

AMMEL ASSOCIATES ARCHITECTS, LLC

25 EAST GRANT STREET, SUITE 102 LANCASTER, PENNSYLVANIA 17602

CITY OF LANCASTER
BEAVER STREET STORAGE RENOVATIONS
622 BEAVER AVE. LANCASTER, PA 17603
ARCHITECT'S PROJECT NO: 1853
CITY CONTRACT NO: 2019-17

ADDENDUM ISSUE DATE: SEPTEMBER 11, 2019

BID DUE DATE: **WEDNESDAY SEPTEMBER 18, 2019 AT 11:00 AM**

ADDENDUM # 2:

Total pages: 2 notes + 32 sketches or specification + 8 full size sheets = 42 pages total

THE CONTENTS OF THIS ADDENDUM ALTER AND AMEND DRAWINGS AND SPECIFICATIONS DATED AUGUST 2019 FOR THE ABOVE REFERENCED PROJECT. THIS ADDENDUM SUPERSEDES AND SUPPLEMENTS ALL PORTIONS OF THE CONTRACT DOCUMENTS WITH WHICH IT CONFLICTS. ALL ASPECTS OF THE GENERAL CONDITIONS APPLY TO THIS ADDENDUM. ALL OTHER PROVISIONS OF THE CONTRACT DOCUMENTS NOT ALTERED OR AMENDED REMAIN PART OF THE CONTRACT WORK. COSTS FOR ALL ITEMS ENUMERATED IN THIS ADDENDUM SHALL BE ADDED OR DELETED TO THE CONTRACTOR'S BID, AS APPROPRIATE.

SPECIFICATION / DRAWING NO	ACTION	DESCRIPTION
General	REPLACE	Replace the bid forms in the original Project Manual with the attached bid forms that now include additional bid alternates.
Specification Section 011200-1.5-D 011200-1.8-B 015000-1.3	CLARIFICATION	City of Lancaster will cover natural gas cost for temporary heating once the permanent systems are installed, prior to turnover of the building to the owner.
CS .1A, 1.1A, A1.3A, A1.6A	ADD/REPLACE	Price as part of Alternate GC-2 ADD drawing A1.1A, A1.3A, A6.1A that includes information for Bid Alternate #2 and Alternate #3. REPLACE CS1.1 with CS1.1 Revision 2 dated 2019.09.11
A1.3/A1.31A	CLARIFICATION	The Gyp ceilings in the solicitor storage and secure vestibule are to be installed on a Chicago grid system suspended from the deck above.
080671- Door Hardware Schedule	REVISE/ADD	Price as part of Alternate GC-2 ADD Door 106A to hardware group #3 ADD Door 106B to hardware group #7 ADD Door 107A to hardware group #4
105626 – Mobile Storage Shelving	ADD	Price as part of Alternate GC-3 Add Specification Section 105626 – Mobile Storage Shelving
Specification Section 075323 EDPM	ADD	ADD Mule-Hide EDPM Membrane and an approve material supplier Section 2.1.a.1.e e. Mule-Hide Products Co., Inc., 1195 Prince Hall Drive, Beloit, WI 53511

Specification Section 012300 Alternates	ADD	ADD paragraph 012300.3.1.B B. Owner reserves right to select this alternate within 90 days from notice to proceed. If selected a contract extension for this portion of the work only will be granted.
M2.0A	ADD	Price as part of Alternate MC-1 New Drawing M2.0A "Alternate Mechanical Plan"
M3.0	REPLACE	Price as part of Alternate MC-1 ADD EF-3 and EF-4 to Fan Schedule ADD L-3 to Louver Schedule
P2.0	REVISE	Price as part of Alternate MC-1 ADD Drawing Note 11 to read, "Refer to Drawing M2.0A for location of GUH-4 for Alternate Plan. Provide 1" gas pipe and shutoff valve to alternate location from same 1-1/4" gas branch line as indicate on Base Bid Plan" ADD Note Tag 11 to GUH-4.
Specification Section 230860, Ventilation Equipment	REVISE	Price as part of Alternate MC-1 ADD Paragraph 2.4 Gas Detection System
E3.1A	ADD	Price as part of Alternate EC-1 New Drawing E3.1A "Alternate Lighting Plan"
E4.1A	ADD	Price as part of Alternate EC-1 New Drawing E4.1A "Alternate Power Plan"
Specification Section 261600, Intrusion Detection System	ADD	Price as part of Alternate EC-1 Specification Section 261600 Intrusion Detection System
Specification Section 262420 Panelboard Schedules	REVISE	Price as part of Alternate EC-1 Panel LP updated descriptions Panel LP (ALT) added for the alternate bid plan.

CONFIRM RECEIPT OF THIS ADDENDUM BY SENDING A SIGNED COPY OF THE LAST PAGE TO HAMMEL ASSOCIATES ARCHITECTS - SEND A CONFIRMATION EMAIL TO: cdzurko@hammelarch.com

RETURN A SIGNED COPY OF THIS ADDENDUM WITH THE BID FOR CONSTRUCTION.

 NAME

 TITLE

 COMPANY

 DATE

END OF ADDENDUM #2

BID FOR GENERAL CONSTRUCTION WORK

City of Lancaster, Beaver Street Storage Facility
Lancaster, PA
Architect's Project Number 1853
Owners Project Number 2019-17

Dated: _____

Bidder's Company Name, Address, Phone & Email (Print or Type)

To Whom It May Concern:

This Bid is submitted in accordance with the Bidding Documents for the Demolition and Alterations at the Beaver Street Storage Facility. Having carefully examined the Specifications, including the Addenda(s) enumerated in the bid the undersigned herein agrees to furnish all materials, perform all labor and do all else necessary to complete the contract for the above named Project in accordance with the Contract Documents for a:

TOTAL BASE BID PRICE: Provide the price to perform all work required by the Bidding Documents (not including alternate) in both numerical and written amounts:

General Construction:

Base Bid: Beaver Street Storage Facility:

Numerical Amount- \$ _____

Written Amount- _____

Add Alternate GC-1: Roof Replacement:

Numerical Amount- \$ _____

Written Amount- _____

Add Alternate GC-2: Additional Rooms:

Numerical Amount- \$ _____

Written Amount- _____

BID FOR MECHANICAL CONSTRUCTION WORK

City of Lancaster, Beaver Street Storage Facility
Lancaster, PA
Architect's Project Number 1853
Owners Project Number 2019-17

Dated: _____

Bidder's Company Name, Address, Phone & Email (Print or Type)

To Whom It May Concern:

This Bid is submitted in accordance with the Bidding Documents for the Demolition and Alterations at the Beaver Street Storage Facility. Having carefully examined the Specifications, including the Addenda(s) enumerated in the bid the undersigned herein agrees to furnish all materials, perform all labor and do all else necessary to complete the contract for the above named Project in accordance with the Contract Documents for a:

TOTAL BASE BID PRICE: Provide the price to perform all work required by the Bidding Documents (not including alternate) in both numerical and written amounts:

Mechanical Construction:

Base Bid: Beaver Street Storage Facility:

Numerical Amount- \$ _____

Written Amount- _____

Add Alternate MC-1: Revised Scope:

Numerical Amount- \$ _____

Written Amount- _____

The Contract amounts stated above includes all sales tax, excise, and other taxes for any materials and appliances subject to and upon which taxes are levied.

This Bid Form shall be accompanied by:

1. Bid Bond (AIA Document A310)
2. Non-Collusion Affidavit
3. Contractors Qualification Statement (AIA Document A305)
4. Non-Discrimination Clause
5. Contractor's Labor and Equipment Rate Schedule

ADDENDA

The undersigned hereby acknowledges receipt of the following Addenda(s) and has prepared this bid accordingly. (List Addenda #(s) and Date received):

SIGNATURES

IN WITNESS WHEREOF, the undersigned has caused this bid to be executed as of the day and year indicated on the first page hereof.

Name of Bidder (Printed or Typed) Signature

Witness Name (Printed or Typed) Signature

BID FOR PLUMBING CONSTRUCTION WORK

City of Lancaster, Beaver Street Storage Facility
Lancaster, PA
Architect's Project Number 1853
Owners Project Number 2019-17

Dated: _____

Bidder's Company Name, Address, Phone & Email (Print or Type)

To Whom It May Concern:

This Bid is submitted in accordance with the Bidding Documents for the Demolition and Alterations at the Beaver Street Storage Facility. Having carefully examined the Specifications, including the Addenda(s) enumerated in the bid the undersigned herein agrees to furnish all materials, perform all labor and do all else necessary to complete the contract for the above named Project in accordance with the Contract Documents for a:

TOTAL BASE BID PRICE: Provide the price to perform all work required by the Bidding Documents (not including alternate) in both numerical and written amounts:

Plumbing Construction:

Base Bid: Beaver Street Storage Facility:

Numerical Amount- \$ _____

Written Amount- _____

Alternate PC-1: Revised Scope: ADD DEDUCT (circle one)

Numerical Amount- \$ _____

Written Amount- _____

The Contract amounts stated above includes all sales tax, excise, and other taxes for any materials and appliances subject to and upon which taxes are levied.

This Bid Form shall be accompanied by:

1. Bid Bond (AIA Document A310)
2. Non-Collusion Affidavit
3. Contractors Qualification Statement (AIA Document A305)

4. Non-Discrimination Clause
5. Contractor's Labor and Equipment Rate Schedule

ADDENDA

The undersigned hereby acknowledges receipt of the following Addenda(s) and has prepared this bid accordingly. (List Addenda #(s) and Date received):

SIGNATURES

IN WITNESS WHEREOF, the undersigned has caused this bid to be executed as of the day and year indicated on the first page hereof.

Name of Bidder (Printed or Typed)

Signature

Witness Name (Printed or Typed)

Signature

BID FOR ELECTRICAL CONSTRUCTION WORK

City of Lancaster, Beaver Street Storage Facility
Lancaster, PA
Architect's Project Number 1853
Owners Project Number 2019-17

Dated: _____

Bidder's Company Name, Address, Phone & Email (Print or Type)

To Whom It May Concern:

This Bid is submitted in accordance with the Bidding Documents for the Demolition and Alterations at the Beaver Street Storage Facility. Having carefully examined the Specifications, including the Addenda(s) enumerated in the bid the undersigned herein agrees to furnish all materials, perform all labor and do all else necessary to complete the contract for the above named Project in accordance with the Contract Documents for a:

TOTAL BASE BID PRICE: Provide the price to perform all work required by the Bidding Documents (not including alternate) in both numerical and written amounts:

Electrical Construction:

Base Bid: Beaver Street Storage Facility:

Numerical Amount- \$ _____

Written Amount- _____

Add Alternate EC-1: Revised Scope:

Numerical Amount- \$ _____

Written Amount- _____

The Contract amounts stated above includes all sales tax, excise, and other taxes for any materials and appliances subject to and upon which taxes are levied.

This Bid Form shall be accompanied by:

1. Bid Bond (AIA Document A310)
2. Non-Collusion Affidavit
3. Contractors Qualification Statement (AIA Document A305)
4. Non-Discrimination Clause
5. Contractor's Labor and Equipment Rate Schedule

ADDENDA

The undersigned hereby acknowledges receipt of the following Addenda(s) and has prepared this bid accordingly. (List Addenda #(s) and Date received):

SIGNATURES

IN WITNESS WHEREOF, the undersigned has caused this bid to be executed as of the day and year indicated on the first page hereof.

Name of Bidder (Printed or Typed)

Signature

Witness Name (Printed or Typed)

Signature

SECTION 105626 – MOBILE STORAGE SHELVING UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Mechanically assisted, carriage mounted high-density mobile storage units, support rails, fabrication, and installation including leveling of support rails.

1.3 REFERENCES

- A. American National Standards Institute (ANSI) Standards:
 - 1. Applicable standards for fasteners used for assembly.
- B. American Society for Testing and Materials (ASTM) Standards:
 - 1. Applicable standards for steel materials used for fabrication.
- C. American Institute Of Steel Construction (AISC) Standards:
 - 1. Applicable standards for steel materials used for fabrication.

1.4 SYSTEM DESCRIPTION

- A. General: The system consists of manufactured storage units mounted on manufacturer's track-guided carriages to form a compact storage system. System design permits access to any single aisle by manually moving units until the desired aisle is opened. The carriage/rail system provides uniform carriage movement along the total length of travel, even with unbalanced loads.
- B. Carriage System Design and Features: The carriage system consists of a formed structural steel frame with machined and balanced wheels riding on steel rails surface mounted to the floor. Rails shall be types selected by the manufacturer to ensure smooth operation and self-centering of mobile storage units during travel without end play or binding. Rail types, quantities and spacing shall be selected by the manufacturer to suit installation conditions and requirements. All bearings used in the drive mechanism shall be permanently shielded and lubricated.

- C. Movement Controls: Triple or single arm operating wheels with rotating hand knobs shall be provided on the accessible (drive) ends of shelf units, centered on the end panel, located 40 inches (1051MM) from the base of each unit to permit units to be moved to create a single aisle opening. Turning the handle transmits power through chain drive to drive wheels on each carriage.
- D. Drive System: The system shall be designed with a positive type mechanically-assisted drive which minimizes end play, ensures there is no play in the drive handle, and that carriages will stop without drifting.
 - 1. System shall include a chain sprocket drive system for each movable carriage to ensure that carriages move uniformly along the total length of travel, even with unbalanced loads. All system components shall be selected to ensure a smooth, even movement along the entire carriage length. Drive system gearing shall be designed to permit 1 lb. of force applied to the drive handle to move a minimum of 4,000 lbs. of load.
 - 2. A tensioning device shall be provided on each chain drive with provision for adjusting tension without removing end panels.
 - 3. All bearings used in the drive mechanism shall be permanently shielded and lubricated.
- E. Safety Features:
 - 1. Color-coded visual indicators shall provide verification that carriages are in a locked or unlocked mode.
 - 2. A single safety lock button, mounted on each operating wheel hub, will permit moving a carriage in either direction to create a new access aisle when pulled out (unlocked), or locking the carriage when pushed in.
- F. Finishes:
 - 1. Fabricated Metal Components And Assemblies: Manufacturer's standard powder coat paint finish.
 - 2. End Panels, Accessible Ends: Plastic laminate, manufacturer's standard textures and patterns.

1.5 PERFORMANCE REQUIREMENTS

- A. Design Requirements:
 - 1. Limit overall height to 83.25 inches.
 - 2. Limit overall length to 123.5 inches.
- B. Ease of Movement: Provide mechanically assisted units capable of being moved by exerting a maximum horizontal force of 5 pounds on the operating wheel.

1.6 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature and installation instructions for each type of shelving, track and installation accessory required. Include data substantiating that products to be furnished comply with requirements of the contract documents.
- B. Shop Drawings: Show fabrication, assembly, and installation details including descriptions of procedures and diagrams. Show complete extent of installation layout including clearances, spacings, and relation to adjacent construction in plan, elevation, and sections. Indicate clear exit and access aisle widths; access to concealed components; assemblies, connections, attachments, reinforcement, and anchorage; and deck details, edge conditions, and extent of finish flooring within area where units are to be installed.
 - 1. Show installation details at non-standard conditions. Furnish floor layouts, technical and installation manuals for every unit shipment with necessary dimensions for rail layout and system configuration at the project site. Include installed weight, load criteria, furnished specialties, and accessories.
 - 2. Provide layout, dimensions, and identification of each unit corresponding to sequence of installation and erection procedures. Specifically include the following:
 - a. Location, position and configuration of tracks on all floors.
 - b. Plan layouts of positions of carriages, including all required clearances.
 - c. Details of shelving, indicating method and configuration of installation in carriages.
 - 3. Provide location and details of anchorage devices to be embedded in or fastened to other construction.
 - 4. Provide installation schedule and complete erection procedures to ensure proper installation.
- C. Samples: Provide minimum 3 inch (76MM) square example of each color and texture on actual substrate for each component to remain exposed after installation.
- D. Selection Samples: For initial selection of colors and textures, submit manufacturer's color charts consisting of actual product pieces, showing full range of colors and textures available.
- E. Warranty: Submit draft copy of proposed warranty for review by the Architect.
- F. Maintenance Data: Provide in form suitable for inclusion in maintenance manuals for mobile storage units. Data shall include operating and maintenance instructions, parts inventory listing, purchase source listing, emergency instructions, and related information.
 - 1. Submit manufacturer's instructions for proper maintenance materials and procedures.
 - 2. Submit manufacturer's printed instructions for maintenance of installed work, including methods and frequency recommended for maintaining optimum condition under anticipated use conditions. Include precautions against using materials and methods which may be detrimental to finishes and performance.

1.7 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** Engage an experienced manufacturer who is ISO 9001 certified for the design, production, installation and service of carriage mounted high-density mobile storage units and support rails. Furnish certificate attesting manufacturer's ISO 9001 quality system registration.
- B. **Installer Qualifications:** Engage an experienced installer who is a manufacturer's authorized representative for the specified products for installing carriages and anchoring shelving units to carriages.
 - 1. **Minimum Qualifications:** 1-year experience installing systems of comparable size and complexity to specified project requirements.
 - 2. **Guaranteed 24-hour service response time.**

1.8 DELIVERY, STORAGE AND HANDLING

- A. Follow manufacturer's instructions and recommendations for delivery, storage and handling requirements.

1.9 PROJECT CONDITIONS

- A. **Field Measurements:** Verify dimensions before fabrication. Indicate verified measurements on Shop Drawings. Coordinate fabrication and delivery to ensure no delay in progress of the Work.
- B. **Established Dimensions:** Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating mobile storage units. Coordinate construction to ensure actual dimensions correspond to established dimensions.

1.10 SEQUENCING AND SCHEDULING

- A. **Sequencing:** Coordinate storage shelving system installation with other work to minimize possibility of damage and soiling during remainder of construction period.
- B. **Scheduling:** Plan installation to commence after finishing operations, including painting have been completed.
- C. **Built-In Items:** Provide components which must be built in at a time which causes no delays general progress of the Work.
- D. **Pre-installation Conference:** Schedule and conduct conference on project site to review methods and procedures for installing mobile storage units including, but not limited to, the following:
 - 1. Review project conditions and levelness of flooring and other preparatory work performed under other contracts.

2. Review and verify structural loading limitations.
3. Recommended attendees include:
 - a. Owner's Representative.
 - b. Prime Contractor or representative.
 - c. The Architect.
 - d. Manufacturer's representative.
 - e. Subcontractors or installers whose work may affect, or be affected by, the work of this section.

1.11 WARRANTY

- A. Provide a written warranty, executed by Contractor, Installer, and Manufacturer, agreeing to repair or replace units which fail in materials or workmanship within the established warranty period. This warranty shall be in addition to, and not a limitation of, other rights the Owner may have under General Conditions provisions of the Contract Documents.
- B. Warrant the entire movable compact shelving installation against defects in materials and workmanship for a period of five years from date of acceptance by the Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design Manufacturer: Products are based upon mobile shelving system products manufactured by Spacesaver Corporation. Contingent on meeting specification requirements of section 012500, other acceptable manufacturers may be included.

2.2 BASIC MATERIALS

- A. General: Provide materials and quality of workmanship which meet or exceed established industry standards for products specified. Material thicknesses/gauges are manufacturer's option unless indicated otherwise.
- B. Plastic Laminates: NEMA LD-3, GP-28, Vertical Grade.

2.3 GROUT

- A. General: Provide non-shrink, non-staining hydraulic cement compound conforming to the following requirements, based on the performance of the test specimens at room temperature and in laboratory air.
1. Linear Movement: No shrinkage while setting; maximum expansion limited to .002 inches per linear inch.
 2. Compressive Strength: Based on two inch cubes made following ASTM standards, tested on a Balding-Southward machine of 60,000 pounds capacity, meet or exceed the following:
 - a. Age: 1 hour ---- 4,500 psi
7 days ---- 8,000 psi

2.4 MANUFACTURED COMPONENTS

- A. Rails:
1. Material: ASTM/AISI Type 1035 or 1045 steel, manufacturer's selection.
 2. Capacity: 1,000 pounds per lineal foot (1385kg/M) of carriage.
 3. Minimum Contact Surface: 5/8 inch (16MM) wide.
 4. Provide rail sections in minimum 6 foot (1.83M) lengths. Rails shall be one piece structural design with tongue and groove splicing, providing center flange guidance free of wheel guidance gaps.
 5. Rail configuration shall permit attachment to top of structural floor system with provision for leveling rails to compensate for variations in floor surface level.
 6. Provide rail connections designed to provide horizontal and vertical continuity between rail sections, to gradually transfer the concentrated wheel point load to and from adjoining rail sections. Butt joints are not permitted.
 7. [Anti-Tip Rail Form Covers: Manufacturer shall provide for protection if required [to prevent damage to rails during concrete back pours.] [when anti-tip devices are installed].
- B. Floor / Ramp:
1. Floor/Ramp Sheathing: Minimum 3/4 inch (19MM), 5-ply underlayment grade plywood. Particle board sheathing materials are not permitted.
 2. Provide fire retardant treated floor/ramp materials when required by code.
 3. Finished flooring materials shall be provided by [the Owner] [others].
- C. Carriages:
1. Provide manufacturer's design movable carriages fabricated of welded or bolted steel construction. Galvanized structural components and/or riveted carriages are unacceptable.

2. Provide fixed carriages of same construction and height as the movable carriages, anchored to rails. Setting fixed shelving directly on floors is not permitted.
3. When required, provide bolted carriage splices designed to maintain proper unit alignment and weight load distribution.
4. Design carriages to allow the shelving uprights to recess and interlock into the carriages a minimum of 3/4 inch (19MM). Top mount carriages are unacceptable.
5. Provide each carriage with two wheels per rail.

D. Drive / Guide System:

1. Design: Provide drive system which prevents carriage whipping, binding and excessive wheel/rail wear under normal operation.
 - a. If line shafts are used, all wheels on one side of carriage shall drive.
 - b. If synchronized drives are used, a minimum of one wheel assembly driving both sides of carriage at center location required. Drive shaft shall exhibit no play or looseness over the entire length of that assembly.
2. Shafts: Solid steel rod or tube.
3. Shaft Connections: Secured couplings.
4. Bearing Surfaces: Provide rotating load bearing members with ball or roller bearings. Provide shafts with pillow block or flanged self-aligning type bearings.

E. Wheels:

1. Capacity: Minimum load capacity per wheel: 3200 lbs (1455kg).
2. Size: Minimum 5 inches (127MM), outside diameter drive wheels.
3. Guides: Determined by manufacturer; minimum 2 locations.

F. Face Panels:

1. Materials: Plastic laminate clad particle board with plastic edging on vertical edges.
2. Finishes: [Selected from manufacturer's standard available colors and patterns.] [(Optional) Selected by the [Architect] [Architect/Engineer] [Engineer] [Designer].

G. Accessories:

1. Anti-Tip Devices: Provide manufacturer's standard fixtures.
2. (Optional) Mechanical Sweep and Safety Stop (Non-Powered).

Every potential aisle shall be protected with a 3" (76 mm) high extruded aluminum safety sweep, hinged from the carriage using spring steel leaf springs, with the base edge maximum 3/4" (19mm) from the floor. The carriage(s) shall stop when depressed at any location along the

leading edge of the sweep surface. Activated safety sweep shall engage an impact- absorbing friction disk brake to protect occupants, stored media and the carriage system itself via a sheathed cable system comprised of aircraft-grade 3/64” (1.2mm) stainless steel core cables housed inside lined conduit. Safety sweep shall have bright, red and white safety identification tape applied full length marking its location. Safety sweep shall run the full length of both sides of each moveable carriage for full aisle coverage.

Mechanical safety sweep shall automatically reset to enable mobile system users to freely and safely back carriages away from aisle obstructions simply by reversing the direction of the rotating handle.

Safety sweep shall be operational when the carriages are not moving. Should a sweep be activated in an open aisle, the carriage with the activated sweep will not close on that aisle. Safety sweep shall automatically reset if activated and then released when the carriages are not moving.

Safety sweep shall require no electrical power or batteries to operate.

2.5 FABRICATION

- A. General: Coordinate fabrication and delivery to ensure no delay in progress of the Work.
- B. Wheels: Provide precision machined and balanced units with permanently shielded and lubricated bearings.
- C. Carriages: Fabricate to ensure no more than 1/4 inch (6MM) maximum deviation from a true straight line. Splice and weld to ensure no permanent set or slippage in any spliced or welded joint when exposed to forces encountered in normal operating circumstances.
- D. Shelving, Supports and Accessories: See individual descriptions in “Shelving” paragraphs.

2.6 FINISHES

- A. Colors: Selected from manufacturer’s standard available colors
- B. Paint Finish: Provide factory applied electrostatic powder coat paint. Meet or exceed specifications of the American Library Association.
- C. Laminate Finish: Provide factory applied laminate panels at locations indicated on approved shop drawings.
- D. Edgings: Provide preformed edging, color-matched to unit colors selected.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine floor surfaces with Installer present for compliance with requirements for installation tolerances and other conditions affecting performance of mobile storage units.
- B. Verify that building structural system is adequate for installing mobile storage units at locations indicated on approved shop drawings.
- C. Verify that intended installation locations of mobile storage units will not interfere with nor block established required exit paths or similar means of egress once units are installed.
- D. Prepare written report, endorsed by Installer, listing conditions detrimental to proper performance of mobile storage units, once installed.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Rails:
 - 1. Lay out rails using full length units to the maximum extent possible. Use cut lengths only at ends to attain total length required. Locate and position properly, following dimensions indicated on approved shop drawings. Verify thickness of finished floor materials to be installed (by others) and install level 1/16 inch (0.6MM) above finished floor surfaces.
 - 2. Verify level, allowing for a minimum 1/4 inch (6MM) of grout under high points. Position and support rails so that no movement occurs during grouting.
 - 3. Set rails in full grout bed, completely filling any voids entire length of all rails including rail connectors. Trim up sides flush with rails to ensure proper load transfer from rail to supporting floor. Using shims in lieu of full grouting is not permitted.
 - 4. Installation Tolerances: Do not exceed levelness of installed rails listed below:
 - a. Maximum Variation From True Level Within Any Module: 3/32 inch (2.4MM).
 - b. Maximum Variation Between Adjacent (Parallel) Rails: 1/16 inch (1.6MM), perpendicular to rail direction.
 - c. Maximum Variation In Height: 1/32 inch (.8MM), measured along any 10 foot (3.05M) rail length.
 - 5. Verify rail position and level; anchor to structural floor system with anchor type and spacings indicated on approved shop drawings.
- B. Floors/Ramps:

1. General: Finished elevation shall be 1/16 inch (1.6MM) below top of rails.
2. Place floors and ramps to the extent indicated on approved shop drawings. Extend ramps under all movable ranges. [Extend under stationary ranges if dual control access is required.] Provide ramp at both ends of mobile system. Do not extend ramps beyond the ends of carriages.
3. Construct floors and ramps to prevent warping or deformation of floor panels in a normal operating environment. Support panels on levelers at maximum 16 inches on center.
4. Ramp Slope: Do not exceed the following:
 - a. ADA Accessible Ramps: Maximum 1:12 slope (4.76 degrees).
 - b. Other Ramps: Maximum 9 degree slope (1.9:12).
 - c. Vertical Transition, Ramp edge to floor: Maximum 1/8 inch (3MM).

C. Shelving Units Installation:

1. General: Follow layout and details shown on approved shop drawings and manufacturer's printed installation instructions. Position units level, plumb; at proper location relative to adjoining units and related work.
2. Carriages:
 - a. Place movable carriages on rails. Ensure that all wheels track properly and centering wheels are properly seated on centering rails. Fasten multiple carriage units together to form single movable base where required.
 - b. Position fixed carriage units to align with movable units.
3. Shelving Units:
 - a. Permanently fasten shelving units to fixed and movable carriages with vibration-proof fasteners.
 - b. Stabilize shelving units following manufacturer's written instructions. Reinforce shelving units to withstand the stress of movement where required and specified.

3.3 FIELD QUALITY CONTROL

- A. Verify shelving unit alignment and plumb after installation. Correct if required following manufacturer's instructions.
- B. Remove components which are chipped, scratched, or otherwise damaged and which do not match adjoining work. Replace with new matching units, installed as specified and in manner to eliminate evidence of replacement.

3.4 ADJUSTING

- A. Adjust components and accessories to provide smoothly operating, visually acceptable installation.

3.5 CLEANING

- A. Immediately upon completion of installation, clear components and surfaces. Remove surplus materials, rubbish and debris resulting from installation upon completion of work and leave areas of installation in neat, clean condition.

3.6 DEMONSTRATION/TRAINING

- A. Schedule and conduct demonstration of installed equipment and features with Owner's personnel.
- B. Schedule and conduct maintenance training with Owner's maintenance personnel. Training session should include lecture and demonstration of all maintenance and repair procedures that end user personnel would normally perform.

3.7 PROTECTION

- A. Protect system against damage during remainder of construction period. Advise Owner of additional protection needed to ensure that system will be without damage or deterioration at time of substantial completion.

END OF SECTION

SECTION 230860 - VENTILATION EQUIPMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Ceiling Exhaust Fans
- B. Wall Mounted Fans
- C. Wall Louvers
- D. Gas Detection System (Addendum No. 2)**

1.2 REFERENCES

- A. AMCA 99 - Standards Handbook
- B. AMCA 210 - Laboratory Methods of Testing Fans for Rating Purposes
- C. AMCA 261 - Directory of Products Licensed to Bear the AMCA Certified Ratings Seal
- D. NFPA 70 - National Electrical Code
- E. NFPA 96 - Installation of Equipment for the Removal of Smoke and Grease Vapors from Commercial cooking Equipment
- F. UL 705 - Power Ventilators

1.3 SUBMITTALS

- A. Submit in accordance with provisions of Section 230010.
- B. Product Data: Provide data on fans and accessories including fan curves with specified operating point clearly plotted, sound power levels at rated capacity, and electrical characteristics and connection requirements.

PART 2 - PRODUCTS

2.1 CEILING EXHAUST FAN (EF-1)

- A. Manufacturers:
 - 1. Greenheck
 - 2. Acceptable Equals:
 - a. Cook

b. PennBarry

- B. Furnish and install ceiling exhaust fans. Units shall be direct drive models. Fans shall have acoustically insulated housing and shall have maximum sound level ratings as noted. Air deliveries shall be as indicated in the schedule and all fans shall bear the AMCA Certified Ratings Seal for air capacities only and the UL label. Manufacturer shall submit vibration amplitudes and magnetic motor hum levels in decibels. Units shall be equipped with integral backdraft dampers which shall be chatterproof. Fans shall have true centrifugal wheels with inlet perpendicular to or remote from inlet grille. Ceiling model grilles shall be aerodynamic design of white eggcrate shape and provide 85% free open area. Terminal box shall be provided with cord, plug, and receptacle inside the housing, entire fan, motor and wheel assembly shall be removable without disturbing the housing. Motors shall be suitably grounded and mounted on rubber-in-shear vibration isolators.
- C. Furnish Lek-Trol variable speed controller mounted on unit to balance system.

2.2 WALL MOUNTED EXHAUST FAN (EF-2, 3, 4 (Addendum No. 2))

- A. Manufacturers:
1. Greenheck
 2. Acceptable Equals:
 - a. Cook
 - b. PennBarry
- B. General Description:
1. Fan arrangement shall be exhaust
 2. Sidewall mounted applications
 3. Performance capabilities up to 29,290 cubic feet per minute (cfm) and static pressure to 2.45" of water gauge
 4. Fans are available in four sizes with nominal wheel diameters ranging from 20" through 36" (20 – 36-unit sizes)
 5. Maximum continuous operating temperature 130°F (54.4°C)
 6. Minimum continuous operating temperature -10° F (-23° C)
 7. Each fan shall bear a permanently affixed manufacture's engraved metal nameplate containing the model number and individual serial number
- C. Wheel:
1. Propeller constructed of cast aluminum tapered airfoil blades and cast aluminum hubs
 2. Securely attached to motor shaft with a standard square key, set screw and tapered bushing
 3. Statically and dynamically balanced in accordance with AMCA Standard 204-05
 4. The propeller and fan inlet will be matched and shall have precise running tolerances for maximum performance and operating efficiency
- D. Motors:
1. AC Induction Motor
 - a. Motor Enclosure: Open drip proof - opening in the frame body and or end brackets
 - b. Motors are permanently lubricated, heavy duty ball bearing type to match with the fan load and furnished at the specific voltage and phase
 - c. Accessible for maintenance
- E. Drive Frame:

1. Frames and Panels shall be bolted construction
2. Drive frame assemblies and fan panels shall be galvanized steel or painted steel
3. Drive frame shall have formed channels and fan panels shall have pre-punched mounting holes, formed flanges and a deep formed one-piece inlet venturi

F. Options/Accessories:

1. Dampers:
 - a. Type: WD-320, Gravity
 - b. Prevents outside air from entering back into the building when fan is off
 - c. Balanced for minimal resistance to flow
 - d. Galvanized frames with pre-punched mounting holes
2. Wall Housing:
 - a. Fan panel will be mounted vertically directing the air horizontally out of the building. Wall Housing will be mounted in a manner that will not have any housing protruding outside of the building. Motor and drives will be accessible from the interior of the building
 - b. Constructed of galvanized steel with heavy gauge mounting flanges and pre-punched mounting holes
 - c. Housing shall include OSHA approved motor guard
 - d. Reduces installation time and provides maximum installation flexibility

2.3 WALL LOUVER (L-1,2,3(Addendum No. 2))

A. Manufacturers:

1. Greenheck
2. Acceptable Equals:
 - a. Ruskin
 - b. Construction Specialties

B. Frame: Heavy gauge extruded 6063-T5 aluminum, 4in x 0.081" nominal wall thickness

C. Blades: J style, heavy gauge extruded 6063-T5 aluminum, 0.081" nominal wall thickness, positioned at 37° on approximately 4" centers

D. Construction: Mechanically fastened.

E. Finish: Baked enamel with color selected by Architect from standard color chart.

F. Options:

1. Insect Screen
2. Extended sill
3. Flanged Frame
4. Security bars for louvers with dimensions greater than 12"

2.4 GAS DETECTION SYSTEM

A. **System shall be standalone wall mounted toxic gas detector. System shall alarm for carbon monoxide (above 25 ppm) and nitrogen dioxide (above 0.7 ppm) levels and activate space exhaust fan and open associated intake louver via integral output relays. Unit shall have**

integral audible alarm. Unit shall have 2 line backlight LCD display. Toxic gas detector shall use electrochemical cell sensor. Unit shall have an accuracy of not less than 3% of full scale of the detected gas range. Unit shall be Honeywell E3Point or equivalent. (Addendum no. 2)

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Secure roof exhausters with lag screws to roof curb.
- C. Extend ducts to roof exhausters into roof curb.
- D. Install flexible connections where indicated.
- E. Provide sheaves required for final air balance.
- F. Install backdraft dampers on inlet to roof exhausters.
- G. Provide backdraft dampers on outlet from cabinet and ceiling exhauster fans and as indicated.
- H. Do not operate fans for any purpose until ductwork is clean, filters in place, bearings lubricated, and fan has been test-run under observation.

END OF SECTION 230860

SECTION 262420 –PANELBOARD SCHEDULES

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes the attached Panelboard Schedule.

1.2 SUBMITTALS FOR REVIEW

- A. Refer to Section 262416 for submittals required.

1.3 EXTRA MATERIALS

- A. Refer to Section 262416 for extra materials required.

1.4 MAINTENANCE MATERIALS

- A. Refer to Section 262416 for maintenance materials required.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION

3.1 PANELBOARD SCHEDULES

- A. Refer to Panelboard Schedules, attached to the following pages.

3.2 GENERAL NOTES FOR ALL PANEL SCHEDULES

- A. Provide oversize lugs if required by conductors upsized for voltage drop.
- B. Use only owner-assigned room numbers/names in final panel schedules.
- C. Provide ground bus and 100% neutral
- D. Provide “Hinged Trim” panelboard covers for all lighting and power panelboards. The entire trim shall be hinged to swing to one side of the box to access the panel gutter space.
- E. All Panelboards with greater than 42 poles shall have 2 panel backboxes. Single backboxes with more than 42 poles will be unacceptable.
- F. Where noted for new circuit breakers in existing panelboards, provide new circuit breakers with AIC ratings that are equal or greater than the existing circuit breaker AIC ratings.

3.3 STANDARD BRANCH CIRCUIT WIRE SIZING TABLE

A. Sizing Table

STANDARD BRANCH CIRCUIT WIRE SIZING TABLE			
BREAKER TRIP RATING	1-POLE BREAKER	2-POLE BREAKER	3-POLE BREAKER
15-20A	2#12 + 1#12 GND IN 3/4" CONDUIT	3#12 + 1#12 GND IN 3/4" CONDUIT	4#12 + 1#12 GND IN 3/4" CONDUIT
25-30A	2#10 + 1#10 GND IN 3/4" CONDUIT	3#10 + 1#10 GND IN 3/4" CONDUIT	4#10 + 1#10 GND IN 3/4" CONDUIT
35-40A	2#8 + 1#10 GND IN 3/4" CONDUIT	3#8 + 1#10 GND IN 3/4" CONDUIT	4#8 + 1#10 GND IN 3/4" CONDUIT
45-50A	2#6 + 1#10 GND IN 3/4" CONDUIT	3#6 + 1#10 GND IN 3/4" CONDUIT	4#6 + 1#10 GND IN 1" CONDUIT
60-70A	2#4 + 1#8 GND IN 1" CONDUIT	3#4 + 1#8 GND IN 1-1/4" CONDUIT	4#4 + 1#8 GND IN 1-1/4" CONDUIT
80A	2#3 + 1#8 GND IN 1" CONDUIT	3#3 + 1#8 GND IN 1-1/4" CONDUIT	4#3 + 1#8 GND IN 1-1/4" CONDUIT
90A	N/A	3#2 + 1#8 GND IN 1-1/4" CONDUIT	4#2 + 1#8 GND IN 1-1/4" CONDUIT
100-110A	N/A	3#1 + 1#6 GND IN 1-1/2" CONDUIT	4#1 + 1#6 GND IN 1-1/2" CONDUIT

B. Table Notes:

1. Unless otherwise indicated, refer to this schedule for wire and conduit size for all circuits with identified breaker trip ratings.
2. Provide neutral conductor for 2 and 3 pole circuits as indicated above if the equipment requires a neutral.

END OF SECTION 262420

PANEL			Bus:	200A Main Breaker	Additional Panel Notes										
LP			Volts:	120/208V, 3PH, 4W	100% Neutral with Ground Bus										
			Poles:	42	Integral TVSS L2										
			AIC:	22,000											
			Mounting:	Surface											
CKT.	Breaker		Description	Notes	Load						Notes	Description	Breaker		CKT.
	Amp	Pole			A	B	C	Pole	Amp						
1	20	1	Lighting - Rm 102		1.1	0.5						Receptacles - Rm 102	1	20	2
3	20	1	Lighting - Rm 101,102				0.9	0.5				Receptacles - Rm 101	1	20	4
5	20	1	Lighting - Rm 103,104,105						0.7	0.5		Receptacles - Rm 101,102	1	20	6
7	20	1	Overhead Door - Rm 102		1.0	0.5						Receptacles - Rm 101,102	1	20	8
9	20	1	Overhead Door - Rm 102				1.0	0.2				DHP - Rm 101,102	1	20	10
11	20	1	Overhead Door - Rm 102						1.0	0.7		Receptacles - Rm 103,104	1	20	12
13	20	1	GUH-1,2 - Rm 102		0.4	0.7						Receptacles - Rm 102,104	1	20	14
15	20	1	GUH-3,4 - Rm 102				0.4	0.0				Spare	1	20	16
17	20	1	GF-1 - Rm 105						0.2	0.7		Receptacles - Rm 102,104,105	1	20	18
19	40	2	CU-1 - Roof		2.5	0.5						Receptacles - Rm 102	1	20	20
21							2.5					Spare	1	20	22
23	20	2	EF-2 - Rm 102						1.0	0.5	1	Access Panel - Rm 104	1	20	24
25					1.0										26
27	20	1	L-2 - Rm 102				0.2								28
29	20	1	EF-1 - Rm 103						0.2			Spare	2	20	30
31	20	2	EWH-1 - Rm 103		0.8										32
33							0.8					Spare	1	20	34
35												Spare	1	20	36
37	20	3	Spare									Spare	1	20	38
39												Spare	1	20	40
41												Spare	1	20	42
					9.0		6.5		5.5						
					Phase Totals					Total Connected Load KVA:		21.0	KVA		

PANEL			Bus:	200A Main Breaker	Additional Panel Notes											
LP (ALT)			Volts:	120/208V, 3PH, 4W	100% Neutral with Ground Bus											
			Poles:	42	Integral TVSS L2											
			AIC:	22,000												
			Mounting:	Surface												
CKT.	Breaker		Description	Notes	Load						Notes	Description	Breaker		CKT.	
	Amp	Pole			A	B	C	Pole	Amp							
1	20	1	Lighting - Rm 101,106,107		1.1	0.5							Receptacles - Rm 107	1	20	2
3	20	1	Lighting - Rm 104				0.9	0.5					Receptacles - Rm 101	1	20	4
5	20	1	Lighting - Rm 103,105,106						0.7	0.5			Receptacles - Rm 107	1	20	6
7	20	1	Overhead Door - Rm 107		1.0	0.5							Receptacles - Rm 101,104	1	20	8
9	20	1	Overhead Door - Rm 109				1.0	0.2					DHP - Rm 101,106	1	20	10
11	20	1	Overhead Door - Rm 106						1.0	0.7			Receptacles - Rm 105	1	20	12
13	20	1	GUH-1,2 - Rm 104,107		0.4	0.7							Receptacles - Rm 104	1	20	14
15	20	1	GUH-3,4 - Rm 104,107				0.4	0.0					Spare	1	20	16
17	20	1	GF-1 - Rm 106						0.2	0.7			Receptacles - Rm 104,105,106	1	20	18
19	40	2	CU-1 - Roof		2.5	0.5							Receptacles - Rm 104	1	20	20
21							2.5						Spare	1	20	22
23	20	2	EF-2A - Rm 104						1.0	0.5	1		Access/Intrusion Panels - Rm 105	1	20	24
25					1.0								Overhead Door - Rm 106	1	20	26
27	20	1	L-2 - Rm 104				0.2	0.2					L-3 - Rm 107	1	20	28
29	20	1	EF-1 - Rm 103						0.2	1.0			EF-3/EF-4 - Rm 107	1	20	30
31	20	2	EWH-1 - Rm 103		0.8								Spare	2	20	32
33							0.8									34
35	20	1	CO/NO Control Panel - Rm 107						0.2				Spare	1	20	36
37	20	3	Spare										Spare	1	20	38
39													Spare	1	20	40
41													Spare	1	20	42
					9.0		6.7		6.7							
					Phase Totals					Total Connected Load KVA:		22.4	KVA			

PANEL NOTES	
1	Provide handle lock to lock in the on position.
2	
3	
4	
5	

SECTION 281600 - INTRUSION DETECTION SYSTEM

PART 1 - GENERAL

1.1 GENERAL

- A. It is the intent of these specifications to describe the minimum requirements for the furnishing and installation of an fire and burglary alarm control panel.
- B. The system to be provided with the Alternate Bid Plan on Drawing E4.1A only.

1.2 ACCEPTABLE EQUIPMENT SUPPLIERS

- A. The equipment supplier shall be an Authorized Dealer of Honeywell Security & CE and/or ADI. and in good standing. Current documentation (within the last 30 days) from the manufacturer shall be provided with the submittals to indicate the "Authorized" status of the Equipment Supplier and that

1.3 SUBMITTALS FOR REVIEW

- A. Submit under provisions of Section 260010.
- B. Shop Drawings: Provide complete shop drawings which include the following;
 - 1. Indicate all system device locations on architectural floor plans. No other system(s) shall be included on these plans.
 - 2. Include full schematic wiring information on these drawings for all devices. Wiring information shall include cable type, conductor routings, quantities, and connection details at devices.
 - 3. Include a complete intrusion detection system one-line, block diagram.

1.4 SUBMITTALS FOR CLOSEOUT

- A. Submit under provisions of Section 260010.
- B. Provide manuals including operating instructions, maintenance recommendations, parts lists, riser diagrams, wiring and connection diagrams and termination diagrams modified to reflect as-built conditions.

1.5 WARRANTY

- A. Provide the warranty specified in Section 260010.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Honeywell – www.security.honeywell.com - **No Substitutions.**
- B. Choice Security Systems
Matthew J Schlegelmilch
200 Richardson Drive
Lancaster PA 17603
717-207-0155 w
717-575-1126 m

2.2 EQUIPMENT

- A. Security/Central Station Control System Software/Hardware - The combination Security/Central Station Control System shall as manufactured by Honeywell Security & CE.
- B. Vista commercial partitioned fire and burglary alarm control panel - Vista -250BPT.
 - 1. The panel shall include, but not limited to, the following modules:
 - a. Vista 128/250 BPT Intrusion Panel
 - b. Battery Backup - 7 Hour Minimum
 - c. Enclosure with a minimum of 20% spare space capacity
 - d. Cellular Communicator GSMX4G
- C. Door Position Contacts – 4939SN-WH- Honeywell Security & CE addressable device
- D. Door Position Contact OHD – 4959SN - Honeywell Security & CE addressable device – overhead door
- E. Single Point Module – 4193SN - Honeywell Security & CE addressable device.
- F. Motion Detectors - Provide Passive-Infrared motion detectors that are manufactured by Honeywell Security.
 - 1. Ceiling 360* Detectors – DT6360STC - Honeywell Security & CE
 - a. These devices shall be provided with the appropriate mounting accessories that are dependent on the area installed. In addition, each device that is not addressable shall be installed with a Model 4193 single point module – DT models are not Serial Number Devices.
- G. Security Command Keypad – 6160 - 32-character alphanumeric LCD keypad with backlit keyboard.
- H. Universal Eight Zone Remote Point Module - 4208U - Honeywell Security & CE eight-zone expander.
- I. Intelligent Relay Board - 4204 - Honeywell Security & CE relay board.
- J. Provide all equipment needed for a complete and operational system. Refer to plans for exact devices and device locations.

PART 3 - INSTALLATION

3.1 INSTALLATION AND WIRING

- A. All equipment in this section shall be installed in accordance with the National Electric Code for security alarm and communications systems. The installation of the equipment manufacturer shall be followed in every manner. The Equipment Supplier shall provide CAD drawings for review and approval. The drawings shall show all field devices and wiring terminations to the remote control units.
- B. Installation shall be accomplished in a professional manner by qualified personnel regularly engaged in and experienced in this type of work.
- C. Install all wiring in accordance with manufacturer's and U.L. recommendations.
- D. Wiring Methods:
 - 1. Wire Routing: Route all device wiring from each device up into ceiling cavity within metallic conduit in recessed or unfinished areas or within surface raceway for renovated non-fishable areas. Stub all conduits into ceiling cavity and provide protective bushing for each.
 - 2. Cable Routing: Route cable for all device wiring within accessible ceiling cavities. Install in J-hooks at 4' spacing maximum to panel. No cabling is to lie on or attach to ceiling tile, ducts, pipes, conduits or ceiling suspension wires, rods, or structural members. Provide conduit stubs from devices and panels to the ceiling cavities.
 - 3. Route all intrusion detection wiring from panel within metallic conduit up into nearby ceiling cavity and connect to the wiring system indicated in A and B above. Provide bushings at conduit ends.
- E. Provide cables as recommended by the equipment supplier.
- F. Provide a dedicated 120-volt circuit in separate conduit as a source of primary power for the master control/communicator.
- G. Supply, install, and wire recommended transformers and DC power sources to the master control/communicator. The transformer shall not be shared with anything else.
- H. Perform walk tests and set-up procedures for each detector as specified by the manufacturer to ensure that all boundaries of coverage are sufficient to detect intruders in each secured area.
- I. The equipment supplier shall provide complete wiring diagrams to the electrical contractor as part of the shop drawing submittal, and shall supervise the installation in order to ensure a complete operating and trouble-free system.
- J. Provide 3 sets of keys for all panels, stations, and devices.
- K. Provide dedicated auxiliary power supply units in the Intrusion Detection System Panel as required for operation of auxiliary devices.

3.2 PROGRAMMING AND TEST

- A. After completion of the installation of the system and before the system is turned over to the Owner, the system shall be completely tested by the Equipment Supplier for proper operation.

3.3 TRAINING

- A. The Equipment Supplier shall arrange demonstration and training of the system operation with representatives of the Owner. Multiple visits shall be provided to train the desired personnel that will operate the system.
- B. General: The contractor shall conduct training courses for personnel designated by the Owner. Training shall cover the maintenance and operation of the system. The training shall be oriented to the specific system being installed under this contract including central processor. Training manuals shall be delivered for each trainee with 2 additional copies delivered for archiving at the project site. The manuals shall include an agenda, defined objectives for each lesson, and a detailed description of the subject matter for each lesson. The contractor shall furnish audiovisual equipment and other training materials and supplies as necessary. Where the contractor presents portions of the course by audiovisual material, copies of the audiovisual material shall be delivered to the Owner on the same media as that used during the training session. Two 4-hour training sessions shall be provided for in the base contract.
- C. Demonstration and Training: The equipment supplier shall arrange for the demonstration and training of the system operation by a professional trainer with representatives of the owner. Multiple visits shall be provided to train the desired personnel that will operate the system. The training shall up to a 24 hour maximum and shall be based on the Owner's needs during the first year of operation.

3.4 TESTING

- A. General: The contractor shall perform pre-delivery testing, site testing, and adjustment of the completed system. The contractor shall provide all personnel, equipment, instrumentation and supplies necessary to perform all testing. Written notification of planned testing shall be given to the Owner at least 14 days prior to the test, and in no case shall notice be given until after the contractor has received written approval of the specific test procedures. Test procedures shall explain in detail, step-by-step actions and expected results demonstrating compliance with the requirements of the specification. Test reports shall be used to document results of the tests. Reports shall be delivered to the Owner within 7 days after completion of each test.
- B. Performance Verification Test: The contractor shall demonstrate that the completed system complies with the contract requirements. Using approved test procedures, all physical and functional requirements of the project shall be demonstrated and shown.
- C. Programming: After completion of the installation of the systems and before the system is turned over to the Owner, the system shall be completely tested by the equipment supplier for proper operation. Programming shall include the initial setup of the software in preparation of the Owner programming the system.

END OF SECTION 281600

Add Alternate GC-3: Provide and Install Shelving and File Systems:

Numerical Amount- \$ _____

Written Amount- _____

The Contract amounts stated above includes all sales tax, excise, and other taxes for any materials and appliances subject to and upon which taxes are levied.

This Bid Form shall be accompanied by:

1. Bid Bond (AIA Document A310)
2. Non-Collusion Affidavit
3. Contractors Qualification Statement (AIA Document A305)
4. Non-Discrimination Clause
5. Contractor's Labor and Equipment Rate Schedule

ADDENDA

The undersigned hereby acknowledges receipt of the following Addenda(s) and has prepared this bid accordingly. (List Addenda #(s) and Date received):

SIGNATURES

IN WITNESS WHEREOF, the undersigned has caused this bid to be executed as of the day and year indicated on the first page hereof.

Name of Bidder (Printed or Typed)

Signature

Witness Name (Printed or Typed)

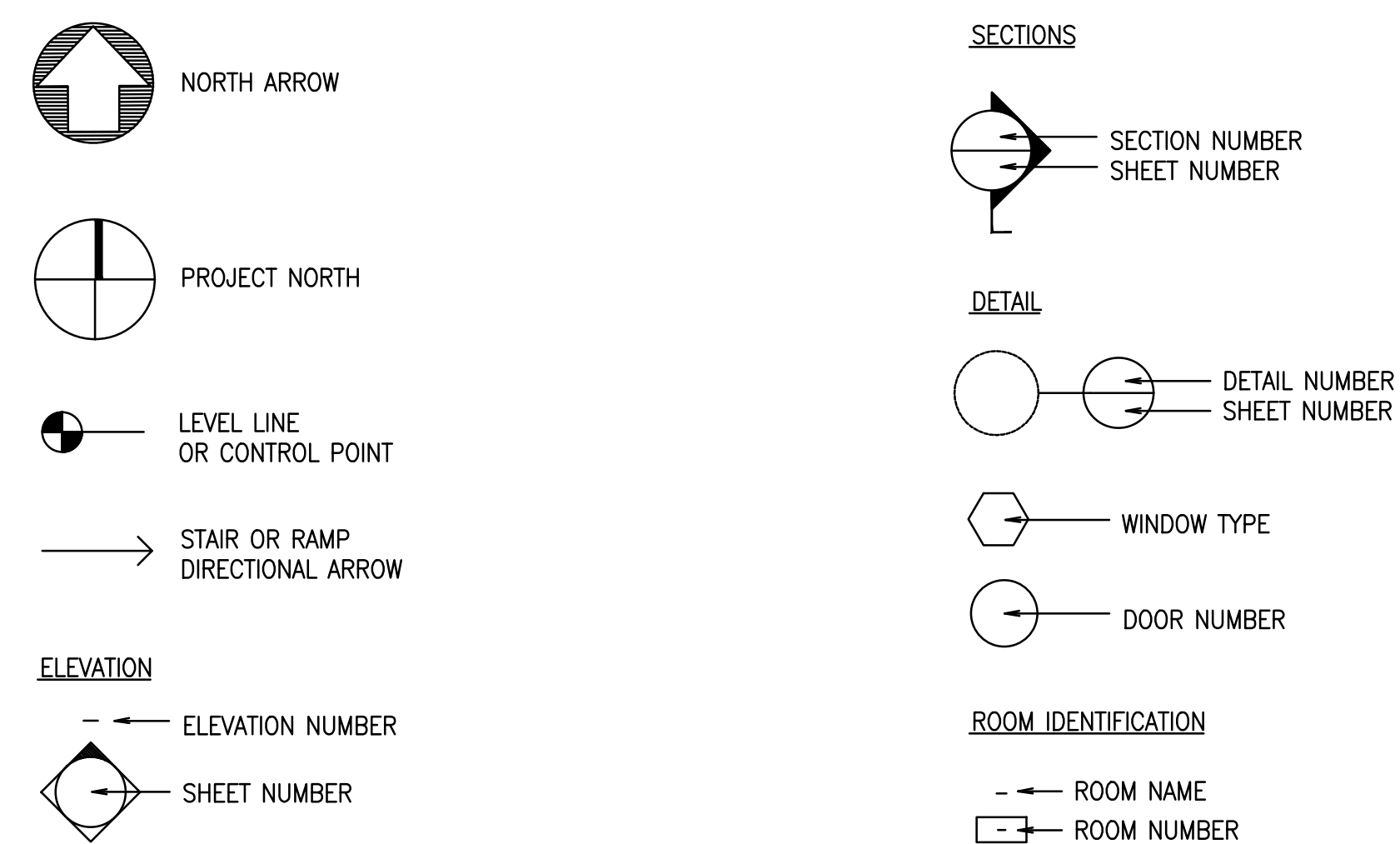
Signature

ABBREVIATIONS

ACCOM	ACCORDANCE	AC	ACOUSTIC	ADJ	ADJUSTABLE/E/ADJACENT	ALT	ALTERNATE	AL	ALUMINUM	AB	ANCHOR BOLTS	APA	AMERICAN PLYWOOD ASSOCIATION	ARCH	ARCHITECT(URAL)	ASPH CONC	ASPHALT CONCRETE PAVING	BRG	BEARING	B PL	BEARING PLATE	BM	BENCH MARK	BIT	BITUMINOUS	BIT-DP	BITUMINOUS DAMPPROOFING	BLK	BLOCK	BD	BOARD	BT	BOTTOM	BRK	BRICK	BLDO	BUILDING	CAB	CABINET	CI	CAST IRON	CLG	CEILING	CL	CENTER LINE	CER T	CERAMIC TILE	CIRC	CIRCULATION	CJ	CONTROL JOINT	CLO	CLOSET	COL	COLUMN	CONC	CONCRETE	CONC	CONFERENCE	CONF	CONCRETE MASONRY UNITS	CMU	CONCRETE MASONRY UNITS	CONST	CONSTRUCTION	CONT	CONTINUOUS	COORD	COORDINATE	DEM	DEMOLITION	DTL	DETAIL	DIA	DIAMETER	DIM	DIMENSION	DR	DOOR	DN	DOWN	DS	DOWNSPOUT	EL	ELEVATION	ELEC	ELECTRIC(AL)	ENC	ELECTRIC WATER COOLER	EC	ELECTRICAL CONTRACTOR	ELEV	ELEVATION, ELEVATOR	ENG	ENGINEER	EFS	EXPANDED POLYSTYRENE	EQ	EQUAL	EXIST	EXISTING	EXP JT	EXPANSION JOINT	EXP	EXPOSED	EXT	EXTERIOR	EXTR PS	EXTRUDED POLYSTYRENE	FG BATT	FIBERGLASS BATT	FIN	FINISH	FE	FIRE EXTINGUISHER	FEC	FIRE EXTINGUISHER CABINET	FF	FINISHED FLOOR	FRTW	FIRE RESISTANT TREATED WOOD	FLG	FLASHING	FL	FLOOR	FD	FLOOR DRAIN	FTG	FOOTING	GA	GAGE, GAUGE	GALV	GALVANIZED	GL	GLASS	GC	GENERAL CONTRACT(OR)	GTR	GUTTER	GWB	GYPSSUM DRYWALL (WALLBOARD)	GWB-X	GWB, TYPE X (FIRE RESISTIVE CLASSIFICATION)	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	HC	HOLLOW CORE	HL-CMU	HOLLOW LOADBEARING CMU	HMS	HOLLOW METAL STEEL	HORIZ	HORIZONTAL	HR	HOUR	HT	HEIGHT	ID	INSIDE DIAMETER	INS	INSULATE(D)(ION)	INT	INTERIOR	INV	INVERT	JST	JOIST	JT	JOINT	LAM	LAMINATE(D)(ION)	LES	LEAD EXPANSION SHIELD	LLV	LONG LEG VERTICAL	LIN FT	LINAL FOOT	MH	MANHOLE	MFR	MANUFACTURER	MO	MASONRY OPENING	MM	MAXIMUM	MECH	MECHANICAL	MC	MECHANICAL CONTRACTOR	MCP	MELAMINE COATED PARTICLE BOARD	MT	METAL	MIN	MINIMUM	MLD	MOLDING, MOULDING	MOLNTD	MOLINTED	NA	NOT APPLICABLE	NAT	NATURAL	NTC	NOT IN CONTRACT	NTS	NOT TO SCALE	NO OR #	NUMBER	OC	ON CENTER	OFF	OFFICE	OP PL OF	OPEN PLAN OFFICE	H-STL JST	OPEN WEB STEEL JOISTS	OPS	OPENING	OD	OUTSIDE DIAMETER	OH	OVERHEAD	PART	PARTITION	PNT	PAINT(ED)	PL	PLATE	PL	PLUMBING CONTRACTOR	PL	PLASTIC LAMINATE	PLYWD	PLYWOOD	PT	PRESSURE TREATED	PVC	POLYVINYL CHLORIDE	RWC	RAIN WATER CONDUCTOR	RECP	RECEPTION	REINF	REINFORCING	REBAR	REINFORCING BARS	REP	REPRESENTATIVE	REQ	REQUIRED	R/W	RIGHT OF WAY	RF	ROOF	RF DK	ROOF DECKING	RD	ROOF DRAIN	RM	ROOM	RO	ROUGH OPENING	SDO	SALVAGE & DELIVER TO OWNER	SH	SHED	SKL	SKYLIGHT	SL	SLATE	SC	SOLID CORE	SPEC	SPECIFICATION	SPKLR	SPRINKLER	SS	STAINLESS STEEL	STD	STANDARD	STL	STEEL	STL JST	STEEL JOIST	STL STD	STEEL STUD	STO	STORAGE	STR	STRUCTURE/STRUCTURAL	STL	STRUCTURAL STEEL	STL	SYSTEM	TEL	TELEPHONE	TEMP	TEMPERED	T&G	TONGUE AND GROOVE	T.O.	TOP OF	TOC	TOP OF CURB	TOP	TOP OF FOOTER	TOS	TOP OF STEEL	TOW	TOP OF WALL	TYP	TYPICAL	UNO	UNLESS NOTED OTHERWISE	VB	VAPOR BARRIER	VERT	VERTICAL	VCT	VINYL COMPOSITION TILE	VIF	VERIFY IN FIELD	VWB	VINYL WALL BASE	VWC	VINYL WALL COVERING	WAIT	WAITING	W/F	WELDED WIRE FABRIC	W/	WITH	W/O	WITHOUT	WOL	WOLMANIZED	WD	WOOD
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NOTE: NOT ALL ABBREVIATIONS LISTED ARE APPLICABLE TO THIS PROJECT

ANNOTATION SYMBOLS



CONSTRUCTION NOTES

- REVIEW DETAILS, & PROVIDE FIRE TREATED SOLID WOOD BLOCKING INSIDE FIRE-RATED STUD WALLS & SOLID WOOD BLOCKING INSIDE STUD WALLS WHERE SOLID ANCHORAGE IS REQUIRED.
- WHERE EXISTING CONSTRUCTION IS CUT & PATCHED, REPAIR ALL ADJACENT SURFACES DISTURBED BY CUTTING & PATCHING & PREPARE TO RECEIVE NEW CONSTRUCTION &/OR NEW SCHEDULED FINISHES. REPAIRS SHALL MATCH EXISTING ADJACENT &/OR SIMILAR SURFACES & MATERIALS. TRANSITIONS BETWEEN NEW & EXISTING CONSTRUCTION SHALL BE SMOOTH & UNNOTICEABLE.
- ALL FINISHED SURFACES IN THIS PROJECT ARE TO BE PATCHED & REPAIRED TO MATCH ADJACENT OR SIMILAR CONSTRUCTION & PREPARED TO RECEIVE SPECIFIED FINISHES. TRANSITIONS BETWEEN NEW REPAIRS & EXISTING CONSTRUCTION SHALL BE SMOOTH & UNNOTICEABLE.
- ALL MTL THAT COMES INTO CONTACT WITH PT WOOD SHALL BE STAINLESS OR GALV. STEEL. THIS INCLUDES BUT IS NOT LIMITED TO FASTNERS, FLASHING AND JOIST HANGERS. STRUCTURAL STL SHALL BE PRIMED AND PAINTED PRIOR TO CONTACT WITH PT WOOD.
- REPAIR ANY DAMAGE TO EXISTING OR NEW FIRE-RATED ENCLOSURES, CEILINGS AND WALLS.
- SEAL AND FIRESTOP ALL PENETRATIONS AND OPENINGS IN ANY FIRE-RATED CONSTRUCTION USING PROPER FIRESTOPPING PRODUCTS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
- ALL MEANS OF EGRESS TO BE FREE & CLEAR AT ALL TIMES.

JOINT SEALER SCHEDULE

DRAWING DESIGNATION	SEALANT TYPE	DESCRIPTION OF JOINT CONSTRUCTION AND LOCATION WHERE JOINT SEALER IS TYPICALLY APPLIED. (SEE NOTE BELOW)
ES-1	ONE-PART NONACID-CURING SILICONE SEALANT	EXTERIOR & INTERIOR VERTICAL JOINTS BETWEEN METAL & CONCRETE, UNIT MASONRY MORTAR, OR STONE; INTERIOR & EXTERIOR PERIMETER JOINTS OF METAL & WOOD FRAMES IN EXTERIOR WALLS; & EXTERIOR OVERHEAD JOINTS.
ES-2	MULTI-PART POURABLE URETHANE SEALANT	EXTERIOR & INTERIOR JOINTS IN HORIZONTAL SURFACES OF CONCRETE; BETWEEN METAL & CONCRETE, MORTAR & MASONRY.
ES-3	ONE-PART ACID-CURING SILICONE SEALANT	NOT USED
ES-4	ONE-PART MILDEW-RESISTANT SILICONE SEALANT	NOT USED
ES-5	TWO-PART URETHANE SEALANT	NOT USED
LS	ACRYLIC-EMULSION SEALANT	NOT USED
BAS-1	BUTYL-ASPHALT SEALANT, AC-20 IN ACCORDANCE WITH PA. DEPT. TRANSPORTATION TITLE 408 SPECIFICATIONS.	NOT USED
FSS-1	FOAMED-IN-PLACE FIRE-STOPPING SEALANT	NOT USED
FSS-2	ONE-PART FIRE-STOPPING SEALANT	NOT USED

NOTE: INSTALL JOINT SEALANTS IN ACCORDANCE WITH DESCRIPTIONS AND LOCATIONS LISTED, AND IN LOCATIONS IDENTIFIED ON DRAWINGS BY DRAWING DESIGNATIONS LISTED ABOVE.

BUILDING DATA (2015 IEBC)

OCCUPANCY: USE GROUP S-1
 CONSTRUCTION TYPE: 2B
 BUILDING HEIGHT: 20'-0"± EXISTING
 FIRE ALARM SYSTEM: NO
 EMERGENCY LIGHTING: YES
 AUTOMATIC SPRINKLERS: NO
 AUTOMATIC FIRE DETECTION SYSTEM: NO
 FIRE SEPARATION: NO

BUILDING AREA:
 EXISTING 10,039 SF

BUILDING CODE REQUIREMENTS

- ALL WORK SHALL CONFORM TO THE FOLLOWING CODE REGULATIONS AND REQUIREMENTS:
- COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF LABOR & INDUSTRY:
 - PENNSYLVANIA UNIFORM CONSTRUCTION CODE: 2015 INTERNATIONAL EXISTING BUILDING CODE AND REFERENCED STANDARDS
 - CITY OF LANCASTER BUILDING ORDINANCE AND ALL REFERENCED REGULATIONS (BUILDING, EXISTING BUILDING, PLUMBING, ELECTRICAL, MECHANICAL, FUEL GAS, PERFORMANCE, RESIDENTIAL, FIRE, ACCESSIBILITY AND ENERGY CODE WHERE APPLICABLE)

DRAWING INDEX

- CS.1.1 COVER SHEET
- ARCHITECTURAL
 DA1.1 DEMOLITION & ALTERATION PLAN
 A1.1 FLOOR PLAN
 A1.2 ROOF PLAN
 A1.3 REFLECTED CEILING PLAN
 A4.1 ENLARGED FLOOR PLAN AND INTERIOR ELEVATIONS
 A5.1 DETAILS
 A6.1 ROOM FINISH AND DOOR SCHEDULES, DOOR AND FRAME TYPES AND DETAILS
- MECHANICAL
 M1.0 MECHANICAL DEMOLITION
 M2.0 MECHANICAL PLAN
 M3.0 MECHANICAL SCHEDULES, DETAILS, AND NOTES
- PLUMBING
 P1.0 PLUMBING DEMOLITION
 P2.0 PLUMBING PLAN
 P3.0 PLUMBING SCHEDULES, DETAILS, AND NOTES
- ELECTRICAL
 E1.1 SCHEDULES
 E2.1 ELECTRICAL DEMOLITION
 E3.1 LIGHTING PLAN
 E4.1 POWER PLAN

ALL DIMENSIONS, MEASUREMENTS AND PROJECT CONDITIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR. REFER ALL DIFFERENCES, IN WRITING, TO THE ARCHITECT FOR CONSIDERATION PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BEAR THE COST OF RECTIFYING WORK NOT APPROVED BY THE ARCHITECT, CAUSED BY LACK OF COORDINATION AND OR NOTIFICATION.

ALTERNATE GC-1:
 BASE BID:
 PATCH DAMAGED AREA OF EPDM ROOF ALONG SOUTH PARAPET WALL AS INDICATED ON A1.2, INCLUDING REPLACEMENT OF ANY DAMAGED ROOF EDGE.
 ADD ALTERNATE:
 COMPLETE TEAR OFF AND REPLACEMENT OF EPDM, INSULATION, GUTTERS, DOWN SPOUTS AND ROOF EDGE AS INDICATED ON A1.2 & A5.1.

ALTERNATE GC-2:
 BASE BID:
 WALLS, DOORS AND FINISHES FOR ROOMS 101-105 AS INDICATED ON NEW A1.1, A1.3, A6.1.
 ADD ALTERNATE:
 WALLS, DOORS AND FINISHES FOR ROOMS 106 & 107 AS INDICATED ON NEW A1.1A, A1.3A, A6.1A.

ALTERNATE GC-3:
 BASE BID:
 OWNER PROVIDES RACKING AND FILE SYSTEM INDICATED ON NEW A1.1A AND SPECIFICATION SECTION 105626, GC INSTALLS.
 ADD ALTERNATE:
 G.C. PROVIDES AND INSTALLS RACKING AND FILE SYSTEM INDICATED ON NEW A1.1A AND SPECIFICATION SECTION 105626.

ALTERNATE MC-1:
 BASE BID:
 SCOPE AS INDICATED ON ORIGINAL BID DOCUMENTATION
 ADD ALTERNATE:
 REVISED SCOPE AS INDICATED ON:
 NEW M2.0A,
 REVISED M3.0, SPECIFICATION SECTION 230860

ALTERNATE EC-1:
 BASE BID:
 SCOPE AS INDICATED ON ORIGINAL BID DOCUMENTATION
 ADD ALTERNATE:
 REVISED SCOPE AS INDICATED ON:
 NEW E3.1A, E4.1A, SPECIFICATION SECTION 261600
 REVISED SPECIFICATION SECTION 262420

ALTERNATE PC-1:
 BASE BID:
 SCOPE AS INDICATED ON ORIGINAL BID DOCUMENTATION
 ADD ALTERNATE:
 REVISED PIPING FOR ALTERNATE LOCATION OF GUH-4 INDICATED ON NEW M2.0A AND NOTES ADDED TO P2.0 AS INDICATED IN ADDENDUM #2

REVISIONS
 2019.09.10 ADDENDUM #2

KEY PLAN

CITY OF LANCASTER

PROJECT DESCRIPTION
 DEMOLITION AND ALTERATIONS FOR BEAVER STREET STORAGE FACILITY
 622 BEAVER ST
 LANCASTER, PA

SHEET TITLE: COVER SHEET

ISSUE DATE	8.15.2019	SCALE	AS NOTED
FILE NUMBER	1853	DRAWN BY	ANE
		CHECKED BY	TLV

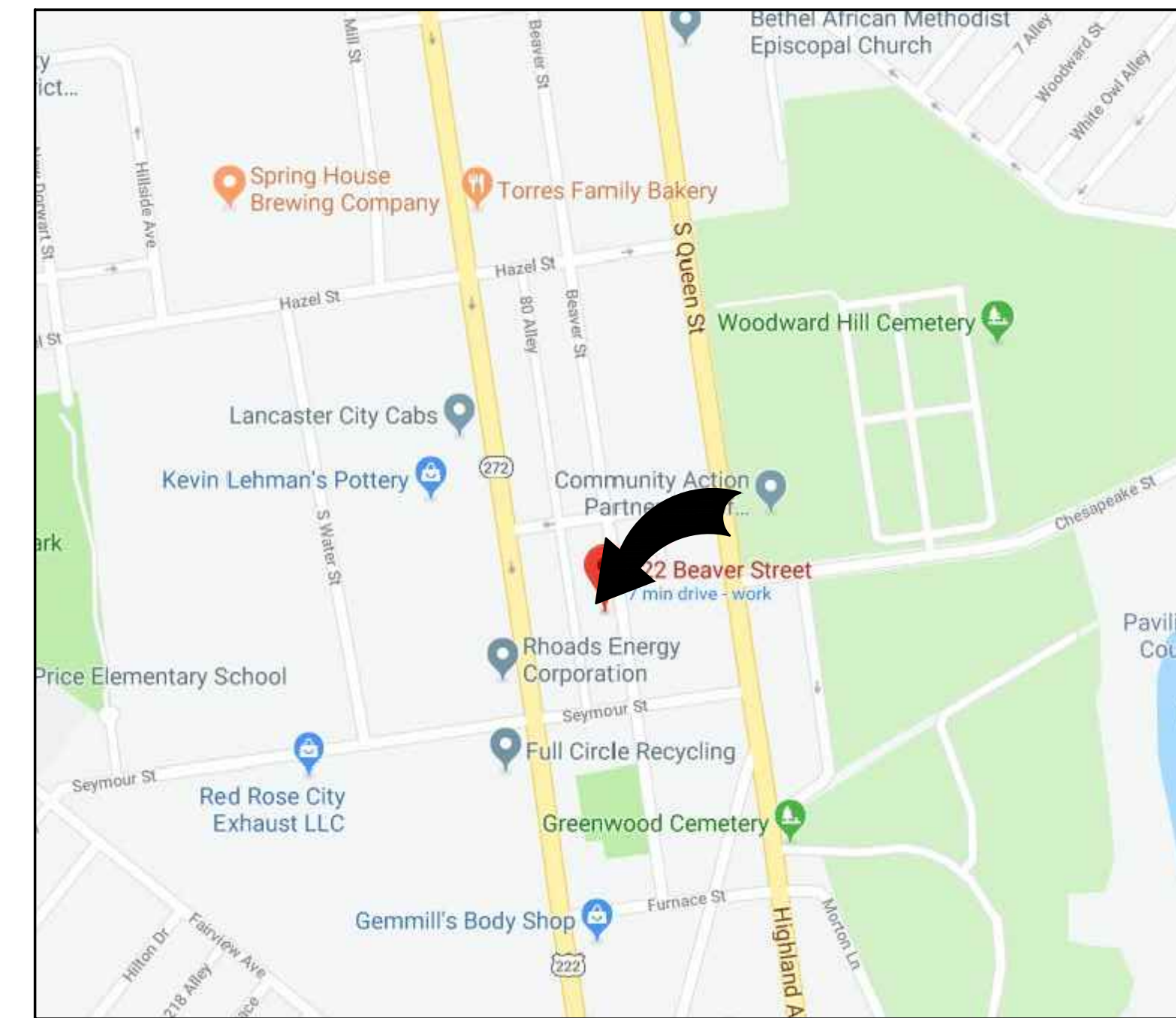
CS1.1

DEMOLITION AND ALTERATIONS FOR BEAVER STREET STORAGE FACILITY LANCASTER, PA

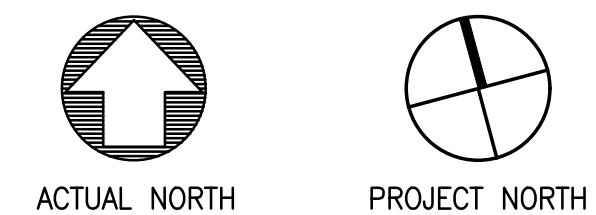
HAMMEL ASSOCIATES ARCHITECTS, LLC Lancaster, PA

(717) 393.3713 FAX (717) 393.8227
 WEB: WWW.HAMMELARCH.COM EMAIL: INFO@HAMMELARCH.COM

MOORE ENGINEERING COMPANY
 Mechanical, Plumbing and Electrical Consulting Engineers
 Lancaster, PA
 717.285.3141



LOCATION MAP
 NOT TO SCALE



ALL DIMENSIONS, MEASUREMENTS AND PROJECT CONDITIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR. REFER ALL DIFFERENCES, IN WRITING, TO THE ARCHITECT FOR CONSIDERATION PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BEAR THE COST OF RECTIFYING WORK NOT APPROVED BY THE ARCHITECT, CAUSED BY LACK OF COORDINATION AND OR NOTIFICATION.

STAMP

- LEGEND:**
- METAL STUD WALL
 - ▨ CMU WALL
 - ▨ INFILL OF EXISTING WINDOW OPENING, SEE 1/A5.1
 - ▼ CARD READER

- WALL TAG LEGEND:**
- 1 8" CMU, PNT TOP OF WALL TO BE 10'-8" A.F.F.
 - 2 3-5/8" MTL STUD, BATT INSULATION, 5/8" GWB EACH SIDE, PNT. TOP OF WALL TO ALIGN W/EXISTING ADJACENT WALL, ±10'-0"
 - 3 12" CMU, 3 HOUR RATED UL DESIGN NO. U425, PNT

- FIRE EXTINGUISHER KEY:**
- 5-POUND TYPE ABC (MULTI-PURPOSE DRY CHEMICAL) FIRE EXTINGUISHER, WALL-MTD W/ TOP AT 48" AFF.

- GENERAL CONSTRUCTION NOTES:**
- INFORMATION SHOWN IS APPROXIMATE. VERIFY ALL CONDITIONS IN FIELD, AND ALERT ARCHITECT IMMEDIATELY IF CONDITIONS VARY.
 - COORDINATE ALL SCHEDULING, ACCESS, TRASH STORAGE/COLLECTION, PERIODS OF LOUD WORK, AND ANY OTHER LOGISTICAL ISSUES WITH OWNER.
 - CONTRACTOR TO PROVIDE TEMPORARY SHORING TO SUPPORT EXISTING CONSTRUCTION SCHEDULED TO REMAIN AS REQUIRED.
 - ALL DIMENSIONS ARE TO FACE OF FINISH, TYP, UNLESS NOTED OTHERWISE.

- SHELVING SPECIFICATIONS:(ADD ALTERNATE #60-3)**
- BASIS OF DESIGN FOR RACK SHELVING OTHER THAN ROLLING FILE SYSTEM, IS ULINE,12575 PLEASANT PRAIRIE WI, 53158, 1-800-295-5510, ULINE.COM
- H-5415-48"x36"x72"
 - H-4323-96"x36"x72"

- REVISIONS**
- 2019.09.11 ADDENDUM #2

KEY PLAN



HAMMEL ASSOCIATES ARCHITECTS, LLC
25 E. Grant St., Suite 102 | Lancaster, PA 17602 | 717-393-3713 | www.hammelarch.com

CITY OF LANCASTER

PROJECT DESCRIPTION
DEMOLITION AND ALTERATIONS FOR BEAVER STREET STORAGE FACILITY
622 BEAVER ST
LANCASTER, PA

SHEET TITLE FLOOR PLAN
ISSUE DATE 8.15.2019 **SCALE** AS NOTED
FILE NUMBER 1853 **DRAWN BY** AIB **CHECKED BY** CAD

A1.1A



INSTALL NEW LOUVER IN EXISTING OPENING AS SCHEDULED ON MECHANICAL DWG'S, INFILL BALANCE OF OPENING AS PER 1/A5.1

INSTALL NEW LOUVER IN EXISTING OPENING AS SCHEDULED ON MECHANICAL DWG'S.

INSTALL NEW LOUVER IN EXISTING OPENING AS SCHEDULED ON MECHANICAL DWG'S.

INSTALL NEW EXHAUST FAN IN EXISTING OPENING AS SCHEDULED ON MECHANICAL DWG'S, INFILL BALANCE OF OPENING AS PER 1/A5.1

INSTALL NEW LOUVER IN EXISTING OPENING AS SCHEDULED ON MECHANICAL DWG'S, INFILL BALANCE OF OPENING AS PER 1/A5.1


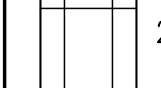


NEW STEEL JAMB COVERS @ ALL EXTERIOR OVERHEAD DOORS

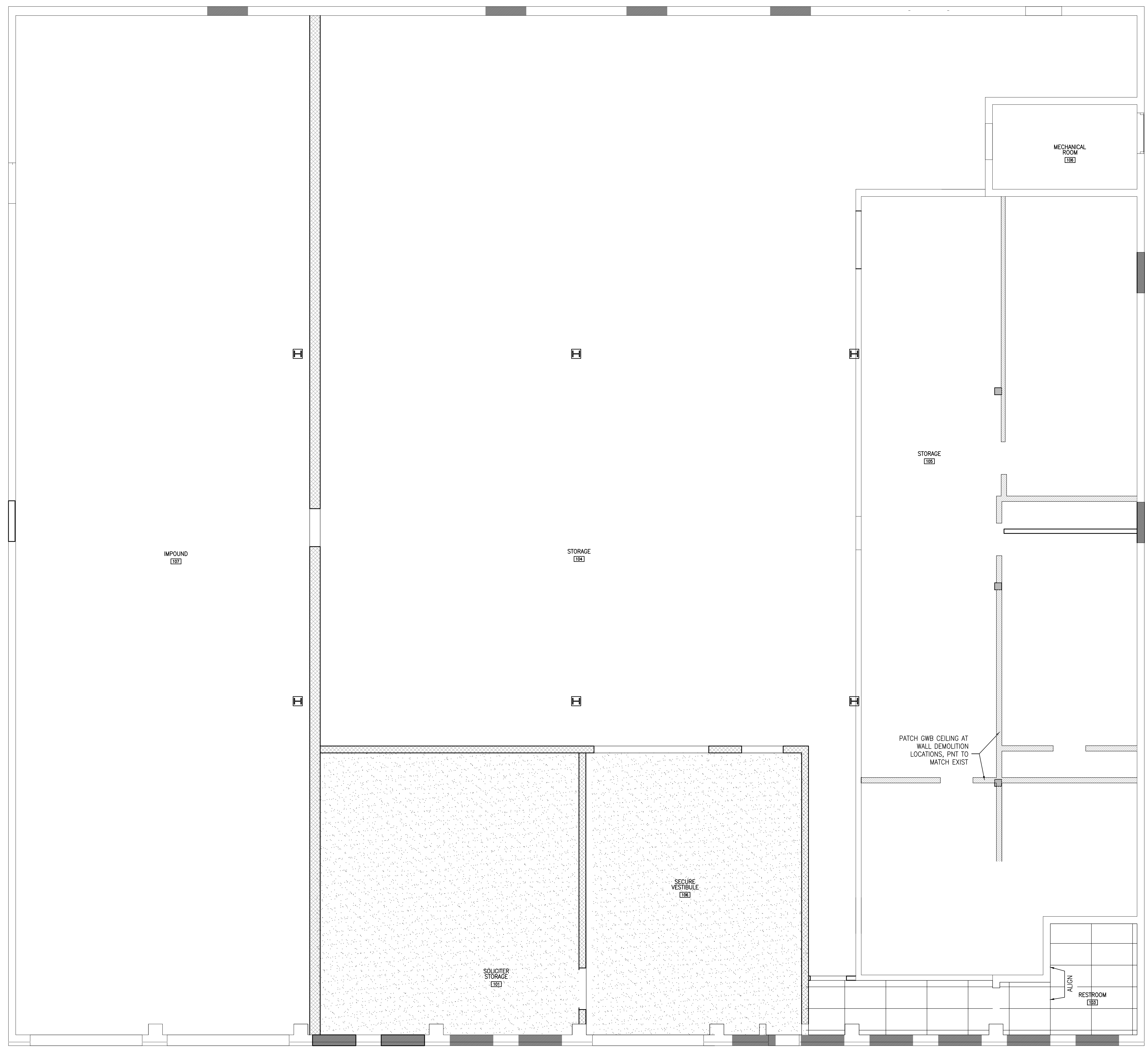
FIRST FLOOR PLAN
1/A1.1 1/4" = 1'-0"

ALL DIMENSIONS, MEASUREMENTS AND PROJECT CONDITIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR. REFER ALL DIFFERENCES, IN WRITING, TO THE ARCHITECT FOR CONSIDERATION PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BEAR THE COST OF RECTIFYING WORK NOT APPROVED BY THE ARCHITECT, CAUSED BY LACK OF COORDINATION AND OR NOTIFICATION.

STAMP

CEILING TYPE LEGEND:

-  5/8" GWB, PNT
-  2x4 ACOUSTIC TILE CEILING
-  OPEN TO STRUCTURE
-  CEILING GRID STARTING POINT = CENTER OF ROOM OR SPACE U.N.O.



REVISIONS
 2019.09.11 ADDENDUM #2

KEY PLAN

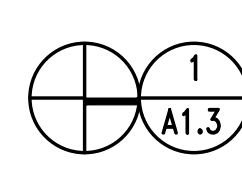



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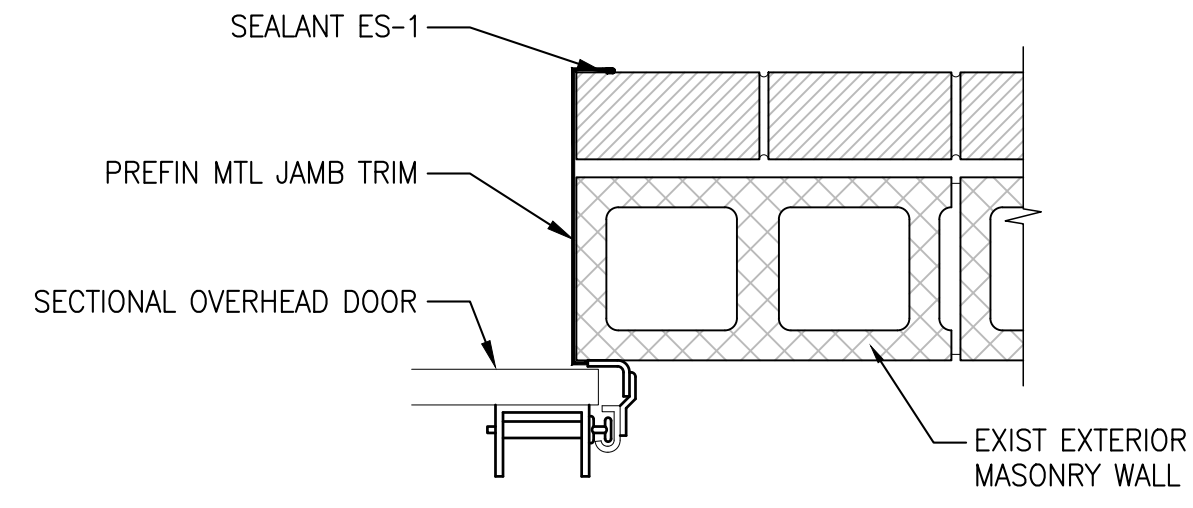
CITY OF LANCASTER

PROJECT DESCRIPTION
 DEMOLITION AND ALTERATIONS FOR
 BEAVER STREET STORAGE FACILITY
 622 BEAVER ST
 LANCASTER, PA

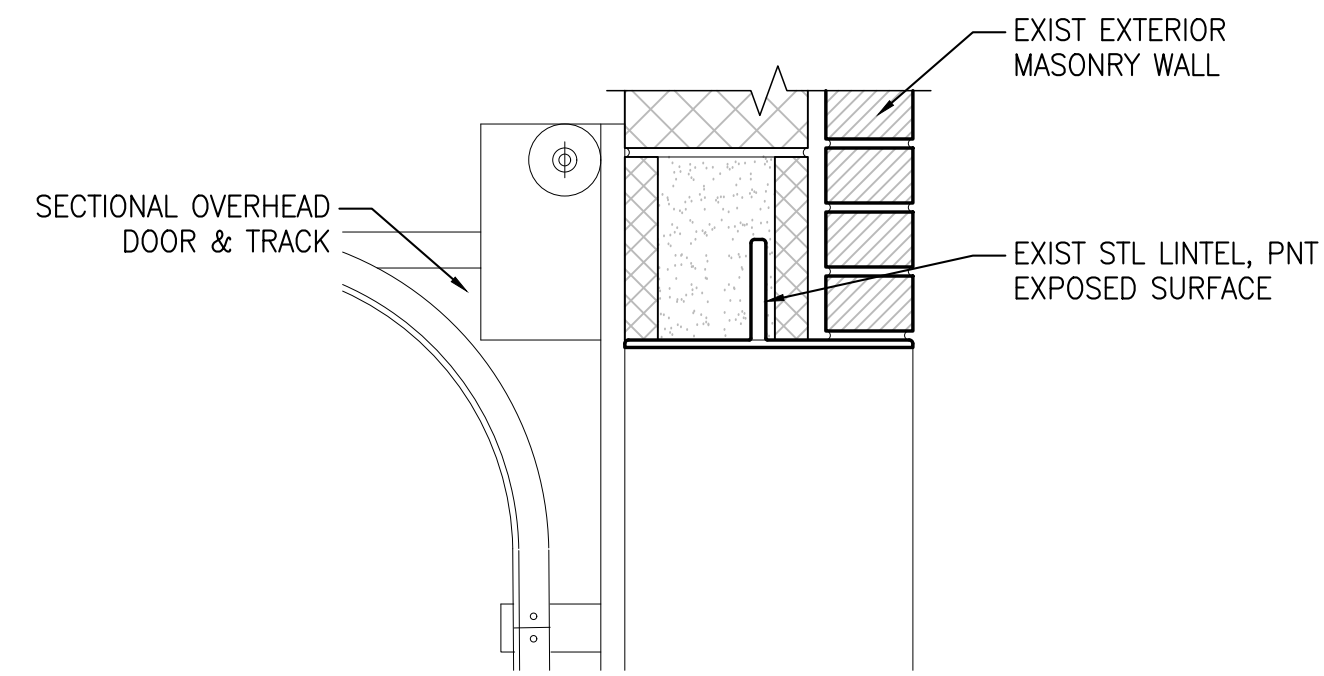
SHEET TITLE	REFLECTED CEILING PLAN	SCALE	AS NOTED
ISSUE DATE	8.15.2019	FILE NUMBER	1853
		DRAWN BY	AJB
		CHECKED BY	CAD

 1 REFLECTED CEILING PLAN 
 A1.3 1/4" = 1'-0"

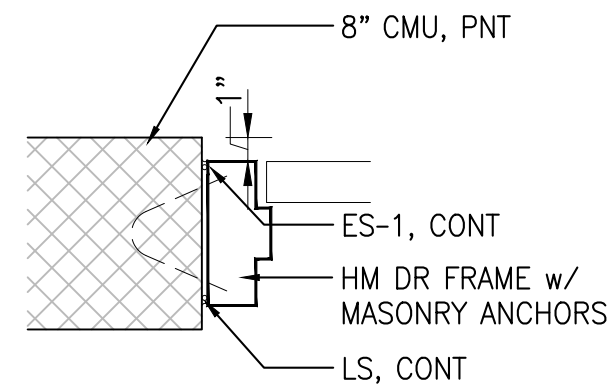
A1.3A



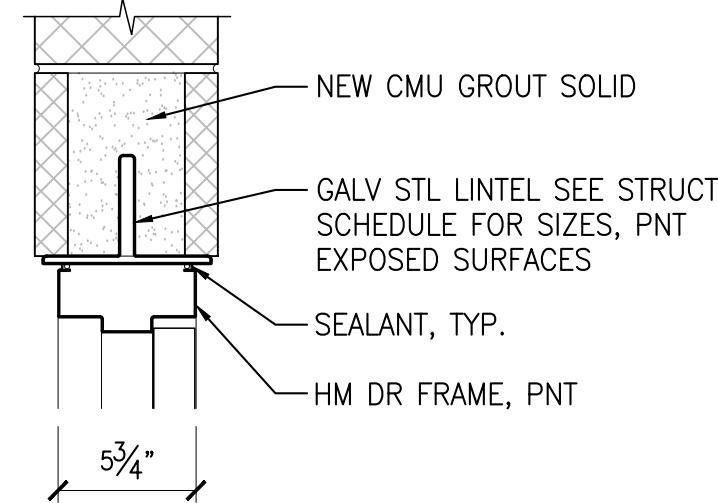
H3 OVERHEAD DOOR HEAD DETAIL
A6.1 1 1/2" = 1'-0"



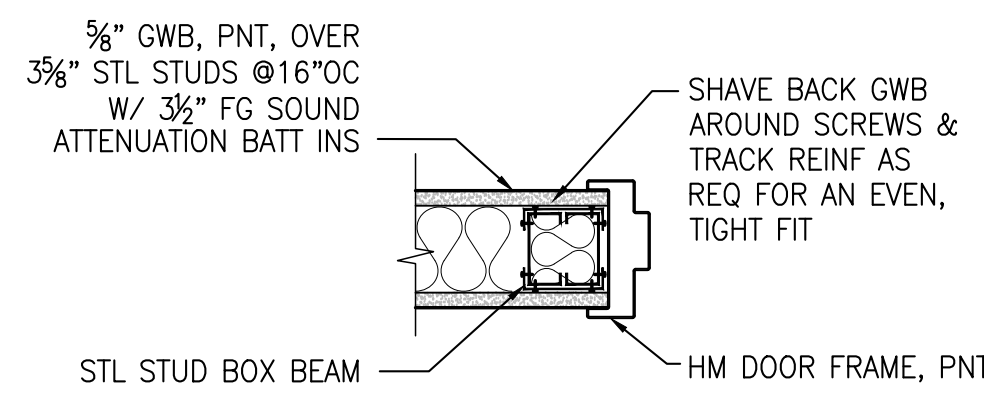
H3 OVERHEAD DOOR HEAD DETAIL
A6.1 1 1/2" = 1'-0"



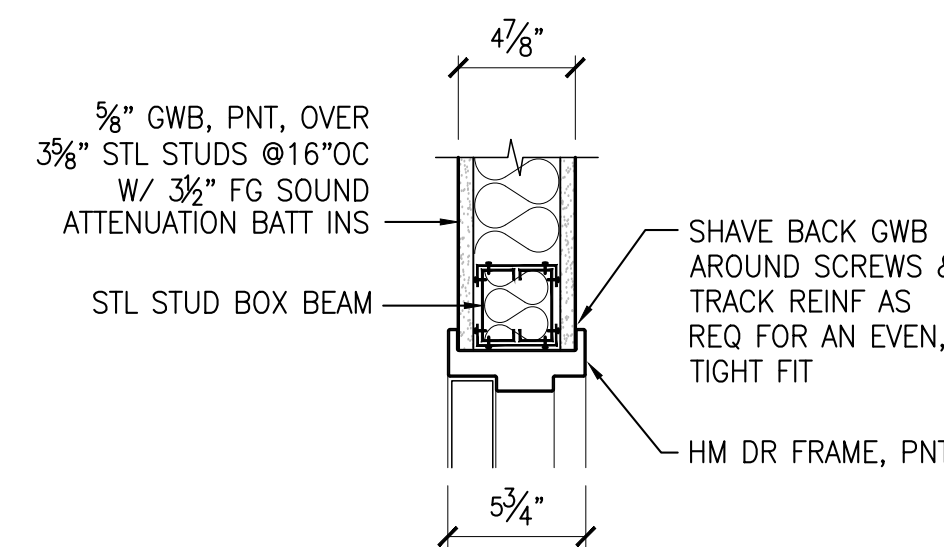
J2 DOOR JAMB DETAIL
A6.1 1 1/2" = 1'-0"



H2 DOOR HEAD DETAIL
A6.1 1 1/2" = 1'-0"



J1 DOOR JAMB DETAIL
A6.1 1 1/2" = 1'-0"



H1 DOOR HEAD DETAIL
A6.1 1 1/2" = 1'-0"

(2) DOOR MATERIAL & FINISH

- A. HM
- B. INSULATED STEEL

(4) FRAME MATERIAL & FINISH

- A. HM - PNT

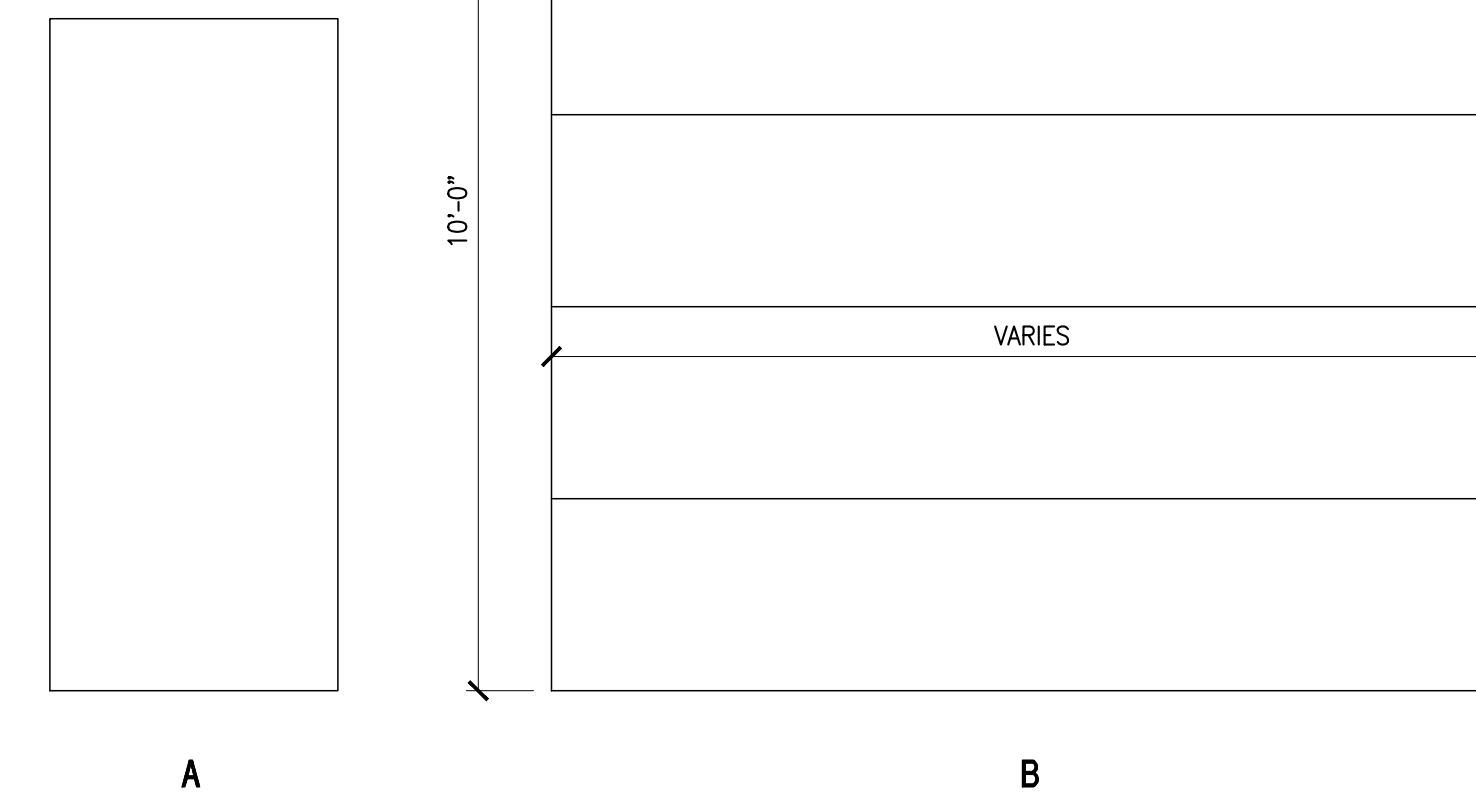
(5) HARDWARE GROUPS

- 1. SEE SPECIFICATION SECTION 080671 FOR DOOR HARDWARE SCHEDULE

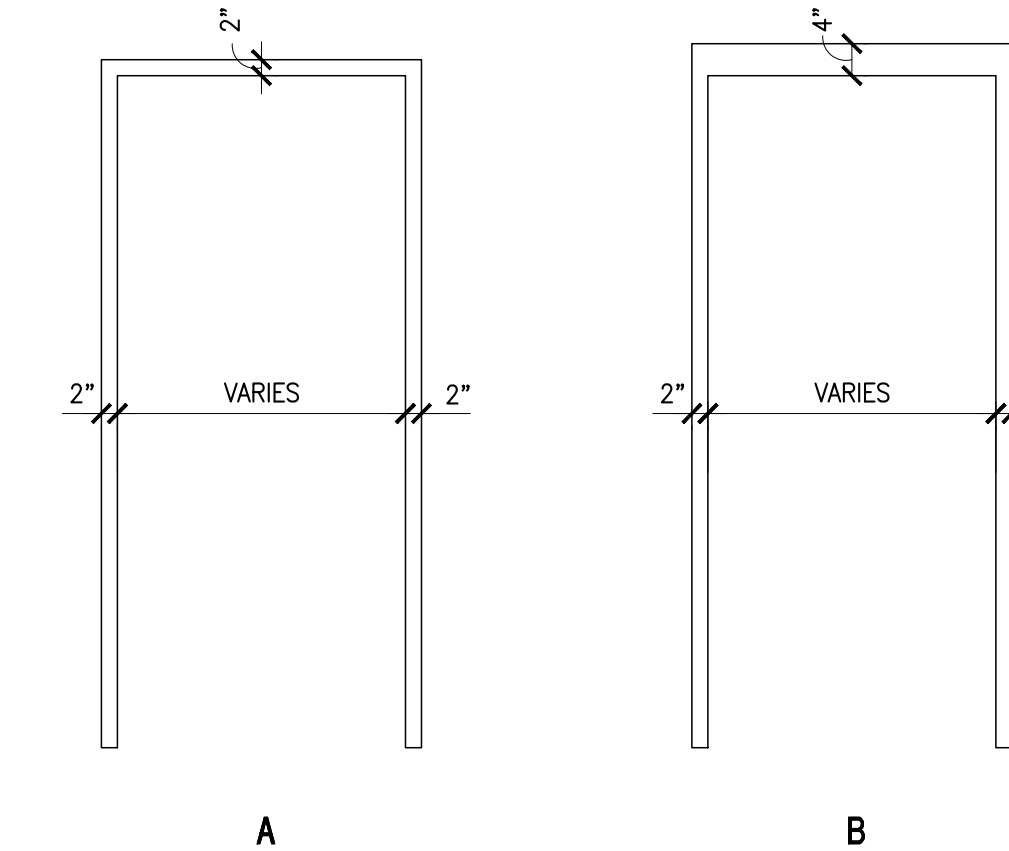
(6) REMARKS

FLOOR REFERENCE	DOOR NUMBER	DOOR SCHEDULE						DETAIL		(5)	(6)	
		NOTE	(1)	(2)	(3)	(4)	(5)	(6)				
		SIZE	THICKNESS	TYPE	MATERIAL & FINISH	FRAME TYPE	MATERIAL & FINISH	HEAD	JAMB	DOOR AND FRAME LABEL	HARDWARE GROUP	REMARKS
1ST FLOOR	101A	3'-0"X7'-0"	1 3/4"	A	A	A	A	H2	J2			3.0
	102A	2'-6"X7'-0"	1 3/4"	A	A	A	A	H2	J2			1.0
	102B	10'-0"X10'-0"	VIF	B	B	-	-	H3	J3			7.0
	102C	10'-0"X10'-0"	VIF	B	B	-	-	H3	J3			7.0
	102D	10'-0"X10'-0"	VIF	B	B	-	-	H3	J3			7.0
	102E	3'-0"X7'-0"	1 3/4"	A	A	A	A	H2	J2			2.0
	103A	3'-0"X7'-0"	1 3/4"	A	A	A	A	H1	H1			6.0
	104A	3'-0"X7'-0"	1 3/4"	A	A	A	A	H2	J2			4.0
	104B	(2)2'-6"X7'-0"	1 3/4"	A	A	A	A	H2	J2			5.0
	105A											
	106A	3'-0"X7'-0"	1 3/4"	A	A	A	A	H2	J2			3.0
	106B	10'-0"X10'-0"	2"	B	B	-	-	H3	J3			7.0
	107A	3'-0"X7'-0"	1 3/4"	A	A	A	A	H2	J2	90 MIN		4.0

(1) DOOR TYPES



(3) FRAME TYPES



ROOM FINISH KEY NOTES:

1. FLOOR
 - A. EXISTING CONC TO REMAIN, SEAL
2. WALL
 - A. CMU, PNT
 - B. EXIST TO REMAIN, PNT
 - C. 5/8" GWB, PNT
3. CEILING
 - A. ARMSTRONG 2X2 FISSURED ACT W/STEEL GRID
 - B. OPEN TO STRUCTURE ABOVE, EXISTING TO REMAIN.
 - C. 5/8" GWB, PNT
4. REMARKS
 - A. PATCH, REPAIR, AND FINISH ANY ADJACENT CEILINGS, WALLS, OR FLOORS WHICH MAY HAVE BEEN DISTURBED DURING CONSTRUCTION. MATCH ADJACENT FINISHES. DEBUR, CLEAN AND PAINT ALL EXPOSED STRUCTURAL STEEL. PAINT ALL EXPOSED PLUMBING AND CONDUIT TO MATCH CEILING.

ROOM FINISH SCHEDULE - = NOT APPLICABLE

FLOOR REFERENCE	ROOM NUMBER	NOTE	FLOOR	WALL				CEILING	CEILING HT	REMARKS
				NORTH	SOUTH	EAST	WEST			
1ST FLOOR	101	SOLICITOR STORAGE	A	A	A	B	A	C	10'-0"	
	102	STORAGE	A	B	B	A/B	B	B	-	B
	103	RESTROOM	A	B	B/C	B	B/C	A	8'-0"	
	104	STORAGE	A	B	B	B	B	B	-	A
	105	MECHANICAL ROOM								
	106	SECURE VESTIBULE	A	A	A	B	A	C	10'-0"	
	107	IMPOUND	A	A	B	B	B	-	-	

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NOTE: DOORS 106A, 106B, & 107A ARE TO BE PROVIDED ONLY IF ALTERNATE #2 IS ACCEPTED. WALLS AND FINISHES FOR ROOMS 106 & 107A ARE TO BE PROVIDED ONLY IF ALTERNATE #2 IS ACCEPTED.

REVISIONS
2 2019.09.11 ADDENDUM #2

KEY PLAN



CITY OF LANCASTER

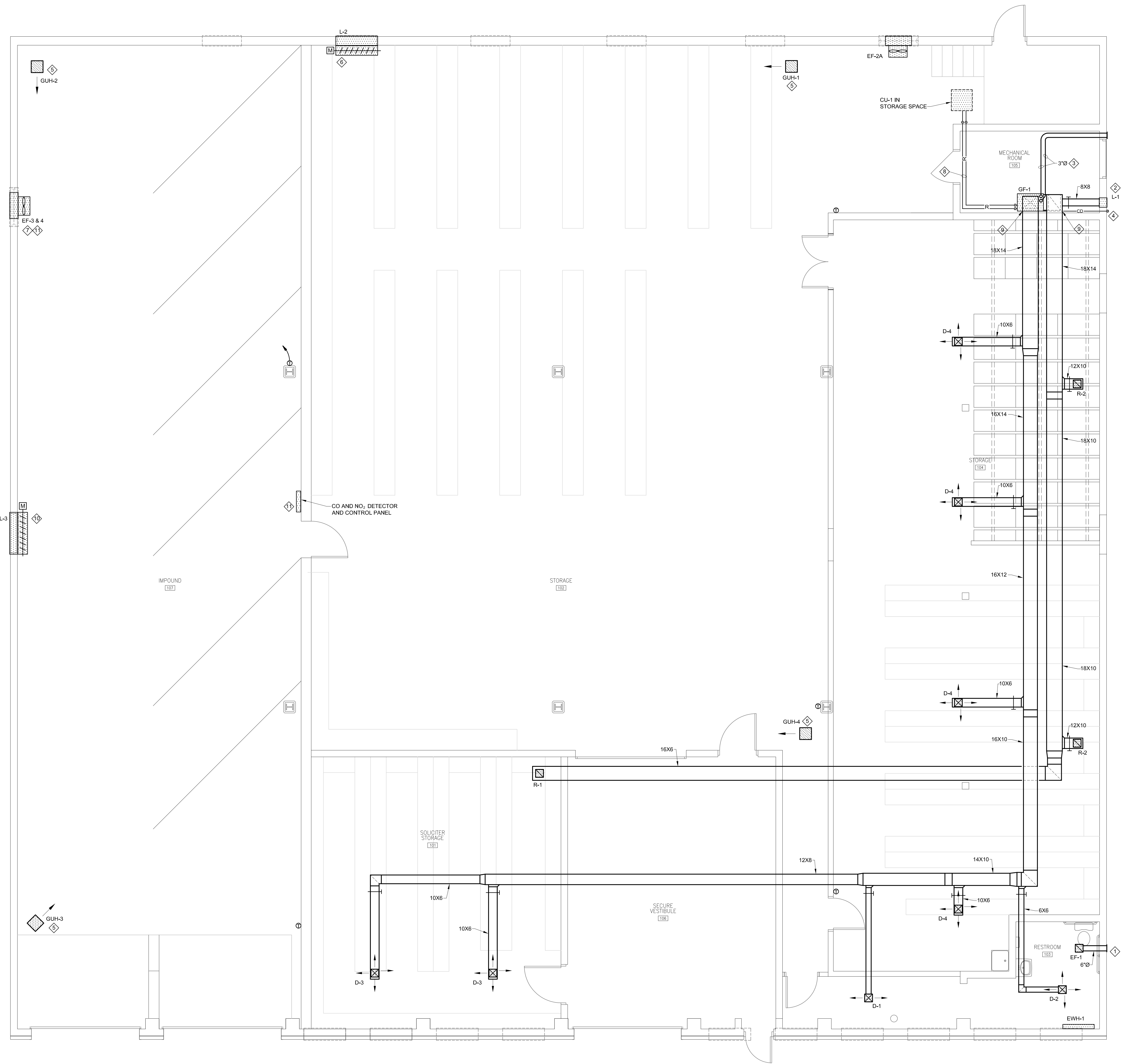
PROJECT DESCRIPTION
DEMOLITION AND ALTERATIONS FOR BEAVER STREET STORAGE FACILITY
622 BEAVER ST
LANCASTER, PA

SHEET TITLE ROOM FINISH AND DOOR SCHEDULES, DOOR AND FRAME TYPES AND DETAILS

ISSUE DATE 8.15.2019 SCALE AS NOTED

FILE NUMBER 1853 DRAWN BY AIB CHECKED BY CAD

A6.1A



- DRAWING NOTES:**
1. PROVIDE TOILET EXHAUST FAN WITH BACKDRAFT DAMPER AND WALL CAP.
 2. ROUTE DUCT FROM NEW LOUVER IN EXISTING WALL OPENING TO RETURN DUCT. PROVIDE BACKDRAFT DAMPER AT LOUVER.
 3. PROVIDE 3" COMBUSTION AIR INTAKE AND VENT FROM FURNACE THRU EXTERIOR WALL IN COMPLIANCE WITH MANUFACTURER'S REQUIREMENTS.
 4. PROVIDE 3" CONDENSATE DRAIN FROM FURNACE AND COOLING COIL TO EXTERIOR AND SPILL HORIZONTALLY AT 1" ABOVE GRADE.
 5. RUN 5" VENT FROM GAS UNIT HEATER THRU ROOF. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ROOF PENETRATION, FLASHING, COUNTER FLASHING AND SEALING ROOF WATERTIGHT.
 6. PROVIDE INTAKE LOUVER WITH MOTOR OPERATED DAMPER INTERLOCKED TO OPEN WITH EF-2 FAN OPERATION. USE EXISTING WINDOW WALL OPENING FOR MOUNTING LOUVER.
 7. USE DEMO'D FAN WALL OPENING FOR INSTALLATION OF NEW EXHAUST FANS. MOUNT EF-4 ABOVE EF-3 IN EXISTING OPENING.
 8. ROUTE AND SIZE REFRIGERANT PIPING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 9. SUPPLY AND RETURN DUCTS SHALL RISE TO BOTTOM OF ROOF STRUCTURE. DUCTS SHALL RUN HORIZONTALLY AT THAT ELEVATION.
 10. PROVIDE INTAKE LOUVER WITH MOTOR OPERATED DAMPER INTERLOCKED TO OPEN WITH EF-3 FAN OPERATION.
 11. EF-4 SHALL RUN CONTINUOUSLY. EF-3 SHALL BE ACTIVATED TO RUN AND L-3 MOTOR OPERATED DAMPER SHALL OPEN UPON CO OR NO₂ GAS DETECTION ABOVE LOWER ACCEPTABLE LIMIT AS SPECIFIED. INTEGRAL ALARM OF GAS DETECTOR SHALL SOUND.

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MEC
 Moore Engineering Company
 3637 Columbia Avenue
 Lancaster, PA 17603
 P (717) 285-3141
 F (717) 285-2443
 www.mooreengineering.com

REVISIONS
 2019.09.11 ADDENDUM NO.2

KEY PLAN

HAA
 HAMMEL ASSOCIATES ARCHITECTS, LLC
 25 E. Grant St. | Suite 102 | Lancaster, PA 17602 | 717.393.3713 | www.hammelarch.com

CITY OF LANCASTER

PROJECT DESCRIPTION
 CITY OF LANCASTER
 622 BEAVER ST
 LANCASTER, PA

SHEET TITLE ALTERNATE MECHANICAL PLAN
ISSUE DATE 08/16/19 **SCALE** AS NOTED
FILE NUMBER 1853_19011 **DRAWN BY** DLE **CHECKED BY** SMB

M2.0A

1 **ALTERNATE - FLOOR PLAN**
 M2.0A SCALE: 1/4"=1'-0"

UNIT HEATERS									
SYMBOL	INPUT MBH	OUTPUT MBH	CFM	FAN			GAS FLUE	MTG HEIGHT	BASIS OF DESIGN MANUFACTURER AND MODEL
				H.P.	RPM	VOLTAGE			
GUH-1	125	100	2200	1/4	1140	120V/1Ø	5"	10'-0"	TRANE GHNE012A
GUH-2	125	100	2200	1/4	1140	120V/1Ø	5"	10'-0"	TRANE GHNE012A
GUH-3	125	100	2200	1/4	1140	120V/1Ø	5"	10'-0"	TRANE GHNE012A
GUH-4	125	100	2200	1/4	1140	120V/1Ø	5"	10'-0"	TRANE GHNE012A

ELECTRIC WALL HEATER						
SYMBOL	WATTS	BTUH	VOLTAGE	AMPS	TYPE	BASIS OF DESIGN MANUFACTURER AND MODEL
EWH-1	1500	5120	240V/1Ø	7.3	SURFACE MOUNTED	QMARK CWH1202DSAF

FANS										
SYMBOL	CFM	E.S.P.	SONES	RPM	HP	VOLTS/PH	ROOF OPENING (IN)	BASIS OF DESIGN MANUFACTURER AND MODEL NO.		REMARKS
EF-1	125	0.25	3.5	1050	128W	120V/1Ø	N/A	GREENHECK SP-B150		
EF-2	7000	0.51	33	1750	1½	240V/1Ø	N/A	GREENHECK AER-E24C-418-A15		
EF-3	2000	0.35	2.0	1160	1/4	120V/1Ø	N/A	GREENHECK AER-E24C-604-B4		ALTERNATE
EF-4	150	0.27	7.1	860	1/8	120V/1Ø	N/A	GREENHECK AER-E20C-602-C8		ALTERNATE

LOUVERS			
SYMBOL	CFM	SIZE	REMARKS
L-1	300	16X16	INTAKE
L-2	7000	44W X 64H	INTAKE
L-3	2000	24W X 40H	INTAKE (ALTERNATE)

MECHANICAL SYMBOL SCHEDULE	
	DIFFUSER
	SIDEWALL DIFFUSER
	REGISTER
	SIDEWALL REGISTER
	BALANCING DAMPER
	SQUARE DUCT ELBOW WITH TURNING VANES
	THERMOSTAT
	CONTROL SWITCH
	CONDENSATE DRAIN PIPE
	REFRIGERANT PIPING
	CONNECT NEW TO EXISTING

CONDENSING UNITS									
SYMBOL	CAPACITY MBH	OUTDOOR TEMP	COMPRESSORS		CONDENSOR FAN		ELECTRICAL		BASIS OF DESIGN MANUFACTURER AND MODEL
			RLA	VOLTAGE	HP	VOLTAGE	MCA	MOCP	
CU-1	48	95	16.7	240V/1Ø	1/5	240V/1Ø	24	40	TRANE 4TTR4048L1
CU-2									

FURNACES										
SYMBOL	OUTPUT (BTUH)	INPUT (BTUH)	CFM	E.S.P.	INDOOR FAN		MCA	MOCP	FUEL	BASIS OF DESIGN MANUFACTURER AND MODEL
					HP	VOLTAGE				
GF-1	97,000	92,150	1600	0.60	3/4	115V/1Ø	12.9	20	N.G.	TRANE TUH1C100A960C

DIFFUSERS				
SYMBOL	CFM	FACE SIZE	NECK SIZE	BLOW
D-1	100	12X12	6X6	2-WAY OPPOSITE
D-2	100	12X12	6X6	4-WAY
D-3	200	12X12	9X9	4-WAY
D-4	250	12X12	9X9	4-WAY

REGISTERS			
SYMBOL	CFM	SIZE	REMARKS
R-1	400	14X14	RETURN
R-2	500	16X16	RETURN

DUCTWORK NOTES:

- ALL DUCTWORK SIZES NOTED ARE FREE AREA SIZES.
- TURNING VANES SHALL BE PROVIDED IN ALL DUCT ELBOWS.
- SPLITTERS AND BALANCING DAMPERS SHALL BE PROVIDED AT ALL DUCT BRANCHES.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INSTALLATION OF NEW DIFFUSERS AND REGISTERS WITH SUSPENDED CEILING GRID AND LIGHTING FIXTURES TO BE INSTALLED BY THE GENERAL AND ELECTRICAL CONTRACTORS RESPECTIVELY.
- LENGTH OF FLEXIBLE DUCT BRANCHES SHALL NOT EXCEED 8'-0" MAXIMUM. ANY ADDITIONAL LENGTH AS NEEDED FOR INDIVIDUAL CONNECTIONS SHALL BE ACCOMPLISHED WITH ROUND RIGID DUCTWORK.
- FLEXIBLE DUCT WILL NOT BE ACCEPTABLE FOR EXHAUST FAN INSTALLATIONS.
- PROVIDE ALL DAMPERS, SPLITTERS, AND EXTRACTORS AS REQUIRED FOR PROPER AIR DISTRIBUTION IN GENERAL ACCORDANCE WITH THE STANDARDS OF THE NATIONAL ENVIRONMENTAL BALANCING BUREAU.
- FURNISH AND INSTALL AS NECESSITATED BY EXISTING CONDITIONS ALL SUPPORT MATERIALS TO INSURE A RIGID INSTALLATION.
- THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL FLEXIBLE FABRIC CONNECTIONS BETWEEN DUCTWORK AND FANS IN ORDER TO ISOLATE EQUIPMENT AND PREVENT VIBRATION.

GENERAL NOTES:

- (THESE NOTES APPLY TO ALL MECHANICAL DRAWINGS)
- ANY PHYSICAL INSTALLATION MODIFICATIONS DUE TO FIELD CONDITIONS SHALL BE RESOLVED BY THE MECHANICAL CONTRACTOR IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MECHANICAL ENGINEER.
 - THE ENTIRE INSTALLATION SHALL COMPLY WITH ALL CODES, LOCAL, STATE, AND NATIONAL.
 - THIS CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS STEEL AND SUPPORTS TO SUSPEND DUCTWORK AND EQUIPMENT.
 - ALL EQUIPMENT SHALL BE INSTALLED WITH VIBRATION ISOLATORS.
 - THIS CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT TO ENSURE A COMPLETE SYSTEM.
 - THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES.
 - THE MECHANICAL CONTRACTOR SHALL SEAL ALL HIS RESPECTIVE WALL AND ROOF PENETRATIONS.
 - ALL ROOF OPENINGS AND FLASHINGS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.
 - THE MECHANICAL CONTRACTOR SHALL PAY FOR ALL FEES AND PERMITS AS NECESSARY TO COMPLETE THE INSTALLATION.

FUEL OIL TANK DEMOLITION NOTES

- EXISTING FUEL OIL TANKS AND RESIDUAL OIL TO BE DISPOSED OF BY MECHANICAL CONTRACTOR IN ACCORDANCE WITH D.E.P. REQUIREMENTS. SUBMIT PROPER FORMS FOR VERIFICATION, WHERE REQUIRED.
- MECHANICAL CONTRACTOR SHALL TRANSPORT REMAINING FUEL LEFT IN FUEL OIL TANK OFFSITE, AND DISPOSE OF IN APPROVED MANNER.

DEMOLITION NOTES:

- (THESE NOTES APPLY TO ALL MECHANICAL DRAWINGS)
- RESPECTIVE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ANY DEMOLITION WORK (EVEN IF NOT SHOWN ON THE PLANS) NECESSARY FOR COMPLETION OF PROJECT. THIS INCLUDES REMOVAL OF ANY EQUIPMENT AND MATERIALS THAT WILL NO LONGER BE UTILIZED AFTER COMPLETION OF THIS PROJECT.
 - EQUIPMENT THAT IS REMOVED SHALL BE TURNED OVER TO OWNER. IF OWNER DOES NOT WANT EQUIPMENT, IT SHALL BE DISPOSED OF PROPERLY BY RESPECTIVE CONTRACTOR.

MECHANICAL NOTES:

- (THESE NOTES APPLY TO ALL MECHANICAL DRAWINGS)
- ALL REFRIGERATION PIPING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. PIPE SIZES SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
 - ALL REFRIGERANT PIPING SHALL BE PITCHED A MINIMUM OF 1/2" IN 10' - 0" IN THE DIRECTION OF THE REFRIGERANT FLOW.

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STAMP



Moore Engineering Company
3637 Columbia Avenue
Lancaster, PA 17603
P (717) 285-3141
F (717) 285-2443
www.mooreengineering.com

REVISIONS

2019.09.11 ADDENDUM NO.2

KEY PLAN



HAMMEL ASSOCIATES ARCHITECTS, LLC
25 E. Grant St. | Suite 102 | Lancaster, PA 17602 | 717.393.3713 | www.hammelarch.com

CITY OF LANCASTER

PROJECT DESCRIPTION

CITY OF LANCASTER
622 BEAVER ST
LANCASTER, PA

SHEET TITLE MECHANICAL SCHEDULES, NOTES AND DETAILS

ISSUE DATE 08/16/19 SCALE AS NOTED

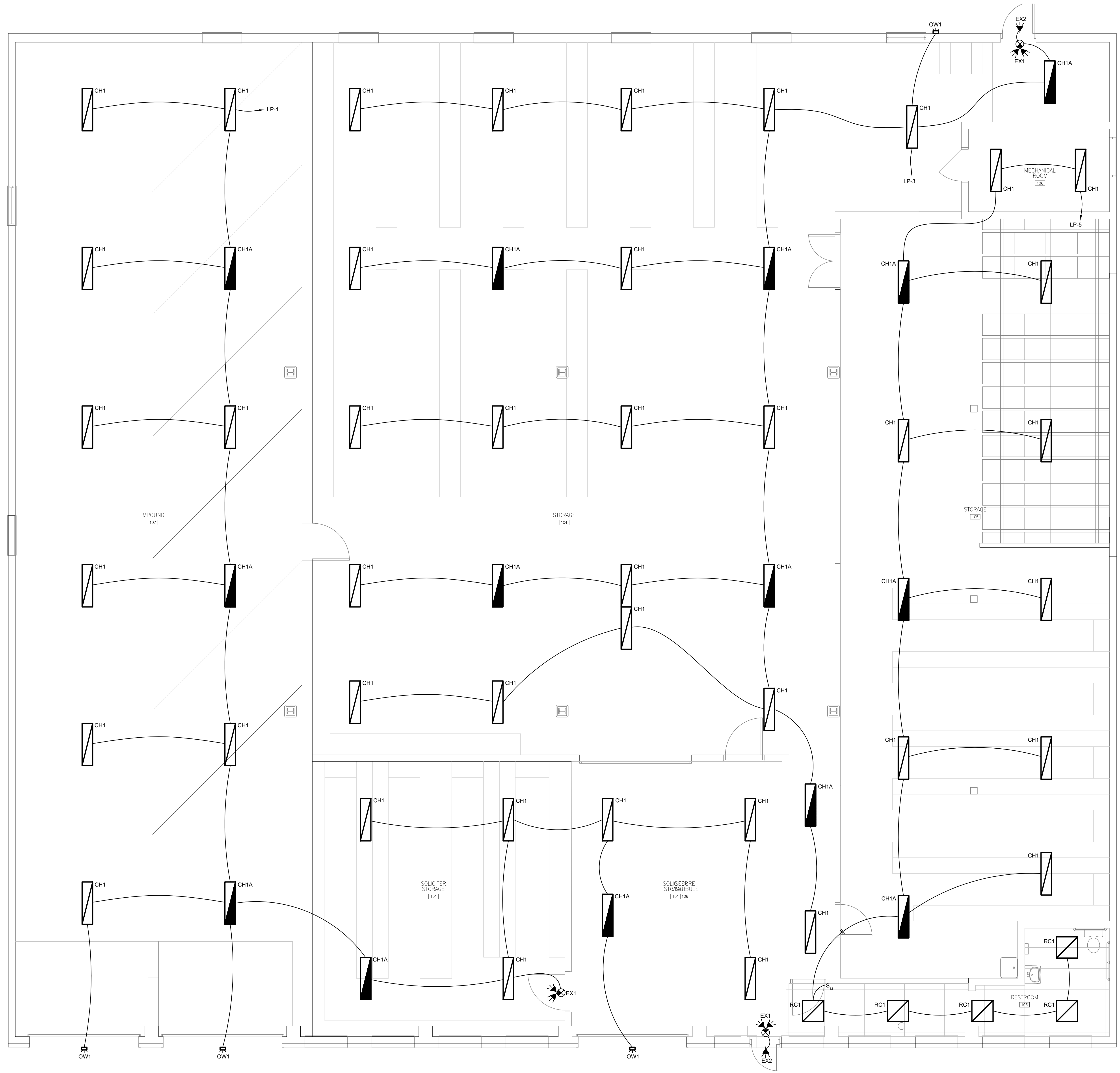
FILE NUMBER 1853_19011 DRAWN BY DLE CHECKED BY SMM

M3.0

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CITY OF LANCASTER

PROJECT DESCRIPTION
 CITY OF LANCASTER
 622 BEAVER ST
 LANCASTER, PA

SHEET TITLE ALTERNATE LIGHTING PLAN
 ISSUE DATE 08/16/19 SCALE AS NOTED
 FILE NUMBER 1853_19011 DRAWN BY TPM CHECKED BY W/MF

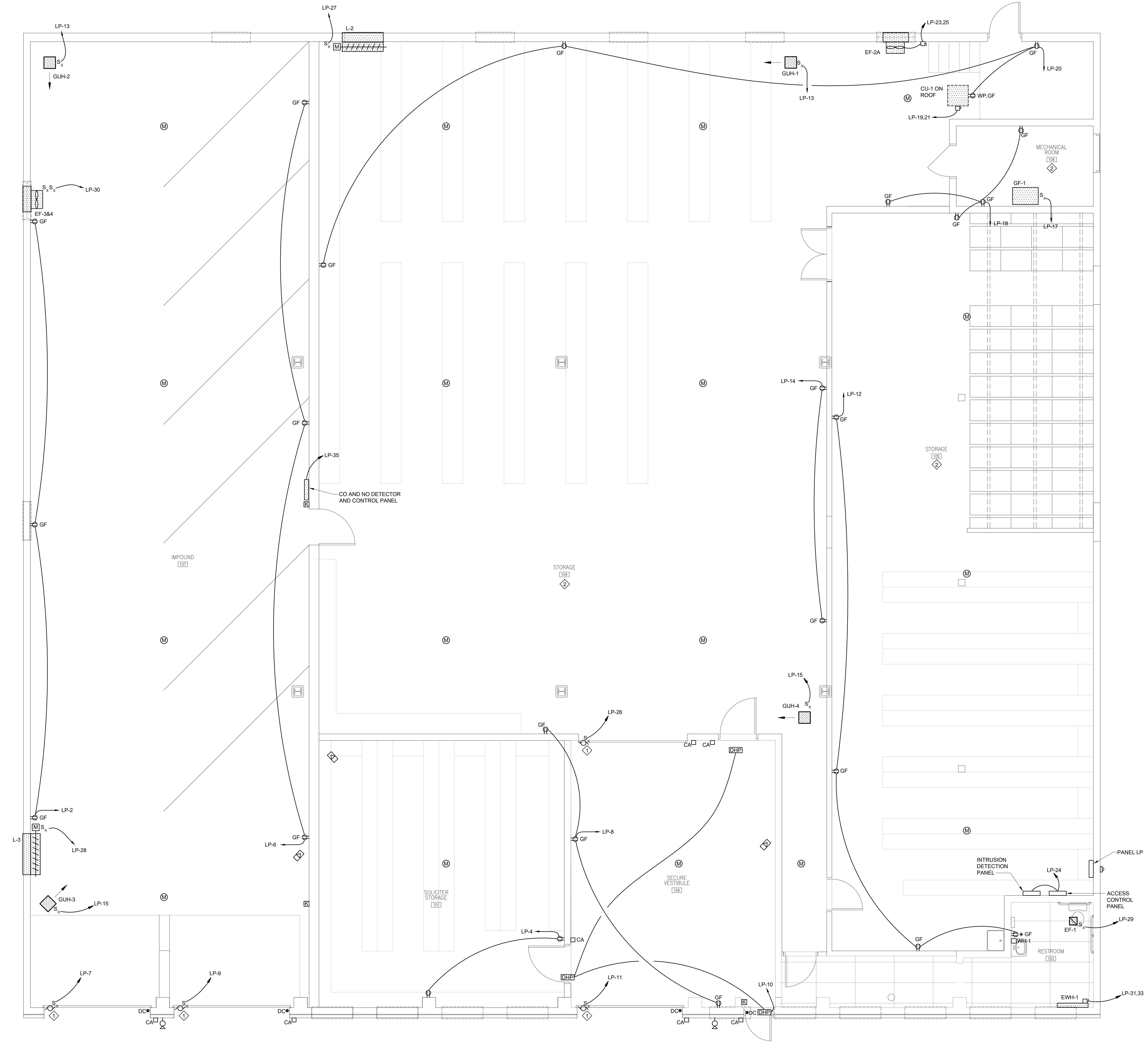
1 FLOOR PLAN
 E3.1 SCALE: 1/4"=1'-0"

E3.1A

- DRAWING NOTES:**
- MOTORIZED OVERHEAD DOOR BY GC. PROVIDE CONTROL/SAFETY WIRING IN 3/4" CONDUIT.
 - RECEPTACLES IN THIS AREA SHALL BE MOUNTED AT 48" ABOVE FINISHED FLOOR.

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 2019.09.11 ADDENDUM NO.2

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CITY OF LANCASTER

PROJECT DESCRIPTION
 CITY OF LANCASTER
 622 BEAVER ST
 LANCASTER, PA

SHEET TITLE ALTERNATE POWER PLAN
ISSUE DATE 08/16/19 **SCALE** AS NOTED
FILE NUMBER 1853_19011 **DRAWN BY** TPM **CHECKED BY** WVF

1 FLOOR PLAN
 E4.1 SCALE: 1/4"=1'-0"

E4.1A