Liberty Public Schools – Academy Shop
Addendum No: 02
Description Narrative

This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.

The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.

A. SCOPES OF WORK

a) SCOPE(S) OF WORK UPDATED
   i. 03-3000 – Concrete
   ii. 06-1000 – General Trades
   iii. 22-1000 – Plumbing
   iv. 31-1000 – Earthwork
   v. 32-1000 – Asphalt – REMOVED
   vi. 33-1000 – Site Utilities

B. OTHER

1. Pre-Bid Sign-In Sheet

C. SPECIFICATIONS

1. Please reference the attached Addendum No. 02 issued by Hollis + Miller

D. DRAWINGS

2. Please reference the attached Addendum No. 02 issued by Hollis + Miller

Please direct any questions regarding the information in this addenda and the project to Newkirk Novak Construction Partners.
Specific scope of work to be performed:

Provide all required labor, material, equipment, permits, layout, freight, and applicable taxes necessary for the Concrete Scope of Work complete as set forth in the contract documents and all other applicable sections of the project manual and all other subcontract documents identified.

Scope of work includes, but is not limited to, the following specification sections:

- Division 00
- Division 01
- 033000 Cast-In-Place Concrete
- 074400 Concrete Faced Rigid Insulation
- 321313 Concrete Paving

JOB SPECIFIC SCOPE INCLUDES (but is not limited to):

1. All items per Master Scope of Work.
2. All concrete work and associated accessories including but not limited to, form/wreck, place, finish all concrete shown in the contract documents.
3. Install all steel anchor rods / coil rods and embeds required in concrete. These items will be provided by others.
4. This scope of work to supply and install bollards, including any excavation and foundation work associated with it.
5. This scope of work to supply and install 6 inches of aggregate under the slab on grade with the vapor barrier. Earthwork contractor responsible for bringing fill under the slab area up to where the 6 inch aggregate depth starts.
6. Provide all materials, equipment, labor, accessories, etc. required to install all reinforcing rebar/steel including dowels for concrete and masonry supplied by this scope.
7. This scope of work to provide all new concrete slab, foundations, paving, new curb and sidewalk. This includes associated ADA indicators required for the sidewalks and any concrete fill needed at curbs under surface course.
8. This scope of work to provide all pavement markings on new concrete paving as shown on the plans.
9. Install expansion joints and controls joints/contraction joints, including performed/isolation joint filler where required.
10. This scope of work to coordinate trench drain install for rebar and pouring up to drain. Trench drain to be supplied and installed by others.
11. Provide patch back of any floor holes from demo of railings or floor box removal.
12. Provide all column block outs as required. Infill column block outs with concrete/non-shrink grout as required. Reference structural details. This package is to grout all column base plates.
13. Provide all labor, material, and equipment necessary to depress concrete slabs where flooring dictates per the Contract Documents. Slope concrete to drains where required.

14. Provide and install flag pole foundation as complete install.

15. This scope of work to supply and install concrete faced rigid insulation.

16. Protect and maintain ends of reinforcement/dowels with OSHA approved covers/caps throughout construction.

17. Include an allowance of $25,000.00 for construction activities per the direction of the Construction Manager. Any used portion will be returned to the owner at completion of the project.

18. All work is assumed to take place during normal working hours. Incase there is OT needed, please provide the following rate:

   a) OT Premium rate: $__________/hour

The following work is excluded:

1. Concrete paving joint sealants – By Sealants Contractor
LPS Academy Shop
06-1000 – General Trades Scope of Work – ADD 02

Specific scope of work to be performed:

Provide all required labor, material, equipment, permits, layout, freight, and applicable taxes necessary for the General Trades Scope of Work complete as set forth in the contract documents and all other applicable sections of the project manual and all other subcontract documents identified.

Scope of work includes, but is not limited to, the following specification sections:

- Division 00
- Division 01
- 055000 Metal Fabrications
- 061000 Rough Carpentry
- 061600 Sheathing (As Applicable)
- 081113 Hollow Metal Doors and Frames
- 081416 Flush Wood Doors
- 087100 Door Hardware
- 102600 Wall and Door Protection
- 102800 Toilet, Bath & Laundry Accessories
- 104300 Emergency Aid Specialties
- 104413 Fire Extinguisher Cabinets
- 104416 Fire Extinguisher
- 107316 Metal Canopies
- 107500 Flag Poles

JOB SPECIFIC SCOPE INCLUDES (but is not limited to):

1. All items per Master Scope of Work.
2. Install all items noted to be provided by the Owner.
3. Provide all wood framing, wood blocking, nailers, wood sheathing, and plywood backing panels as required per the Contract Documents. At locations where rigid insulation is called for between two layers of plywood, the rigid insulation shall be by this scope of work.
4. Provide all interior finish carpentry and interior architectural woodwork as shown in the Contract Documents. This includes any wood trim around openings as noted on the plans.
5. Provide any access doors located within the casework.
6. Furnish and install all hollow metal doors, door frames, flush wood doors, and door hardware for all openings as indicated in the Contract Documents.
7. Finish hardware at all doors by this scope of work. Coordinate keying with the Owner, Construction Manager, and other Contractors providing hardware. This Contractor is to provide the glazing Contractor with all lock cores for all aluminum doors.
8. Provide pathways and pull strings in doors/frames where access controls are required.
9. Provide doors that require electric operators with a single point of connection for electrical contractor to connect to. If doors are required to be tied into the Fire Alarm System that also will be a single point of connection for the electrician.
   a) Internal power and fire alarm wiring from a single point of connection would be by this package.
   b) Provide magnetic hold opens, and other control devices as required. Include layout so the electrician can rough in back boxes.
10. All in-wall and above-ceiling blocking or support at all required locations per the Contract Documents. Blocking for sectional door. This includes In-wall blocking required by future Owner-provided items. Coordination is required between individual Contractors.
11. This contractor is to provide and install all fabric-wrapped panels, FRP panels, wall & ceiling sound-absorbing units, plastic paneling, and any special wall finish system as shown in the Contract Documents. Provide and install any blocking, clips, insulation, etc. required for a complete installation.
12. Provide and install all wall & door protection as noted on the contract documents.
13. This contractor is to provide and install complete all visual display surfaces, signage, toilet compartments and accessories, fire extinguishers, and cabinets, metal storage shelving and lockers, and any required cubicle curtains and track. Install any blocking required for such. Coordinate with CM, and mason for rough openings required.
14. Provide and install all acoustic or sound-absorbing ceilings, wall panels, etc. as indicated on the Contract Documents.
15. Provide and install all room signage, building signage, and specialty graphics. This includes any backing, z-clips, fasteners, etc. as required for a complete installation.
16. For locations and details where insulation is located behind plywood, this scope of work shall be responsible for the plywood and insulation. Any insulation located outside of the plywood shall be by others.
17. This scope of work to provide and install interior plywood and diamond plate sheathing as shown on the plans.
18. Provide and install the flagpole as complete install. Foundation by others.
19. This scope of work to provide and install the premanufactured canopy for the walkway between the new building and existing building. This includes supplying associated anchor bolts to concrete contractor to install in footings.
20. This scope of work to supply and install the steel angle shown to secure wall paneling. For example, see detail A12 on A361.
21. Include an allowance of $20,000 to be used as required, per the direction of the Construction Manager. Any unused portion will be returned to the Owner.
22. All work is assumed to take place during normal working hours. In case there is OT needed, please provide the following rate:
   a) OT Premium rate: $__________/hour

The following work is excluded:

1. Casework – By others
2. Solid Surface Countertops – By others
3. Millwork signage – By Casework Contractor
4. Floor protection – By Demo Contractor
Specific scope of work to be performed:

Provide all required labor, material, equipment, permits, layout, freight, and applicable taxes necessary for the Plumbing Scope of Work complete as set forth in the contract documents and all other applicable sections of the project manual and all other subcontract documents identified.

Scope of work includes, but is not limited to, the following specification sections:

- Division 00
- Division 01
- 024119 Selective Demolition (As Applicable)
- 078413 Penetration Fire Stopping (As Applicable)
- Division 22 (All Sections)
- 221513 – General-Service Compressed-Air Piping (Addendum 002)

JOB SPECIFIC SCOPE INCLUDES (but is not limited to):

1. All items per Master Scope of Work.
2. Provide firestopping at any plumbing piping penetrations in rated walls / barriers
3. Provide complete plumbing system as indicated on the Contract Documents, including but not limited to:
   a) Any below slab plumbing work will be completed by this scope complete. Including saw cutting, excavation, and concrete pour back. Include xray of slab prior to saw cutting to ensure no existing MEP conflicts.
   b) Demo and capping of piping as shown.
   c) Caulking of all plumbing fixtures.
   d) Drip pans as required.
   e) Connections to all equipment within other sections or furnished by owner.
4. Provide and install all floor drains, floor cleanouts, and backflow preventers as show in the plumbing schedule.
5. All new piping to be stubbed 5ft outside of building for site utilities contractor to connect to.
6. Copper domestic water piping is required throught the building. Please reference note 8 on P100A.
7. Provide all equipment, materails, labor, etc. necessary for the complete installation of the gas piping system.
8. Provide and set all roof penetrations as required for this Scope of Work. Pentrations will be flashed in and made weather tight by roofing contractor.
9. All supports, anchors, guides, misc metal supports, penetrations, sleeces, blocking, and equipment supports required for the proper installation.
10. Piping of condensate drains for equipment provided under the HVAC scope of work per the details, specifications, and manufacturers requirements. Work to include all piping, fittings, traps, insulations supports, etc. Coordinate with the HVAC Contractor.
11. All pumps as required.
12. Access doors required by this scope of work, not shown in the Contract Documents are to be provided by this scope of work. Lockable and rated where required.
13. This Contractor will be required to pull permits for all work as required.
14. Provide a $15,000 allowance for plumbing work beyond scope. Any unused portion will be returned to the owner.
15. This scope of work to handle all associated saw cutting for underground rough-in, including the patch back of the slab where needed. All demo items overhead should be dropped to the floor for the demo contractor to remove to the dumpster.
   a) For MEP demolition work, MEP contractors will make safe, cut and drop all material associated with re-work and new tie-ins. The demo contractor will remove the dropped material from the building to the dumpster.
   b) This scope of work to drop all plumbing items and drip trays as noted. Demo contractor to bring to dumpster.

The following work is excluded:

1. Toilet Room Accessories – By General Trades Contractor
2. Plumbing Fixture Demo – By Demo Subcontractor(Disconnect and cap by this contractor)

Unit Prices:

1. All work is assumed to take place during normal working hours. In case there is OT needed, please provide the following rate:
   a) OT Premium rate:$____________/hour
LPS Academy Shop
31-1000 – Earthwork Scope of Work

Specific scope of work to be performed:

Provide all required labor, material, equipment, permits, layout, freight, and applicable taxes necessary for the Earthwork Scope of Work complete as set forth in the contract documents and all other applicable sections of the project manual and all other subcontract documents identified.

Scope of work includes, but is not limited to, the following specification sections:

- Division 00
- Division 01
- 024119 Selective Demolition (As Applicable)
- 311000 Site Clearing
- 312000 Earth Moving

JOB SPECIFIC SCOPE INCLUDES (but is not limited to):

1. All items per Master Scope of Work.
2. Site clearing, grubbing and site demolition as indicated. Protect existing improvements, structures, and vegetation scheduled to remain.
   - This scope of work to do all site demo as shown on DC101, including the required sawcutting. Anything on or in the existing building is by others.
3. This scope of work to restore final grade with topsoil suitable per requirements listed on L100. Seeding and plantings by others.
4. Removal and haul-off of all demolition trash, debris and spoils generated by this Scope of Work.
5. Provide and maintain erosion control for the entire project, for the duration of the project. Erosion control measures shall be provided in accordance with information contained in the SWPP and details shown on the drawings. Maintain SWPP including daily reporting for the duration of the project.
6. AB3 or other approved material with geotextile fabric approximately 8" thickness at staging/laydown/temporary access road areas as noted per the Site Access Plan including installation, maintenance and removal at the direction of the Contractor.
7. Provide and maintain the project gravel access roads and parking lot as required for the entire duration of the project. This contractor will be responsible for removing temporary site roads and lots prior final pavement being placed. Reference CM Logistics Plan.
8. Structural fill, drainage gravel, separation fabric, foundation drain piping, geotextile filter fabric, and rip rap at curb, sidewalls, all exterior foundation walls, stem walls, etc.
9. Location of existing utilities as required for this scope of work.
10. Controlled low volume fill material. Building pad low volume material must be per geo report. Lean clay material will not be acceptable. Building pad to be AB3 material.
11. This Contractor is responsible for the moisture conditioned and compacted subgrade at asphalt, concrete pavement and concrete curbs to +/- 1/10 foot.
a) See the Logistics Plan for locations that correspond with temporary roads and laydown areas, this scope of work will be responsible for providing additional material and prep in order to provide an acceptable base per the Contract Documents.

b) This scope of work is responsible for fill under slab up to where the 6 inch aggregate depth starts for the slab on grade. The concrete contractor to supply and install 6 inches of aggregate under the slab with the vapor barrier.

12. Establish final subgrade elevations to +/- 1/10 foot of all curbs, sidewalks, concrete or asphalt paving, approaches, ramps, turf areas, or any other exterior concrete surface. Fine grading at these locations to be completed by corresponding Contractor.
   a) The granular basecourse and grading at all concrete curb, concrete paving, and asphalt paving shall be by this scope of work.

13. Geotechnical report to be reviewed and all recommendations by the geotechnical engineer to be implemented by this Contractor.

14. Site dust control to be provided by this scope of work.

15. Provide daily street cleaning for the duration of time this scope of work is on-site.

16. This Contractor will be responsible for relocation of spoils generated by this scope of work and other scopes of work. Other Contractors to stockpile spoils for daily removal by this Contractor. Spoils to be utilized on-site for fill as allowed by the grading plan and approved by the civil and geotechnical engineer. Spoils above and beyond available fill requirements or unacceptable to the engineers to be removed from site by this Contractor.

17. Placement of topsoil at all disturbed areas to be included in this scope, including areas noted on Logistics plan. Landscaping will be by landscaping contractor.

18. Include safety warning line and barriers at all excavations, including the former building open excavation as required until grading and slopes are in place.

19. Include an allowance of $15,000 for upkeep of the temporary access roads and miscellaneous construction activities per direction of the Construction Manager. Any unused portion will be returned to the Owner.

20. Include an allowance of $10,000 for miscellaneous earthwork activities per direction of the Construction Manager. Any unused portion will be returned to the Owner.

21. All work is assumed to take place during normal working hours. Incase there is OT needed, please provide the following rate:
   a) OT Premium rate: $__________/hour

The following work is excluded:

1. Demolition of existing building – By Demolition Contractor
LPS Academy Shop
32-1000 – Asphalt Paving Scope of Work – Add. 02
SCOPE REMOVED FROM BID PACKAGE

Specific scope of work to be performed:

Provide all required labor, material, equipment, permits, layout, freight, and applicable taxes necessary for the Asphalt Scope of Work complete as set forth in the contract documents and all other applicable sections of the project manual and all other subcontract documents identified.

Scope of work includes, but is not limited to, the following specification sections:

- Division 00
- Division 01
- 321216 Asphalt Paving

JOB SPECIFIC SCOPE INCLUDES (but is not limited to):

1. All items per Master Scope of Work.
2. Hot-Mix Asphalt, including but not limited to the following:
   a) Saw cutting of asphalt to provide a clean edge where base course stops.
   b) Complete all tack coats as required.
   c) Fine grading/hand grading
   d) Asphalt patching
   e) Include all pavement and curb markings and paint.
3. Fine grading of subgrade at all associated asphalt scope of work. The Earthwork contractor will be responsible for rough-grade at asphalt paving areas to within +/-1/10 foot. This asphalt scope of work shall be responsible for all granular base and associated grading. Any additional fine grading shall be by this scope of work.
4. All pavement markings, including any on the concrete paving by this scope of work.
5. Wheel stops.
6. Include all protection, barricades, etc. to protect pavement from traffic until asphalt has been compacted, cooled, and hardened.
7. Base bid to be based on installing asphalt per the project schedule and Contract Documents. Bidder to provide liquied Tonnage Price based on March 2024 pricing. If this value fluctuates prior to installation of the asphalt, a credit or extra cost will be issued based on the Liquid Ton Price at the time of installation. This scope of work to verify Liquid Tonnage Pricing by providing appropriate documentation. Provide the following information at time of bid:
   a) Liquid Ton Price (as of March 2024) $_________________
   b) Asphalt quantities and cost
8. Include an allowance of $10,000 for miscellaneous asphalt activities per direction of the Construction Manager. Any unused portion will be returned to the Owner.
9. All work is assumed to take place during normal working hours. Incase there is OT needed, please provide the following rate:
a) OT Premium rate: $_________/hour

The following work is excluded:

1. Concrete paving – by others
Specific scope of work to be performed:

Provide all required labor, material, equipment, permits, layout, freight, and applicable taxes necessary for the Site Utilities Scope of Work complete as set forth in the contract documents and all other applicable sections of the project manual and all other subcontract documents identified.

Scope of work includes, but is not limited to, the following specification sections:

- Division 00
- Division 01
- 024119 Selective Demolition (As Applicable)
- 331100 Water Utility Distribution Piping
- 333100 Sanitary utility Sewerage Piping
- 334100 Storm Utility Drainage Piping

JOB SPECIFIC SCOPE INCLUDES (but is not limited to):

1. All items per Master Scope of Work.
2. Demolition of existing site utility lines including, but not limited to, sanitary, storm, and water lines. Capping of existing lines as required. Sanitary and storm have been capped on the owners side of the meter and main. This scope of work to be responsible for the remaining demolition and capping back to the mains. Verify on-site for extent of remaining utilities prior to submitting a proposal.
3. Provide and install all storm lines, sanitary line, sand/oil line, water lines, and connections to existing lines. Piping to be installed up to 5’ from building. Tie-in to existing lines includes and demo, cutting, or modifications as required.
4. Provide underground drainage basins as indicated and any required backfilling. This scope will have final connections to these drain basins as well.
5. Provide and install Sand Oil interceptor and associated piping.
6. Provide and install all new manhole structures and raising existing structures.
7. Final connections at perimeter drains, trench drains, downspouts, foundations wall drains etc.
8. This scope of work shall be responsible for the water meter well and gate valve per the contract documents.
9. This scope of work to include permits, fees and any road closure plans to have approved by the city for any street work or utility tie-ins.
10. This scope of work to include removal and replacement of concrete paving/curb where utilities interfere with existing pavement or roads, including any required backfill and subgrade. This is specifically for where the SMS line crosses the road and where the gas and water tie-ins are made.
11. This Contractor will be responsible for daily stockpiling of spoils generated by this scope of work for relocation or removal by the Earth Moving Contractor. Coordination of location and accessibility to stockpiles will be required.
12. Include all connections, permits, as required.
   a) Tap & Development fees shall be by Owner. General Building permit will be by Owner. All other contractor licenses, trade permits, ROW Permits, Street Cut Permits, etc. as required to complete this scope of work shall be included as part of this scope of work. Any traffic control required to complete this scope of work shall also be provided as part of this scope.

13. Include an allowance of $20,000 for miscellaneous construction activities as directed by the Construction Manager. Any unused allowance will be returned to the owner.

14. All work is assumed to take place during normal working hours. Incase there is OT needed, please provide the following rate:
   a) OT Premium rate: $__________/hour

The following work is excluded:
1. Foundation drains – By the Earthwork Contractor
# LPS - Academy Shop - PRE-BID MEETING SIGN-IN SHEET

**Project:** LPS - Academy Shop  
**NNCP Job #:** N3-0858  
**Date:** 02/16/2024

<table>
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# LPS – Academy Shop – PRE-BID MEETING SIGN-IN SHEET

Project: LPS – Academy Shop  
NNCP Job #: N3-0658  
Date: 02/16/2024

<table>
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ADDENDUM NO. 02

Issued: 02.23.2024
Project: Liberty Academy Shop Building
Project No. 23030.00
Owner: Liberty Public Schools
1115 Blackberry Drive.
Liberty, MO 64068

Bidding Documents Issued: 02.09.2024

This Addendum includes these 3 page[s] and the following attachments:

Project Manual:
- Reissued Section 000105 “Certifications Page” consisting of 2 pages.
- Reissued Section 000110 “Table of Contents” consisting of 4 pages.
- New Section 107500 “Flag Poles” consisting of 4 pages.

Drawings:
- Revised Structural Sheet: S200
- Refer to MKEC, Civil Addendum No. 2
- Refer to Smith & Boucher, MEP Addendum No. 2

GENERAL – BIDDER’S QUESTIONS

G1 QUESTION: IT LOOKS LIKE COMPRESSED AIR IS SHOWN ON THE PLUMBING PLANS, BUT THERE IS NO SPEC SECTION PROVIDED.

1. CAN A SPEC BE PROVIDED TO CONFIRM PRICING WITH VENDORS?

2. IS THE AIR COMPRESSOR BEING PROVIDED BY OWNER? OR IS THIS SOMETHING THE CONTRACTOR PROVIDES?

G1.1 A spec will be provided for piping. The air compressor will be furnished by the owner. Provide final connection to unit.

G2 SENT PDF GRADATION REPORT AND PROCTOR FOR CRUSHED CONCRETE MATERIAL. PLEASE REVIEW, AND REQUEST APPROVAL TO USE OF THIS MATERIAL AS LVC AB-3, 6’ GRANULAR MATERIAL BELOW SLAB.

G2.1 The proctor report does not provide Liquid Limit and Plasticity Index values and cannot be approved without additional information. The sample will need to be evaluated by the on-site geotechnical engineer prior to using the sampled soil as LVC Material. Reference the Earth Moving specification for LVC Material requirements. Additional LVC material requirements have been added to specification 312000 - Earth Moving. See updates to Sections 1.1.B, 2.1.B, 2.1.C, and 3.14.A in the Earth Moving specification with Addendum 2.
PROJECT MANUAL REVISIONS

A1  SECTION 000005 – CERTIFICATIONS PAGE
A1.1  REPLACE existing Section 000005 “Certifications Page” with the attached revised Section 000005 “Certifications Page”, dated February 23, 2024.

A2  SECTION 000110 - TABLE OF CONTENTS
A2.1  REPLACE existing Section 000110 “Table of Contents” with the attached revised Section 000110 “Table of Contents”, dated February 23, 2024.

A3  SECTION 081416 – FLUSH WOOD DOORS
A3.1  REVISE Sub-paragraph 2.3.A.2 as follows:
   2. Species: Plain Sliced Red Oak

A4  SECTION 107500 – FLAGPOLES
A4.1  INSERT new Section 107500 "Flagpoles" dated February 23, 2024., attached.

C1  REFERENCE ATTACHED CIVIL ADDENDUM NO. 2
P1  REFERENCE ATTACHED MEP ADDENDUM NO. 2

DRAWINGS REVISIONS

A5  SHEET AS101– ARCHITECTURAL SITE PLAN – OVERALL
A5.1  ADDED Detail L1 showing the location of a new flagpole.

A6  SHEET A201 – EXTERIOR ELEVATIONS
A6.1  REVISED Canopy Keynote on all elevation views to 13 34 00.A01

A7  SHEET A501 – DOOR SCHEDULE
A7.1  REVISED Door types in the door schedule.

A8  SHEET A621 – INTERIOR ELEVATIONS
A8.1  REVISED Room finish schedule. A105b floor finish mark was revised from C1 to RE: PLAN.

S1  SHEET S200 – FOUNDATION SECTIONS
S1.1  ADDED Section 10 “Flag Pole Base”
SUBSTITUTION REQUEST APPROVALS

This portion of the addendum designates those materials, products and equipment approved prior to submission of bids, as set forth in the contract documents. Items added to the proposed contract documents by this addendum are the only proposed substitutions received and approved by the architect in accordance with those provisions. No other items shall be substituted or bid as “equals”.

It is understood that all items allowed by this addendum are subject to the full provisions of the original proposed contract documents and all modifications thereto and, as such, shall match standards of the original specified items with respect to materials, workmanship, design, size, capacity, type, function, finish, performance, quality, warranty, etc. Nothing in this addendum shall be construed as altering those original standards or modifications thereto.

Approvals are based upon the opinion, knowledge, information and belief of the architect at time of issuance of this addendum and reliance upon data submitted. Approvals are therefore interim in nature and subject to reconsideration as additional data, materials, workmanship and coordination with other work are observed and reviewed. In proposing items allowed by this addendum, bidder assumes all risk, costs and responsibility for item’s final acceptance, integration into the work and performance.

SECTION 107316 – METAL CANOPIES

ARCHETYPE CANOPIES: Aluminum Canopy System is acceptable for the post supported breezeway canopy.
ARCHITECT

I HEREBY, PURSUANT TO RSMO 327.411, STATE THAT THE SPECIFICATIONS INTENDED TO BE AUTHENTICATED BY MY SEAL ARE LIMITED TO SPECIFICATIONS LISTED BELOW:

DIVISION 1 SECTIONS: 011000, 012100, 012200, 012300, 012500, 012501, 013100, 013200, 013233, 013300,
DIVISION 2 SECTION: 024119.
DIVISION 4 SECTION: 044319.
DIVISION 5 SECTIONS: 054000, 055000.
DIVISION 6 SECTIONS: 061000, 061600.
DIVISION 7 SECTIONS: 072100, 072419, 072500, 072726, 074400, 076200, 079200.
DIVISION 8 SECTIONS: 081113, 081416, 083613, 084113, 087100, 088000.
DIVISION 9 SECTIONS: 092116, 092900, 093000, 095113, 096513, 096723, 096813, 099113, 099123.
DIVISION 10 SECTIONS: 102600, 102800, 104300, 104413, 104416, 107316, 107500.
DIVISION 12 SECTIONS: 123200, 123619
DIVISION 13 SECTIONS: 133419.
DIVISION 32 SECTION: 323119

I HEREBY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER SPECIFICATIONS, DRAWINGS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE ARCHITECTURAL OR ENGINEERING PROJECT OR SURVEY.

KEVIN NELSON ___________________________ FEBRUARY 23, 2024 ___________________________
ARCHITECT DATE

February 23rd, 2024

Liberty Public Schools
Liberty Academy Shop Building
Project No. 23030

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SECTION 107500 - FLAGPOLES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes ground-set flagpoles made from aluminum.
   1. Flags are Owner provided.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, dimensions of individual components and profiles, operating characteristics, fittings, accessories, and finishes for flagpoles.

B. Delegated-Design Submittal: For flagpoles.

1.3 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For flagpoles to include in operation and maintenance manuals.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain flagpoles as complete units, including fittings, accessories, bases, and anchorage devices, from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design flagpole assemblies.

B. Structural Performance: Flagpole assemblies, including anchorages and supports, shall withstand design loads indicated within limits and under conditions indicated.
   1. Wind Loads: Determine according to NAAMM FP 1001. Basic wind speed for Project location is 90 mph.
   2. Base flagpole design on nylon flags, largest flag size 5 x 8 feet, and a quantity of two flags per pole.

2.3 ALUMINUM FLAGPOLES

A. Aluminum Flagpoles: Cone-tapered flagpoles fabricated from seamless extruded tubing complying with ASTM B 241/B 241M, Alloy 6063, with a minimum wall thickness of 3/16 inch.
   1. Manufacturers: Subject to compliance with requirements, provide American Flagpole (a Kearney-National Inc. company): "Sentry Model" or comparable product by one of the following:
      a. Baartol Company.
      b. Concord Industries, Inc.
      c. Morgan-Francis Flagpoles and Accessories.
      d. Pole Tech Co., Inc.

B. Exposed Height:
   1. 25 feet. Locate as directed by Architect.
C. Metal Foundation Tube: Manufacturer's standard corrugated-steel foundation tube, 0.060 inch wall thickness with 3/16 inch steel bottom plate and support plate; 3/4 inch diameter, steel ground spike; and steel centering wedges welded together. Galvanize foundation tube after assembly. Furnish loose hardwood wedges at top of foundation tube for plumbing pole.

D. Sleeve for Aluminum Flagpole: PVC pipe foundation sleeve, made to fit flagpole, for casting into concrete foundation.

2.4 FITTINGS

A. Finial Ball: Flush-seam ball, sized as indicated or, if not indicated, to match flagpole-butt diameter.
   1. 3 inch spun aluminum, finished to match flagpole.

B. Internal Halyard, Winch System: Manually operated winch with control stop device and removable handle, stainless-steel cable halyard, and concealed revolving truck assembly with plastic-coated counterweight and sling. Furnish flush access door secured with cylinder lock. Finish truck assembly to match flagpole.

2.5 MISCELLANEOUS MATERIALS

A. Drainage Material: Crushed stone, or crushed or uncrushed gravel; coarse aggregate.

B. Sand: ASTM C 33/C 33M, fine aggregate.

C. Elastomeric Joint Sealant: Multi-component non-sag urethane joint sealant complying with requirements in Section 079200 "Joint Sealants."

2.6 ALUMINUM FINISHES

A. Natural Satin Finish: AA-M32, fine, directional, medium satin polish; buff complying with AA-M20; seal aluminum surfaces with clear, hard-coat wax.

PART 3 EXECUTION

3.1 PREPARATION

A. Prepare uncoated metal flagpoles that are set in foundation tubes by painting below-grade portions with a heavy coat of bituminous paint.

B. Foundation Excavation: Excavate to neat clean lines in undisturbed soil. Remove loose soil and foreign matter from excavation and moisten earth before placing concrete. Place and compact drainage material at excavation bottom.

C. Foundation Tube: Place foundation tube, center, and brace to prevent displacement during concreting. Place concrete. Plumb and level foundation tube and allow concrete to cure.

D. Sleeves: Locate and secure sleeves in forms by bracing to reinforcement and forms.

E. Place concrete, as specified in Section 033000 "Cast-in-Place Concrete." Compact concrete in place by using vibrators. Moist-cure exposed concrete for no fewer than seven days or use non-staining curing compound.

F. Trowel exposed concrete surfaces to a smooth, dense finish, free of trowel marks, and uniform in texture and appearance. Provide positive slope for water runoff to perimeter of concrete base.
3.2 FLAGPOLE INSTALLATION

A. General: Install flagpoles where indicated and according to Shop Drawings and manufacturer's written instructions.

B. Foundation Tube: Place flagpole in tube, seated on bottom plate between steel centering wedges, and install hardwood wedges to secure flagpole in place. Place and compact sand in foundation tube and remove hardwood wedges. Seal top of foundation tube with a 2-inch layer of elastomeric joint sealant and cover with flashing collar.

END OF SECTION
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LIBERTY ACADEMY SHOP BUILDING

ADDENDUM 02

February 23rd, 2024

The following are a summary of addendum items:

**Plans:**

C102:
- Removed grease & oil separator from the plans.

C103:
- Removed basketball court design and notes from the plans.
- Remove 5” asphalt section from the paving legend.

C200:
- Removed 5” asphalt section detail from the plans.

**Specifications:**

312000 - EARTH MOVING

- Updated notes in subsection 1.1.B to reference the geotechnical report.
- Updated notes in subsection 3.14.A, defining the LVC requirements below the building slab.
SECTION 312000 – EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. The geotechnical report for the project was prepared by Kruger Technologies, Inc., dated November 14th, 2023, KTI Project #223220G.

1.2 SUMMARY

A. Section Includes:
   1. Excavating and backfilling trenches for utilities and pits for buried utility structures.
   2. Preparing subgrade for pavements and grass areas.
   3. General earthwork and excavation.

B. Related Sections:
   1. Section 311000 "Site Clearing" for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.

1.3 UNCLASSIFIED SITE

A. All site work for this project is considered “unclassified.” The term “unclassified” excavation shall be defined as meaning the site contractor bears the entire risk of the soil quantities and/or types (e.g. rock, clay, peat, silt, shale, etc.) encountered above the bottom of required excavations and over-excavated / treated soils areas. Above the bottom of required excavations, the site contractor shall bear the entire cost of such additional work in the event it becomes necessary for unsuitable soils to be handled, removed from the site, or for suitable fill material to be imported to the site. This definition of “unclassified” supersedes any contrary definitions or statements which may be contained in the specifications, plans, or other contract documents. The unclassified site shall include all work above the bottom of required excavations and/or required soil remediation/replacement.

B. The contractor shall be responsible to determine earthwork quantities and shall familiarize themselves with the geotechnical report. All import or export of earth material shall be the responsibility of the contractor at his expense.

1.4 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
   1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
   2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

C. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

D. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

E. Fill: Soil materials used to raise existing grades.

F. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
1.5 SUBMITTALS

A. Product Data: For each type of the following manufactured products required:
   1. Geotextiles.
   2. Controlled low-strength material, including design mixture.
   3. Warning tapes.

B. Qualification Data: For qualified testing agency.

C. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill according to Geotechnical Engineer requirements.

D. Preexcavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by earth moving operations. Submit before earth moving begins.

1.6 QUALITY ASSURANCE

A. Geotechnical Testing Agency Qualifications: Qualified according to ASTM E 329 and ASTM D 3740 for testing indicated.

B. Preexcavation Conference: Conduct conference at Project site.

1.7 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.
   1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
   2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.

B. Improvements on Adjoining Property: Authority for performing earth moving indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.
   1. Do not proceed with work on adjoining property until directed by Architect.

C. Utility Locator Service: Notify utility locator service and City and County agencies for area where Project is located before beginning earth moving operations.

D. Do not commence earth moving operations until temporary erosion- and sedimentation-control measures, are in place.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
B. Satisfactory Soils: Shall be free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
   1. Acceptable LVC Material is any soil type that has a Liquid Limit (LL) less than 45, and a Plasticity Index (PI) less than 25. Crushed rock or sandy, silty lean clay materials area also considered to be LVC material that meets the LL and PI requirements above.
   2. The on-site geotechnical engineer shall approve any off-site material proposed for use as fill. See geotechnical report for engineered fill requirements.

C. Unsatisfactory Soils:
   1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
   2. The majority of site soils from 1’ to 3’ below the assumed Finished Floor do not meet the requirements for LVC Material and should not be used directly below the slab.

D. Bedding Course: Naturally or artificially graded mixture of natural stone or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

E. Sub-drainage Aggregate: Naturally or artificially graded mixture of natural stone, clean with no fines. Aggregate range shall be ½” to ¾”.

2.2 GEOTEXTILES

A. Separation Geotextile: Woven geotextile fabric, manufactured for separation applications, made from polyolefins or polyesters; with elongation less than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
   1. Survivability: Class 3; AASHTO M 288.
   2. Grab Tensile Strength: 120 lbf; ASTM D 4632.
   3. Sewn Seam Strength: 222 lbf; ASTM D 4632.
   4. Tear Strength: 50 lbf; ASTM D 4533.
   5. Puncture Strength: 90 lbf; ASTM D 4833.
   6. Apparent Opening Size: No. 70 sieve, maximum; ASTM D 4751.
   7. Permeability: 1.7 second-1, minimum; ASTM D 4491.
   8. UV Stability: 70 percent after 500 hours’ exposure; ASTM D 4355.

2.3 ACCESSORIES

A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored as follows:
   2. Yellow: Gas, oil, steam, and dangerous materials.
   3. Orange: Telephone and other communications.
   4. Blue: Water systems.
   5. Green: Sewer systems.

B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
   2. Yellow: Gas, oil, steam, and dangerous materials.
   3. Orange: Telephone and other communications.
   4. Blue: Water systems.
   5. Green: Sewer systems.
PART 3 - EXECUTION

3.1 PREPARATION
A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.
B. Protect and maintain erosion and sedimentation controls during earth moving operations.
C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.
D. Prepare low-volume-change subgrade material beneath proposed building per Building Pad Preparation section in this specification.

3.2 DEWATERING
A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
   1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

3.3 EXPLOSIVES
A. Explosives: Do not use explosives.

3.4 EXCAVATION, GENERAL
A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions above the bottom of required excavations. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials as determined by the Geotechnical Engineer.

3.5 EXCAVATION FOR WALKS AND PAVEMENTS
A. Evaluate surfaces under future walks and pavements to indicated lines, cross sections, elevations, and subgrades, and excavate unsuitable materials as determined by the geotechnical engineer.

3.6 EXCAVATION FOR UTILITY TRENCHES
A. Excavate trenches to indicated gradients, lines, depths, and elevations.
   1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.
B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.
   1. Clearance: As indicated on plans.

3.7 PAVEMENT SUBGRADE INSPECTION
A. Notify testing agency when excavations have reached required subgrade.
B. If Geotech Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

C. Proof-roll subgrade below proposed pavements with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades. Proof-roll within two days of paving operations.
1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by the Geotechnical Engineer, and replace with compacted backfill or fill as directed to the proper moisture content and density.
3. After proof rolling and repairing deep subgrade deficiencies, the entire subgrade should be scarified to a depth of 8 inches and uniformly compacted to at least 95% of the standard proctor maximum dry density to provide a uniform subgrade for pavement construction. Moisture content and density of subgrade to be checked within two days prior to the commencement of paving operations.

D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, without additional compensation.

E. Subgrades under pavements and building pads shall be free of all organic material.

3.8 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.9 BACKFILL

A. Place and compact backfill in excavations promptly, but not before completing the following:
1. Construction below finish grade including, where applicable, subdrainage, damproofing, waterproofing, and perimeter insulation.
2. Surveying locations of underground utilities for Record Documents.
3. Testing and inspecting underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring and bracing, and sheeting.
7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

B. Place backfill on subgrades free of mud, frost, snow, or ice.

C. Backfill tree root ball excavations with structural fill as determined by geotechnical engineer. Areas under pavements or building pads shall be compacted to 95% standard density. All other areas shall be compacted to 90% standard density.

3.10 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

D. Install a clay plug around pipes within 5' of the building face to prevent water migration through the trench into the building. Plug material should consist of clay compacted at a water content at or above the soils optimum water content.
E. Utility trenches should be backfilled per plan details.

3.11 SOIL FILL
A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
B. Place and compact fill material in 9 inch loose lifts and compacted to at least 95% of the materials max dry density and moisture control.
C. Place soil fill on subgrades free of mud, frost, snow, or ice.
D. The exposed grade prior to fill being placed shall be scarified to a minimum depth of 12" and the moisture content should be adjusted to within the range recommended for structural fill. The material should then be proof-rolled, compacted, and inspected by the geotechnical engineer.
E. Bench existing slopes of 5:1 or greater where fill is to be placed.

3.12 SOIL MOISTURE CONTROL
A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction per the geotechnical report requirements.
   1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
   2. Remove and replace, or scarify and air dry, soil material that is not suitable per geotechnical engineer inspection.

3.13 COMPACtion OF SOIL BACKFILLS AND FILLS
A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
C. Compacted soil material in areas under pavements or building pads shall be compacted to 95% standard density. All other areas shall be compacted to 90% standard density.
D. Utility trenches – compaction testing to be performed every 200 cubic yards at backfill or each lift within 200 linear feet of trench, whichever is less.

3.14 BUILDING PAD PREPARATION
A. Prepare low-volume change material for the building pad subgrade directly below the below the slab. The LVC shall consist of the following section from the bottom: 18" LVC Material (See Section 2.1 for acceptable LVC Materials)
B. Moisture condition and compact native soils below the LVC zone as necessary per geotechnical report and onsite geotechnical representative.
C. Proof-roll subgrade below proposed building pads with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades. Proof-roll within two days of building pad construction.
   1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by the Geotechnical Engineer, and replace with compacted backfill or fill as directed to the proper moisture content and density.

3. After proof rolling and repairing deep subgrade deficiencies, the entire subgrade should be scarified and uniformly compacted to at least 95% of the standard proctor maximum dry density to provide a uniform subgrade for building pad construction. Moisture content and density of subgrade to be checked within two days prior to the commencement of building pad construction.

D. Authorized additional excavation and replacement / stabilization of soils will be paid for according to Contract provisions for unit prices and allowances for work necessary below the bottom of required excavations / low volume change material only.

3.15 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
1. Provide a smooth transition between adjacent existing grades and new grades.
2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
1. Turf or Unpaved Areas: Plus or minus 1 inch.
2. Walks: Plus or minus 1/4 inch.
3. Pavements: Plus or minus 1/4 inch.

3.16 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:
1. Determine prior to placement of fill that site has been prepared in compliance with requirements.
2. Determine that fill material and maximum lift thickness comply with requirements.
3. Determine, at the required frequency, that in-place density of compacted fill complies with requirements.

B. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.

C. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.

D. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.17 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Install erosion control measures as indicated on the plans. Install additional measures as necessary to prevent erosion or damage to erosion control measures.

C. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.

D. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.18 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Transport surplus satisfactory soil offsite. Stockpile / spread topsoil per contract documents prior to soil removal from site.
   1. Remove waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000
ADDENDUM NO. 2

Liberty Academy Shop Building
Smith & Boucher Project No. 2314716

02-23-2024

To Documents Titled: Liberty Academy Shop Building Construction Documents February 1, 2024

Architect-of-Record: Hollis + Miller Architects 1828 Walnut Street Suite 922 Kansas City, MO 64108

The Contract Documents for the above referenced project and the Work covered thereby are modified as described herein.

SPECIFICATIONS

1. 000105 – CERTIFICATION PAGE-MEP
   a. Added section 221513.

2. 000110 – TOC MEP
   a. Added section 221513.

3. 221513 – GENERAL SERVICE COMPRESSE AIR PIPING
   a. Specification section added in its entirety.

DRAWINGS

1. Sheet M101 – OVERALL HVAC PLAN – LEVEL 1
   a. Added dust collection system to plan.

2. Sheet E201 – OVERALL POWER PLAN – LEVEL 1
   a. Revised dust collection electrical disconnect and wire size, location, and circuit.

3. Sheet E302 – ELECTRICAL SCHEDULES AND DETAILS
   a. Panel schedule LP1 – circuits 24 and 26 shall be SPARE with 20A-1P circuit breakers.
   b. Panel schedule LP1 – circuits 38,40,42 shall be DUST COLLECTOR with 20A-3P circuit breaker.

Attachments

• Sheets and Specifications listed above.

END OF MEP ITEMS FOR ADDENDUM NO. 2
MEP ENGINEER

I HEREBY, PURSUANT TO RSMO 327.411, STATE THAT THE SPECIFICATIONS INTENDED TO BE AUTHENTICATED BY MY SEAL ARE LIMITED TO SPECIFICATIONS LISTED BELOW:

| DIVISION 22 SECTIONS:          | 220500, 220519, 220523, 220529, 220553, 220719, 221116, 221119, 221316, 221319, 221513, 223300, 224000 |
| DIVISION 23 SECTIONS:          | 230500, 230529, 230553, 230593, 230713, 231123, 233133, 233300, 233416, 233713, 237413 |
| DIVISION 26 SECTIONS:          | 260500, 260519, 260523, 260526, 260529, 260533, 260544, 260553, 262416, 262726, 262816, 265119, 265213, 265619 |
| DIVISION 27 SECTIONS:          | 270000 |

I HEREBY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER SPECIFICATIONS, DRAWINGS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE ARCHITECTURAL OR ENGINEERING PROJECT OR SURVEY.

RYAN J. DIEDIKER, PE, RCDD, LEED AP       DATE       02.23.2024
SECTION 221513 - GENERAL-SERVICE COMPRESSED-AIR PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes piping and related specialties for general-service compressed-air systems, as follows:
   1. Pipes, tubes, and fittings.
   2. Joining materials.
   3. Valves.
   4. Flexible pipe connectors.
   5. Specialties.
   6. Quick couplings.
   7. Hose assemblies.

1.2 ACTION SUBMITTALS

A. Product Data:
   1. Pipe, fittings, and valves.
   2. Dielectric fittings.
   3. Flexible pipe connectors.
   4. Safety valves.
   5. Pressure regulators. Include rated capacities and operating characteristics.
   6. Automatic drain valves.
   7. Filters. Include rated capacities and operating characteristics.
   8. Quick couplings.
   9. Hose assemblies.

1.3 INFORMATIONAL SUBMITTALS

A. Certificates:
   1. Brazing certificates.

B. Field Quality-Control Submittals:
   1. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.5 QUALITY ASSURANCE

A. Installer Qualifications:
   1. Joining Procedures for Aluminum Piping Systems: Qualify installers according to training provided by respective manufacturer.

B. Brazing: Qualify processes and operators in accordance with ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications," or with AWS B2.2, "Standard for Brazing Procedure and Performance Qualification."

PART 2 - PRODUCTS

2.1 PIPES, TUBES, AND FITTINGS

A. Copper Tube: ASTM B88, Type L seamless, drawn-temper, water tube.
   1. Wrought-Copper Fittings: ASME B16.22, solder-joint pressure type or MSS SP-73, wrought copper with dimensions for brazed joints.
   2. Cast-Copper-Alloy Flanges: ASME B16.24, Class 150 or 300.
   3. Copper Unions: ASME B16.22 or MSS SP-123.
B. Transition Couplings for Metal Piping: Metal coupling or other manufactured fitting same size as, with pressure rating at least equal to and ends compatible with, piping to be joined.

2.2 JOINING MATERIALS

A. Pipe-Flange Gasket Materials: Suitable for compressed-air piping system contents.
   1. ASME B16.21, nonmetallic, flat, asbestos free, 1/8-inch maximum thickness unless thickness or specific material is indicated.
      a. Full-Face Type: For flat-face, Class 125, cast-iron and cast-bronze flanges.
      b. Narrow-Face Type: For raised-face, Class 250, cast-iron and steel flanges.

B. Flange Bolts and Nuts: ASME B18.2.1, carbon steel, unless otherwise indicated.


D. Brazing Filler Metals: AWS A5.8/A5.8M, BCuP Series, copper-phosphorus alloys for general-duty brazing, unless otherwise indicated.

2.3 VALVES

A. Metal Ball, Butterfly, Check, and Gate Valves: Comply with requirements in Section 220523 "Valves for Plumbing Piping".

2.4 FLEXIBLE PIPE CONNECTORS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Flex-Hose Co., Inc.
   2. Flexicraft Industries.
   3. Hyspan Precision Products, Inc.
   5. Metraflex Company (The).
   6. Proco Products, Inc.
   7. Unaflex.
   8. Universal Metal Hose; a Hyspan Co.

B. Bronze-Hose Flexible Pipe Connectors: Corrugated-bronze tubing with bronze wire-braid covering and ends brazed to inner tubing.
   2. End Connections: Plain-end copper tube.

2.5 SPECIALTIES

A. Safety Valves:
   1. Bronze body.
   2. ASME-construction, poppet, pressure-relief type.
   3. Settings to match system requirements.

B. Pressure Regulators:
   1. Bronze body and trim.
   2. Spring-loaded, diaphragm-operated, relieving type.
   4. Rated for 250-psig minimum inlet pressure.
   5. Capable of controlling delivered air pressure within 0.5 psig for each 10-psig inlet pressure.

2.6 QUICK COUPLINGS

A. General Requirements for Quick Couplings: Assembly with locking-mechanism feature for quick connection and disconnection of compressed-air hose.

B. Automatic-Shutoff Quick Couplings: Straight-through brass body with O-ring or gasket seal and stainless steel or nickel-plated-steel operating parts.
   1. Socket End: With one-way valve and threaded inlet for connection to piping or threaded hose fitting.
C. Valveless Quick Couplings: Straight-through brass body with stainless steel or nickel-plated-steel operating parts.
   1. Socket End: With O-ring or gasket seal, without valve, and with barbed inlet for attaching hose.

2.7 HOSE ASSEMBLIES

A. Description: Compatible hose, clamps, couplings, and splicers suitable for compressed-air service, of nominal diameter indicated, and rated for 300 psig minimum working pressure, unless otherwise indicated.
   2. Hose Clamps: Stainless steel clamps or bands.
   3. Hose Couplings: Two-piece, straight-through, threaded brass or stainless steel O-ring or gasket-seal swivel coupling with barbed ends for connecting two sections of hose.
   4. Hose Splicers: One-piece, straight-through brass or stainless steel fitting with barbed ends for connecting two sections of hose.

PART 3 - EXECUTION

3.1 PIPING APPLICATIONS

A. Low-Pressure Compressed-Air Distribution Piping:
   1. Type L copper tube; wrought-copper fittings; and brazed or soldered joints.

B. Drain Piping:
   1. Type M copper tube; wrought-copper fittings; and brazed or soldered joints.

3.2 VALVE APPLICATIONS

A. Metal General-Duty Valves: Comply with requirements and use valve types specified in "Valve Applications" Article in Section 220523 "Valves for Plumbing," according to the following:
   1. Low-Pressure Compressed Air: Valve types specified for low-pressure compressed air.
   2. Equipment Isolation NPS 2 and Smaller: Safety-exhaust, copper-alloy ball valve with exhaust vent and pressure rating at least as great as piping system operating pressure.

3.3 INSTALLATION OF PIPING, GENERAL

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of compressed-air piping. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, air-compressor sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

B. Install piping concealed from view and protected from physical contact by building occupants, unless otherwise indicated and except in equipment rooms and service areas.

C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless otherwise indicated.

D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal and to coordinate with other services occupying that space.

E. Where installing piping adjacent to equipment and machines, allow space for service and maintenance.

F. Install air and drain piping with 1 percent slope downward in direction of flow.

G. Install nipples, flanges, unions, transition and special fittings, and valves with pressure ratings same as or higher than system pressure rating unless otherwise indicated.

H. Equipment and Specialty Flanged Connections:
   1. Use steel companion flange with gasket for connection to steel pipe.
   2. Use cast-copper-alloy companion flange with gasket and brazed or soldered joint for connection to copper tube. Do not use soldered joints for connection to air compressors or to equipment or machines producing shock or vibration.
I. Extended-tee outlets with brazed branch connection may be used for copper tubing, within extruded-tee connection diameter to run tube diameter ratio for tube type, in accordance with Extruded Tee Connections Sizes and Wall Thickness for Copper Tube (Inches) Table in ASTM F2014.

J. Install eccentric reducers where compressed-air piping is reduced in direction of flow, with bottoms of both pipes and reducer fitting flush.

K. Install branch connections to compressed-air mains from top of main. Provide drain leg and drain trap at end of each main and branch and at low points.

L. Install pressure gauge on discharge piping from each air compressor and on each receiver. Comply with requirements in Section 220519 "Meters and Gages for Plumbing Piping."

M. Install piping to permit valve servicing.

N. Install piping free of sags and bends.

O. Install fittings for changes in direction and branch connections.

3.4 JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

C. Threaded Joints: Thread pipe with tapered pipe threads in accordance with ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
   1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
   2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

D. Brazed Joints for Copper Tubing: Join in accordance with AWS's "Brazing Handbook," "Pipe and Tube" Chapter.

E. Soldered Joints: Apply ASTM B813, water-flushable flux, unless otherwise indicated, to tube end. Join in accordance with ASTM B828 or CDA's "Copper Tube Handbook."

F. Flanged Joints: Use asbestos-free, nonmetallic gasket suitable for compressed air. Join flanges with gasket and bolts in accordance with ASME B31.9 for bolting procedure.

G. Dissimilar Metal Piping Material Joints: Use dielectric fittings.

3.5 INSTALLATION OF VALVES

A. General-Duty Valves: Comply with requirements in Section 220523 "Ball Valves for Plumbing Piping," Section 220523 "Check Valves for Plumbing Piping."

3.6 INSTALLATION OF DIELECTRIC FITTINGS

A. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.

B. NPS 2 and Smaller: Use dielectric unions.

3.7 INSTALLATION OF FLEXIBLE PIPE CONNECTORS

A. Install flexible pipe connectors in discharge piping each air compressor.

B. Install bronze-hose flexible pipe connectors in copper compressed-air tubing.

C. Install stainless steel-hose flexible pipe connectors in steel compressed-air piping.
3.8 INSTALLATION OF SPECIALTIES

A. Install safety valves on receivers in quantity and size to relieve at least the capacity of connected air compressors.
B. Install air-main pressure regulators in compressed-air piping at or near air compressors.
C. Install air-line pressure regulators in branch piping to equipment.
D. Install mechanical filters in compressed-air piping at or near air compressors and downstream from coalescing filters.
E. Install quick couplings at piping terminals for hose connections.
F. Install hose assemblies at hose connections.
G. Install unions, in piping NPS 2 and smaller, adjacent to each valve and at final connection to each piece of equipment and machine.

3.9 INSTALLATION OF HANGERS AND SUPPORTS

A. Comply with requirements in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment" for hangers, supports, and anchor devices.
B. Install hangers for copper tubing, with maximum horizontal spacing and minimum rod diameters, to comply with MSS SP-58, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.
C. Install hangers for aluminum piping, with maximum horizontal spacing and minimum rod diameters, to comply with manufacturer's written instructions, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.
D. Support horizontal piping within 12 inches of each fitting and coupling.
E. Support vertical runs of copper tubing to comply with MSS SP-58, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.
F. Support vertical runs of aluminum piping to comply with manufacturer's written instructions, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.
G. Individual, Straight, Horizontal Piping Runs:
   1. 100 Ft. or Less: MSS Type 1, adjustable, steel clevis hangers.
   2. Longer Than 100 Ft.: MSS Type 43, adjustable roller hangers.
H. Multiple, Straight, Horizontal Piping Runs 100 Ft. or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
I. Base of Vertical Piping: MSS Type 52, spring hangers.

3.10 LABELING AND IDENTIFICATION

A. Install identifying labels and devices for general-service compressed-air piping, valves, and specialties. Comply with requirements in Section 220553 "Identification for Plumbing Piping and Equipment."

3.11 FIELD QUALITY CONTROL

A. Perform field tests and inspections.
B. Tests and Inspections:
   1. Piping Leak Tests for Metal Compressed-Air Piping: Test new and modified parts of existing piping. Cap and fill general-service compressed-air piping with oil-free dry air or gaseous nitrogen to pressure of 50 psig above system operating pressure, but not less than 150 psig. Isolate test source and let stand for four hours to equalize temperature. Refill system, if required, to test pressure; hold for two hours with no drop in pressure.
2. Repair leaks and retest until no leaks exist.
3. Inspect filters and pressure regulators for proper operation.

C. Prepare test and inspection reports.

END OF SECTION 221513
UTILITY NOTES:

1. WMF 8290751E100
   Client: Liberty Academy Shop Building
   ADDRESS: 1115 Blackberry Drive
   Liberty, MO 64068

2. MKEC Engineering, Inc.
   Civil Engineering / Landscape Architecture
   11827 W. 112th St #200
   Overland Park, KS 66210
   913.317.9390 phone
   913.345.2127 phone

3. Smith & Boucher Engineers
   Mech/Elect/Plumb Engineer
   25618 W 103rd St.
   Olathe, KS 66061
   913.345.2127 phone

   Structural Engineer
   4338 Belleview Ave
   Kansas City, MO 64111
   816.531.4144 phone
   816.531.8572 fax

5. UTILITY PLAN
   02.01.2024

6. WFH
   BLT

7. BRADEN L. TAYLOR, P.E.
   LISC. #2021001896

8. Please consider the environment before printing this.
1. REFER TO FINISH FLOOR PLANS, REFLECTED CEILING PLANS, ELEVATIONS, AND DETAILS FOR EXTENT OF MULTIPLE FINISHES.

2. DO NOT PAINT NATURAL OR MANUFACTURED STONE, BRICK, GLAZED BLOCK OR ANY OTHER PREFINISHED MATERIALS.

3. REFER TO DOORS SCHEDULE FOR GLASS TYPES IN DOORS

4. REFER TO DOORS SCHEDULE FOR GLASS TYPES IN DOORS

5. PAINT ALL EXPOSED CEILINGS DESIGNATED AS ‘OTS’ AS INDICATED ON ROOM FINISH SCHEDULE. PAINTING INCLUDES, BUT IS NOT LIMITED TO: EXPOSED STRUCTURE, JOISTS, METAL DECKING, EXISTING TECTUM PANELS, DUCTWORK AND MECHANICAL EQUIPMENT.

8. PAINT OR FINISH THE FOLLOWING ITEMS TO MATCH ADJACENT PAINT OR FINISH:

913.345.2127 phone
Olathe, KS 66061
Mech/Elect Engineer
Smith & Boucher Engineers
816.531.4144 phone
Kansas City, MO 64111
4438 Bellevue Ave.
State Certificate of Authority # 000442
Structural Engineer
Bob D. Campbell & Co.
913.317.9390 phone
Overland Park, KS 66210
11827 W 112th St #200
State Certificate of Authority
Civil Engineer
Hollis + Miller Architects
Architecture # 0000161
Missouri State Certificate of Authority

Please consider the environment before printing this.
OVEREXCAVATION DETAIL

SECTION

LENS CONCRETE BACKFILL
ENGINEERED FILL BACKFILL

TYPICAL SLAB EDGE DETAIL AT EXISTING BUILDING SLAB DIMENSIONS

SECTION

LEAN CONCRETE BACKFILL

SECTION

SECTION

SECTION