posts a maximum of 8 feet on-center and at corners of fence line.
3. Install fencing so that, at a minimum, it is at the drip-line of the tree or shrubs being protected. Fencing may be installed outside of the drip-line but not within the drip-line.

D. Maintain protection-area fencing in good condition as acceptable to Architect and remove when construction operations are complete and equipment has been removed from the site.

1. Do not remove protection-area fencing, even temporarily, to allow deliveries or equipment access through the protection area.
2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

E. Provide and maintain temporary stairs, ladders, ramps, railings, guards, runways, and similar constructions required for proper execution of the work of all trades to protect and secure the site from the public, and to allow the public safe access around the site.

1. Provide exterior staging and scaffolding required for the work.

3.06 SHORING AND BRACING

A. Provide temporary shoring and bracing required for safety and execution of the work. Remove temporary shoring and bracing when work is completed and support materials are no longer needed.

3.07 WEATHER PROTECTION

A. Protect the work and existing or adjacent property against weather and maintain work, materials, apparatus, and fixtures free from injury or damage during the construction period. Cover or protect work at the end of each day's work. Remove work damaged by failure to provide protection and provide new work meeting project requirements at Contractor's expense.

1. Remove snow and ice as required for proper protection and execution of the work and protection and safety of the public.
2. Provide weather closures at roof openings, window openings, and temporary doors at enclosed openings.
3. Maintain temporary water pumps to keep building basement areas and pits clear of water accumulations.

B. Refer to “Temporary Construction Barriers” for requirements of tarpaulins.

3.08 TEMPORARY ENCLOSURES

A. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior openings.

1. Provide necessary measures to protect temporary and final work, existing building, material and equipment from weather damage. This includes ground water, rainwater, wind, ice, snow and the backing up of sewers and drains.
2. Provide temporary insulated weather tight closures of all openings in exterior walls and roofs.
    a. Provide this protection. Where existing building is conditioned with heating or cooling, provide insulated temporary enclosures in openings.
    b. In existing construction, provide temporary enclosures for exterior windows that are to be restored or replaced.
3. Maintain existing roof drains and protect areas of partial demolition until area is enclosed and weather tight.
4. Maintain existing site drainage, exterior catch basins and areaway drains within construction site so water does not pond.
5. Vertical Openings: Close openings of 25 sq. ft. or less with plywood or similar materials.
6. Horizontal Openings: Close openings in floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.

3.09 WASTE DISPOSAL SERVICES

A. Keep the entire project site in a clean and sanitary condition during the entire progress of the Work and shall post and take precautions to keep the site clean.

1. Provide a dumpster or other trash container of adequate size for use by all Contractors. Rental and dump fees shall be paid by the Contractor.
2. If materials to be recycled or reused on the project must be stored on-site, provide suitable non-combustible containers.

B. Maintain project site in a neat and orderly manner. Remove daily packaging material and other debris from the work and deposit in trash container or other location provided by the Contractor. Areas shall be left broom clean at the end of each construction activity.

1. Comply with NFPA 241 requirements for removal of combustible waste material and debris. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 degrees F. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly.

C. Contractors shall remove debris as it accumulates. If waste materials are not cleaned up in a reasonable length of time, General Contractor will do the required work when directed in writing by Architect or Owner.

D. After removal of debris during construction as specified, perform remaining site and building clean-up. Final cleaning is specified in Section 01 77 00.

3.10 TEMPORARY UTILITY INSTALLATION, GENERAL

A. Install temporary service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.

C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.

D. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.

E. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.11 TEMPORARY ELECTRICAL SERVICE FOR POWER AND LIGHTING

A. Provide labor and material for installation and maintenance of temporary light and power for construction purposes for all trades including cost of running or extending temporary service from the utility supply.

1. Arrange and pay for temporary pole line construction, if required, from the public utility.

B. Provide a weatherproof, grounded electric service and distribution systems of sufficient size, capacity, and power characteristics during construction period. Include panelboards, grounding, branch circuits, switches, transformers, overload protected disconnects, automatic ground-fault interrupters, and main distribution switchgear, receptacle outlets, and all other labor and materials necessary to provide a complete operating system including special power company fees.

1. Electrical Outlets: Provide properly configured NEMA polarized outlets to prevent insertion of 110-120 volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground- fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.
2. Electrical Power Cords: Provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas where construction activities are in progress.
3. Power Distribution System: Install wiring overhead, and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 Volts, AC 20 ampere rating, and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance.

C. Lay out, balance, and size temporary wiring to produce a voltage drop of no more than 5 percent at the extreme end of the line when operating at full load.

D. General all-purpose power shall be 120/208 volt, 1 phase, 3 wire, 200 amp. Power receptacles to be provided in sizes and quantities as follows:

1. Branch circuits feeding receptacles shall be rated for 20 amps. Space receptacles so they can be reached with a 50 foot extension cord for 120 volt appliances and a 100 foot extension cord for 208 volt appliances from all parts of the building.
2. All plug-in receptacles shall be 20 amp duplex, NEMA ground type.

E. Securely and neatly install panels on substantial framework, mounted on floor. Panel installations which do not meet the approval of Owner or Architect shall be remounted in an acceptable manner.

F. Provide for a safe and satisfactory temporary wiring installation, maintain entire system and remove temporary wiring when permanent wiring is installed.

G. Contractor using temporary electrical service shall furnish their own extension cords, receptacle plugs, and adaptors. (See also "Field Offices and Storage Sheds" in this Section for additional requirements.)

H. Temporary services to heavy equipment, such as hoists and lifts, will be the responsibility of Contractors requiring the temporary service.

I. No temporary wiring, fittings, receptacles, or other parts of the temporary system shall be used in the permanent electrical installation.

J. Contractor shall pay for the cost of electrical power consumed during construction period.

3.12 TEMPORARY LIGHTING

A. Temporary lighting distribution will be made from specified temporary panels. Provide a minimum of one lamp for every 500 square feet of floor area, and every space over 80 square feet in area. Provide a portable light for spaces under 80 square feet which requires lighting to complete work.

1. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior fixtures for exposure to moisture.
2. Provide temporary lighting by stringing No. 10 conductors and "pigtail" sockets throughout the building. Temporary lighting circuits shall originate with 30 amp disconnect switches fused at 20 amps and connected to the line side of the 60 amp disconnect switches. Do not place more than 20 lamp sockets per circuit.

B. Install and operate temporary lighting to fulfill safety, security, and protection requirements, without operating entire system, and to provide adequate illumination for construction operations and traffic conditions. Include lighting required in stairways, at barricades, and similar locations.

1. Provide security lighting throughout construction area (interior and exterior). Security lighting shall be automatically controlled through a photo-cell or time switch to provide adequate illumination during night hours. Provide site lighting, including walkways, as required for safe access around the site. Illumination of these areas shall equal that currently exist at the site.

3.13 TEMPORARY WATER

A. Coordinate plumbing with local utility and connect to main at street. Provide temporary meters and extend service to central location on site.

B. Install water service and distribution piping of sizes and pressures adequate for construction until permanent water service is in use. Furnish and install temporary risers, hose bibbs, and other items required for temporary service. Protect temporary water service from damage and freezing.

1. Sterilization: Sterilize temporary water piping before use.
2. Locate outlets so all areas of building construction can be reached with 100 foot hose extension.
3. Transport water from water service location to point of use and coordinating use with other trades.
4. Provide permanent main water service throughout new facility as soon as practical to distribute water for sanitary and construction purposes.

C. Contractor shall pay the cost of water used during construction period.

3.14 TEMPORARY FIRE PROTECTION

A. Take all necessary precautions to guard against and eliminate all possible fire hazards and to prevent damage to construction, building materials, equipment, storage sheds, and all other property, both public and private. The emergency number of the local fire department shall be conspicuously posted in field offices. Take precaution to prevent fire hazards in accordance with all fire protection regulations and codes, including the following:

1. Prohibit smoking on construction site.
2. FIRE EXTINGUISHERS: Provide and maintain in working order, fire extinguishers conveniently located for proper protection. Personnel working on the Project shall be familiarized with the locations and operation of fire extinguishers.
3. Store combustible materials in containers in fire safe locations.
4. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways, and other access routes for fighting fires.
5. In case of fire, notify the fire department immediately. Contractor's workmen shall assist in extinguishing the fire until firefighting personnel arrives.
6. Perform no welding, flame cutting or other operations involving the use of flame, arcs or sparking devices without adequate protection and shielding. Remove all combustible and flammable materials from the immediate working area. If removal is impossible, protect all flammable or combustible materials. Provide the necessary personnel and firefighting equipment to effectively control fire resulting from welding, flame cutting or other operations involving the use of flame, arcs or sparking devices.
7. For all flammable liquids having a flash point of 110 degrees F. or below, use Underwriter's Laboratories' labeled safety cans. Store the bulk supply of all flammable liquid at least 75 feet from the building and yard storage of building materials. Spigots on drums containing flammable liquids are prohibited on the project site. Drums shall be equipped with approved vent pumps.
8. Use only fire resistant tarpaulins.
9. Develop and supervise an overall fire-prevention and first aid fire-protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
10. Provide fire watch for all open flame activities.

3.15 BARRICADES, WARNING SIGNS, AND LIGHTS

A. Provide and maintain all barricades, warning lights, and other safety devices required for the security, protection, and safety of the work and employees as well as the public.

B. Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform Contractor's and Owner's personnel and the general public of hazards being protected against.

1. Provide lighting, including flashing red or amber lights, when required at barricades, railings, obstructions in streets, drives, or sidewalks and at all trenches or pits adjacent to public walks or roadways.

C. Maintain safety barricades through construction process and remove when directed.

1. Provide safety cables around building perimeter and interior openings on each floor. Provide temporary handrails at open sides of stairs and stair platforms.
2. Provide other safety barricades, including temporary safety rails, as required to accommodate project conditions.

D. Plan and conduct work operations so two-way traffic is maintained on-site streets and drives. Furnish lights, signs, barricades, and watchmen necessary for safe flow of traffic, 24 hours daily.

3.16 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Paved Areas: Maintain paved areas adequate for construction operations.

1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.

C. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

D. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

E. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.

1. Identification Signs: Provide Project identification signs as indicated.
2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.

    a. Provide temporary, directional signs for construction personnel and visitors.

3. Maintain and touchup signs so they are legible.

F. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

3.17 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.

B. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:

1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Use permanent HVAC system to control humidity.

3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.

    a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
    b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
    c. Remove materials that cannot be completely restored to their manufactured moisture level within 48 hours.

3.18 PROTECTION OF THE PUBLIC

A. Precautions to prevent injury to the public or damage to property of others shall be taken. Maintain protection of the Work from damage and protect the Owner’s property for injury or loss arising from the Work. Provide and maintain OSHA-approved danger signage, guards, and obstructions necessary to protect the public and construction personnel from dangers inherent with or created by the construction of the Work.

B. Twenty-four Hour Call: Contractor shall have personnel on call 24 hours per day for emergencies during the course of the Project. Furnish Owner with a 24-hour emergency contact number of Contractor and Contractor’s personnel. Contact information made available to the Owner shall include office , home and mobile numbers for the following:

1. Contractor’s project manager
2. Contractor’s field superintendent
3. Owner or company officer of the Contractor.

C. When necessary to maintain public use of work areas involving sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways, vehicular roadways, etc., the Contractor shall protect the public in accordance with all applicable laws and regulations.

D. Covered sidewalks shall be equipped with permanent lights to provide sufficient illumination for safe use by the public day or night. All bulbs will be cage-protected and kept operational; public walkways and roadways shall be kept clean and free of all recognized hazards and maintained for the safe and unobstructed movement of pedestrian and vehicular traffic.

E. Sidewalks, sheds, canopies, catch platforms and appropriate fences shall be provided, when necessary, to maintain public pedestrian traffic adjacent to the erection, demolition or structural alteration of outside walls on structure is underway.

F. Temporary fencing shall be properly secured and anchored and provided around the perimeter of aboveground operations adjacent to Public areas.

G. Signs, signals or other control devices used to regulate vehicular traffic shall meet the requirements of the local authority having jurisdiction for work on or near Project Site.

H. All warning signs and lights shall be maintained along guardrails, barricades, temporary sidewalks and at every obstruction to the Public. Lights shall be placed at both ends of such protection or obstructions and not over 20 feet apart alongside of such protection or obstruction.

I. Required signs and symbols shall be visible when work is being performed and shall be removed or covered promptly when the hazards no longer exist;

J. Barricades, cones, and/or similar channeling devices shall be used whenever employees or the Public are exposed to traffic or similar hazards;

K. When traffic patterns are closed or altered due to work activity, instructional or warning signs shall be posted.

3.19 PROTECTION OF WORK AND PROPERTY

A. Protect the work in progress in accordance with the provisions of this article and the provisions of individual specification sections.

1. Protect porous materials from water damage.
2. Protect stored and installed material from flowing or standing water.
3. Keep porous and organic materials from coming into prolonged contact with concrete.
4. Remove standing water from decks.
5. Keep deck openings covered or dammed.
6. Do not load or install gypsum board or other porous materials or components, or items with high organic content, into partially enclosed building.
7. Keep interior spaces reasonably clean and protected from water damage.
8. Periodically collect and remove waste containing cellulose or other organic matter.
9. Do not install material that is wet.
10. Discard or replace water-damaged material.
11. Discard, replace, or clean stored or installed material that begins to grow mold.
12. Perform work in a sequence that allows wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

B. Protect the project and property from damage and erect and maintain necessary barriers, furnish and keep lighted necessary danger signals at night, and take precautions to prevent injury or damage to individuals or property.

C. Security Enclosure and Lockup: Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

1. Provide for the security of the building during periods when work is not being performed. Coordinate access barrier locations which can be secured with a lock to prohibit access during periods when work is not being performed. Provide suitable secure temporary partitions with lockable access doors.
2. The General Contractor is responsible for locking and unlocking the temporary entrances to the building at the start and end of each day. Contractors requiring access outside of the project working hours must coordinate with this Contractor.

D. Utility Protection:

1. Existing utility lines and structures indicated or known, and utility lines constructed for this Project shall be protected from damage during construction operations by the Contractor.
2. Locate and flag lines and structures before beginning excavation and other construction operations.
3. When utility lines and structures that are to be removed or relocated are encountered within the area of operations, notify the Contractor and affected utility in ample time for the necessary measures to be taken to prevent interruption of the services.
4. Report damage to existing utility lines or structures not indicated or known immediately to the General Contractor and the affected utility.

3.20 DUMPSTERS

A. Provide dumpsters as required to service the project. Contractors failing to load dumpsters properly and/or failing to break down cartons, ductwork, etc. will be charged for removal of partially filled dumpsters. Schedule all dumpster deliveries and pickups. The site will allow a construction trailer and dumpster located as directed by the Owner.

B. Daily cleanup of the Contractor's debris is mandatory for this project and is included in the Contract. Contractor is responsible to properly transport general debris to the dumpster or trash container locations and compaction of debris into said containers in a manner that allows containers to be fully utilized. Materials not removed by the Contractor or improperly stored, will be discarded, as directed by the Architect, at the delinquent Contractor's expense, including replacement of material, if required.

C. Only normal construction debris may be discarded in the dumpsters. Materials shall be removed from the project by the Contractor creating or responsible for the debris.

D. No burning of trash or debris is allowed.

3.21 TEMPORARY ACCESS AND PARKING

A. Refer to notes on drawing for description of contractors use of parking spaces and Section 01 11 00 – Summary of Work, Article "Contractors' Use of Premises."

B. Traffic Controls: The Contractor to comply with requirements of authorities having jurisdiction.

1. Contractor shall assign a workman to assist construction vehicles arriving and departing the construction site and to monitor and protect vehicular and pedestrian traffic.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

3.22 CONSTRUCTION AIDS

A. Architect's Access to the Work: Facilitate access to the worksites for the Architect and Owner's representative examination of all portions of the Work while in progress, and during closeout phase of the work. The Architect will communicate the dates of site visits near the completion of the work. The Contractor shall either maintain such cranes, hoists, ladders, scaffold towers, swing stages, and planking for areas of the work requiring inspection, or shall provide and operate such equipment at the time of notice of such an inspection. Such equipment shall remain available until notified by the Architect.

B. Provide temporary cranes, hoists, chutes, scaffold and scaffold towers, swing stages, planking, ladders, and similar items necessary for proper and efficient movement of materials, and operating personnel as required for the performance of the Work by all trades. Such apparatus and equipment shall meet requirements of labor laws, federal safety regulations, and other applicable codes, laws, and regulations of authorities having jurisdiction.

C. Protect permanent construction from damage, staining, or marring due to use of chutes, hoists, scaffolds, staging, etc.

D. Hoists: Provide, erect, and maintain adequate temporary construction hoists required for the prosecution of the work.

E. Provide scaffolds, ladders and vertical transportation as required for the Work.

F. Do not free-drop materials, rubbish or debris.

3.23 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 01 77 00 – Closeout Procedures.

END OF SECTION

SECTION 02 42 13

DECONSTRUCTION OF STRUCTURE

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Dismantling the existing historic Bicentennial barn, and the inventory and organization of the salvaged components to facilitate the reconstruction of the barn on a new foundation at an adjacent location.
2. Inventorying of primary structural components of the barn structure to aid in reassembly.
3. Cleaning of barn components for reuse following disassembly.

B. Related Sections and Documents:

1. General Notes on Drawings.
2. Availability of scan documentation.
3. Section 01 11 00 – Summary of Work for restrictions on the use of the premises, Owner-occupancy requirements, and phasing requirements.
4. Section 01 35 91 – Historic Treatment Procedures for historic removal and dismantling.
5. Section 01 73 00 – Execution for cutting and patching procedures.
6. Section 31 10 00 – Site Clearing for site clearing and removal of above- and below-grade improvements.

1.02 DEFINITIONS

A. Catalog and Inventory documentation: identification system including physically marking item, photography, written and/or drawn documentation which adequately describe an element or assembly for reinstallation, restoration and/or replication purposes.

B. Deconstruction: The systematic dismantling and removal of a structure or its parts to salvage and harvest the components, with the purpose of reusing and recycling the reclaimed materials for their maximum value; the disassembly of a building with the explicit intent of recovering building materials for reuse in a safe and economical manner.

C. Dismantle: To disassemble and detach items by hand from existing construction to the limits indicated, using small hand tools and small one-hand power tools, so as to protect nearby historic surfaces; and salvage of dismantled items off-site.

D. Reinstall: To protect removed or dismantled item, repair and clean it as indicated for reuse, and reinstall it in original position, or where indicated.

E. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

F. Reuse: The subsequent use of a material, product, or component in generally the same manner as the original use, allowing for cleaning, repair, and/or repurposing.

G. Salvage: Removal of materials, products, or components from a building with the explicit intent of maintaining the materials' integrity, functionality, and value.

H. Salvage for Reinstallation: Detach items from existing construction, prepare for reuse, and reinstall where indicated.

1.03 DECONSTRUCTION MEETING

A. Conduct meeting at project site.

1. Inspect and discuss condition of construction to be selectively deconstructed.
2. Review structural load limitations of existing structure.
3. Review and finalize deconstruction schedule and verify availability of materials, personnel, equipment, and facilities needed to make progress and avoid delays.

4. Review requirements of work performed by other trades that rely on substrates exposed by deconstruction operations.

B. Survey and identify materials that are damaged, deteriorated, or otherwise unsuitable for reuse or recycling.

1.04 INFORMATIONAL SUBMITTALS

A. Work Plan:

1. Include the following in the Work Plan / Deconstruction Plan, as applied to the deconstruction Work.

a. Description of the deconstruction means, methods, techniques, and procedures to be applied dismantling the barn structure including the following:

1) Description of the specific approaches to be used in reuse and recycling of materials, components, and products generated during deconstruction, including the areas on site and equipment to be used for processing, sorting, and temporary storage of materials.
2) Characterization, including types and estimated quantities, of the materials and content present in the building(s) to be deconstructed.
3) List of specific materials, by type and quantity, which will be recovered for salvage and reuse.
4) Denailing and material processing and handling locations and methods.
5) Cleaning process including mock up of cleaned timbers and lumber.
6) Identification of materials that cannot be reused or recycled, with an explanation or justification.
7) Description of the means to protect materials recovered for reuse from contamination and physical and environmental damage.

b. Deconstruction schedule; sequence and duration of activities.

1) Detailed sequence of deconstruction and removal work, with starting and ending dates for each activity

c. Labor and equipment applied to deconstructing the structure.
d. Identification of load-bearing components including:

1) Verification that vertical load bearing elements are sufficient to support deconstruction and equipment loads, and that roof and floor decks are suitable to perform as safe working platforms.
2) Structural safety hazards.
3) Methods to retain structural stability throughout the deconstruction process.

2. Site layout showing access to and use of the site during deconstruction Work.
3. Material handling and processing procedures.
4. Material loading and transportation procedures
5. Other information as requested by the Owner.

B. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and for noise control. Indicate proposed locations and construction of barriers.

C. Inventory: Submit a list of items to be removed prior to start of deconstruction.

D. Photographs of existing conditions: Prior to commencement of protection work, submit photographs of existing damage on surfaces, equipment, and adjacent improvements that might be misconstrued as damage related to protection operations.

E. Qualification Data: Submit qualifications for firms and persons specified in "quality assurance" article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other' information specified.

1.05 QUALITY ASSURANCE

A. Regulatory requirements: Comply with governing EPA notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Timber Frame Barn Contractor/Installer Qualifications: Possess all skills, qualifications, and experience required to deconstruct buildings, and effectively recover building materials. Such skills may reside either within the Contractor's organization or through subcontract, partnership, or similar association.

C. Deconstruction work shall be performed by experienced firms and individuals with a minimum of 5 comparable barn salvage and restoration experience projects over the past 10 years. Firms and individuals performing work of this section shall be skilled with specific protection processes and operations indicated.

1.06 PROJECT CONDITIONS

A. Historic building - Required care in protection operations.

1. The work seeks to preserve and restore an historic barn; and to protect, existing materials and items.
2. Building materials and items shall be considered fragile and must be handled with great care. Historic materials damaged during selective salvage and demolition operations may not be available for replacement; to remedy such damage repair and restoration shall be required. Protection of existing materials and items is of great importance.

B. Protection: construct temporary barricades and other forms of protection to fully protect existing building interior and all existing materials and items to remain.

1. Provide tree protection fencing and protect these areas from construction activities.

C. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

D. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with deconstruction.

E. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

1. Hazardous materials will be removed by Owner before start of the Work.
2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

F. Storage or sale of removed items or materials on-site is not permitted.

PART 2 – PRODUCTS

2.01 STORAGE FACILITY

A. Storage and Protection: When taken from their existing locations, catalog and store historic items within a dry, weathertight enclosure where they are protected from wetting by rain, snow, condensation, or ground water, and from freezing temperatures.

1. Identify primary structural members with a nonpermanent mark to document its original location. Indicate original locations on plans elevations, sections, or photographs by annotating the identifying marks.
2. Secure stored materials to protect from theft.

2.02 PEFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning deconstruction. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Preparation for Removal and Dismantling: Examine construction to be removed or dismantled to determine best methods to safely and effectively perform removal and dismantling work. Examine adjacent work to determine what protective measures will be necessary. Make explorations, probes, and inquiries as necessary to determine condition of construction to be removed or dismantled and location of utilities and services to remain that may be hidden by construction that is to be removed or dismantled.

1. Verify that affected utilities have been disconnected and capped.
2. Inventory and record the condition of items to be removed and dismantled for reinstallation or salvage.
3. Before removal or dismantling of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

B. Survey existing conditions and correlate with requirements indicated to determine extent of deconstruction required.

C. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during deconstruction operations.

1. Maintain fire-protection facilities in service during deconstruction operations.

D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

E. Survey of Existing Conditions: Record existing conditions by use of measured drawings, preconstruction photographs, preconstruction videotapes and templates.

1. Comply with requirements specified in Section 01 32 33 – Photographic Documentation.
2. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
3. Before deconstruction or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.02 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Owner or Building Manager will arrange to shut off indicated services/systems when requested by Contractor.
2. Arrange to shut off indicated utilities with utility companies.
3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of deconstruction and that maintain continuity of services/systems to other parts of building.
4. Disconnect, demolish, and remove components indicated to be removed.

3.03 PREPARATION

A. Site Access and Temporary Controls: Conduct deconstruction and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Comply with requirements for access and protection specified in Section 01 50 00 – Temporary Facilities and Controls.

B. Temporary Protection Facilities:

1. Prior to the start of deconstruction, provide temporary construction barricades, to separate activities from the public for safety and liability protection.

2. Provide protection to ensure safe passage of people around deconstruction area.
3. Provide temporary weather protection, during interval between deconstruction of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas

C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of deconstruction.

3.04 PROTECTION, SALVAGE AND REMOVAL

A. Site perimeter: Protect the deconstruction jobsite perimeter from pedestrian access. Perimeter protection shall consist of chain link, wire mesh, or similar continuous barrier material a minimum of 60 inches high.

B. During deconstruction, continuously evaluate the condition of the structure being dismantled and take immediate action to protect all personnel working in and around the structure.

1. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element shall be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while personnel perform work in the immediate area.
2. Ensure no unstable elements are left unsupported, which may include but are not limited to elements that are compromised by physical damage, deterioration, or damage by organisms.
3. Place and secure bracing, shoring, or lateral support as required as a result of any cutting, removal, or deconstruction work.

C. Protection:

1. Construct temporary protection at existing elements indicated to remain, to prevent damage to or marring of materials and items. Protection shall be of required size and thickness to withstand impact from falling debris, rolling equipment and objects; residue and droppings from all construction related activities.
2. Provide temporary shoring and scaffolding which does not damage historic fabric.
3. Monitor areas indicated to be protected by prohibiting passage and construction activities, except for selected work required therein.
4. Allow site access only at the designated locations. Secure access locations after working hours and when not supervised during working hours.
5. Provide signs at all access locations requiring all personnel to wear personal protective equipment while on the jobsite.

D. Protection Offsite: Where indicated to be "removed, salvaged and reinstalled" and "removed and salvaged", carefully remove indicated materials and items, and pack or crate for transport to storage area or facility. Maintain storage area or facility for the duration of the project.

3.05 DECONSTRUCTION, GENERAL

A. General: Dismantle existing construction to the extent required for salvage and reuse of construction components. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with deconstruction systematically, from higher to lower level. Complete deconstruction operations above each floor or tier before disturbing supporting members on the next lower level.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
4. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
5. Mark primary structural members and identify pieces for inventory and reassembly, with markings concealed in finished work so as not to be evident.
6. Locate deconstruction equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

B. Salvaged Construction Materials for Reinstallation:

1. Where Work requires existing features to be removed or dismantled and reinstalled, perform these operations without damage to the material itself, to adjacent materials, or to the substrate.
2. Clean timber and lumber members for reuse in the reconstruction by a pressure washing process that removes all dirt and debris from the surface and irregularities in the surface . Provide samples of cleaned timbers for approval of Architect.
3. Pack or crate items after cleaning.
4. Provide blocking between stacks of cleaned materials, and tarp in storage area.
5. Protect items from damage during transport and storage.
6. Transport items to Owner's storage area on-site or in off-site facility. Store items in a secure area.
7. Prepare components for reassembly. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

C. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.

3.06 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.

B. Masonry: Demolish in small sections. Cut masonry using power-driven saw, then remove masonry between saw cuts.

C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and Remove

3.07 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be salvaged for reconstruction or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Comply with requirements specified in Section 01 77 00 – Closeout Procedures.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

END OF SECTION

SECTION 07 54 00

THERMOPLASTIC POLYOLEFIN ROOFING

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes: Single-ply, fully adhered thermoplastic (TPO) membrane roofing system. System includes the following as part of this section:

1. Cover board above insulation.
2. Rigid roof board insulation beneath the roofing membrane.
3. Vapor Retarder/air barrier/temporary roofing membrane
4. Membrane flashings
5. Flashing at all penetrations through the roofing system and at all materials which abut roofing system.
6. Integration of roofing accessories into roof assembly which are specified in other sections.

B. Related Sections:

1. Section 06 10 00 – Rough Carpentry: Wood nailers and blocking related to roofing system attachment.
2. Section 07 71 00 – Roof Specialties: Roof edge flashings.
3. Section 07 92 00 – Joint Sealants

1.02 DESCRIPTION OF ROOFING SYSTEM

A. General: Roof systems are indicated on drawings by types which correspond to the same types as listed below:

1. New 60-mil TPO membrane over 1/2 inch cover board, over rigid insulation on wood T&G decking.

1.03 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's (National Roofing Contractors Association) "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

B. Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's (Single-Ply Roofing Institute) "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," before multiplication by a safety factor.

C. Factored Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," after multiplication by a safety factor.

D. FM and FMG: Factory Mutual Engineering Corp. Publications include Property Loss Prevention Data Sheets and Approvals Guide.

1.04 PERFORMANCE REQUIREMENTS

A. General Performance: Installed roofing system and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and flashings shall remain watertight.

B. Sheet Membrane Manufacturer’s Responsibilities: Sheet membrane manufacturer shall be totally responsible for designing the roof assembly attachment systems.

C. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience.

D. Provide roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.

E. Wind Up-Lift and Hail Characteristics: Provide a membrane roofing system that is identical to systems that have been successfully tested in accordance with FM 4474 by a qualified testing and inspecting agency to resist uplift pressures and hail as listed below. The perimeter and corner areas shall be prescriptively enhanced in accordance with the current edition of FM Global Loss Prevention Data Sheet 1-29.

1. Corner Uplift Pressure: As indicated on Drawings.
2. Perimeter Uplift Pressure: As indicated on Drawings.
3. Field-of-Roof Uplift Pressure: As indicated on Drawings. Provide roofing assemblies, including anchorage, capable of withstanding wind pressures acting inward and outward normal to the plane of the roof.
4. Determine design loads using the appropriate coefficients for the roof configurations indicated.
5. Hail Resistance: SH

F. Flashings: Comply with requirements of Section 07 62 00 – Sheet Metal Flashing. Provide base flashings, perimeter flashings, detail flashings and component materials that comply with requirements and recommendations of the following:

1. FMG 1-49 Loss Prevention Data Sheet for Perimeter Flashings.
2. FMG 1-29 Loss Prevention Data Sheet for Above Deck Roof Components.
3. NRCA Roofing and Waterproofing Manual (2015 Edition) for construction details and recommendations.
4. SMACNA Architectural Sheet Metal Manual (Seventh Edition - 2012) for construction details.

1.05 ACTION SUBMITTALS

A. Prepare the following submittals in accordance with Section 01 30 00 – Submittal Procedures.

B. Product Data, Roofing Systems: Submit the name of the manufacturer and specification numbers and product names of all materials proposed for each type of product specified. Include in submittal installation instructions and general recommendations for each principal roofing system product required. Include data substantiating that the materials comply with requirements, including certificates and delivery logs for bulk materials.

C. Contract Closeout Submittal: Include the following at time of Project Closeout:

1. Submit the following and include in "Warranties Manual"

a. Submit executed warranty.
b. Submit written recommendations from roofing manufacturer covering maintenance program, frequency of periodic inspections, instructions on notification procedures to follow in the event a roof leak occurs, including emergency situations, and other warranty requirements which the Owner must comply with so as to not violate any terms or conditions required by the manufacturer.
c. Submit copy of written report of final roofing inspection which took place prior to Substantial Completion; report shall indicate that repairs (if required) were made per roofing manufacturer’s recommendations.

1.06 INFORMATIONAL SUBMITTALS

A. Prior to beginning the work of this section, roofing contractor shall provide a copy of the final System Assembly Letter issued by the manufacturer indicating that the products and system to be installed shall be eligible to receive the specified manufacturer's guarantee when installed by a certified contractor in accordance with our application requirements, inspected and approved by a manufacturer’s technical representative.

B. Product Certificate: Submit notarized certificate, indicating complete list of products intended for use under Work of this Section, including product names and numbers and manufacturers’ names, with statement indicating that products to be provided meet the requirements of the Contract Documents.

C. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.

D. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

E. Qualification Data: For Installer and manufacturer, and manufacturer's technical representative.

F. Warranty Draft: Submit draft of warranty with required inclusion for review; warranty shall state obligations, remedies, limitations, and exclusions. Submit draft warranty with product data.

G. Inspection Reports: Copy of daily and final technical inspection reports of roofing installation.

1.07 QUALITY ASSURANCE

A. Source Limitations: Obtain components for membrane roofing system from or approved by roofing membrane manufacturer.

B. Installer's Qualifications:

1. Licensed or approved by manufacturer of thermoplastic membrane materials for installation of specified roof systems and issuance of special extended warranty as specified. Welding of seams shall be done by mechanics which have successfully completed a training course provided by sheet membrane manufacturer.
2. Installer must maintain a full time supervisor/foreman on job site during all times work is in progress. Supervisor must be certified to have had experience with applications similar in nature and scope to specified systems and have a minimum of ten (10) years' experience with type of roofing system specified and projects of this magnitude and scope.

C. Fire-Test-Response Characteristics: Provide membrane roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FM, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.

1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and roof slopes indicated.
2. Interior Fire-Test Exposure: Class 1.
3. Fire-Resistance Ratings: ASTM E 119, for fire-resistance-rated roof assemblies of which roofing system is a part.

D. Preinstallation Conference: Conduct conference at Project site. Comply with requirements in Section 01 31 00 – Project Coordination. Review methods and procedures related to roofing system including, but not limited to, the following:

1. Review system requirements, including drawings, specifications, manufacturer's installation instructions and warranty requirements, including flashing details, special roofing details, and roof drainage. Resolve discrepancies prior to installation of roofing assemblies.
2. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
3. Review structural loading limitations of roof deck during and after roofing.
4. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
5. Review temporary protection requirements for roofing system during and after installation.
6. Review roof observation and repair procedures after roofing installation.

1.08 DELIVERY, STORAGE AND HANDLING

A. General: Comply with requirements specified in Section 01 60 00 – Product Requirements.

B. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, UL approval markings, date of manufacture, and directions for storing and mixing with other components.

C. Roofing membranes and insulation are to be stored in a dry trailer or inside a dry building. Exterior storage on skids or tarpaulin coverage is unacceptable. Store materials in their original undamaged and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

E. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

1. Roofing insulation which became wet before or after installation must be removed and replaced. Wet materials shall not be dried and reused. Wetted membrane materials must be thoroughly evaluated to determine the effect on adhesion, lap seals or blister potential. Remove any such material if there is any possibility of failure.

1.09 PROJECT CONDITIONS

A. Coordinate all roofing work closely with Architect as it relates to work going through the roof deck and/or affecting the roof deck and/or the roof system. Perform roofing work as identified in these project specifications and drawings, in strict accordance with the various roofing material manufacturer's installation instruction requirements and recommendations.

1. Comply with recommendations of the manufacturer for environmental conditions before, during, and after application of roofing system.

B. Inspect uncovered conditions and alert Architect to any condition which may interfere with the performance of the new roof membrane system, inclusive of flashings.

C. Roofing Contractor shall assist and cooperate with Owner and mechanical Contractor(s) as required to maintain the newly installed system, in a watertight condition throughout the construction period.

D. Weather: Proceed with roofing work when existing and forecasted weather conditions permit work to be performed in accordance with manufacturer's recommendations and warranty requirements.

E. Coordination:

1. Coordinate with sheet metal contractor to ensure that metal counterflashing and pipe penetration flashing members are ready for installation.
2. Coordinate with trade responsible for safety line anchors to ensure that they have been installed prior to roofing.

F. Protection: Schedule and execute all work to prevent damage to adjacent surfaces not to receive roofing materials. Provide full coverage of adjacent surfaces. Repair damage caused to existing substrates. Damage repair and cleaning performed at Contractor’s expense. Provide necessary protection and avoid traffic on completed roofing work.

G. Protect the interior of the building against water damage at all times while the roofing repair work is in progress.

1.10 WARRANTY

A. Provide manufacturer's No Dollar Limit (NDL), non-prorated, Total Roofing System Warranty, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.

1. Special warranty includes roofing membrane, cover boards, membrane flashings, roofing accessories including adhesives, sealants, fasteners and plates, metal roof edgings, termination metals and other components of membrane roofing system.
2. ROOFING AND FLASHING GUARANTY: The manufacturer(s) of materials used shall furnish a written twenty (20) year warranty on the complete roof installation. Submit the warranty in triplicate. The warranty shall begin when the project is completed and accepted by the Owner.
3. Submit a sample copy of roofing warranty which will be executed upon completion of the Work, prior to award of the contract.
4. All system components not specifically identified herein but required by the membrane supplier for the roof system installed by the Work required in the Project Manual shall be provided and included in the membrane supplier watertight warranty as required herein.
5. Warranty shall include roofing damage resulting from wind speeds up to and including 90 mph (3-second gust speed at 33 feet above ground for exposure category indicated).

B. Applicator/Roofing Contractor Warranty:

1. Applicator shall supply Owner with a separate workmanship warranty. In the event any work related to roofing, flashing, or metal is found to be within the Applicator warranty term, defective or otherwise not in accordance with Contract Documents, the Applicator shall repair that defect at no cost to the Owner. Applicator's warranty obligation shall run directly to Owner, and a copy shall be sent to the roofing manufacturer.
2. Warranty shall cover, at no cost to the Owner, all labor and materials required to repair or replace roofing, flashings, sheet metal as necessary to fully correct leaks, faulty workmanship or defective materials
3. Warranty period is 2 years after date of final acceptance of the project.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design Manufacturer/Product: Provide roofing system of the following roofing materials manufacturer.

1. Carlisle Sure-Weld TPO

a. Thickness: Minimum 60 mils nominal.
b. Exposed Face Color: “Gray”

B. Approved Products/Manufacturers (Roofing):

1. Subject to compliance with requirements, provide the “Basis of Design” product or an equivalent product of one of the following:

a. Elevate
b. GAF Materials Corp.
c. Johns Manville

2. Membrane manufacturer must certify in writing that product supplied for this project has a minimum polymer thickness as specified. ASTM ± tolerance for membrane thickness is not acceptable.

C. Approved Products/Manufacturers (Insulation):

1. Subject to compliance with requirements, provide products approved by the “Basis of Design” roofing manufacturer or an equivalent product of one of the following:

a. Atlas Roofing Corporation.
b. Carlisle SynTec Incorporated.
c. Elevate (formerly Firestone Building Products).
d. GAF
e. Hunter Panels.
f. Johns Manville.

2.02 TPO MEMBRANE MATERIALS

A. Membrane: Flexible, heat weldable sheet composed of thermoplastic polyolefin polymer and ethylene propylene rubber; complying with ASTM D 6878, with polyester weft inserted reinforcement and the following additional characteristics for use over all substrates, for fully adhered installation.

1. Thickness: 0.060 inch plus/minus 10 percent, with coating thickness over reinforcement of 0.024 inch (0.61 mm) plus/minus 10 percent.
2. Sheet Width: Provide the widest available sheets to minimize field seaming.
3. Puncture Resistance: 265 lbf (1174 N), minimum, when tested in accordance FTM 101C Method 2031.
4. Solar Reflectance: 0.79, minimum, when tested in accordance with ASTM C 1549.
5. Color: Gray.

B. Formable Flashing: Non-reinforced, flexible, heat weldable sheet, composed of thermoplastic polyolefin polymer and ethylene propylene rubber.

1. Thickness: 0.060 inch (1.52 mm) plus/minus 10 percent.

2. Tensile Strength: 1550 psi (10.7 MPa), minimum, when tested in accordance with ASTM D 638 after heat aging.
3. Elongation at Break: 650 percent, minimum, when tested in accordance with ASTM D 638 after heat aging.
4. Tearing Strength: 12 lbf (53 N), minimum, when tested in accordance with ASTM D 1004 after heat aging.
5. Color: Gray.

C. Provide roofing materials recognized to be of the generic type indicated and tested to show compliance with indicated performances.

D. Provide products which are recommended by the manufacturer to be fully compatible with the individual substrates, or provide separation materials to eliminate contact between incompatible materials.

2.03 COVER BOARD (GLASS MAT)

A. Cover Board: ASTM C1177/C1177M, glass-mat, water-resistant gypsum board or ASTM C1278/C1278M, fiber-reinforced gypsum board.

1. Products: Subject to compliance with requirements, provide one of the following:

   a. Georgia-Pacific Corporation; DensDeck Prime
   b. USG Corporation; Securock Glass Mat Roof Board.
   c. CertainTeed Corporation; GlasRoc Sheathing.
   d. National Gypsum Company; Gold Bond eXP Extended Exposure Sheathing.

2. Thickness: 1/2 inch.

B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening substrate panel to roof deck.

2.04 (OPTION) COVER BOARD (HIGH DENSITY POLYISO)

A. Cover Board: High-density insulating cover board complying with ASTM C 1289 Type II, Class 4, Grade 1 (109 psi maximum), of type and thickness indicated below:

1. Thickness: 1/2 inch.
2. Products: Subject to compliance with requirements, provide one of the following:

   a. Carlisle; SecurShield HD Plus Polyiso
   b. Equivilent product of the other named manufacturers

3. Board Size: 48 x 96 inches
4. Board Edges: Square
5. Compressive Strength: ASTM D 1621, 109 pounds per square inch.
6. Dimensional Stability: ASTM D 2126, <0.5% linear change)
7. Water Absorption: ASTM C 209, Less than 1 volume
8. R-value: ASTM C518: 2.5/inch
9. Weight: 0.406 lbs./sq.ft.

2.05 ROOF INSULATION

A. General: Preformed roof insulation boards manufactured or approved by TPO roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated

1. Provide insulation products as manufactured by, or labeled by the manufacturer of primary roofing components as appropriate and compatible with the system for the intended application. Roof insulation must be included under primary roofing manufacturer's warranty as specified.
2. Provide insulation materials that are identical to materials whose fire-performance approval and wind up-lift classification have been determined for the assemblies of which the insulation materials are a part.
3. Roofing systems must be applied over cover board as indicated, below. In no case shall roofing systems be applied directly over polyisocyanurate foam insulation.
4. Provide insulation in manufacturer’s standard sizes for each application indicated.

5. Provide insulation materials and insulation fastening in accordance with the primary membrane material manufacture's latest printed instructions and recommendations and is accordance with FM Approval Standards.

B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 2, Grade 2, rigid board insulation with coated glass facing on both sides.

1. Compressive Strength: 20 psi per ASTM D1621
2. Dimensional Stability: ASTM D2126; 2% linear change(7 day)
3. Moisture Vapor Transmission: ASTM E96;< 1 perm
4. Thermal Resistance: R-value of 5.7 per inch, LTTR minimum
5. Board Size: 4 foot x 4 foot or 4 foot x 8 foot
6. Minimum board thickness: 3 inches (each layer)
7. Board Edges: Square
8. Manufacturers: As approved by roof membrane manufacturer:

    a. Specified roof membrane manufacturer named in Article 2.01 "Manufacturers"

9. Application: Adhered to steel roof decks.

C. Tapered Insulation: Provide tapered insulation board of same material as board insulation specified in paragraph above; tapered to slope indicated on the drawings; manufacturer's standard dimensions. Insulation system design and layout drawing provided shall indicate a minimum of two (2) layers to allow for staggering of insulation joints in both directions.

1. Board Size: 4 foot x 4 foot

D. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated to properly direction water flow to drainage. Fabricate to slopes indicated.

2.06 AIR/VAPOR RETARDER/TEMPORARY ROOFING SHEET

A. Rubberized Asphalt Composite: Vapor Retarder/Temporary Roof membrane as follows:

1. Sheet Membrane 40-mil composite consisting of 35 mils of self-adhering rubberized asphalt laminated to a 5-mil woven polypropylene film.
2. Basis of Design: Carlisle VapAir Seal 725TR
3. Acceptable Manufacturer/Product:

    a. Equivalent product of other named roofing manufacturers.

B. Application: Self-adhere membrane to wood T&G decking.

2.07 INSULATION ACCESSORIES

A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.

B. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:

1. Full-spread, spray-applied, low-rise, two-component urethane adhesive.

C. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.

D. Tapered Edge Strips: ASTM C 208, Type II, Grade 1, cellulosic-fiber insulation board, if applicable.

2.08 ROOFING ACCESSORIES

A. Wood plates, nailers, curbs, blocking, stripping, pipe supports, and similar members in connection with roofing and flashing: Conform to the requirements of Section 06 10 00 – Rough Carpentry.

B. Molded Flashing Accessories: Unreinforced TPO membrane pre-molded to suit a variety of flashing details, including pipe boots, inside corners, outside corners, etc.

C. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars with rounded edges, capable of securing the single ply roofing membrane material without cutting or otherwise damaging the membrane material, approximately 1 by 1/8 inch thick; with stainless steel screw fasteners with expansion shield and reverse bend for sealant application along the top edge.

D. Pipe Seal: Pre-molded boot with pressure-sensitive seal and stainless steel draw-band clamp shall be approved and supplied by the membrane supplier.

E. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, termination reglets, cover strips, sealants and other accessories.

F. Liquid-Applied Flashing: Two-component polymethyl methacrylate-based (PMMA) liquid flashing material for transitions between TPO roofing membrane and sheet metal penetrations through roof.

G. Pitch Pans:

1. Dimensions: 3 inch flanges with adjustable width from 4 inches to 7 inches, and adjustable height from 2 inches to 4 inches.
2. Material: Stainless Steel.
3. Pitch Pan Filler: Manufacturers two-component flexible pourable sealer applied over 2 inch base of cured non-shrink grout.

2.09 AUXILIARY MATERIALS

A. General: Furnish auxiliary materials recommended by roofing system manufacturer for intended use and compatible with TPO membrane roofing including, but not necessarily limited to, the following.

1. Membrane bonding adhesive.
2. Membrane perimeter securement materials and method.
3. Membrane splicing tape.

B. Membrane Clad Metal: Manufacturer’s TPO coated, heat-weldable sheet metal capable of being formed into a variety of shapes and profiles; 24 gauge G90 hot dip galvanized steel with manufacturer’s unreinforced 20 mil TPO membrane laminated on one side.

1. Color: Match membrane roofing.

C. Sheet Seaming System: Manufacturer's standard materials sealing lapped joints, including edge sealer to cover exposed spliced edges as recommended by manufacturer of single ply roofing system.

D. Cant Strips and Flashing Accessories: If required by roofing manufacturer, provided at locations indicated and at locations recommended by manufacturer and including adhesive tapes, flashing cements, and sealants.

E. Bonding Adhesive: Type recommended by the manufacturer of the single ply membrane for the particular substrate and project conditions.

F. Membrane Cleaner: Manufacturer’s standard cleaner for the removal of contaminants from the membrane.

G. Other Materials: Provide splicing cement, lap sealant water cut-off mastic, prefabricated pipe seals, pourable sealer, pitch pockets, and other related items as recommended by the membrane manufacturer for conditions of construction and as required for warranty and performance requirements.

PART 3 – EXECUTION

3.01 INSPECTION

A. Installer of elastomeric roofing system must examine substrate and conditions under which roofing work is to be performed and must notify Contractor, in writing, of unsatisfactory conditions. Do not proceed with roofing work until unsatisfactory conditions have been corrected in a manner acceptable to installer.

1. Verify wood deck is clean and smooth, free of depressions, waves, or projections, and properly sloped to roof drainage.
2. Do not apply roofing materials to damp, frozen, dirty, dusty, or deck surfaces unacceptable to manufacturer.

3. Verify deck surfaces are dry and free of snow or ice.
4. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations.
5. Beginning installation means acceptance of substrate.

3.02 PREPARATION OF SUBSTRATE

A. Install new nailers per Section 06 10 00 for securement of metal flashings and roof specialties. Nailers shall be installed as indicated on project drawings and in accordance with Section 06 10 00 requirements.

B. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections. Wipe metal wood decking surface clean.

C. Provide temporary closures to assure that moisture does not damage any completed section of the new roofing system. Completion off flashings, terminations and temporary closures must be completed a work progresses to provide a watertight condition.

D. Install cant strips, flashings, and accessory items as shown and if required by manufacturer even though not shown.

E. Verify that wood blocking, curbs and nailers are securely anchored and that roof openings and penetrations are in place and set and braced.

F. Air/Vapor Retarder Sheet: Loosely lay sheet in a single layer over entire area of roof with side and end laps of sheet overlapped 2-inch and 6-inch, respectively using manufacturer’s approved adhesive. Completely seal air/vapor retarder at terminations, obstructions and penetrations. Coordinate sealing perimeter edges of air/vapor retarder with vertical transitions at perimeter wall to ensure continuity from roof to wall envelope.

3.03 INSULATION APPLICATION

A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.

B. Comply with membrane roofing system manufacturer's written instructions for installing roof insulation.

C. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.

1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

D. Install two or more layers of insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 5 inches or greater, install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.

E. Install first layer of roof insulation with long dimension running perpendicular to the roof slope; long joints shall be laid in a continuous straight line with end joints staggered by half a board length. Butt all boards as closely as possible.

1. Install second layer of roof insulation in the same manner as specified for first layer; install with joints staggered from joints in first layer a minimum of 6 inches in each direction.
2. Cut insulation at vertical intersections to allow a clearance of not more than 1/4 inch.
3. Trim and fit insulation accurately at all deck protrusions and terminations as required for a smooth transition with no breaks or sharp edges. Miter insulation boards at ridges and elsewhere to prevent open joints or irregular surfaces.
4. Adhered Insulation: Install each layer of insulation and adhere to substrate as follows:
    a. Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.
    b. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof. Fasten insulation according to requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification and to resist uplift pressure at corners, perimeter, and field of roof in accordance with performance and warranty requirements.
5. Where indicated or required, install tapered insulation to achieve positive drainage (no ponding water) and to maintain a minimum slope of 1/4 inch per foot; install tapered insulation with

fasteners or adhesive as recommended by membrane manufacturer. If required due to the minimum thickness of tapered insulation, install tapered edge strips of high density wood fiber board to provide a smooth transition to the flat areas.

6. Exercise care when handling and attaching insulation so as to not damage or rupture the facer and surface.
7. Do not install more insulation board that can be covered with sheet membrane by the end of the day or the onset of inclement weather.
8. Install single layer of protection board over insulation in the same manner as specified for thermal insulation, with both the long and short joints offset from the joints in the thermal insulation. Fasten in accordance with approved wind up-lift fastening requirements.

F. Install crickets in areas of roofing at rooftop appurtenances larger than 2'-0" x 2'-0" in size, to provide positive sloping away from rooftop units and to roof drainage.

G. Cover Boards: Install cover board over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below cover board a minimum of 6 inches in each direction. Loosely butt cover boards together.

1. Fasten insulation according to requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification and to resist uplift pressure at corners, perimeter, and field of roof. in accordance with performance and warranty requirements.

3.04 ADHERED MEMBRANE ROOFING INSTALLATION

A. Start installation only in presence of manufacturer's technical representative. Manufacturer's technical representative shall also periodically inspect progress and quality of work.

B. Install TPO sheet over area to receive roofing according to roofing system manufacturer's written application instructions. Nothing specified herein shall supersede roofing system installation in accordance with manufacturer's approved installation procedures. Unroll sheet and allow to relax for time period required by manufacturer. Accurately align sheets and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

C. Cut sheets to maximum size possible, in order to accommodate contours of roof deck and proper drainage across shingled laps of sheets.

D. Fully Adhered Membrane Roofing:

1. The fiberglass reinforced roof membrane shall be adhered to the coverboard with adhesive supplied by the membrane manufacturer.
2. Apply bonding adhesive to substrate and underside of sheet as required by manufacturer. Do not apply adhesive with seam welding area.
3. Install mechanical fasteners, flashings and counter flashings, as required for this specific project, and use accessories at locations and as recommended by manufacturer.

E. Flashings are surface mounted against walls or roof mounted equipment with counterflashings. Anchor flashings with manufacturer's continuous metal termination bars.

F. Install roofing manufacturer's control joint materials to isolate roof into areas as shown. Seal roofing membrane sheet to joint flange; apply sealant to edge or seam.

G. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

H. Sealing of seams of overlapping adjacent roof membrane sheets, or overlap seams between flashing components and roof membrane sheets, must be accomplished using hot air equipment specified by the membrane manufacturer for the specific membrane type, in strict compliance with roof membrane manufacturer's requirements and specifications.

1. Splice all side and end laps of the sheet membrane and flashing, add all connection to TPO coated metal.
2. Hot air weld splices with automatic air welders. Hand held welders my only be used for small localized areas and for areas that are inaccessible to automatic welders.

a. Splice all side and end laps of the sheet membrane and flashing, add all connection to TPO coated metal.

b. Hot air weld splices with automatic air welders. Hand held welders my only be used for small localized areas and for areas that are inaccessible to automatic welders.

I. Install flashings and counter flashings, and accessories at locations and as recommended by manufacturer.

3.05 BASE FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.

1. Apply solvent-based bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
2. Flash penetrations and field-formed inside and outside corners with sheet flashing.
3. Clean seam areas and overlap and firmly roll sheet flashings into the adhesive. Weld side and end laps to ensure a watertight seam installation.
4. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

B. Base Flashing at Curbs:

1. Install base flashing as indicated and required by manufacturer. Use longest pieces practicable.
2. Install base flashing up vertical surfaces minimum 8 inches above cant top or edge strip unless otherwise noted. Fasten top of base flashing with devices and at locations and frequency as recommended by manufacturer.
3. Coordinate installation of base flashing with Flashing and Sheet Metal.
4. Extend splice beyond fasteners which attach flashing to roof membrane a distance as required by manufacturer.
5. Bond base flashing to substrate in accordance with manufacturer’s requirements to obtain water tight bond.
6. Take measures to ensure base flashing is not ridging where there is change of direction.
7. Fasten top of base flashing under metal counterflashing at manufacturer's recommended spacing.
8. Flash penetrations passing through membrane

C. Install counterflashing at wall and curb flashing.

D. Install drawband collars at all penetrations.

3.06 WELDING PROCEDURES

A. General: Clean seam areas, overlap sheets, and weld side and end laps of sheets and flashings according to manufacturer’s written instructions to ensure a watertight seam installation. Seam overlaps shall be a minimum of 3 to 4 inches wide, as approved by manufacturer.

1. Welding equipment shall be of type as approved by sheet membrane manufacturer.
2. Seams must be clean and dry; no adhesives shall be used within the seam area.

B. Welding of Seams: All seams shall be hot air welded as standard with sheet membrane manufacturer. Insert the hot air nozzle and draw at a uniform rate between the overlapping sheets. Apply positive pressure immediately to the top sheet. Fusion of the two mating surfaces shall occur immediately following the heating process.

C. Welding of TPO Clad Metals: As recommended by membrane manufacturer.

D. Testing of Seams:

1. Installer shall test the outside edge of the seam with a round pointed metal probe along the edge of the welded lap area. The completed lap shall be free of any voids, fishmouths, or wrinkles, and shall lay flat.
2. Refer to article “Field Quality Control” for field testing of seams in presence of Inspector.

E. Repair tears, voids, and lapped seams in roofing that does not meet manufacturer’s requirements.

3.07 FIELD QUALITY CONTROL

A. Manufacturer’s Representative: Manufacturer’s Field Technical Representative shall inspect construction activities, at start of work and minimum two (2) times during roofing installation, including final inspection:

1. Submit a written report after each inspection noting as a minimum weather conditions, condition of stored materials, work in progress, condition of substrates, number of workers and which workers have completed manufacturers' training programs, and all other pertinent data.
2. Services of manufacturer's field representative are not intended to supersede manufacturer's written requirements for inspection and testing to issue warranty.

B. On-site evaluation of welded seams shall be made daily by the Contractor to assure membrane seam weld quality.

1. Test cuts shall be taken at each start-up of welding equipment, mid-point, and at each completion of the welding process. Correct welds displaying failure from equipment settings as necessary to assure quality welds. Based on test cut findings, appropriate membrane seam remedies must be instituted. Membrane test cut locations shall be documented and membrane test cut samples shall be labeled and provided with the required Daily Construction Reports. Additional test cuts of suspect membrane seams shall be taken at the direction of the Architect's Representative or manufacturer's representative. Each test cut shall be patched by the Contractor at no extra cost to the Owner.

C. Final Inspection:

1. At completion of roofing installation and associated work, meet with Contractor, installer, installer of associated work, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
2. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
3. The roofing system manufacturer reserves the right to request a thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. The thermographic scan shall be provided by the Contractor.
4. If core cuts verify the presence of damp or wet materials, the Contractor shall be required to replace the damaged areas at his own expense.
5. Repair or replace deteriorated or defective work found at time above inspection as required to a produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
6. Notify the Owner upon completion of corrections.
7. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.

D. Repair or remove and replace components of roofing system where test results or inspections indicate that they do not comply with specified requirements.

E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.08 PROTECTING AND CLEANING

A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates, and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

D. Debris shall not accumulate on roof during construction. All debris shall be totally removed at completion of project. The contractor shall provide final cleaning of roof membrane to sufficiently remove traffic marks and unsightly blemishes from the surface of the roof to the satisfaction of the A/E and Owner. The contractor shall provide adequate protection to the new roof surface to prevent excessive traffic marks and unsightly blemishes during the course of construction.

3.09 INSPECTION AND WARRANTY

A. Upon completion of the installation, an inspection shall be made by a representative of the roofing manufacturer to ascertain that the roofing system has been installed according to the manufacturer's published specifications and details.

B. Warranty to be issued upon approval of the installation.

END OF SECTION

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GEOTECHNICAL
CONSULTANTS INC.

GCI PROJECT No. 22-G-26626

Subsurface Exploration and Geotechnical Engineering Report

McCammon Creek Park – Bicentennial Barn
Bale Kenyon Road
Lewis Center, Ohio

Prepared for:
Preservation Parks of Delaware County

July 14, 2022

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July 14, 2022

Mr. Matt Simpson
Senior Park Planner
Preservation Parks of Delaware County
2656 Hogback Road
Sunbury, Ohio 43074

Reference: Subsurface Exploration and Geotechnical Engineering Report
McCammon Creek Park – Bicentennial Barn
Bale Kenyon Road – Lewis Center, Ohio
GCI Project No. 22-G-26626

Dear Mr. Simpson:

As you requested and authorized, Geotechnical Consultants, Inc. (GCI) performed a subsurface exploration and prepared this geotechnical engineering report for the above referenced project. In summary, the borings generally encountered a topsoil cover (0.2 to 0.5 feet thick), overlying natural cohesive soils and granular deposits. We did not encounter bedrock within the depths of the borings performed (maximum drilled depth was 20 feet). Groundwater seepage was encountered in two of the borings at depths of 13 to 18 feet below grade.

Geotechnical considerations for the project include removal of existing construction, proper site stripping (vegetation, topsoil, stumps, etc.), stabilization of any soft/loose subgrades, and proper placement and compaction of good quality structural fill (as needed). Provided these considerations are properly addressed during construction, GCI is of the opinion that the site should be suitable for the proposed development using conventional shallow foundations, slab-on-grade design, and flexible pavements. The attached report provides detailed recommendations for site preparation work.

After you have reviewed the report, feel free to contact us with any questions you may have. We appreciate the opportunity to provide our services for this project and hope to continue providing our services through construction.

Respectfully submitted,
Geotechnical Consultants, Inc.

Curtis L. Miller, P.E.
Principal

STATE OF OHIO
CURTIS L. MILLER
E-58404
REGISTERED
PROFESSIONAL ENGINEER

Kevin M. O'Connor, P.E.
In-House Reviewer

Distribution: Matt Simpson @ Preservation Parks of Delaware County – pdf via email
GCI File – 1 copy

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INTRODUCTION

As requested and authorized by Mr. Matt Simpson representing Preservation Parks of Delaware County, Geotechnical Consultants Inc. (GCI) has performed a subsurface exploration and prepared this geotechnical engineering report for the proposed McCammon Creek Park – Bicentennial Barn project in Lewis Center, Ohio. Prior to drilling, GCI was provided with a site plan showing the proposed development layout, existing topography, and requested boring locations (plan prepared by Woolpert; dated 10/1/2021).

GCI's subsurface study consisted of eight (8) standard penetration test borings drilled at the requested locations across the park. The boring locations were field staked by others prior to drilling. We estimated the surface elevations at the boring locations from the provided information; GCI did not field verify the elevations. Test boring logs and a plan showing the approximate boring locations are appended to this report.

The intent of this study was to evaluate subsurface conditions and offer geotechnical recommendations relative to earthwork, foundations, slabs, and pavements for the proposed development. This report is issued prior to the receipt of final site layout and grading plans. GCI should review these plans when available, and provide additional recommendations and borings, if necessary.

GCI prepared this report for the exclusive use of Preservation Parks of Delaware County and their consultants for specific application to the above referenced project in Lewis Center, Ohio in accordance with generally accepted soil and foundation engineering practices. No warranty, expressed or implied, is made.

SITE LOCATION AND PROJECT DESCRIPTION

The existing McCammon Creek Park is located west of Bale Kenyon Road, just north of I-71, in Lewis Center, Ohio. The park has an address of 6844 Bale Kenyon Road. The site is a mix of structures, open fields, and some trees. The general site location is shown on an attached map in the appendix. The aerial photo below shows how the site looked at the time of drilling.

Aerial Photograph from Google.com

Based on the provided information, the proposed project will include a new barn structure, roadway and parking areas, and new site utilities. Provided grading information suggests most of the site will require 2 to 4 feet of cut, with some lower lying areas possibly requiring fill.

SUBSURFACE CONDITIONS

GCI mobilized a truck-mounted, rotary drill rig (with automatic sampling hammer) to the site on July 5, 2022 and drilled eight (8) standard penetration test borings (B-2 to B-9) at the requested locations. We could not drill proposed boring B-1 due to access restrictions at the time of drilling.

The borings were field staked by others and we drilled the borings as close as we could get to the staked locations. The boring logs, a boring location plan, and a summary table of encountered subsurface conditions are attached in the appendix. The subsurface findings are summarized below. Please refer to the individual boring logs for more detailed subsurface information at specific boring locations.

Surface Cover

The borings encountered a natural topsoil surface cover, ranging from about 0.2 to 0.5 feet in thickness.

Natural Soils

Beneath the surface cover, the borings encountered natural, moderately plastic, brown mottled gray lean clay (classified as CL under the Unified Soil Classification System). The upper portions of these soils were stained, which is typically associated with water filtering down through the overlying topsoil. The lean clay soils extended to depths of about 2 to 3 feet below grade. Standard penetration N-values indicated these soils were medium stiff to very stiff in cohesive consistency.

Below the mottled lean clay, we encountered moderate plasticity, brown lean clay with sand (CL), glacial till. The till soils contained varying amounts of sand and gravel, and we also noted random silty sand and gravel layers. The till changed to gray sandy lean clay with gravel (CL) at 8 feet below grade in boring B-9. We noted the till soils as medium stiff to stiff. We terminated borings B-2 to B-8 within the till soils at depths of 5.5 to 20 feet below grade.

Below the gray till in boring B-9, at 12.5 feet below grade, we encountered brown silty sand with gravel (SM). These soils are medium dense to very dense in cohesionless density. We terminated boring B-9 within the granular soils at 20 feet below grade.

Bedrock

We did not encounter bedrock within the depths of the borings performed (20 feet maximum drill depth).

Groundwater and Moisture

We encountered groundwater seepage in borings B-8 and B-9 at respective depths of 18 and 13 feet below grade at the time of drilling. At completion of drilling, the water level was measured at 11 feet in boring B-9, but the water had dissipated in boring B-8. The remaining 6 borings were dry.

The retrieved clay-based soil samples were generally characterized as moist to very moist, with the granular soils at boring B-9 noted as wet. Note that soil moisture conditions and groundwater levels fluctuate due to seasonal changes in precipitation, stabilization time, and other factors that may differ from the time the borings were drilled.

LABORATORY TESTING

GCI performed natural moisture content testing on split-spoon samples from borings B-2, B-3, B-7, and B-9. The testing resulted in natural moisture contents between 13% and 20.5%. The moisture contents suggest the soils should be in the workable range for earthwork procedures. The variability of the natural moisture contents suggests that some moisture adjustment of the subgrade soils should be expected prior to placing new controlled fills, underslab aggregate, or pavement base aggregate. This could change depending on the season the earthwork is performed. Results of the testing are attached in the appendix.

ANALYSIS AND CONCLUSIONS

GEOTECHNICAL EVALUATION

It is GCI's opinion that the site geotechnical conditions will be suitable for the proposed construction, provided the site is prepared in accordance with the recommendations of this report. We discuss geotechnical considerations in the following paragraphs.

Existing Construction

We anticipate the existing structure(s) will be removed as part of the new construction. GCI recommends that any building demolition work include removing existing slabs, walls, foundations, below-grade structures, pavements, and subsurface utilities (including trench backfill) from below the proposed construction and to a minimum of 10 feet laterally outside the construction limits.

GCI recommends all utilities be removed and rerouted from below the proposed building footprint, plus 10 feet laterally. Abandoned utility lines (outside the zone of influence) should be capped to prevent loss of soil. Properly backfill excavations resulting from structure and

utility removal with structural fill (as described in the Site Preparation and Earthwork section of the report) to proposed grade.

Site Stripping

The borings encountered a natural topsoil surface cover. Surface vegetation, topsoil, stumps from removed trees, and other organic materials are not suitable for foundation, floor slab, or pavement support, and should be completely removed from beneath proposed building and pavement areas, plus a minimum of 5 feet laterally beyond the construction zone.

Subgrade Stabilization

Once the site is properly stripped, the resultant natural exposed subgrades should be carefully and thoroughly proof-rolled to delineate unstable conditions prior to placing new fill, underslab aggregate, or pavement base aggregate. Unstable areas encountered during proof-rolling should be stabilized or removed and replaced with structural fill.

The exposed subgrades will consist of natural clay-based soils, which will become easily disturbed when high in moisture content. Depending on the time of year of earthwork, the upper level soils may require stabilization prior to any new fill placement. The severity of soft, very moist subgrade conditions will depend on the time of year of earthwork is performed and the amount of moisture within the subgrade soils. Careful routing of construction traffic is advised to help minimize instabilities of near surface soils during wet seasons.

Stabilization of soft subgrades by disking, aerating/drying, and re-compaction may be feasible during traditionally drier times of the year. During wet seasons, partial undercutting and replacing of wet soils with structural fill, drying with soil additives such as lime, or use of geosynthetics may be needed to create a stable subgrade before placing controlled fills. The use of soil additives, such as lime and flyash, or installation of geosynthetics should be reviewed by our office prior to use in the field. Fewer problems with soft subgrades are expected if work is performed during traditionally drier times of the year (i.e., late spring, summer, and early fall). Traditionally wetter seasons (i.e., late fall, winter, and early spring) will contribute to more problems associated with soft, very moist subgrades.

New Fill Placement and Compaction

Structural fill can be placed to design grade once the subgrades are brought to firm and stable conditions. Non-organic site soils can be reused as structural fill provided proper moisture control is maintained. Fill materials within building pads and pavement areas should be placed in a controlled manner as described in the *Site Preparation and Earthwork* section of this report. Depending on the time of year of earthwork, the fill may require drying to achieve compaction.

FOUNDATIONS

Provided the site is properly prepared, it is GCI's opinion that the proposed buildings/structures can be constructed using conventional shallow spread footings and continuous wall foundations. All footings should bear on stable, natural non-organic soils or on new, controlled fill placed directly over stable, natural non-organic soils. Footings bearing on acceptable soils can be designed using a maximum allowable bearing capacity of 3,000 psf.

Regardless of calculated sizes, GCI recommends minimum sizes of 16 inches in width for wall footings and 30 inches square for column pads to prevent a punching effect. All exterior footings should extend to local frost bearing depth (36 inches) or to stable bearing (as stated above), whichever is deeper. Interior footings in heated areas may be placed as shallow as feasible, if bearing on acceptable soils.

Typical to local practice, if soft or unstable natural soils are encountered within footing excavations at proposed design grade, undercut to stable soils. *Soft, unstable bearing soils should be reviewed by the soil engineer prior to undercuts.* Undercut areas can be backfilled to design bottom-of-footing elevation using controlled density fill (CDF).

FLOOR SLABS

Conventional concrete slab-on-grade are suitable for the proposed building, provided the subgrade is thoroughly proof-rolled and any soft, yielding areas are brought to a stable condition prior to slab construction or placement of aggregate base. GCI recommends placing a minimum of 4 inches of granular fill (such as ODOT Item 304 or crushed No. 57 limestone) under the floor slabs to help provide a uniform bearing surface and a capillary cut-off of moisture. Placement of a vapor retarder below the slab is recommended in areas where moisture could cause problems with floor finishes.

BELOW-GRADE WALLS

Retaining walls allowed to move freely at the top of the wall should be designed using active lateral earth pressure. Walls restrained at both top and bottom (loading docks) should be designed to resist an at-rest lateral soil pressure. The design loading depends on the type of backfill material used and boundary support conditions. The following table provides

recommended equivalent fluid pressures for two types of soils and loading conditions.

Soil Type	Equivalent Active Fluid Pressure (pcf)	Equivalent At-Rest Fluid Pressure (pcf)
Lean Clay (site soils)	55	70
Sand and Gravel (properly compacted)	35	55

We do not recommend using cohesive soils as wall backfill due to their poor drainage characteristics and potential for lateral wall loads resulting from surface frost. We recommend that granular material (less than 15% passing the No. 200 sieve) be used for all wall backfill. The stone should be placed in a wedge defined by a line extending up from the footing at a 35° angle from the vertical to allow use of the lower values above. We recommend that footing drains and underslab drains leading to a permanent sump pump or otherwise drained to daylight be installed to minimize the build-up of hydrostatic forces behind the below-grade walls. GCI also suggests damp-proofing of below-grade walls.

A coefficient of friction of 0.31 can be used to evaluate the friction (sliding) resistance along the base of the footing. The use of passive-case lateral earth pressures to resist wall sliding is not recommended, because, in our opinion, soils within the passive zone are subject to freezing and subsequent strength loss during the thaw cycle. If passive resistance is used in design, we suggest using a value of 200 pcf, which helps account for potential loss; this value also incorporates a safety factor of 1.5, but presumes an earth-formed footing.

SEISMIC FACTOR

Based on the boring findings, review of geological information, and in accordance with the Ohio Building Code – Site Class Definitions, the site is estimated as a Site Class D - stiff soil profile.

EXCAVATIONS AND GROUNDWATER

The natural site soils can be excavated with conventional track hoe equipment. We did not encounter bedrock within the borings; therefore, we do not expect bedrock will impact shallow foundations or site development work. **All site excavations should comply with current OSHA regulations.**

We encountered minor groundwater in 2 borings at depths of 13 to 18 feet below grade. GCI does not anticipate groundwater seepage to pose significant problems with normal shallow footings or shallow utility excavations. If water is encountered in shallow site excavations, the excavations should be dewatered to allow footing construction and utility trench backfilling in dry conditions. Groundwater seepage flows in shallow excavations should be controllable using portable sump pumps within the excavations and working mats of crushed stone, as needed. Contact GCI for additional recommendation if excessive groundwater conditions are encountered.

PAVEMENTS

A specific pavement design was not performed for this project; GCI could provide one if requested. A site-specific pavement design would require additional laboratory testing and pavement use criteria. Provided the site is properly prepared (after site stripping and new fill placement), conventional aggregate base and flexible asphalt wearing course pavements can

be used. Pavement areas should be thoroughly proof-rolled and steel-wheel rolled to a smooth surface prior to placement of base aggregate.

Properly compacted, GCI anticipates the site soils would have a CBR value of at least 3. Based on the soils encountered and assuming properly prepared subgrades, GCI recommends a minimum light-duty pavement section consisting of 3 inches of asphalt over 8 inches of aggregate base. For heavy-duty traffic areas, including the main traffic aisles and areas subjected to occasional refuse truck traffic, GCI suggests a pavement section consisting of a minimum of 4 inches of asphalt over 10 inches of aggregate base. GCI recommends a minimum of 8 inches of air-entrained, Portland cement concrete for any dumpster pad(s) or dumpster pad approach area(s).

Providing adequate subbase drainage is important to future pavement performance. Finger drains connecting to weep-holes in inlets, proper grading of pavement subgrades and surfaces to shed run-off, and underdrains in pavement swales are suggested subbase drainage methods and should be designed by the site civil engineer. Installing a medium-duty geogrid below the base course aggregate course in areas subjected to stopping and turning traffic or concentrated traffic flow, such as the main entrance/exit drives, will increase the structural number of the pavement section and improve the pavement performance.

SITE PREPARATION AND EARTHWORK

As a general approach to site preparation, GCI recommends the following:

1. Demolish and remove any existing construction from below proposed construction areas, plus 10 feet laterally, as recommended in the report.
2. Strip existing topsoil, surface vegetation, stumps from removed trees, and other organic materials from beneath proposed construction areas plus 5 feet laterally. Topsoil is not suitable for reuse as structural fill and should be stockpiled for

redistribution in proposed green space areas and landscaping mounds or hauled off-site.

3. Carefully and thoroughly proof-roll the exposed natural soil subgrades with a fully-loaded, tandem-axle dump truck (or equivalent) to identify potential soft subgrade areas. Undercut soft areas or otherwise stabilize soft spots identified during the proof-roll prior to placing controlled fills, slab construction, or paving. GCI should review unstable subgrades prior to remediation to assess appropriate stabilization /undercutting procedures.

4. With stable subgrades, place controlled fills to design grade within proposed building and pavement areas, as required. Non-organic site soils are suitable for reuse in controlled fills. **Off-site borrow materials should be reviewed by GCI prior to use.**

5. Place controlled fills in maximum 8-inch thick loose lifts and compact each lift to a minimum of 98% of the maximum Standard Proctor dry density (ASTM D-698). The moisture in the fill soils should be controlled to within ±3% of the optimum Standard Proctor moisture content. **Depending on the time of year of earthwork, moisture adjustment of the site soils may be required to achieve proper compaction.** The clay-based site soils will compact best with sheepsfoot-type equipment.

6. Install foundations after any fill is placed. Refer to the *Foundations* section of this report for specific foundation design requirements.

7. The subgrades should be steel-wheel rolled to a smooth and stable surface prior to the placement of underslab or base course aggregate. Wet season construction may dictate the use of engineering geotextiles.

8. If work is performed during the winter (e.g., when freezing temperatures occur), special protective measures will be required during filling and footing construction procedures. Contact GCI for additional recommendations on cold-weather earthwork operations, if applicable.

CONSTRUCTION MATERIALS ENGINEERING AND TESTING

GCI provides construction materials engineering and testing services. For project continuity throughout construction, it is recommended that GCI be retained to observe, test, and document:

- earthwork procedures (stripping, fill placement, compaction, utility trench backfill, etc.),
- foundation and slab preparation (proof-rolling, excavations, undercuts, etc.),
- concrete placement and compressive strength testing (footings, structural concrete, slabs), and

- structural steel (welds, bolts, etc.).

The purpose of this work is to assess that the intent of the recommendations provided in this report is being followed and to make timely changes to the recommendations (as needed) in the event site conditions vary from those encountered in the borings. Please contact GCI's field department to initiate these services.

FINAL

It is recommended that GCI review final site layout and grading plans. Recommendations contained in this report may be changed based on review of final site plans. If any changes in the nature, design or locations of the constructed are planned, conclusions and recommendations should not be considered valid unless verified in writing by GCI. The recommendations contained in this report are the opinion of GCI based on the subsurface conditions found in the borings and available development information.

It should be noted that the nature and extent of variations between the borings might not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations of this report. This report has been prepared for design purposes only and should not be considered sufficient to prepare an accurate bid document.

GCI appreciates the opportunity to work with you on this project, and we hope to continue our services through construction. Please contact our office if you have any questions or the need for additional services.

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APPENDIX – McCammon Creek Park – Bicentennial Barn

General Notes for Soil Sampling and Classifications
Site Location Map
Boring Location Plan
Summary of Encountered Subsurface Conditions
Test Boring Logs (B-2 to B-9)
Laboratory Moisture Content Test Results

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GENERAL NOTES FOR SOIL SAMPLING AND CLASSIFICATIONS

BORINGS, SAMPLING AND GROUNDWATER OBSERVATIONS:

Drilling and sampling were conducted in accordance with procedures generally recognized and accepted as standard methods of exploration of subsurface conditions. The borings were drilled using a truck-mounted drill rig using auger boring methods with standard penetration testing performed in each boring at intervals ranging from 1.5 to 5.0 feet. The stratification lines on the logs represent the approximate boundary between soil types at that specific location and the transition may be gradual.

Water levels were measured at drill locations under conditions stated on the logs. This data has been reviewed and interpretations made in the text of the report. Fluctuations in the level of the groundwater may occur due to other factors than those present at the time the measurements were made.

The Standard Penetration Test (ASTM-D-1586) is performed by driving a 2.0 inch O.D. split barrel sampler a distance of 18 inches utilizing a 140 pound hammer free falling 30 inches. The number of blows required to drive the sampler each 6 inches of penetration are recorded. The summation of the blows required to drive the sampler for the final 12 inches of penetration is termed the Standard Penetration Resistance (N). Soil density/consistency in terms of the N-value is as follows:

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-10	Loose	0-4	Soft
10-30	Medium Dense	4-8	Medium Stiff
30-50	Dense	8-15	Stiff
50 +	Very Dense	15-30	Very Stiff
		30 +	Hard

SOIL MOISTURE TERMS

Soil Samples obtained during the drilling process are visually characterized for moisture content as follows:

MOISTURE CONTENT	DESCRIPTION
Damp	Soil moisture is much drier than the Atterberg plastic limit (where soils are cohesive) and generally more than 3% below Standard Proctor “optimum” moisture conditions. Soils of this moisture generally require added moisture to achieve proper compaction.
Moist	Soil moisture is near the Atterberg plastic limit (cohesive soils) and generally within ±3% of the Standard Proctor “optimum” moisture content. Little to no moisture conditioning is anticipated to be required to achieve proper compaction and stable subgrades.
Very Moist	Soil moisture conditions are above the Atterberg plastic limit (cohesive soils) and generally greater than 3% above Standard Proctor “optimum” moisture conditions. Drying of the soils to near “optimum” conditions is anticipated to achieve proper compaction and stable subgrades.
Wet	Soils are saturated. Significant drying of soils is anticipated to achieve proper compaction and stable subgrades.

SOIL CLASSIFICATION PROCEDURE:

Soil samples obtained during the drilling process are preserved in plastic bags and visually classified in the laboratory. Select soil samples may be subjected to laboratory testing to determine natural moisture content, gradation, Atterberg limits and unit weight. Soil classifications on logs may be adjusted based on results of laboratory testing.

Soils are classified in accordance with the ASTM version of the Unified Soil Classification System. ASTM D-2487 “Classification of Soils for Engineering Purposes (Unified Soil Classification System) describes a system for classifying soils based on laboratory testing. ASTM D-2488 “Description and Identification of Soil (Visual-Manual Procedure) describes a system for classifying soils based on visual examination and manual tests.

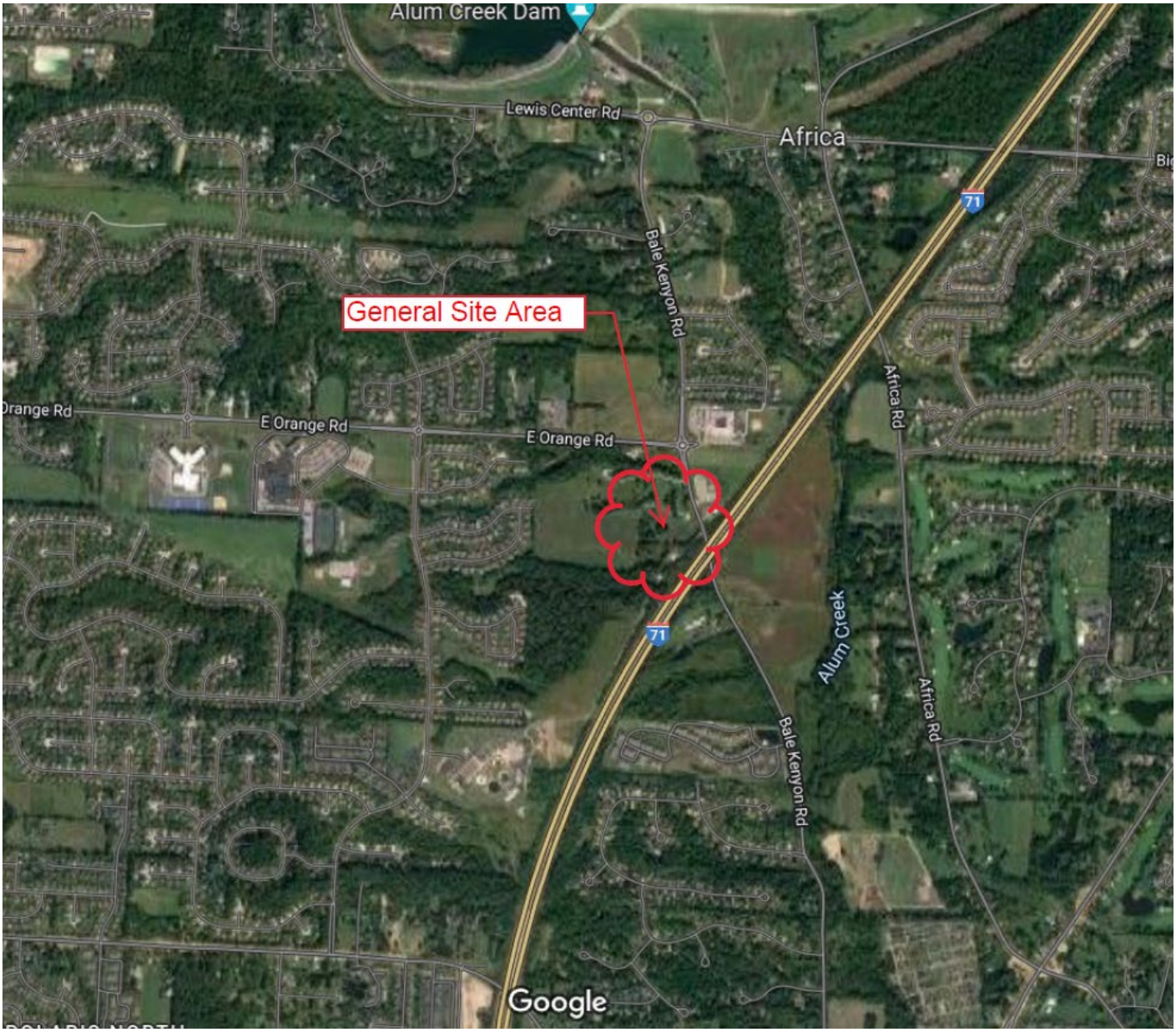
Soil classifications are based on the following tables (see reverse side):

GENERAL NOTES FOR SOIL SAMPLING AND CLASSIFICATIONS

PARTICLE SIZE DEFINITION		
Boulders:		>12"
Cobbles:		3" to 12"
Gravel:	Coarse:	3/4" to 3"
	Fine:	No. 4 (3/16") to 3/4"
Sand:	Coarse	No. 10 (2.0mm) to No. 4 (4.75mm)
	Medium	No. 40 (0.425mm) to No. 10 (2.0mm)
	Fine	No. 200 (0.074mm) to No. 40 (0.425mm)
Silt & Clay		<0.074mm; classification based on overall plasticity; in general clay particles <0.005mm.

CONSTITUENT MODIFIERS	
Trace	Less than 5%
Few	5-10%
Little	15-25%
Some	30-45%
Mostly	50-100%

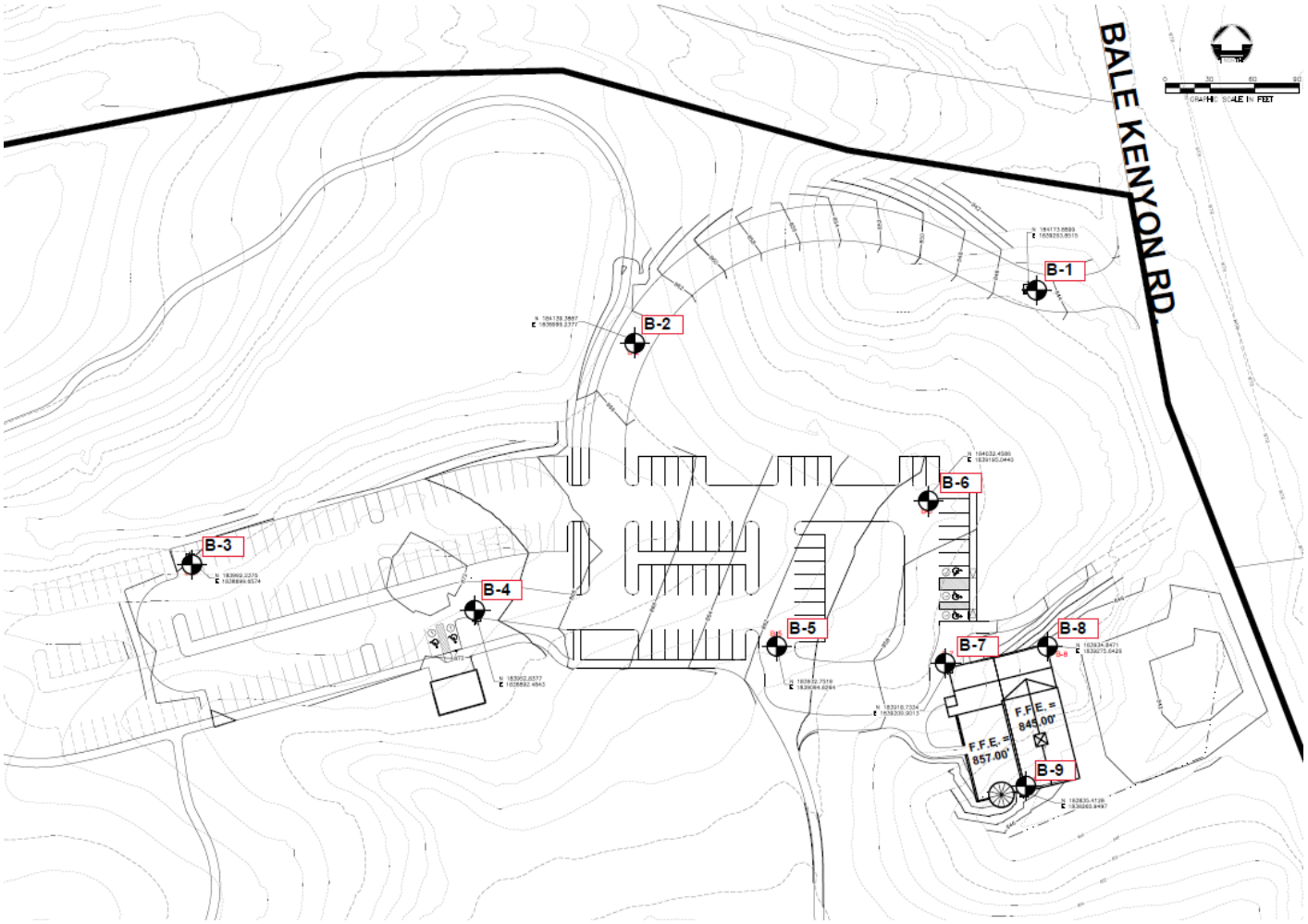
ASTM/UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART		
COARSE-GRAINED SOILS (more than 50% of materials is larger than No. 200 sieve size)		
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	*Clean Gravel (less than 5% fines)*	
	GW	Well-graded gravel, gravel-sand mixtures, little or no fines
	GP	Poorly-graded gravels, gravel sand mixtures, little or no fines
	Gravels with fines (more than 12% fines)	
	GM	Silty gravels, gravel-sand-silt mixtures
	GC	Clayey gravels, gravel-sand-clay mixtures
SANDS More than 50% of coarse fraction smaller than No. 4 sieve size	*Clean Sands (Less than 5% fines)*	
	SW	Well-graded sands, gravelly sands, little or no fines
	SP	Poorly-graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	
	SM	Silty sands, sand-silt mixtures
	SC	Clayey sands, sand-clay mixtures
Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows: Less than 5 percent ……GW, GP, SW, SP Greater than 12 percent ……GM, GC, SM, SC 5 to 12 percent ……Borderline cases requiring dual symbols: SP-SM, GP-GM, etc.		
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size)		
SILTS AND CLAYS Liquid Limit less than 50%	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
	CL	Inorganic clays or low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	CL-ML	Inorganic silty clay of slight plasticity, P.I. between 4 and 7
	OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid Limit 50% or greater	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays or medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS	PT	Peat and other highly organic soils



SITE LOCATION MAP

McCammon Creek Park – Bicentennial Barn
Bale Kenyon Road – Lewis Center, OH

Base map from Google.com	
Project No.: 22-G-26626	
Date: 7/14/22	**Drawn By:** CLM
Scale: NTS	



Boring B-1 not performed due to Access Restrictions at the time of drilling

Approximate Boring Location

BORING LOCATION PLAN

McCammon Creek Park Bicentennial Barn
Bale Kenyon Road – Lewis Center, OH

Base map by Woolpert	
Project No.: 22-G-26626	
Date: 7/14/22	**Drawn By:** CLM
Scale: NTS	

Summary of Encountered Subsurface Conditions

McCammon Creek Park - Bicentennial Barn
Bale Kenyon Road - Lewis Center, Ohio
GCI Job Number: 22-G-26626

Borehole	Surface Elevation (feet) *	Surface Layer	Topsoil Thickness (ft.)	Groundwater: Level Encountered (ft)		Groundwater: Level at Completion (ft)		Depth to Mottled Lean Clay (ft)	Depth to Brown Till (ft)	Depth to Gray Till (ft)	Depth to Silty Sand (ft)	Bottom of Boring Depth (ft)	Proposed Grades (ft)	
				Depth	Elevation*	Depth	Elevation*						Elevation	Cut(-) or Fill (+)
B- 2	868.0	Topsoil	0.2	--	--	--	--	0.2	2.0	--	--	5.5	865.0	-3.0
B- 3	871.0	Topsoil	0.2	--	--	--	--	0.2	2.5	--	--	5.5	868.0	-3.0
B- 4	873.0	Topsoil	0.2	--	--	--	--	0.2	2.0	--	--	5.5	871.0	-2.0
B- 5	864.0	Topsoil	0.2	--	--	--	--	0.2	2.0	--	--	5.5	861.0	-3.0
B- 6	863.0	Topsoil	0.5	--	--	--	--	0.5	3.0	--	--	5.5	859.0	-4.0
B- 7	859.0	Topsoil	0.2	--	--	--	--	0.2	3.0	--	--	20.0	857.0	-2.0
B- 8	852.0	Topsoil	0.3	18	834.0	--	--	0.3	3.0	--	--	20.0	857.0	5.0
B- 9	845.0	Topsoil	0.2	13	832.0	11	834.0	0.2	3.0	8.0	12.5	20.0	845.0	0.0

Average Topsoil Depth at boring locations: 0.2 feet

**NOTE: Surface elevations were interpolated from topographic data on plans provided; GCI did not field verify the elevations.*

TEST BORING LOG

PROJECT NAME **McCammon Creek Park - Bicentennial Barn - Bale Kenyon Road - Lewis Center, Ohio** BORING NO. **B- 2**

PROJ. SURF. ELEV. **868** ±

CLIENT **Preservation Parks of Delaware County** NO. **22-G-26626** DATE DRILLED **7/5/2022**

GROUND WATER OBSERVATION

None FEET BELOW SURFACE AT COMPLETION

_____ FEET BELOW SURFACE AT 24 HOURS

_____ FEET BELOW SURFACE AT ____ HOURS

Proportions Used

Trace	Less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density

0 - 10	Loose
10 - 30	Medium Dense
30 - 50	Dense
50 +	Very Dense

Cohesive Consistency

0 - 4	Soft
4 - 8	Medium Stiff
8 - 15	Stiff
15 - 30	Very Stiff
30 +	Hard

LOCATION OF BORING **See Boring Location Plan**

DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler From To 0-6	6-12	12-18	Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION Remarks include color, type of soil, etc. Rock-color, type, condition, hardness
	4	0.0-1.5	SS	4	4	5	Moist	0.2	Topsoil
									Brown Mottled Gray Lean Clay (CL) - stained, moderately plastic, trace sand
								2.0	
	4	2.0-3.5	SS	5	7	7	Moist		Brown Lean Clay with Sand (CL) - moderately plastic, little fine to coarse sand, trace gravel (glacial till); random silty sand and gravel layers noted
	4	4.0-5.5	SS	5	6	7	Moist		
5								5.5	
									BOTTOM OF BORING: 5.5'
10									
15									

*** The stratification lines represent the approximate boundary between soil types and the transition may be gradual.**

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TEST BORING LOG

PROJECT NAME **McCammon Creek Park - Bicentennial Barn - Bale Kenyon Road - Lewis Center, Ohio** BORING NO. **B- 3**

PROJ. SURF. ELEV. **871** ±

CLIENT **Preservation Parks of Delaware County** NO. **22-G-26626** DATE DRILLED **7/5/2022**

GROUND WATER OBSERVATION

None FEET BELOW SURFACE AT COMPLETION

_____ FEET BELOW SURFACE AT 24 HOURS

_____ FEET BELOW SURFACE AT _____ HOURS

Proportions Used

Trace	Less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density

0 - 10	Loose
10 - 30	Medium Dense
30 - 50	Dense
50 +	Very Dense

Cohesive Consistency

0 - 4	Soft
4 - 8	Medium Stiff
8 - 15	Stiff
15 - 30	Very Stiff
30 +	Hard

LOCATION OF BORING **See Boring Location Plan**

DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler From To 0-6	6-12	12-18	Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION Remarks include color, type of soil, etc. Rock-color, type, condition, hardness
	4	0.0-1.5	SS	3	4	4	Moist	0.2	Topsoil
									Brown Mottled Gray Lean Clay (CL) - stained, moderately plastic, trace sand
	4	2.0-3.5	SS	5	7	7	Moist	2.5	
									Brown Lean Clay with Sand (CL) - moderately plastic, little fine to coarse sand, trace gravel (glacial till); random silty sand and gravel layers noted
	4	4.0-5.5	SS	4	5	5	Moist		
5								5.5	
									BOTTOM OF BORING: 5.5'
10									
15									

*** The stratification lines represent the approximate boundary between soil types and the transition may be gradual.**

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TEST BORING LOG

PROJECT NAME **McCammon Creek Park - Bicentennial Barn - Bale Kenyon Road - Lewis Center, Ohio** BORING NO. **B- 4**

PROJ. SURF. ELEV. **873** ±

CLIENT **Preservation Parks of Delaware County** NO. **22-G-26626** DATE DRILLED **7/5/2022**

GROUND WATER OBSERVATION

None FEET BELOW SURFACE AT COMPLETION

_____ FEET BELOW SURFACE AT 24 HOURS

_____ FEET BELOW SURFACE AT ____ HOURS

Proportions Used

Trace	Less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density

0 - 10	Loose
10 - 30	Medium Dense
30 - 50	Dense
50 +	Very Dense

Cohesive Consistency

0 - 4	Soft
4 - 8	Medium Stiff
8 - 15	Stiff
15 - 30	Very Stiff
30 +	Hard

LOCATION OF BORING **See Boring Location Plan**

DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler From To 0-6	6-12	12-18	Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION Remarks include color, type of soil, etc. Rock-color, type, condition, hardness
	4.5	0.0-1.5	SS	6	5	5	Moist	0.2	Topsoil
								2.0	Brown Mottled Gray Lean Clay (CL) - stained, moderately plastic, trace sand
	4	2.0-3.5	SS	5	6	5	Moist		Brown Lean Clay with Sand (CL) - moderately plastic, little fine to coarse sand, trace gravel (glacial till); random silty sand and gravel layers noted
	4	4.0-5.5	SS	5	6	6	Moist		
5								5.5	
									BOTTOM OF BORING: 5.5'
10									
15									

*** The stratification lines represent the approximate boundary between soil types and the transition may be gradual.**

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TEST BORING LOG

PROJECT NAME **McCammon Creek Park - Bicentennial Barn - Bale Kenyon Road - Lewis Center, Ohio** BORING NO. **B- 5**

PROJ. SURF. ELEV. **864 ±**

CLIENT **Preservation Parks of Delaware County** NO. **22-G-26626** DATE DRILLED **7/5/2022**

GROUND WATER OBSERVATION

None FEET BELOW SURFACE AT COMPLETION

_____ FEET BELOW SURFACE AT 24 HOURS

_____ FEET BELOW SURFACE AT ____ HOURS

Proportions Used

Trace	Less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density

0 - 10	Loose
10 - 30	Medium Dense
30 - 50	Dense
50 +	Very Dense

Cohesive Consistency

0 - 4	Soft
4 - 8	Medium Stiff
8 - 15	Stiff
15 - 30	Very Stiff
30 +	Hard

LOCATION OF BORING **See Boring Location Plan**

DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler From To 0-6	6-12	12-18	Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION Remarks include color, type of soil, etc. Rock-color, type, condition, hardness
	4	0.0-1.5	SS	4	4	5	Moist	0.2	Topsoil
									Brown Mottled Gray Lean Clay (CL) - stained, moderately plastic, trace sand
								2.0	
	4.5	2.0-3.5	SS	5	7	6	Moist		Brown Lean Clay with Sand (CL) - moderately plastic, little fine to coarse sand, trace gravel (glacial till); random silty sand and gravel layers noted
	4	4.0-5.5	SS	5	6	7	Moist		
5								5.5	
									BOTTOM OF BORING: 5.5'
10									
15									

*** The stratification lines represent the approximate boundary between soil types and the transition may be gradual.**

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TEST BORING LOG

PROJECT NAME **McCammon Creek Park - Bicentennial Barn - Bale Kenyon Road - Lewis Center, Ohio** BORING NO. **B- 6**

PROJ. SURF. ELEV. **863 ±**

CLIENT **Preservation Parks of Delaware County** NO. **22-G-26626** DATE DRILLED **7/5/2022**

GROUND WATER OBSERVATION

None FEET BELOW SURFACE AT COMPLETION

_____ FEET BELOW SURFACE AT 24 HOURS

_____ FEET BELOW SURFACE AT ____ HOURS

Proportions Used

Trace	Less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density

0 - 10	Loose
10 - 30	Medium Dense
30 - 50	Dense
50 +	Very Dense

Cohesive Consistency

0 - 4	Soft
4 - 8	Medium Stiff
8 - 15	Stiff
15 - 30	Very Stiff
30 +	Hard

LOCATION OF BORING **See Boring Location Plan**

DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler From To 0-6	6-12	12-18	Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION Remarks include color, type of soil, etc. Rock-color, type, condition, hardness
	4	0.0-1.5	SS	7	7	9	Moist	0.5	Topsoil
									Brown Mottled Gray Lean Clay (CL) - stained, moderately plastic, trace sand
	--	2.0-3.5	SS	6	7	9	Moist	3.0	
									Brown Lean Clay with Sand (CL) - moderately plastic, little fine to coarse sand, trace gravel (glacial till); random silty sand and gravel layers noted
	3.5	4.0-5.5	SS	5	6	7	Moist		
5								5.5	
									BOTTOM OF BORING: 5.5'
10									
15									

*** The stratification lines represent the approximate boundary between soil types and the transition may be gradual.**

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TEST BORING LOG

PROJECT NAME **McCammon Creek Park - Bicentennial Barn - Bale Kenyon Road - Lewis Center, Ohio** BORING NO. **B- 7**

PROJ. SURF. ELEV. **859 ±**

CLIENT **Preservation Parks of Delaware County** NO. **22-G-26626** DATE DRILLED **7/5/2022**

GROUND WATER OBSERVATION

None FEET BELOW SURFACE AT COMPLETION

_____ FEET BELOW SURFACE AT 24 HOURS

_____ FEET BELOW SURFACE AT ____ HOURS

Proportions Used

Trace	Less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density

0 - 10	Loose
10 - 30	Medium Dense
30 - 50	Dense
50 +	Very Dense

Cohesive Consistency

0 - 4	Soft
4 - 8	Medium Stiff
8 - 15	Stiff
15 - 30	Very Stiff
30 +	Hard

LOCATION OF BORING **See Boring Location Plan**

DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler From To 0-6	6-12	12-18	Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION Remarks include color, type of soil, etc. Rock-color, type, condition, hardness
	4.5	0.0-1.5	SS	3	5	6	Moist	0.2	Topsoil
									Brown Mottled Gray Lean Clay (CL) - stained, moderately plastic, trace sand
	4.5	2.0-3.5	SS	4	5	5	Moist	3.0	
									Brown Lean Clay with Sand (CL) - moderately plastic, little fine to coarse sand, trace gravel (glacial till); random silty sand and gravel layers noted
	4	4.0-5.5	SS	4	5	6	Moist		
5									
	4.5	8.5-10.0	SS	5	5	5	Moist		
10									
	--	13.5-15.0	SS	4	3	4	Very Moist		increased granular layers noted
15									
	4	18.5-20.0	SS	5	5	6	Moist to Very Moist	20.0	BOTTOM OF BORING: 20'

*** The stratification lines represent the approximate boundary between soil types and the transition may be gradual.**

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TEST BORING LOG

PROJECT NAME **McCammon Creek Park - Bicentennial Barn - Bale Kenyon Road - Lewis Center, Ohio** BORING NO. **B- 8**

PROJ. SURF. ELEV. **852** ±

CLIENT **Preservation Parks of Delaware County** NO. **22-G-26626** DATE DRILLED **7/5/2022**

GROUND WATER OBSERVATION

None FEET BELOW SURFACE AT COMPLETION

_____ FEET BELOW SURFACE AT 24 HOURS

_____ FEET BELOW SURFACE AT ____ HOURS

Proportions Used

Trace	Less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density

0 - 10	Loose
10 - 30	Medium Dense
30 - 50	Dense
50 +	Very Dense

Cohesive Consistency

0 - 4	Soft
4 - 8	Medium Stiff
8 - 15	Stiff
15 - 30	Very Stiff
30 +	Hard

LOCATION OF BORING **See Boring Location Plan**

DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler From To 0-6	6-12	12-18	Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION Remarks include color, type of soil, etc. Rock-color, type, condition, hardness
	4	0.0-1.5	SS	2	2	3	Moist	0.3	Topsoil
									Brown Mottled Gray Lean Clay (CL) - stained, moderately plastic, trace sand
	2	2.0-3.5	SS	3	3	4	Moist to Very Moist	3.0	Brown Lean Clay with Sand (CL) - moderately plastic, little fine to coarse sand, trace gravel (glacial till); random silty sand and gravel layers noted
	4	4.0-5.5	SS	4	4	4	Moist to Very Moist		
5									
	4.5	8.5-10.0	SS	6	7	7	Moist		
10									
	4.5	13.5-15.0	SS	8	8	13	Moist		
15									
									Water Seepage at 18'
	4.5	18.5-20.0	SS	10	13	13	Moist		
								20.0	BOTTOM OF BORING: 20'

*** The stratification lines represent the approximate boundary between soil types and the transition may be gradual.**

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TEST BORING LOG

PROJECT NAME **McCammon Creek Park - Bicentennial Barn - Bale Kenyon Road - Lewis Center, Ohio** BORING NO. **B- 9**

PROJ. SURF. ELEV. **845 ±**

CLIENT **Preservation Parks of Delaware County** NO. **22-G-26626** DATE DRILLED **7/5/2022**

GROUND WATER OBSERVATION

11.0 FEET BELOW SURFACE AT COMPLETION

_____ FEET BELOW SURFACE AT 24 HOURS

_____ FEET BELOW SURFACE AT ____ HOURS

Proportions Used

Trace	Less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density

0 - 10	Loose
10 - 30	Medium Dense
30 - 50	Dense
50 +	Very Dense

Cohesive Consistency

0 - 4	Soft
4 - 8	Medium Stiff
8 - 15	Stiff
15 - 30	Very Stiff
30 +	Hard

LOCATION OF BORING **See Boring Location Plan**

DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler From To 0-6	6-12	12-18	Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION Remarks include color, type of soil, etc. Rock-color, type, condition, hardness
	4.5	0.0-1.5	SS	3	3	4	Moist	0.2	Topsoil
									Brown Mottled Gray Lean Clay (CL) - stained, moderately plastic, trace sand
	3	2.0-3.5	SS	4	4	5	Moist	3.0	
									Brown Lean Clay with Sand (CL) - moderately plastic, little fine to coarse sand, trace gravel (glacial till); random silty sand and gravel layers noted
	4.5	4.0-5.5	SS	6	6	5	Moist		
5									
								8.0	
	4.5	8.5-10.0	SS	5	6	8	Moist		Gray Sandy Lean Clay with Gravel (CL) - low plasticity, little to some fine to coarse sand, little gravel (glacial till); random silty sand and gravel layers noted
10									
								12.5	
	--	13.5-15.0	SS	8	7	8	Wet		Brown and Gray Silty Sand with Gravel (SM) - little silt, little gravel
									Water Seepage at 13'
15									
	--	18.5-20.0	SS	11	11	50	Wet		
									BOTTOM OF BORING: 20'
								20.0	

*** The stratification lines represent the approximate boundary between soil types and the transition may be gradual.**

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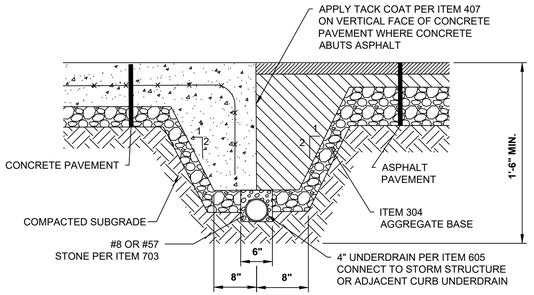
Summary of Laboratory Results: Natural Moisture Contents

McCammon Creek Park - Bicentennial Barn
Bale Kenyon Road - Lewis Center, Ohio
GCI Job Number: 22-G-26626

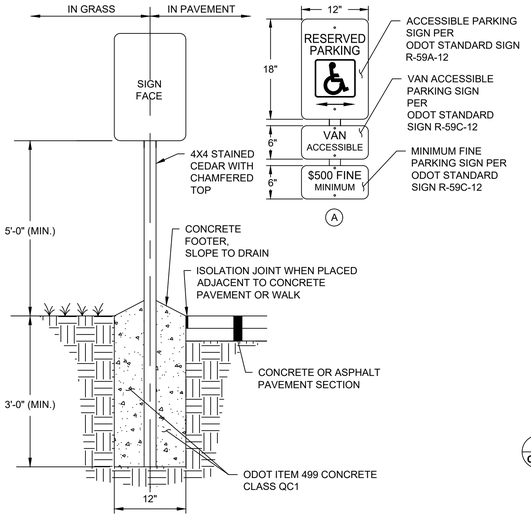
Borehole	Depth (feet)	Water Content (%)
B- 2	0.0	13.9
B- 2	2.0	15.1
B- 2	4.0	15.3
B- 3	0.0	15.1
B- 3	2.0	19.3
B- 3	4.0	17.8
B- 7	0.0	13.0
B- 7	2.0	17.9
B- 7	4.0	18.6
B- 9	0.0	16.3
B- 9	2.0	20.5
B- 9	4.0	13.9

July 2022



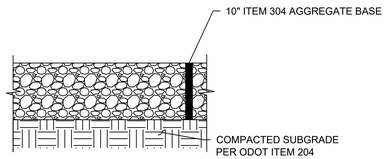
NOTE:
1. CONTRACTOR SHALL PROVIDE TURNDOWN ANYWHERE ASPHALT AND CONCRETE OR CONCRETE BASE PAVEMENT MEET.

A DETAIL
ASPHALT CONCRETE TURNDOWN SLAB (ALTERNATE B) N.T.S.



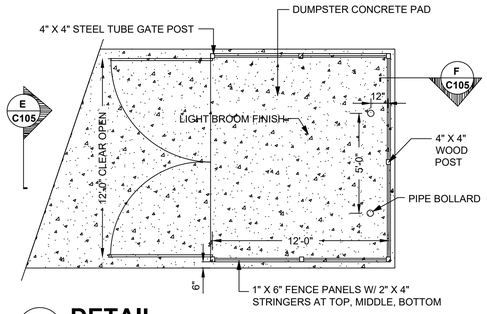
NOTES:
1. PROVIDE SIGN IN ACCORDANCE WITH ODOT ITEM 630.
2. PROVIDE 0.063 THICK, FLAT ALUMINUM SIGN PANELS.
3. PROVIDE REFLECTIVE FINISH ON SIGN.
4. PROVIDE PERMANENT WEATHERPROOF ALUMINUM CAP ON POST TOP.
5. PROVIDE "VAN ACCESSIBLE" SIGN WHERE NOTED ON DRAWINGS.
6. ATTACH SIGNS WITH UNISTRUT UNIVERSAL DRIVE RIVET OR APPROVED EQUAL.
7. ACCESSIBLE SIGNAGE TO BE AS SHOWN UNLESS OTHERWISE SPECIFIED BY LOCAL CODE.

B DETAIL
PARKING SIGNS N.T.S.

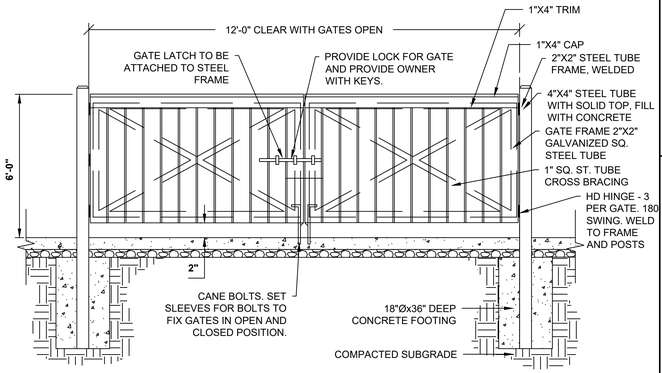


NOTES:
1. ALL PAVEMENT MATERIALS SHALL MEET ODOT STANDARDS & SPECS, LATEST EDITION. PAVEMENT SECTION SHOWN FOR BIDDING PURPOSES ONLY.

C DETAIL
GRAVEL N.T.S.

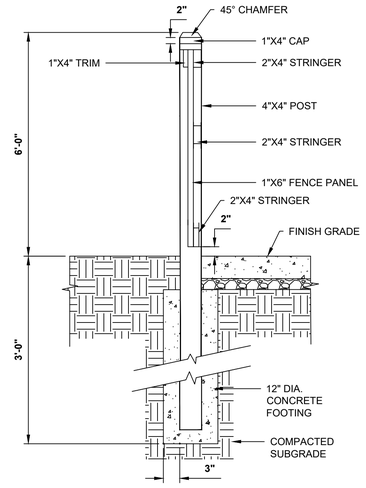


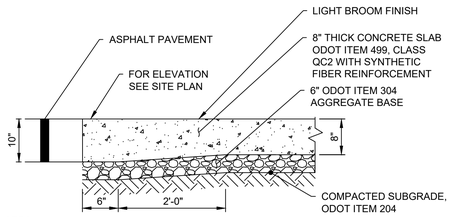
D DETAIL
WOOD DUMPSTER ENCLOSURE N.T.S.



NOTES:
1. PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION.
2. ALL STEEL TO BE GALVANIZED AND SHOP PRIMED FOR FIELD PAINTING.
3. ALL METAL AND WOOD MATERIALS TO BE PAINTED TO MATCH ACCESSORY BUILDING.

E DETAIL
WOOD DUMPSTER ENCLOSURE N.T.S.

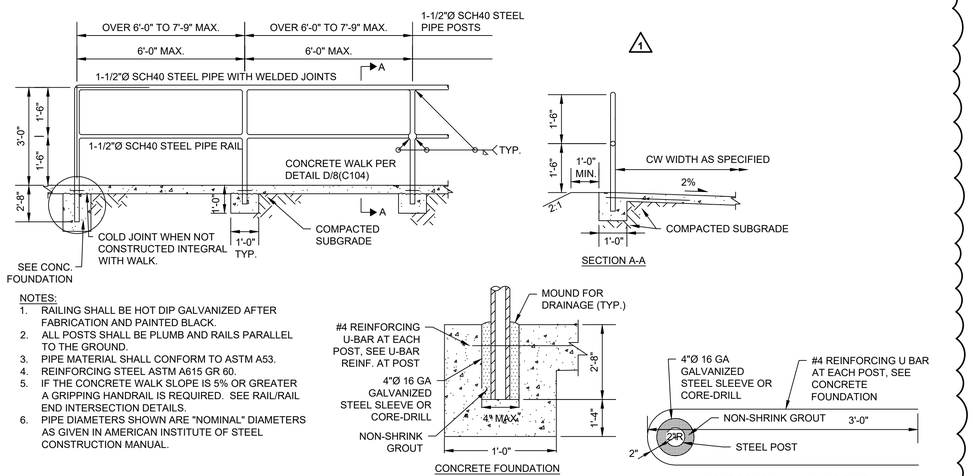




NOTES:
1. PROVIDE JOINTS AS INDICATED ON DRAWINGS. IN ABSENCE OF INFORMATION ON THE DRAWINGS, LOCATE AS SPECIFIED IN SECTION 32 13 00.
2. PROVIDE CONTROL AND ISOLATION JOINTS PER DETAILS ON SHEET 8(C104).
3. SYNTHETIC FIBER REINFORCEMENT: ASTMC1116/C1116M-10A(2015). ACCEPTABLE PRODUCTS OR APPROVED EQUAL:
   A. NYCON RC OR PROCON-M POLYPROPYLENE FIBER NYLON FIBERS BY NYCON.
   B. NYLO-MONO NYLON FIBERS OR MIGHTY-MONO POLYPROPYLENE FIBERS BY FORTA
   C. FIBERMESH 150 POLYPROPYLENE FIBERS BY PROPEX.
   D. SINTA F19 OR SINTA M2219 BY GCP APPLIED TECHNOLOGIES
   E. PSI FIBERSTRAND 150 BY EUCLID.
4. SYNTHETIC FIBER REINFORCEMENT SHALL BE USED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. DOSAGE RATE SHALL BE AS RECOMMENDED BY THE MANUFACTURER, BUT NOT LESS THAN 1 POUND PER CUBIC YARD.
5. DISSIPATING CURING COMPOUND: COMPLY WITH ASTM C309-98A, TYPE 1, CLASS B (CLEAR), EXCEPT MOISTURE LOSS NOT TO EXCEED 0.40 KG/SQ M. IN 72 HOURS. COMPOUND SHALL COMPLY WITH EPA'S VOC REQUIREMENTS. APPLY AT THE MANUFACTURER'S WRITTEN RECOMMENDED APPLICATION RATE. COMPLETELY REMOVE CURING COMPOUND PRIOR TO APPLICATION OF PENETRATING SEALER.
6. PENETRATING SEALER: ACCEPTABLE PRODUCTS OR APPROVED EQUAL:
   A. L&M CONSTRUCTION CHEMICALS - AQUAPEL PLUS 40
   B. PROSOCO - SALTGUARD WB
   C. HULS AMERICA INC. - CHEM-TRETE BSM 40
   D. MASTER BUILDERS INC. - MASTERSEAL SL 40
   E. LYMTAL INTERNATIONAL - ISO-FLEX 618-50 WB
   F. BASF - ENVIROSEAL 40 OR HYDROZO SILANE 40
   G. TEX-COTE - RAINSTOPPER RS140
7. IF CONCRETE INSTALLED OCTOBER-MARCH, WAIT UNTIL APRIL-SEPTEMBER TO APPLY PENETRATING SEALER. IF SCHEDULE DOES NOT ALLOW FOR APPLICATION OF SEALER, PROVIDE CREDIT FOR NON-PERFORMANCE.

F DETAIL
WOOD DUMPSTER ENCLOSURE WALL N.T.S.

G DETAIL
HEAVY DUTY CONCRETE SLAB N.T.S.



NOTES:
1. RAILING SHALL BE HOT DIP GALVANIZED AFTER FABRICATION AND PAINTED BLACK.
2. ALL POSTS SHALL BE PLUMB AND RAILS PARALLEL TO THE GROUND.
3. PIPE MATERIAL SHALL CONFORM TO ASTM A53.
4. REINFORCING STEEL ASTM A615 GR 60.
5. IF THE CONCRETE WALK SLOPE IS 5% OR GREATER A GRIPPING HANDRAIL IS REQUIRED. SEE RAIL/RAIL END INTERSECTION DETAILS.
6. PIPE DIAMETERS SHOWN ARE "NOMINAL" DIAMETERS AS GIVEN IN AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.

H DETAIL
PEDESTRIAN RAILS N.T.S.

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REVISIONS | DESCRIPTION | DATE | MARK

STAKING DETAILS

Drawing Issue Dates
- Design Development Submittal 11/17/2023
- 50% Construction Documents 08/15/2024
- 90% Construction Documents 01/15/2025
- Bid Set / Permit Set 02/14/2025

Revision Schedule

#	Description	Date
1	Addendum 01	02/26/2025

DELAWARE COUNTY, OHIO
FINAL ENGINEERING PLAN
FOR
MCCAMMON CREEK PARK
PHASE 2

KORDA
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DATE 11/17/2023

KORDA
KORDA / NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

DRAWN BY: EAM
DESIGNED BY: EAM
CHECKED BY: GJW
PROJECT NUMBER: 2023-0006

JOB NO. 2023-0006

SHEET 9/21

Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

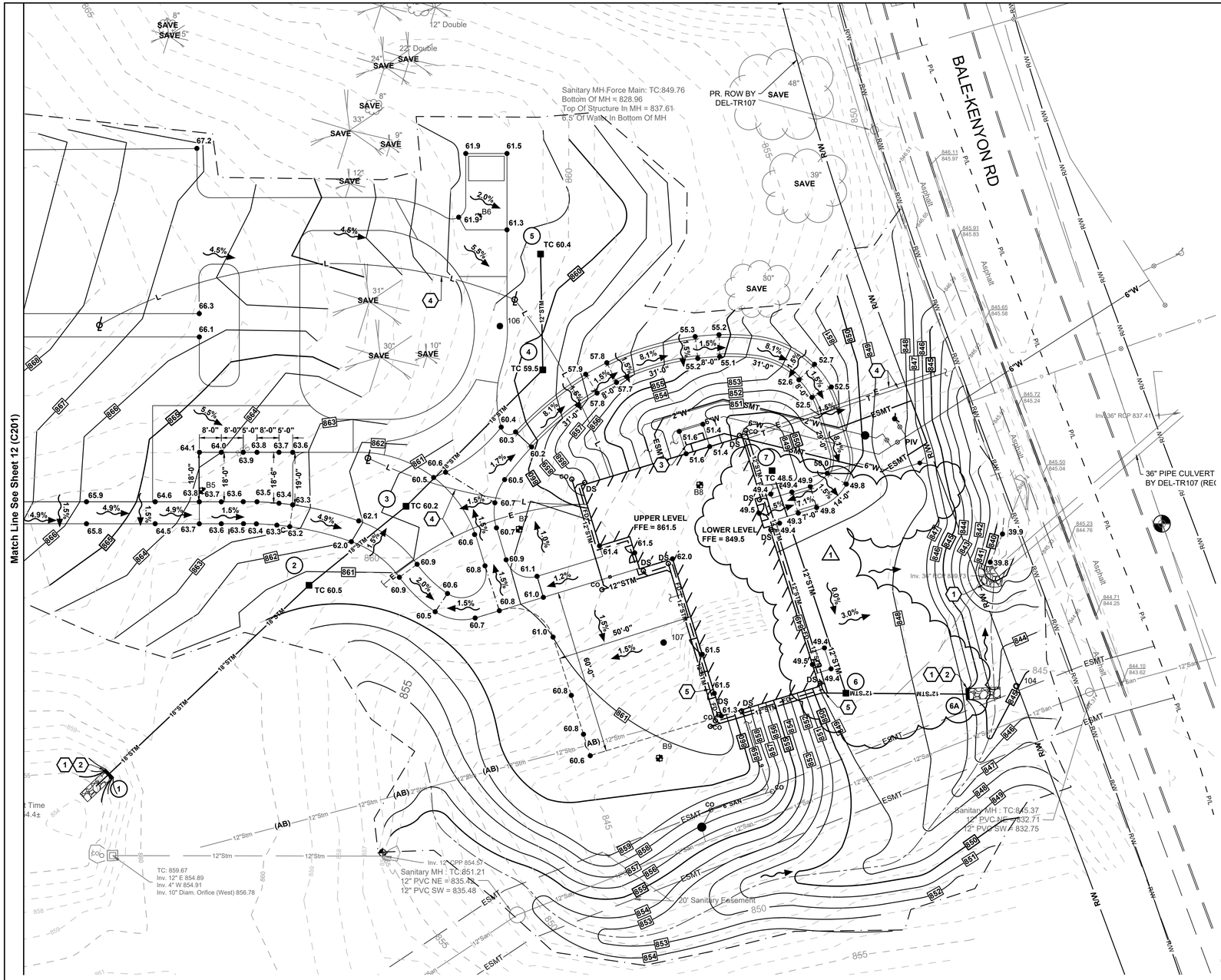
STATE OF OHIO — GRAHAM J. WATKINS — E-84007 — REGISTERED PROFESSIONAL ENGINEER

STAKING DETAILS

C105

11/25/2024

23070



0 20 40 60

GRAPHIC SCALE
SCALE IN FEET

GRADING LEGEND

EXISTING

REFER TO SHEET 2

PROPOSED

- 800 — INDEX CONTOUR
- 799 — INTERMEDIATE CONTOUR
- BUILDING/WALL
- E — UNDERGROUND ELECTRIC LINE
- T — UNDERGROUND TELEPHONE LINE
- W — WATER LINE
- STM — STORM SEWER
- UD — UNDERDRAIN
- FD — FOUNDATION DRAIN
- SAN — SANITARY SEWER
- CATCH BASIN
- DS — DOWNSPOUT ADAPTER
- GATE VALVE & CURB BOX
- GRADE BREAK (CROWN) LINE
- GRADING/SEEDING LIMITS
- 708.53 — SPOT ELEVATION
- TC — TOP OF CASTING
- 700.00 / 699.50 — TOP OF CURB ELEVATION / GUTTER ELEVATION AT FACE OF CURB
- FLOW DIRECTION ARROW
- HIGH (CROWN) POINT
- EMERGENCY OVERFLOW
- M.E. — MATCH EXISTING ELEVATION

GENERAL NOTES:

1. PROVIDE 10' UNDERDRAINS IN FOUR DIRECTIONS AT CATCH BASINS IN PAVEMENT.
2. PAVEMENT ELEVATIONS REFER TO FINISHED PAVEMENT ELEVATION AT FACE OF CURB UNLESS OTHERWISE NOTED.
3. CONSTRUCTION WORK WILL NOT BE PERMITTED WITHOUT APPROVED PLANS AND INSPECTION.
3. ADD 800' TO SPOT ELEVATIONS TO OBTAIN U.S.G.S. ELEVATIONS.
4. PERFORM WORK IN ACCORDANCE WITH ODOT MATERIAL SPECIFICATIONS AND STANDARD CONSTRUCTION DRAWINGS. IN CASE OF A DISCREPANCY BETWEEN COUNTY OF DELAWARE REQUIREMENTS AND PROJECT SPECIFICATIONS, COUNTY OF DELAWARE STANDARDS SHALL GOVERN.
5. SOIL EROSION AND SEDIMENTATION BMP MEASURES, PER SHEET C205, SHALL BE INSTALLED PRIOR TO START OF ANY CONSTRUCTION AND SHALL BE MAINTAINED UNTIL CONSTRUCTION HAS BEEN COMPLETED, INCLUDING GRASS BEING WELL ESTABLISHED AND/OR PERMANENT EROSION AND SEDIMENTATION BMP MEASURES IN PLACE. BMP MEASURES SHALL BE TO THE SATISFACTION OF DELAWARE COUNTY.
6. STREET CLEANING (ON AN AS-NEEDED BASIS) IS REQUIRED THROUGH THE DURATION OF THIS CONSTRUCTION PROJECT. THIS INCLUDES SWEEPING, POWER CLEANING, AND (IF NECESSARY) MANUAL REMOVAL OF DIRT AND/OR MUD IN THE STREET GUTTERS.
7. REMOVE SEDIMENT FROM DETENTION AREAS, OUTLET STRUCTURES, AND UNDERDRAINS ONCE FINAL SEED HAS BEEN ESTABLISHED.
8. ANY EXISTING STORM INLETS IMPACTED BY THE NEW CONSTRUCTION ACTIVITY WILL NEED THE APPROPRIATE INLET PROTECTION FOR SEDIMENT CONTROL.
9. DIMENSIONS AND COORDINATES ARE TO FACE OF CURB OR FACE OF BUILDING UNLESS OTHERWISE NOTED.
10. EXTEND UTILITIES TO WITHIN 5'-0" OF FACE OF BUILDING UNLESS OTHERWISE NOTED. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR. FINAL CONNECTION BY PLUMBING CONTRACTOR.
11. MAXIMUM FINISH SLOPES SHALL BE 4:1 UNLESS OTHERWISE NOTED.
12. COORDINATES AND ELEVATIONS BASED ON SURVEY PERFORMED BY WOOLPERT, DATED 05/16/2022. REFER TO SURVEY SHEET.
13. CONTRACTOR SHALL STRIP AND STOCKPILE EXISTING TOPSOIL THROUGHOUT THE SITE PRIOR TO EXCAVATION. UPON COMPLETION OF FINAL GRADING, PROVIDE 6 INCHES OF TOPSOIL AND SEED AREAS DISTURBED BY CONSTRUCTION, INCLUDING LAYDOWN AREAS AND TRAILER LOCATIONS IF LOCATED OUTSIDE THE GRADING/SEEDING LIMITS.
14. DISPOSE EXCESS EXCAVATED MATERIALS AND UNACCEPTABLE/UNSUITABLE SOILS OFF SITE IN ACCORDANCE WITH LOCAL CODES. NO PERMANENT STOCKPILES WILL REMAIN ON SITE.
15. EXISTING VALVES, MANHOLES, AND OTHER APPURTANCES TO REMAIN LOCATED WITHIN THE WORK LIMITS SHALL BE ADJUSTED TO FINISH GRADE.
16. OUTLET CURB UNDERDRAINS TO ADJACENT EXISTING UNDERDRAINS OR STORM SEWER SYSTEM.
17. EXPOSE UTILITIES NOTED THUS: **EXPOSE** PRIOR TO BEGINNING WORK ON THAT UTILITY TO DETERMINE EFFECTS ON THE PROPOSED ALIGNMENT AND PROFILE. REPORT ELEVATION AND LOCATION TO THE ENGINEER IN ORDER THAT ANY CORRECTIONS TO THE ELEVATION AND LOCATION CAN BE MADE.
18. CONCRETE ADJACENT TO BUILDING SHALL BE SLOPED AWAY FROM BUILDING AT 2.0% UNLESS OTHERWISE NOTED.
19. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.
20. EMBANKMENT SHALL BE CONSTRUCTED PER DETAIL E/14(C203) AND SPECIFICATIONS 31 00 00.

(X) CODED NOTES:

1. HEADWALL PER DETAIL E/14(C203).
2. PROVIDE SANDSTONE ROCK CHANNEL PROTECTION 18" DEEP X 10' LONG X WIDTH OF HEADWALL. (1)
3. COORDINATE GRADE AND LOCATION WITH MECHANICAL CONTRACTOR.
4. APPROXIMATE LOCATION. COORDINATE FINAL LOCATION WITH ELECTRICAL PLANS AND ELECTRICAL CONTRACTOR.
5. FOUNDATION DRAIN SHOWN FOR REFERENCE. COORDINATE FOUNDATION DRAIN AND CONNECTION WITH STRUCTURAL CONTRACTOR. CONNECT FOUNDATION DRAIN TO 12" STORM PIPE AT INVERT 845.4'. ENSURE POSITIVE DRAINAGE.

ALTERNATE

1. BASE BID - PROVIDE TOP SOIL AND GRASS.
   ALTERNATE A - PROVIDE GRAVEL PATIO PER SHEET 10(C106) DETAIL A/10(C106).
2. BASE BID - PROVIDE GRAVEL PER DETAIL C/9(C105) AND C/10(C106).
   ALTERNATE B - PROVIDE ASPHALT PER DETAIL B/8(C104) AND 18(C207).
3. BASE BID- PROVIDE TOP SOIL AND GRASS.
   ALTERNATE C - PROVIDE ALTERNATE WALKING PATH PER SHEET 10(C106) AND 18(C207).

EARTHWORK NOTES:

REFER TO GCI SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING REPORT, GCI PROJECT NO. 22-G-26626, DATED JULY 14, 2022 FOR SITE SOILS INFORMATION. SITE PREPARATION SHALL BE PER SPECIFICATION SECTION 31 00 00 UNLESS OTHERWISE NOTED IN THESE PLANS. PLEASE NOTE THE FOLLOWING SOIL REMEDIATION PROVISIONS FOR THIS PROJECT:

1. CONTRACTOR SHALL STRIP AND STOCKPILE EXISTING TOPSOIL THROUGHOUT THE SITE PRIOR TO EXCAVATION. UPON COMPLETION OF FINAL GRADING, THE CONTRACTOR MAY EMBANK ADDITIONAL TOPSOIL WITHIN LAWN AREAS TO HELP EARTHWORK BALANCE.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT ANY DEWATERING OPERATIONS NECESSARY FOR EARTHWORK ACTIVITIES, AS SPECIFIED IN SPECIFICATION SECTION 31 00 00.

EXISTING FILL SOIL REMOVAL NOTES:

1. REMOVE EXISTING FILL SOILS UNDER NEW BUILDING AND EXTENDING 10' BEYOND THE BUILDING. COORDINATE REMOVAL WITH TESTING AGENCY. TESTING AGENCY SHALL APPROVE REMOVAL PRIOR TO PLACING FILL.
2. PROOF ROLL NATIVE SOIL AND PREPARE SUBGRADE PER SPECIFICATION SECTION 31 00 00 PRIOR TO FILL PLACEMENT.
3. PLACE FILL IN ACCORDANCE WITH SPECIFICATION SECTION 31 00 00.
4. SOME EXISTING FILL SOIL WILL BE ACCEPTABLE AS FILL MATERIAL. PROVIDE ANY ADDITIONAL SOIL AS NECESSARY TO COMPLETE FILL CONSTRUCTION. DISPOSE OF ANY UNSUITABLE FILL OFF-SITE IN ACCORDANCE WITH LOCAL CODES.

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DESIGNED BY:	EAM
CHECKED BY:	GJW
PROJECT NUMBER:	2023-0006

REVISIONS

MARK	DATE	DESCRIPTION

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GRADING PLAN

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DATE 11/17/2023

JOB NO. 2023-0006

SHEET 11/21

GRADING PLAN

C200

11/25/2024

23070

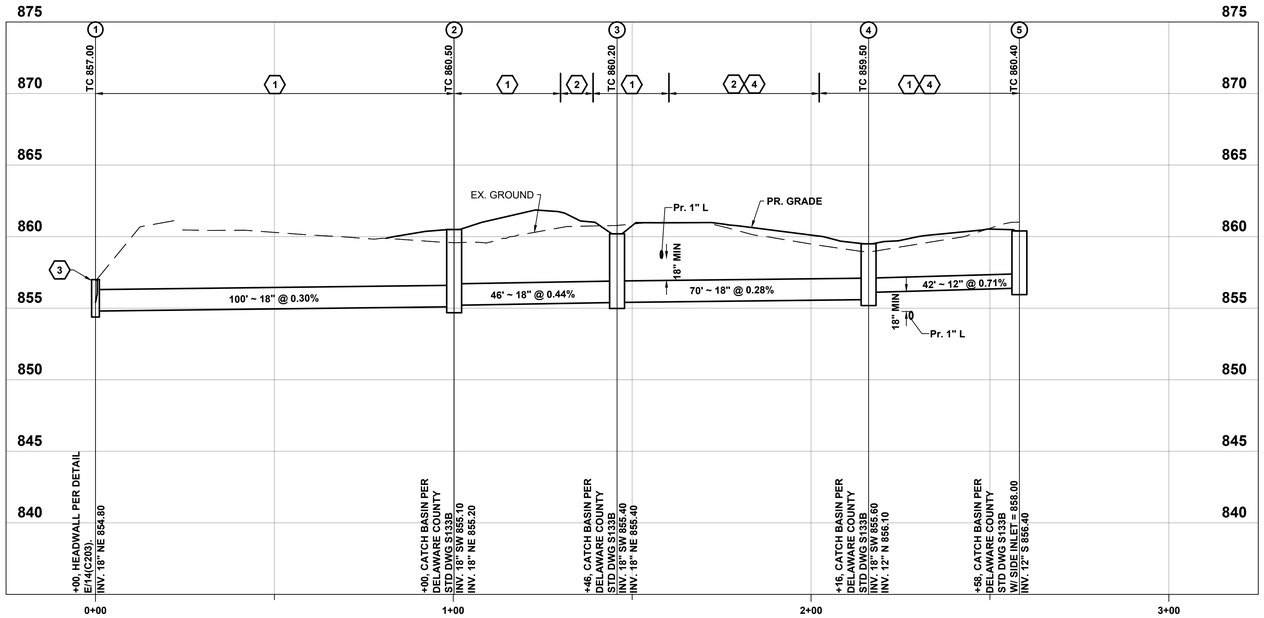
Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

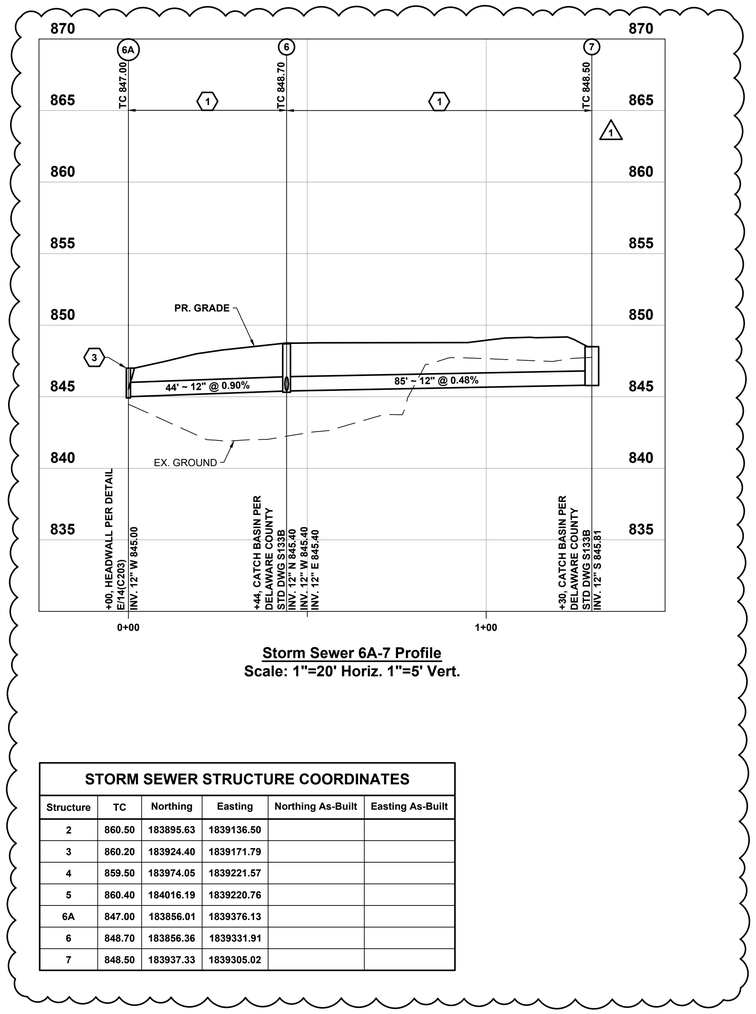
STATE OF OHIO — GRAHAM J. WATKINS — E-84007 — REGISTERED PROFESSIONAL ENGINEER

CODED NOTES:

1. BACKFILL WITH COMPACTED BACKFILL PER CMSC ITEM 911
2. BACKFILL WITH COMPACTED GRANULAR MATERIAL PER CMSC ITEM 912
3. PROVIDE ODOT TYPE C ROCK CHANNEL PROTECTION 18" DEEP X 10' LONG X WIDTH OF HEADWALL.
4. INSTALL REINFORCED CONCRETE PIPE PER CMSC ITEM 706.02.



Storm Sewer 1-5 Profile
Scale: 1"=20' Horiz. 1"=5' Vert.



Storm Sewer 6A-7 Profile
Scale: 1"=20' Horiz. 1"=5' Vert.

STORM SEWER STRUCTURE COORDINATES

Structure	TC	Northing	Easting	Northing As-Built	Easting As-Built
2	860.50	183895.63	1839136.50		
3	860.20	183924.40	1839171.79		
4	859.50	183974.05	1839221.57		
5	860.40	184016.19	1839376.13		
6A	847.00	183856.01	1839376.13		
6	848.70	183856.36	1839331.91		
7	848.50	183937.33	1839305.02		

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STORM PROFILES

DELAWARE COUNTY, OHIO
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DATE
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SHEET
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STATE OF OHIO
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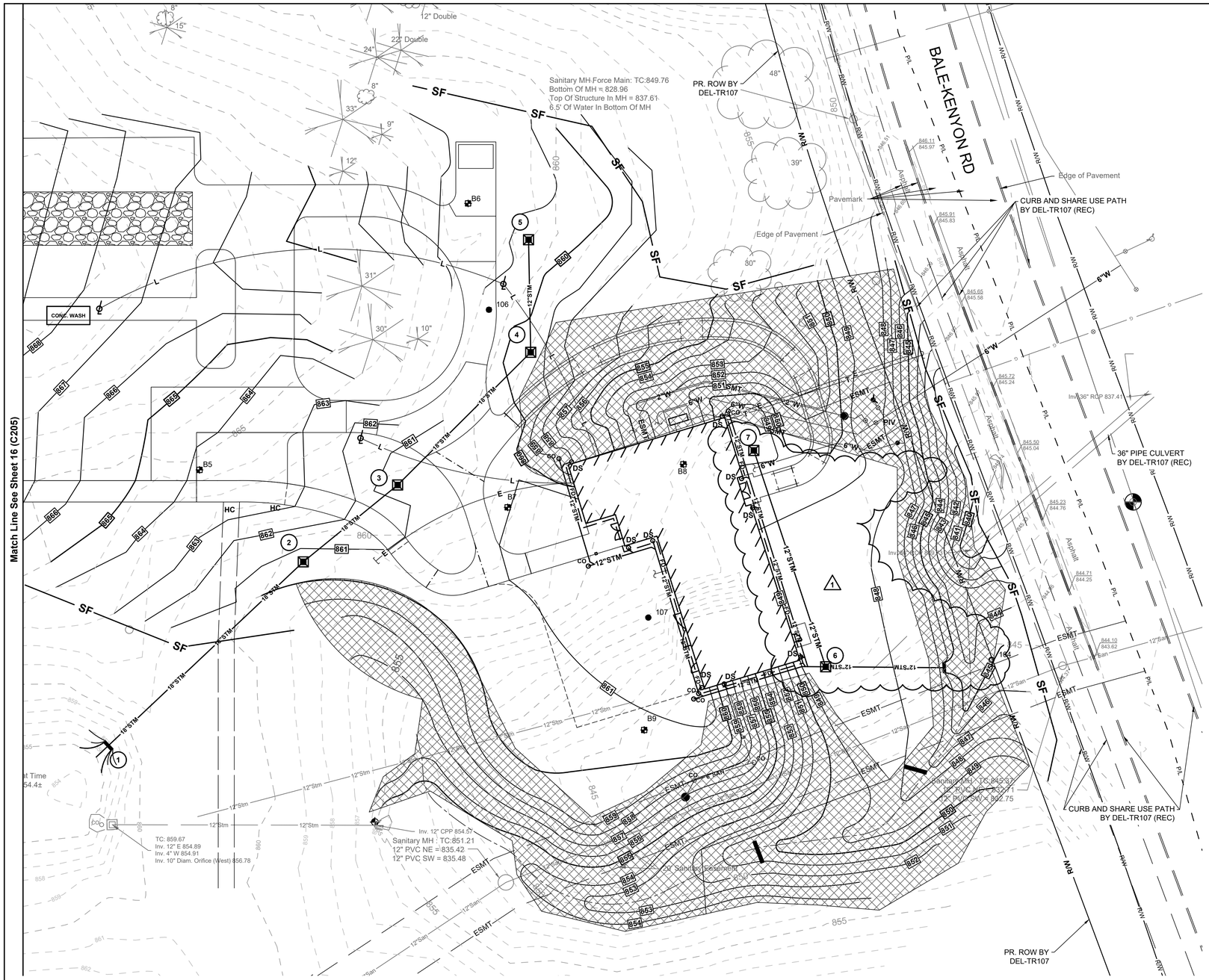
STORM PROFILES

C202

11/25/2024

23070



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GRAPHIC SCALE
SCALE IN FEET

EROSION AND SEDIMENT CONTROL LEGEND

EXISTING

REFER TO SHEET 2

PROPOSED

- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- BUILDING/WALL
- STORM SEWER
- CATCH BASIN
- CURB & GUTTER INLET
- MANHOLE
- DOWNSPOUT ADAPTER
- SILT FENCE PER DETAIL E/17(C206)
- ROCK CHECK DAM PER DETAIL D/17(C206)
- EROSION CONTROL MATTING PER DETAIL C/17(C206)
- STABILIZED CONSTRUCTION ENTRANCE PER DETAIL B/17(C206)
- CONCRETE WASHOUT PER DETAIL F/17(C206)
- INLET FILTER PER DETAIL C/16(C205)

REVISIONS			
MARK	DATE	DESCRIPTION	

EROSION CONTROL PLAN

DELAWARE COUNTY, OHIO
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STATE OF OHIO
GRAHAM J. WATKINS
84007
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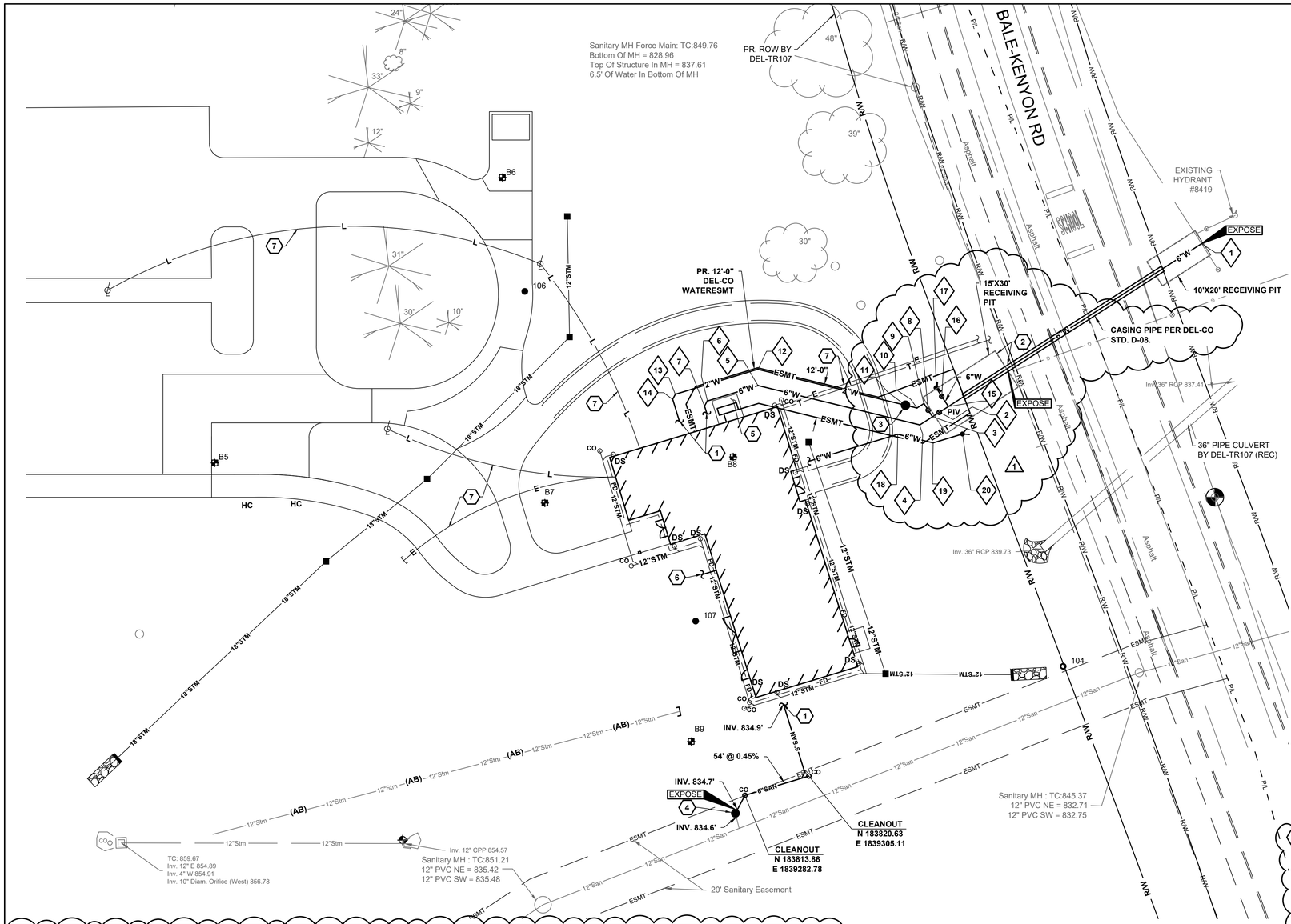
PROFESSIONAL ENGINEER

EROSION CONTROL PLAN

C204

11/25/2024

23070



UTILITY LEGEND

EXISTING

REFER TO SHEET 2

PROPOSED

- E — UNDERGROUND ELECTRIC LINE
- T — UNDERGROUND TELEPHONE LINE
- W — WATER LINE
- STM — STORM SEWER
- UD — UNDERDRAIN
- SAN — SANITARY SEWER
-] — CUT AND PLUG EXISTING UTILITY
- (AB) — ABANDON EXISTING UTILITY
- (R) — REMOVE EXISTING UTILITY
- ⊗ — GATE VALVE & CURB BOX
- ⊗ PIV — POST INDICATING VALVE
- FIRE DEPARTMENT CONNECTION
- CO — CLEAN OUT
- (1) — STRUCTURE NUMBER
- 1 — WATER SERVICE SURVEY COORDINATE

GENERAL NOTES:

1. OBTAIN ALL PERMITS TO COMPLETE THE WORK SHOWN.
2. DIMENSIONS AND COORDINATES ARE FROM FACE OF CURB OR EXTERIOR FACE OF BUILDING, UNLESS OTHERWISE NOTED.
3. EXTEND UTILITIES TO WITHIN 5' OF FACE OF BUILDING, UNLESS OTHERWISE NOTED. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR. FINAL CONNECTION BY PLUMBING CONTRACTOR.
4. REFER TO SHEETS 11-17(C200-C206) FOR STORM SEWER INFORMATION.
5. MAINTAIN MINIMUM 4'-0" COVER OVER ALL WATERLINES.
6. MAINTAIN MINIMUM 18" VERTICAL CLEARANCE FROM THE OUTSIDE OF ANY WATERLINE PIPE TO THE OUTSIDE OF ANY STORM OR SANITARY SEWER.
7. PROVIDE THRUST BLOCKS OR RESTRAINED MECHANICAL JOINT PIPE AT EACH VALVE, TEE, FITTING, OR CHANGE IN DIRECTION OF WATERLINE. REFER TO DELCO STD. DWG. D-4
8. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.
9. ALL COORDINATES AND ELEVATIONS BASED ON SURVEY PERFORMED BY WOOLPERT DATED 05/16/2022. REFER TO SURVEY SHEET.
10. WHERE PLANS PROVIDE FOR A PROPOSED UTILITY TO BE CONNECTED TO, OR CROSS OVER, OR UNDER AN EXISTING UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES, BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED UTILITY. THESE LOCATIONS ARE NOTED THUS: **EXPOSE**. IF IT IS DETERMINED THAT THE ELEVATION OF THE EXPOSED UTILITY DIFFERS FROM THE PLAN ELEVATION, RESULTS IN A CHANGE IN THE PLAN SEWER SLOPE, OR WILL INTERSECT AN EXISTING UTILITY AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED UTILITY WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.
11. SUPPORT AND PROTECT ALL UTILITIES EXPOSED DURING EXCAVATION AND TRENCHING.
12. ANY REQUIRED WATERLINE SHUT-DOWNS SHALL BE COORDINATED WITH THE OWNER AND DEL-CO WATER.

(X) CODED NOTES:

1. CAP AND MARK FOR FUTURE CONNECTION. COORDINATE FINAL LOCATION AND ELEVATION WITH PLUMBING CONTRACTOR. FINAL CONNECTION BY PLUMBING CONTRACTOR.
2. PROVIDE DIRECTIONAL BORE WATER SERVICE PER DEL-CO STD. DWG. D-09 AND CASING PIPE PER DEL-CO STD. DWG. D-8.
3. 2" METER & METER PIT BY DEL-CO WATER.
4. CUT AND CAP EXISTING SANITARY SERVICE. RECONNECT NEW SERVICE TO EXISTING SANITARY TAP UTILIZING AN INSPECTION MANHOLE PER DELAWARE COUNTY STD. DWG. SA.S-30. INVERTS TO MANHOLE ARE ASSUMED. EXPOSE EXISTING PIPE BEFORE ORDERING MANHOLE. (1)
5. MECHANICAL EQUIPMENT, COORDINATE WATERLINE LOCATION WITH MECHANICAL EQUIPMENT CONSTRUCTION.
6. 2" WATER SERVICE STUB TO 5' OUTSIDE BUILDING BY PLUMBING CONTRACTOR. EXTEND STUB BEYOND THE PATIO SPACE IF ALTERNATE A IS SELECTED.
7. APPROXIMATE LOCATION AND SHOWN FOR REFERENCE. COORDINATE FINAL LOCATION WITH ELECTRICAL PLANS AND ELECTRICAL CONTRACTOR.

(X) (1) WATER SERVICE COORDINATES

No.	Type	Northing	Easting	NORTHING AS-BUILT	EASTING AS-BUILT	CENTERLINE ELEVATION
1	8"X6" CUT-IN TEE WITH 6" VALVE RESTRAINED TO TEE BY DEL-CO WATER AT CONTRACTOR'S EXPENSE	184006.64	1839442.22			
2	6" POST INDICATOR VALVE	183947.71	1839350.67			
3	6"X2" TAPPED TEE W/ 2" BRASS MIP X COMPRESSION FITTING & 2" GATE VALVE RESTRAINED TO TEE	183946.17	1839348.29			
4	45° HORZ. BEND	183943.33	1839343.87			
5	45° HORZ. BEND	183957.06	1839287.39			
6	45° HORZ. BEND	183951.67	1839269.60			
7	45° HORZ. BEND	183949.92	1839268.67			
8	2" GATE VALVE	183948.48	1839346.80			
9	90° HORZ. BEND	183950.80	1839345.31			
10	45° HORZ. BEND	183949.23	1839342.88			
11	METER PIT	183950.20	1839338.88			
12	45° HORZ. BEND	183962.76	1839287.23			

(X) WATER SERVICE COORDINATES

No.	Type	Northing	Easting	NORTHING AS-BUILT	EASTING AS-BUILT	CENTERLINE ELEVATION
13	45° HORZ. BEND	183954.05	1839258.49			
14	45° HORZ. BEND	183952.30	1839257.55			
15	6"X6" TEE	183949.72	1839353.89			
16	6" VALVE	183953.23	1839351.54			
17	FIRE HYDRANT PER DETAIL A/C301	183956.27	1839349.61			
18	22.5° HORZ. BEND	183940.06	1839336.16			
19	22.5° HORZ. BEND	183937.05	1839348.52			
20	FIRE DEPARTMENT CONNECTION PER DETAIL B/C301	183940.16	1839358.78			

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300 Marconi Boulevard
schooleycaldwell.com
T 614-628-0300
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Columbus OH 43215

Consultants:
Civil, Structural & MEP
Korda/Nemeth Engineering
1650 Watermark Drive, Columbus, OH 43215
614.487.1650

Barn Consultant
Mt. Vernon Barn Co.
7676 Co Rd 19, Fredericktown, OH 43019
614.634.2049

REVISIONS

MARK	DATE	DESCRIPTION

Drawing Issue Dates
- Design Development Submittal 11/17/2023
- 50% Construction Documents 08/15/2024
- 90% Construction Documents 01/15/2025
- Bid Set / Permit Set 02/14/2025

UTILITY PLAN

DELAWARE COUNTY, OHIO
FINAL ENGINEERING PLAN
FOR
MCCAMMON CREEK PARK
PHASE 2

KORDA
Korda/Nemeth Engineering, Inc - Consulting Engineers
1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7910
TEL 614-487-1650 - FAX 614-487-1651 - WEB www.korda.com

DATE 11/17/2023

JOB NO. 2023-0006

SHEET 19/21

KORDA
KORDA /NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215
DRAWN BY: EAM
DESIGNED BY: EAM
CHECKED BY: GJW
PROJECT NUMBER: 2023-0006

Revision Schedule

#	Description	Date
1	Addendum 01	02/26/2025

Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

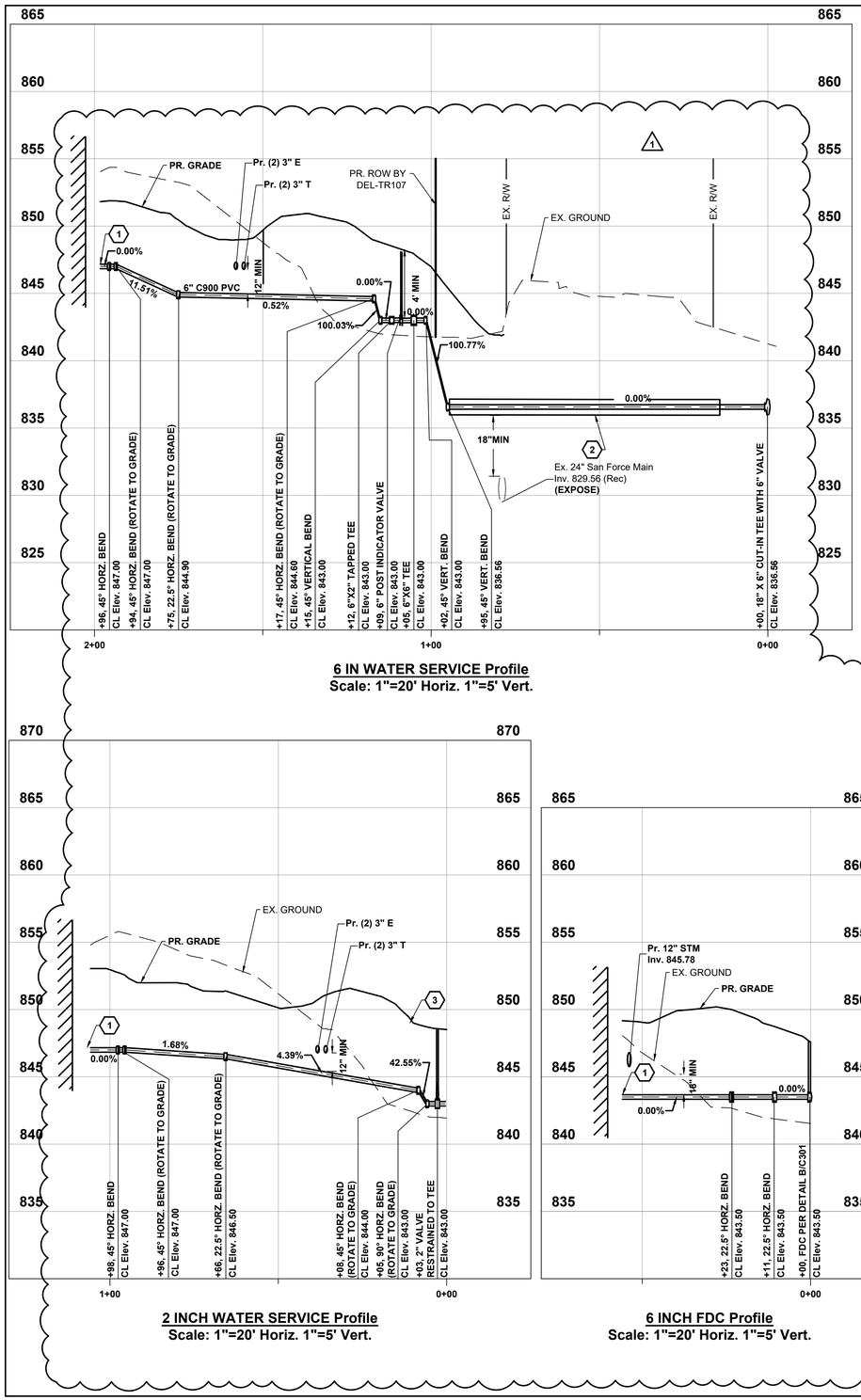
STATE OF OHIO · GRAHAM J. WATKINS · E-84007 · REGISTERED PROFESSIONAL ENGINEER

UTILITY PLAN

C300

11/25/2024

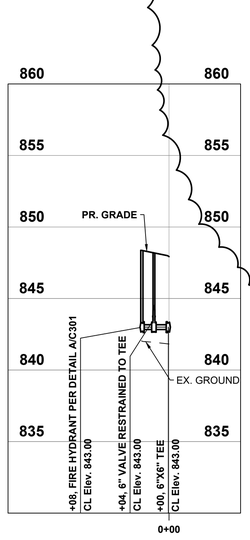
23070



6 IN WATER SERVICE Profile
Scale: 1"=20' Horiz. 1"=5' Vert.

2 INCH WATER SERVICE Profile
Scale: 1"=20' Horiz. 1"=5' Vert.

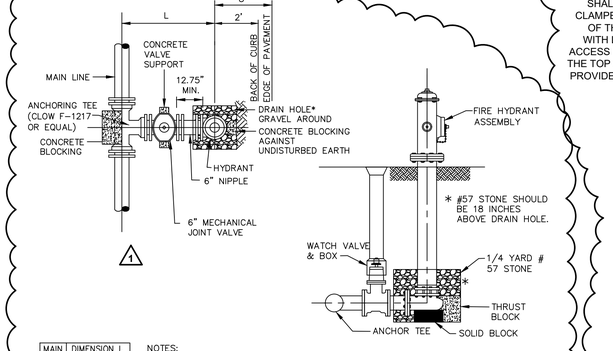
6 INCH FDC Profile
Scale: 1"=20' Horiz. 1"=5' Vert.



6 INCH FIRE HYDRANT Profile
Scale: 1"=20' Horiz. 1"=5' Vert.

CODED NOTES:

1. CAP AND MARK FOR FUTURE CONNECTION. COORDINATE FINAL LOCATION AND ELEVATION WITH PLUMBING CONTRACTOR. FINAL CONNECTION BY PLUMBING CONTRACTOR.
2. CASING PIPE PER DELCO STD. DWG. D-8.
3. 2" DOMESTIC SERVICE LINE MUST BE ATLEAST 48" BUT NO MORE THAN 54" BELOW FINISHED GRADE AT THIS LOCATION.

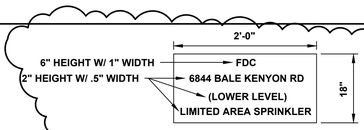


MAIN LINE	DIMENSION L (MINIMUM)
6"	35"
8"	36"
12"	39"
16"	42"

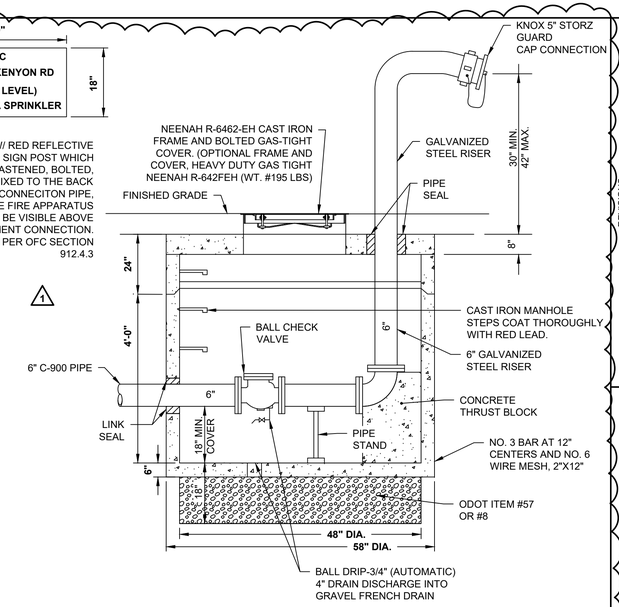
NOTES:
- FIRE HYDRANTS SHALL BE SET A MINIMUM OF 6' FROM ALL DRIVEWAY OPENINGS.

* CREATE A DRY WELL AROUND HYDRANT DRAIN USING 1/4 YARD OF #57 GRAVEL.

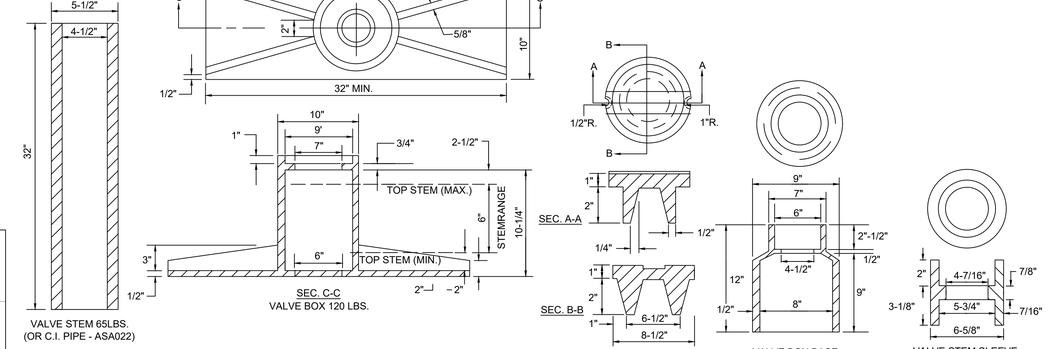
A DETAIL
HYDRANT SETTING TYPE A 09 OCT 18 D-2 N.T.S.



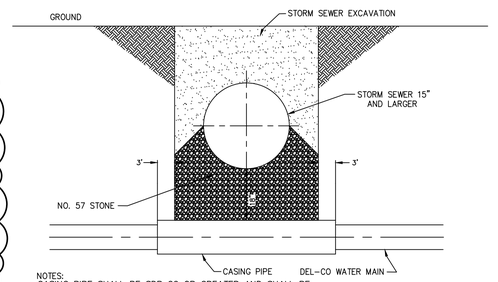
PR WHITE ALUMINUM SIGN W/ RED REFLECTIVE LETTERING. FASTEN TO A SIGN POST WHICH SHALL BE MECHANICALLY FASTENED, BOLTED, CLAMPED OR OTHERWISE AFFIXED TO THE BACK OF THE FIRE DEPARTMENT CONNECITON PIPE, WITH LETTERING FACING THE FIRE APPARATUS ACCESS ROAD. THE SIGN MUST BE VISIBLE ABOVE THE TOP OF THE FIRE DEPARTMENT CONNECTION. PROVIDE BOLLAR PROTECTION PER OFC SECTION 912.4.3



B DETAIL
REMOTE FIRE DEPARTMENT CONNECTION N.T.S.



C DETAIL
HD VALVE BOX N.T.S.



NOTES:
CASING PIPE SHALL BE SDR 26 OR GREATER AND SHALL BE SIZED SO THAT PIPE CAN BE EASILY REMOVED IF NECESSARY. DO NOT INSTALL CASING SPACERS OR END SEALS.

D DETAIL
STORM CROSSING CASING PIPE 09 OCT 18 D-30 N.T.S.

UTILITY DETAILS

MARK	DATE	DESCRIPTION
		REVISIONS

DELAWARE COUNTY, OHIO
FINAL ENGINEERING PLAN
FOR
MCCAMMON CREEK PARK PHASE 2

KORDA
KORDA/Nemeth Engineering, Inc. - Consulting Engineers
1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7910
TEL 614-487-1650 - FAX 614-487-1651 - WEB www.korda.com

DATE 11/17/2023

KORDA	JOB NO.
KORDA/NEMETH ENGINEERING	2023-0006
1650 WATERMARK DRIVE SUITE 200 COLUMBUS, OHIO 43215	SHEET 20/21
DRAWN BY: EAM	
DESIGNED BY: EAM	
CHECKED BY: GJW	
PROJECT NUMBER: 2023-0006	

SCHOOLEY CALDWELL
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Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

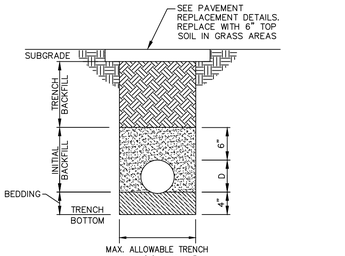
STATE OF OHIO
GRAHAM J. WATKINS
E-84007
REGISTERED
PROFESSIONAL ENGINEER

UTILITY DETAILS

C301

11/25/2024

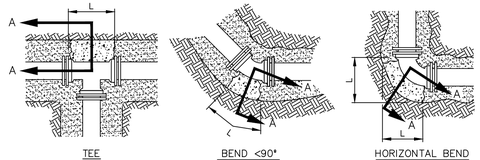
23070

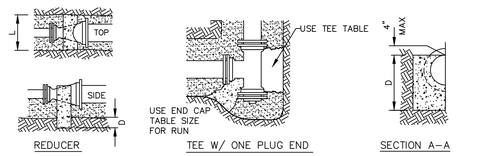


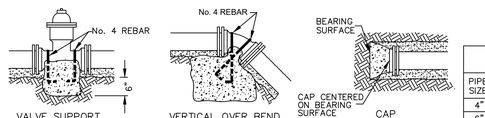
NOTES

1. SUITABLE BEDDING AND INITIAL BACKFILL MATERIAL SHALL CONSIST OF NATURALLY OCCURRING SAND OR CLAY FREE FROM TRASH, ROOTS, DEBRIS, EXCESSIVE MOISTURE AND OBJECTS LARGER THAN 1½".
2. PIPE TRENCH WALL SHALL BE VERTICAL TO THE TOP OF THE INITIAL BACKFILL.
3. PROVIDE SELECT FILL No. 8 OR No. 57 STONE FOR BEDDING MATERIAL TO THE DEPTH REQUIRED BY THE WATER UTILITY WHEN UNSTABLE TRENCH BOTTOMS ARE ENCOUNTERED AS DETERMINED BY THE WATER UTILITY.
4. MANUALLY COMPACT EMBEDMENT MATERIAL FILLING ALL VOIDS AROUND PIPE.
5. TRENCH BACKFILL TYPE SHALL BE PER GENERAL NOTES AND SPECIFICATIONS.

A DETAIL
WATER LINE EMBEDMENT 09 OCT 18 D-1 N.T.S.

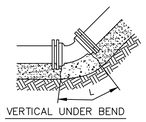


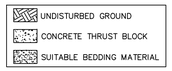




NOTES

1. CONCRETE SHALL NOT LAP ONTO BOLTS.
2. EMBED REINFORCING 12" MIN. INTO CONCRETE HOOK ENDS.





END CAP BLOCKING						
SIZE	2"	4"	6"	8"	12"	16"
BLOCKING AREA	6"x6"	9"x9"	13"x13"	17"x17"	24"x24"	33"x33"

BLOCKING FOR TEES																	
RUN	BRANCH 4"			6"			8"			12"			16"				
	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.		
4"	11	8	0.8														
6"	11	8	0.8	18	12	1.9											
8"	10	9	0.7	18	12	1.9	23	16	3.5								
12"	8	12	0.8	18	12	1.9	23	16	3.5	38	22	8.7					
16"	6	16	0.8	14	16	2.0	20	18	3.5	38	23	8.7	49	30	13.6		

SIZE OF CONCRETE BLOCKING FOR VERTICAL OVERBEND		
PIPE SIZE	SIZE OF BLOCK	VOLUME Cu. Yd.
4"	1.5'x1.5'x1.5	0.13
6"	2.5'x2.5'x2.5'	0.5
8"	3'x3'x3'	1
12"	3.5'x3.5'x3.5'	1.5
16"	4.5'x4.5'x4.5'	3.5

BLOCKING FOR REDUCERS										
	4"		6"		8"		12"		16"	
	D"	L"	D"	L"	D"	L"	D"	L"	D"	L"
2"	12	6	12	12						
4"			12	12						
6"					12	12				
8"							24	18		
12"									24	24

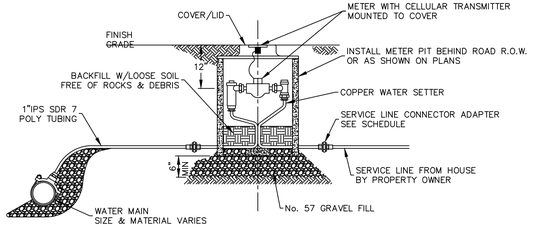
BLOCKING FOR HORIZONTAL BENDS AND VERTICAL UNDERBENDS												
PIPE SIZE	DEGREE OF BEND 11.25°			22.5°			45°			90°		
	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.
4"	5	4	0.2	9	5	0.4	14	5	0.6	14	5	0.6
6"	8	6	0.5	12	7	0.7	20	8	1.4	18	9	1.7
8"	9	8	0.7	16	9	1.4	24	12	2.7	25	11	4
12"	14	12	1.8	24	14	3.6	36	18	6.8	32	18	10.7
16"	18	16	3.4	32	18	6.7	36	32	13.4	41	26	25.6

VALVE SUPPORTS		
VALVE SIZE	WIDTH	Vc.f.
4"	16"	0.3
6"	17"	0.4
8"	20"	0.4
12"	24"	0.5
16"	30"	0.5

B DETAIL
CONCRETE THRUST BLOCKING 01 DEC 04 D-4 N.T.S.

SERVICE LINE CONNECTOR ADAPTER SCHEDULE	
SERVICE LINE TYPE	CONNECTOR ADAPTER
COPPER TUBING (¾" OR 1" K COPPER)	BRASS COMPRESSION
COPPER TUBING SIZE PE (¾", 1", 1.5" OR 2" SDR 9)	BRASS COMPRESSION W/ STAINLESS STEEL INSERT
IRON PIPE SIZE TUBING PE (1" SDR 7)	MUELLER INSTA–TITE

NOTE: AS A COURTESY, DEL–CO WILL CONNECT THE PRIVATE SERVICE LINE TO THE METER YOKE WHEN INSTALLING THE METER AS LONG AS THE PRIVATE SERVICE LINE CONFORMS TO THIS ADAPTER SCHEDULE



GENERAL NOTES

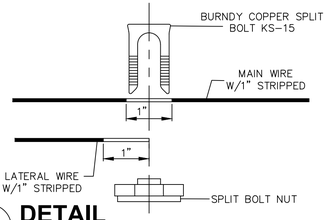
1. ALL METER INSTALLATIONS (≤2") ARE PERFORMED BY DEL–CO WATER AS PART OF THE TAP PURCHASE
2. METER INSTALLATIONS TYPICALLY SHALL BE EITHER FIVE (5') FEET OUTSIDE PUBLIC RIGHT–OF–WAY OR FIVE (5') BEHIND EXISTING WATER MAIN.

INSTALLATION NOTES

1. COMPACT SOIL AROUND METER PIT. FINE GRADE AND REMOVE ALL ROCKS AND DEBRIS.
2. CENTERLINE OF THE METER SHALL BE INSTALLED BETWEEN 12 & 18 INCHES BELOW FINISHED GRADE.
3. SEED AND MULCH ALL GRASS AREAS DISTURBED BY CONSTRUCTION.
4. RESTORE GRAVEL/PAVEMENT AREAS TO ORIGINAL CONDITION.
5. REMOVE EXCESS FILL OFFSITE OR ADD SUITABLE FILL AS REQUIRED.
6. COMPLETE AS–BUILT RECORD FOR EACH PROPERTY WHEN METER PIT IS INSTALLED.

D DETAIL
RESIDENTIAL METER INSTALLATION 06 JUN 23 D-12 N.T.S.

C DETAIL
HORIZONTAL DIRECTIONAL DRILLING 08-10-2018 D-9 N.T.S.



E DETAIL
TRACER WIRE 26 APR 16 D-24 N.T.S.

DEL-CO WATER COMPANY GENERAL NOTES FOR WATER LINE CONSTRUCTION:

1. GENERAL NOTES AS MODIFIED BY DEL-CO AND SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS SHALL SUPERSEDE THE REQUIREMENTS OF THE DEL-CO WATER COMPANY CONSTRUCTION STANDARDS MANUAL WHEREVER DISCREPANCIES OCCUR.
2. STANDARD GENERAL NOTES:
   - A. WATER LINE DESIGN, MATERIALS, AND INSTALLATION METHODS SHALL CONFORM TO APPLICABLE SECTIONS OF RECOMMENDED STANDARDS FOR WATER WORKS (TEN STATES STANDARDS), AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS, AND THE DEL-CO WATER COMPANY CONSTRUCTION STANDARDS MANUAL. CONTRACTOR SHALL OBTAIN A COPY OF THE STANDARDS AND HAVE IN THEIR POSSESSION AT ALL TIMES DURING CONSTRUCTION. COORDINATE WORK WITH DEL-CO WATER (740) 548-7746.
   - B. DEL-CO.'S SIGNATURE ON THIS PLAN SIGNIFIES ONLY CONCURRENCE WITH THE GENERAL PURPOSE AND LOCATION OF THE PROPOSED WATER LINE IMPROVEMENTS. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER WHO PREPARED AND CERTIFIED THESE PLANS. DEL-CO WATER COMPANY TAKES NO RESPONSIBILITY, FINANCIAL OR OTHERWISE, REGARDING ERRORS IN THIS PLAN.
   - C. CORRECTION OF ERRORS SHALL BE TO THE APPLICABLE DEL-CO WATER COMPANY STANDARD, AND THE SOLE RESPONSIBILITY OF THE DEVELOPER. ALL CORRECTIONS, OR REVISIONS THAT AFFECT DEL-CO.'S WATER LINE PLANS, DIRECTLY OR INDIRECTLY SHALL BE SUBMITTED TO, AND APPROVED BY DEL-CO WATER COMPANY PRIOR TO REVISIONS BEING ISSUED.
   - D. THE CONTRACTOR IS RESPONSIBLE FOR THE SUBMISSION OF GPS COORDINATES TO THE DEL-CO WATER GIS DEPARTMENT AT THE COMPLETION OF THE WATERLINE INSTALLATION. BASED ON THE CIRCUMSTANCES OF THE PROJECT, POINTS MAY BE REQUIRED TO BE UPLOADED DAILY. THESE COORDINATES SHALL INCLUDE ALL HORIZONTAL AND VERTICAL (NORTHING, EASTING, ELEVATION) SURVEY COORDINATES. THE SURVEY COORDINATES SHALL BE OBTAINED AT THE COMPLETION OF WATER MAIN INSTALLATION AND SHALL INCLUDE ALL VALVES, TEES, FIRE HYDRANTS, BENDS, PLUGS, REDUCERS, TAPPED TEES, CURB BOXES, AIR RELEASES, 2" END OF LINE FIRE HYDRANTS, ENDS OF CASING PIPE, AND SERVICE SADDLES. GPS POINTS AND DEPTHS ARE ALSO REQUIRED ON SERVICE LINE BORES AT EACH SIDE OF THE ROAD IN ADDITION TO THE SADDLE/WATER MAIN AND METER LOCATIONS. GPS POINTS SHOULD ALSO BE COLLECTED EVERY 10 FEET ON SERVICE LINES THAT ARE BEING DEFLECTED. ADDITIONAL GPS COORDINATES ARE REQUIRED ON TOP OF THE EXPOSED WATER MAIN EVERY 60' ON STRAIGHT RUNS, AND AT EVERY BELL (20') WHERE THE WATERLINE IS BEING DEFLECTED WITHOUT FITTINGS AND WHERE THE TRENCH CAN BE SAFELY ENTERED. ALL GPS POINTS SHALL BE COLLECTED ON THE CENTER OR CENTERLINE OF THE FEATURE. FOR HYDRANTS, POST INDICATOR VALVES AND 2" FLUSH HYDRANTS, THE POINT CORRECT LOCATION. TO ENSURE ACCURACY, THE GPS ROD AND LEVEL MUST BE UTILIZED FOR ALL POINTS. ALL GPS POINTS SHALL ALSO HAVE PERTINENT ATTRIBUTES COLLECTED, ESPECIALLY PIPE MATERIAL AND PIPE DIAMETER WHERE APPLICABLE. IF THE COORDINATES ARE UNABLE TO BE COLLECTED ON TOP OF THE WATER MAIN OR FITTING, IT SHALL BE NOTATED IN THE GPS ATTRIBUTES. IF A COORDINATE IS UNABLE TO BE COLLECTED DIRECTLY ON TOP OF THE FEATURE, AN OFFSET POINT MUST BE COLLECTED BY A CAPABLE SURVEY GRADE UNIT.
     - i. GPS COORDINATES SHALL BE REFERENCED TO THE APPLICABLE COUNTY ENGINEER'S MONUMENTS AND SHALL BE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) WITH THE NSRS2007 ADJUSTMENT, WITH FURTHER REFERENCE MADE TO THE OHIO STATE PLANE NORTH COORDINATE SYSTEM, NORTH ZONE, WITH ELEVATIONS BASED ON NAVD 88 DATUM. ALL COORDINATES (NORTHING, EASTING AND ELEVATION) SHALL BE REFERENCED TO THE NEAREST HUNDREDTH. ALL SURVEY COORDINATES SHALL BE ACCURATE TO WITHIN 0.6 FOOT OR LESS HORIZONTAL AND VERTICAL.
     - ii. THE GPS COORDINATES SHALL BE SUBMITTED TO THE DEL-CO WATER ENGINEERING DEPARTMENT IN DIGITAL SPREADSHEET FORM AND SHALL INCLUDE THE APPLICABLE ITEM, STATION, NORTHING, EASTING AND ELEVATION COORDINATES. THE ABOVE LISTED GPS COORDINATE INFORMATION SHALL BE SUBMITTED TO THE DEL-CO WATER ENGINEERING DEPARTMENT AS PART OF THE AS-BUILT DRAWING SUBMITTAL.
     - iii. CONTRACTOS ARE REQUIRED TO SUPPLY (OWN OR RENT) AND MAINTAIN THEIR OWN GPS DEVICES. DEL-CO WATER RESERVES THE RIGHT TO DENY INADEQUATE GPS DEVICES THAT ARE UNABLE TO PROVIDE SUFFICIENT ACCURACY REQUIRED FOR SUBMISSION.
   - E. AS-BUILT DRAWINGS ARE REQUIRED FOLLOWING THE COMPLETION OF CONSTRUCTION. ONE SET OF DRAWINGS MARKED "AS-BUILT" SHALL BE SUBMITTED BY THE DEVELOPER TO DEL-CO'S INSPECTION DEPARTMENT FOR REVIEW AND APPROVAL. WATER MAINS CANNOT RECEIVE A FINAL ACCEPTANCE UNTIL AS-BUILT DRAWINGS HAVE BEEN APPROVED. PLEASE NOTE: TAPS MAY NOT BE PURCHASED NOR INSTALLED UNTIL WATER LINES HAVE RECEIVED A FINAL ACCEPTANCE.
   - F. WATER MAINS SHALL BECOME THE OWNERSHIP OF DEL-CO WATER UPON FINAL ACCEPTANCE.
   - G. WATER LINE CONSTRUCTION PLANS ARE APPROVED FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE APPROVAL LETTER OR SIGNED PLANS. IF CONSTRUCTION HAS NOT STARTED WITHIN ONE YEAR OF THE DATE OF APPROVAL, PLANS SHALL BE RESUBMITTED TO DEL-CO WATER COMPANY FOR APPROVAL.
3. WATER LINE CONSTRUCTION:
   - A. WATER LINES SHALL BE NSF 61 APPROVED, AND COMPLIANT WITH ASTM D2241 & OHIO EPA ENG-08-002 STANDARDS.
   - B. USE THE FOLLOWING TYPE AND CLASS OF PIPE UNLESS OTHERWISE INDICATED ON THE DRAWINGS:
     - i. 2-INCH WATER LINE PIPE: CLASS 200 SDR 21 PVC.
     - ii. 4-INCH WATER LINE PIPE: CLASS 200 SDR 21 PVC.
     - iii. 2-INCH FITTINGS SHALL BE PVC PUSH-ON OF SAME PRESSURE RATING AS CONNECTING PIPE.
     - iv. 4-INCH FITTINGS SHALL BE MECHANICAL JOINT CONFORMING TO AWWA C153.
     - v. 16-NCH AND LARGER WATER LINE PIPE: AWWA C151 CLASS 52 DIP.
     - vi. 4-INCH AND LARGER USED FOR FIRE SERVICE: AWWA C900 OR 18 (150 PSI) PVC.
     - vii. ALL SIZES OF DEL-CO OWNED WATERLINES USED ON MASTER METER PROJECTS: CLASS 200 SDR 21 PVC.
   - C. ALL SIZES OF DUCTILE IRON PIPE SHALL BE INSTALLED WITH V-BIO ENHANCED POLYETHYLENE ENCASEMENT AND IN ACCORDANCE WITH DEL-CO WATER SUBDIVISION CONSTRUCTION STANDARDS SECTION 02731 DUCTILE IRON.
   - D. ALL FITTINGS SHALL BE MECHANICAL JOINT CONFORMING TO AWWA C153.
   - E. MECHANICAL JOINT OR TRANSITION ACCESSORY PACK T-BOLTS SHALL BE CORROSION RESISTANT.
   - F. CROSSES SHALL NOT BE USED WITHOUT APPROVAL OF DEL-CO WATER COMPANY.
   - G. ALL VALVES SHALL BE MECHANICAL JOINT CONFORMING TO AWWA WITH AISI 304 STAINLESS STEEL EXTERNAL HARDWARE AND SHALL BE RESILIENT-SEATED GATE VALVES PER AWWA C509. USE OF BUTTERFLY VALVES IS PROHIBITED
   - H. PROVIDE HEAVY-DUTY VALVE BOXES ON ALL HOT-TAPS AND AT VALVES LOCATED UNDER GRAVEL OR PAVEMENT SURFACES.
   - I. TOP OF VALVE BOX SHALL BE FLUSH WITH FINISHED GRADE IN PAVED AREAS, AND 4 INCHES ABOVE FINISHED GRADE IN NON-PAVED AREAS.
   - J. MAINTAIN A MINIMUM 10-FOOT HORIZONTAL AND 1.5-FOOT VERTICAL SEPARATION BETWEEN WATERLINES AND SANITARY AND STORM SEWERS.
   - K. ALL OTHER BURIED UTILITIES SHALL MAINTAIN A MINIMUM 5-FOOT HORIZONTAL SEPARATION, AND 2-FOOT VERTICAL SEPARATION FROM THE CENTERLINE OF WATERLINES AS FINALLY LAID AND CONSTRUCTED.
   - L. PROVIDE CONCRETE THRUST BLOCKING FOR ALL FITTINGS, VALVES, ACHOR TEES, AND HYDRANTS.
   - M. BURY WATER LINES A MINIMUM DEPTH OF 48-INCHES TO THE TOP OF PIPE.
   - N. ALL ENGINEERED FILL TO BE PLACED OVER OR UNDER DEL-CO WATER LINES SHALL BE IN PLACE PRIOR TO THE CONSTRUCTION OF THE WATER LINES.
   - O. PLACE A 5-FOOT STEEL FENCED POST OR 4"X4" WOOD POST AT THE VALVES AND THE ENDS OF LINES. PAINT BLUE.
   - P. TRACER WIRE:
     - i. INSTALL COPPERHEAD OR EQUAL 12-GUAGE HIGH STRENGTH 452LB BREAK STRENGTH 30 MIL HDPE JACKET, COPPER-CLAD, STEEL REINFORCED TRACER WIRE ON ALL WATER MAINS AND SERVICE LINES INSTALLED BY TRENCHING METHODS.
     - ii. INSTALL COPPERHEAD OR EQUAL 12-GAUGE EXTRA HIGH STRENGTH 1150LB BREAK STRENGTH 45 MIL HDPE JACKET, COPPER-CLAD, STEEL REINFORCED TRACER WIRE ON ALL WATER MAINS AND SERVICE LINES INSTALLED BY BORING METHODS..
     - iii. FASTEN WIRE TO PIPE IN TWO PLACES PER PIPE SECTION. EXTEND TRACER WIRE TO GROUND SURFACE AT ALL VALVES AND HYDRANTS AS SHOWN IN THE DEL-CO STANDARD DETAIL. SPLICE WIRES USING BURNDY COPPER SPLIT BOLT KS-15. THOROUGHLY WRAP THE CONNECTOR AND BARE WIRES WITH 3M TEMFLEX 2155 RUBBER SPLICING TAPE, COVER ENTIRE CONNECTION WITH SCOTCH SUPER 88 HEAVY DUTY GRADE ELECTRICAL TAPE.
     - iv. CONNECT ALL SERVICE LINE WIRES TO MAIN LINE WIRES USING BURNDY COPPER SPLIT BOLT KS-15. THOROUGHLY WRAP THE CONNECTOR AND BARE WIRES WITH 3M TEMFLEX 2155 RUBBER SPLICING TAPE, COVER ENTIRE CONNECTION WITH SCOTCH SUPER 88 HEAVY DUTY GRADE ELECTRICAL TAPE.
     - v. CONTRACTOR SHALL TEST THE CONTINUITY OF ALL WIRE USING A THIRD-PARTY TESTER.
       1. CONTRACTOR SHALL CONTACT DEL-CO.'S INSPECTION DEPARTMENT A MINIMUM OF 24 HOURS PRIOR TO A TEST.
       2. TESTER SHALL SEND A SIGNED REPORT TO DEL-CO WATER INSPECTION DEPARTMENT AFFIRMING ALL WIRE HAS CONTINUITY.
       3. CONTRACTOR SHALL REPAIR ALL DEFICIENCIES.
4. WATER SERVICE CONSTRUCTION (BETWEEN MAIN LINE AND METER PIT):
   - A. ALL WATER SERVICES SHALL BE CONSTRUCTED AND INSTALLED PER AWWA C800.
   - B. FOR METERS 1-INCH AND SMALLER, USE 1-INCH CLASS 200 SDR 7 IRON PIPE SIZE (IPS) POLYETHYLENE PIPE.
   - C. CONNECTIONS TO PVC PIPE SHALL BE MADE WITH APPROVED TAPPING SADDLE AND CORPORATION STOP PER DEL-CO SUBDIVISION CONSTRUCTION STANDARDS MANUAL.
   - D. CONNECTIONS TO DIP SHALL BE BY DIRECT TAP OR SADDLE AND APPROVED CORPORATION STOP PER DEL-CO SUBDIVISION CONSTRUCTION STANDARDS MANUAL.
   - E. PROVIDE A CURB STOP WITH 1-INCH FEMALE IRON PIPE THREADS ON THE CUSTOMER SIDE AT THE END OF SERVICE LINES. LOCATE AT ROW, BUT A MINIMUM OF FIVE FEET FROM EDGE OF SIDEWALK UNLESS OTHERWISE APPROVED OR DIRECTED BY DEL-CO WATER.
   - F. ALL SERVICE LINE VALVES 1.5-INCH AND LARGER SHALL BE MECHANICAL JOINT GATE VALVES, RESTRAINED WITH DUCT-LUGS AND GALVANIZED ALL THREAD ROD, OR ANCHOR TEES WHERE APPLICABLE.
   - G. MINIMUM DEPTH OF COVER SHALL BE 48 INCHES.
   - H. PLACE A 5-FOOT STEEL FENCE POST OR 4"X4" WOOD POST AT THE ENDS OF ALL SERVICE LINES, PAINT BLUE.
   - I. CONTRACTOR SHALL BE RESPONSIBILE FOR PROVIDING SPECIAL BACKFILL MATERIAL FOR ALL LINES, INCLUDING THOSE INSTALLED BY DEL-CO WATER COMPANY, WHERE REQUIRED BY THE COUNTY OR CITY ENGINEER.
5. FIRE HYDRANTS:
   - A. FIRE HYDRANTS SHALL CONFORM TO AWWA C502 FOR DRY BARREL HYDRANTS.
   - B. MAIN VALVE: 5.25-INCH COMPRESSION
   - C. NOZZLES:
     - i. THREADING: CONFORM TO NFPA NATIONAL STANDARD FIRE HOSE THREADS.
     - ii. 4.5-INCH STEAMER, EXCEPT IN THE FOLLOWING LOCATIONS PROVIDE AN INTEGRAL STORZ CONNECTION; HARRINGTON HIHS50 OR EQUAL: BERKSHIRE, BERLIN, CONCORD, GENEO, KINGSTON, LIBERTY, ORANGE, PORTER, TRENTON, AND SCIOTO TOWNSHIPS; CITY OF POWELL; AND THE VILLAGES OF SUNBURY AND GALENA.
     - iii. TWO 2.5-INCH HOSE CONNECTIONS.
   - D. INLET CONNECTION: 6-INCH MECHANICAL JOINT.
   - E. OPERATING NUT: 1.5-INCH PENTAGON, TURN COUNTERCLOCKWISE TO OPEN.
   - F. PLACEMENT OF HYDRANT: 2 FEET FROM THE BACK OF CURB OR 8 FEET FROM THE EDGE OF PAVEMENT ON NON-CURBED STREETS.
   - G. EXTENSIONS AND PARTS: SHALL BE MANUFACTURED BY THE ORIGINAL EQUIPMENT MANUFACTURER.
   - H. APPROVED MANUFACTURERS: MUELLER SUPER CENTURION 200, AVK NOSTALGIC 2780, OR KENNEDY GUARDIAN K81D.
   - I. PAINTING: REPAINT ALL HYDRANTS AFTER INSTALLATION PER DEL-CO SUBDIVISION CONSTRUCTION STANDARDS MANUAL SECTION 02731, PART 2.06.
     - i. LIBERTY TOWNSHIP, POWELL, AND VILLAGE OF SUNBURY: SAFETY RED.
     - ii. OTHER TOWNSHIPS: SAFETY YELLOW
     - iii. FIRE HYDRANTS LOCATED ON PRIVATE WATER LINES SHALL BE PAINTED INDUSTRIAL GREEN.
6. FLUSHING HYDRANTS
   - A. ALL DEAD ENDS LINE SHALL HAVE EITHER AN AUTOMATIC FLUSHING DEVICE OR A 2" END OF LINE FIRE HYDRANT IN ACCORDANCE WITH SECTION 02731 FLUSHING HYDRANTS.
7. DISINFECT ALL WATER LINES IN ACCORDANCE WITH AWWA C651 AND DEL-CO WATER SPECIFICATIONS.
8. ALL PIPE INSTALLATION AND PRESSURE TESTING SHALL BE IN ACCORDANCE WITH AWWA C600 FOR DUCTILE IRON PIPE AND C605 FOR PLASTIC PIPE, AND DEL-CO SPECIFICATIONS.
   - A. CONTRACTOR SHALL PROVIDE ALL EQUIPMENT NECESSARY TO PERFORM PRESSURE TEST.
   - B. SCHEDULE TEST BETWEEN 8:00 AM AND 2:00 PM WEEKDAYS. NOTIFY DEL-CO 24 HOURS PRIOR TO TESTING.
9. OBTAIN WRITTEN APPROVAL OF MATERIAL AND MANUFACTURERS LIST FROM DEL-CO WATER PRIOR TO BEGINNING CONSTRUCTION.
10. PROVIDE CASING PIPE FOR ALL ROAD CROSSINGS UNLESS OTHERWISE APPROVED BY DEL-CO. CASING PIPE SHALL BE STEEL PIPE WITH 0.375-INCH WALL THICKNESS, OR C900 FOR WATERLINES 12-INCH DIA. OR LESS. CASINGS FOR WATERLINES LARGER THAN 12-INCH DIA. MAY BE AWWA C905..
11. EASEMENTS SHALL BE PROVIDED TO DEL-CO WATER BEFORE PERMISSION WILL BE GIVEN TO MAKE NEW SERVICE LINE CONNECTIONS.
12. CONNECTIONS TO EXISTING WATER LINES WILL BE MADE BY DEL-CO WATER AT THE CONTRACTOR'S EXPENSE OR PERFORMED BY CONTRACTORS WHO ARE APPROVED FOR MAKING CONNECTIONS. NOTIFY ALL PROPERTY OWNERS, AND DEL-CO WATER, IN WRITING 48 HOURS BEFORE STARTING CONSTRUCTION.
13. CONTRACTOR SHALL EXCAVATE TO DETERMINE THE LOCATION AND DEPTH OF EXISTING WATER LINES WHEREVER COVER OVER THE WATER LINES IS BEING REDUCED. IF THE FINAL DEPTH OF THE WATER LINE WILL BE BELOW DEL-CO WATER STANDARDS, CONTRACTOR SHALL SUBMIT A RELOCATION PLAN FOR APPROVAL BY DEL-CO WATER, AND RELOCATE THE WATER LINE AT THEIR EXPENSE.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING THE WATER LINE PRIOR TO FINAL ACCEPTANCE BY DEL-CO WATER, AND REPAIRING ALL DAMAGES FROM CONSTRUCTION ACTIVITY.
15. DO NOT FILL NEW WATER LINES UNTIL APPROVED BY DEL-CO WATER.
16. BOOSTER PUMPS ARE NOT ALLOWED ON INDIVIDUAL SERVICES.
17. ALL WATER MAINS, INCLUDING THOSE NOT DESIGNED TO PROVIDE FIRE PROTECTION, SHALL BE SIZED FOLLOWING AN ANALYSIS BASED ON FLOW DEMANDS, AND PRESSURE REQUIREMENTS. THE SYSTEM SHALL BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI AT GROUND LEVEL AT ALL POINTS IN THE DISTRIBUTION SYSTEM UNDER ALL DESIGNED FLOW CONDITIONS. NORMAL WORKING PRESSURE IN THE DISTRIBUTION SYSTEM SHALL NOT BE LESS THAN 35 PSI.
18. DEL-CO WATER REQUIRES ALL WATERLINES INTENDED FOR OWNERSHIP AND MAINTENANCE BY DEL-CO WATER, REGARDLESS OF PIPE SIZE, TO SECURE EPA APPROVAL PRIOR TO THE START OF CONSTRUCTION.

KORDA
KORDA / NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

DRAWN BY:	EAM
DESIGNED BY:	EAM
CHECKED BY:	GJW
PROJECT NUMBER:	2023-0006

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Barn Consultant
Mt. Vernon Barn Co.
7676 Co Rd 19, Fredericktown, OH 43019
614.634.2049

REVISIONS			
MARK	DATE	DESCRIPTION	

DEL-CO STANDARD DETAILS

DELAWARE COUNTY, OHIO
FINAL ENGINEERING PLAN
FOR
MCCAMMON CREEK PARK
PHASE 2

KORDA
Korda/Nemeth Engineering, Inc. - Consulting Engineers
1650 Watermark Drive, Suite 200 - Columbus, Ohio 43215-7910
TEL 614-487-1650 - FAX 614-487-9981 - WEB www.korda.com

DATE 11/17/2023

JOB NO. 2023-0006

SHEET 21/21

Drawing Issue Dates

- Design Development Submittal 11/17/2023
- 50% Construction Documents 08/15/2024
- 90% Construction Documents 01/15/2025
- Bid Set / Permit Set 02/14/2025

Revision Schedule

#	Description	Date
1	Addendum 01	02/26/2025

Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

STATE OF OHIO GRAHAM J. WATKINS 84007 REGISTERED PROFESSIONAL ENGINEER

DEL-CO STANDARD DETAILS

C302

11/25/2024

23070

DEMOLITION - CODED NOTES

D1	Lean-to portion of existing building to be fully demolished, preserve historic wood members for supplemental reuse elsewhere in the project
D2	Salvage existing siding, perlins, girts, and other support structure for reuse in same place
D3	Demolish existing masonry foundation entirely, prep for new foundation work. Refer to Civil and Structural.
D4	Demolish existing stair.
D5	Salvage existing 8x8 posts for reuse elsewhere in the project, refer to New Work.
D6	Salvage existing underfloor framing including all beams, joists, and braces for reuse elsewhere in the project, refer to New Work.
D7	Demolish existing 6x6 posts.
D8	Salvage existing door support structure for reinstallation at new location - see New Work.
D9	Salvage existing door for reinstallation at new location - see New Work.
D10	Salvage existing door for reinstallation at same relative location - see New Work.
D11	Salvage existing 8x8 wood posts for reuse in same location, typical for the Main Floor.
D12	Salvage Main Floor barn structure for reinstallation at same relative location.
D13	Demolish floor boards entirely, preserve boards for supplemental reuse.
D14	Salvage existing window
D15	Salvage existing windmill blades for reinstallation.
D16	Salvage entire cupola for reinstallation.
D17	Salvage and store slate shingles for reuse.
D18	Window to be replaced with salvaged window from north facade to match other windows. See New Work Plans.
D19	Remove bat boxes and coordinate storage with owner
D20	Remove and salvage existing lightning protection system including metal rods, glass balls, weathervane, and anchors.

DEMOLITION - GENERAL NOTES

A. Refer to G001 for all general notes.

B. The purpose of the Demolition Work is to selectively demolish and/or remove existing building assemblies to accommodate the new work.

C. The demolition plans represent general sizes, locations, and configurations of building elements. The drawing scale indicated is approximate and must be field verified.

D. This project includes the disassembly of the existing historic Bicentennial Barn, to be reassembled in new location on a new foundation. Refer to New Work plans. Inventory and organize salvaged materials to facilitate the reassembly of the barn. Protect the materials throughout the disassembly and demolition phase to maximize their reuse in the completed structure.

E. Existing foundation to be demolished and disposed of per Construction Waste Management Plan, UNO.

F. Tag, inventory, photograph, and diagram all pieces and assemblies as needed to aid in reassembly. Inventory shall include recording the position of salvaged material in the original construction to aid in the planning and reassembly of the barn.

G. Tagging shall include marking all pieces for tracking and reconciliation in the reconstruction. Tags shall be on surfaces which will be concealed in the finished work and shall be capable of remaining legible following cleaning or preparation of material for reuse.

1 H. All salvaged material shall be thoroughly cleaned with pressure washing and/or non-marring bronze brushes on all sides and surfaces following disassembly. All parts shall be inspected to ensure their fitness for reassembly and reuse in the project. Replace any damaged or deteriorated pieces using salvaged material of appropriate species.

I. Coordinate reassembly with structural drawings and modify historic frame per details for proper anchorage and to ensure the restored and rebuilt frame meets the required structural requirements.

1 J. Salvage all barn siding for reuse.

K. Salvage complete barn frame including posts, braces, tie beams, rafters, purlins, girts, struts, plates and all associated pieces. Inventory pieces and record to aid in reassembly.

1 L. Salvage all roof sheathing for reuse.

M. Salvage all existing roofing slates, remove with care for reuse. Stack and secure on pallets for storage and reuse.

N. Remove all ties, connections, or supports of systems to be removed or that have already been removed, unless noted otherwise.

O. Objects shown as dashed lines on this sheet are to be removed and disposed of per Construction Waste Management Plan, UNO.

P. Consult Owner before discarding removed doors and hardware. Store or discard as directed by Owner.

Q. All interior wood trim to remain unless noted otherwise.

R. All doors shown as dashed are to be removed.

S. Contractor to perform a walk-thru of the building prior to work commencing to determine extent of building clean-out required.

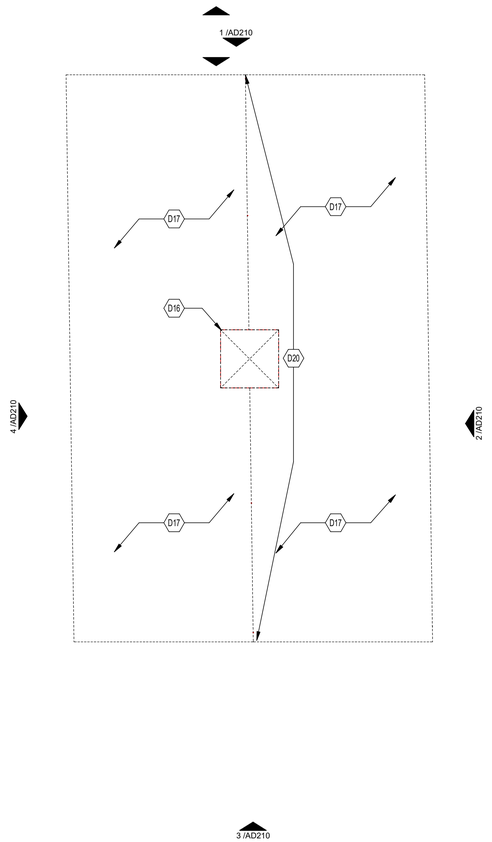
T. In reassembly, secure refurbished barn siding and sheathing to frame, girts or rafters, remove any fastener which misses component. No fasteners shall protrude to interior.

U. Primary framing and joists under main floor deck to be salvaged for reuse as reclaimed structural timber.

DEMOLITION LEGEND

Item to be Demolished

Item to be Salvaged for Reinstallation



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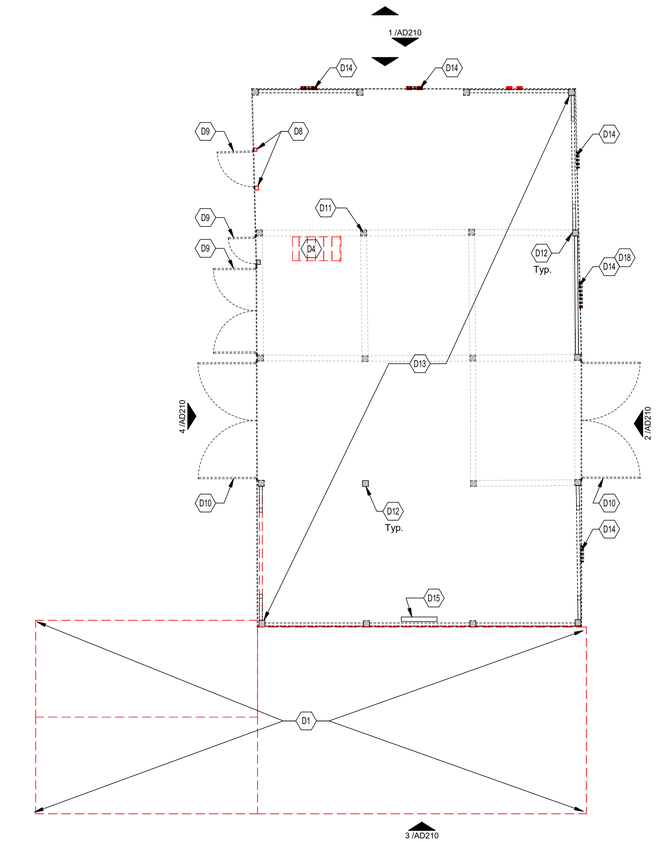
3 ROOF DEMOLITION PLAN
1/8" = 1'-0"



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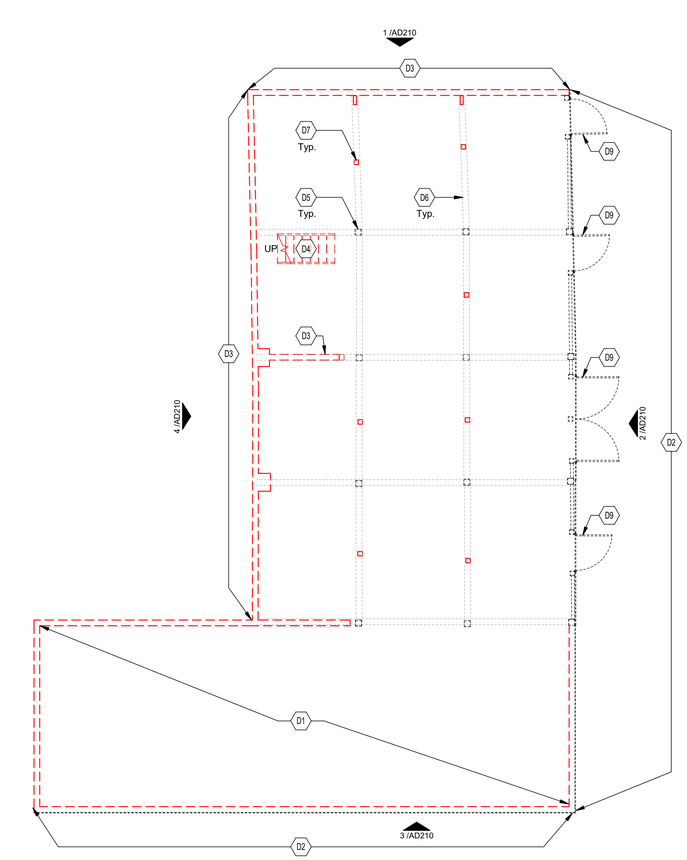
2 MAIN FLOOR DEMOLITION PLAN
1/8" = 1'-0"



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1 GROUND FLOOR DEMO PLAN
1/8" = 1'-0"

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ARCHITECTURE. INSPIRED.

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Drawing Issue Dates:

Design Development Submittal
11/17/2023

50% Construction Documents
07/19/2024

90% Construction Documents
01/15/2025

Bid Set / Permit Set
02/14/2025

Revision Schedule

#	Description	Date
1	Addendum 01	02/26/2025

Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

STATE OF OHIO
Kalpa
Baghasingh
1516341
REGISTERED ARCHITECT

Kalpa Baghasingh, License #1516341
Expiration Date 12/31/2025

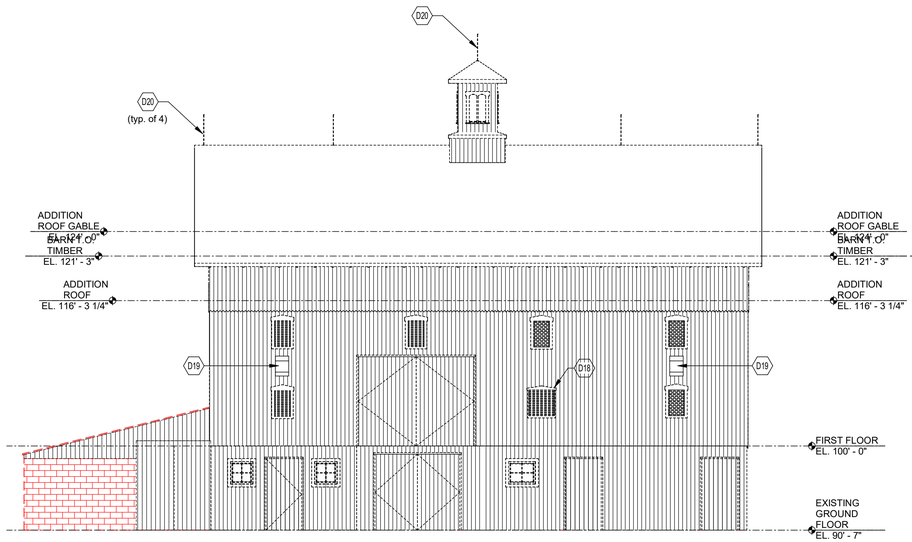
Demolition Plans

Architectural Demolition

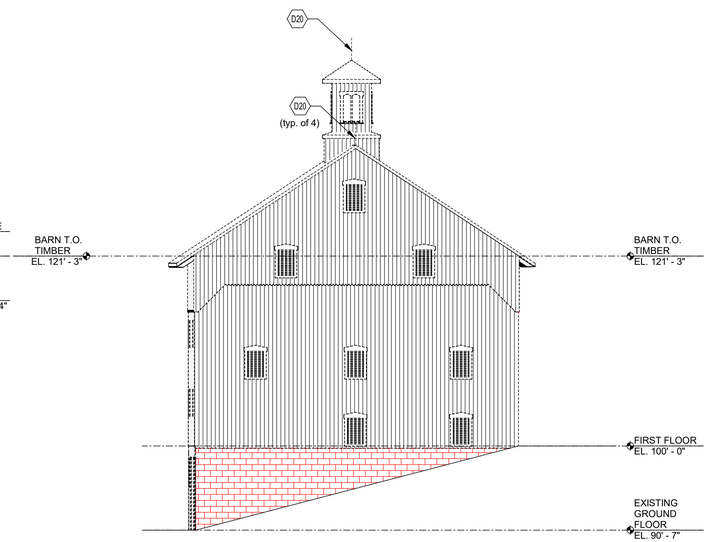
AD101

02/14/2025

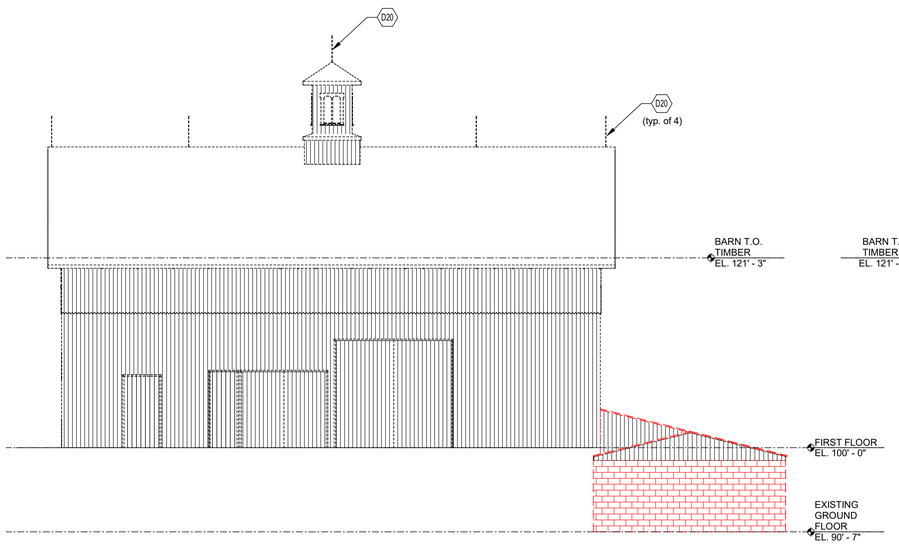
23070



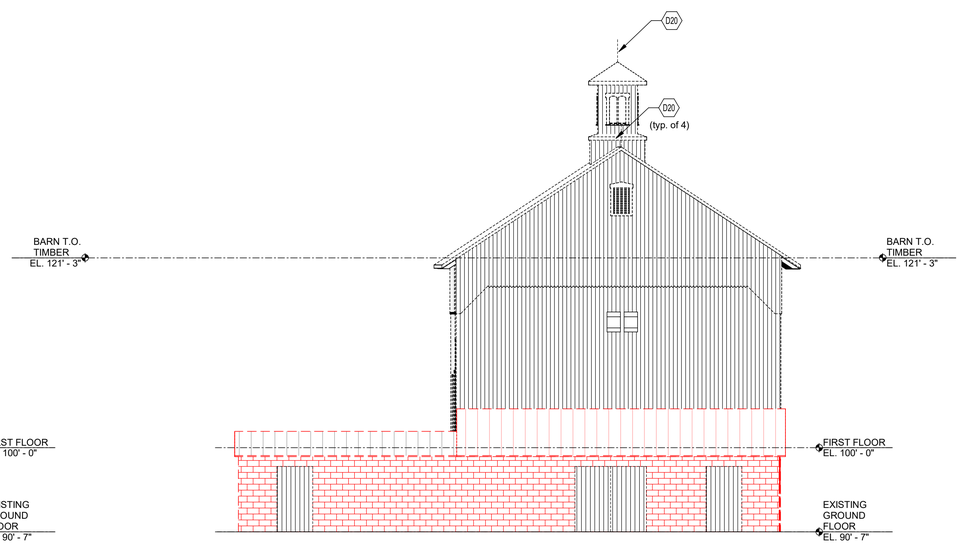
2 East Demolition Elevation
1/8" = 1'-0"



1 North Demolition Elevation
1/8" = 1'-0"



4 West Demolition Elevation
1/8" = 1'-0"



3 South Demolition Elevation
1/8" = 1'-0"

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C. The demolition plans represent general sizes, locations, and configurations of building elements. The drawing scale indicated is approximate and must be field verified.

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E. Existing foundation to be demolished and disposed of per Construction Waste Management Plan, UNO.

F. Tag, inventory, photograph, and diagram all pieces and assemblies as needed to aid in reassembly. Inventory shall include recording the position of salvaged material in the original construction to aid in the planning and reassembly of the barn.

G. Tagging shall include marking all pieces for tracking and reconciliation in the reconstruction. Tags shall be on surfaces which will be concealed in the finished work and shall be capable of remaining legible following cleaning or preparation of material for reuse.

H. All salvaged material shall be thoroughly cleaned with pressure washing and/or non-marring bronze brushes on all sides and surfaces following disassembly. All parts shall be inspected to ensure their fitness for reassembly and reuse in the project. Replace any damaged or deteriorated pieces using salvaged material of appropriate species. 1

I. Coordinate reassembly with structural drawings and modify historic frame per details for proper anchorage and to ensure the restored and rebuilt frame meets the required structural requirements.

J. Salvage barn siding for reuse. 1

K. Salvage complete barn frame including posts, braces, tie beams, rafters, purlins, girts, struts, plates and all associated pieces. Inventory pieces and record to aid in reassembly.

L. Salvage roof sheathing for reuse. 1

M. Salvage all existing roofing slates. remove with care for reuse. Stack and secure on pallets for storage and reuse.

N. Remove all ties, connections, or supports of systems to be removed or that have already been removed, unless noted otherwise.

O. Objects shown as dashed lines on this sheet are to be removed and disposed of per Construction Waste Management Plan, UNO.

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Q. All interior wood trim to remain unless noted otherwise.

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S. Contractor to perform a walk-thru of the building prior to work commencing to determine extent of building clean-out required.

T. In reassembly, secure refurbished barn siding and sheathing to frame, girts or rafters, remove any fastener which misses component. No fasteners shall protrude to interior.

U. Primary framing and joists under main floor deck to be salvaged for reuse as reclaimed structural timber.

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D2	Salvage existing siding, perlins, girts, and other support structure for reuse in same place
D3	Demolish existing masonry foundation entirely, prep for new foundation work. Refer to Civil and Structural.
D4	Demolish existing stair.
D5	Salvage existing 8x8 posts for reuse elsewhere in the project, refer to New Work.
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D7	Demolish existing 6x6 posts.
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D9	Salvage existing door for reinstallation at new location - see New Work.
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D16	Salvage entire cupola for reinstallation.
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D18	Window to be replaced with salvaged window from north facade to match other windows. See New Work Plans.
D19	Remove bat boxes and coordinate storage with owner
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Item to be Demolished

Item to be Salvaged for Reinstallation

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REGISTERED ARCHITECT

Kalpa Baghasingh, License #1516341
Expiration Date 12/31/2025

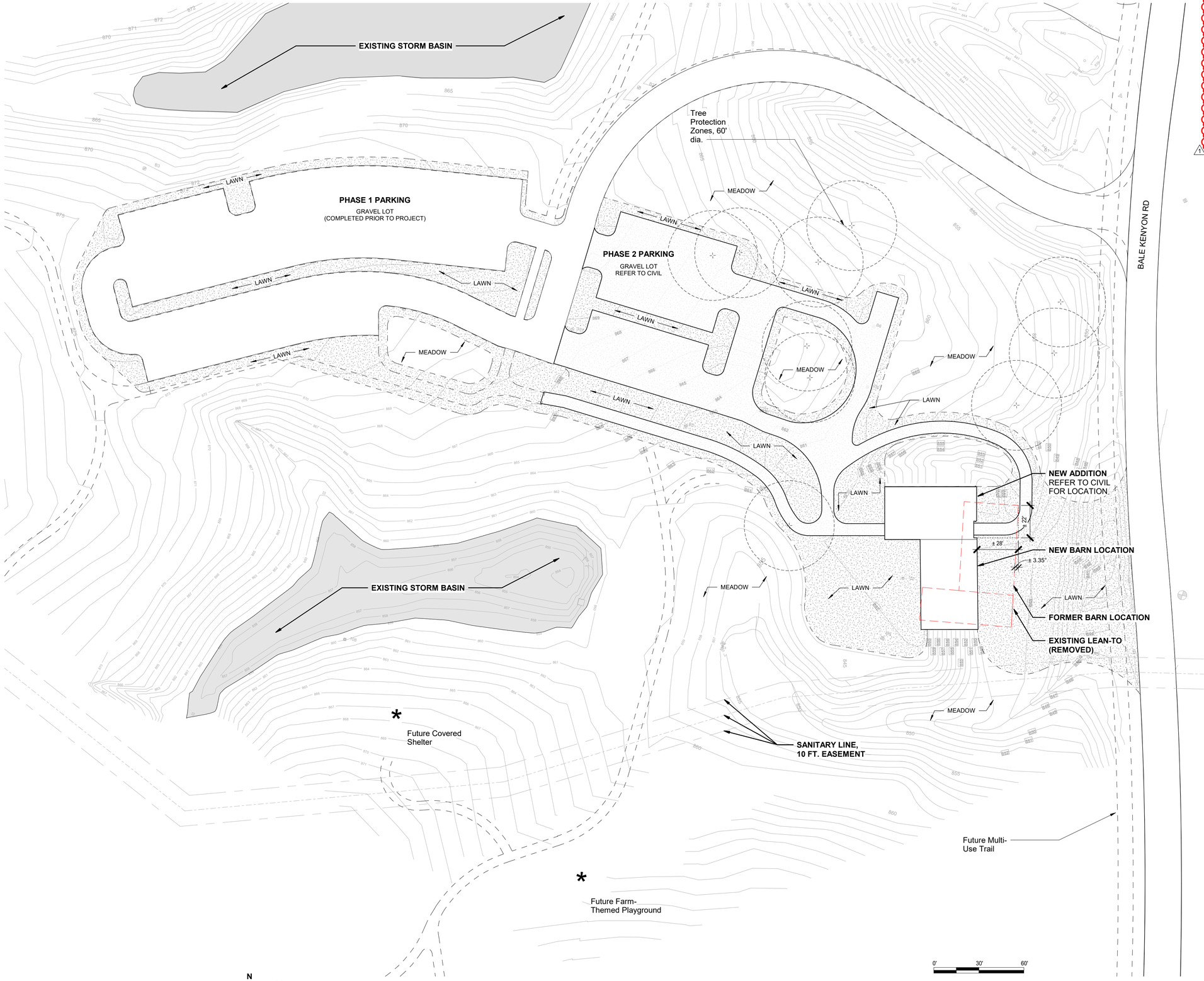
Demolition Elevations

Architectural Demolition

AD210

02/14/2025

23070



1 SITE NEW WORK PLAN
1" = 30'-0"

SITE - GENERAL NOTES

A. Do not scale drawings. Dimensions in details shall govern over small scale drawings. If dimensions are in questions, the contractor shall be responsible for obtaining clarification from the Architect before continuing with construction.

B. Dimensions shown on the floor plan for construction are to the centerline of columns or to the finish face of interior partition for interior walls; and exterior face of concrete, masonry or wood framing for exterior walls except where specifically noted otherwise on the drawings.

C. Architectural Site plan is for coordination purposes only. Refer to Civil, Strcutural, Plumbing, Mechanical, Site Electrical, and Electrical sheets for more information.

D. Coordinate grass lawn and meadow planting with architect and owner. Basis of Design is Ohio Prairie Nursery Hummingbird Seed mix (15lbs/ac) with annual rye cover crop (30 lbs/ac).

1

SCHOOLEY CALDWELL

ARCHITECTURE. INSPIRED.

300 Marconi Boulevard T 614-628-0300
Columbus OH 43215 F 614-628-0311
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Consultants:

Civil, Structural & MEPT
Korda/Nemeth Engineering
1650 Watermark Drive, Columbus, OH 43215
614.487.1650

Barn Consultant
Mt. Vernon Barn Co.
7676 Co Rd 19, Fredericktown, OH 43019
614.634.2049

Drawing Issue Dates:

Design Development Submittal
11/17/2023

50% Construction Documents
07/19/2024

90% Construction Documents
01/15/2025

Bid Set / Permit Set
02/14/2025

Revision Schedule

#	Description	Date
1	Addendum 01	02/26/2025

Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

STATE OF OHIO
Kalpa
Baghasingh
1516341
REGISTERED ARCHITECT

Kalpa Baghasingh, License #1516341
Expiration Date 12/31/2025

Site New Work Plans

Architectural

A100

02/14/2025

23070

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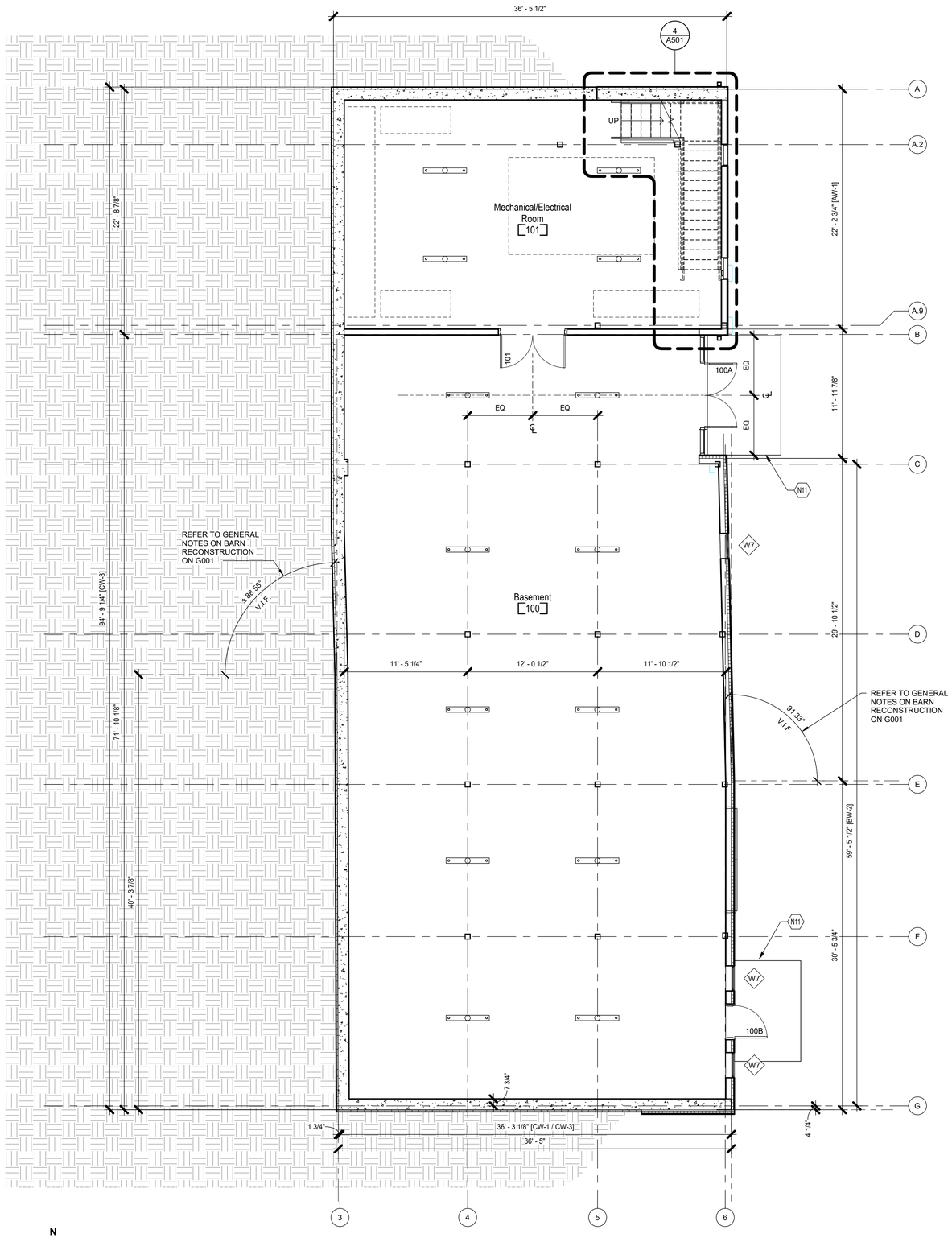

N

1 GROUND FLOOR NEW WORK PLAN
3/16" = 1'-0"

NEW WORK - GENERAL NOTES

A. Do not scale drawings. Dimensions in details shall govern over small scale drawings. If dimensions are in questions, the contractor shall be responsible for obtaining clarification from the Architect before continuing with construction.

B. Dimensions shown on the floor plan for construction are to the centerline of columns or to the finish face of interior partition for interior walls; and exterior face of concrete, masonry or wood framing for exterior walls except where specifically noted otherwise on the drawings.

C. Provide blocking for support of all wall attachments including but not limited to wall accessories (handrail, bumpers, guards, etc.), toilet accessories (grab bars, diaper changing stations, etc.), base and wall cabinets. Contractor shall coordinate and verify all requirements for attachments.

D. Contractor shall build out partitions to accommodate depth required by fire extinguisher cabinets and recessed power panels. Coordinate with engineering drawings final locations of all cabinets and panels to be approved by the architect.

E. Refer to Door and Frame Schedule for all door requirements and opening details. All doors locations not dimensions are located with the face of jamb 6" from adjacent wall U.N.O

F. Offset studs based on wall type to ensure face of finish is continuous and uninterrupted.

G. Coordinate locations and/or elevations of floor drains, registers, access panels, grilles, louvers, unit heaters, electrical panels, etc. with mechanical and electrical contractors prior to starting work.

H. Refer to structural drawings for location and extent of shear walls and braced frame locations.

I. Interior partitions to be Type 64-B unless noted otherwise. See A020 for details.

J. Ensure all reused salvaged material is thoroughly cleaned with pressure washing and/or non-marring bronze brushes on all sides and surfaces before reassembly. All parts shall be inspected to ensure their fitness for reassembly and reuse in the project. Replace any damaged or deteriorated pieces using salvaged material of appropriate species.

1

K. In reassembly of Barn, secure refurbished barn siding and sheathing to frame, girts or rafters, remove any fastener which misses component. No fasteners shall protrude to interior.

L. Shaded regions represent reclaimed barn wood.

NEW WORK - CODED NOTES

N1 Reinstall salavaged door at same position, permanently locked in place

N2 Reinstall salavaged door at relocated position, permanently locked in place

N6 Reinstall salvaged windmill blades.

N7 Lockable white pine wood bi-fold door at pass-through opening with concrete countertop. Wood stained to match adjacent wood.

N9 21" tall bench. See casework details for addtional details.

N10 21" tall bench with diffusers for supply air distribution from below. See casework details and Mechanical drawings for addtional details.

N11 New concrete frost slab - Refer to Civil and Structural.

SCHOOLEY CALDWELL

ARCHITECTURE. INSPIRED.

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Revision Schedule

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Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

STATE OF OHIO
Kalpa
Baghasingh
1516341
REGISTERED ARCHITECT

Kalpa Baghasingh, License #1516341
Expiration Date 12/31/2025

Ground Floor - New Work Plan

Architectural

A101

02/14/2025

23070

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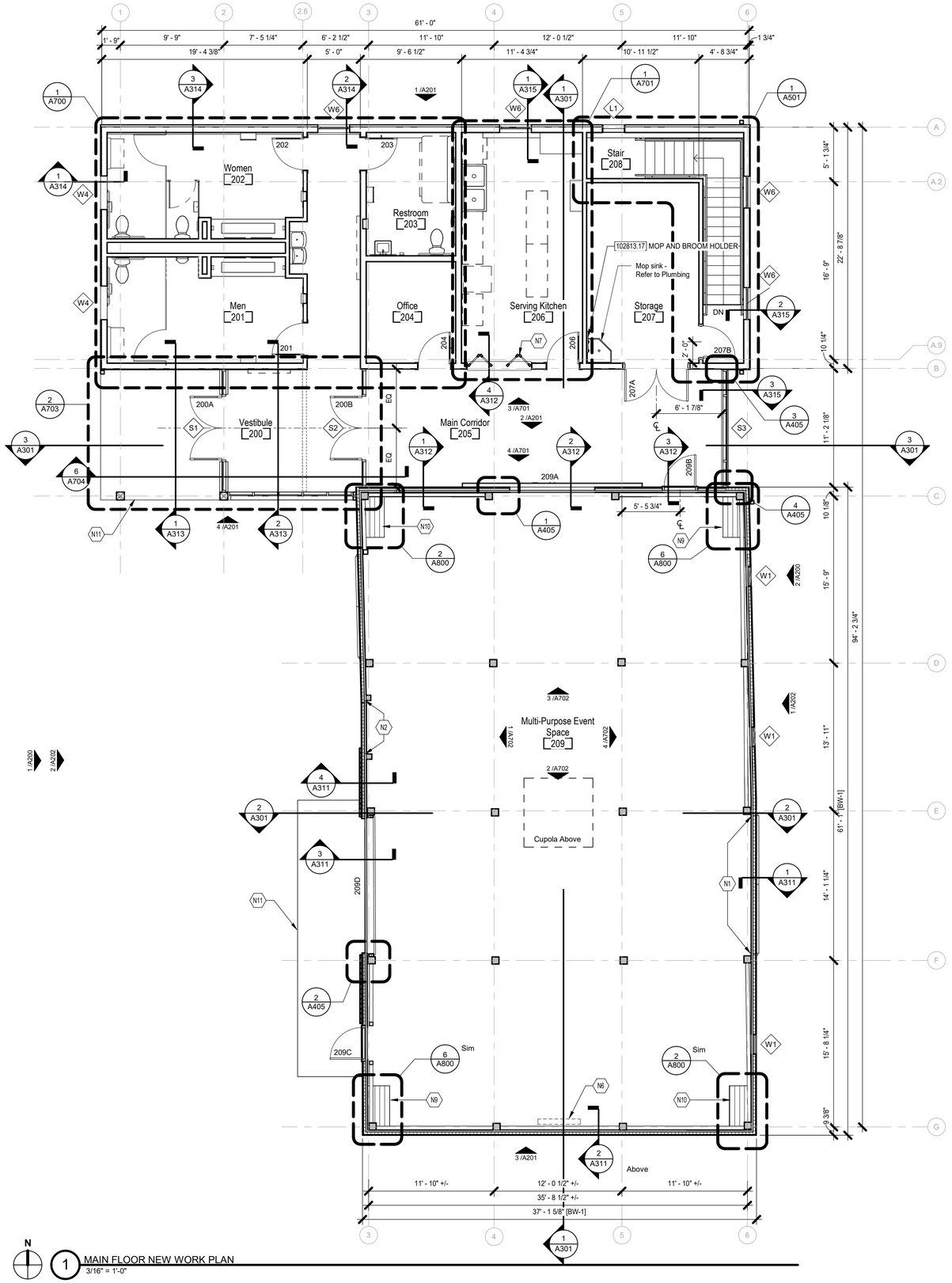

1 MAIN FLOOR NEW WORK PLAN
3/16" = 1'-0"

NEW WORK - GENERAL NOTES

A. Do not scale drawings. Dimensions in details shall govern over small scale drawings. If dimensions are in questions, the contractor shall be responsible for obtaining clarification from the Architect before continuing with construction.

B. Dimensions shown on the floor plan for construction are to the centerline of columns or to the finish face of interior partition for interior walls; and exterior face of concrete, masonry or wood framing for exterior walls except where specifically noted otherwise on the drawings.

C. Provide blocking for support of all wall attachments including but not limited to wall accessories (handrail, bumpers, guards, etc.), toilet accessories (grab bars, diaper changing stations, etc.), base and wall cabinets. Contractor shall coordinate and verify all requirements for attachments.

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E. Refer to Door and Frame Schedule for all door requirements and opening details. All doors locations not dimensions are located with the face of jamb 6" from adjacent wall U.N.O

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I. Interior partitions to be Type 64-B unless noted otherwise. See A020 for details.

J. Ensure all reused salvaged material is thoroughly cleaned with pressure washing and/or non-marring bronze brushes on all sides and surfaces before reassembly. All parts shall be inspected to ensure their fitness for reassembly and reuse in the project. Replace any damaged or deteriorated pieces using salvaged material of appropriate species.

K. In reassembly of Barn, secure refurbished barn siding and sheathing to frame, girts or rafters, remove any fastener which misses component. No fasteners shall protrude to interior.

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NEW WORK - CODED NOTES

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N11 New concrete frost slab - Refer to Civil and Structural.

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Bid Set / Permit Set 02/14/2025

Revision Schedule		
#	Description	Date
1	Addendum 01	02/26/2025

Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

STATE OF OHIO · Kalpa Baghasingh · 1516341 · REGISTERED ARCHITECT

Kalpa Baghasingh, License #1516341
Expiration Date 12/31/2025

Main Floor - New Work Plan

A102

02/14/2025

23070

Door & Frame Schedule

DOOR MARK	DOOR TYPE	DOOR SIZE W	DOOR SIZE H	DOOR THK	DOOR FINISH	DOOR GLAZING TYPE	FRAME TYPE	FRAME FINISH	FRAME DETAIL HEAD	FRAME DETAIL JAMB	FRAME DETAIL SILL	HARDWARE SET NO	REMARKS
GROUND FLOOR													
100A	AL2	6' - 0"	7' - 11"	1 3/4"	FF	GL-1	S1	FF				12	
100B	HM1	3' - 0"	7' - 0"	1 3/4"		---	FH1					10	Clapboard siding on exterior side of door to match adjacent barn exterior siding
101	HM2	6' - 0"	7' - 0"	1 3/4"	PT01	---	FH1	PT01				09	
FIRST FLOOR													
200A	AL2	6' - 0"	8' - 0"	1 3/4"	FF	GL-1	S1	FF				12	
200B	AL2	6' - 0"	8' - 0"	1 3/4"	FF	GL-1	S1	FF				03	
201	DH62	3' - 0"	6' - 8"	1 3/8"	TR	---	FH2	PT01				01	
202	DH62	3' - 0"	6' - 8"	1 3/8"	TR	---	FH2	PT01				01	
203	DH62	3' - 0"	6' - 8"	1 3/8"	TR	---	FH2	PT01				04	
204	DH63	3' - 0"	7' - 0"	1 3/8"	TR	---	FH2	PT01				05	
206	DH63	3' - 0"	7' - 0"	1 3/8"	TR	---	FH2	PT01				06	
207A	WD2	6' - 0"	7' - 0"	1 3/4"	PT01	---	FH1	PT01				08	
207B	HM1	3' - 0"	8' - 0"	1 3/4"	PT01	---	FH1	PT01				07	
207C	WD4	6' - 0"	3' - 11 3/4"	1 3/4"	TR								See Details 2, 3, 4, and 5, Sheet A801
209A	WD3	8' - 0"	6' - 8"	1 3/4"	TR / PT	---	---	TR / PT				13	Sliding door with barn door hardware. Corridor side to be painted PT-5, Event Space side to be TR
209B	WD1	3' - 0"	7' - 0"	1 3/4"	TR / PT	---	FH2	TR / PT				02	Corridor side to be painted PT-5, Event Space side to be TR
209C	HM1	3' - 0"	8' - 0"	1 3/4"	PT01	---	FH2	TR				11	Clapboard siding on interior and exterior side of door to match adjacent barn exterior siding

Overhead Door Schedule

DOOR MARK	DOOR TYPE	Opening Width	Opening Height	SIZE THK	FINISH	GLAZING TYPE	HEAD	JAMB	SILL DETAIL	ELECTRICAL	REMARKS
FIRST FLOOR											
209D	OHD1	12' - 10"	12' - 5"	1 3/4"	Charcoal	GL-3				Powered + Key Operated	Contractor to apply bird glass film similar to storefront system

DOOR NOTES

A. NUMBER:
The door number matches the room number. When more than one door exists per room, the first door is followed with "A", the second door "B", etc.

B. All doors are to have a 3/4" undercut U.N.O.

C. FINISH:
CA - Clear Annodized
FF - Factory Finish (Charcoal)
PT - Paint - Refer to Finish Schedule
WS - Wood Stain and Polyurethane
TR - Polyurethane

D. GLAZING:
GL-1 = 1" Clear Insulated Tempered Vision Glass with AviProtek T 714 Organic, Transparent Bird Glass Film
GL-2 = 1" Clear Insulated Annealed Vision Glass with AviProtek T 714 Organic, Transparent Bird Glass Film
GL-3 = 1/2" Clear Tempered Vision Glass with AviProtek T 714 Organic, Transparent Bird Glass Film

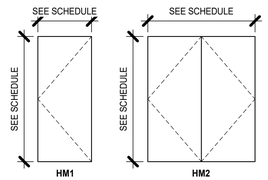
E. HARDWARE SET:
See specifications for description of hardware sets.

F. ELECTRICAL:
Electrical contractor to provide power to door hardware power supply.

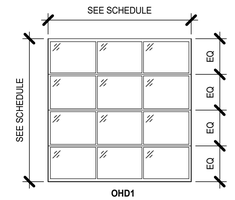
GL-1 = 1" Clear Insulated Tempered Vision Glass with AviProtek T 714 Organic, Transparent Bird Glass Film

GL-2 = 1" Clear Insulated Annealed Vision Glass with AviProtek T 714 Organic, Transparent Bird Glass Film

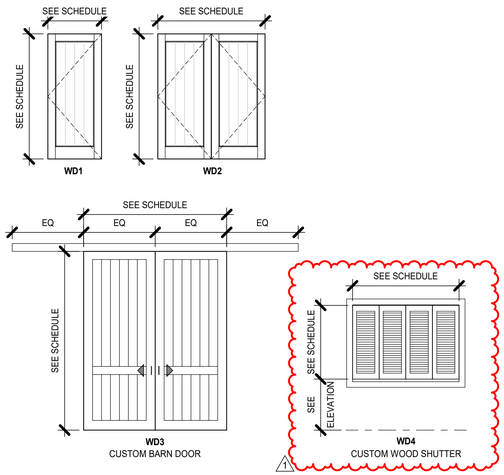
081113.1 - HOLLOW METAL DOOR TYPES



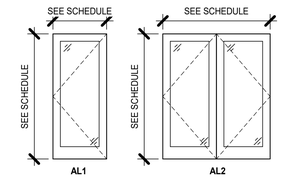
083613.1 - SECTIONAL DOOR TYPES



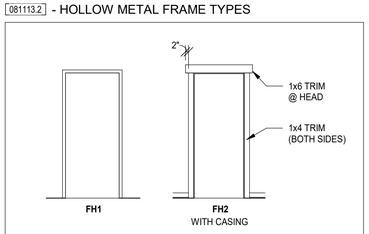
081433.1 - STILE AND RAIL WOOD DOOR TYPES



084113.1 - ALUMINUM FRAMED ENTRANCES & STOREFRONTS



081113.2 - HOLLOW METAL FRAME TYPES



SCHOOLEY CALDWELL
ARCHITECTURE. INSPIRED.

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Consultants:

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7676 Co Rd 19, Fredericktown, OH 43019
614.634.2049

Drawing Issue Dates:

Design Development Submittal 11/17/2023

50% Construction Documents 07/19/2024

90% Construction Documents 01/15/2025

Bid Set / Permit Set 02/14/2025

Revision Schedule

#	Description	Date
1	Addendum 01	02/26/2025

Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

STATE OF OHIO Kalpa Baghasingh 1516341 REGISTERED ARCHITECT

Kalpa Baghasingh, License #1516341
Expiration Date 12/31/2025

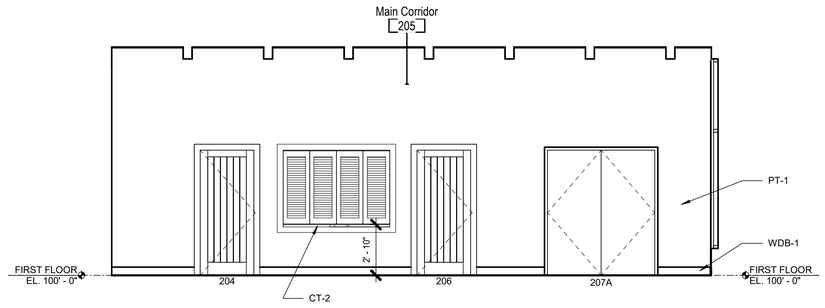
Door Schedule

Architectural

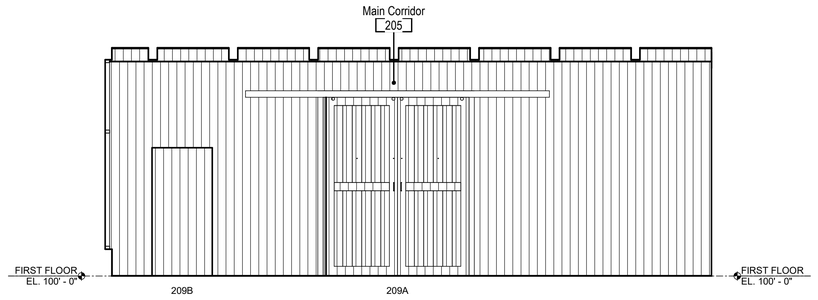
A610

02/14/2025

23070



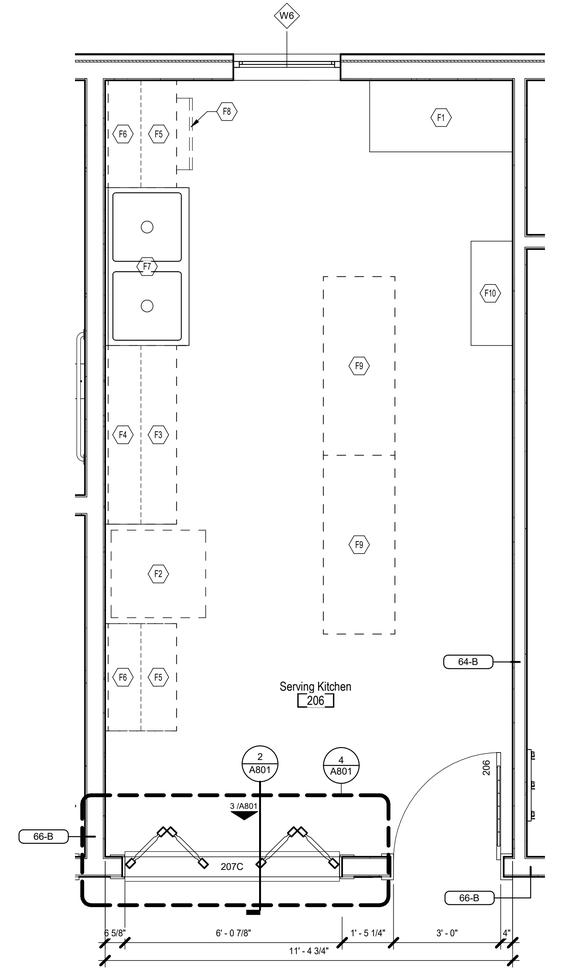
3 MAIN CORRIDOR ELEVATION - ADDITION WALL
1/4" = 1'-0"



4 MAIN CORRIDOR SOUTH ELEVATION
1/4" = 1'-0"

ENLARGED PLAN - CODED NOTES

F1 Uline stainless steel storage cabinet - H-5589 48"x24"x73".
F2 Refrigerator; Owner supplied, contractor installed.
F3 Regency Stainless steel enclosed base sliding door table with drawers and 6" backsplash - 600EBTB2460R. Owner supplied, contractor installed.
F4 Regency 12" W 60"L heavy duty solid wall shelf - 18890*G. Owner supplied, contractor installed.
F5 Regency Stainless steel commercial open base work table with 4" backsplash - 600WT24X36BS. Owner supplied, contractor installed.
F6 Regency 12"W 36"L heavy duty solid wall shelf - 18890*G. Owner supplied, contractor installed.
F7 Regency Two compartment commercial sink with stainless steel legs - 600S22323X
F8 Dishwasher; Owner supplied, contractor installed.
F9 Regency Stainless steel commercial work table with undershelf and casters - 600TS2460SC. Owner supplied, contractor installed.
F10 Uline Light Gray Metal Bookcase - H-2927 35"x14"x66".



1 SERVERY - ENLARGED PLAN
1/2" = 1'-0"

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ARCHITECTURE. INSPIRED.

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01/15/2025

Bid Set / Permit Set
02/14/2025

Revision Schedule		
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STATE OF OHIO
Kalpa
Baghasingh
1516341
REGISTERED ARCHITECT

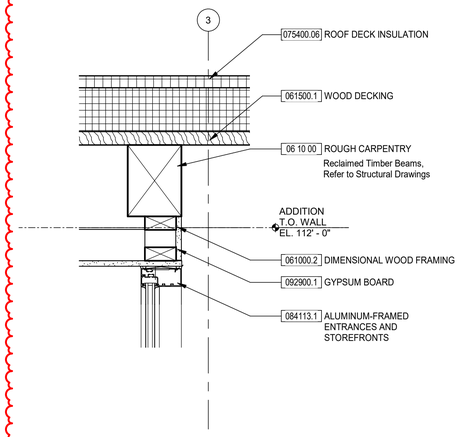
Kalpa Baghasingh, License #1516341
Expiration Date 12/31/2025

Enlarged Plans & Elevations

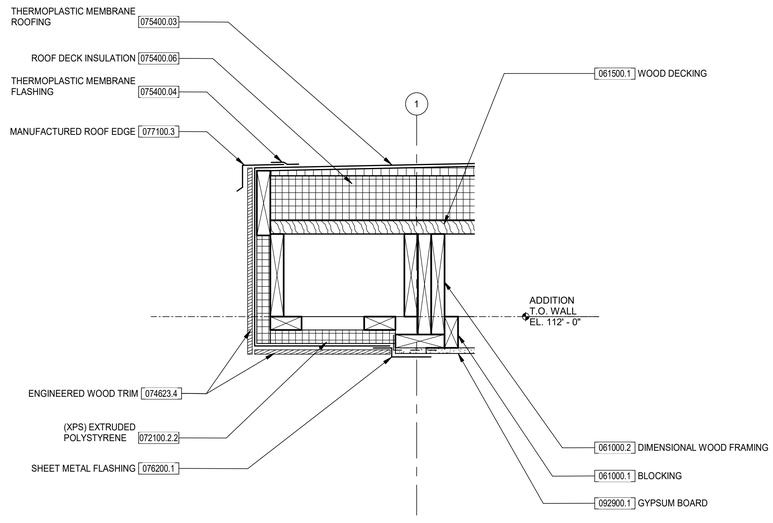
A701

02/14/2025

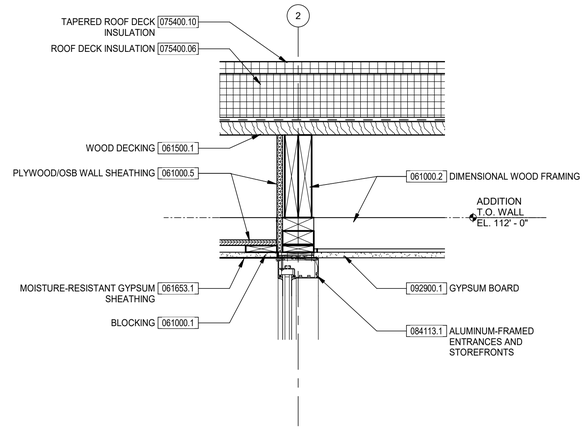
23070



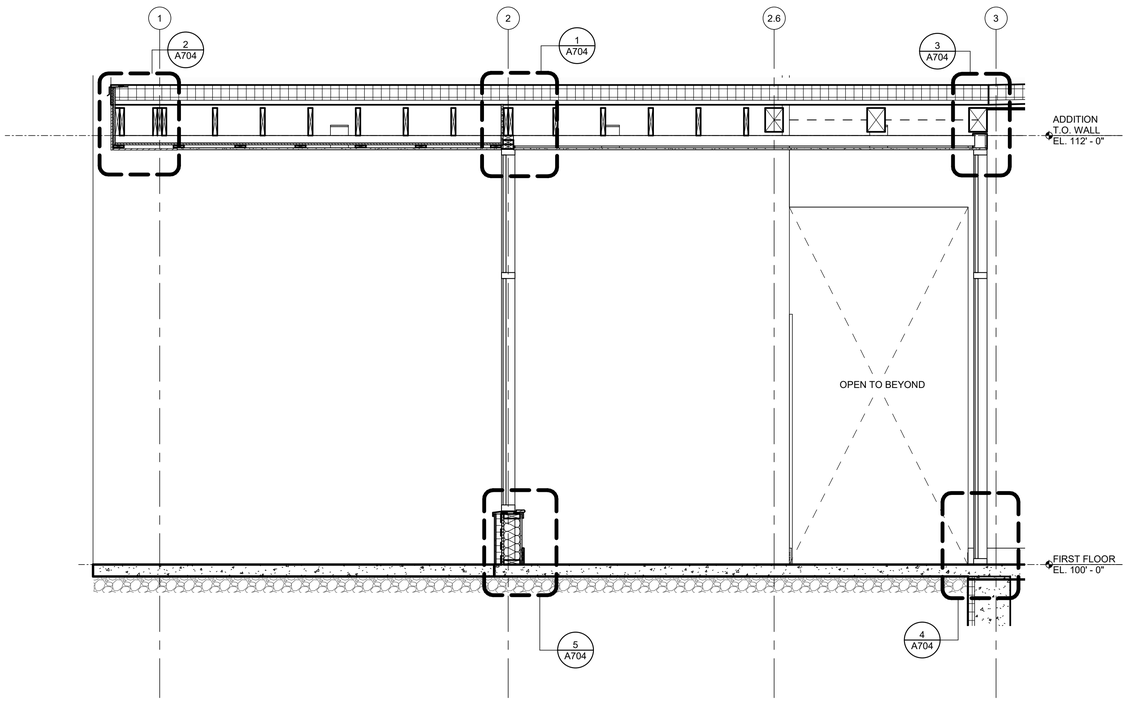
3 INTERIOR VESTIBULE HEAD
1 1/2" = 1'-0"



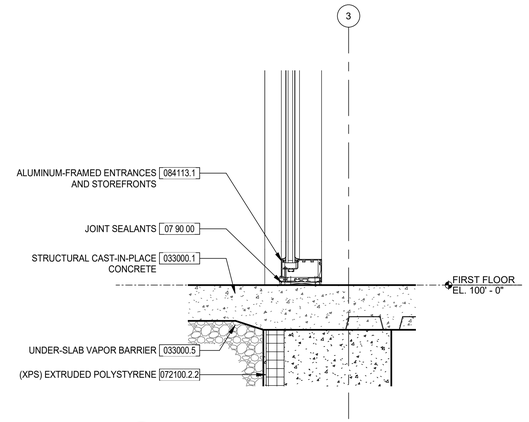
2 ENTRANCE CANOPY WEST
1 1/2" = 1'-0"



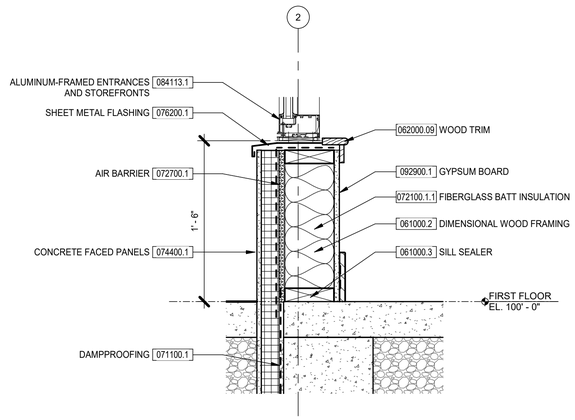
1 EXTERIOR VESTIBULE HEAD
1 1/2" = 1'-0"



6 VESTIBULE SECTION - EAST/ WEST LOOKING NORTH
1/2" = 1'-0"



4 INTERIOR VESTIBULE SILL
1 1/2" = 1'-0"



5 EXTERIOR VESTIBULE SILL
1 1/2" = 1'-0"

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STATE OF OHIO
Kalpa Baghasingh
1516341
REGISTERED ARCHITECT

Kalpa Baghasingh, License #1516341
Expiration Date 12/31/2025

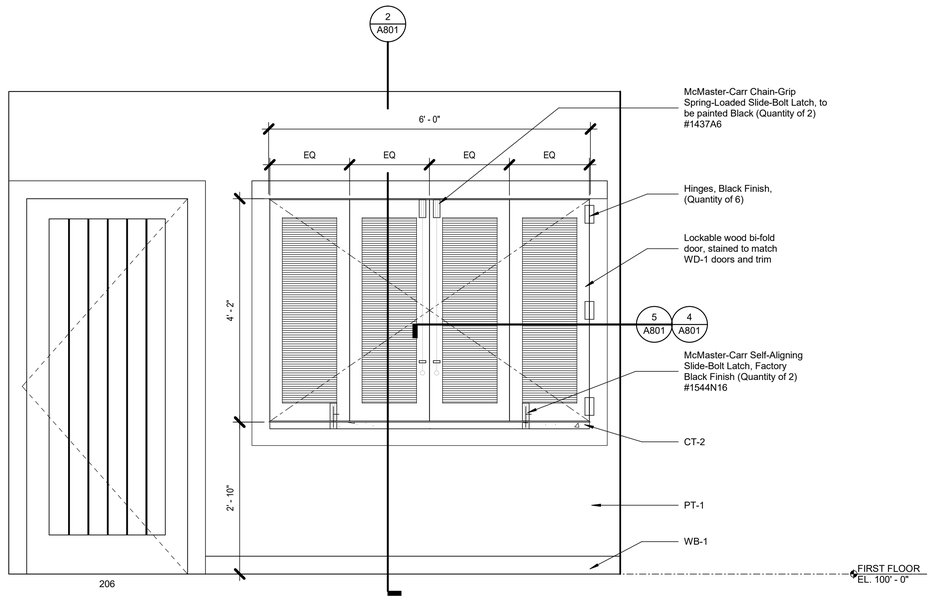
Entry Vestibule and Canopy Details

Architectural

A704

02/14/2025

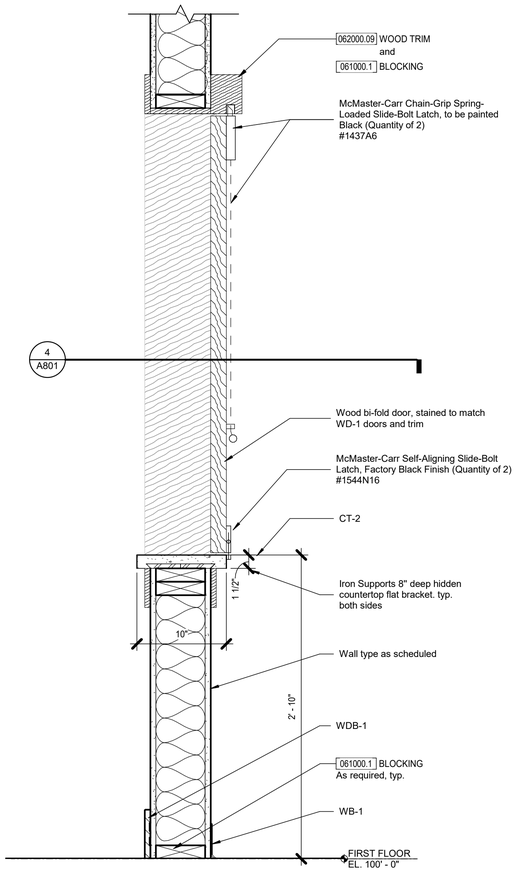
23070



Elevation and associated Details represent basis of design, contractor may provide alternative options for review

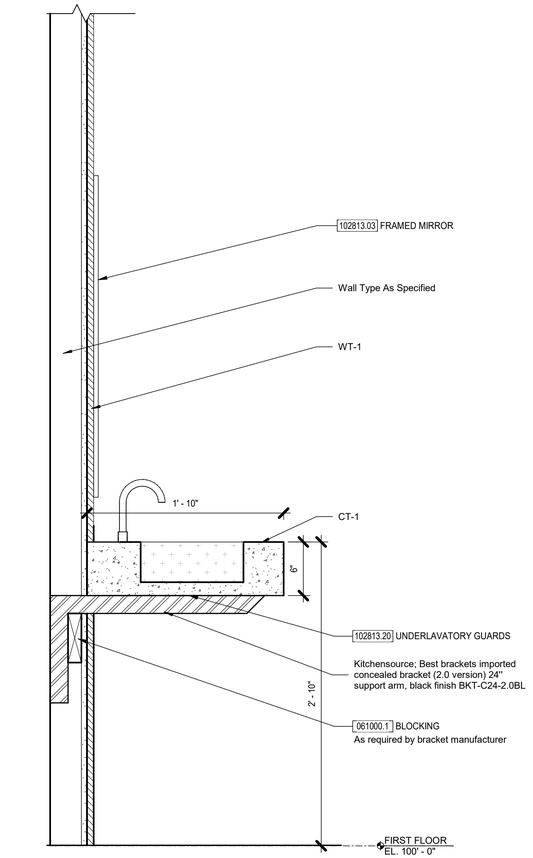
3 SERVERY ELEVATION - KITCHEN SIDE

3/4" = 1'-0"



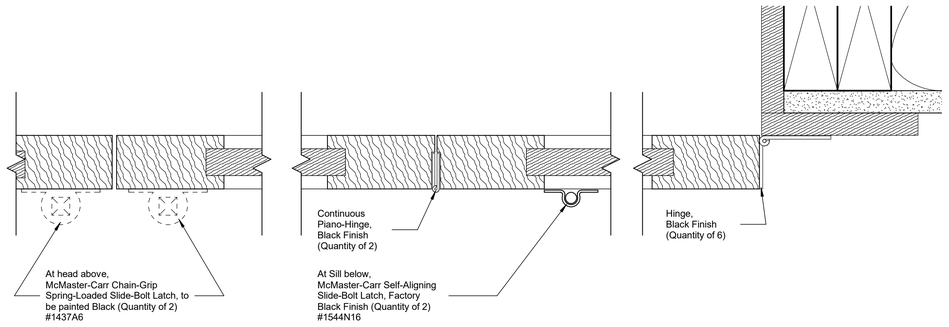
2 SERVERY PASS-THROUGH COUNTER SECTION

1 1/2" = 1'-0"



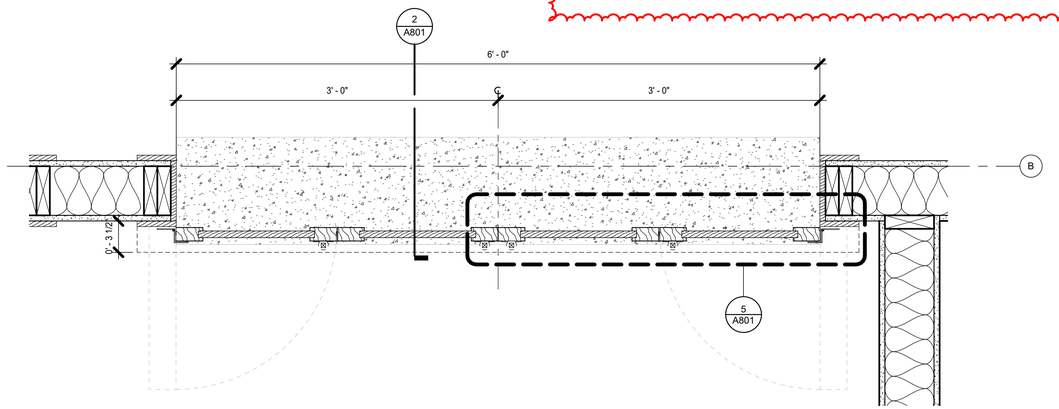
1 TYPICAL RESTROOM COUNTER SECTION

1 1/2" = 1'-0"



5 Servery Counter Shutter Door Detail

6" = 1'-0"



4 Servery Counter Shutter Door Plan

1 1/2" = 1'-0"

SCHOOLEY CALDWELL
ARCHITECTURE. INSPIRED.

300 Marconi Boulevard T 614-628-0300
Columbus OH 43215 F 614-628-0311
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1650 Watermark Drive, Columbus, OH 43215
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Bid Set / Permit Set
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Revision Schedule

#	Description	Date
1	Addendum 01	02/26/2025

Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

STATE OF OHIO
Kalpa
Baghasingh
1516341
REGISTERED ARCHITECT

Kalpa Baghasingh, License #1516341
Expiration Date 12/31/2025

Interior Details

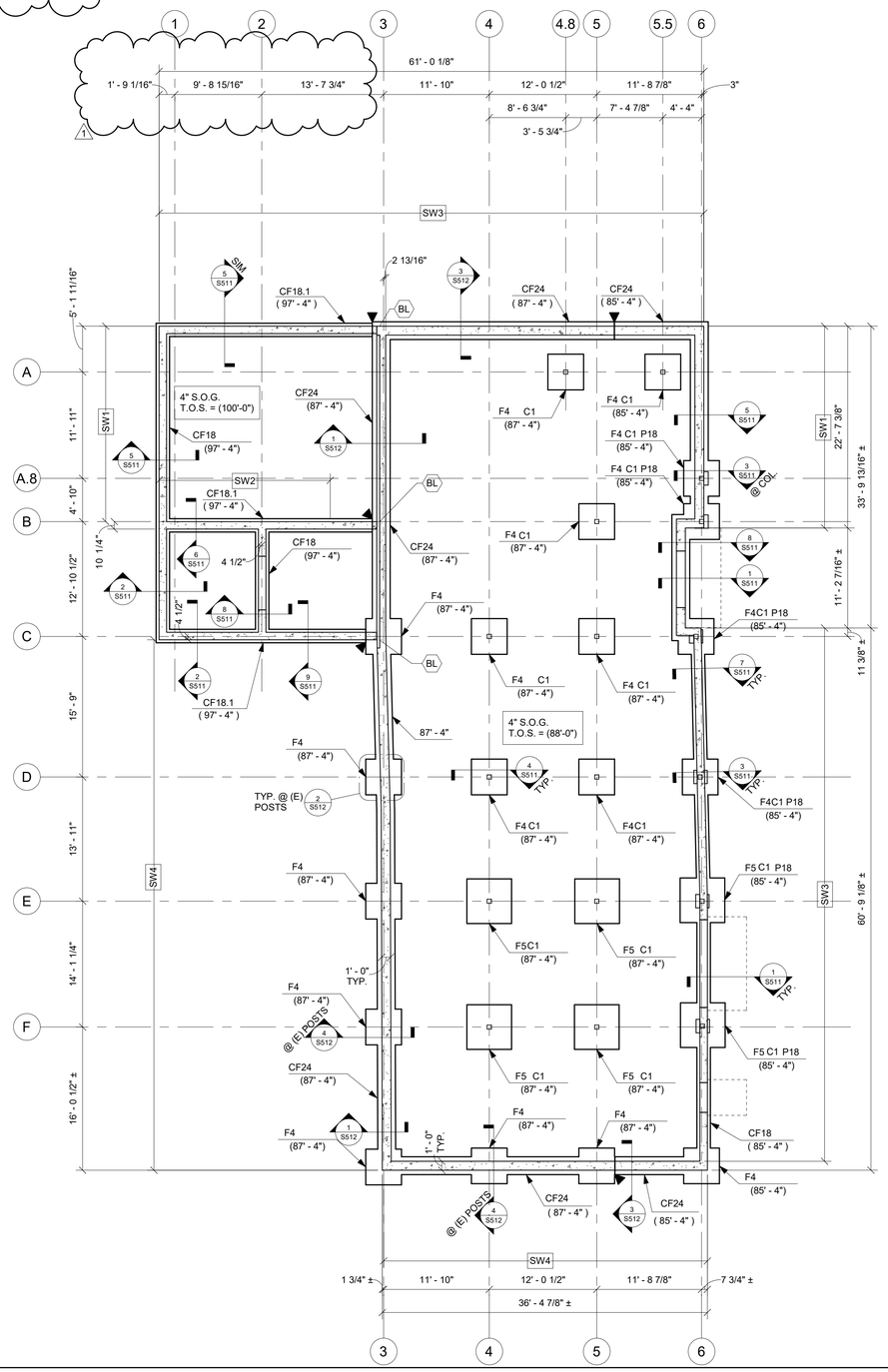
Architectural

A801

02/14/2025

23070

SHEAR WALL SCHEDULE				NAIL SPACING:		HOLD DOWN:				BASE CONNECTION:	
WALL TYPE:	WALL MEMBERS:	SHEATHING TYPE & THICKNESS:	NAIL SIZE:	EDGE:	FIELD:	TYPE:	ANCHOR:	EMBED:	BOUNDARY CHORD:	FASTENER:	SPACING:
SW1	2X6 @ 16" O.C.	EXTERIOR: 7/16" SHEATHING PANEL INTERIOR: 5/8" GYPSUM SHEATHING PER ARCH	10d 6d	2" O.C. 4" O.C.	12" O.C. 12" O.C.	HDU14-SDS2.5	1" DIAM. ANCHOR ROD - ATTACH TO STEEL END W/ SIMPSON ATS-SBC	14" MIN.	(3) 2X6 STUDS	1/2" DIAM. SCREW ANCHOR EMBED 5" MIN. INTO FOUNDATION OR 0.15" SHANK PAF EMBED INTO STEEL	4'-0" O.C. 12" O.C.
SW2	2X6 @ 16" O.C.	EXTERIOR: 7/16" SHEATHING PANEL INTERIOR: 5/8" GYPSUM SHEATHING PER ARCH	10d 6d	2" O.C. 4" O.C.	12" O.C. 12" O.C.	HDU11-SDS2.5	1" DIAM. ANCHOR ROD	14" MIN.	(3) 2X6 STUDS	1/2" DIAM. SCREW ANCHOR EMBED 5" MIN.	4'-0" O.C.
SW3	2X6 @ 16" O.C.	EXTERIOR: 7/16" SHEATHING PANEL @ ADDITION, R-12 ZIP PANEL W/ 7/16" SHEATHING PANEL AT (E) BARN INTERIOR: 5/8" GYPSUM SHEATHING PER ARCH	10d 6d	2" O.C. 4" O.C.	12" O.C. 12" O.C.	HDU2-SDS2.5	5/8" DIAM. ANCHOR ROD	10" MIN.	(3) 2X6 STUDS	1/2" DIAM. SCREW ANCHOR EMBED 5" MIN.	4'-0" O.C.
SW4	2X4 FLAT @ 24" O.C.	R-12 ZIP PANEL, W/ 7/16" SHEATHING PANEL	12d	2" O.C.	12" O.C.	CUSTOM BASE PLATE	SEE DETAIL 3 /S522	12" MIN.	(E) 8X8 WOOD POST	0.15" SHANK PAF EMBED 1 1/2" MIN. EMBED	2'-0" O.C.
SW5	2X4 FLAT @ 24" O.C.	R-12 ZIP PANEL, W/ 7/16" SHEATHING PANEL SEE DETAIL 4 /S521	12d	2" O.C.	12" O.C.	CUSTOM BASE PLATE	SEE DETAIL 4 /S521	N/A	(E) 8X8 WOOD POST	0.15" SHANK PAF EMBED 1 1/2" MIN. INTO SOD	2'-0" O.C.
SW6	2X4 FLAT @ 24" O.C. ABOVE LOW ROOF & 2X4 @ 16" O.C. BELOW LOW ROOF	R-12 ZIP PANEL, W/ 7/16" SHEATHING PANEL ABOVE LOW ROOF & 1/2" SHEATHING BELOW LOW ROOF. SEE DETAIL 7 /S530	12d	2" O.C.	12" O.C.	CUSTOM BASE PLATE	SEE DETAIL 7 /S522 & 3 /S522	N/A	(2) 8X8 WOOD POST	0.15" SHANK PAF EMBED 1 1/2" MIN. INTO SOD	2'-0" O.C.



CONTRACTOR TO VERIFY EXACT DIMENSIONS OF EXISTING BARN BEFORE POURING NEW BASEMENT WALLS & FOUNDATIONS FOR EXISTING BARN.

COLUMN LINES SHOWN ON PLAN LOCATE **NEW** COLUMNS ONLY. CONTRACTOR TO VERIFY LOCATIONS OF (E) COLUMNS IN FIELD.

EXACT LOCATION OF NEW STEEL COLUMNS, CONCRETE WALLS, & FOUNDATIONS ALONG COLUMN LINE 3 & COLUMN LINE 6 BENEATH (E) BARN SHALL BE VERIFIED WITH (E) BARN DIMENSIONS.

1 FOUNDATION PLAN

SCALE: 1/8" = 1'-0"
0' 1' 2' 4' 8'

N

FOUNDATION NOTES

1. REFERENCE ELEVATION 100'-0" = U.S.G.S. EL. 861.5' (NAVD 1988).
2. FOUNDATIONS SHALL BE FOUNDED ON VIRGIN SOIL OR ON ENGINEERED FILL AT THE ELEVATIONS SHOWN WITH A DESIGN BEARING CAPACITY OF 10 KSF BELOW 88'-0" AND 3.5 KSF ABOVE 88'-0". ALL FOOTING EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE SOILS ENGINEER FOR THE BEARING CAPACITY INDICATED ABOVE PRIOR TO PLACING CONCRETE.
3. EXPANSIVE SHALE WILL BE ENCOUNTERED ON SITE. REFER TO SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING REPORT OFOR RECOMMENDATIONS REGARDING UNDERCUTTING UNDER FOUNDATIONS AND TREATMENT OF SHALE.
4. KEEP FOUNDATION EXCAVATIONS FREE OF WATER AT ALL TIMES. REPLACE SOFT OR WEAKENED SOIL WITH CLASS IV CONCRETE.
5. BASEMENT WALLS HAVE BEEN DESIGNED FOR AN EQUIVALENT LATERAL FLUID PRESSURE OF 55 PCF.
6. BACKFILL AGAINST ALL BASEMENT WALLS SHALL CONSIST OF FREE DRAINING GRANULAR MATERIAL FOR FULL HEIGHT OF THE WALL EXTENDING UPWARD FROM THE BASE AT A 35 DEGREE ANGLE FROM THE VERTICAL. MINIMUM THICKNESS OF GRANULAR BACKFILL MATERIAL SHALL BE 2'-0".
7. ELEVATIONS SHOWN AT FOOTINGS ARE TOP OF FOOTING ELEVATION (T.O.F.).
8. ALL EXTERIOR FOOTINGS TO BEAR MIN. 3'-0" BELOW ADJACENT GRADE. ADJUST BOTTOM OF FOOTING AS REQUIRED.
9. ▼ INDICATES FOOTING STEP, SEE 1.3 /S510 .
10. TOP OF PIER ELEVATION (T.O.P.) = 87'-4", U.N.O.
11. FLOOR CONSTRUCTION = 4" THICK CONCRETE SLAB ON GRADE REINFORCED WITH SYNTHETIC FIBER REINFORCING ON 4" OF AGGREGATE BASE. SEE DETAIL 1.1 & 1.2 /S510 FOR TYPICAL CONCRETE SLAB-ON-GRADE CONSTRUCTION. S.O.G. AT 100'-0" ELEVATION IS TO BE EXPOSED SEALED CONCRETE REINFORCED W/ #3 @12" O.C. E.W. AT MID DEPTH OF SLAB FOR CRACKING CONTROL.
12. TOP OF SLAB EL. (T.O.S.) = 88'-0" AT BASEMENT AND 100'-0" AT FIRST FLOOR, U.NO. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR MINOR DEPRESSIONS AND SLOPES TO DRAINS.
13. SEE SHEET S001 FOR STRUCTURAL NOTES & LEGEND.
14. SEE 1.4 /S510 FOR THICKENED SLAB UNDER STAIR STRINGERS & STAIR POSTS. SEE ARCHITECTURAL PLANS FOR LOCATIONS.
15. DO NOT BACKFILL AGAINST BASEMENT WALLS UNTIL BOTH THE SLAB-ON-GRADE AND THE SUPPORTED SLAB ABOVE ARE IN PLACE AND CURED. BACKFILL AGAINST BOTH SIDES OF WALLS EQUALLY UNTIL THE LOWER ELEVATION IS ATTAINED.

FOOTING SCHEDULE (3000 PSF SOIL)				
Mark	Size			Bottom Reinforcement
	Length	Width	Thickness	
F4	4' - 0"	4' - 0"	1' - 0"	5#5 E.W.
F5	5' - 0"	5' - 0"	1' - 0"	5#5 E.W.

CONTINUOUS FOOTING SCHEDULE			
Mark	Width	Thickness	Reinforcement
CF18	1' - 6"	1' - 0"	2#5 CONT. BOT.
CF18.1	1' - 6"	1' - 0"	2#7 CONT. BOT.
CF24	2' - 0"	1' - 0"	2#5 CONT. BOT.

Structural Column Schedule				
Mark	Column	BASE CONNECTION	Anchor Rods	Embedment
C1	HSS6X6X3/8	3/4X12X12 BASE PLATE. SEE 7/S512	(4) 3/4" Ø	8"
C2	8X8 PT POST	SIMPSON CPTZ POST BASE	(2) 1/2" Ø	8"
C3	(E) ROUGH 8X8 POST	BASE PL & KNIFE PL PER 7/S522 & 13/S522	(2) 5/8" Ø	8"
C4	(2) 2X6 FOR ADULT CHANGING TABLE	ATTACH TO BOT. PLATE W/ SIMPSON A44 EA. SIDE.	(2) 1/4" Ø	1 1/2"

CODED NOTES	
BL	PROVIDE 4' BEARING LEDGE FOR STRIP FOOTING TO BEAR ON POURED WALL. PROVIDE HOOKED DOWELS IN WALL TO LAP CONT. BARS IN CONTINUOUS FOOTING.

KORDA
KORDA/NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

DRAWN BY:	WRH
DESIGNED BY:	CKP
CHECKED BY:	IJP
PROJECT NUMBER:	2023-0006

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ARCHITECTURE. INSPIRED.
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Bid Set / Permit Set
02/14/2025

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#	Description	Date
1	Addendum 01	02/26/2025

Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

STATE OF OHIO
IAN J. PFEFFERLE
E-73568
REGISTERED
PROFESSIONAL ENGINEER
02/14/2025

FOUNDATION PLAN

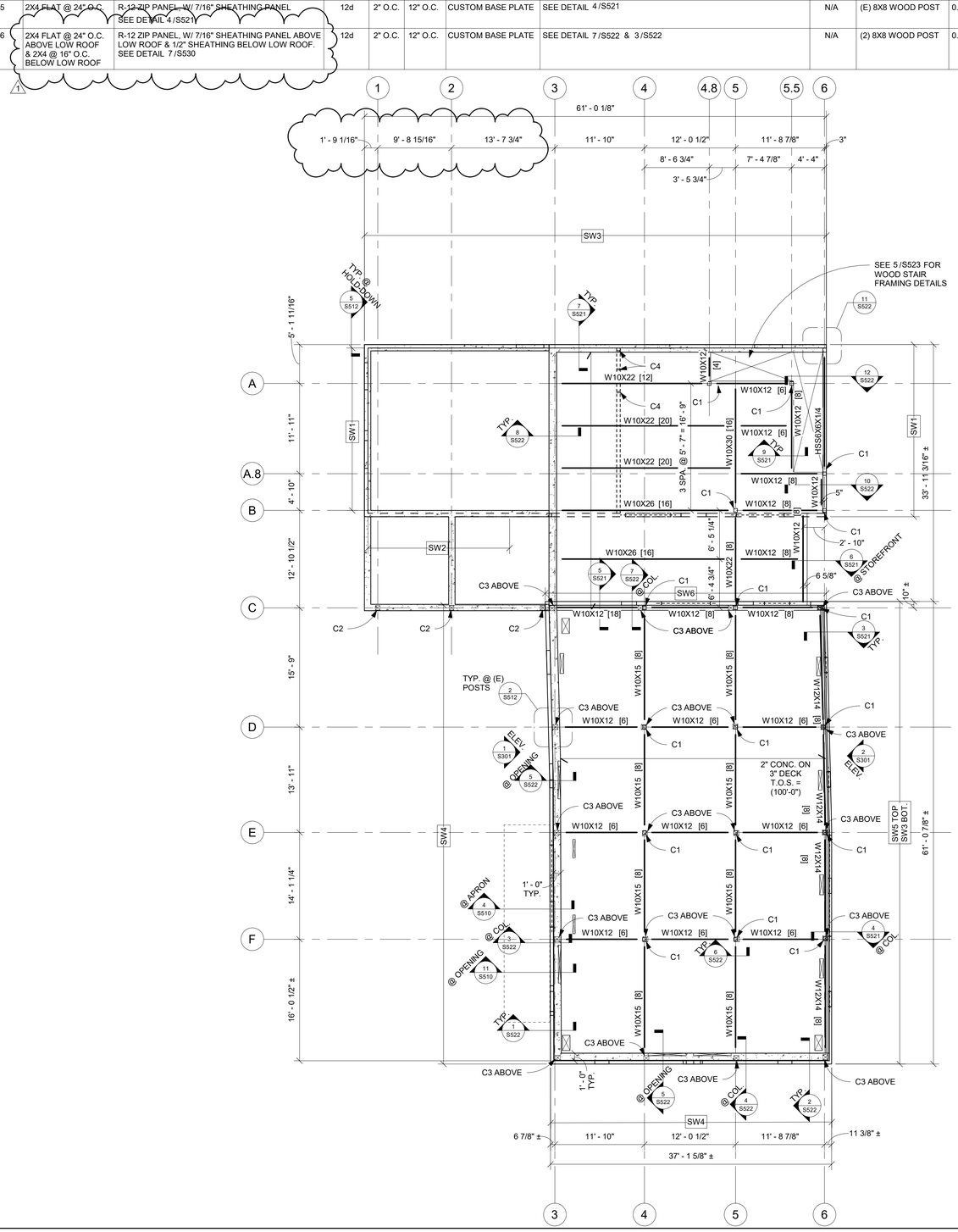
Structural

S101

11/25/2024

23070

SHEAR WALL SCHEDULE				NAIL SPACING:		HOLD DOWN:				BASE CONNECTION:	
WALL TYPE:	WALL MEMBERS:	SHEATHING TYPE & THICKNESS:	NAIL SIZE:	EDGE:	FIELD:	TYPE:	ANCHOR:	EMBED:	BOUNDARY CHORD:	FASTENER:	SPACING:
SW1	2X6 @ 16" O.C.	EXTERIOR: 7/16" SHEATHING PANEL INTERIOR: 5/8" GYPSUM SHEATHING PER ARCH	10d 6d	2" O.C. 4" O.C.	12" O.C. 12" O.C.	HDU14-SDS2.5	1" DIAM. ANCHOR ROD - ATTACH TO STEEL END W/ SIMPSON ATS-SBC	14" MIN.	(3) 2X6 STUDS	1/2" DIAM. SCREW ANCHOR EMBED 5" MIN. INTO FOUNDATION OR 0.15" SHANK PAF EMBED INTO STEEL	4'-0" O.C. 12" O.C.
SW2	2X6 @ 16" O.C.	EXTERIOR: 7/16" SHEATHING PANEL INTERIOR: 5/8" GYPSUM SHEATHING PER ARCH	10d 6d	2" O.C. 4" O.C.	12" O.C. 12" O.C.	HDU11-SDS2.5	1" DIAM. ANCHOR ROD	14" MIN.	(3) 2X6 STUDS	1/2" DIAM. SCREW ANCHOR EMBED 5" MIN.	4'-0" O.C.
SW3	2X6 @ 16" O.C.	EXTERIOR: 7/16" SHEATHING PANEL @ ADDITION, R-12 ZIP PANEL W/ 7/16" SHEATHING PANEL AT (E) BARN INTERIOR: 5/8" GYPSUM SHEATHING PER ARCH	10d 6d	2" O.C. 4" O.C.	12" O.C. 12" O.C.	HDU2-SDS2.5	5/8" DIAM. ANCHOR ROD	10" MIN.	(3) 2X6 STUDS	1/2" DIAM. SCREW ANCHOR EMBED 5" MIN.	4'-0" O.C.
SW4	2X4 FLAT @ 24" O.C.	R-12 ZIP PANEL, W/ 7/16" SHEATHING PANEL	12d	2" O.C.	12" O.C.	CUSTOM BASE PLATE	SEE DETAIL 3 /S522	12" MIN.	(E) 8X8 WOOD POST	0.15" SHANK PAF EMBED 1 1/2" MIN. EMBED	2'-0" O.C.
SW5	2X4 FLAT @ 24" O.C.	R-12 ZIP PANEL, W/ 7/16" SHEATHING PANEL SEE DETAIL 4 /S521	12d	2" O.C.	12" O.C.	CUSTOM BASE PLATE	SEE DETAIL 4 /S521	N/A	(E) 8X8 WOOD POST	0.15" SHANK PAF EMBED 1 1/2" MIN. INTO SOD	2'-0" O.C.
SW6	2X4 FLAT @ 24" O.C. ABOVE LOW ROOF & 2X4 @ 16" O.C. BELOW LOW ROOF	R-12 ZIP PANEL, W/ 7/16" SHEATHING PANEL ABOVE LOW ROOF & 1/2" SHEATHING BELOW LOW ROOF. SEE DETAIL 7 /S530	12d	2" O.C.	12" O.C.	CUSTOM BASE PLATE	SEE DETAIL 7 /S522 & 3 /S522	N/A	(2) 8X8 WOOD POST	0.15" SHANK PAF EMBED 1 1/2" MIN. INTO SOD	2'-0" O.C.



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EXACT LOCATION OF NEW STEEL COLUMNS, CONCRETE WALLS, & FOUNDATIONS ALONG COLUMN LINE 3 & COLUMN LINE 6 BENEATH (E) BARN SHALL BE VERIFIED WITH (E) BARN DIMENSIONS.

1 MAIN FLOOR FRAMING PLAN

SCALE: 1/8" = 1'-0"
0' 1' 2' 4' 8'

N

SEE SHEET S101 FOR FOUNDATION NOTES

FLOOR FRAMING NOTES

1. DESIGN FLOOR LIVE LOADS

   CORRIDORS, STAIRS: 100 PSF
   EVENT HALL: 100 PSF
   MECHANICAL ROOM, STORAGE: 150 PSF
   OFFICES: 50 PSF + 15 PSF PARTITION ALLOWANCE

   A. NOTE: LIVE LOAD REDUCIBLE PER OBC.

2. SUPPORTED FLOOR CONSTRUCTION: 2 INCHES OF NORMAL WEIGHT CONCRETE FILL WITH #3@12" O.C. EACH WAY AT MID DEPTH OF SLAB FOR CRACKING CONTROL ON 3-INCH DEEP GALVANIZED COMPOSITE METAL FLOOR DECK. OVERALL THICKNESS = 5 INCHES U.N.O.

3. TOP OF SLAB ELEVATION (T.O.S.) = 100'-0", U.N.O. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR MINOR SLOPES, C.I.P. CONCRETE CURBS, DRAINS, OPENINGS FOR PIPES AND DUCTS; ETC. PROVIDE POUR STOP PER 10 /S521 AT OPENINGS IN COMPOSITE DECK. PROVIDE FRAMING PER 9 /S521 AT OPENINGS IN COMPOSITE DECK U.N.O.

4. TOP OF STEEL ELEVATION (T.O.STL.) = 99'-7, UNLESS NOTED OTHERWISE.

5. ELEVATIONS SHOWN INDICATE THE FOLLOWING:

   AT BEAMS: TOP OF BEAM EL. (U.N.O.)
   AT ANGLES: TOP OF ANGLE EL. (U.N.O.)

6. [X] INDICATES NUMBER OF 3/4 INCH DIAMETER HEADED SHEAR STUDS REQUIRED ON TOP FLANGE OF BEAM. SEE SECTION 1 /S521.

7. SEE DETAIL 2 /S521 FOR DECK/BEAM DEFLECTION DUE TO WEIGHT OF WET CONCRETE.

8. SEE SHEET S001 FOR STRUCTURAL NOTES, AND LEGEND.

9. ALL 2X4 STUDS INSTALLED FLAT AT (E) BARN TO BE CONNECTED @ EACH (E) GIRT W/ (8) 10d NAILS

10. NO NAIL PENETRATIONS ARE TO BE VISIBLE THROUGH (E) WOOD SIDING

11. SW1 INDICATES SHEAR WALL PER TAG. SEE SHEAR WALL SCHEDULE FOR DETAILS. SEE 8 /S521 FOR TYPICAL SHEAR WALL CONSTRUCTION.

12. DO NOT BACKFILL AGAINST BASEMENT WALLS UNTIL BOTH THE SLAB-ON-GRADE AND THE SUPPORTED SLAB ABOVE ARE IN PLACE AND CURED. BACKFILL AGAINSTBOTH SIDES OF WALLS EQUALLY UNTIL THE LOWER ELEVATION IS ATTAINED.

13. INDICATES COMPOSITE DECK SPAN DIRECTION.

14. INDICATES FLOOR OPENING. PROVIDE FRAMING PER 9 /S521. LOCATION PER MECH.

Structural Column Schedule				
Mark	Column	BASE CONNECTION	Anchor Rods	Embedment
C1	HSS6X6X3/8	3/4X12X12 BASE PLATE. SEE 7/S512	(4) 3/4" Ø	8"
C2	8X8 PT POST	SIMPSON CPTZ POST BASE	(2) 1/2" Ø	8"
C3	(E) ROUGH 8X8 POST	BASE PL & KNIFE PL PER 7/S522 & 13/S522	(2) 5/8" Ø	8"
C4	(2) 2X6 FOR ADULT CHANGING TABLE	ATTACH TO BOT. PLATE W/ SIMPSON A44 EA. SIDE.	(2) 1/4" Ø	1 1/2"

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KORDA NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

DRAWN BY:	WRH
DESIGNED BY:	CKP
CHECKED BY:	UP
PROJECT NUMBER:	2023-0006

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Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

02/14/2025

MAIN FLOOR FRAMING PLAN

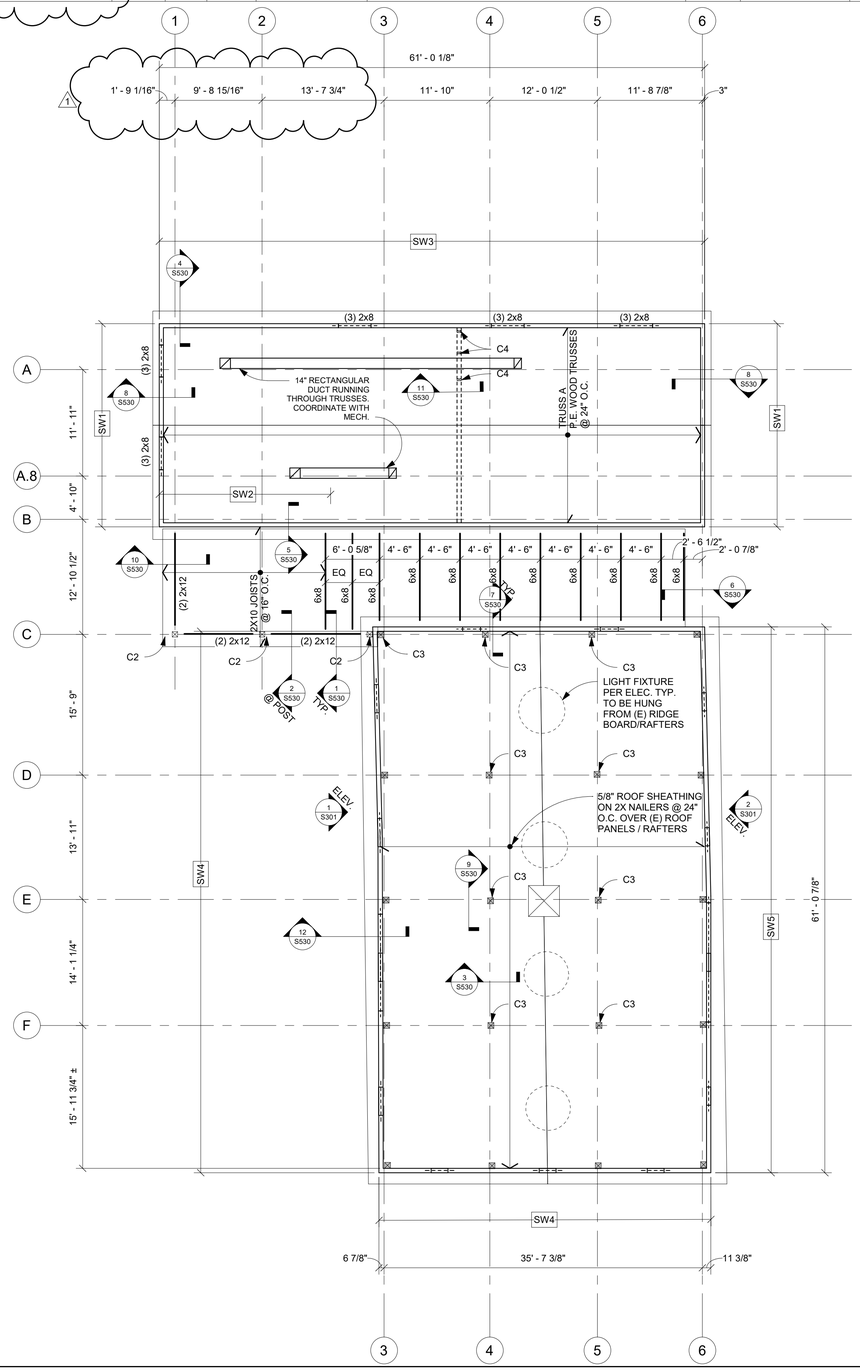
Structural

S102

11/25/2024

23070

SHEAR WALL SCHEDULE				NAIL SPACING:		HOLD DOWN:				BASE CONNECTION:	
WALL TYPE:	WALL MEMBERS:	SHEATHING TYPE & THICKNESS:	NAIL SIZE:	EDGE:	FIELD:	TYPE:	ANCHOR:	EMBED:	BOUNDARY CHORD:	FASTENER:	SPACING:
SW1	2X6 @ 16" O.C.	EXTERIOR: 7/16" SHEATHING PANEL INTERIOR: 5/8" GYPSUM SHEATHING PER ARCH	10d 6d	2" O.C. 4" O.C.	12" O.C. 12" O.C.	HDU14-SDS2.5	1" DIAM. ANCHOR ROD - ATTACH TO STEEL END W/ SIMPSON ATS-SBC	14" MIN.	(3) 2X6 STUDS	1/2" DIAM. SCREW ANCHOR EMBED 5" MIN. INTO FOUNDATION OR 0.15" SHANK PAF EMBED INTO STEEL	4'-0" O.C. 12" O.C.
SW2	2X6 @ 16" O.C.	EXTERIOR: 7/16" SHEATHING PANEL INTERIOR: 5/8" GYPSUM SHEATHING PER ARCH	10d 6d	2" O.C. 4" O.C.	12" O.C. 12" O.C.	HDU11-SDS2.5	1" DIAM. ANCHOR ROD	14" MIN.	(3) 2X6 STUDS	1/2" DIAM. SCREW ANCHOR EMBED 5" MIN.	4'-0" O.C.
SW3	2X6 @ 16" O.C.	EXTERIOR: 7/16" SHEATHING PANEL @ ADDITION, R-12 ZIP PANEL W/ 7/16" SHEATHING PANEL AT (E) BARN INTERIOR: 5/8" GYPSUM SHEATHING PER ARCH	10d 6d	2" O.C. 4" O.C.	12" O.C. 12" O.C.	HDU2-SDS2.5	5/8" DIAM. ANCHOR ROD	10" MIN.	(3) 2X6 STUDS	1/2" DIAM. SCREW ANCHOR EMBED 5" MIN.	4'-0" O.C.
SW4	2X4 FLAT @ 24" O.C.	R-12 ZIP PANEL, W/ 7/16" SHEATHING PANEL	12d	2" O.C.	12" O.C.	CUSTOM BASE PLATE	SEE DETAIL 3 /S522	12" MIN.	(E) 8X8 WOOD POST	0.15" SHANK PAF EMBED 1 1/2" MIN. EMBED	2'-0" O.C.
SW5	2X4 FLAT @ 24" O.C.	R-12 ZIP PANEL, W/ 7/16" SHEATHING PANEL SEE DETAIL 4 /S521	12d	2" O.C.	12" O.C.	CUSTOM BASE PLATE	SEE DETAIL 4 /S521	N/A	(E) 8X8 WOOD POST	0.15" SHANK PAF EMBED 1 1/2" MIN. INTO SOD	2'-0" O.C.
SW6	2X4 FLAT @ 24" O.C. ABOVE LOW ROOF & 2X4 @ 16" O.C. BELOW LOW ROOF	R-12 ZIP PANEL, W/ 7/16" SHEATHING PANEL ABOVE LOW ROOF & 1/2" SHEATHING BELOW LOW ROOF. SEE DETAIL 7 /S530	12d	2" O.C.	12" O.C.	CUSTOM BASE PLATE	SEE DETAIL 7 /S522 & 3 /S522	N/A	(2) 8X8 WOOD POST	0.15" SHANK PAF EMBED 1 1/2" MIN. INTO SOD	2'-0" O.C.



1 ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"
0' 1' 2' 4' 8'

N

ROOF FRAMING NOTES

1. DESIGN ROOF LIVE LOADS = 20 PSF PLUS THE EFFECTS OF DRIFTING SNOW PER OBC. 12 PSF NET WIND UPLIFT.
2. ROOF CONSTRUCTION:
   5/8" ROOF SHEATHING ON PREFABRICATED WOOD TRUSSES.
   2" NOMINAL TONGUE AND GROOVE WOOD PANELS ON DIMENSION LUMBER JOISTS & RECLAIMED BEAMS.
   2X NAILERS WITH SHEATHING ON (E) BARN RAFTERS.
3. NO NAIL PENETRATIONS ARE TO BE VISIBLE THROUGH (E) WOOD SIDING
4. TOP OF JOIST / BEAM ELEVATION = 112'-0" UNLESS NOTED OTHERWISE.
5. SEE SHEET S001 FOR STRUCTURAL NOTES AND LEGEND.
6. REUSE (E) LUMBER FROM BARN DEMO WHERE CALLED OUT ON PLAN. DO NOT USE WOOD WITH SIGNS OF DETERIORATION OR CRACKING. (E) LUMBER CAN BE CUT DOWN TO APPROPRIATE SIZE AS NEEDED. NEW ROUGH HEWN LUMBER CAN BE USED IF NEEDED.

Structural Column Schedule				
Mark	Column	BASE CONNECTION	Anchor Rods	Embedment
C1	HSS6X6X3/8	3/4X12X12 BASE PLATE. SEE 7/S512	(4) 3/4" Ø	8"
C2	8X8 PT POST	SIMPSON CPTZ POST BASE	(2) 1/2" Ø	8"
C3	(E) ROUGH 8X8 POST	BASE PL & KNIFE PL PER 7/S522 & 13/S522	(2) 5/8" Ø	8"
C4	(2) 2X6 FOR ADULT CHANGING TABLE	ATTACH TO BOT. PLATE W/ SIMPSON A44 EA. SIDE.	(2) 1/4" Ø	1 1/2"

KORDA
KORDA NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

DRAWN BY: WRH
DESIGNED BY: CKP
CHECKED BY: IJP
PROJECT NUMBER: 2023-0006

SCHOOLEY CALDWELL
ARCHITECTURE. INSPIRED.
300 Marconi Boulevard T 614-628-0300
Columbus OH 43215 F 614-628-0311
schooleycaldwell.com

Consultants:
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614.487.1650

Barn Consultant
Mt. Vernon Barn Co.
7676 Co Rd 19, Fredericktown, OH 43019
614.634.2049

Drawing Issue Dates

Design Development Submittal
11/17/2023

50% Construction Documents
08/15/2024

90% Construction Documents
01/15/2025

Bid Set / Permit Set
02/14/2025

Revision Schedule		
#	Description	Date
1	Addendum 01	02/26/2025

Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

02/14/2025

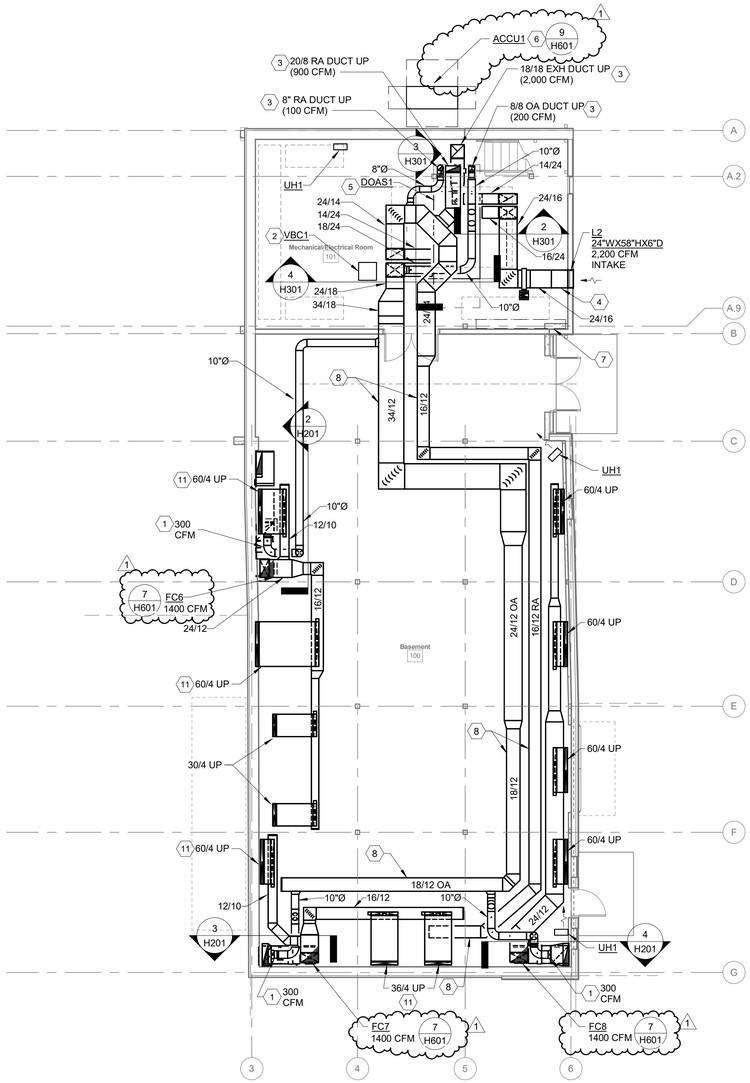
ROOF FRAMING PLAN

Structural

S103

11/25/2024

23070



1 FLOOR PLAN

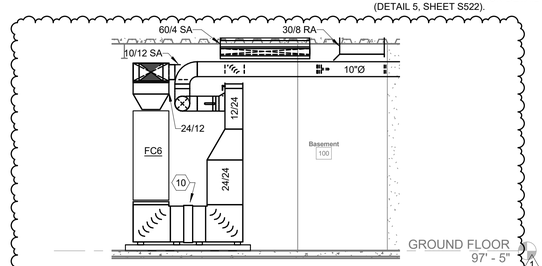
GROUND FLOOR

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

0' 1' 2' 4' 8'

CODED NOTES:

1. VENTILATION AIR DUCT TO BE BALANCED TO CFM INDICATED ON PLAN.
2. VRF SYSTEM CHANGE-OVER CONTROL BOX FOR INDOOR VRF UNITS LOCATED ON THE GROUND LEVEL.
3. DUCTWORK TO RISE UP EXPOSED INTO FIRST FLOOR NON-RATED STAIRWELL. REFER TO SPECIFICATIONS FOR INSULATION REQUIREMENTS FOR EXPOSED DUCTWORK.
4. DOUBLE WALL INSULATED PLENUM BOX, FULL SIZE OF LOUVER (24" DEEP).
5. INDOOR DOAS UNIT TO BE MOUNTED ON UNI-STRUT FRAME 24" ABOVE FINISHED FLOOR (SUPPORTED FROM FLOOR).
6. OUTDOOR VRF REFRIGERATION UNIT MOUNTED ON 8" CONCRETE RE-INFORCED PAD.
7. ELECTRICAL PANELS AND EQUIPMENT. AVOID ROUTING DUCTWORK OR PIPING WITHIN THIS AREA.
8. DOAS VENTILATION SUPPLY AND RETURN/EXHAUST DUCT MAINS IN GROUND LEVEL SIZED FOR FUTURE EXPANSION OF GROUND FLOOR SHELL SPACE.
9. RETURN DUCT UP INTO FIRST FLOOR ARCHITECTURAL SEAT.
10. PROVIDE FILTER MODULE (HONEYWELL F100 20X25 OR EQUAL).
11. SUPPLY DUCT TO RISE UP INTO NOTCHED FOUNDATION WALL AND CONNECT TO FLOOR REGISTER ABOVE ON FIRST FLOOR. REFER TO STRUCTURAL FOUNDATION DETAIL FOR NOTCH HEIGHT AND WIDTH (DETAIL 5, SHEET S522).

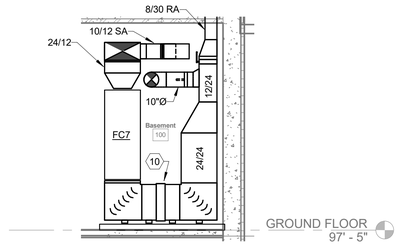


2 SECTION

FC6

SCALE: 1/4" = 1'-0"

0' 1' 2' 4'

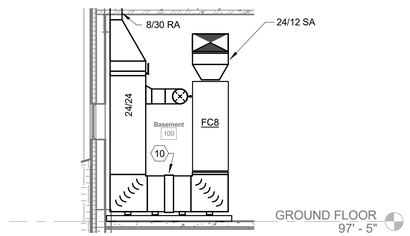


3 SECTION

FC7

SCALE: 1/4" = 1'-0"

0' 1' 2' 4'



4 SECTION

FC8

SCALE: 1/4" = 1'-0"

0' 1' 2' 4'

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1	Revision 1	Date 1

Bicentennial Barn - McCammon Creek Park

6844 Bale Kenyon Rd
Lewis Center, OH 43035

STATE OF OHIO
ERIC C. STEPHENS
E-83078
REGISTERED
PROFESSIONAL ENGINEER
2-14-25

GROUND FLOOR HVAC PLAN

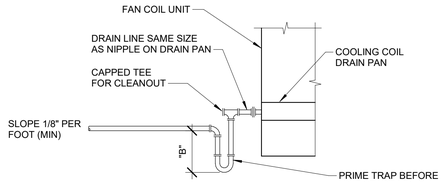
H201

02/14/2025

23070

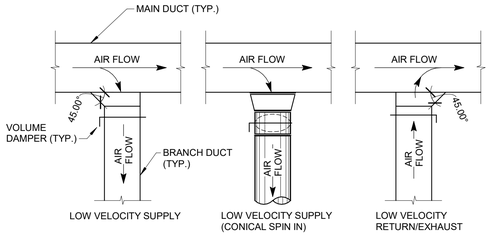
KORDA
KORDA NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

DRAWN BY:	Ann Guan
DESIGNED BY:	Paul Carr
CHECKED BY:	Eric Stephens
PROJECT NUMBER:	2023-0006



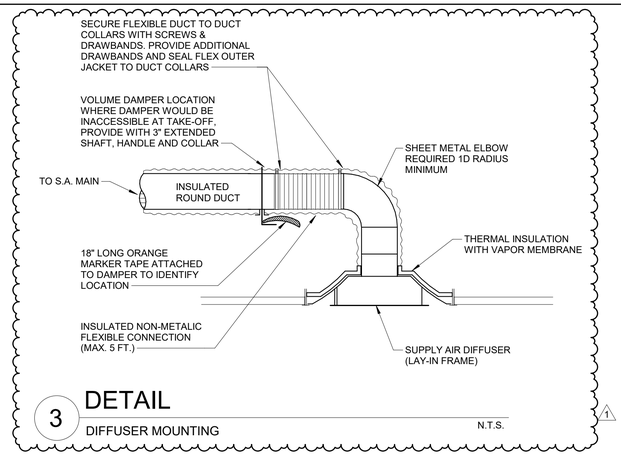
	A(IN)	B(IN)
DRAWTHRU COIL	FAN INLET STATIC	"A"/2+1
BLOWTHRU COIL	2" MIN	FAN DISCHARGE STATIC PLUS 1"

1 DETAIL
CONDENSATION DRAIN TRAP PIPING
N.T.S.

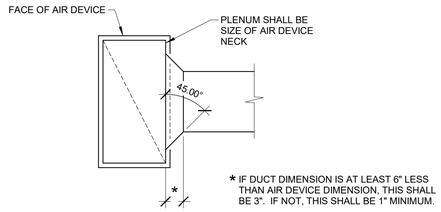


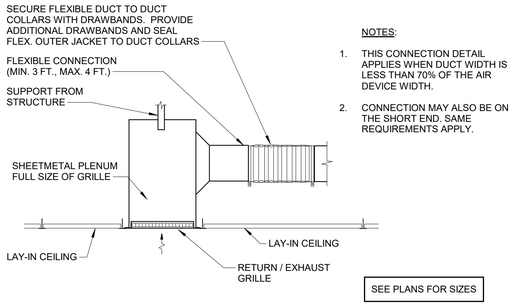
PROVIDE 18" LONG ORANGE MARKER TAPE ON EACH VOLUME DAMPER HANDLE TO IDENTIFY LOCATION

2 DETAIL
TYPICAL DUCT CONNECTIONS
N.T.S.



3 DETAIL
DIFFUSER MOUNTING
N.T.S.

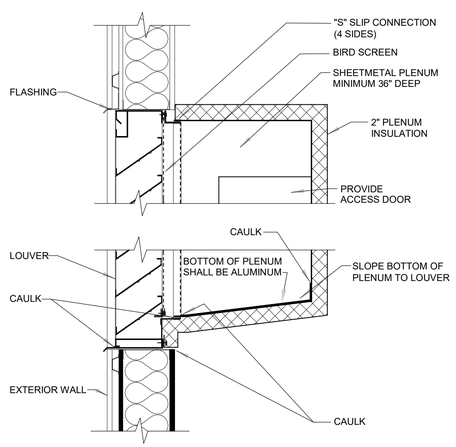




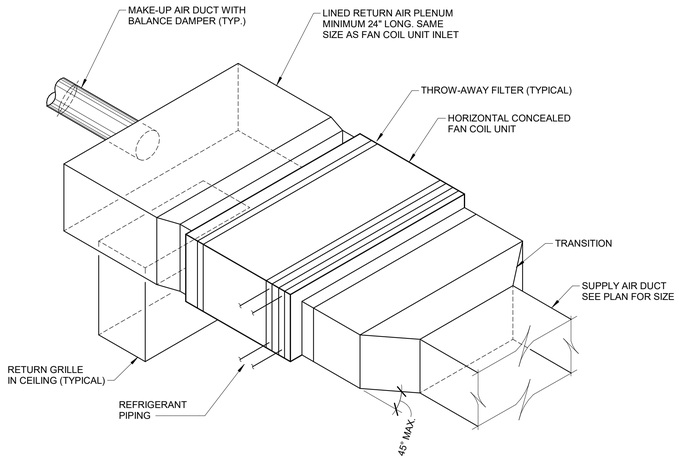
NOTES:

1. THIS CONNECTION DETAIL APPLIES WHEN DUCT WIDTH IS LESS THAN 70% OF THE AIR DEVICE WIDTH.
2. CONNECTION MAY ALSO BE ON THE SHORT END. SAME REQUIREMENTS APPLY.

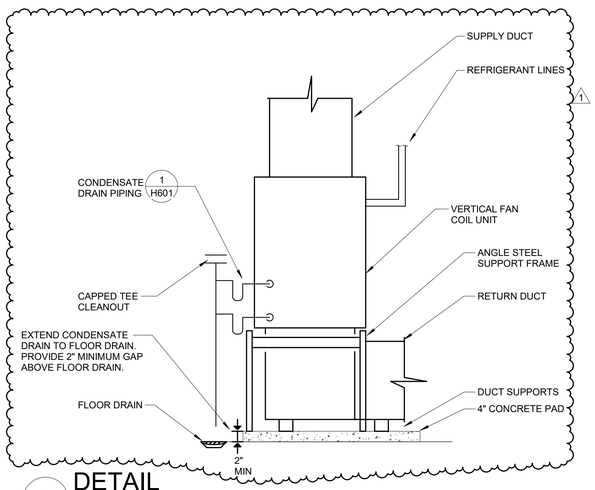
4 DETAIL
RETURN / EXHAUST GRILLE CONNECTION
N.T.S.



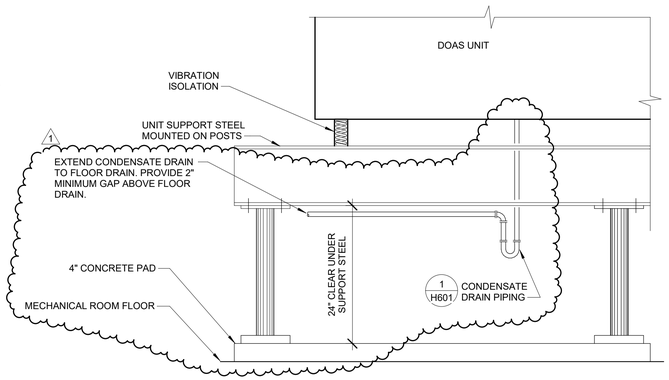
5 DETAIL
OUTSIDE AIR INTAKE AND RELIEF LOUVER
N.T.S.



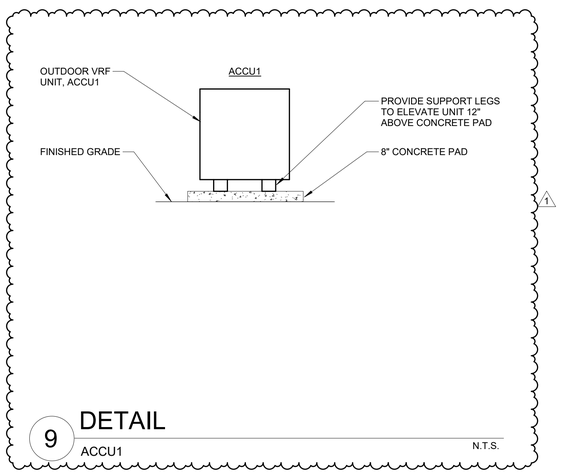
6 DETAIL
HORIZONTAL FAN COIL INSTALLATION
N.T.S.



7 DETAIL
VERTICAL FAN COIL INSTALLATION
N.T.S.



8 DETAIL
DOAS UNIT AND MOUNTING FRAME IN MECHANICAL ROOM
N.T.S.



9 DETAIL
ACCU1
N.T.S.

KORDA NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
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DRAWN BY:	Ann Guan
DESIGNED BY:	Paul Carr
CHECKED BY:	Eric Stephens
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STATE OF OHIO
ERIC C. STEPHENS
E-52326
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2-14-25

HVAC DETAILS

H601

02/14/2025

23070

Autodesk Docs://23070 - Bicentennial Barn/R22-230006 Bicentennial Barn Relocation MECH.rvt
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