



The City of Canton

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# Invitation to Bid

**City of Canton, Ohio**  
Purchasing Department  
218 Cleveland Ave. SW, 4<sup>th</sup> floor  
Canton, Ohio 44702

Fire Station No. 8 Renovation Project

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**Item/Project**

Fire Department

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**Responsible Department**

2:00 PM, 9/7/2023

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**Bids Due**

**Bid Proposal Submitted By:**

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**Company Name**

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**Street Address**

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**City**

**State**

**Zip**

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**Contact Person**

**Phone No.**

**Email Address**



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**Bidder's Checklist:** The completed Bid Form shall be accompanied by the following completed documents:

- \_\_\_\_\_ [Pre-Bid Substitution](#), if any proposed substitutes have been pre-approved.
- \_\_\_\_\_ [Bid Guaranty and, if applicable Contract Bond](#)
- \_\_\_\_\_ [Contractor's Qualification Statement](#)
- \_\_\_\_\_ [Contractor's List of Subcontracted Work Categories](#)
- \_\_\_\_\_ [A list identifying its DBE subcontractors and participation rates as a percentage of the Contract Price](#), and if the DBE participation goal has not been met, certification of good faith efforts to meet the DBE participation goal.
- \_\_\_\_\_ The Project Labor Agreement (PLA) Letter of Assent (See Appendix A).
- \_\_\_\_\_ If this project is funded in whole or part by the [Ohio Public Works Commission](#), then certification of agreement and compliance with certain statements and covenants regarding Bidder's subscription to the State's Equal Employment Opportunity Requirements for State-assisted Construction Contracts.



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### **Legal Notice**

Sealed bids will be received by the City of Canton (the "City"), as provided in this notice for the Fire Station No. 8 Renovation Project Project (the "Project"), Ordinance 50/2023. Contract documents, which include additional details of the Project, are on file and available from the City of Canton's web site (<https://cantonohio.gov/448/Purchasing-Procurement>).

Bids shall be enclosed in a sealed envelope addressed to the City of Canton, 218 Cleveland Ave. SW, Purchasing Dept/Fourth Floor, Canton, Ohio 44702 and plainly marked on the outside "Fire Station No. 8 Renovation Project PROJECT BID." Bids will be received on or before 2:00 PM, local time, 9/7/2023 and opened shortly thereafter.

Questions regarding plans and specifications should be addressed in writing to Purchasing Department, at [purchasing@cantonohio.gov](mailto:purchasing@cantonohio.gov).

All bids must include a Bid Guaranty, as described in the Instructions to Bidders. Prevailing wage rates apply. All bidders will be required to comply with the City Contract Compliance Program regarding equal employment opportunity. After submission and opening, no bidder may withdraw its bid within 60 days after the opening; the City reserves the right to waive irregularities, reject any or all bids, and conduct necessary investigations to determine bidder responsibility.

Published in The Repository on August 14 and August 21, 2023



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**A. BIDDER'S PLEDGE AND AGREEMENT**

1. Each Bidder acknowledges that this is a public project involving public funds and that the Owner expects and requires that each successful Bidder adhere to the highest ethical and performance standards. Each Bidder by submitting a bid pledges and agrees that (a) it will act at all times with absolute integrity and truthfulness in its dealings with the Owner and the Engineer, (b) it will use its best efforts to cooperate with the Owner and the Engineer and all other Contractors on the Project and at all times will act with professionalism and dignity in its dealings with the Owner, Engineer, and other Contractors, (c) it will assign only competent supervisors and workers to the Project, each of whom is fully qualified to perform the tasks that are assigned to him/her, and (d) it has read, understands and will comply with the terms of the Contract Documents.

**B. EXAMINATION OF CONTRACT DOCUMENTS AND SITE CONDITIONS AND RELIANCE UPON TECHNICAL DATA**

1. Each Bidder shall have a competent person carefully and diligently review each part of the Contract Documents, including the Divisions of the Specifications and parts of the Drawings that are not directly applicable to the Work on which the Bidder is submitting its bid. By submitting its bid, each Bidder represents and agrees, based upon its careful and diligent review of the Contract Documents, that it is not aware of any conflicts, inconsistencies, errors, or omissions in the Contract Documents for which it has not notified the Owner in writing at least ten (10) days prior to the bid opening. If there are any such conflicts, inconsistencies, errors, or omissions in the Contract Documents, the Bidder (i) will provide the labor, equipment, or materials of the better quality or greater quantity of Work and/or (ii) will comply with the more stringent requirements. The Bidder will not be entitled to any Change Order, additional compensation, or additional time on account of such conditions for any conflicts, inconsistencies, errors, or omissions that would have been discovered by such careful and diligent review, unless it has given prior written notice to the Owner.
2. Each Bidder shall have a competent person carefully and diligently inspect and examine the entire site and the surrounding area, including all parts of the site applicable to the Work for which it is submitting its bid, including location, condition, and layout of the site and the location of utilities, and carefully correlate the results of the inspection with the requirements of the Contract Documents. The Bidder's bid shall include all costs attributable to site and surrounding area conditions that would have been discovered by such careful and diligent inspection and examination of the site and the surrounding area, and the Bidder shall not be entitled to any Change Order, additional compensation, or additional time on account of such conditions.
3. The Bidder may rely upon the general accuracy of any technical data identified in the Owner-Contractor Agreement (e.g., any soils exploration reports, soil boring logs, site survey, or abatement reports) in preparing its bid, but such technical data are not part of the Contract Documents. Except for the limited reliance described in the preceding sentence, Bidder may not, if awarded a contract for the Work, rely upon or make any Claim against the Owner or Engineer, or any of their agents or employees, with respect to any of the following:
  - a. the completeness of such reports and drawings for Bidder's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by the successful Bidder and safety precautions and programs incident thereto; or



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- b. any interpretation by the successful Bidder of or conclusion drawn from any technical data or any such other data, interpretations, opinions, or information. For example, all interpolations and extrapolations of data performed by the Bidder to estimate locations or quantities of subsurface strata are independent factual assumptions, which Owner does not warrant.
4. Each Bidder will be deemed to have actual knowledge of all information provided or discussed at the pre-bid meeting.

### C. OWNER & ENGINEER

1. The Owner is:

The City of Canton  
218 Cleveland Avenue SW  
Canton, OH 44702  
Telephone: 330.489.3245  
Fax: 330.489.3499

The Owner's Representative is:

**Cliff Graves**

2. The Design Engineer for the Project is:

Motter & Meadows Architects  
600 Market Avenue North  
Canton, Ohio 44702

### D. PROJECT

1. The Project and Work for the Project consists of all labor, materials, equipment, and services necessary for construction of the project identified as **Fire Station No. 8 Renovation Project** ("the Project"), all in accordance with the Drawings and Specifications prepared by the Engineer and/or Owner. The Project must be substantially complete by the Date for Substantial Completion set forth in Section Q below.
2. The Mayor **has** determined that a Project Labor Agreement ("PLA") will advance the City's procurement interest in cost, efficiency, and quality while promoting labor-management stability as well as compliance with applicable legal requirements governing safety and health, equal employment opportunity, labor and employment standards, and other related matters. Any such PLA shall be negotiated by the Mayor of the Owner with the East Central Ohio Building and Construction Trades Council and its affiliated local unions, or said Council's successor. The successful Bidder shall comply with and adhere to all of the provisions of any PLA for the Project.
3. A pre-bid conference will be held at **10:00am on Friday, August 25, 2023** at **Fire Station #8 - 1330 DUEBER AVENUE SW**  
**CANTON, OHIO 44706.**



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### E. WORK

1. This Project includes Demolition, architectural, plumbing, HVAC, electrical, renovation, cabinetry, insulation, tile work, painting,, etc., and the like as set forth in the Contract Documents.
2. Alternate No. 1 for this Project is NA.
3. Alternate No. 2 for this Project is NA.
4. Only one contract will be issued by the Owner for constructing the Project, the General Contract, which will cover all scopes of work necessary to construct the Project.
5. The Contractor awarded the General Contract (General Contractor) will be responsible for the performance and coordination of any and all subcontractors and suppliers either directly or indirectly contracted with the General Contractor.
6. Owner will provide Bidders access to the Project site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes, clean up, and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable laws, regulations and Owner's policies relative to excavation and utility locates. Bidders may contact Cliff Graves, The City of Canton, at cliff.graves@cantonohio.gov or 330-489-3275 if they have any interest in accessing the Project site, independent of any pre-bid meeting.

### F. ESTIMATE OF COST

1. The total estimated construction cost for the Base Bid Work for the Project for which bids are being solicited at this time is \$550,000.00.

The estimated cost for Alternate 1 - NA is: NA.

The estimated cost for Alternate 2 - NA is: NA.

### G. CONTRACT DOCUMENTS

The Contract Documents consist of the documents listed in Section 1 of the Owner-Contractor Agreement.

Bidders may view and download copies of the Contract Documents from The City of Canton Purchasing web site at <https://cantonohio.gov/448/Purchasing-Procurement>, which is the only authorized source of the Contract Documents. The City of Canton's sourcing tool, Vendor Registry, will maintain the Bidder's list and will provide notice and copies of Addenda as issued. It is the responsibility of any person or organization interested in a hard copy of the Contract Documents to pay all costs associated with printing.

Bidders shall use complete sets of Contract Documents in preparing bids. Neither the Owner nor the Design Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.

The Owner, in making the Contract Documents available on the above terms, does so only for the purpose of obtaining bids on the Work and does not confer a license or grant for any other use.

### H. PREPARATION OF BIDS

1. All bids must be submitted on the "Bid Form" furnished with the Contract Documents.



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2. All blank spaces shall be filled in, in ink or typewritten, in words and figures, and in figures only where no space is provided for words, and signed by the Bidder. The wording on the Bid Form shall be used without change, alteration, or addition. Any change in the wording or omission of specified accompanying documents may cause the bid to be rejected. If there is an inconsistency or conflict in the Bid, the lowest amount shall control, whether expressed in numbers or words.
3. Bidders shall note receipt of Addenda on the Bid Form. If the Bidder fails to acknowledge receipt of each Addendum, the Bid shall be deemed non-responsive, unless the Bid amount clearly and unambiguously reflects receipt of the Addendum or the Addendum involves only a matter of form and does not materially affect the price, quantity or quality of the Work to be performed.
4. Each Bidder shall submit **an original** of its bid to the Owner. The Bid Form shall be signed with the name typed or printed below the signature. A Bid shall not be submitted by facsimile transmission or any other electronic means. A Bidder that is a corporation shall sign its bid with the legal name of the corporation followed by the name of the state of incorporation and the legal signature of an officer authorized to bind the corporation to a contract.
5. Each Bid shall be enclosed in a sealed opaque envelope with the Bidder's name and the title of the Project printed in the upper left hand corner and addressed as follows:

The City of Canton  
ATTN: Purchasing/Bids  
218 Cleveland Avenue SW  
Canton, OH 44702

Bids must be received at the designated location for the bid opening before 2:00 PM, local time, on 9/7/2023.

6. The completed Bid Form shall be accompanied by the following completed documents:
  - a. Pre-Bid Substitution, if any proposed substitutes have been pre-approved. (See Section K, below.)
  - b. Bid Guaranty and, if applicable Contract Bond (See Paragraph H.8, below.)
  - c. Contractor's Qualification Statement (See Paragraph I.4, below.)
  - d. Contractor's List of Subcontracted Work Categories (See Paragraph I.5, below.)
  - e. A list identifying its DBE subcontractors and participation rates as a percentage of the Contract Price, and if the DBE participation goal has not been met, certification of good faith efforts to meet the DBE participation goal. (See Section W, below.)
  - f. The Project Labor Agreement (PLA) Letter of Assent (See Appendix A).
  - g. If this project is funded in whole or part by the Ohio Public Works Commission, then certification of agreement and compliance with certain statements and covenants regarding Bidder's subscription to the State's Equal Employment Opportunity Requirements for State-assisted Construction Contracts (See Section Y, below.)



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7. The Bidder shall take the following precautions in preparing its bid:
- a. Sign the bid and check to ensure all blank spaces have been filled in with requested information and that the specified accompanying documents (listed in Paragraph H.6 above) have been included in a sealed opaque envelope addressed as described in Paragraph H.5 above.
  - b. When the Bid Form provides for quoting either an addition or deduction for an Alternate item, indicate whether the sum named is an addition or deduction. If it is not indicated, it will be conclusively presumed that the amount is a deduction.
  - c. When the Bid Form provides for quoting a unit price, the Bidder should quote the unit price as set forth in the Contract Documents as described in Paragraph M.1 below.
  - d. When applicable, make sure that the Bid Guaranty is properly executed and signed by:
    - 1) The Bidder
    - 2) The Surety or Sureties
  - e. Make sure that the amount of the Bid Guaranty (if the Bid Guaranty is in the form of a certified check, letter of credit, or cashier's check) is for a specific sum in an amount as instructed in Paragraph H.8.a below. If the Bid Guaranty is in the form of the Bid Guaranty and Contract Bond, the amount may be left blank; if an amount is inserted, it must equal the total of the base bid and all add alternates included. If inserted, then the failure to state an amount equal to the total of the base bid and all add alternates shall make the bid non-responsive if the Owner selects alternates not included in the amount.
  - f. Make sure that the appropriate bid package and scope of work is inserted in the correct space on the Bid Guaranty and Contract Bond Form. Failure to include work covered by the bid submitted may make the bid non-responsive.
8. Bonds and Guarantees
- a. **Bid Guaranty:** Bidder shall furnish a Bid Guaranty, as prescribed in Sections 153.54, 153.57, and 153.571 of the Ohio Revised Code, in the form of either: (1) a bond for the full amount of the bid in the form of the Bid Guaranty and Contract Bond included in the Contract Documents; or (2) a certified check, cashier's check, or irrevocable letter of credit in a form satisfactory to the Owner in an amount equal to 10% of the bid. Bid amount shall be the total of all sums bid, including all add alternatives, but excluding all deduct alternatives. **NOTE: AIA or EJCDC Bid Bond forms are not acceptable.**
  - b. **Contract Bond:** The successful Bidder, who, as a Bid Guaranty, submits a certified check, cashier's check, or irrevocable letter of credit in an amount equal to 10% of the bid, shall furnish a Contract Bond in the form included in the Contract Documents in an amount equal to 100% of the Contract Sum. **NOTE: AIA or EJCDC Bond forms are not acceptable.**



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- c. The bond must be issued by a surety company authorized by the Ohio Department of Insurance to transact business in the State of Ohio and acceptable to the Owner. The bond must be issued by a surety capable of demonstrating a record of competent underwriting, efficient management, adequate reserves, and sound investments. These criteria will be deemed to be met if the surety currently has an A.M. Best Company Policyholders Rating of "A-" or better and has or exceeds the Best Financial Size Category of Class VI. Other sureties may be acceptable to the Owner, in its sole discretion.
- d. All bonds shall be signed by an authorized agent of an acceptable surety and by the Bidder.
- e. Surety bonds shall be supported by credentials showing the Power of Attorney of the agent, a certificate showing the legal right of the Surety Company to do business in the State of Ohio, and a financial statement of the Surety.
- f. The Bid Guaranty, as applicable, shall be in the name of or payable to the order of the Owner.
- g. The name and address of the Surety and the name and address of the Surety's Agent must be typed or printed on each bond.

### 9. Permits

- a. Owner has obtained, or will obtain the following permits for the Project, as applicable:

#### NA

- b. Contractor shall secure and pay for all other permits necessary to complete the Project. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.
- c. If Contractor intends to work with any pesticides or herbicides to perform the contracted work, the City of Canton requires that Contractor be in possession of an up-to-date and valid Commercial Pesticide Applicator's License from the Ohio Department of Agriculture.

## I. METHOD OF AWARD

- 1. All bids shall remain open for acceptance for sixty (60) days following the day of the bid opening, but the Owner may, in its sole discretion, release any bid and return the Bid Guaranty prior to that date. The Bid Guaranty shall be subject to forfeiture, as provided in the Ohio Revised Code, if a bid is withdrawn during the period when bids are being held.
- 2. The Owner reserves the right to reject any, part of any, or all bids and to waive any informalities and irregularities. The Bidder expressly acknowledges this right of the Owner to reject any or all bids or to reject any incomplete or irregular bid. Bidders must furnish all information requested on the Bid Form. Failure to do so may result in disqualification of the bid.
- 3. Determination of the Lowest and Best Bid. Subject to the right of the Owner to reject any or all bids, pursuant to the Codified Ordinances of Canton Chapters 105, 182, and 507, the Owner will award the Contract for the Work to the bidder submitting the lowest and



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best bid, taking into consideration accepted alternates. In evaluating bids, the Owner will consider the qualifications of the Bidders, whether or not the bids comply with the prescribed requirements, and alternates and unit prices, if requested, on the Bid Form. The Owner may also consider the qualifications and experience of subcontractors and suppliers. The Owner may conduct such investigations as are deemed necessary to establish the qualifications and financial ability of the Bidder and its subcontractors and suppliers. The factors the Owner may consider in determining which bid is the lowest and best include the factors set forth below, including the Additional Criteria. Depending upon the type of work, the Owner, in its discretion, may also consider other essential factors, as the Owner may determine and as are included in the Specifications. The Owner, in its discretion, may consider and give such weight to these criteria as it deems appropriate. The Owner, in its discretion, reserves the right to request additional information and documentation relating to these criteria from Bidders after the bid opening.

- a. Work to be subcontracted. The Bidder must identify all work to be subcontracted. See paragraph I.5 below. All subcontractors are subject to the approval of the Owner based on the criteria set forth in this Section I.
- b. The Bidder's work history. The Bidder should have a record of consistent customer satisfaction and of consistent completion of projects, including projects that are comparable to or larger and more complex than the Owner's Project, on time and in accordance with the applicable Contract Documents, and based upon the Bidder's claims history. If the Bidder's management operates or has operated another construction company, the Owner may consider the work history of that company in determining whether the Bidder submitted the lowest and best bid.

The Owner will consider the Bidder's prior experience on other projects of similar scope and/or complexity including prior projects with the Owner and/or Design Professional, including the Bidder's demonstrated ability to complete its work on these projects in accordance with the Contract Documents and on time, and will also consider its ability and capacity to perform a substantial portion of the project with its own forces and its ability to work with the Owner and Engineer as a willing, cooperative, and successful team member. Bringing overstated claims, an excessive number of claims, acting uncooperatively, and filing lawsuits against project owners and/or their design professionals on prior projects of similar scope and/or complexity will be deemed evidence of a Bidder's inability to work with the Owner and Engineer as a willing, cooperative, and successful team member.

The Bidder authorizes the Owner and its representatives to contact the owners and design professionals (and construction managers, if applicable) on projects on which the Bidder has worked and authorizes and requests such owners and design professionals (and construction managers) to provide the Owner with a candid evaluation of the Bidder's performance. By submitting its bid, the Bidder agrees that if it or any person, directly or indirectly, on its behalf or for its benefit brings an action against any of such owners or design professionals (or construction managers) or the employees of any of them as a result of or related to such candid evaluation, the Bidder will indemnify and hold harmless such owners, design professionals (and construction managers) and the employees of any of them from any claims, whether or not proven, that are part of or are related to such action and from all legal fees and expenses incurred by any of them arising out of or related to such legal action. This obligation is expressly intended for the benefit of such owners, design professionals (and construction managers), and the employees of each of them.





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- c. The Bidder's prior history regarding timeliness of performance, quality of work, the Bidder's history of filing claims and having claims filed against it, extension requests, fines and penalties imposed and payments thereof, and contract defaults, with explanations.
- d. The Bidder's compliance with federal, state, and local laws, rules, and regulations, including but not limited to the Occupational Safety and Health Act, Ohio Prevailing Wage laws, Davis Bacon, and Ohio ethics laws.
- e. The Bidder's prior experience with similar work on comparable or more complex projects.
- f. The number of years the Bidder has been actively engaged as a contractor in the construction industry.
- g. The Bidder's recent experience record in the construction industry, including the original contract price for each construction job undertaken by the bidder, the amount of any change orders or cost overruns on each job, the reasons for the change orders or cost overruns, and the bidder's record for complying with and meeting completion deadlines on construction projects.
- h. A public entities' determination, within the previous five years, that the Bidder was not a responsible bidder, the reasons given by the public entity, and the Bidder's explanation thereof.
- i. The Bidder's financial ability to complete the Contract successfully and on time without resort to its Surety.
- j. Financial responsibility demonstrated by the Bidder and whether Bidder possesses adequate resources and availability of credit, the means and ability to procure insurance and acceptable performance bonds required for the Project and whether any claims have been made against performance bonds secured by the bidder on other construction projects.
- k. Any suspension or revocations of any professional license of any director, officer, owner, or managerial employees of the Bidder, to the extent that any work to be performed on this Project is within the field of such licensed profession.
- l. The Bidder's equipment and facilities.
- m. The size and experience of the Bidder's work force and the Bidder's ability to complete the Contract successfully and on time.
- n. The experience and the continuity of the Bidder's work force including the project manager and project superintendent's tenure with the Bidder.
- o. The Bidder's participation in a drug-free workplace program acceptable to the Owner, and the Bidder's record for both resolved and unresolved findings of the Auditor of State for recovery as defined in Section 9.24 of the Ohio Revised Code.
- p. The Owner's prior experience with the Bidder's surety.
- q. The Bidder's interest in the Project as evidenced by its attendance at any pre-bid meetings or conferences for bidders.
- r. The adequacy, in numbers and experience, of the Bidders' work force to complete the Contract successfully and on time.





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- s. The foregoing information with respect to each of the Subcontractors and Suppliers that the Bidder intends to use on the Project.
4. Qualifications Statement. Each Bidder will submit with its bid a completed Contractor Qualifications Statement, which is included with the Contract Documents, and thereafter provide the Owner promptly with such additional information as the Owner may request regarding the Bidder's qualifications. A Bidder shall submit any requested additional information within three (3) business days of the date on the request.
5. List of Subcontracted Work Categories. Each Bidder will submit with its bid a completed list of Subcontracted Work Categories, which is included with the Contract Documents, and thereafter provide the Owner promptly with such additional information as the Owner may request regarding the Bidder's qualifications. A Bidder shall submit any requested information within three (3) business days of the date on the request.
6. Additional Criteria for Determining Lowest and Best Bid. Pursuant to the Codified Ordinances of the City of Canton, Chapter 105, the Owner, in its discretion, may consider any or all of the Additional Criteria below in determining which bid is lowest and best.
  - a. Any OSHA violations within the previous three years, as well as all notices of OSHA citations filed against the Bidder in the same three year period, together with a description and explanation of remediation or other steps taken regarding such violations and notices of violation.
  - b. Any violations within the previous five years pertaining to unlawful intimidation or discrimination against any employee by reason of race, creed, color, disability, gender, or national origin, and/or violation of any employee's civil or labor rights or equal employment opportunities.
  - c. Any litigation in which the Bidder has been named as a defendant or third party defendant in an action involving a claim for personal injury or wrongful death arising from performance of work related to any project in which it has been engaged within the previous five years. Bidders shall provide copies of pleadings.
  - d. Allegations of violations of the prevailing wage law and any other state or federal labor law, including, but not limited to, child labor violations, failure to pay wages, or unemployment insurance tax delinquencies or unfair labor practices within the past five years.
  - e. Violations of the workers compensation law.
  - f. Any criminal convictions or criminal indictments, involving the Bidder, its officers, directors, owners, and/or managers within the past five years.
  - g. Any violation within the past five years or pending charges concerning federal, state, or municipal environmental and/or health laws, codes, rules, and/or regulations.
  - h. Documentation that the Bidder provides health insurance and pension benefits to its employees.
  - i. Whether the Bidder participates in a bona fide apprenticeship program that is approved by the Ohio State Apprenticeship Council and the United States Department of Labor.
  - j. Whether the Bidder has adopted and implemented a comprehensive drug and alcohol testing program for its employees.



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- k. Whether the Bidder's employees are OSHA-10 and/or OSHA-30 certified.
  - l. The Bidder's commitment to comply with the Owner's Contract Compliance Program regarding equal employment opportunity. Each Bidder shall file contract employment reports with the Owner's contracting agency or as may be directed by the Owner or its representative. Such contract employment reports shall include such information as to the employment practices, policies, programs, and statistics of the Bidder and shall be in such form as the Owner may prescribe.
  - m. The foregoing information with respect to each of the Subcontractors and Suppliers that the Bidder intends to use on the Project.
7. The failure to submit information that Owner has the right to receive under these Instructions to Bidders on a timely basis may result in the determination that the Bidder has not submitted the lowest and best bid.
8. By submitting its bid, the Bidder agrees that the Owner's determination of which bidder is the lowest and best bidder shall be final and conclusive, and that if the Bidder or any person on its behalf challenges such determination in any legal proceeding, the Bidder will indemnify and hold the Owner and its employees and agents harmless from any claims included or related to such legal proceeding, and from legal fees and expenses incurred by the Owner, its employees, or agents that arise out of or are related to such challenge.
9. After bid opening, within three (3) business days of a request made by the Owner, the apparent low Bidder and any other Bidder so requested by the Owner must submit the following:

For all subcontracts with an estimated value of at least \$50,000, a list of all Subcontractors that the Bidder will use to construct the Project, as well as an indication of whether or not the Bidder has ever worked with a proposed Subcontractor before, including the following information for the three most recent projects on which the Bidder and each Subcontractor have worked together:

- i. Project Owner
- ii. Project Name
- iii. Subcontract Scope
- iv. Subcontract Value
- v. Owner's contact name and phone number.

If Bidder and a proposed Subcontractor have not worked together on at least three projects in the past five years, Bidder must submit the information set forth above for the three most recent similar projects to the Project that a proposed Subcontractor has worked on.

The above Subcontractor information, as well as the criteria set forth in Paragraph I.3 herein, as it pertains to each Subcontractor may be used in the Owner's determination of the lowest and best bid.

Once a Bidder identifies its proposed Subcontractors as set forth in this Paragraph I.9, the list shall not be changed unless written approval or direction for the change is made by Owner.

10. Additional Post-Bid Submittals



## The City of Canton

- a) Affidavit as to Personal Property Taxes. The successful Bidder shall submit, prior to the time of the entry into the Contract, an affidavit in the form required by Section 5719.042, Ohio Revised Code, regarding the status of the Bidder's personal property taxes. A copy of the affidavit form is included with the Contract Documents.
11. The Owner reserves the right to disqualify bids, before or after opening, upon evidence of collusion with intent to defraud or other illegal practices on the part of the Bidder.
12. Award of Contract. The award of the Contract will only be made pursuant to approval of the City's Board of Control.

### J. EXECUTION OF CONTRACT

1. Within the time designated by the Owner after award of the Contract, the successful Bidder shall execute and deliver to the Owner the required number of copies of the Owner-Contractor Agreement, in the form included in the Contract Documents, and all accompanying documents requested, including, but not limited to, a Contract Bond (if applicable), insurance certificates, and a valid Workers' Compensation Certificate. The successful Bidder shall have no property interest or rights under the Owner-Contractor Agreement until the Agreement is executed by the Owner.

### K. SUBSTITUTIONS/NON-SPECIFIED PRODUCTS

1. Certain brands of material or apparatus may be specified. Should this be the case, each bid will be based on these brands, which may be referred to in the Contract Documents as Standards. The use of another brand (referred to as a substitution or proposed equal in the Contract Documents, when a bidder or the contractor seeks to have a different brand of material or apparatus than that specified approved by the Owner of use in the Project) may be requested as provided herein. Substitutions, however, will not be considered in determining the lowest and best bid.
2. The products specified in the Contract Documents establish a standard of required function, dimension, appearance, and quality.
3. Bidders wishing to obtain approval to bid non-specified products shall submit written requests to the Owner a minimum of seven (7) working days before the bid date and hour. To facilitate the submission of requests, a Substitution Form is included in the Contract Documents. The Bidder shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution, including the name of the proposed manufacturer and/or product and a complete description of the product including the manufacturer's name and model number or system proposed, drawings, product literature, performance and test data, color selections or limitations, and any other information necessary for evaluation. Include a statement including any changes in other materials, equipment, or other work that would be required if the proposed product is incorporated in the work. The burden of proof of the merit of the proposed product is on the proposer. The Owner's decision on approval of a proposed product will be final.

The following will be cause for rejection of a proposed substitution:

- a. Requests submitted by subcontractors, material suppliers, and individuals other than Bidders;
- b. Requests submitted without adequate documentation;
- c. Requests received after the specified cut-off date;



## The City of Canton

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- d. Requests, which in the sole discretion of the Owner, do not offer a sufficient benefit to the Project.
4. When the Owner approves a product submission before receipt of bids, the approval will be included in an Addendum, and Bidders may include the pricing of this product in their bid. Bidders shall not rely on approvals made in any other manner.
5. In proposing a non-specified product or a substitution, the Bidder represents and warrants that each proposed product will not result in any changes to the Project, including changes to the Work or other contractors, or any decrease in the performance of any equipment or systems to be installed in the Project and agrees to pay any additional costs incurred by the Owner and the Owner's consultants as a result of a non-specified or substitute product that is accepted.
6. If an addendum is issued approving a substitution for a specified Standard, any Bidder proposed to use said substitution must indicate so with its Bid, using the form provided.
7. Following the award of the Contract, there shall be no substitution for specified products, except pursuant to a Change Order. The Owner in its sole discretion may decline to consider a substitution for a Change Order.
8. The Owner reserves the right to value engineer any item within the specifications if it is deemed to be in the best interest of the Owner.

### **L. ALTERNATES**

1. The Owner may request bids on alternates. At the time of awarding the Contract, the Owner will select or reject alternates as it determines is in its best interest. A Bidder's failure to include on its Bid Form the cost of an alternate selected by the Owner and applicable to the Bidder's work shall render the bid non-responsive and be grounds for the rejection of the bid. Otherwise, the failure to include the cost of an alternate will not be deemed material.
2. The Bidder acknowledges that although there is an estimate for the cost of the Project, the market conditions may and frequently do result in the estimate being different from the sum of the bids received, either higher or lower. The Bidder understands that the Owner may include alternates, which may include deduct alternates as well as add alternates, to give it flexibility to build the Project with the funds available. The Bidder further understands and acknowledges that use of add and deduct alternates is a long held customary practice in the construction industry in the State of Ohio. The Bidder also acknowledges that the Owner will not make a decision about the alternates on which to base the award of contracts until the bids are received, and the Owner can compare its available funds with the base bids and the cost or savings from selecting different alternates. The Bidder understands that the award to the Bidder submitting the lowest and best bid will be based on the base bid plus selected alternates, and may result in an award to a Bidder other than the Bidder that submitted the lowest base bid.

### **M. UNIT PRICES**

1. Where unit prices are requested in the Bid Form the Bidder should quote a unit price. Unless otherwise expressly provided in the Contract Documents, such unit prices shall include all labor, materials, and services necessary for the timely and proper installation of the item for which the unit prices are requested. The unit prices quoted in the bid shall be the basis for any Change Orders entered into under the Owner-Contractor Agreement, unless the Owner determines that the use of such unit prices will cause substantial inequity to either the Contractor or the Owner.



## The City of Canton

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### **N. ADDENDA**

1. All questions should be submitted in writing at least five (5) business days prior to the bid opening. **This is 8/31/2023, 2:00 PM.** The Owner reserves the right to issue Addenda changing, altering, or supplementing the Contract Documents prior to the time set for receiving bids. The Owner will issue the Addenda to clarify bidders' questions and/or to change, alter, or supplement the Contract Documents.
2. Any explanation, interpretation, correction, or modification of the Contract Documents will be issued in writing in the form of an Addendum, which shall be the only means considered binding; explanations, interpretations, etc., made by any other means shall **NOT** be legally binding. All Addenda shall become a part of the Contract Documents.
3. All Addenda will be issued, except as hereafter provided, via the current City bid tool at least seventy-two (72) hours prior to the published time for the opening of bids, excluding Saturdays, Sundays, and legal holidays. If any Addendum is issued within such seventy-two (72) hour period, then the time for opening of bids shall be extended one (1) week with no further advertising of bids required.
4. Copies of each Addendum will be posted via the Owner's current bid tool and it is the responsibility of the bidder or any other interested party to check the bid tool for any updates or addenda. Receipt of Addenda shall be indicated by Bidders in the space provided on the Bid Form. Bidders are responsible for acquiring issued Addenda in time to incorporate them into their bid. Bidders should check the Owner's bid tool prior to the bid opening to verify the number of Addenda issued.
5. Each Bidder shall carefully read and review the Contract Documents and immediately bring to the attention of the Owner any error, omission, inconsistency, or ambiguity therein.
6. If a Bidder fails to indicate receipt of all Addenda through the last Addendum issued by the Owner on its Bid Form, the bid of such Bidder will be deemed to be responsive only if:
  - a. The bid received clearly indicates that the Bidder received the Addendum, such as where the Addendum added another item to be bid upon and the Bidder submitted a bid on that item; or
  - b. The Addendum involves only a matter of form or is one which has either no effect or has merely a trivial or negligible effect on price, quantity, quality, or delivery of the item bid upon.

### **O. INTERPRETATION**

1. If a Bidder contemplating submitting a bid for the proposed Project is in doubt as to the true meaning of any part of the Contract Documents, it may submit a written request for an interpretation thereof to the Owner at [purchasing@cantonohio.gov](mailto:purchasing@cantonohio.gov). Requests received fewer than 5 days prior to bid opening may not be answered. Any interpretation of the proposed documents will be made by Addendum only and will be made available by the City's web tool. The Owner will not be responsible for any other explanation or interpretation of the proposed documents.
2. In interpreting the Contract Documents, words describing materials that have a well-known technical or trade meaning, unless otherwise specifically defined in the Contract Documents, shall be construed in accordance with the well-known meaning recognized by the trade.



## The City of Canton

3. Bidders are responsible for notifying the Owner in a timely manner of any ambiguities, inconsistencies, errors, or omissions in the Contract Documents. The Bidder shall not, at any time after the execution of the Contract, be compensated for a claim alleging insufficient data, incomplete Contract Documents, or incorrectly assumed conditions regarding the nature or character of the Work, if no request was made by the Bidder prior to the bid opening.

### P. STATE SALES AND USE TAXES

1. The Owner is a political subdivision of the State of Ohio and is exempt from taxation under the Ohio Sales Tax and Use Tax Laws. Building materials that the successful Bidder purchases for incorporation into the Project will be exempt from state sales and use taxes if the successful Bidder provides a properly completed Ohio Department of Taxation Construction Contract Exemption Certificate to the vendors or suppliers when the materials are acquired. The Owner will execute properly completed certificates on request.

### Q. DATE FOR SUBSTANTIAL COMPLETION/DATE FOR FINAL COMPLETION/LIQUIDATED DAMAGES

1. Dates for Substantial Completion. The Contract Time shall run from the date of the Notice to Proceed or if there is no Notice to Proceed from the Effective Date of the Owner-Contractor Agreement. The Date for Substantial Completion and the Contract Time may be extended only by Change Order. **By submitting its Bid, each Bidder agrees that the period for performing its Work is reasonable.**

- a. Date for Overall Project Substantial Completion. The successful Bidder shall have all of its Work on the Project Substantially Complete (as Substantial Completion is defined in the Contract Documents) by the following date as applicable to the Bidder's scope of work.

Date for Substantial Completion (aka Contract Time) expressed as calendar days from Notice to Proceed:

**60 calendar days**

2. Liquidated Damages.

- a. Overall Project Substantial Completion. If the successful Bidder does not have its Work Substantially Complete by its Date for Substantial Completion or Finally Complete within thirty (30) calendar days of achieving Substantial Completion, whichever may be applicable, the successful Bidder shall pay the Owner and the Owner may set off from amounts otherwise due the successful Bidder Liquidated Damages. The daily amounts of Liquidated Damages for Overall Project Substantial Completion are set forth in the tables included in the Owner-Contractor Agreement. The total amount of Liquidated Damages will be calculated based on the total number of calendar days beyond the Date for Substantial Completion that the Bidder's Work is not Substantially Complete or to the extent that its Work is not Finally Complete more than thirty (30) calendar days after the Substantial Completion of its Work, i.e., number of late days times the per diem rate(s) for Liquidated Damages in the tables.

3. The Bidder acknowledges and agrees, by submitting its bid for the Work and entering into a Contract with the Owner, that such amounts of Liquidated Damages represent a reasonable estimate of the actual damages for loss of or interference with the intended use of the Project that the Owner would incur if the Bidder's Work is not Substantially Complete by its Date for Substantial Completion and/or not Finally Complete by thirty





## The City of Canton

(30) days of the Date of Substantial Completion. The Bidder further acknowledges, agrees and understands that it may seek an extension of the Contract Time (and its Date for Substantial Completion) to avoid or reduce Liquidated Damages by properly following the Claim procedures in the Contract Documents.

### **R. OWNER'S RIGHT TO WAIVE DEFECTS AND IRREGULARITIES**

1. The Owner reserves the right to waive any and all irregularities provided that the defects and irregularities do not affect the amount of the bid in any material respect or otherwise give the Bidder a competitive advantage.

### **S. MODIFICATION/WITHDRAWAL OF BIDS**

1. Modification. A Bidder may modify its bid by written communication to the Owner at any time prior to the scheduled closing time for receipt of bids, provided such written communication is received by Owner prior to the bid deadline. The written communication shall not reveal the bid price, but should provide the addition or subtraction or other modification so that the final prices or terms will not be known until the sealed bid is opened. If the Bidder's written instructions with the change in bid reveal the bid amount in any way prior to the bid opening, the bid may be rejected as non-responsive.
2. Withdrawal Prior to Bid Deadline. A Bidder may withdraw its bid at any time for any reason prior to the bid deadline for the opening of bids established in the Legal Notice. The request to withdraw shall be made in writing to and received by the Owner prior to the time of the bid opening.
3. Withdrawal after Bid Deadline.
  - a. All bids shall remain valid and open for acceptance for a period of at least 60 days after the bid opening; provided, however, that a Bidder may withdraw its bid from consideration after the bid deadline when all of the following apply:
    - (1) the price bid was substantially lower than the other bids;
    - (2) the reason for the bid being substantially lower was a clerical mistake, rather than a mistake in judgment, and was due to an unintentional and substantial error in arithmetic or an unintentional omission of a substantial quantity of work, labor, or material;
    - (3) the bid was submitted in good faith; and
    - (4) the Bidder provides written notice to the Owner within two (2) business days after the bid opening for which the right to withdraw is claimed.
  - b. No bid may be withdrawn under this provision if the result would be the awarding of the contract on another bid for the bid package from which the Bidder is withdrawing its bid to the same Bidder.
  - c. If a bid is withdrawn under this provision, the Owner may award the Contract to another Bidder determined by the Owner to be the lowest and best bidder or the Owner may reject all bids and advertise for other bids. In the event the Owner advertises for other bids, the withdrawing Bidder shall pay the costs incurred in connection with the rebidding by the Owner, including the cost of printing new Contract Documents, required advertising, and printing and mailing notices to prospective bidders, if the Owner finds that such costs would not have been incurred but for such withdrawal.



## The City of Canton

### T. COMPLIANCE WITH APPLICABLE LAWS

1. By submitting a bid for Work on the Project, the Bidder acknowledges that it is in compliance with applicable federal, state, and local laws and regulations, including, but not limited to, the following:
  - a. Equal Employment Opportunity/Nondiscrimination. The Bidder agrees that if it is awarded a contract that in the hiring of employees for performance of work under the contract or any subcontract, neither it nor any subcontractor, or any person acting on its behalf or its subcontractor's behalf, by reason of race, creed, sex, disability as defined in Section 4112.01 of the Ohio Revised Code, or color, shall discriminate against any citizen of the state in the employment of labor or workers who are qualified and available to perform work to which the employment relates. The Bidder further agrees that neither it nor any subcontractor or any person on its behalf or on behalf of any subcontractor, in any manner, shall discriminate against or intimidate any employees hired for the performance of the work under the contract on account of race, creed, sex, disability as defined in Section 4112.01 of the Ohio Revised Code, or color.
  - b. Ethics Laws. The Bidder represents that it is familiar with all applicable ethics law requirements, including without limitation Sections 102.04 and 3517.13 of the Ohio Revised Code, and certifies that it is in compliance with such requirements.

### U. FINDINGS FOR RECOVERY

1. By submitting its bid, each Bidder certifies for reliance of the Owner that it has no unresolved finding for recovery against it issued by the Auditor of the State of Ohio on or after January 1, 2001, except as permitted by Section 9.24 (F) of the Ohio Revised Code.

### V. PREVAILING WAGES

1. The Project is a "Construction" project as defined in Section 4115.03 of the Ohio Revised Code. If the Project is defined as such as "Construction" project, the successful Bidder and all of its subcontractors, regardless of tier, will strictly comply with its obligation to pay a rate of wages on the Project not less than the rate of wages fixed for this Project under Section 4115.04 of the Ohio Revised Code. Additionally, the successful Bidder will comply with all other provisions of Chapter 4115 of the Ohio Revised Code.

### W. DBE PARTICIPATION GOALS

1. Owner has established the following Disadvantaged Business Enterprise ("DBE") participation goal for the Project as a percentage of the Contract Price:

**0%**

2. Any Minority Business Enterprise ("MBE") or Woman-Owned Business Enterprise ("WBE") proposed to count towards the DBE participation goal must first be certified at bid time as an MBE or WBE under the Ohio Department of Administrative Services MBE Cross Certification Program (which includes MBEs and WBEs certified by the City of Canton), or certified as a DBE under Ohio's Unified Certification Program administered by the Ohio Department of Transportation.
3. **Documentation of DBE Participation**. Each Bidder must submit with its bid a list identifying its DBE subcontractors and participation rates as a percentage of the Contract Price.





## The City of Canton

4. **Certification of Good Faith Efforts.** If a Bidder has not met the DBE participation goal, it must attach to its bid, a narrative (which may include exhibits) demonstrating the good faith efforts made by the Bidder to secure DBE participation in the Project. Good faith efforts include:
  - Conducting outreach and recruiting activities;
  - Informing DBEs of the opportunity to participate in the Project at least 30 calendar days before the bid closes;
  - Considering subcontracting with a consortium of DBEs; and
  - Using the services and assistance of the Small Business Administration and Minority Development Agency of the U.S. Department of Commerce.

Owner, in its sole discretion, will be the sole evaluator of whether any particular Bidders' efforts sufficiently demonstrate good faith efforts for securing DBE participation.
5. **Challenges to Owner's Discretion.** If any Bidder directly challenges, or indirectly challenges through contribution of money or other resources to a third party, Owner's discretion in determining any Bidder's compliance with the DBE goal stated in these Instructions to Bidders, or good faith efforts pertaining to same, that Bidder agrees to indemnify Owner for all claims, costs, losses and damages, including attorney and consultant fees, arising out of such challenge, should there be an adjudication by a court of competent jurisdiction that the Owner did not abuse its discretion in making its determination.
6. **Failure to Comply.** If a Bidder is awarded a contract for the Project, and later fails to fulfill its stated DBE participation goals, that Bidder agrees to indemnify Owner for all claims, costs, losses and damages, including attorney and consultant fees, arising out of such failure. That Bidder also agrees to cooperate with all reasonable requests to determine actual DBE participation, including but not limited to certifying actual participation and providing documentation in support of same.

## X. OTHER LOCAL ORDINANCE REQUIREMENTS

1. Each Bidder, by the act of submitting its bid agrees to withhold all City income taxes due or payable under Chapter 182 of the Codified Ordinances of the City of Canton for wages, salaries, fees, and commissions paid to its employees and further agrees that any of its subcontractors shall be required to agree to withhold any such City income taxes due for services performed under this Agreement. Bidder agrees with the Owner regarding the manner of withholding of City income taxes as provided in Section 718.011(F) of the Ohio Revised Code. Municipal income tax withholding provisions of Section 718.011(B)(1) and 718.011(D) of the Ohio Revised Code shall not apply to qualifying wages paid to employees for work done or services performed or rendered inside the City or on City property. Each Bidder agrees to withhold income tax for the City from employees' qualifying wages earned inside the City or on City property, beginning with the first day of work done or services performed or rendered inside the City.
2. Each Bidder, by the act of submitting its bid agrees that all steel necessary in the construction of the Work performed under the Agreement shall be steel that is produced in the United States unless a specific product which is required is not produced by manufacturers in the United States in which event this prohibition does not apply.
3. Each Bidder, by the act of submitting its bid agrees that all materials used in the construction covered by the Agreement shall be purchased in the Canton area except such materials which are unavailable in the Canton area.
4. Chapter 105.12 – Local Bidder Preference.



## The City of Canton

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- a. The Board of Control, in determining the lowest and best bidder in the award of contracts to which this section is applicable, is authorized to award contracts to local bidders as hereinafter defined, whose bid is not more than five percent (5%) higher, subject to a maximum amount of twenty thousand dollars (\$20,000.00), than the lowest dollar bid submitted by non-local bidders. The Board of Control's decision in making such an award shall be final.
- b. For purposes of this section, "local bidder" means an individual or business entity which at the time of the award of the contract has a headquarters, division, sales office, sales outlet, manufacturing facility, or similar significant business-related location in Stark County, Ohio.
- c. All contract specifications and/or bid documents that are distributed by Canton for the purpose of soliciting bids for goods and/or services shall contain the following notice:

Prospective bidders will take notice that the City of Canton, in determining the lowest and best bidder in the award of this contract, may award a local bidder preference to any qualified bidder pursuant to Section 105.12 of the Codified Ordinances of the City of Canton. The determination of whether a bidder qualifies for the local preference shall be made by Board of Control. The Board's decision shall be final. A copy of Section 105.12 is attached.

- d. This section shall be applicable to all contracts for equipment, goods, machinery, materials, supplies, vehicles and/or services, which are purchased, leased and/or constructed at a cost in excess of fifty thousand dollars (\$50,000.00) and which require bidding pursuant to Ohio R.C. 735.05 through 735.09 and Ohio R.C. 737.03. (Ord. 115-2018. Passed 5-14-18.)
5. Each Bidder, by the act of submitting its bid agrees as follows during the performance of the Agreement:
- a. The Contractor shall not discriminate against any employee or applicant for employment because of race, age, handicap, religion, color, sex, national origin, sexual orientation, or gender identity. The Contractor shall take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to race, religion, color, sex, national origin, military status, sexual orientation, or gender identity. As used herein, the word "treated" shall mean and include without limitation the following: recruited, whether by advertising or other means; compensation, whether in the form of rates or pay or other forms of compensation; selected for training, including apprenticeship; promoted; demoted; upgraded; downgraded; transferred; laid off; and terminated. The Contractor agrees to and shall post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting officers setting forth the provisions of this nondiscrimination clause.
  - b. The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, age, handicap, religion, color, sex, national origin, military status, sexual orientation, or gender identity.
  - c. The Contractor shall send to each labor union or representative of workers, with which he has a collective bargaining agreement or other contract or understanding, a notice advising the labor union or workers' representative of the Contractor's commitments under the equal opportunity clause of the Owner; and it shall post copies of the notice in conspicuous places available to employees and applicants for employment.



## The City of Canton

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- d. The Contractor shall submit in writing to the Owner its affirmative action plan, and each subcontractor and supplier of equipment or supplies shall submit to the Contractor its affirmative action plan. The responsibility for securing these affirmative action plans falls upon the Contractor and shall be on file at the office of the Contractor. The Contractor shall furnish all information and reports required by the Owner or its representative pursuant to the Contract Documents, and shall permit access to its books, records, and accounts by the contracting agency of the Owner and by the Executive Secretary of the Owner for purposes of investigation to ascertain compliance with the program.
- e. The Contractor shall take such action with respect to any subcontractor as the Owner may direct as a means of enforcing the provisions of this equal opportunity clause, including penalties and sanctions for noncompliance; provided, however, that in the event the Contractor becomes involved in or is threatened with litigation as is necessary to protect the interests of the Owner and to effectuate the Owner's equal opportunity program and, in the case of contracts receiving Federal assistance, the Contractor or the Owner may request the United States to enter into such litigation to protect the interests of the United States.
- f. The Contractor shall file and shall cause its subcontractors, if any, to file compliance reports with the Owner in the form and to the extent prescribed by the Owner or its representative. Compliance reports filed at such times as directed shall contain information as to the employment practices, policies, programs, and statistics of the Contractor and its subcontractors.
- g. The Contractor shall include the provisions of this equal employment opportunity clause in every subcontract or purchase order, so that such provisions will be binding upon each subcontractor or vendor.
- h. Refusal by the Contractor or subcontractor to comply with any portion of this program as herein stated and described will subject the offending party to any or all of the following penalties:
  - (1) Withholding of all future payments under the involved public contract to the Contractor in violation, until it is determined that the Contractor or subcontractor is in compliance with the provisions of the Agreement.
  - (2) Refusal of all future bids for any public contract with the Owner or any of its departments or divisions, until such time as the Contractor or subcontractor demonstrates that it has established and shall carry out the policies of the program as herein outlined.
  - (3) Cancellation of the public contract and declaration of forfeiture of the performance bond.
  - (4) In cases in which there is substantial or material violation or the threat of substantial or material violation of the compliance procedure or as may be provided by contract, appropriate proceedings may be brought to enforce these provisions, including enjoining within applicable laws of contractors, subcontractors, or other organizations, individuals, or groups who prevent, directly or indirectly, or seek to prevent, directly or indirectly, compliance with the policy as herein outlined.



## The City of Canton

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2. A Project Labor Agreement (PLA) Yes been required for this project (See Appendix A if applicable). Prevailing Wages are required for this Project (See Appendix B).

### Y. OHIO PUBLIC WORKS COMMISSION FUNDING

1. No When this line is checked by the Owner, e.g. with an "X" or other mark, the Project is being funded in whole or part by the Ohio Public Works Commission ("OPWC"), and the requirements of the OPWC, attached to these Instructions to Bidders, apply.
2. The OPWC requirements include that the Bidder include with its bid certification of agreement and compliance with certain statements and covenants regarding its subscription to the State's Equal Employment Opportunity Requirements for State-assisted Construction Contracts.

### END OF INSTRUCTIONS TO BIDDERS



The City of Canton

## OWNER-CONTRACTOR AGREEMENT

***[Where Engineer is a Third Party Hired by Owner and  
Engineer Has Construction Administration Duties]***

**Owner:**

The City of Canton  
218 Cleveland Avenue SW  
Canton, OH 44702  
Telephone: 330.489.3283

**Contract:**

**Ordinance:** 50/2023  
**Alternates:**

**Contractor:**

Telephone:  
Fax:

**Project:** Fire Station No. 8 Renovation Project

This document is an agreement between the Owner and the Contractor for the Work described in the Contract Documents related to the Contract identified above for the Project defined above and is effective as of the date the Agreement is signed by the Owner (the "Effective Date").

The Owner and the Contractor agree as set forth in the following sections:

**1. CONTRACT DOCUMENTS.** The Contract Documents consist of the following documents:

- A. Legal Notice;
- B. Instructions to Bidders;
- C. Bid Form;
- D. Owner-Contractor Agreement;
- E. General Conditions of the Contract for Construction (EJCDC C-700), as modified;
- F. Supplementary Conditions (when applicable);
- G. Drawings;
- H. Specifications;
- I. Project Labor Agreement (if applicable)
- J. Addenda issued;
- K. Contractor's Personal Property Tax Affidavit (O.R.C. 5719.042);
- L. Statement of Claim Form; and
- M. Modifications issued after the execution of the contract, including:
  - i. A Change Order;
  - ii. A Work Change Directive; or,
  - iii. A written order for a minor change of the Work issued by the Owner or Engineer in accordance with the General Conditions.
- N. **Yes** When this line is checked by the Owner, e.g. with an "X" or other mark, the State of Ohio Department of Transportation, Construction and Material Specifications, effective as of January 1, 2019, will be a Contract Document, but only as modified by the document titled *ODOT Manual Supplement*, prepared by Owner.
- O. Project Labor Agreement (if applicable)

**1.1** Notwithstanding anything in the Contract Documents to the contrary, in the event of any inconsistency, the provisions of this Agreement shall control over any other Contract Document, proposal, document, or other attachment. In the event inconsistencies, conflicts, or ambiguities between or among the Contract Documents



## The City of Canton

are discovered after execution of the Agreement, Contractor shall provide the better quality or greater quantity of Work or comply with the more stringent requirements.

**Note: Non-Contract Documents.** The following are the reports and tests of subsurface conditions at or contiguous to the Site, if any, that the Engineer has used in preparing the Contract Documents. These are not Contract Documents. Geotechnical data is not a warranty of subsurface conditions and is not to be relied upon as a complete representation of all possible soil conditions. It is possible that there may be other reports, and/or tests of subsurface conditions at or contiguous to the Site not prepared by or on behalf of Owner. The Owner makes no representation about such reports and/or tests, assuming they exist. Additional information, if needed by Contractor for geotechnical data or site survey, shall be obtained by the Contractor at no additional cost to Owner. The General Conditions, as modified, contain additional terms related to these reports and tests.

Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings listed below, and except for such reliance on "technical data," Contractor shall not rely upon or make any claim against Owner or Engineer with respect to: (1) the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or (2) other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or (3) any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information. For example, all interpolations and extrapolations of data performed by Contractor to estimate locations or quantities of subsurface strata are independent factual assumptions which Owner does not warrant. (Not applicable, if none are listed).

**Note: Non-Contract Documents.** The following are those reports and drawings related to any Hazardous Conditions at the Site, if any. These are not Contract Documents. The General Conditions, as modified, contain additional terms related to these reports and drawings. (None if none are listed).

**2. ENGINEER RELATIONSHIP.** The Contract Documents shall not be construed to create a contractual relationship of any kind between the Engineer and the Contractor or any Subcontractor or Material Supplier to the Project. The Engineer, however, shall be entitled to performance of the obligations of the Contractor intended for its benefit and to enforcement of such obligations, but nothing contained herein shall be deemed to give the Contractor or any third party any claim or right of action against the Engineer that does not otherwise exist without regard to this Contract. The Contractor and its Subcontractors shall not be deemed to be beneficiaries of any of the acts or services of the Engineer that are performed for the sole benefit of the Owner. The Contractor shall forward all communications to the Owner through the Engineer and hereby acknowledges and agrees that any instructions, reviews, advice, approvals, orders, or directives that are rendered to it by the Engineer are specifically authorized and directed by the Owner to the Contractor through the Engineer acting on behalf of the Owner.

**Engineer will be performing construction administration duties as identified in the General Conditions, including, but not limited to: reviewing Applications for Payment, Change Proposals, Claims, and Shop Drawings; measuring Work quantities; and issuing Work Change Directives.**

**2.1** The Engineer is:

NA

NA

NA, NA NA



**3. TIME FOR COMPLETION AND PROJECT COORDINATION.**

**3.1 DATE OF COMMENCEMENT.** The date of commencement of the Work shall be the date identified in the Notice to Proceed issued by the Owner, or by the Owner through the Engineer, to the Contractor, or if there is no Notice to Proceed, the Effective Date of this Agreement.

**3.2 DATE OF SUBSTANTIAL COMPLETION.** The Project and Work for the Project consists of all labor, materials, equipment, and services necessary for construction of the Project, all in accordance with the Drawings and Specifications prepared by the Owner or Engineer. The Contractor shall achieve Substantial Completion of its Work on the Project, as defined in the General Conditions, within **60 calendar days** of the Date of Commencement ("Date of Substantial Completion"). Substantial Completion is the time at which the Work has progressed to the point where the Work is sufficiently complete, in accordance with the Contract Documents, so that the Work can be utilized for the purposes for which it is intended.

**3.2.1 DATE OF FINAL COMPLETION.** The Contractor shall achieve Final Completion of its Work on the Project, as defined in the General Conditions, within **30 calendar days** of the Date of Substantial Completion ("Date of Final Completion"). Final Completion shall mean that the Work is complete in accordance with the Contract Documents and the Contractor has submitted to the Owner or Engineer all documents required to be submitted to the Owner or Engineer for final payment.

**3.2.2 UTILITIES AND OPERATIONS.** Contractor shall not interrupt utilities to facilities or existing operations without prior written notice and approval by Owner.

**3.2.3 SHUTDOWN DATES.** Due to events scheduled by the Owner and/or other Owner considerations, Contractor will not be able to perform Work on the Project on the following dates (there are no shutdown dates if none are listed):

Contractor's Construction Schedule for performing the Work shall account for Contractor not being able to perform Work on these dates and the contractual dates for Substantial Completion and Final Completion will not be changed due to Contractor not being able to perform Work on these dates.

**3.3 CONSTRUCTION SCHEDULE.** The Construction Schedule shall be developed by the Contractor as provided in the Contract Documents.

**3.4 LIQUIDATED DAMAGES.** If the Contractor does not have its Work on the Project Substantially Complete by the specified Date for Substantial Completion or Finally Complete by the Date of Final Completion, the Contractor shall pay the Owner (and the Owner may set off from sums coming due the Contractor) Liquidated Damages in the per diem amounts as set forth in the following tables, whichever may be applicable. "Contract Amount" of the Work will be determined by totaling the cost of all line items of Work.

**LIQUIDATED DAMAGES – DATE FOR SUBSTANTIAL COMPLETION OF OVERALL PROJECT**

<b><u>Original Contract Amount</u></b>	<b><u>Dollars Per Day</u></b>
\$1.00 to \$500,000.00	\$ 750.00
\$500,000.01 to \$2,000,000.00	\$ 1,000.00
\$2,000,000.01 to \$10,000,000.00	\$ 1,300.00
\$10,000,000.01 to \$50,000,000.00	\$ 2,000.00
\$50,000,000.01 and greater	\$ 2,500.00

**LIQUIDATED DAMAGES – FINAL COMPLETION**





## The City of Canton

<u>Original Contract Amount</u>	<u>Dollars Per Day</u>
\$1.00 to \$500,000.00	\$ 200.00
\$500,000.01 to \$2,000,000.00	\$ 250.00
\$2,000,000.01 to \$10,000,000.00	\$ 325.00
\$10,000,000.01 to \$50,000,000.00	\$ 500.00
\$50,000,000.01 and greater	\$ 625.00

**LIQUIDATED DAMAGES FOR SUBSTANTIAL COMPLETION FOR ANY INTERIM MILESTONE SCOPE WILL BE \$1,000 PER DAY FOR EACH DAY OF UNEXCUSED DELAY BEYOND THE MILESTONE.**

The Contractor acknowledges that such amounts of Liquidated Damages represent a reasonable estimate of the actual damages for loss of or interference with the intended use of the Project that the Owner would incur if the Contractor's Work is not Substantially Complete by its Date for Substantial Completion or Finally Complete by the required date for Final Completion.

**4. CONTRACT SUM (also called Contract Price).** The Contract Sum to be paid by the Owner to the Contractor, as provided herein, for the satisfactory performance and completion of the Work and all of the duties, obligations, and responsibilities of the Contractor under this Agreement and the other Contract Documents is , subject to adjustment as set forth in the Contract Documents. The Contract Sum includes Allowances, Accepted Alternates, and all federal, state, county, municipal, and other taxes imposed by law, including but not limited to any sales, use, commercial activity, and personal property taxes payable by or levied against the Contractor on account of the Work or the materials incorporated into the Work. The Contractor will pay any such taxes. The Contract Sum includes the following:

**4.1** Base Bid Amount: (Lump Sum Bid); and

**4.2** Accepted Alternates, included in the Contract Sum:

<b>Alternate No.</b>	<b>Description</b>	<b>Amount</b>
1	NA	
2	NA	

**4.3** Allowances included in the Contract Sum:

<b>Allowance Description</b>	<b>Amount</b>
Allowance #1: General Contractor to include General Purpose Construction Allowance	\$20,000.00
Allowance #2: NA	

**4.4** If after Substantial Completion of its Work, the Contractor fails to submit its final payment application with all the documents required to be submitted with such application within ninety (90) days after written notice to do so from the Owner and without prejudice to any other rights and remedies the Owner may have available to it, the balance of the Contract Sum shall become the Owner's sole and exclusive property, and the Contractor shall have no further interest in or right to such balance.

**5. RETAINAGE.** Retainage applicable to the Contract by Ohio Revised Code Sections 153.12, .13, and .14 will be withheld as defined in the Modified General Conditions. The Contractor agrees that the financial institution selected by the Owner for deposit of retained funds is acceptable to the Contractor and will sign any documents requested related to said account.

**6. GENERAL.**





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**6.1 MODIFICATION.** No modification or waiver of any of the terms of this Agreement or of any other Contract Documents will be effective against a party unless set forth in writing and signed by or on behalf of a party. In the case of the Owner, the person executing the modification or waiver must have express authority to execute the Modification on behalf of the Owner pursuant to a resolution that is duly adopted by the Owner. Under no circumstances will forbearance, including the failure or repeated failure to insist upon compliance with the terms of the Contract Documents, constitute the waiver or modification of any such terms. The parties acknowledge that no person has authority to modify this Agreement or the other Contract Documents or to waive any of its or their terms, except as expressly provided in this section.

**6.2 ASSIGNMENT.** The Contractor may not assign this Agreement without the written consent of the Owner, which the Owner may withhold in its sole discretion.

**6.3 LAW AND JURISDICTION.** All questions regarding the validity, intention, or meaning of this Agreement or any modifications of it relating to the rights and obligation of the parties will be construed and resolved under the laws of the State of Ohio. Any suit, which may be brought to enforce any provision of this Agreement or any remedy with respect hereto, shall be brought in the Common Pleas Court of the county in which the Project is located and each party hereby expressly consents to the exclusive jurisdiction of such court to the exclusion of any other court, including any U.S. District Court or any other federal court.

**6.4 CONSTRUCTION.** The parties acknowledge that each party has reviewed this Agreement and the other Contract Documents and entered into this Agreement as a free and voluntary act. Accordingly, the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party will not be employed in the interpretation of this Agreement, the other Contract Documents, or any amendments or exhibits to it or them.

**6.5 APPROVALS.** Except as expressly provided herein, the approvals and determinations of the Owner and Engineer will be subject to the sole discretion of the respective party and be valid and binding on the Contractor, provided only that they be made in good faith, i.e., honestly. If the Contractor challenges any such approval or determination, the Contractor has the burden of proving that it was not made in good faith by clear and convincing evidence.

**6.6 PARTIAL INVALIDITY.** If any term or provision of this Agreement is found to be illegal, unenforceable, or in violation of any laws, statutes, ordinances, or regulations of any public authority having jurisdiction, then, notwithstanding such term or provision, this Agreement will remain in full force and effect and such term will be deemed stricken; provided this Agreement will be interpreted, when possible, so as to reflect the intentions of the parties as indicated by any such stricken term or provision.

**6.7 COMPLIANCE WITH LAWS AND REGULATIONS.** The Contractor, at its expense, will comply with all applicable federal, state, and local laws, rules, and regulations applicable to the Work, including but not limited to Chapter 4115 of the Ohio Revised Code and Sections 153.59 and 153.60 of the Ohio Revised Code, which prohibit discrimination in the hiring and treatment of employees, with respect to which the Contractor agrees to comply and to require its subcontractors to comply.

**6.7.1 NON-DISCRIMINATION.** Contractor agrees:

- .1 That in the hiring of employees for the performance of Work under this Agreement or in any subcontract, neither the Contractor, subcontractor, or any person acting on behalf of either of them, shall by reason of race, creed, sex, disability as defined in Section 4112.01 of the Ohio Revised Code, or color discriminate against any citizen of the state in the employment of labor or workers who are qualified and available to perform the Work to which the employment relates.
- .2 That neither the Contractor, subcontractor, nor any person acting on behalf of either of them shall, in any manner, discriminate against or intimidate any employee hired for the performance of Work under this Agreement on account of race, creed, sex, disability as defined in Section 4112.01 of the Ohio Revised Code, or color.



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.3 That there shall be deducted from the amount payable to the Contractor by the Owner under this Agreement a forfeiture of twenty-five dollars (\$25.00) as required by Ohio Revised Code Section 153.60 for each person who is discriminated against or intimidated in violation of this Agreement.

.4 That this Agreement may be canceled or terminated by the Owner and all money to become due hereunder may be forfeited for a second or subsequent violation of the terms of this section of this Agreement.

**6.7.2 PREVAILING WAGE RATES.** The Contractor and its subcontractors, regardless of tier, shall strictly comply with their obligation, if any, to pay their employees working on the Project site at the applicable prevailing wage rates for the type of work, including any changes thereto, pursuant to Ohio Revised Code Chapter 4115 or Davis Bacon rates and requirements.

**6.7.3 ETHICS.** By signing and entering into this agreement with the Owner, the Contractor represents that it is familiar with all applicable ethics law requirements, including without limitation Sections 102.04 and 3517.13 of the Ohio Revised Code, and certifies that it is in compliance with such requirements. The Contractor understands that failure to comply with the ethics laws is, in itself, grounds for termination of this contract and may result in the loss of other contracts with the Owner.

**6.8 JOB MEETINGS.** The Contractor or one of its representatives with authority to bind the Contractor will attend all job meetings. The Owner anticipates that job meetings will be scheduled on a weekly basis during construction or as needed. The Contractor will ensure that its Subcontractors also hold regular job meetings at which safety issues and job matters are discussed as these relate to the Work being performed. Job meetings include, but are not limited to, pre-construction meetings, weekly job meetings, weekly safety tool box meetings, and monthly safety meetings.

**6.9 PROPERTY TAX AFFIDAVIT.** The Contractor's affidavit given under Section 5719.024, Ohio Revised Code, is incorporated herein.

**6.10 WARRANTIES.** Notwithstanding anything to the contrary in the Contract Documents, including the Project Manual and Specifications, no warranties by Contractor shall be limited to any time shorter than the statute of limitations for written contracts in Ohio.

**6.11 CONTRACTOR ATTESTATIONS.**

.1 Contractor attests that it has not scaled these contract documents to determine quantities for bids, as Contractor has field verified and taken its own dimensions to determine the quantities for its bid.

.2 Contractor agrees that all the scales noted on the drawings are correct; so as to give it an "intent" of what is to be bid. Contractor has not relied on any other dimensions than what are noted in text and dimension lines.

.3 Contractor has thoroughly read the Contract Documents and has asked any and all questions it has on the intent of the scope of work, or supposed errors and omissions contained in these drawings, during the bid process and prior to signing this Agreement.

.4 Contractor will not be asserting a claim for additional time or money associated with the three issues listed above.

.5 Contractor believes it has accurately interpreted the Contract Documents and has asked for clarification and received satisfactory response for all items not thoroughly addressed or appeared to be conflicting in the Contract Documents and has found all stipulations and requirements contained in this Agreement are as stated in the bid specifications and are enforceable according to Ohio Law, including but not limited to the Owner's right of offset, and the Owner's right to assess liquidated damages for work not completed according to the milestones listed on the project schedule contained in the Contract Documents.



## The City of Canton

**6.12 ENTIRE AGREEMENT.** This Agreement and the other Contract Documents constitute the entire agreement among the parties with respect to their subject matter and will supersede all prior and contemporaneous, oral or written, agreements, negotiations, communications, representations, and understandings with respect to such subject matter, and no person is justified in relying on such agreements, negotiations, communications, representations, or understandings.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their properly authorized representatives and agree that this Agreement is effective as of the date first set forth above.

Owner:

**The City of Canton**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Contractor:

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_



The City of Canton

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CERTIFICATE  
(Section 5705.41, R.C.)

The undersigned, fiscal officer of the Owner, certifies that the moneys required to pay that part of the Contract Sum coming due during the current fiscal year, under the Agreement to which this Certificate is attached have been lawfully appropriated for such purpose and are in the appropriate account of the Owner, or in the process of collection to the credit of the appropriate account or fund, free from any previous encumbrances. Moneys due in excess of the Contract Sum shall require an additional and separate Fiscal Officer's Certificate.

DATED: \_\_\_\_\_

\_\_\_\_\_  
Fiscal Officer



The City of Canton

## BID GUARANTY AND CONTRACT BOND

(O.R.C. § 153.571)

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned \_\_\_\_\_  
\_\_\_\_\_ ("Contractor") as principal and \_\_\_\_\_  
\_\_\_\_\_ as surety are hereby held and firmly bound unto the **City of Canton** as  
obligee in the penal sum of the dollar amount of the bid submitted by the principal to the obligee on \_\_\_\_\_  
\_\_\_\_\_, 20\_\_\_\_, to undertake the construction of the **Fire Station No. 8 Renovation Project**  
**Project** ("Project"). The penal sum referred to herein shall be the dollar amount of the principal's bid to  
the obligee, incorporating any additive or deductive Alternates made by the principal on the date referred  
to above to the obligee, which are accepted by the obligee. In no case shall the penal sum exceed the  
amount of \_\_\_\_\_ Dollars (\$\_\_\_\_\_). (If the foregoing  
blank is not filled in, the penal sum will be the full amount of the principal's bid, including add Alternates.  
Alternatively, if the blank is filled in the amount stated must not be less than the full amount of the bid  
including add Alternates, in dollars and cents. A percentage is not acceptable.) For the payment of the  
penal sum well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors,  
administrators, successors, and assigns.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH that whereas the above named principal has  
submitted a bid for work on the Project.

Now, therefore, if the obligee accepts the bid of the principal and the principal fails to enter into a  
proper contract in accordance with the bid, plans, details, specifications, and bills of material; and in the  
event the principal pays to the obligee the difference not to exceed ten percent (10%) of the penalty  
hereof between the amount specified in the bid and such larger amount for which the obligee may in good  
faith contract with the next lowest bidder to perform the work covered by the bid; or in the event the  
obligee does not award the contract to the next lowest bidder and resubmits the project for bidding, the  
principal pays to the obligee the difference not-to-exceed ten percent (10%) of the penalty hereof  
between the amount specified in the bid, or the costs, in connection with the resubmission, of printing new  
contract documents, required advertising, and printing and mailing notices to prospective bidders,  
whichever is less, then this obligation shall be null and void, otherwise to remain in full force and effect; if  
the obligee accepts the bid of the principal and the principal within ten (10) days after the awarding of the  
contract enters into a proper contract in accordance with the bid, plans, details, specifications, and bills of  
material, which said contract is made a part of this bond the same as though set forth herein.

Now also, if the said principal shall well and faithfully do and perform the things agreed by said  
principal to be done and performed according to the terms of said contract; and shall pay all lawful claims  
of subcontractors, materialmen, and laborers, for labor performed and materials furnished in the carrying  
forward, performing, or completing of said contract; we agreeing and assenting that this undertaking shall  
be for the benefit of any materialman or laborer having a just claim, as well as for the obligee herein; then  
this obligation shall be void; otherwise the same shall remain in full force and effect; and surety shall  
indemnify the obligee against all damage suffered by failure of the principal to perform the contract  
according to its provisions and in accordance with the plans, details, specifications, and bills of material  
therefor and to pay all lawful claims of subcontractors, materialmen, and laborers for labor performed or  
material furnished in carrying forward, performing, or completing the contract and surety further agrees  
and assents that this undertaking is for the benefit of any subcontractor, materialman, or laborer having a  
just claim, as well as for the obligee; it being expressly understood and agreed that the liability of the  
surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as  
herein stated.

The said surety hereby stipulates and agrees that no modifications, omissions, or additions in or  
to the terms of the said contract or in or to the plans or specifications therefore shall in any wise affect the



## The City of Canton

obligations of said surety on its bond, and does hereby waive notice of any such modifications, omissions or additions to the terms of the contract or to the work or to the specifications.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

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### PRINCIPAL

By: \_\_\_\_\_

Printed Name & Title: \_\_\_\_\_

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### SURETY

By: \_\_\_\_\_

Printed Name & Title: \_\_\_\_\_

Surety's Address: \_\_\_\_\_

Surety's Telephone Number: \_\_\_\_\_

Surety's Fax Number: \_\_\_\_\_

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### SURETY'S AGENT

Surety's Agent's Address: \_\_\_\_\_

Surety's Agent's Telephone Number: \_\_\_\_\_

Surety's Agent's Fax Number: \_\_\_\_\_



**NOTE: The Contract Bond form that follows is to be used ONLY by a bidder that is awarded a contract and submits a form of bid guaranty other than the combined Bid Guaranty and Contract Bond with its bid. If a bidder submits a combined Bid Guaranty and Contract Bond, then the bid guaranty becomes the contract bond when the contract is awarded.**

**AIA and EJCDC Bid Bond or Payment and Performance Bond forms are not acceptable for this Project.**



The City of Canton

**CONTRACT BOND**  
(O.R.C. § 153.57)

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned ("Contractor"), as principal, and \_\_\_\_\_, as surety, are hereby held and firmly bound unto the **City of Canton** ("Owner") as obligee, in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), for the payment of which well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH that whereas, the above-named principal did on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, enter into a contract with the Owner for construction of the **Fire Station No. 8 Renovation Project Project** ("Project"), which said contract is made a part of this bond the same as though set forth herein:

Now, if the said Contractor shall well and faithfully do and perform the things agreed by the Contractor to be done and performed according to the terms of said contract; and shall pay all lawful claims of subcontractors, materialmen, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said contract; we agreeing and assenting that this undertaking shall be for the benefit of any materialman or laborer having a just claim, as well as for the obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

The said surety hereby stipulates and agrees that no modifications, omissions, or additions in or to the terms of the said contract or in or to the plans or specifications therefore shall in any wise affect the obligations of said surety on its bond, and does hereby waive notice of any such modifications, omissions or additions to the terms of the contract or to the work or to the specifications.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(PRINCIPAL)

\_\_\_\_\_  
(SURETY)

By: \_\_\_\_\_

By: \_\_\_\_\_

Printed Name & Title: \_\_\_\_\_  
\_\_\_\_\_

Printed Name & Title: \_\_\_\_\_  
\_\_\_\_\_

Surety's Address: \_\_\_\_\_  
\_\_\_\_\_

Surety's Telephone Number: \_\_\_\_\_

Surety's Fax Number: \_\_\_\_\_

\_\_\_\_\_  
NAME OF SURETY'S AGENT

Surety's Agent's Address: \_\_\_\_\_  
\_\_\_\_\_

Surety's Agent's Telephone Number: \_\_\_\_\_

Surety's Agent's Fax Number: \_\_\_\_\_





The City of Canton

## BID FORM

**1.01 BID SUBMITTED BY:**

\_\_\_\_\_  
(Contractor)

Date bid submitted: \_\_\_\_\_

**1.02 DELIVER TO:**

The City of Canton  
ATTN: **Purchasing/Bids**  
218 Cleveland Avenue SW  
Canton, OH 44702

**1.03** Having carefully reviewed the Instructions to Bidders, Drawings, Specifications and other Contract Documents for the Project titled **Fire Station No. 8 Renovation Project** including having also received, read, and taken into account the following Addenda:

Addendum No.	Dated
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

and likewise having inspected the site and the conditions affecting and governing the Project, the undersigned hereby proposes to furnish all materials and to perform all labor, as specified and described in the said Specifications and/or as shown on the said Drawings for all Work necessary to complete the Project on a timely basis and in accordance with the Contract Documents regardless of whether expressly provided for in such Specifications and Drawings.

**1.04** Before completing the Bid Form, the undersigned represents that it has carefully reviewed the Legal Notice to Bidders, Instructions to Bidders, this Bid Form, Form of Bid Guaranty and Contract Bond, Contractor's Affidavit (O.R.C. 5719.042), Owner-Contractor Agreement, General Conditions of the Contract (EJCDC C-700) (as modified for the Project), Drawings, Project Specifications, and other Contract Documents. Failure to comply with provisions of the Contract Documents may be cause for disqualification of the bid.

**1.05 BONDS AND CONTRACT:** If the undersigned is notified of bid acceptance, it agrees to furnish required bonds as indicated in the Instructions to Bidders.

**1.06 COMPLETION OF WORK:** In submitting a bid, the undersigned agrees to execute the Owner-Contractor Agreement in the form included in the Contract Documents and to complete its Work as required by the Contract Documents.

**NOTE A:** The wording of the Bid Form shall be used throughout, without change, alteration, or addition. Any change may cause it to be rejected.

**NOTE B:** Bidder is cautioned to bid only on the Brands or Standards specified.

**NOTE C:** If there is an inconsistency or conflict in the Bid amount, the lowest amount shall control, whether expressed in numbers or words.



## The City of Canton

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### **2.01 BID:**

Include the cost of all labor and material for the contract listed below. Bidder is to fill in all blanks related to the Bid Package for which a bid is being submitted. If no bid is submitted for an item, leave the item blank or insert "NO BID" in the blank. For alternate items, indicate whether the amount stated is in addition to or a deduction from the base bid amount (if there is no indication whether the amount for an alternate is an addition or a deduction, the amount shall be a deduction).

### **2.02 Bidder will complete the Work in accordance with the Contract Documents for the prices set forth in the attached Bid Schedule.**

### **3.01 INSTRUCTIONS FOR SIGNING**

- A. The person signing for a sole proprietorship must be the sole proprietor or his authorized representative. The name of the sole proprietor must be shown below.
- B. The person signing for a partnership must be a partner or his authorized representative.
- C. The person signing for a corporation must be the president, vice president or other authorized representative; or he must show authority, by affidavit, to bind the corporation.
- D. The person signing for some other legal entity must show his authority, by affidavit, to bind the legal entity.

### **4.01 BIDDER CERTIFICATIONS.** The Bidder hereby acknowledges that the following representations in this bid are material and not mere recitals:

- 1. **The Bidder acknowledges that this is a public project involving public funds, and that the Owner expects and requires that each successful Bidder adhere to the highest ethical and performance standards. The Bidder by submitting its bid pledges and agrees that (a) it will act at all times with absolute integrity and truthfulness in its dealings with the Owner and the Design Professional, (b) it will use its best efforts to cooperate with the Owner and the Design Professional and all other Contractors on the Project and at all times will act with professionalism and dignity in its dealings with the Owner, Design Professional and other Contractors, (c) it will assign only competent supervisors and workers to the Project, each of whom is fully qualified to perform the tasks that are assigned to him/her, and (d) it has read, understands and will comply with the terms of the Contract Documents.**
- 2. The Bidder represents that it has had a competent person carefully and diligently review each part of the Contract Documents, including any Divisions of the Specifications and parts of the Drawings that are not directly applicable to the Work on which the Bidder is submitting its bid. By submitting its bid, each Bidder represents and agrees, based upon its careful and diligent review of the Contract Documents, that it is not aware of any conflicts, inconsistencies, errors or omissions in the Contract Documents for which it has not notified the Owner in writing at least ten (10) days prior to the bid opening. If there are any such conflicts, inconsistencies, errors or omissions in the Contract Documents, the Bidder (i) will provide the labor, equipment or materials of the better quality or greater quantity of Work; and/or (ii) will comply with the more stringent requirements. The Bidder will not be entitled to any additional compensation for any conflicts, inconsistencies, errors or omissions that would have been discovered by such careful and diligent review, unless it has given such prior written notice to Owner.
- 3. The Bidder represents that it has had a competent person carefully and diligently inspect and examine the entire site for the Project and the surrounding area, including all parts of the site applicable to the Work for which it is submitting its bid, and carefully correlate the results of the inspection with the requirements of the Contract Documents. The Bidder agrees that its bid shall include all costs attributable to site and surrounding area conditions that would have been



## The City of Canton

discovered by such careful and diligent inspection and examination of the site and the surrounding area, and the Bidder shall not be entitled to any Change Order, additional compensation, or additional time on account of conditions that could have been discovered by such an investigation.

4. The Bidder represents, understands and agrees that a) the Claim procedures in the General Conditions as modified for the Project are material terms of the Contract Documents, b) if it has a Claim, it will have its personnel provide complete and accurate information to complete and submit the Statement of Claim form on a timely basis, c) the proper completion and timely submission of a Statement of Claim form is a condition precedent to any change in the Contract Sum or the Contract Time(s), and d) the proper and timely submission of the Statement of Claim form provides the Owner with necessary information so that the Owner may investigate the Claim and mitigate its damages.
5. The Bidder represents that the bid contains the name of every person interested therein and is based upon the Standards specified by the Contract Documents.
6. The Bidder and each person signing on behalf of the Bidder certifies, and in the case of a bid by joint venture, each member thereof certifies as to such member's entity, under penalty of perjury, that to the best of the undersigned's knowledge and belief: (a) the Base Bid, any Unit Prices and any Alternate bid in the bid have been arrived at independently without collusion, consultation, communication or agreement, or for the purpose of restricting competition as to any matter relating to such Base Bid, Unit Prices or Alternate bid with any other Bidder; (b) unless otherwise required by law, the Base Bid, any Unit Prices and any Alternate bid in the bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to the bid opening, directly or indirectly, to any other Bidder who would have any interest in the Base Bid, Unit Prices or Alternate bid; (c) no attempt has been made or will be made by the Bidder to induce any other Person to submit or not to submit a bid for the purpose of restricting competition; and (d) the statements made in this Bid Form are true and correct.
7. The Bidder will execute the form of Owner/Contractor Agreement in the form included with the Contract Documents, if a Contract is awarded on the basis of this bid, and if the Bidder does not execute the Contract Form for any reason, other than as authorized by law, the Bidder and the Bidder's Surety are liable to the Owner.
8. The Bidder certifies that the upon the award of a Contract, the Contractor will ensure that all of the Contractor's employees, while working on the Project site, will not purchase, transfer, use or possess illegal drugs or alcohol or abuse prescription drugs in any way.
9. The Bidder agrees to furnish any information requested by the Owner's authorized representative to evaluate that the Bidder has submitted the lowest and best bid and that the bid is responsive to the specifications.
10. The Bidder certifies that it has no unresolved findings for recovery issued by the Auditor of State.
11. The Bidder certifies that it is aware of and in compliance with the requirements of Ohio Revised Code Section 3517.13 regarding campaign contributions.

LEGAL NAME OF BIDDER: \_\_\_\_\_

BIDDER IS (check one): ☐ sole proprietor ☐ partnership ☐ corporation ☐ other legal entity



## The City of Canton

NAME & TITLE OF PERSON LEGALLY AUTHORIZED TO BIND BIDDER TO A CONTRACT:

Name	Title
DATE SIGNED: _____	SIGNATURE: _____
	ADDRESS: _____
	TELEPHONE: _____
	FAX: _____
	FEDERAL TAX I.D. # _____

When the Bidder is a partnership or a joint venture, state name and address of each partner in the partnership or participant in the joint venture below:

_____	_____
Name	Address
_____	_____
Name	Address
_____	_____
Name	Address
_____	_____
Name	Address
_____	_____
Name	Address

END OF SECTION



The City of Canton

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**CONTRACTOR'S QUALIFICATION STATEMENT**  
Fire Station No. 8 Renovation Project Project

SUBMITTED TO: The City of Canton  
ATTN: **Purchasing/Bids**  
218 Cleveland Avenue SW  
Canton, OH 44702

SUBMITTED BY: \_\_\_\_\_

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PRINCIPAL OFFICE: \_\_\_\_\_

- ☐ Corporation
- ☐ Partnership
- ☐ Individual
- ☐ Joint Venture
- ☐ Other

NAME OF PROJECT: Fire Station No. 8 Renovation Project Project

**1. ORGANIZATION**

- 1.1 How many years has your organization been in business as a Contractor in the construction industry?
- 1.2 How many years has your organization been in business under its present business name?
- 1.2.1 Under what other or former names has your organization operated?
- 1.3 If your organization is a corporation, answer the following:
- 1.3.1 Date of incorporation:
- 1.3.2 State of incorporation:
- 1.3.3 President's name:
- 1.3.4 Vice President's name(s):
- 1.3.5 Secretary's name:
- 1.3.6 Treasurer's name:
- 1.4 If your organization is a partnership, answer the following:



## The City of Canton

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- 1.4.1 Date of organization:
- 1.4.2 Type of partnership (if applicable):
- 1.4.3 Name(s) of general partner(s):
- 1.5 If your organization is individually owned, answer the following:
  - 1.5.1 Date of organization:
  - 1.5.2 Name of owner:
- 1.6 If the form of your organization is other than those listed above, describe it and name the principals:

## 2. LICENSING

- 2.1. List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable.
- 2.2. List jurisdictions in which your organization's partnership or trade name is filed.
- 2.3. List any suspension or revocations of any professional license of any director, officer, owner, or managerial employees of the Contractor, to the extent that any work to be performed on this Project is within the field of such licensed profession.

## 3. EXPERIENCE

- 3.1. List the categories of work that your organization normally performs with its own forces.
- 3.2. Claims and Lawsuits (If the answer to any of the questions below is yes, please attach details.)
  - 3.2.1. Has your organization ever failed to complete any work?
  - 3.2.2. Has your organization ever failed to complete any work by the substantial completion date, final completion date, or in a timely manner?
  - 3.2.3. Within the last five (5) years has your organization or any of its officers prosecuted any Claims, had any Claims prosecuted against it or them, or been involved in or is currently involved in any mediation or arbitration proceedings or lawsuits related to any construction project, or has any judgments or awards outstanding against it or them? Has your organization had any extension requests, fines and penalties imposed, or contract defaults? If the answer is yes, please attach the details for each Claim, including the names and telephone numbers of the persons who are parties, the amount of the Claim, the type of Claim and the basis for the Claim, and the outcome.

Note: As used in this document "Claim" means a Claim initiated under the Contract Documents for a project or relating to the Work for a project, including Claims made against performance bonds secured by the Contractor on other construction projects.
- 3.3. Has your organization ever failed to comply with federal, state, and local laws, rules, and regulations, including but not limited to the Occupational Safety and Health Act, the Ohio Prevailing Wage laws, and Ohio ethics laws? If the answer is yes, please attach details and reason(s) for each instance and the outcome including any fines or penalties imposed.
- 3.4. Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? If the answer is yes, please attach details for each instance, including the names and telephone numbers of the persons who are parties to the contract, and the reason(s) the contract was not completed.



## The City of Canton

- 3.5. On a separate sheet, list construction projects your organization has in progress with an original Contract Sum of more than \$10,000,000, giving the name of project, owner and its telephone number, design professional and its telephone number, contract amount, percent complete and scheduled completion date.

3.5.1. State total amount of work in progress and under contract:

- 3.6. Provide the following information for each contract your organization has had during the last five (5) years, including current contracts, where the Contract Sum is fifty percent (50%) or more of the bid amount for this Project, including add alternates. Include details regarding timeliness of performance and quality of work. List the original contract price for each project, the amount of any change orders or cost overruns on each, the reasons for the change orders or cost overruns, and your organization's record for complying with and meeting completion deadlines on construction projects. If there are more than ten (10) of these contracts, only provide information on the most recent ten (10) contracts, including current contracts.

Project And Work	Contract Sum	Owner's Representative & Telephone Number	Engineer's Or Architect's Representative Name & Telephone Number	Additional Comments



## The City of Canton

- 3.7. Provide the following information for each project your organization has had during the last five (5) years, which your organization believes is of comparable or greater size and complexity than the Owner's project. Include details regarding how such projects demonstrate your organization's ability and capacity to perform a substantial portion of the Project with its own work force. If there are more than five (5) of these projects, only provide information on the most recent five (5) projects, including current projects.

Project And Work	Contract Sum	Owner's Representative & Telephone Number	Engineer's Or Architect's Representative Name & Telephone Number	Additional Comments

- 3.7.1. State average annual amount of construction work your organization has performed during the last five years.
- 3.7.2. If any of the following members of your organization's management -- president, chairman of the board, or any director -- operates or has operated another construction company during the last five (5) years, identify the member of management and the name of the construction company.
- 3.7.3. If your organization is operating under a trade name registration with the Secretary of State for the State of Ohio, identify the entity for which the trade name is registered. If none, state "none."
- 3.7.4. If your organization is a division or wholly-owned subsidiary of another entity or has another relationship with another entity, identify the entity of which it is a division or wholly-owned subsidiary or with which it has another relationship and also identify the nature of the relationship. If none, state "not applicable."
- 3.8. On a separate sheet, list the construction education, training, construction experience, and tenure with your organization for each person who will fill a management role on the Project, including without limitation the Project Executive, Project Engineer, Project Manager, and Project Superintendent. For each person listed, include with the other information the last three projects on which the person worked and the name and telephone number of the Design Professional and the Owner.
- 3.9. Describe the size and experience of your organization's work force and your equipment and facilities, in relation to your organization's ability to complete the Project successfully and on time.

## 4. REFERENCES

- 4.1. Trade References:
- 4.2. Bank References:
- 4.3. Surety:
- 4.3.1. Name of bonding company:
- 4.3.2. Name and address of agent:





## The City of Canton

### 5. FINANCING

#### **5.1 Financial Statement (May be required, but only post-bid. Not a requirement to provide with bid.)**

- 5.1.1 Attach a financial statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items:

Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses);

Net Fixed Assets;

Other Assets;

Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes); and

Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).

- 5.1.2 Name and address of firm preparing attached financial statement, and date thereof.

- 5.1.3 Is the attached financial statement for the identical organization named on page one?

- 5.1.4 If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent-subsidary).

- 5.2 Will the organization whose financial statement is attached act as guarantor of the contract for construction?

- 5.3 Attach additional documentation or explanations demonstrating your organization's financial responsibility, adequate resources and availability of credit, its means and ability to procure insurance and acceptable performance bonds required for the Project.

6. Does your organization participate in a drug-free workplace program? Provide your organization's record for both resolved and unresolved findings of the Auditor of the State of Ohio for recovery as defined in Section 9.24 of the Ohio Revised Code.
7. List any projects within the previous five years where a public entity determined that your organization was not a responsible bidder, including the name of the public entity, the reasons given by the public entity, and an explanation thereof.
8. Additional Criteria. Pursuant to the Codified Ordinance of the City of Canton, Chapter 105, the Owner, in its discretion, reserves the right to request additional information and documentation relating to the foregoing and related to any of the criteria listed in Paragraph I.6 of the Instructions to Bidders from Bidders after the bid opening. The Owner may consider such information and documentation in determining which bid is lowest and best. The Owner, in its discretion, may consider and give such weight to any and all criteria as it deems appropriate.

[left intentionally blank]



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**Certification.** The undersigned certifies for the reliance of the Owner that after diligent investigation, to the best of the undersigned's belief, the information provided with this Contractor's Qualification Statement is true, accurate and not misleading.

*SIGNATURE:*

Dated this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

Name of  
Organization: \_\_\_\_\_

By: \_\_\_\_\_  
[print name]

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

State of \_\_\_\_\_

County of \_\_\_\_\_

\_\_\_\_\_, being duly sworn, deposes and says that the information provided herein is true and sufficiently complete so as not to be misleading.

Subscribed and sworn before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

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The City of Canton

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### **Modified General Conditions (EJCDC)**

Please go to this [link](#) for the document or enter the following link information into a web browser:

<https://cantonohio.gov/DocumentCenter/View/596/Modified-Standard-General-Conditions-of-the-Construction-Contract---3rd-Party-Engineer>



## ODOT MANUAL SUPPLEMENT

This Supplement shall apply where and to the extent that the State of Ohio Department of Transportation Construction and Material Specifications, in the current version as of January 1, 2019, is expressly incorporated into the Contract Documents via the Owner-Contractor Agreement, or when designated as a Contract Document in the list of Contract Documents in the Owner-Contractor Agreement, or is referenced anywhere else in the Contract Documents as one of the Contract Documents.

1. **Regardless of any terms to the contrary in Division 100 or elsewhere, any directions or orders of the Engineer that will result in an adjustment of the Contract Price or the Contract Time shall require the prior written approval of the Owner. It is expressly understood and agreed that the Engineer does not have authority to authorize changes or modifications in the Contract Price or Contract Time.**
2. The Contractor's obligations under this ODOT Supplement are in addition to and not in limitation of its other obligations under the Contract Documents.
3. **Delays.** Regardless of the terms in this ODOT Supplement, including Item 109.05, all time adjustments shall be subject to a) filing a Change Proposal and / or Claim in accordance with Articles 11 and 12 of the Modified Standard General Conditions **of the Contract for Construction (EJCDC C-700, 2013 edition) ("Modified Standard General Conditions")**, b) substantiating the Contractor's entitlement to a time adjustment in accordance with the Modified Standard General Conditions and c) Item 109.05. The Contractor will be entitled to additional compensation for delays but only for those delays described in the Modified Standard General Conditions. As part of the Claims process and as a condition precedent to receiving any additional compensation, the Contractor shall prepare a cost analysis as allowed by Item 109.05.D substantiating its entitlement to additional compensation.
4. **Division 100, General Provisions.** The following Division 100 General Provisions of the State of Ohio Department of Transportation, Construction Specifications Manual in the current version as of January 31, 2019, are incorporated in this ODOT Supplement, subject to any changes or limitations herein.
  - a. **Item 101.01, General.**
  - b. Item 101.02, Abbreviations, provided that references to DCA, DDD, DET, DGE shall mean the Owner.
  - c. Item 101.03, Definitions, provided where terms that are defined in the other Contract Documents, the definition in the other Contract Documents shall control, and further provided that the following definitions are deleted, modified and/or added:
    - i. Claims is deleted
    - ii. Contract Bond is deleted.
    - iii. Contract Documents is deleted.
    - iv. Contract Price is deleted.
    - v. Contract Time is deleted.
    - vi. Contractor is deleted.
    - vii. Department shall mean the Owner.
    - viii. Director shall mean the Owner's representative.
    - ix. Disputes is deleted.
    - x. Engineer is deleted.



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- xi. Extra Work Contract is deleted.
- xii. Final Acceptance shall mean Final Completion as defined in the Owner Contractor Agreement.
- xiii. Final Inspector shall mean the Owner.
- xiv. Laboratory is deleted.
- xv. Prebid Question is deleted.
- xvi. Proposal Guaranty is deleted.
- xvii. Questionnaire is deleted.
- xviii. Shop Drawings is deleted.
- xix. Signatures on Contract Documents is deleted.
- xx. State or state shall mean the Owner.
- xxi. Subcontractor is deleted.
- xxii. Work is deleted.
- d. **Item 101.04, Interpretations.**
- e. Item 103.03, Cancellation of Award.
- f. Item 104.02.D.2, Significant Changes in the Character of the Work (including Tables 104.02-1 and 104.02-2 following this Item), provided that all references to Item 108 and 109.12 are deleted and that all time adjustments shall be subject to filing a Change Proposal and / or Claim in accordance with the Modified Standard General Conditions and substantiating the entitlement to an extension of time as provided in the Modified Standard General Conditions (EJCDC Document C-700, 2013 edition) ("Modified Standard General Conditions").
- g. Item 104.03, Rights in and Use of Materials Found on the Work.
- h. Item 104.04, Cleaning Up.
- i. Item 105.02, Plans and Working Drawings, provided that the review of submittals may be by the Owner or the Engineer in the Owner's discretion.
- j. Item 105.06, Superintendent.
- k. Item 105.10, Inspection of Work.
- l. Item 105.11, Removal of Defective and Unauthorized Work.
- m. Item 105.12, Load Restrictions.
- n. Item 105.13, Haul Roads, provided that the second paragraph in this Item is deleted. The Contractor shall be responsible for any damage to the roads referred to in the second paragraph.
- o. Item 105.14, Maintenance During Construction, except substitute "Final Completion" for "Final Inspector accepts the work under 109.12" and delete the remainder of the first sentence. Additionally, delete the second to last sentence in this Item.
- p. Item 105.15, Failure to Maintain Roadway or Structure.
- q. Item 105.16, Borrow and Waste Areas.
- r. Item 105.17, Construction and Demolition Debris.
- s. Item 106.01, Source of Supply and Quality Requirements.
- t. Item 106.02, Samples, Tests and Cited Specifications, provided that this Item will be optional at the discretion of the Owner. If the Owner elects to proceed under this Item, a) the Contractor



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without additional cost will provide material samples as required by the Owner, and b) the Owner may conduct such tests as it determines proper.

- u. **Item 106.03, Small Quantities and Materials for Temporary Application.**
- v. **Item 106.04, Plant Sampling and Testing Plan.**
- w. **Item 106.05, Storage of Materials.**
- x. **Item 106.06, Handling Materials.**
- y. **Item 106.07, Unacceptable Materials, except substitute the word “unacceptance” in the third sentence with the word “unacceptable.”**
- z. **Item 106.08, Department-Furnished Material.**
- aa. **Item 106.09, Steel and Iron Products Made in the United States.**
- bb. **Item 107.01, Laws to be Observed.**
- cc. **Item 107.02, Permits, Licenses, and Taxes.**
- dd. **Item 107.03, Patented Devices, Materials, and Processes.**
- ee. **Item 107.05, Federal-Aid Provisions.**
- ff. **Item 107.06, Sanitary Provisions.**
- gg. **Item 107.07, Public Convenience and Safety.**
- hh. **Item 107.08, Bridges Over Navigable Waters.**
- ii. **Item 107.09, Use of Explosives, provided that both bringing explosives onto the site and any use of explosives shall require the prior written approval of the Owner.**
- jj. **Item 107.10, Protection and Restoration of Property, provided that the Contractor shall remain responsible for all damage and injury to property until the Project is Finally Complete, and all references to Items 109.11 and 109.12 are deleted.**
- kk. **Item 107.11, Contractor’s Use of the Project Right-of-Way or Other Department-Owned Property, provided the reference to Item 109.12 is deleted.**
- ll. **Item 107.12, Responsibility for Damage Claims and Liability Insurance, provided that all notices and certificates shall be delivered to the Owner’s representative and, if there is no Owner’s representative, to the Engineer. Reference to the “State of Ohio, Department of Transportation” shall mean the Owner.**
- mm. **Item 107.13, Reporting, Investigating, and Resolving Motorist Damage Claims, provided that this item is modified to read, “When a motorist reports damage to its vehicle either verbally or in writing to the Contractor, the Contractor shall within 3 days make and file a written report to the Owner and the Engineer and also file a report with its insurance carrier”.**
- nn. **Item 107.14 Opening Sections of Project to Traffic, provided that the reference to Item 108.06 is deleted.**
- oo. **Item 107.15, Contractor’s Responsibility for Work, provided that reference to “Final Inspection according to 109.12.A” shall mean “Final Completion.” and all references to Item 108 are deleted.**
- pp. **Item 107.17, Furnishing Right-of-Way.**
- qq. **Item 107.19, Environmental Protection, provided that the Owner makes no representation as to having acquired any permits unless expressly provided in the Contract Documents. The Contractor will comply with any permits obtained by the Owner.**
- rr. **Item 107.20, Civil Rights.**



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- ss. Item **107.21, Prompt Payment.**
- tt. **with information or reports on DBE participation unless the Contract Documents otherwise require such reports or information. Additionally, unless otherwise provided in the Contract Documents, the 50% self-contracting requirement in the first sentence is waived.**
- uu. Item **108.04, Limitation of Operations.**
- vv. Item **108.05, Character of Workers, Methods, and Equipment.**
- ww. Item **108.10, Payroll Records.**
- xx. Item 109.01, Measurement of Quantities, provided that this item will apply only where payment is to be based on the measurement of quantities.
- yy. Item 109.02, Measurement Units.
- zz. Item 109.03, Scope of Payment.
- aaa. Item **108.01, Subletting of the Contract, provided that the Contractor need not provide the Owner (Reserved.)**
- bbb. Item 109.05, Extra Work as modified in this Supplement, provided that a) the references to Items 105.07, 105.10 and 108 are deleted, b) all negotiated prices shall require the Owner's written approval, c) the Owner must approve in writing any directions or orders by the Engineer to proceed with force account work, d) in Item 109.05.B.2 the reference to Department shall mean the Ohio Department of Transportation, e) the compensation provided in 109.05.B through 109.05.D constitutes payment in full for all the items referred to in Items 109.05.C.1-10, except for any additional compensation for delays, f) the mark-ups provided in Items 109.05.D.2.b and 109.05.D.2.d are deleted, and g) Item 109.05.D.2.f regarding home office overhead is deleted. The Contractor's entitlement to home office overhead, if any, shall be subject to current Ohio law.
- ccc. **109.06, Directed Acceleration.**
- ddd. **(Reserved.)**
- eee. **109.08, Unrecoverable Costs.**
5. Divisions 200 through 700. Divisions 200 through 700 of the State of Ohio Department of Transportation, Construction Specifications Manual in the current version as of January 31, 2019 are incorporated in this ODOT Supplement.
- a. All references to Division 100 Items in Divisions 200 through 700 shall be to the Division 100 Items as modified in this Supplement.
- b. Where Division 100 Items are referred to in Divisions 200 through 700 but are not included in this Supplement, the deleted references will be governed by this Paragraph 5.
- c. In Item 203.04, the reference to Item 108.06 shall be governed by Paragraph 3, Delays, in this Supplement.
- d. In Item 514.24, the reference to Item 109.10 shall be governed by the payment provisions in the Modified Standard General Conditions.
- e. In Item 624.04, the reference to item 109.09 shall be governed by the payment provisions in the Modified Standard General Conditions, i.e., the Owner will process and make payments in accordance with the provisions in the Modified Standard General Conditions. In this regard, the basis for payment of mobilization costs will be as provided in Item 624.04.
- f. General to Divisions 200 through 700. The basis for payment provided in the Basis for Payment items in these Divisions shall be the basis for payment to the Contractor when applicable.



## City of Canton Codified Ordinances

Bidders shall take notice that they are to comply with the Codified Ordinances of the City of Canton, including but not limited to, the following:

**1. Chapter 105.02 – Public Paving Time Restrictions.**

All City public paving contracts shall include a provision for liquidated damages in order to provide the City reasonable compensation for actual damages due to a failure to ensure that asphalt paving take place on the City's road surfaces from May 1<sup>st</sup> to October 1<sup>st</sup>; and/or during optimal climatic conditions that are conducive to the best mix compacting and long term durability of the pavement, according to the highest and best practices of the asphalt paving industry.

*(Ord. 270-2014. Passed 12-29-14.)*

**2. Chapter 105.03 – U.S. Steel Usage Required; Exception.**

All City contracts shall stipulate or provide that all steel necessary in the construction of any work performed under such contracts shall be steel that is produced in the United States unless a specific product which is required is not produced by manufacturers in the United States in which event this prohibition does not apply. This section shall apply to only contracts awarded by the Board of Control of the City.

*(Ord. 224-77. Passed 6-27-77.)*

**3. Chapter 105.05 – Materials to be Purchased Locally.**

In all future contracts for the construction of buildings, structures, or other improvements under the Capital Improvement Budget, the following clause shall be printed or typewritten on each contract:

It is the desire of the City of Canton that all materials used in the construction covered by this contract shall be purchased in the Canton area except such materials which are unavailable in the Canton area.

*(Res. 49-77. Passed 2-7-77.)*

**4. Chapter 105.06 – Minority Contract Provision.**

a. All contracts with the City shall include the following clause:

The bidder agrees to expend at least \$\_\_\_\_\_ of the Contract in the event the contract is awarded to such bidder for minority/women's business enterprises. For purposes of this pledge, the term "minority/women's business enterprise" means a bona fide business established as a sole proprietorship, partnership or corporation owned, operated and controlled by one or more minority persons or women who have at least fifty-one percent (51%) ownership. "Minority" includes African Americans, Asian/Pacific Islanders, Hispanic/Latino Americans and Native American Indians. The minority or woman must have operational and managerial control, interest in capital, and earnings commensurate with the percentage of ownership. Minority/women's business enterprises may be employed as construction contractors, subcontractors, vendors or suppliers.

*(Ord. 185-2011. Passed 10-31-11.)*

**5. Chapter 105.12 – Local Bidder Preference.**

a. The Board of Control, in determining the lowest and best bidder in the award of contracts to which this section is applicable, is authorized to award contracts to local bidders as hereinafter defined, whose bid is not more than five percent (5%) higher, subject to a maximum amount of twenty thousand dollars (\$20,000.00), than the lowest dollar bid submitted by non-local bidders. The Board of Control's decision in making such an award shall be final.





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- b. For purposes of this section, "local bidder" means an individual or business entity which at the time of the award of the contract has a headquarters, division, sales office, sales outlet, manufacturing facility, or similar significant business-related location in Stark County, Ohio.
- c. All contract specifications and/or bid documents that are distributed by Canton for the purpose of soliciting bids for goods and/or services shall contain the following notice:  
Prospective bidders will take notice that the City of Canton, in determining the lowest and best bidder in the award of this contract, may award a local bidder preference to any qualified bidder pursuant to Section 105.12 of the Codified Ordinances of the City of Canton. The determination of whether a bidder qualifies for the local preference shall be made by Board of Control. The Board's decision shall be final. A copy of Section 105.12 is attached.
- d. This section shall be applicable to all contracts for equipment, goods, machinery, materials, supplies, vehicles and/or services, which are purchased, leased and/or constructed at a cost in excess of fifty thousand dollars (\$50,000.00) and which require bidding pursuant to Ohio R.C. 735.05 through 735.09 and Ohio R.C. 737.03. (*Ord. 115-2018. Passed 5-14-18.*)

### 6. Chapter 105.15 – City Income Tax

- a. No person, partnership, corporation or unincorporated association may be awarded a contract with the City under Sections 105.09 or 105.10, unless the bidder is paid in full or is current and not otherwise delinquent in the payment of City income taxes, including any obligation to pay taxes withheld from employees under Section 182.05 and any payment on net profits under Section 182.06.
- b. Falsification of any information related to or any post-contractual violation of the requirement to pay City income taxes set forth in subsection (a) shall constitute cause for the rescission of the balance of the contract at the City's discretion.
- c. No partnership, corporation or unincorporated association which has as one of its partners, shareholders or owners a person who is a twenty percent (20%) or greater equity owner in such partnership, corporation or unincorporated association and who is delinquent in the payment of City income taxes as set forth in subsection (a), may be awarded a contract with the City under Sections 105.09 or 105.10.
- d. A person who is a twenty percent (20%) or greater equity owner in any partnership, corporation or unincorporated association which is delinquent in the payment of City income taxes as set forth in subsection (a) may not be awarded a contract with the City under Sections 105.09 or 105.10.
- e. A contract awarded under Sections 105.09 or 105.10 for a public improvement project, services other than personal or professional services, and personal or professional services shall not be binding or valid unless such contract contains the following provisions:

Said \_\_\_\_\_ hereby further agrees to withhold all City income taxes due or payable under Chapter 182 of the Codified Ordinances for wages, salaries, fees and commissions paid to its employees and further agrees that any of its subcontractors shall be required to agree to withhold any such City income taxes due for services performed under this contract. Furthermore, any person, firm or agency that has



## The City of Canton

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a contract or agreement with the City shall be subject to City income tax whether a resident or nonresident in the City, and whether the work being done is in the City or out of the City. In addition to the tax withheld for employees, the net profits on the contract shall be subject to City income tax.

*(Ord. 238-2015. Passed 11-30-15.)*

### 7. Chapter 182.30 – Contract Provisions

- a. No contract on behalf of the City under Sections 105.09 or 105.10 of the Codified Ordinances of Canton for a public improvement project, services other than personal or professional services, and personal or professional services shall be binding or valid unless such contract contains the following provisions:

Said \_\_\_\_\_ hereby further agrees to withhold all City income taxes due or payable under Chapter 182 of the Codified Ordinances for wages, salaries, fees and commissions paid to its employees and further agrees that any of its subcontractors shall be required to agree to withhold any such City income taxes due for services performed under this contract. Furthermore, any person, firm or agency that has a contract or agreement with the City shall be subject to City income tax whether a resident or nonresident in the City, and whether the work being done is in the City or out of the City. In addition to the tax withheld for employees, the net profits on the contract shall be subject to City income tax.

- b. By entering into contract with the City of Canton \_\_\_\_\_ agrees with the City regarding the manner of withholding of City income taxes as provided in Section 718.011(F) of the Ohio Revised Code.
- i. Municipal income tax withholding provisions of Sections 718.011(B)(1) and 718.011(D) ORC shall not apply to qualifying wages paid to employees for work done or services performed or rendered inside the City or on City property.
- ii. \_\_\_\_\_ agrees to withhold income tax for the City from employees' qualifying wages earned inside the City or on City property, beginning with the first day of work done or services performed or rendered inside the City.

*(Ord. 238-2015. Passed 11-30-15.)*

### 8. Chapter 507.03 – Equal Employment Opportunity Clause.

- b. During the performance of this contract, the contractor agrees as follows:
1. The contractor shall not discriminate against any employee or applicant for employment because of race, age, handicap, religion, color, sex, national origin, sexual orientation or gender identity. The contractor shall take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to race, religion, color, sex, national origin, military status, sexual orientation or gender identity. As used herein, the word "treated" shall mean and include without limitation the following: recruited, whether by advertising or other means; compensation, whether in the form of rates or pay or other forms of compensation; selected for training, including apprenticeship; promoted; demoted; upgraded; downgraded; transferred; laid off; and terminated. The contractor agrees to and shall post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting officers setting forth the provisions of this nondiscrimination clause.
2. The contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, age, handicap, religion, color, sex, national origin, military status, sexual orientation or gender identity.

*(Ord. 153-2012. Passed 9-24-12.)*



## The City of Canton

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3. The contractor shall send to each labor union or representative of workers, with which he has a collective bargaining agreement or other contract or understanding, a notice advising the labor union or workers' representative of the contractor's commitments under the equal opportunity clause of the City; and he shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The contractor shall submit in writing to the City his affirmative action plan, and each subcontractor and supplier of equipment or supplies shall submit to the general contractor his affirmative action plan. The responsibility for securing these affirmative action plans falls upon the general contractor and shall be on file at the office of the general contractor. The contractor shall furnish all information and reports required by the City or its representative pursuant to this chapter, and shall permit access to his books, records, and accounts by the contracting agency and by the Executive Secretary for purposes of investigation to ascertain compliance with the program.
5. The contractor shall take such action with respect to any subcontractor as the City may direct as a means of enforcing the provisions of this equal opportunity clause, including penalties and sanctions for noncompliance; provided, however, that in the event the contractor becomes involved in or is threatened with litigation as the result of such direction by the City, the City will enter into such litigation as is necessary to protect the interests of the City and to effectuate the City's equal opportunity program and, in the case of contracts receiving Federal assistance, the contractor or the City may request the United States to enter into such litigation to protect the interests of the United States.
6. The contractor shall file and shall cause his subcontractors, if any, to file compliance reports with the City in the form and to the extent prescribed by the City or its representative. Compliance reports filed at such times as directed shall contain information as to the employment practices, policies, programs and statistics of the contractor and his subcontractors.
7. The contractor shall include the provisions of this equal employment opportunity clause in every subcontract or purchase order, so that such provisions will be binding upon each subcontractor or vendor.
8. Refusal by the contractor or subcontractor to comply with any portion of this program as herein stated and described will subject the offending party to any or all of the following penalties:
  - A. Withholding of all future payments under the involved public contract to the contractor in violation, until it is determined that the contractor or subcontractor is in compliance with the provisions of this contract.
  - B. Refusal of all future bids for any public contract with the City or any of its departments or divisions, until such time as the contractor or subcontractor demonstrates that he has established and shall carry out the policies of the program as herein outlined.
  - C. Cancellation of the public contract and declaration of forfeiture of the performance bond.
  - D. In cases in which there is substantial or material violation or the threat of substantial or material violation of the compliance procedure or as may be provided by contract, appropriate proceedings may be brought to enforce these provisions, including the enjoining within applicable laws of contractors, subcontractors or other organizations, individuals or groups who prevent, directly or indirectly, or seek to prevent, directly or indirectly, compliance with the policy as herein outlined.

*(Ord. 179-74. Passed 6-17-74.)*



The City of Canton

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**STATEMENT OF CLAIM FORM**

Claim No. \_\_\_\_ for Contractor

1. Name of Contractor: \_\_\_\_\_
2. Date written claim given:\_\_\_\_\_.
3. Contractor's representative to contact regarding the claim:  
Name:\_\_\_\_\_ Title: \_\_\_\_\_  
Telephone No. \_\_\_\_\_ (office) FAX No. \_\_\_\_\_  
E-mail: \_\_\_\_\_
4. General description of claim:  
\_\_\_\_\_  
\_\_\_\_\_
5. Contract Documents. If the claim is based upon any part or provision in the Contract Documents, including but not limited to pages in the Drawings and/or paragraphs in the Specifications, Owner-Contractor Agreement, General Conditions or Supplementary General Conditions, state upon which parts or provisions the claim is based:  
\_\_\_\_\_  
\_\_\_\_\_
6. Delay claims:  
6.1 Date delay commenced: \_\_\_\_\_  
6.2 Duration of the delay: \_\_\_\_\_  
6.3 Apparent cause of the delay and part of critical path affected:  
\_\_\_\_\_  
\_\_\_\_\_  
6.4 Impact of the delay and recommendations for minimizing such impact:  
\_\_\_\_\_  
\_\_\_\_\_
7. Additional compensation. Set forth in detail all additional compensation to which the Contractor believes it is entitled with respect to this claim:  
\_\_\_\_\_  
\_\_\_\_\_
8. Instructions for Completing the Statement of Claim Form ("Instructions"). The Instructions are incorporated in this Form.



## The City of Canton

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9. Truth of Claim. By submitting this claim, the Contractor and its representative certify that after conscientious and thorough review and to the best of his or her knowledge and belief a) the Contractor has complied fully with the Instructions, b) the information in this State of Claim is accurate, c) the Contractor is entitled to recover the compensation in paragraph 7, and d) the Contractor has not knowingly presented a false or fraudulent claim. The Contractor by its authorized representative must acknowledge this Statement of Claim before a notary public.

CONTRACTOR: \_\_\_\_\_

By: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Date: \_\_\_\_\_

### CONTRACTOR'S ACKNOWLEDGMENT

State of \_\_\_\_\_,

County of \_\_\_\_\_, ss:

\_\_\_\_\_ first being sworn, states that after conscientious and thorough review, the statements made in attached Statement of Claim Form are complete and true to the best of his or her knowledge and belief.

\_\_\_\_\_

Sworn to before me a notary public by \_\_\_\_\_ on \_\_\_\_\_, 20\_\_.

\_\_\_\_\_

Notary Public

WHEN COMPLETED, FORWARD A COPY OF THIS NOTICE AND STATEMENT OF CLAIM FORM TO THE OWNER AND ENGINEER.



## INSTRUCTIONS FOR COMPLETING THE STATEMENT OF CLAIM FORM

1. Completing the Statement of Claim Form ("Claim Form") is a material term of the Contract. The Claim Form tells the Owner and Design Professional that the Contractor is making a Claim and that they need to act promptly to mitigate the effects of the occurrence giving rise to the Claim. The Claim Form also provides them with information so that they can mitigate such effects. The Contractor acknowledges that constructive knowledge of the conditions giving rise to the Claim through job meetings, correspondence, site observations, etc. is inadequate notice, because knowledge of these conditions does not tell the Owner and Engineer that the Contractor will be making a Claim and most often is incomplete.
2. If the space provided in the Claim Form is insufficient, the Contractor, as necessary to provide complete and detailed information, must attach pages to the Claim Form with the required information.
3. Paragraph 4. The Contractor must state what it wants, *i.e.*, time and/or compensation, and the reason why it is entitled to time and/or compensation.
4. Paragraph 5. The Contractor must identify the exact provisions of the Contract Documents it is relying on in making its Claim. For example, if the Claim is for a change in the scope of the Contractor's Work, the Contractor must identify the specific provisions of the Specifications, and the Plan sheets and details that provide the basis for the scope change.
5. Paragraph 6. This paragraph applies to delay claims, including delays that the Contractor believes result in constructive acceleration. The Contractor must identify the cause of the delay, party or parties responsible, and what the party did or did not do that caused the delay, *i.e.*, specific work activities. The Contractor acknowledges that general statements are not sufficient, and do not provide the Owner with sufficient information to exercise the remedies available to the Owner or to mitigate the effects of the delay.

For example, if the Contractor claims a slow response time on submittals caused a delay, the Contractor must identify the specific submittals, all relevant dates, and then show on the applicable schedule, by circling or highlighting, the activities immediately affected by the delays. Also for example, if the Contractor claims it was delayed by another Contractor, the Contractor must identify the delaying Contractor, specifically what the delaying Contractor did or did not do that caused the delay, and then show the applicable schedule, by circling or highlighting, the activities immediately affected by the delays. Further by example, if the Contractor seeks an extension of time for unusually severe weather, the Contractor must submit comparative weather data along with a record of the actual weather at the job site and job site conditions.

6. Paragraph 6.4. Time is of the essence under the Contract Documents. If there is a delay, it is important to know what can be done to minimize the impact of the delay. It therefore is important that the Contractor provide specific recommendations on how to do so.
7. Paragraph 7. The Contractor must provide a specific and detailed breakdown of the additional compensation it seeks to recover. For future compensation, the Contractor shall provide its best estimate of such compensation.
8. Paragraph 8 and Acknowledgment. By submitting this Claim, the Contractor and its representative certify that after conscientious and thorough review and to the best of his or her knowledge and belief a) the Contractor has complied fully with the Instructions, b) the information in this Claim Form is accurate, c) the Contractor is entitled to recover the compensation in paragraph 7, and d) the Contractor has not knowingly presented a false or fraudulent claim. The Contractor by its authorized representative must acknowledge this Statement of Claim before a notary public.



The City of Canton

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End of Instructions



The City of Canton

**CONTRACTOR'S PERSONAL PROPERTY TAX AFFIDAVIT**  
(O.R.C. § 5719.042)

State of Ohio

County of \_\_\_\_\_, ss:

\_\_\_\_\_, being first duly sworn, deposes and says that he is the  
(Name)

\_\_\_\_\_ of \_\_\_\_\_ with offices located at  
(Title) (Contractor)

\_\_\_\_\_, and as its duly  
(Address of Contractor)

authorized representative, states that effective this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,

\_\_\_\_\_  
(Name of Contractor)

- ( ) is charged with delinquent personal property taxes on the general list of personal property as set forth below:

<u>County</u>	<u>Amount</u> (includes total amount due, plus penalties and interest thereon)
Stark	\$ _____

- ( ) is not charged with delinquent personal property taxes on the general list of personal property in Stark County.

\_\_\_\_\_  
\_\_\_\_\_  
(Affiant)

Sworn to and subscribed before me by the above-named affiant this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
(Notary Public)

My commission expires

\_\_\_\_\_, 20\_\_





The City of Canton

**CONTRACTOR'S FINAL WAIVER & RELEASE AFFIDAVIT  
("AFFIDAVIT")**

Project: **Fire Station No. 8 Renovation Project**

In consideration for payment received from the City of Canton (the "City") in the amount requested in Contractor's Final Application for Payment to the City, the receipt of which is hereby acknowledged, the undersigned Contractor hereby waives and releases any rights it has or may have to any and all types of claims relating to the Project, including without limitation claims of payment, Mechanic's Lien, stop notice, equitable lien, labor and material bond, breach of contract or unjust enrichment, or any other claim against the City, for any labor, materials, or equipment the undersigned may have delivered or provided to the Project, except for any Claims the undersigned has made by properly and timely submitting a Statement of Claim form. The undersigned further certifies that this Affidavit covers claims by all contractors, subcontractors, and suppliers who may have provided any labor, material, or equipment to the Project through the undersigned or at the undersigned's request. The undersigned acknowledges that all such contractors, subcontractors, sub-subcontractors and suppliers have signed an affidavit in the form of this Affidavit releasing any and all claims against the City, except for any Claims the undersigned has made by properly and timely submitting a written statement of its Claim. The undersigned hereby represents and warrants that it has paid any and all welfare, pension, vacation or other contributions required to be paid on account of the employment by the undersigned of any laborers on the Project.

This Affidavit is for the benefit of, and may be relied upon by the City. The undersigned hereby agrees to indemnify, defend and hold harmless each of the foregoing, the Project, work of improvement, and real property from any and all claims, or liens that are or should have been released in accordance with this Affidavit.

_____	State of: _____ County of _____
Company Name	
_____	Subscribed and sworn to before me this _____
Authorized Signature (Company Officer)	
_____	day of _____
Title	
_____	Notary Public: _____
Date	
	My Commission Expires: _____



## **VENDOR INFORMATION**

**Vendor Information Page 1 of 2**

1. The vendor shall provide all of the following information.

a. Name of Vendor \_\_\_\_\_

b. Business Address \_\_\_\_\_

\_\_\_\_\_  
City State Zip

c. Business Telephone Number ( \_\_\_\_ ) \_\_\_\_\_

d. Person, address, email and telephone to whom official notices are to be sent  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

e. Person, address, email and telephone for further information regarding this contract  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

f. State(s) of incorporation (w/dates of incorporation)  
\_\_\_\_\_  
\_\_\_\_\_

g. Principal place of business  
\_\_\_\_\_

h. Federal I.D. Number # \_\_\_\_\_

2. Form of Business Organization.

\_\_\_\_ Corporation                      \_\_\_\_ Partnership                      \_\_\_\_ Other

3. The vendor shall provide the names and addresses of all persons interested as principals (officers, partners, and associates) in this proposal. Write first name in full, and give titles for offices.

_____	_____
_____	_____
_____	_____
_____	_____

All of the above, including the signatory to this contract, are citizens of the United States, except the following. (Provide names and addresses of those not a citizen of the United States.)

_____	_____
_____	_____
_____	_____
_____	_____

4. Name and address of other person, firms or companies interested in this contract.

_____	_____
_____	_____
_____	_____
_____	_____

## **Exhibit to Standard Form of Agreement Between Owner and Contractor**

This Agreement is being funded through the use of American Rescue Plan Act (“ARPA”) funds.

As such, there are certain required contract provisions that must be included in contracts and agreements with contractors and subcontractors that are paid using ARPA funds. The contractor, or “Subrecipient”, must comply with all applicable laws listed below.

Subrecipient agrees to comply with all applicable federal, state, and local laws related to Subrecipient’s performance of the obligations of this Agreement and Subrecipient’s acceptance of the above mentioned subaward, including but not limited to the Single Audit Act (31 U.S.C. §§ 7501-7507) and the related provisions of the Uniform Guidance, 2 C.F.R. § 200.303 regarding internal controls, §§ 200.330 through 200.332 regarding Subrecipient monitoring and management, subpart E regarding cost principles, subpart F regarding audit requirements and § 200.317-.327 regarding procurement.

In addition, Subrecipient shall comply with the following federal laws, as applicable:

(A) Contracts for more than the simplified acquisition threshold, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

(B) All contracts in excess of \$10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be effected and the basis for settlement.

(C) Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of “federally assisted construction contract” in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, “Equal Employment Opportunity” (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at 41 CFR part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.”

(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted

Construction”). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland “Anti-Kickback” Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that each contractor or Subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

(F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of “funding agreement” under 37 CFR § 401.2 (a) and the recipient or Subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or Subrecipient must comply with the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

(G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended - Contracts and subgrants of amounts in excess of \$150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

(H) Debarment and Suspension (Executive Orders 12549 and 12689) - A contract award (see 2 CFR 180.220) must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

(I) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352) - Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

(J) Copeland "Anti-Kickback" Act (40 U.S.C. 3145) The Contractor must comply with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that the Contractor must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled.

(K) Procurement of recovered materials A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level

of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

(L) Prohibition on certain telecommunications and video surveillance services and equipment

(a) Recipients and Subrecipients are prohibited from obligating or expending loan or grant funds to:

(1) Procure or obtain;

(2) Extend or renew a contract to procure or obtain; or

(3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

(i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

(ii) Telecommunications or video surveillance services provided by such entities or using such equipment.

(iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

(b) In implementing the prohibition under Public Law 115-232, section 889, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications



equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.

(c) See Public Law 115-232, section 889 for additional information.

(d) See also § 200.471.

(M) Domestic preferences for procurements

(a) As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.

(b) For purposes of this section:

(1) “Produced in the United States” means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

(2) “Manufactured products” means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

(N) Prevailing Wage

If the performance of this contract involves construction, the Subrecipient and its contractors and subcontractors, regardless of tier, shall strictly comply with their obligation, if any, to pay their employees working on the project site at the applicable prevailing wage rates for the type of work, including any changes thereto, pursuant to Ohio Revised Code Chapter 4115.

(O) Bidding of the Project

Purchases under ARPA, including bidding of construction projects, must be procured in accordance with both state law and federal law, and the recipient is required to follow the more restrictive law. For purchases between \$10,000 and \$50,000, the federal law is more restrictive. For purchases over \$50,000, Ohio’s procurement laws are more restrictive and the Subrecipient must follow state law for those purchases.

(Q) Performance Monitoring

The City will monitor the performance of the Subrecipient against goals and performance standards as stated above. Substandard performance as determined by the City will constitute noncompliance with this Agreement. If action to correct such substandard performance is not taken by the Subrecipient within a reasonable period of time after being notified by the City, additional conditions, contract suspension or termination procedures will be initiated.

(R) Mandatory Disclosures 2 CFR 200.113

The Subrecipient must disclose, in a timely manner, in writing to the City all violations of Federal criminal law involving fraud, bribery, or gratuity violations potentially affecting this Federal award. Subrecipients that have received a Federal award are required to report certain civil, criminal, an administrative proceedings to the System for Award Management (“SAM”). Failure to make required disclosures can result in any of the remedial activities described in 2 CFR 200.338 including suspension or debarment.

(S) Record Retention and Access

The Subrecipient shall maintain all records required by the Federal regulations specified in 24 CFR 570.506 and 2 CFR 200 that are pertinent to the activities to be funded under this Agreement. Such records shall include but not be limited to:

- a. Records providing a full description of each activity undertaken;
- b. Records demonstrating that each activity undertaken meets one of the National Objectives of the ARPA program;
- c. Records required to determine the eligibility of activities;
- d. Adequate documentation to support costs charged to the ARPA Program
- e. Records detailing procurement procedures followed
- f. Records documenting compliance with the equal opportunity components of the ARPA program;
- g. Other records necessary to document compliance

(T) Maintenance and Audit of Records

The Subrecipient shall maintain records, books, documents, and other materials relevant to its performance under this Agreement. These records shall be subject to inspection, review, and audit by the City or its designees and the US TREASURY for five (5) years following termination of this Agreement. If it is determined during the course of the audit that the Subrecipient was

reimbursed for unallowable costs under this Agreement, the Subrecipient agrees to promptly reimburse the City for such payments upon request.

## City of Canton – American Rescue Plan Act (ARPA) Contract Addendum

**Notice:** The contract or purchase order to which this addendum is attached is made using federal assistance provided to the City of Canton by the US Department of Treasury under the American Rescue Plan Act (“ARPA Funds”), Sections 602(b) and 603(b) of the Social Security Act, Pub. L. No. 117-2 (March 11, 2021). In using such funds, the City must comply with the terms of ARPA, regulations issued by the U.S. Department of the Treasury (“Treasury”) governing the expenditure of monies distributed from the ARPA Funds (including, without limitation, the Interim Final Rule (86 Fed. Reg. 26,786 (May 17, 2021) and Final Rule (87 Fed. Reg. 4,338 (Jan. 27, 2022))), the Award Terms and Conditions applicable to the ARPA Funds, and such other guidance as Treasury has issued or may issue governing the expenditure of monies distributed from the ARPA Funds (collectively, the “Regulatory Requirements”). Additionally, pursuant to the Regulatory Requirements, the City must comply with the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, 2 C.F.R. Part 200 other than such provisions as Treasury has determined or may determine are inapplicable to the ARPA Funds and pursuant to 2 C.F.R. §200.327 the City must include within any contract applicable provisions described in Appendix II to 2 C.F.R. Part 200, each of which is contained in this Addendum.

The following terms and conditions apply to you, the contractor or vendor, as a contractor of the City of Canton as required by ARPA and its implementing regulations; and as established by the Treasury Department.

**A. Equal Employment Opportunity.** If this contract is a Federally Assisted Construction Contract (as defined in 41 C.F.R. §60-1.3) exceeding \$10,000, during the performance of this contract, contractor agrees as follows:

1. Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. Contractor will, in all solicitations or advertisements for employees placed by or on behalf of Contractor, state that all qualified applicants will receive consideration for

employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

3. Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with Contractor's legal duty to furnish information.
4. Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
5. Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
6. Contractor will furnish to the Administering Agency (as specified in 41 C.F.R. §60-1.3) and the Secretary of Labor all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the Administering Agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
7. In the event of contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended, in whole or in part, and contractor may be declared ineligible for further government contracts or Federally Assisted Construction Contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965. Such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
8. Contractor will include the portion of the sentence immediately preceding paragraph A.1. of this section and the provisions of paragraphs A.1. through A.7. in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor

or vendor. Contractor will take such action with respect to any subcontract or purchase order as the Administering Agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

Provided, however, that in the event contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Administering Agency, contractor may request the United States to enter into such litigation to protect the interests of the United States.

The City further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work. Provided, that if the City so participating is a state or local government, the above equal opportunity clause is not applicable to any agency, instrumentality, or subdivision of such government which does not participate in work on or under the Contract.

9. The City agrees that it will assist and cooperate actively with the Administering Agency and the Secretary of Labor in obtaining the compliance of contractor and any subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor; that it will furnish the Administering Agency and the Secretary of Labor such information as they may require for the supervision of such compliance; and that it will otherwise assist the Administering Agency in the discharge of the agency's primary responsibility for securing compliance.
10. The City further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and Federally Assisted Construction Contracts pursuant to the Executive Order and that it will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractor and any subcontractors by the Administering Agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the City agrees that if it fails or refuses to comply with these undertakings, the Administering Agency may take any or all of the following actions: cancel, terminate, or suspend, in whole or in part, this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

**B. Copeland "Anti-Kickback" Act.** Contractor and any subcontractors performing work under the contract shall comply with 18 U.S.C. §874. The City shall report all suspected or reported violations to Treasury.

### **C. Suspension and Debarment.**

1. This contract is a covered transaction for purposes of 2 CFR §180.210 and 31 CFR §19.2103000. Therefore, this Contract is a lower-tier covered transaction for purposes of 2 C.F.R. Part 180 and 31 C.F.R. Part 19 if (1) the amount of this Contract is greater than or equal to \$25,000 (2 C.F.R. § 180.220(b)(1); 31 C.F.R. § 19.220(b)(1)); (2) the Contract requires the consent of an official of the Department of the Treasury (2 C.F.R. § 180.220(b)(2); 31 C.F.R. § 19.220(b)(2)); or (3) this Contract is for federally required audit services (2 C.F.R. § 180.220(b)(3); 31 C.F.R. § 19.220(b)(3)).
2. As such, the contractor is required to verify that contractor's principals (defined at 2 CFR § 180.995) or its affiliates (defined at 2 CFR § 180.905) of both contractor and contractor's principals are not excluded (defined at 2 CFR § 180.935) and are not disqualified (defined at 2 CFR § 180.935). If any of the foregoing persons are excluded or disqualified and the Secretary of the Treasury has not granted an exception pursuant to 31 C.F.R. §19.120(a) (a) this contract shall be void; (b) City shall not make any payments of federal financial assistance to contractor; and (c) City shall have no obligations to contractor under this contract.
3. The contractor must comply with 2 CFR pt. 180, subpart C and 31 CFR pt. 19, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into. This certification is a material representation of fact relied upon by the City and all liability arising from an erroneous representation shall be borne solely by the contractor.
4. If it is later determined that the contractor did not comply with 2 CFR pt. 180, subpart C and 31 CFR pt. 19, in addition to remedies available to the City, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

### **D. Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352, as amended.**

1. Contractor certifies that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. §1352. Contractor shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier, up to the recipient who in turn will forward the certification(s) to the awarding agency. This certification is a material representation of fact upon which City has relied when

entering into this contract, and all liability arising from an erroneous representation shall be borne solely by contractor.

2. **\*Purchases over \$100,000 - Contractors must sign the certification on the last page of this addendum and shall cause any subcontractors with a subcontract (at any tier) exceeding \$100,000 to file with the tier above it the same certification.**

#### **E. Access to Records.**

1. Contractor agrees to provide the City of Canton, the U.S. Department of Treasury, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, investigations and transcriptions. The Contractor agrees to permit any of the foregoing parties to reproduce by any means or to copy excerpts and transcriptions as reasonably needed, and agrees to cooperate with all such requests. No language in this contract is intended to prohibit audits or internal reviews by the Treasury Department or the Comptroller General of the United States.
2. Contractor agrees to retain all records covered by this section through December 31, 2031, or such longer period as is necessary for the resolution of any litigation, claim, negotiation, audit or other inquiry involving the contract.

#### **F. Rights to Inventions Made Under a Contract or Agreement.**

1. The Government reserves a royalty-free, non-exclusive and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use for "Government purposes," any subject data or copyright described below. "Government purposes" means use only for the direct purposes of the Government. Without the copyright owner's consent, the Government may not extend its federal license to any other party.
  - (a) Any subject data developed under the contract, whether or not a copyright has been obtained, and
  - (b) Any rights of copyright purchased by contractor using federal assistance funded in whole or in part by the Department of the Treasury.
2. Unless the Department of the Treasury determines otherwise, a contractor performing experimental, developmental, or research work required as part of this contract agrees to permit Treasury to make available to the public either (a) Treasury's license in the copyright to any subject data developed in the course of the Contract or (b) a copy of the subject data first produced under the contract for which a copyright has not been obtained. If the experimental, developmental, or research work which is the subject of this contract is not completed for any reason whatsoever, all data developed under the contract shall



become subject data as defined herein and shall be delivered as the Government may direct.

3. Unless prohibited by Ohio law, upon request by the Government, contractor agrees to indemnify, save, and hold harmless the Government, its officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by contractor of proprietary rights, copyrights, or right of privacy arising out of the publication, translation, reproduction, delivery, use, or disposition of any data furnished under the contract. Contractor shall be required to indemnify the Government for any such liability arising out of the wrongful act of any employee, official, or agent of the contractor.
4. Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government under any patent.
5. Data developed by contractor and financed entirely without using federal assistance provided by the Government that has been incorporated into work required by the underlying contract is exempt from the requirements herein, provided that contractor identifies that data in writing at the time of delivery of the contract work. Contractor agrees to include these requirements in each subcontract for experimental, developmental, or research work financed in whole or in part with federal assistance.
6. For the purposes of this section "subject data" means "recorded information, whether or not copyrighted, . . . that is delivered or specified to be delivered as required by the contract." Examples of "subject data" include, but are not limited to, "computer software, standards, specifications, engineering drawings and associated lists, process sheets, manuals, technical reports, catalog item identifications, and related information, but do not include financial reports, cost analyses or other similar information used for performance or administration of the contract."

**G. Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 327 through 333) (applies only to purchases over \$100,000, when laborers or mechanics are used.)**

Where applicable, all contracts in excess of \$100,000 that involve the employment of mechanics or laborers shall include a provision for compliance with 40 U.S.C. §3702 and §3704 of the Contract Work Hours and Safety Standards Act, as supplemented by Department of Labor regulations (29 CFR part 5). Under §3702 of the Act, each contractor shall be required to compute the wages of every mechanic and laborer on the basis of a standard workweek of 40 hours. Work in excess of the standard workweek is permissible provided that the worker is compensated at a rate of not less than 1 1/2 times the basic rate of pay for all hours worked in excess of 40 hours in the workweek. The requirements of 40

U.S.C. §3704 are applicable to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of

supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

**H. Clean Air Act & Federal Water Pollution Control Act (applies to purchases of more than \$150,000).**

1. The contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
2. The contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. §1251 et seq.
3. The Contractor agrees to report each violation of the Clean Air Act and the Water Pollution Control Act to the City of Canton and understands and agrees that the City will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
4. Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance.

**I. Prohibition Contracting for Covered Telecommunications Equipment or Services.**

**Definitions.** Unless otherwise defined in this contract, capitalized terms used in section shall have the meanings ascribed thereto in this section.

(a) "Backhaul" means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (e.g., connecting cell phones/towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (e.g., fiber optic, coaxial cable, Ethernet).

(b) "Covered Foreign Country" means the People's Republic of China.

(c) "Covered Telecommunications Equipment or Services" means (i) telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities); (ii) for the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities); (iii) telecommunications or video surveillance services provided by such entities or using such equipment;

or (iv) telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a Covered Foreign Country.

(d) "Critical Technology" means (i) defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations; (ii) items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations and controlled (a) pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology, or (b) for reasons relating to regional stability or surreptitious listening; (iii) specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities); (iv) nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material); (v) select agents and toxins covered by part 331 of title 7, Code of Federal Regulations; part 121 of title 9 of such Code; or part 73 of title 42 of such Code; or (vi) emerging and foundational technologies controlled pursuant to §1758 of the Export Control Reform Act of 2018 (50 U.S.C. §4817).

(e) "Interconnection Arrangements" means arrangements governing the physical connection of two or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (e.g., connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

(f) "Roaming" means cellular communications services (e.g., voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

(g) "Substantial or Essential Component" means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(h) "Telecommunications Equipment or Services" means telecommunications or video surveillance equipment or services, such as, but not limited to, mobile phones, land lines, internet, video surveillance, and cloud services.

## 2. Prohibitions.

(a) Section 889(b) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115-232, and 2 C.F.R. § 200.216 prohibit the head of an executive agency on or after August 13, 2020, from obtaining or expending

grant, cooperative agreement, loan, or loan guarantee funds on certain telecommunications products or from certain entities for national security reasons.

(b) Unless an exception in applies, contractor and any subcontractors may not use grant, cooperative agreement, loan, or loan guarantee funds (including, without limitation, Fiscal Recovery Funds) received from a federal government to:

i. Procure or obtain any equipment, system, or service that uses Covered Telecommunications Equipment or Services as a Substantial or Essential Component of any system or as Critical Technology of any system;

ii. Enter into, extend, or renew a contract to procure or obtain any equipment, system, or service that uses Covered Telecommunications Equipment or Services as a Substantial or Essential Component of any system or as Critical Technology of any system;

iii. Enter into, extend, or renew contracts with entities that use Covered Telecommunications Equipment or Services as a Substantial or Essential Component of any system or as Critical Technology as part of any system; or

iv. Provide, as part of its performance of this contract, any subcontract; any other contractual instrument; or any equipment, system, or service that uses Covered Telecommunications Equipment or Services as a Substantial or Essential Component of any system or as Critical Technology as part of any system.

### 3. Exceptions.

(a). This clause does not prohibit contractor or subcontractors from providing:

i. A service that connects to the facilities of a third party, such as Backhaul, Roaming, or Interconnection Agreements, or

ii. Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(b). By necessary implication and regulation, the prohibitions also do not apply to:

i. Covered telecommunications equipment that: system and

(a) Is not used as Critical Technology of any system.

(b) Is not used as a Substantial or Essential Component of any

ii. Other telecommunications equipment or services that are not considered Covered Telecommunications Equipment or Services.

### 4. Reporting Requirement.

(a). In the event contractor identifies, during contract performance, covered Telecommunications Equipment or Services used as a Substantial or Essential Component of any system or as Critical Technology as part of any system, or if contractor is notified of such by a subcontractor at any tier or by any other source, contractor shall report the information in paragraph 4(b) of this section to City, unless procedures for reporting the information are established elsewhere in this contract.

(b). Contractor shall report the following information to City pursuant to paragraph 4(a) of this section:

i. Within one business day from the date of such identification or notification: contract number; order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

ii. Within ten business days of submitting the information in paragraph 4(b)(i) of this section, any further available information about mitigation actions undertaken or recommended. In addition, contractor shall describe (1) the efforts it undertook to prevent use or submission of Covered Telecommunications Equipment or Services and (2) any additional efforts that will be incorporated to prevent future use or submission of Covered Telecommunications Equipment or Services.

5. Subcontractor. Contractor shall cause to be inserted into all subcontracts and other contractual instruments relating to the performance of this contract the substance of this Section I, including this paragraph 5.

**J. Buy USA - Domestic preference for certain procurements using federal funds.**

Contractor should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other

manufactured products). The requirements of this section must be included in all sub-awards including all contracts and purchase orders for work or products under this award. For purposes of this section:

1. "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
2. "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

**K. Procurement of Recovered Materials.**

1. This section shall apply if (1) this contract involves the purchase of an item designated by the Environmental Protection Agency ("EPA") in 40 C.F.R. Part 247 that exceeds \$10,000 or (2) the total value of such designated items acquired during the City's preceding fiscal year exceeded \$10,000.
2. In the performance of this contract, the contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired:
  - a. Competitively within a timeframe providing for compliance with the contract performance schedule;
  - b. Meet contract performance requirements; or
  - c. Be acquired at a reasonable price.
3. Information about this requirement, along with the list of EPA- designated items, is available at EPA's Comprehensive Procurement Guidelines website. The contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

**L. Minority and Women Business Enterprises.** Contractor hereby agrees to comply with the following when applicable: The requirements of Executive Orders 11625 and 12432 (concerning Minority Business Enterprise), and 12138 (concerning Women's Business Enterprise), **when applicable**. Accordingly, the contractor hereby agrees to take affirmative steps to assure that women and minority businesses are utilized when possible as sources

of supplies, equipment, construction and services. Affirmative steps shall include the following:

1. Including qualified women's business enterprises and small and minority businesses on solicitation lists;
2. Assuring that women's enterprises and small and minority businesses are solicited whenever they are potential sources;
3. When economically feasible, dividing total requirements into smaller tasks or quantities so as to permit maximum participation by small and minority business, and women's business enterprises;
4. Where the requirement permits, establishing delivery schedules which will encourage participation by women's business enterprises and small and minority business; and
5. Using the services and assistance of the Small Business Administration, and the U.S. Office of Minority Business Development Agency of the Department of Commerce; and the Ohio Department of Development.

For the purposes of these requirements, a Minority Business Enterprise (MBE) is defined as an enterprise that is at least 51 percent owned and controlled in its daily operation by members of the following groups: Black, Hispanic, Asian or Pacific Islander, American Indian, or Alaskan Natives. A Women Business Enterprise (WBE) is defined as an enterprise that is at least 51 percent owned and controlled in its daily operation by women. Additionally, an MBE or WBE qualifies if it is currently certified by Ohio's Department of Development and qualifies as a "small business" if it is independently owned and operated and is qualified under the Small Business Administration criteria and size standards at 13 C.F.R. Part 21.

**M. Assurances of Compliance with Title VI of the Civil Rights Act of 1964.** Contractor and any subcontractor, or the successor, transferee, or assignee of contractor or any subcontractor, shall comply with Title VI of the Civil Rights Act of 1964, which prohibits recipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. §§ 2000d *et seq.*), as implemented by the Department of the Treasury's Title VI regulations, 31 C.F.R. Part 22, which are herein incorporated by reference and made a part of this contract. Title VI also provides protection to persons with "Limited English Proficiency" in any program or activity receiving federal financial assistance, 42 U.S.C. §§ 2000d *et seq.*, as implemented by Treasury's Title VI regulations, 31 C.F.R. Part 22, and herein incorporated by reference and made a part of this contract.

**N. Publications.** Any publications produced with funds from this award must display the following language: "This project [is being] [was] supported, in whole or in part, by federal award number [enter project FAIN] awarded to [name of Recipient] by the U.S. Department of the Treasury."

**O. Increasing Seat Belt Use in the United States.** Pursuant to Executive Order 13043, 62 Fed. Reg. 19216 (Apr. 18, 1997), contractor is encouraged to adopt and enforce on-the-job seat belt policies and programs for your employees when operating company-owned, rented

or personally owned vehicles.

**P. Reducing Text Messaging While Driving.** Pursuant to Executive Order 13513, 74 Fed. Reg. 51225 (Oct. 6, 2009), contractor is encouraged to adopt and enforce policies that ban text messaging while driving, and establish workplace safety policies to decrease accidents caused by distracted drivers.

**Q. Conflicts and Interpretation.** To the extent that any portion of this Addendum conflicts with any term or condition of this contract expressed outside of this Addendum, the terms of this Addendum shall govern.

**R. Other Non-Discrimination Statutes.** Contractor acknowledges that City is bound by and agrees, to the extent applicable to contractor, to abide by the provisions contained in the federal statutes enumerated below and any other federal statutes and regulations that may be applicable to the expenditure of Fiscal Recovery Funds: The Fair Housing Act, Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§ 3601 *et seq.*), which prohibits discrimination in housing on the basis of race, color, religion, national origin, sex, familial status, or disability; Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of disability under any program or activity receiving federal financial assistance; The Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101 *et seq.*), and Treasury's implementing regulations at 31 C.F.R. Part 23, which prohibit discrimination on the basis of age in programs or activities receiving federal financial assistance; and Title II of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. §§ 12101 *et seq.*), which prohibits discrimination on the basis of disability in programs, activities, and services provided or made available by state and local governments or instrumentalities or agencies thereto.

**S. Conflicts of Interest; Gifts and Favors.**

1. Contractor understands that (1) City will use ARPA Funds to pay for the cost of this contract and (2) the expenditure of ARPA Funds is governed by the *Conflict of Interest Policy* of the City, the Regulatory Requirements (including, without limitation, 2 C.F.R. § 200.318(c)(1)), and Ohio law (including, without limitation, G.S. 14-234(a)(1) and -234.3(a)).
2. Contractor certifies to City that as of the date hereof, to the best of its knowledge after reasonable inquiry, no employee, officer, elected official, or agent of City involved in the selection, award, or administration of this contract (each a "Covered Individual"); no member of a Covered Individual's immediate family; no partner of a Covered Individual; and no organization (including contractor) which employs or is about to employ a Covered Individual has a financial or other interest in, or has received a tangible personal benefit from, contractor. Should contractor obtain knowledge of any such interest or any tangible personal benefit described in the preceding sentence after the date hereof, contractor shall promptly disclose the same to City in writing.
3. Contractor certifies to City that it has not provided, nor offered to provide, any gratuities, favors, or anything of value to an officer, employee, elected official or agent of City. Should contractor obtain knowledge of the provision, or offer of any provision, of any gratuity, favor, or anything of value to an officer, employee,



elected official or agent described in the preceding sentence after the date hereof, contractor shall promptly disclose the same to City in writing.

**CONTRACTOR:**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**CITY:**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

***This form is required only for purchases of more than \$100,000***

**31 CFR Part 21 – New Restrictions on Lobbying**

**CERTIFICATION REGARDING LOBBYING**

The undersigned certifies, to the best of their knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers (including subcontracts, sub grants, and contracts under grants, loans, and cooperative agreements) and that all contractors shall certify and disclose accordingly.
4. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The contractor, \_\_\_\_\_, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the contractor understands and agrees that the provisions of 31 U.S.C. Ch. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

\_\_\_\_\_  
Signature of Contractor's authorized official

Date: \_\_\_\_\_

\_\_\_\_\_  
(Print name and title of person signing above)

**Appendix A**

**PROJECT LABOR AGREEMENT**

**FOR THE**

**FIRE STATION NO. 8 RENOVATIONS**

**BETWEEN**

**CITY OF CANTON**

**AND**

**EAST CENTRAL OHIO BUILDING AND CONSTRUCTION**

**TRADES COUNCIL AFL-CIO**

**AND**

**SIGNATORY LOCAL UNIONS**

**Effective \_\_\_\_\_**

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**ARTICLE I**  
**INTENT AND DURATION**

**Section 1. Intent And Duration.** This Project Labor Agreement (the "Agreement" or "PLA") is entered into between the City of Canton (the "Owner"); the East Central Ohio Building and Construction Trades Council, AFL-CIO ("ECOB & CTC" or "Council"); and the Signatory Unions (the "Unions") and applies exclusively to the construction work within the scope of this Agreement to be performed on the Fire Station Number 8 Renovations (hereinafter "the Project"). The purpose of this Agreement is to promote efficiency and cost-savings in the construction and refurbishment that is a part of the Project and to provide for the peaceful settlement of any and all labor disputes and grievances without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the Project. This Agreement shall expire and be of no further force or effect upon the completion of the Project.

Upon execution of this Agreement by all parties, all construction, reconstruction, repair, and renovation work covered by this Agreement on the Project shall be contracted exclusively to Contractors, of whatever tier, who agree to execute and be bound by the terms of this Agreement. Prior to performing any work on the Project, all Contractors of whatever tier shall execute the Letter of Assent (attached as Appendix 1) *and* participate in a Pre-Job Conference as required by Article VIII, Section 4 of this Agreement. The Owner (or its permitted designee) shall monitor compliance with this Agreement by all contractors and subcontractors. For purposes of the Agreement, the term "Contractor" shall be deemed to include all construction contractors and subcontractors of whatever tier engaged in any on-site construction, reconstruction, repair, and renovation work required to complete the Project, unless such work is specifically excluded by Article IV, Section 2 of this Agreement. The Owner, the Unions and all signatory Contractors agree to abide by the terms and conditions contained in the Agreement. This Agreement represents the complete understanding of all parties, and no Contractor is or will be required to sign any other agreement with a signatory union as a condition of performing work coming within the scope of this Agreement. No

practice, understanding or agreement between a Contractor and a Union, which conflicts with any provisions in this Agreement, will be binding on any other party unless endorsed in writing by the Owner.

**Section 2. Limitation Of Agreement To Project.** The Unions agree that this Agreement will be made available to, and will fully apply to, any successful bidder for work on the Project, without regard to whether that successful bidder performs work at other sites on either a union or a non-union basis, and without regard to whether employees of such bidder are or are not members of any union. The Unions further agree that this Agreement applies only to this Project. Nothing in this agreement is intended to, or shall, interfere with, or negate, any existing contractual relationship or collective bargaining agreement between the Union and any contractor or subcontractor that may execute this Agreement.

## **ARTICLE II**

### **PURPOSE**

**Section 1. Purpose.** The parties to this Agreement understand and acknowledge that the safe and timely completion of this Project will further the economic stability of the City of Canton and the safety of its public servants and residents by providing necessary structural improvements, refurbishments, and renovations to Fire Station Number 8.

Station Number 8 is owned and operated by the City at 1330 Dueber Avenue SW, Canton, OH 44706. Over time, various structural elements and supporting infrastructure have reached states of disrepair and must be replaced and refurbished to avoid further and future damage to the facility. This Project will include removal and reinstallation of electrical and wiring components, sewer system upgrades, plumbing and flooring improvements, restroom facility improvements and associated appurtenances.

The approximate cost of the Project is \$250,000.00 and is to be let out for bid on or around December 1, 2022.

**Section 2. Time Is Of The Essence.** The parties to this Agreement understand and agree that time is of the essence for this Project. The parties understand and agree that timely completion of the Project will require the use of substantial numbers of employees from construction and supporting crafts possessing skills and qualifications that are essential to the Project. The Unions pledge that they have members who are competent, skilled, and qualified to perform the required construction work. The parties also understand that on-budget completion of the Project is most critical; it is therefore essential that construction work on the Project be done in an efficient, economical manner with optimum productivity and with no delays. In recognition of those special needs of the Project, the Unions signatory hereto and their members agree not to initiate, authorize, sanction, participate in or condone, or permit their members to engage in any strike, sympathy strike, jurisdictional strike, recognition strike, slowdown, sabotage, work to rule, sickout, sit down, picketing of any type (including informational picketing), handbilling, boycott, interruption of work or any disruptive activity that interferes with or interrupts in any way work on the Project or other operations of the City of Canton. Contractors agree not to engage in any lockouts.

### **ARTICLE III**

#### **BENEFITS OF THE AGREEMENT**

**Section 1. Benefits Of The Agreement.** This Agreement is intended to foster the achievement of a timely and on-budget completion of the Project by, among other things:

- (a) reducing and/or eliminating the tension and potential disagreements that might otherwise exist between Union and non-union workers on the Project;
- (b) avoiding the costly delays of strikes, sympathy strikes, jurisdictional strikes, slowdowns, walkouts, picketing, handbilling and any other disruptions or interference with work, and promoting labor harmony and peace for the duration of the Project;

- (c) standardizing terms and conditions governing the employment of labor on the Project;
- (d) permitting flexibility in work scheduling and shift hours and times;
- (e) achieving negotiated adjustments as to work rules and staffing requirements from those which otherwise might obtain;
- (f) providing comprehensive and standardized mechanisms for the settlement of work disputes;
- (g) ensuring a reliable source of skilled and experienced labor; and
- (h) furthering public policy objectives, to the extent lawful, as to improved employment opportunities for minorities, women and the economically disadvantaged in the construction industry. Mindful of the economic condition and unemployment rate in Stark County, the Owner anticipates and expects that all construction workers and employees on this Project will be residents of Stark County. In view of the very technical and specialized work that is inherent in the construction industry, all parties acknowledge that this expectation by the Owner is a goal, not a mandate. To this end, all Contractors working under this Agreement pledge that they will make a good-faith effort to reach this goal expressed by the Owner.

## **ARTICLE IV**

### **SCOPE OF AGREEMENT**

**Section 1. The Work.** This Agreement is specifically defined and limited to onsite construction, reconstruction, repair, and renovation work required to complete the Project.

**Section 2. Exclusions From Scope.** Items specifically excluded from the scope of this Agreement, even if performed in connection with the Project, include the following:

- (a) Work of non-manual employees, including but not limited to, superintendents, supervisors, staff engineers, inspectors, quality control



and quality assurance personnel, timekeepers, mail carriers, clerks, office workers, including messengers, guards, safety personnel, emergency medical and first aid technicians, and other professional, engineering, administrative, supervisory and management employees.

- (b) Equipment and machinery owned or controlled and operated by the Owner.
- (c) All off-site manufacture, fabrication or handling of materials, equipment or machinery (except at dedicated lay-down or storage areas and except as provided in Article IV, Section 9), and all deliveries of any type to and from the Project site (except on-site pouring of concrete).
- (d) All employees of the Owner, the Construction Supervisor, design team or any environmental, engineering or other consultant when such employees do not perform labor coming within the scope of this Agreement.
- (e) Any work performed on or near or leading to or onto the site of work on the Project and undertaken by state, county, city or other governmental bodies, or their contractors; or by public utilities or their contractors.
- (f) Off-site maintenance of leased equipment and on-site supervision of all such maintenance work.
- (g) Work by employees of a manufacturer or vendor necessary to maintain such manufacturer's or vendor's warranty or guarantee, or work performed by supervisors or technicians employed by the manufacturer or vendor to oversee the testing of equipment once installed to insure that the equipment is fully operational.
- (h) Laboratory work for specialty testing or inspections not ordinarily done by the signatory local unions.
- (i) All work done by employees of any State agency, authority or entity or employees of any municipality or other public employer.
- (j) This Agreement does not apply to work covered under a collective bargaining agreement between a contractor and a local union in the outside line branch of the International Brotherhood of Electrical

Workers, including, but not limited to, construction of electrical transmission and distribution lines (including above-ground and below-ground lines), catenary and trolley facilities, switch yards, and substations.

The Unions agree that there shall be no interference with or disruption of work, of those contractors, employers, and employees exempted from coverage of this Agreement by subparagraph (a) through (j) above.

**Section 3. Contract Award and Consent to Agreement.**

- (a) The Owner, and/or Contractors, as appropriate, have the absolute right to award contracts or subcontracts on the Project notwithstanding the existence or nonexistence of any agreements between such Contractor and any Union party, *provided that* any and all Contractors are willing, ready and able to execute and comply with this Agreement should such Contractor be awarded work covered by this Agreement.
- (b) All Contractors, as a condition to awarding any contract or subcontract for any work covered by this Agreement, shall obtain and deliver to the Council a Letter of Assent (in the form provided by Appendix 1) executed by the awarded Contractor.
- (c) Where any Contractor violates the above Section 3(b), such Contractor and subcontractor shall be jointly and severally liable for damages incurred by any affected Union(s) from such failure of the Contractor to properly bind a subcontractor to the Agreement by Letter of Assent, determined pursuant to the Grievance Procedure set forth in Article VII of this Agreement.
- (d) Notwithstanding the foregoing Section 3(c), compliance with this Agreement is an absolute condition, as determined by the Owner, to performing any work on the Project unless such work is specifically excluded by Article IV, Section 2. Any Contractor performing work on the Project shall be deemed to have accepted this Agreement by such performance and agreed to be bound by all of its terms, without

exception.

**Section 4. Stand-Alone Agreement.** This Agreement is a stand-alone Agreement. While this Agreement expressly does not incorporate any local area collective bargaining agreements, such local area collective bargaining agreements may be referenced for the limited purposes as hereinafter set forth in this Agreement. However, to the extent, if any, that any provisions of this Agreement conflict with any provision of a local area collective bargaining agreement, the provisions of this Agreement shall control, except for all work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, all instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, with the exception of Articles VII, VIII and X of this Agreement, which shall apply to such work.

**Section 5. Craft Jurisdiction.** This Agreement shall recognize the traditional craft jurisdictions of the signatory unions. Any and all jurisdictional disputes shall be settled in accordance with Article VIII below. While this Agreement is a stand-alone Agreement, the Agreement will utilize the local area collective bargaining agreements of signatory locals, not state-wide agreements or other special project agreements, as a reference to define the signatory local unions' craft jurisdiction.

**Section 6. Subcontracting.** The Owner agrees that neither it nor any of its contractors or subcontractors will subcontract any work covered by this Agreement to be done on the Project except to a person, firm or corporation who is or agrees to become party to this Agreement by the procedure set forth in Article IV, Section 3. Contractors who are signatory to local area collective bargaining agreements shall be bound by the terms of their respective local collective bargaining agreements on subcontracting to the extent such terms are consistent with Article IV, Section 2 of this Agreement. Disputes concerning compliance with such local subcontracting provisions

for this Project shall be subject to all of the dispute resolution provisions of this Agreement.

**Section 7. Liability.** It is understood that the liability of the Contractor and the liability of the separate Unions under this Agreement shall be several and not joint. The Unions agree that this Agreement does not have the effect of creating any joint employer status between or among the Owner, Construction Supervisor and/or any Contractor, and neither the Owner nor Construction Supervisor shall assume any liabilities of the Contractors.

**Section 8. Abatement of Agreement.** As areas of covered work on the Project are accepted by the Owner, this Agreement shall have no further force or effect on such areas except where the Contractor is directed by the Owner to engage in repairs or punch list modifications.

**Section 9. Miscellaneous.** Notwithstanding any other provision of this Agreement, this Agreement applies and is limited to the recognized and accepted historical definition of demolition and new construction work under the direction of and performed by the contractor(s), of whatever tier, who have contracts awarded for such work on the project. Such work shall include site preparation work and dedicated off-site work except for the contractors and subcontractors specifically excluded in this Article II. Any off-site prefabrication of any building materials, systems and/or components traditionally performed on site shall be performed by the appropriate craft signatory to this Agreement and approved by the owner.

**ARTICLE V**  
**LABOR/MANAGEMENT COOPERATION**  
**JOINT ADMINISTRATIVE COMMITTEE**

**Section 1.** The parties to this Agreement shall establish a Project Joint Administrative Committee ("Committee"). This Committee will be a two-person committee

comprised of one member each appointed by the Owner (or its designee) and the Unions, with an alternate appointee Union member available to replace the regular appointee when a problem or grievance concerns the regular appointee's Union. Each member of the Committee shall designate an alternate who shall serve in the absence of the member for any purpose contemplated by this Agreement.

**Section 2.** The Committee shall meet at least quarterly, or more often if special circumstances warrant, to discuss the administration of the Agreement, the progress of the Project, labor/management problems that may arise, and any other relevant matters. Any need for interpretation which might arise from the application of the terms and conditions of the Agreement shall be referred directly to the Committee for resolution.

## **ARTICLE VI**

### **UNION RECOGNITION AND EMPLOYMENT**

**Section 1. Pre-Hire Recognition.** Each Contractor and subcontractor recognizes the Unions as the sole and exclusive bargaining representatives of all craft and trade employees within their respective jurisdictions working on the Project under the Agreement.

**Section 2. Contractor's Right of Selection.** Each Contractor shall have the right to determine the competency of all employees, the number of employees required and shall have the sole responsibility for selecting employees to be laid off. To the extent any training or vendor education is required to fill any position, said training shall be undertaken at no cost or expense to Owner.

**Section 3. Union Referral.** For local Unions having a job referral system, each Contractor agrees to comply with such system, and the referral system shall be used exclusively by such Contractor, except as modified by this Article. Such job referral system will be operated in a non-discriminatory manner and in full compliance with

Federal, state, and local laws and regulations requiring equal employment opportunities and nondiscrimination, and referrals shall not be affected in any way by the rules, regulations, bylaws, constitutional provisions or any other aspects or obligations of union membership, policies or requirements. The Union shall indemnify and hold each Contractor harmless with respect to any claim arising out of how the Union operates and administers its referral system. All hiring procedures, including related practices affecting apprenticeship and training, will be operated so as to facilitate the ability of the contractors to meet any and all equal employment opportunity/affirmative action obligations. The Contractor may reject any referral and request another, different referral; provided, however, the Contractor shall furnish, upon request from the Union, a written explanation for the rejection.

**Section 4. Lack of Job Referral System.** In the event that a signatory Local Union does not have a job referral system as set forth in Section 3 above, the Contractor shall give the Union a forty-eight (48) hour opportunity to refer applicants. The Contractor shall notify the Union of employees hired from any source other than referral by the Union.

**Section 5. Unavailability of Union Referrals.** In the event that local Unions are unable to fill any requisitions for qualified employees within forty-eight hours (48) after such requisition is made by the Contractor (Saturdays, Sundays, and Holidays excepted), the Contractor may employ applicants from any other available source. The Contractor shall inform the Union of the name, address and telephone number of any applicants hired from other sources and refer the applicant for the Local Union for dispatch to the Project.

**Section 6. Union Best Efforts.** The Local Unions will exert their utmost efforts to recruit sufficient numbers of skilled craft workers to fulfill the manpower requirements of each Contractor, including calls to local unions in other geographic areas when its referral lists have been exhausted. The parties to this Agreement support the development of increased numbers of skilled construction workers from the residents

of the area of the Project. Toward that end, the Unions agree to encourage the referral and utilization, to the extent permitted by law and the hiring hall procedures, of qualified residents as journeymen, apprentices and trainees on the Project.

## **ARTICLE VII**

### **GRIEVANCE ARBITRATION PROCEDURE**

**Section 1.** This Agreement is intended to provide close cooperation between management and labor. Each of the Unions will assign a representative to this Project for the purpose of completing the construction of the Project economically, efficiently, continuously, and without interruptions, delays, or work stoppages.

**Section 2.** The Contractors, Unions, and the employees, collectively and individually, realize the importance to all parties to maintain continuous and uninterrupted performance of the work of the Project, and agree to resolve disputes in accordance with the grievance-arbitration provisions set forth in this Article.

**Section 3.** Any question or dispute arising out of and during the term of this Agreement (other than trade jurisdictional disputes) shall be considered a grievance and subject to resolution under the following procedures:

**Step 1.** (a) When any employee subject to the provisions of this Agreement feels he or she is aggrieved by a violation of this Agreement, he or she, through his or her local union business representative or job steward, shall, within five (5) working days after the occurrence of the violation, give notice to the work-site representative of the involved Contractor stating the provision(s) alleged to have been violated. The business representative of the local union or the job steward and the work-site representative of the involved Contractor

shall meet and endeavor to adjust the matter within three (3) working days after timely notice has been given. The representative of the Contractor shall keep the meeting minutes and shall respond to the Union representative in writing at the conclusion of the meeting but not later than twenty-four (24) hours thereafter. If they fail to resolve the matter within the prescribed period, the Local Union may, within forty-eight (48) hours thereafter, pursue Step 2 of the Grievance Procedure, provided the grievance is reduced to writing, setting forth the relevant information concerning the alleged grievance, including a short description hereof, the date on which the grievance occurred, and the provisions of the Agreement alleged to have been violated.

(b) Should the Local Union(s) or the Project Contractor or any Contractor have a dispute with the other party and if, after conferring, a settlement is not reached within three (3) working days, the dispute may be reduced to writing and proceed to Step 2 in the same manner as outlined herein for the adjustment of an employee complaint.

**Step 2.** The International Union Representative and the involved Contractor shall meet within seven (7) working days of the referral of a dispute to this second step to arrive at a satisfactory settlement thereof. Meeting minutes shall be kept by the Contractor. If the parties fail to reach an agreement, the dispute may be appealed by the Union, in writing, in accordance with the provisions of Step 3.

**Step 3.** (a) If the grievance has been submitted but not adjusted under Step 2, either party may request in writing, within seven (7) calendar days thereafter, that the grievance be submitted to an Arbitrator mutually agreed upon by them.



The Contractor and the involved Union shall attempt mutually to select an arbitrator, but if they are unable to do so, they shall request the Federal Mediation and Conciliation Services (FMCS) to provide them with a list of arbitrators from which the Arbitrator shall be selected. The rules of FMCS shall govern the conduct of the arbitration hearing. The decision of the Arbitrator shall be final and binding on all parties. The fee and expenses of such Arbitration shall be borne equally by the Contractor and the involved Local Union(s).

**Section 4.** Failure of the grieving party to adhere to the time limits established herein shall render the grievance null and void. Failure of the Contractor to adhere to the time limits established herein shall result in the grievance being sustained. The time limits established herein may be extended only by written consent of the parties involved at the particular step where the extension is agreed upon. The Arbitrator shall have the authority to make decisions only on issues presented to him or her, and he or she shall not have authority to change, amend, add to or detract from any of the provisions of this Agreement.

**Section 5.** The Owner shall be notified of all actions at Steps 2 and 3 and shall, upon their request, be permitted to participate in all proceedings at these steps.

## **ARTICLE VIII**

### **JURISDICTIONAL DISPUTES**

**Section 1.** The assignment of work will be the responsibility of the Contractor performing the work involved and such work assignments will be in accordance with decisions issued under the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan"), or any successor Plan, adopted by the National Building and Construction Trades Department.

**Section 2.** All jurisdictional disputes on this Project, between or among Building and Construction Trades Unions and employers, parties to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Contractors and Unions parties to this Agreement.

**Section 3.** All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature, and the Contractor's assignment shall be adhered to until the dispute is resolved. Individuals violating this section shall be subject to immediate discharge.

**Section 4.** Each Contractor will conduct a Pre-Job Conference with the Council prior to commencing work which shall require completion of a Pre-Job Conference Verification Form (attached as Appendix 2). This Pre-Job Conference requirement may be waived only by the Council, in writing, upon request of a Contractor. The Owner will be advised in advance of all such conferences and may participate if they wish.

## **ARTICLE IX**

### **MANAGEMENT'S RIGHTS**

**Section 1. Exclusive Owner - Workforce.** Except as otherwise provided in this Agreement, the Owner (or its designee) and the Contractors retain the authority to manage their operations and workforces.

**Section 2. Materials, Design, Machinery, Equipment.** There shall be no limitation or restriction by a signatory Union upon a Contractor's choice of materials or design, nor, regardless of source or location, upon the full use and utilization of equipment, machinery packaging, pre-cast, pre-fabricated, pre-finish, or pre-assembled materials, tools or other labor saving devices. The on-site installation or

application of all items shall be performed by the craft having jurisdiction of such work; provided, however, that installation of specialty items may be performed by employees employed under this Agreement who may be directed by other personnel in a supervisory role, in circumstances requiring special knowledge of the particular items.

**Section 3. New Technology, Equipment.** The use of new technology, equipment, machinery, tools and/or labor saving devices and methods of performing work may be initiated by any Contractor from time to time during the Project. The Union agrees that it will not in any way restrict the implementation of such new devices or work methods.

**Section 4. Disputes.** If there is any disagreement between any Contractor and the Union concerning the manner or implementation of such device or method of work, the implementation shall proceed as directed by the Contractor, and the Union shall have the right to grieve and/or arbitrate the dispute as set forth in Article VII of this Agreement.

## **ARTICLE X**

### **WORK STOPPAGES**

**Section 1. No Strikes or Work Disruptions.** There shall be no strike, sympathy strike, jurisdictional strike, recognitional strike, slowdown, sabotage, work to rule, sickout, sit down, picketing of any type (including informational picketing), handbilling, boycott, interruption of work or any disruptive activity that interferes with or interrupts in any way work on the Project. The applicable local union shall not sanction, aid or abet, encourage or continue any work stoppage, strike, picketing or other disruptive activity which violates this Article and shall undertake all reasonable means to prevent or to terminate any such activity. No employee shall engage in activity which violates this Article. Any employee who participates in or encourages any activity which violates this Article shall be subject to disciplinary action, including discharge, and if justifiably discharged for the above reasons, shall not be eligible for

rehire on the same project for a period of not less than ninety (90) days. Further, if the Local Union is unable to provide qualified replacements for those employees who are in violation of this Article by the beginning of the next shift, the Employer is free to hire from any source.

**Section 2. Union Responsibilities.** The Local Union shall not be liable for acts of employees for which it has no responsibility. The principal officers of the Local Union will immediately instruct, order and use their best efforts to cause the members of the Local Union they represent to cease any violations of this Article. If it complies with this obligation, the Local Union shall not be responsible for unauthorized acts of employees it represents.

## **ARTICLE XI**

### **WAGES AND BENEFITS**

**Section 1. Wages.** All employees covered by this Agreement shall be classified in accordance with work performed and paid 100% of the wages and 100% of the fringe benefits as established in the respective Union's Local Area Collective Bargaining Agreement and any subsequent modifications thereto. The Contractor, upon request, shall provide the Unions and Owner with substantiation that wages and benefits are being paid on the Project. The Unions shall provide the Owner, and any Contractor or subcontractor that is party to this Agreement, with wage, fringe benefit and dues reporting forms.

**Section 2. Payment of Benefits/Contributions.** Each Contractor will also pay all required contributions in the amounts required by Section 1 of this Article to the established employee benefit funds that accrue to the direct benefit of the employees (such as pension and annuity, health and welfare, vacation, apprenticeship, training funds). With respect to contributions required in this Section to Employer-Union jointly trusted funds, the Contractor adopts and agrees to be bound by the written terms of the legally established trust agreement specifying the detailed basis on which

payments are to be made into, and benefits paid out of, such Trust Funds. The Contractor authorizes the parties to such Trust Funds to appoint Trustees and successor Trustees to administer the Trust Funds and hereby ratifies and accepts the Trustees so appointed as if made by Contractor.

**Section 3. Non-Affiliated Labor Organizations.** The Contractor shall deduct from each employee's wages all uniform dues and working assessments the employee has voluntarily authorized in writing as set forth in the Employee's Local Collective Bargaining Agreement. If a labor organization is not affiliated with the Council, and supplies its members or referrals for work on the Project, such labor organization shall pay to the Council the dues and assessments it would owe the Council if affiliated, for all periods during which the labor organization has members or referrals working on the Project. Any disputes under this paragraph shall be resolved exclusively between the labor organization and the Council by using the grievance procedure appearing in Article VII, as provided herein. All grievances shall be reduced to writing within thirty (30) days of the date on which the aggrieved party discovered the dispute. The grievance shall be initiated at Article VII, Section 3, Step 3.

## **ARTICLE XII**

### **LOCAL UNION NEGOTIATIONS DURING THE PENDENCY OF THE AGREEMENT**

**Section 1.** All parties to this Agreement understand and acknowledge that some crafts who will be working on the Project are covered by local collective bargaining agreements that will expire prior to the projected completion of the Project. All parties understand and agree that irrespective of whether such local collective bargaining agreement negotiations are successful or unsuccessful, there shall be no strike, sympathy strike, jurisdictional strike, recognitional strike, slowdown, sabotage, work to rule, sickout, sit down, picketing of any type (including informational picketing), handbilling, boycott, interruption of work or any disruptive activity that interferes with or interrupts in any way work on the Project by any Union involved in such local

negotiations, or by any of its members, nor shall there be any lockout by a Contractor on the Project affecting such union or its members during the course of such negotiations. Irrespective of the status of any such local collective bargaining agreement negotiations, the affected Union and all of its members will observe and fully comply with the provisions of this Agreement. Should any Local Union fail or refuse to provide and/or refer qualified employees for work on the Project during an economic strike, any affected Contractor shall be permitted to utilize the procedures appearing in Article VI, Section 5 of this Agreement.

**Section 2. Wage/Benefit Increases.** Should a craft covered by this Agreement negotiate an increase in wages or an increase in benefits with any Contractor to become effective during the term of the Project, those wage and/or benefit increases shall be paid by the affected Contractor, as of the effective date of those increases, to those employees in that craft performing work covered by this Agreement.

## **ARTICLE XIII**

### **HOURS OF WORK, OVERTIME, SHIFTS AND HOLIDAY**

**Section 1. Work Day and Work Week.** Except as provided in Section 4, the first shift shall consist of eight (8) or ten (10) hours per day between the hours of 6:00 a.m. and 5:30 p.m., plus one-half (1/2) hour unpaid for lunch, approximately mid-way through the shift. Forty (40) hours per week shall constitute a regular week's work, whether consisting of five (5) eight (8) hour days, or four (4) ten (10) hour days. The work week will start on Monday and conclude on Sunday. A uniform starting time will be established for all crafts on each project or segment of the work. Nothing herein shall be construed as guaranteeing any employee eight (8) or ten (10) hours per day or forty (40) hours per week. The Union(s) shall be informed of the work starting time set by the contractor at the pre job conference which may be changed thereafter upon three (3) days' notice to the Union(s) and the employees. A second shift, if used, shall consist of eight hours between 3:00 p.m. and 1:00 a.m.; a third shift, if used, shall begin between 10:00 p.m. and 1:00 a.m. For purposes of Section 3, the third shift shall be

considered as part of the prior day's work.

**Section 2. Starting Times.** Employees shall be at their place of work at the starting time and shall remain at their place of work (as designated by the Contractor) performing their assigned functions until quitting time, which is defined as the scheduled end of the shift. The parties reaffirm their policy of a fair day's work for a fair day's wage. There shall be no pay for time not worked unless the employee is otherwise engaged at the direction of the Contractor.

**Section 3. Overtime.** Overtime shall be defined as all hours worked in excess of forty (40) hours in a work week or, for 8 hour shifts, in excess of eight (8) hours per day; or for 10 (ten) hour shifts for work in excess of 10 hours per day; such work and work performed on Saturdays shall be paid at one and one-half times the straight time rate of pay. However, in scheduled four (4) day/ten hour shift work weeks, Friday may be scheduled as a "makeup" day at straight time to make up for a day lost (Monday through Thursday) due to inclement weather. In addition, if a "make-up" day is scheduled, all employees directed to work on such day will be guaranteed a minimum of four (4) hours work or pay. In any week in which employees on the Project are scheduled on four/ten hour shifts, an employee whose first day of work on the Project begins on Wednesday or later day of the schedule shall be paid, during the first week of his employment only, time-and-one-half for all hours worked in excess of eight in a day or each day he works during said week. Work on Sundays and holidays shall be at double time. There shall be no restriction on any contractor's scheduling of overtime or the non-discriminatory designation of employees who will work. The contractor shall have the right to schedule work so as to minimize overtime. There shall be no pyramiding of overtime pay under any circumstances.

**Section 4. Shifts.**

- (a) Shift work may be performed at the option of the Contractor(s) upon three (3) days' prior notice to the Union and shall continue for a period of not less than five (5) working days. Saturdays and Sundays, if worked, may be used

for establishing the five (5) day minimum work shift. If two shifts are worked, each shall consist of eight (8) hours of continuous work exclusive of a one-half (½) hour non-paid lunch period. Any third shift shall consist of seven (7) hours of continuous work exclusive of one-half (½) hour non-paid lunch period for eight (8) hours pay. A premium of \$.25 per hour shall be paid for work on the second shift and \$.50 per hour for work on the third shift.

- (b) The Contractor may establish a work week of four (4) consecutive ten (10) hour work days (exclusive of one-half (½) hour unpaid lunch, approximately midway through the shift) between Monday through Thursday.

**Section 5. Minimum Pay.** An employee who reports for work at the regular starting time and for whom no work is provided shall receive pay equivalent to two (2) hours at the applicable hourly rate, provided the employee at the employer's discretion remains available for work. Any employee who reports for work and for whom work is provided shall be paid for actual time worked but not less than two (2) hours. It will not be a violation of this agreement when the employer considers it necessary to shut down to avoid the possible loss of human life, because of an emergency situation that could endanger the life and safety of an employee. In such cases, employees will be compensated only for the actual time worked. In the case of a situation described above where the employer requests employees to remain available for work, the employees will be compensation for such time. If a project is shut down because of weather, employees, who report for work, shall be paid actual time worked but not less than two (2) hours. Procedures for prior notification of work cancellation shall be determined at the pre-job conference. The provisions of this section are not applicable where the employee voluntarily quits or lays off.

**Section 6. Holidays.** Holidays shall be New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Day after Thanksgiving Day, and Christmas Day. A holiday falling on Saturday shall be observed on the preceding Friday. A holiday falling on Sunday shall be observed on the following Monday.



**Section 7. Meal Period.** The Contractor will schedule a meal period of not more than one-half hour duration at the work location at approximately the mid-point of the scheduled work shift (4 hours in a five day work week, 5 hours in a four-day work week), consistent with Section 1; provided, however, that the Contractor may, for efficiency of the operation, establish a schedule which coordinates the meal periods of two or more crafts. If an employee is required to work through his meal period, he shall be compensated for the time worked at the applicable overtime rate and the employee shall, when work permits, eat his lunch "on the fly".

**Section 8. No Organized Work Breaks.** There will be one (1) break during the first four (4) hours of a shift which shall be taken at the employee's work station. Individual nonalcoholic beverage containers will be permitted at the employee's work station.

**Section 9. Helmets to Hardhats.**

- (a) The Employers and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Employers and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.
- (b) The Unions and Employers agree to coordinate with the Center to create and maintain an integrated database of veterans interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

## **ARTICLE XIV**

### **APPRENTICES**

**Section 1. Need For.** The parties recognize the need to maintain continuing support of programs designed to develop adequate numbers of competent workers in the construction industry. The Contractor(s) will, accordingly, employ apprentices in their respective crafts to perform work on the Project in accordance with Section 2 below.

**Section 2. Ratios.** The Union agrees to cooperate with the Contractor in furnishing qualified apprentices as requested and if available. Apprentices shall perform the work of their craft in accordance with the ratios and terms in their local area collective bargaining agreements. To the extent requested by Owner, the Contractor(s) may use the maximum number of apprentices permitted by local collective bargaining agreements.

## **ARTICLE XV**

### **DRUG AND ALCOHOL POLICY**

**Section 1. Drug and Alcohol Policy.** All parties understand and agree that a drug and alcohol policy, approved by the Council, will be in force for all work performed under the Agreement. The drug and alcohol policy will prohibit the use, sale, transfer, purchase and/or possession of a controlled substance, alcohol and/or firearms while on the Project's premises and will require testing of employees. The drug and alcohol policy, attached hereto as Appendix 3, is incorporated into and made part of this Agreement and is implemented for all Contractors and employees working on the Project.

## **ARTICLE XVI**

### **NON-DISCRIMINATION**

**Section 1. Policy.** It is the continuing policy of the Owner, the Contractors and

the Unions that the provisions of this Agreement shall be applied without discrimination because of age, race, sex, color, religion, creed, national origin, sexual orientation or any other basis prohibited by applicable law.

## **ARTICLE XVII**

### **SOLE AND COMPLETE AGREEMENT**

**Section 1.** The parties agree that this Agreement constitutes the sole and complete agreement between them governing the rates of pay and working conditions of the construction employees working on the Project. This Agreement settles all demands and issues on the matters subject to collective bargaining and shall not be modified or supplemented in any way except by written agreement executed by the Owner and all parties.

## **ARTICLE XVIII**

### **SEPARABILITY AND SAVINGS CLAUSE**

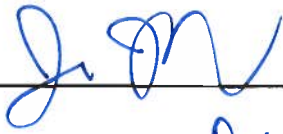
**Section 1. Intent of Parties.** If any article or section of this Agreement shall be held invalid by law or by a tribunal of competent jurisdiction, or if compliance with or enforcement of any article should be restrained pending a final determination as to its validity, the remainder of this Agreement shall not be affected and shall remain in full force and effect. In the event that any article or section is held invalid, the parties hereto shall, upon the request of the Unions, enter into collective bargaining negotiations for the purpose of arriving at a mutually satisfactory replacement for such article during the period of invalidity or restraint. If the Owner and the Council cannot agree on a mutually satisfactory replacement, either party shall be permitted to submit its demand to formal interest arbitration under the Rules of Federal Mediation and Conciliation Service.

**Section 2. Force of Agreement.** The parties recognize the right of the Owner to withdraw, at its absolute discretion, the utilization of this Agreement as part of any bid specification should a court of competent jurisdiction issue any order which could

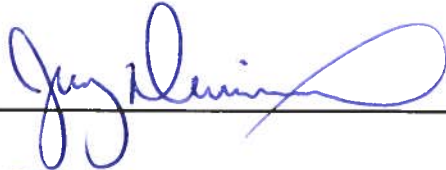
result, temporarily or permanently, in a delay of the bidding, awarding, and/or construction work on the Project. Notwithstanding such an action by the Owner, or such court order, the parties agree that the Agreement shall remain in full force and effect on the Project, to the maximum extent legally possible. It is hereby agreed that this Agreement covers all of the signatory local unions listed below.

**Section 3. Delegation.** The Owner, in its sole and absolute discretion has the right to delegate its duties hereunder to a representative and/or designee who may be either an employee of Owner or a third party with whom Owner has contracted for contractor services.

OWNER  
CITY OF CANTON

  
\_\_\_\_\_  
Director of Public Service


EAST CENTRAL OHIO BUILDING &  
CONSTRUCTION TRADES COUNCIL,  
AFL-CIO

  
\_\_\_\_\_  
PRESIDENT

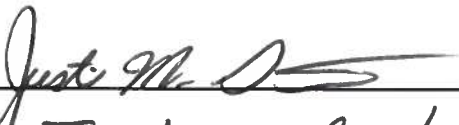
APPROVED AS TO FORM

  
\_\_\_\_\_  
CITY OF CANTON  
DIRECTOR OF LAW


BOILERMAKERS LOCAL NO. 744

By:   
\_\_\_\_\_  
Name: MARTIN D. MAHON  
Title: BUSINESS MANAGER  
Date: 11-16-2022


BRICKLAYERS LOCAL 6

By:   
\_\_\_\_\_  
Name: Justin M. Gartrell  
Title: Field Rep  
Date: 11-18-22


ELECTRICIANS LOCAL NO. 540

By:   
\_\_\_\_\_  
Name: AARON M. BROWN  
Title: BUSINESS MANAGER  
Date: 11/14/2022


**ELEVATOR CONSTRUCTORS  
LOCAL NO. 45**

By:   
Name: Ron Johnson  
Title: B.A.  
Date: 11/14/2022

**GENERAL TRUCK DRIVERS &  
HELPERS UNION LOCAL NO. 92**

By:   
Name: Warren Brustoski  
Title: B.A.  
Date: 11-14-22

**GLAZIERS LOCAL NO. 1162**

By:   
Name: Scott Harter  
Title: B.A.  
Date: 11-14-22

**HEAT & FROST INSULATORS AND  
ALLIED WORKERS LOCAL  
NO. 84**

By: 

Name: RAMON WROBEL

Title: BUSINESS MANAGER

Date: 11/16/22

**IRONWORKERS LOCAL NO. 550**

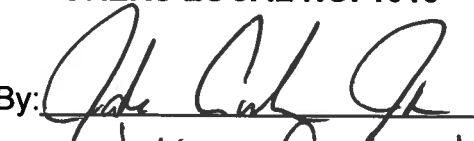
By: 

Name: William V. Jheret Jr

Title: BM

Date: 11-14-22

**LABORERS LOCAL NO. 1015**

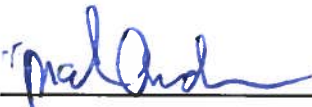
By: 

Name: Jake Craston Jr


Title: Business Manager

Date: 11/10/22


**OPERATIVE PLASTERERS AND  
CEMENT MASONS LOCAL NO. 109**

By:   
Name: Mark Anderson  
Title: B.A.  
Date: 11-14-22


**PAINTERS LOCAL NO. 841**

By:   
Name: Scott Harter  
Title: B.A.  
Date: 11-14-22

**PLUMBERS, PIPEFITTERS AND  
REFRIGERATION LOCAL NO. 94**

By:   
Name: Brett McFresl  
Title: B. M.  
Date: 11-16-22

**ROOFERS LOCAL UNION NO. 88**

By:   
Name: James R. Moyers  
Title: Business Manager  
Date: 11-11-2022



**OPERATIVE PLASTERERS AND  
CEMENT MASONS LOCAL NO. 109**

By: W. C. Taggart

Name: William C. Taggart

Title: BM / FIN SEC

Date: 11/10/2021

**PAINTERS LOCAL NO. 841**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**PLUMBERS, PIPEFITTERS AND  
REFRIGERATION LOCAL NO. 94**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**ROOFERS LOCAL UNION NO. 88**

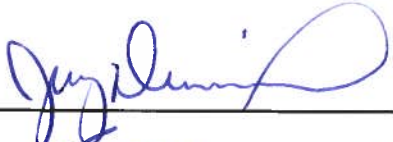
By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**SHEET METAL WORKERS LOCAL  
NO. 33**

By:   
Name: Jerry DURIEUX  
Title: BUSINESS AGENT  
Date: 11/14/2002

**SPRINKLER FITTERS LOCAL  
NO. 669**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**APPENDIX 1**

**LETTER OF ASSENT TO THE PROJECT LABOR AGREEMENT  
FOR THE  
FIRE STATION NO. 8 RENOVATIONS**

Pursuant to Article I, Section 1 and Article IV, Section 3 of the Project Labor Agreement (the "Agreement") for the above-referenced Project, the undersigned party hereby agrees that it will comply with and be bound by all of the terms and conditions of the Agreement and agrees to all approved amendments or revisions thereto.

By executing this Letter of Assent, the undersigned also reaffirms, acknowledges, and agrees that it must participate in a Pre-Job Conference with the East Central Ohio Building & Construction Trades Council prior to performing any work on the Project. A Pre-Job Conference shall be valid only where the undersigned Contractor completes the Pre-Job Conference Verification Form provided in Appendix 2.

This Letter of Assent shall ONLY apply to the above-referenced Project and shall remain in effect for the duration of the above-referenced Project, after which this Letter of Assent will automatically terminate without further notice.

**For the Contractor (or Subcontractor of whatever tier)**

**Name of Contractor/Subcontractor:** \_\_\_\_\_

**By its Authorized Representative:** \_\_\_\_\_

**Print Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

**Email:** \_\_\_\_\_

## **APPENDIX 2**

### **Pre-Job Conference Verification Form**

Date of Conference	_____
Location of Conference	_____
Project Name	_____
Contractor Name	_____
Address of Contractor	_____ _____
Point of Contact	_____
Phone	_____
Email	_____
Scope of Work	_____ _____ _____

Contractor has provided Council with a list of all proposed trade assignments by craft including scope of work for each assignment.

Y\_\_\_ N\_\_\_

Contractor has provided Council with a list of all subcontractors that will perform work on the Project.

Y\_\_\_ N\_\_\_

Contractor affirms that it is responsible for subcontracting any work on the Project in strict compliance with Article IV, Section 3 of the Project Labor Agreement.

Y\_\_\_ N\_\_\_

The Council has in its possession a Letter of Assent signed by Contractor.

Y\_\_\_ N\_\_\_

### **ACKNOWLEDGED:**

BY COUNCIL: (signature)\_\_\_\_\_ (title)\_\_\_\_\_

BY CONTRACTOR: (signature)\_\_\_\_\_ (title)\_\_\_\_\_

**APPENDIX 3**  
**EMPLOYEE DRUG AND ALCOHOL TESTING POLICY**  
**SPECIFICATIONS**

The Owner is committed to providing a safe workplace for the workers assigned the Project, promoting high standards of employment health, and fostering productivity that satisfies its quality expectations. Consistent with the intent and spirit of this commitment, the Owner and ECOB & CTC have established a substance abuse testing specification for the Project with the goal of maintaining a work environment that is free from the effects of the use of illegal drugs and alcohol. The Owner will implement the terms of this policy.

This specification is not intended as a substitute for the Contractors' complete written substance abuse policy. Normally, such policies include other important features, including, but not limited to, an employee education and awareness Program, a supervisor training program and an employee assistance program.

The policy for this Project requires that any construction employee entering the project site will comply with the substance abuse testing requirements as outlined in this section. The Owner reserves the right to amend this specification upon written notice to the Contractor and the Unions on the Project. The parties to this agreement shall recognize the Drug Free Work Site Program as implemented through participating Unions and/or Contractors as administered by the contractor, or for contractors who are not signatory to agreements with signatory unions belonging to ECOB & CTC, and their core employees, an equivalent program that meets the specifications, contractual requirements, and testing requirements as set forth in Appendix 3.

**CONTRACTUAL REQUIREMENTS**

All Contractors must have and enforce a written Substance Abuse Program incorporating the testing requirements, term, and conditions set forth in this specification. This specification is applicable to all employees, current and prospective, in order to be eligible to perform work at the Project. The Contractors must comply with the specification. Supplies, vendors, and visitors are subject to confirmation of their abstinence from the possession or use of substances indicated in this specification. A copy of each contractor's substance abuse program must be

submitted to the Owner for approval prior to commencement of any work on the Project site.

The substance abuse program must apply to all employees working on the Project and subcontractors' of any of tier working on the Project site. This includes workers, new hires, replacement workers, and supervisory personnel. No employee or prospective employee of a Contractor shall be permitted to work on the Project site unless such employee has submitted to testing by this specification and unless the results of such testing are negative as hereinafter defined. The Contractor must provide the Owner with a Monthly Summary Report of the Substance Abuse Program compliance.

All Contractors must train their respective employees in methods that will allow them to recognize substance abusers. Supervisory Employees of the Owner or its subcontractor shall be trained to take action, and to confront a substance abuser in a manner consistent with generally accepted safety-training procedures.

The cost of implementing the Substance Abuse program shall be borne by each respective Contractor affected by this specification.

Suppliers, vendors, and visitors must become signatory to the terms of this specification and their abstinence from substance abuse, and their continued avoidance of violations of the specification at the project site. Furthermore, in the event of an incident and/or accident occurrences involving suppliers, vendors, and/or visitors, the same agrees to submit to the substance abuse testing when requested. Refusal to comply would be grounds to have the supplier, vendor, or visitor permanently barred from the Project site by regulators.

### TESTING REQUIREMENTS

The Project requires:

- Post-offer/Pre-engagement drug and alcohol testing.
- Testing for reasonable suspicion of illegal drug use or alcohol use.
- Post accident and post incident drug and alcohol testing upon reasonable suspicion.
- Drug testing following discovery of illegal or unauthorized drugs or paraphernalia as creating reasonable suspicion.

All Prime Contractors must perform post-offer/pre-engagement, and post accident/incident testing upon reasonable suspicion, as follows:

- a. All drug testing must be conducted by a National Institute of Drug Abuse (NIDA) certified laboratory with test results interpreted by a licensed medical review officer (MRO).
- b. The initial screen tests for alcohol shall be performed by using either a saliva test or breathalyzer test comparable to the type used by state or local law enforcement officials. Furthermore, alcohol confirmatory tests shall be performed by using either blood alcohol test or a Breathalyzer test comparable to the type used by state or local law enforcement officials.
- c. Evidence of the negative test results of individual employees required by this specification shall be furnished to the Owner prior to the commencement of work by the individual employee and promptly after performance of any subsequent testing required by this specification. Acceptable negative test result format.
  - A certificate signed by the testing laboratory, setting forth the nature and results of performed; or
  - An identification card signed by the respective Prime Contractor and issued to the individual employee, setting forth as reported on a certificate issued by the testing laboratory. The name of the testing laboratory shall also appear on the identification card; provided the affected employee authorizes the issuance of such identification card.

#### COMPLIANCE PROCEDURE

The Owner reserves the right to audit any substance abuse program required by this specification to verify compliance results within twenty-four (24) hours of notification of the intent to audit. The Owner shall have free right of access to all relevant records of the Prime Contractor and their subcontractors and supplies for this purpose, provided such record disclosures are within the scope of the States guidelines pertaining to confidentiality of employee records.

The Contractor's pre-engagement employees who receive a positive test result shall immediately leave the Project Site. Transportation of employees receiving the

positive test result is the direct responsibility of the employing Prime Contractor, including employees of its subcontractors. Furthermore, pre-engagement employees receiving a positive test shall not be permitted to return to the Project Site earlier than 90 days from the date of the positive test. At this time the employee may begin the process outlined by this specification again.

## DEFINITIONS/ CONFIDENTIALITY/RULES- DISCIPLINARY ACTIONS- GRIEVANCE PROCEDURES

### 1. DEFINITIONS:

- (a) Company Premises - the term "Company Premises" as used in this policy includes all property, facilities, land, building, structures, automobiles, trucks and other vehicles owned, leased or used by the Contractor on the Project. Construction job sites for which the Contractor has responsibility are included.
- (b) Prohibited Items & Substances - Prohibited substances include illegal drugs (including controlled substances, look alike drugs and designer drugs, alcoholic beverages, and drug paraphernalia in the possession of or being used by an employee on the job.
- (c) Employee - Individuals, who perform work for the Contractor, including, but not limited to management, supervision, engineering, craft workers and clerical personnel.
- (d) Accident - Any event resulting in injury to a person or property to which an employee, or contractor/contractor's employee, contributed as a direct or indirect cause.
- (e) Incident - An event which has all the attributes of an accident, except that no harm was caused to person or property.
- (f) Reasonable Cause - Reasonable cause shall be defined as tardiness, excessive absenteeism, and erratic behavior such as noticeable imbalance, incoherence, and disorientation.

### 2. CONFIDENTIALITY

- (a) All parties to this policy and program have only the interests of employees in mind; therefore, encourage any employee with a substance abuse problem



to come forward and voluntarily accept our assistance in dealing with the illness. An employee assistance program will provide guidance and direction for you during your recovery period. If you volunteer for help, the Contractor will make every reasonable effort to return you to work upon your recovery. The Contractor will also take action to assure that your illness is handled in a confidential manner.

- (b) All actions taken under this policy and program will be confidential and disclosed only to those with a "need to know."
- (c) When a test is required, the specimen will be identified with a code number, not by name, to insure confidentiality of the donor. Each specimen container will be properly label and made tamper proof. The donor must witness this procedure.
- (d) Unless an initial positive result is confirmed as positive, it shall be deemed negative and reported by the laboratory as such.
- (e) The handling and transportation of each specimen will be properly documented through the strict chain of custody procedures.

3. **RULES** - all employees must report to work in a physical condition that will enable them to perform their jobs in a safe and efficient manner. Employees shall not:

- (a) Use, possess, dispense or receive prohibited substances on or at the Project job site; or
- (b) Report to work at or on the Project with any measurable amount of prohibited substances in their system.

4. **DISCIPLINE** - When the Contractor has reasonable cause to believe an employee is under the influence of a prohibited substance, for reasons of safety, the employee may be suspended until test results are available. If no test results are received after three (3) working days, the employee, if available, shall return to work with back pay. If the test results prove negative, the employee shall be reinstated with back pay. In all other cases:

- (a) Applicants testing positive for drug use will not be hired.
- (b) Employees who have not voluntarily come forward, and who test positive for a drug use, will be terminated.

---

(c) Employees who refuse to cooperate with testing procedures will be terminated.

(d) Employees found in possession of drugs or drug paraphernalia will be terminated.

(e) Employees found under the influence of alcohol while on duty, or while operating a company vehicle, will be subject to termination.

5. PRESCRIPTION DRUGS - Employees using a prescribed medication which, in their physician's opinion, may impair the performance of their duties, either mental or motor functions, must immediately inform the supervisor of such prescription drug use if instructed by their physician to do so. For the safety of all employees, the Contractor will consult with you and your physician to determine if a reassignment of duties is necessary. The Contractor will attempt to accommodate your needs by making an appropriate reassignment. However, if a reassignment is not possible, you will be placed on temporary medical leave until released as fit for duty by the prescribing physician.

## Appendix B

### **Prevailing Wage Requirements and Rates**

#### **Overview**

This project will utilize Ohio Prevailing Wage Rates. All contractors and subcontractors are required to comply with all Prevailing Wage Requirements in the Ohio Revised Code. These requirements are outlined below and sample documents are contained in the following pages and will be utilized to comply with these requirements. **Please note that the City of Canton will withhold payroll and/or retainage for a pay application or for the project in total until all prevailing wage issues are resolved.**

#### **Payroll Dates Form**

Must be submitted to the Prevailing Wage Coordinator (PWC) on or before the date your company starts work under the contract. It is to be completed with the **actual payroll dates** and not a day of the week. This requirement applies to all contractors/subcontractors.

#### **Letter of Authorization for Payroll Signature**

The person signing the certified payrolls must be an Owner or Corporate Officer of the company, or an Authorization letter must be completed and sent to the Prevailing Wage Coordinator. The document sent **must be the original signed notarized document**. If the person signing the payroll changes during the course of the project then a new Letter of Authorization for payroll signature must be submitted.

#### **Fringe Benefits Form**

Please complete and return along with the payroll dates form and letter of authorization for payroll signature form.

#### **Notification to Employee Form**

If your company is a **non-union company** you **must provide a completed Notification form to each employee working on this site and provide the PWC a copy** (wage and fringe benefit amounts on Notification must match amounts listed on payrolls), the form must have the Prevailing Wage Coordinator information, if you are a **union company** you need to send the PWC **a copy of the contract/agreement your company has with the local Trade Union(s)**.

#### **Certified Payroll**

The **first certified payroll** must be sent to the Prevailing Wage Coordinator **within two weeks of 1<sup>st</sup> pay period on the job**, payrolls must be sent **weekly** to the Prevailing Wage Coordinator if your company is working **four months or less** on site, payrolls must be sent **at least monthly** if working **more than four months** on site. Certified payroll forms used by contractors **must include all the information that is on payroll form included** with this package, if the payroll form you use does not have sections for all the information, it must be included as an attachment to the certified payroll. (During the project you may send copies of the certified payroll but **by the end of the project you must provide the original signed documents to the Prevailing Wage Coordinator** before you will receive your final payment). Fringe benefit break down needs to be attached to **each** payroll. For any **work classifications** requiring a group number (1-5) such as laborer or operating engineer if the group number or identifying equipment employee is operating is not entered a revised payroll will be required.

### **Affidavit of Compliance**

When each contractor/subcontractor has completed their work on the job site they're required to submit a Final Affidavit of Compliance before the primary contractor receives their final payment and any retainer. Must send Prevailing Wage Coordinator original signed document.

### **Apprentices**

Any/all apprentices working on this project must be registered with the State of Ohio Apprenticeship Council, apprentices on site cannot exceed ratios in the wage decision rate schedule, contractors/subs must provide the Prevailing Wage Coordinator a copy of the Apprenticeship Agreement from the program for each apprentice on the project with the first payroll on which they appear. You must provide the apprentice level/year, i.e. 1, 2, 3, etc. and/or percent of Journeyman's pay rate, i.e. 50%, 55%, etc. on the certified payrolls.

### **Subcontractors**

If any subcontractors will be used during this project then a list of subcontractors including their name, address, and phone number must be provided to the Prevailing Wage Coordinator. The Prime contractor is responsible for all forms to be furnished to subcontractors, **along with wage rates** or any other modification vital to the project.

### **Prevailing Wage Rates**

Attached are the State of Ohio Prevailing Wage Rates as of the posting date of this bid. Actual rates due to workers will be those in affect at the time of work. Please note that the wages of the County where the work is be completed will be in effect. Due to the location of the water treatment plants, this could be either Stark or Tuscarawas counties. Both are attached. All applicable prevailing wage rates must be posted on the job site for the duration of the project.

## WEEKLY PAYROLLS

Each week as work progresses the Contractor must submit to the Prevailing Wage Coordinator original, certified, signed weekly payrolls containing the following information:

- A) Name of each employee.
- B) Employees' social security numbers
- C) Special classification of employees (same as shown on wage determination or provisional approval.)
- D) Rate of pay not less than that shown on the wage determination.
- E) Allowable fringe benefits paid to the employee.
- F) Hours worked each day and total hours worked for each week for each employee.
- G) Gross amount paid to each employee.
- H) Itemized deductions for each employee.
- I) Net amount paid to each employee.
- J) The following certification:

"I certify that the payroll is correct and complete, that the wage rates contained therein are not less than the applicable rates contained in the Wage Determination decision of the Department of Industrial Relations, Prevailing Wage Rate Division, State of Ohio, and that the classifications set forth for each laborer or mechanic conform with the work he performs".

---

(SIGNATURE)

---

(TITLE)

## **PREVAILING WAGE COORDINATOR**

The City of Canton has designated Cheryl Southwell as Prevailing Wage Coordinator, in accordance with Section 4115.071 of the Ohio Revised Code.

Her office is located at City of Canton, 218 Cleveland Ave SW, Canton, Ohio 47702  
Cheryl Southwell: 330-438-4183

### **CONTRACTORS SUBMISSIONS TO THE WAGE COORDINATOR:**

- 1) Contractors are required to supply to the Wage Coordinator, **a schedule of the dates during the life of the contract with City of Canton on which they are required to pay wages to the employees.** See Section 4115.03 (A) (2)
- 2) Contractors shall also deliver to the Wage Coordinator **a certified copy of the payroll within two weeks after the initial pay date and supplemental reports for each month thereafter, which shall exhibit for each employee, their name, current address, social security number, job classification, number of hours worked for project, rate of pay, project gross pay, fringe payments, total hours all jobs, total gross all jobs, and deductions from their wages.** See Section 4115.03 (A) (3)
- 3) If the life of the contract is expected to be no more than four months from the beginning of performance by the contractor or subcontractor, such supplemental reports shall be filed each week after the initial report. See Section 4115.03 (A) (6) (C)
- 4) The certification of each payroll shall be executed by the contractor, subcontractor, or duly appointed agent thereof and **include a State of Compliance** stating that the payroll is correct and complete and that during the payroll period, all persons employed on said project have been paid the full weekly wages earned, that no rebates have or will be made either directly or indirectly to, or on behalf of said contractor or subcontractor for the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions. See Section 4115.03 (A) (6) (C)
- 5) Contractors will also provide **each month a copy of any Labor Union Fringe Benefit Fund reports that they submitted to the unions.** See Section 4115.03

### **PREVAILING WAGE COORDINATOR MONITORING PROCEDURES**

The wage Coordinator's duties are those specified in Section 4115.071 and shall include:

- 1 Attend Pre-Construction Meetings to advise contractor of Prevailing Wage responsibilities
- 2 Wage Coordinator has the authority to spot check employees pay checks in the field on the scheduled pay days for full compliance, with regard to the prevailing wage rates, including benefits.

- 3 Wage Coordinator shall visit the project site to get names of employees performing work on the project site, to cross check with payroll reports submitted.
- 4 Wage Coordinator shall verify the subcontractors performing work on the project site with regard to whether they have been approved by the contracting authority.
- 5 Wage Coordinator shall check to see that the prevailing wages are posted on the project site in a place accessible to employees.
- 6 Ascertain that the statement of compliance accompanying the certified payroll is the correct one for the project
- 7 Wage Coordinator has the right to request any addition information they feel is required for proper wage verification.
- 8 Contact Contractors of delinquent payrolls
- 9 Notify contractors when necessary to request payroll corrections
- 10 Investigate wage complaints ,by self or with Ohio Department of Commerce Division of Labor & Worker Safety

# PAYROLL DATES PREVAILING WAGE LAW

**Instructions to the Contractor:** Please read the following and provide the required information noted on this form. This document must be submitted to the Prevailing Wage Coordinator for the public authority on or before your company begins any work under a contract for a public improvement. This requirement is also applicable to your subcontractors. Please make a copy of this document available to them. The prevailing wage laws state that contractors are responsible for their subcontractors.

.....

\_\_\_\_\_ will begin performance under contract on the  
(Name of Contractor)

\_\_\_\_\_ project on \_\_\_\_\_  
(Name and Location of Project) (Start Date)

and will conclude work on said project on \_\_\_\_\_.  
(End Date, if known)

In accordance with Section 4115.071 (C) of the Ohio Revised Code, listing of payroll dates, I hereby submit the following schedule of dates that my company is required to pay wages to its workers while on this project.

**NOTE:** If the life of the project is expected to be over three (3) months in length, provide only the days of the week your pay period starts and ends, plus the day you pay your workers.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Day Pay Period Starts: \_\_\_\_\_ Day Pay Period Ends: \_\_\_\_\_

Pay Day: \_\_\_\_\_

I acknowledge that I am required by section 4115.071 (C) of the Ohio Revised Code that I must submit a copy of my company's certified payroll records for this project to the Prevailing Wage Coordinator of the public authority within two weeks of the initial pay date listed above. I further acknowledge that I am responsible to collect and submit my subcontractor's prevailing wage documents, including their certified payroll records in accordance with the law.

\_\_\_\_\_  
(Contractor's Signature and Title)

\_\_\_\_\_  
(Company Name)

\_\_\_\_\_  
(Date)



**LETTER OF AUTHORIZATION FOR PAYROLL SIGNATURE:**

DATE: \_\_\_\_\_

COMPANY NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

FEDERAL I.D.# \_\_\_\_\_

RE: \_\_\_\_\_

(Project Name)

(Project Number)

(Address)

\_\_\_\_\_ hereby authorizes

(Company Officer/Owner-Title)

\_\_\_\_\_ as the person to

complete and sign all certified payroll forms for the above project.

BY: \_\_\_\_\_

(Print Name)

(Signature)

(Title)

Sworn and subscribed in my presence this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_

\_\_\_\_\_  
Notary Public

## FRINGE BENEFITS

PLEASE COMPLETE THIS FORM AND RETURN IT TO THE ADDRESS BELOW.

\_\_\_\_\_ FRINGE BENEFITS ARE ALL PAID IN CASH TO THE EMPLOYEE.

\_\_\_\_\_ FRINGE BENEFITS ARE PAID IN CASH AND TO THE BENEFIT PROGRAMS LISTED BELOW.

\_\_\_\_\_ FRINGE BENEFITS ARE ALL PAID TO THE FOLLOWING BENEFIT PROGRAMS:

HEALTH & WELFARE PLAN: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PENSION PLAN: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

APPRENTICESHIP PROGRAM: \_\_\_\_\_

YOUR COMPANY IS: \_\_\_\_\_ UNION \_\_\_\_\_ NON-UNION

YOUR COMPANY PAYS ALL EMPLOYEES: \_\_\_\_\_ WEEKLY \_\_\_\_\_ BI-WEEKLY

FORWARD A BLANK FORM TO EACH SUBCONTRACTOR ON THE PROJECT FOR COMPLETION.  
RETURN ALL FORMS TO:

CITY OF CANTON  
218 CLEVELAND AVE SW  
CANTON, OHIO 44702  
ATTN: PREVAILING WAGE COORDINATOR

CONTRACTOR'S NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PROJECT NAME: \_\_\_\_\_

## PREVAILING WAGE NOTIFICATION TO EMPLOYEE

4115.05...the contractor or subcontractor shall furnish each employee **NOT covered by a collective bargaining agreement** written notification of the job classification to which the employee is assigned, the prevailing wage determined to be applicable to that classification, separated into the hourly rate of pay and the fringe payments, and the identity of the prevailing wage coordinator appointed by the public authority. The contractor or subcontractor shall furnish the same notification to each affected employee every time the job classification of the employee is changed.

Project Name:	Job Number:
---------------	-------------

Contractor:
-------------

Project Location:
-------------------

Prevailing Wage Coordinator	Employee
Public Authority:	Name:
Name of PWC:	Street:
Street:	City:
City:	State/Zip:
State/Zip:	Phone:
	Email:
Phone:	Last 4 Digits of SS #:

You will be performing work on this project that falls under these classifications. You will be paid the appropriate rate for the type of work you are performing.

Classification:	Prevailing Wage Rate Total Package:	Minus your fringe benefits *:	Your hourly base rate and overtime:
			/
			/
			/
			/
			/
			/

Hourly fringe benefits paid on your behalf by this company (Yearly amount the **company pays** divided by 2080):

Fringe	Amount	Fringe	Amount
Health Insurance		Vacation	
Life Insurance		Holiday	
Pension		Sick Pay	
Other (Specify)		Training	
Other (Specify)		<b>Total Hourly Fringes *</b>	

Contractor's Signature:	Date:
-------------------------	-------

Employee's Signature:	Date:
-----------------------	-------

## INSTRUCTIONS FOR PREPARING CERTIFIED PAYROLL REPORTS

### General:

Contractors and subcontractors are required by law to submit certified payroll reports for work on projects covered by Ohio's Prevailing Wage Law. This form meets the reporting requirements established by Ohio Revised Code Chapter 4115. The use of this form is not mandatory; employers may submit their own forms if all of the required information is included. This form may be reproduced, or additional copies obtained from:

Ohio Department of Commerce  
Division of Industrial Compliance  
Bureau of Wage and Hour Administration  
6606 Tussing Road, P.O. Box 4009  
Reynoldsburg, Ohio 43068-9009  
614-644-2239  
[www.com.ohio.gov](http://www.com.ohio.gov)

### Certified Payroll Heading:

Employer name and address: Company's full name and address... Indicate if the company is a subcontractor.

Subcontractor: Check and list the name of the General Contractor or Prime.

Project: Name and location of the project, including county.

Contracting Public Authority: Name and address of the contracting public authority... (Owner of the project).

Week Ending: Month, day, and year for last day of reporting period.

Payroll #: Indicates first, second, third, etc. payroll filed by the company for the project.

Page indicator: number of pages included in the report.

Project Number: Determined by the public authority... If there is no number leave blank.

### Payroll Information by column:

1. Employee Name, Address and Social Security number: This information must be provided for all employees that perform physical labor on the project. The Social Security number is required; the last four digits may be permitted by the public authority. Corporate officers, partners, and salaried employees are considered employees and must be paid the prevailing rate. Individual sole proprietors do not have to pay themselves prevailing rate but must report their hours on the project.
2. Work Class: List classification of work performed by employee. If unsure of work classification, consult the Ohio Department of Commerce-Division of Industrial Compliance & Labor-Bureau of Wage and Hour Administration. Employees working more than one classification should have separate line entries for each classification. Indicate what year/level for Apprentices. Be specific when using laborer and operator classifications; for example, Backhoe Operator or Asphalt Laborer or by "Group".
3. Hours Worked, Day & Date: In the first row of column 3, enter days of the company's pay period for example; M T W TH F S S. The second row is for the date that corresponds with each day for the pay period. In the employee information section, enter the number of hours worked on the prevailing wage project and which day the hours were worked. Separate rows are labeled for (ST) straight time hours and (OT) overtime hours. All hours worked after 40, must be paid at the appropriate overtime rate.
4. Project Total Hours: Total the hours entered for pay period.
5. Base Rate: Enter actual rate per hour paid to the employee. The overtime hourly rate is time and one-half the base rate listed in the prevailing wage schedule plus fringe benefits at straight time rate. The prevailing wage schedule lists the base rate plus fringe benefit amounts. These amounts added together equal the total prevailing wage rate. Employers must pay this total amount in one of three ways.
  - 1) Total rate may be paid in entirety in the base rate to the employee; in which case, the cash designation will be checked for fringe benefits.
  - 2) Total rate may be paid as listed in prevailing wage rate schedule with total fringe amounts paid approved plans.
  - 3) Total rate may be paid with a combination of base rate and fringe payments to approved plans in amounts other than those listed in schedule.
6. Project Gross: Enter total gross wages earned on the project for straight time and overtime. Project hours "X" base rate should equal project gross.
7. Fringes: If fringe benefits are paid in the hourly base rate, indicate this by marking the **Cash** space. If fringe benefits are paid to approved plans as listed in the prevailing wage rate schedule, mark the space **Approved Plans**. If fringe benefits are paid partially in the base rate and partially to approved plans, mark the space **Cash & Approved Plans**. List the hourly amount paid to approved plans for each fringe. If payments are not made on a per hour basis, *calculate the hourly fringe credit by dividing the yearly employer contribution by the lesser of: hours actually worked in the year (these must be documented) or 2080*. Fringe benefits include: Employer's share of health insurance, life insurance, retirement plan, bonus/profit sharing, sick pay, holiday pay, personal leave, vacation, and education/training programs. If unsure of a possible fringe benefit, contact the Ohio Department of Commerce-Division of Industrial Compliance & Labor-Bureau of Wage and Hour Administration.
8. Total Hours All Jobs: Total all hours worked during the pay period including non-prevailing wage jobs.
9. Total Gross All Jobs: Gross amount earned in the pay period for all hours worked.
10. Self-explanatory.
11. Self-explanatory.

# Certified Payroll Report

**Report for:**Company:<sup>1)</sup>

Address:

City, State, Zip

Phone No:

☐ Check if Subcontractor<sup>1)</sup>

If Sub, GC/Prime Contractor Name:

Public Authority (Owner):

Contract No:

Project Name &amp; Location:

Payroll No:

Week Ending:

Sheet:<sup>2)</sup> of

1. Employee Name, Address, & SS# (Last 4 digits if permitted)	2. Work Class <sup>3)</sup>	3. Prevailing Wage Project							4. Total Hours	5. Base Rate	6. Project Gross	7. Fringes:		Weekly Payroll Amount				
		Hours Worked - Day & Date										<input type="checkbox"/> Cash	<input type="checkbox"/> Cash & Approved Plans	8. Total Hrs for all Jobs	9. Total Gross on All Jobs	10. Total Deductions	11. Net Pay on All Jobs	
Fringe Rate Your Company Pays Per Hour																		
H&W							Pens	Vac	Hol	Other	Total							
	OT																	
	ST																	
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1 ) By signing below, I certify that: (1) I pay, or supervise the payment of the employees shown above; (2) during the pay period reported on this form, all hours worked on this project have been paid at the appropriate prevailing wage rate for the class of work done; (3) the fringe benefits have been paid as indicated above; (4) no rebates or deductions have been or will be made, directly or indirectly from the total wages earned, other than permissible deductions as defined in ORC Chapter 4115; and (5) apprentices are registered with the U.S. Dept. of Labor, Bureau of Apprenticeship and Training. I understand that the willful falsification of any of the above statements may subject the Contractor or Subcontractor to civil or criminal prosecution.

Type or Print Name and Title

Signature

Date



**FINAL AFFIDAVIT OF COMPLIANCE  
PREVAILING WAGES**

I, \_\_\_\_\_, \_\_\_\_\_ do hereby certify  
(Name of person signing affidavit) (Title)

that the wages paid to all employees of: \_\_\_\_\_  
(Company name)

for all hours worked on project: \_\_\_\_\_  
(Project name)

\_\_\_\_\_   
(Project location)

During the period from \_\_\_\_\_ to \_\_\_\_\_ are in compliance with  
(Project Dates)

Prevailing Wage requirements of Chapter 4115 of the Ohio Revised Code. I further certify that no rebates or deductions have been or will be made, directly or indirectly, from any wages paid in connection with this project, other than those provided by law.

\_\_\_\_\_  
(Signature of Officer or Agent)

\_\_\_\_\_  
(Print Name of Officer or Agent)

Sworn to and subscribed in my presence this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(Notary Public)

**The above affidavit must be executed and sworn to by the officer or agent of the contractor or subcontractor who supervises the payment of employees. This affidavit must be submitted to the owner (public authority) before the surety is released or final payment due under the terms of the contract is made.**

## Prevailing Wage Determination Cover Letter

## Appendix B

**County:** STARK ✓  
**Determination Date:** 08/09/2023  
**Expiration Date:** 11/09/2023

THE FOLLOWING PAGES ARE PREVAILING RATES OF WAGES ON PUBLIC IMPROVEMENTS FAIRLY ESTIMATED TO BE MORE THAN THE AMOUNT IN O.R.C. SEC. 4115.03 (b) (1) or (2), AS APPLICABLE.

Section 4115.05 provides, in part: "Where contracts are not awarded or construction undertaken within ninety days from the date of the establishment of the prevailing wages, there shall be a redetermination of the prevailing rate of wages before the contract is awarded." The expiration date of this wage schedule is listed above for your convenience only. This wage determination is not intended as a blanket determination to be used for all projects during this period without prior approval of this Department.

Section 4115.04, Ohio Revised Code provides, in part: "Such schedule of wages shall be attached to and made a part of the specifications for the work, and shall be printed on the bidding blanks where the work is done by contract..."

The contract between the letting authority and the successful bidder shall contain a statement requiring that mechanics and laborers be paid a prevailing rate of wage as required in Section 4115.06, Ohio Revised Code.

The contractor or subcontractor is required to file with the contracting public authority upon completion of the project and prior to final payment therefore an affidavit stating that he has fully complied with Chapter 4115 of the Ohio Revised Code.

The wage rates contained in this schedule are the "Prevailing Wages" as defined by Section 4115.03, Ohio Revised Code (the basic hourly rates plus certain fringe benefits). These rates and fringes shall be a minimum to be paid under a contract regulated by Chapter 4115 of the Ohio Revised Code by contractors and subcontractors. The prevailing wage rates contained in this schedule include the effective dates and wage rates currently on file. In cases where future effective dates are not included in this schedule, modifications to the wage schedule will be furnished to the Prevailing Wage Coordinator appointed by the public authority as soon as prevailing wage rates increases are received by this office.

"There shall be posted in a prominent and accessible place on the site of work a legible statement of the Schedule of Wage Rates specified in the contract to the various classifications of laborers, workmen, and mechanics employed, said statement to remain posted during the life of such contract." Section 4115.07, Ohio Revised Code.

Apprentices will be permitted to work only under a bona fide apprenticeship program if such program exists and if such program is registered with the Ohio Apprenticeship Council.

Section 4115.071 provides that no later than ten days before the first payment of wages is due to any employee of any contractor or subcontractor working on a contract regulated by Chapter 4115, Ohio Revised Code, the contracting public authority shall appoint one of his own employees to act as the prevailing wage coordinator for said contract. The duties of the prevailing wage coordinator are outlined in Section 4115.071 of the Ohio Revised Code.

Section 4115.05 provides for an escalator in the prevailing wage rate. Each time a new rate is established, that rate is required to be paid on all ongoing public improvement projects.

A further requirement of Section 4115.05 of the Ohio Revised Code is: "On the occasion of the first pay date under a contract, the contractor shall furnish each employee not covered by a collective bargaining agreement or understanding between employers and bona fide organizations of Labor with individual written notification of the job classification to which the employee is assigned, the prevailing wage determined to be applicable to that classification, separated into the hourly rate of pay and the fringe payments, and the identity of the prevailing wage Coordinator appointed by the public authority. The contractor or subcontractor shall furnish the same notification to each affected employee every time the job classification of the employee is changed."

Work performed in connection with the installation of modular furniture may be subject to prevailing wage.

**THIS PACKET IS NOT TO BE SEPARATED BUT IS TO REMAIN COMPLETE AS IT IS SUBMITTED TO YOU. (Reference guidelines and forms are included in this packet to be helpful in the compliance of the Prevailing Wage law.)**  
wh1500



**Name of Union: Asbestos Local 207 OH**

**Craft : Asbestos Worker Effective Date : 08/23/2018 Last Posted : 08/23/2018**

**Special Calculation Note :**

ADAMS, ASHLAND, ASHTABULA\*, ATHENS,  
AUGLAIZE, BROWN, BUTLER\*, CARROLL,  
CHAMPAIGN, CLARK, CLERMONT, CLINTON,  
COLUMBIANA, COSHOCTON, CRAWFORD,  
CUYAHOGA, DARKE, DELAWARE, FAIRFIELD,  
FAYETTE, FRANKLIN, GEAUGA, GREENE,  
GUERNSEY, HAMILTON, HARDIN, HARRISON,  
HIGHLAND, HOCKING, HOLMES, HURON, KNOX,  
LAKE, LICKING, LOGAN, LORAIN, MADISON,  
MAHONING, MARION, MEDINA, MIAMI,  
MONTGOMERY, MORGAN, MORROW,  
MUSKINGUM, NOBLE, PERRY, PICKAWAY,  
PORTAGE, PREBLE, RICHLAND, ROSS, SHELBY,  
STARK, SUMMIT, TRUMBULL, TUSCARAWAS,  
UNION, VINTON, WARREN\*, WAYNE

[http://198.234.41.198/w3/Webwh.nsf/\\$docUniqIDAll/852565B800706932852570FF00535D80?opend...](http://198.234.41.198/w3/Webwh.nsf/$docUniqIDAll/852565B800706932852570FF00535D80?opend...) 8/23/2018

of Ashtabula, Austinburg, Geneva, Harperfield, Jefferson, Plymouth & Saybrook) (townships of Andover, Cherry Valley, Colbrook, Canneaut, Denmark, Dorset, East Orwell, Hartsgrove, Kingville, Lenox, Monroe, Morgan, New Lyme, North Kingsville, Orwell, Pierpoint, Richmond Rock Creek, Rome, Sheffield, Trumbull, Wayne, Williamsfield & Windsor) Erie County: (post offices & townships of Berlin, Berlin Heights, Birmingham, Florence, Huron, Milan, Shinrock & Vermilion)

**Details :**

Asbestos & lead paint abatement including, but not limited to the removal or encapsulation of asbestos & lead paint, all work in conjunction with the preparation of the removal of same & all work in conjunction with the clean up after said removal. The removal of all insulation materials, whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) is recognized as being the exclusive work of the Asbestos Abatement Workers.

On all mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) that are going to be demolished, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive work of the Laborers.

An Abatement Journeyman is anyone who has more than 300 hours in the Asbestos Abatement field.

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Asbestos Local 3 Heat & Frost Insulators

Change # : LCN01-2022sksLoc3

Craft : Asbestos Worker Effective Date : 09/21/2022 Last Posted : 09/21/2022

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Asbestos Insulation Worker	\$41.23		\$14.40	\$10.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$65.63	\$86.25
Fire Stop Specialist	\$41.23		\$14.40	\$10.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$65.63	\$86.25
Fire Stop Technician	\$34.10		\$14.40	\$4.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$52.50	\$69.55
Apprentice	Percent											
1st year	50.20	\$20.70	\$14.40	\$1.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36.10	\$46.45
2nd year	63.68	\$26.26	\$14.40	\$2.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$42.66	\$55.78
3rd year	69.25	\$28.55	\$14.40	\$3.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45.95	\$60.23
4th year	82.70	\$34.10	\$14.40	\$4.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$52.50	\$69.55

**Special Calculation Note :** There are no special calculations for this classification.

### Ratio :

3 Journeymen to 1 Apprentice per shop

### Jurisdiction ( \* denotes special jurisdictional note ) :

ASHLAND, ASHTABULA\*, CARROLL, COLUMBIANA, COSHOCTON, CUYAHOGA, ERIE\*, GEauga, HARRISON, HOLMES, HURON, LAKE, LORAIN, MAHONING, MEDINA, PORTAGE, RICHLAND, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, WAYNE

**Special Jurisdictional Note :** Ashtabula (the townships of Ashtabula, Austinburg, Geneva, Jefferson, Plymouth & Saybrook), The remainder of Ashtabula County will be considered open counties on a 90 day basis automatically renewable unless revoked by the Union upon 15 day written notice by the employers. Erie (to Sandusky limits)

### Details :

Mechanics & apprentices engaged in the manufacture, fabrication, assembling, molding, handling, erection, spraying, pouring, mixing, hanging, clean-up, preparation, application, adjusting, alteration, repairing, dismantling, reconditioning, testing & maintenance of Heat & Frost Insulation such as Magnesia, Asbestos, Hair Felt, Wool Felt, Cork, Mineral Wool, Infusorial Earth, Mercerized Silk, Flax, Fiber, Fire Felt, Asbestos Paper, Asbestos Curtain, Asbestos Millboard, Fiberglass,

Foam glass, Styrofoam, Polyurethane, fire stopping, smoke stopping, all recyclable material, soundproofing, all penetrations, any flexible or rigid fireproofing, all jacketing systems including metal, lead, and PVC or other material.

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Asbestos Local 84 Heat & Frost Insulators

Change # : LCN01-2023ibLoc84

Craft : Asbestos Worker Effective Date : 02/15/2023 Last Posted : 02/15/2023

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Asbestos Insulation Worker	\$34.57	\$7.90	\$9.50	\$0.36	\$0.00	\$6.39	\$0.24	\$0.00	\$0.00	\$58.96	\$76.24
Apprentice	Percent										
1st Year	50.02	\$17.29	\$7.90	\$9.50	\$0.36	\$0.00	\$6.39	\$0.24	\$0.00	\$41.68	\$50.33
2nd Year	60.00	\$20.74	\$7.90	\$9.50	\$0.36	\$0.00	\$6.39	\$0.24	\$0.00	\$45.13	\$55.50
3rd Year	70.00	\$24.20	\$7.90	\$9.50	\$0.36	\$0.00	\$6.39	\$0.24	\$0.00	\$48.59	\$60.69
4th Year	80.00	\$27.66	\$7.90	\$9.50	\$0.36	\$0.00	\$6.39	\$0.24	\$0.00	\$52.05	\$65.87

Special Calculation Note : Other is Industry and Labor Management Fund

Ratio :

3 Journeymen to 1 Apprentice per shop

Jurisdiction ( \* denotes special jurisdictional note ) :

ASHLAND, ASHTABULA\*, CARROLL, COLUMBIANA, COSHOCTON, HARRISON, HOLMES, MAHONING, MEDINA, PORTAGE, RICHLAND, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, WAYNE

Special Jurisdictional Note : Ashtabula County: except for the townships of Ashtabula, Austinburg, Geneva, Harpersfield, Jefferson, Plymouth and Saybrook.

Details :

The removal of all insulation materials, whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) is recognized as being the exclusive work of the Asbestos Workers.

On all mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) that are going to be demolished, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive work of the Laborers.

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Boilermaker Local 744

Change # : LCNO1-2019fbLoc744

Craft : Boilermaker Effective Date : 04/03/2019 Last Posted : 04/03/2019

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Boilermaker	\$38.05		\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$67.76	\$86.78
Apprentice	Percent											
1st 6 months	70.02	\$26.64	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$56.35	\$69.67
2nd 6 months	72.52	\$27.59	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$57.30	\$71.10
3rd 6 months	75.00	\$28.54	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$58.25	\$72.52
4th 6 months	77.51	\$29.49	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$59.20	\$73.95
5th 6 months	80.00	\$30.44	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$60.15	\$75.37
6th 6 months	85.03	\$32.35	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$62.06	\$78.24
7th 6 months	90.00	\$34.25	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$63.96	\$81.08
8th 6 months	95.00	\$36.15	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$65.86	\$83.93
Helper	60.00	\$22.83	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$52.54	\$63.96

**Special Calculation Note : Other is Supplemental Health**

**Ratio :**

5 Journeymen to 1 Apprentice to 1 Helper

**Jurisdiction ( \* denotes special jurisdictional note ) :**

ASHTABULA, CARROLL, COSHOCTON, CUYAHOGA, GEAUGA, HARRISON, HOLMES, LAKE, LORAIN, MAHONING, MEDINA, PORTAGE, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, WAYNE

**Special Jurisdictional Note :**

**Details :**



# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Bricklayer Local 23 Heavy Hwy (A)

Change # : LCN01-2023ibLoc23HevHwyA

Craft : Bricklayer Effective Date : 06/07/2023 Last Posted : 06/07/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Cement Mason Bricklayer Sewer Water Works A	\$32.40		\$9.75	\$9.03	\$0.52	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$51.70	\$67.90
Apprentice	Percent											
1st year	70.00	\$22.68	\$9.75	\$9.03	\$0.52	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.98	\$53.32
2nd year	80.00	\$25.92	\$9.75	\$9.03	\$0.52	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45.22	\$58.18
3rd year	90.00	\$29.16	\$9.75	\$9.03	\$0.52	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$48.46	\$63.04

**Special Calculation Note : NOT FOR BUILDING CONSTRUCTION.**

### Ratio :

3 Journeymen to 1 Apprentice  
 6 Journeymen to 2 Apprentice  
 9 Journeymen to 3 Apprentice  
 12 Journeymen to 4 Apprentice  
 15 Journeymen to 5 Apprentice

### Jurisdiction ( \* denotes special jurisdictional note ) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEauga, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN



WERT, VINTON, WARREN, WASHINGTON,  
WAYNE

**Special Jurisdictional Note :**

**Details :**

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Bricklayer Local 23 Heavy Hwy (B)

Change # : LCN01-2023ibLoc23HewHwyB

Craft : Bricklayer Effective Date : 06/07/2023 Last Posted : 06/07/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Cement Mason Bricklayer Power Plants Tunnels Amusement Parks B	\$33.39		\$9.75	\$9.03	\$0.53	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$52.70	\$69.39
Apprentice	Percent											
1st year	70.00	\$23.37	\$9.75	\$9.03	\$0.53	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$42.68	\$54.37
2nd year	80.00	\$26.71	\$9.75	\$9.03	\$0.53	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$46.02	\$59.38
3rd year	90.00	\$30.05	\$9.75	\$9.03	\$0.53	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$49.36	\$64.39

**Special Calculation Note : NOT FOR BUILDING CONSTRUCTION.**

### Ratio :

3 Journeymen to 1 Apprentice  
6 Journeymen to 2 Apprentice  
9 Journeymen to 2 Apprentice  
12 Journeymen to 4 Apprentice  
15 Journeymen to 5 Apprentice

### Jurisdiction ( \* denotes special jurisdictional note ) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEauga, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT,

TRUMBULL, TUSCARAWAS, UNION, VAN  
WERT, VINTON, WARREN, WASHINGTON,  
WAYNE

**Special Jurisdictional Note :**

**Details :**

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Bricklayer Local 23 (Canton)

Change # : LCN01-2023ibLoc23Canton

Craft : Bricklayer Effective Date : 05/10/2023 Last Posted : 05/10/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Bricklayer	\$33.46		\$10.24	\$9.88	\$1.25	\$0.00	\$0.00	\$0.05	\$0.00	\$0.00	\$54.88	\$71.61
Pointer Caulker Cleaner	\$33.46		\$10.24	\$9.88	\$1.25	\$0.00	\$0.00	\$0.05	\$0.00	\$0.00	\$54.88	\$71.61
Stone Mason	\$33.46		\$10.24	\$9.88	\$1.25	\$0.00	\$0.00	\$0.05	\$0.00	\$0.00	\$54.88	\$71.61
Cement Mason	\$33.46		\$10.24	\$9.88	\$1.25	\$0.00	\$0.00	\$0.05	\$0.00	\$0.00	\$54.88	\$71.61
Plaster	\$33.46		\$10.24	\$9.88	\$1.25	\$0.00	\$0.00	\$0.05	\$0.00	\$0.00	\$54.88	\$71.61
Masonry Maintenance	\$18.40		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$18.40	\$27.60
<b>Apprentice</b>	<b>Percent</b>											
1st 6 months	65.00	\$21.75	\$10.24	\$9.88	\$1.25	\$0.00	\$0.00	\$0.05	\$0.00	\$0.00	\$43.17	\$54.04
2nd 6 months	70.00	\$23.42	\$10.24	\$9.88	\$1.25	\$0.00	\$0.00	\$0.05	\$0.00	\$0.00	\$44.84	\$56.55
3rd 6 months	75.02	\$25.10	\$10.24	\$9.88	\$1.25	\$0.00	\$0.00	\$0.05	\$0.00	\$0.00	\$46.52	\$59.07
4th 6 months	80.00	\$26.77	\$10.24	\$9.88	\$1.25	\$0.00	\$0.00	\$0.05	\$0.00	\$0.00	\$48.19	\$61.57
5th 6 months	85.00	\$28.44	\$10.24	\$9.88	\$1.25	\$0.00	\$0.00	\$0.05	\$0.00	\$0.00	\$49.86	\$64.08
6th 6 months	90.00	\$30.11	\$10.24	\$9.88	\$1.25	\$0.00	\$0.00	\$0.05	\$0.00	\$0.00	\$51.53	\$66.59
7th 6 months	95.00	\$31.79	\$10.24	\$9.88	\$1.25	\$0.00	\$0.00	\$0.05	\$0.00	\$0.00	\$53.21	\$69.10
8th 6 months	95.00	\$31.79	\$10.24	\$9.88	\$1.25	\$0.00	\$0.00	\$0.05	\$0.00	\$0.00	\$53.21	\$69.10

**Special Calculation Note : OTHER IS DRUG TESTING**

**Ratio :**

1 Journeymen to 1 Apprentice  
 5 Journeymen to 2 Apprentice  
 9 Journeymen to 3 Apprentice  
 13 Journeymen to 4 Apprentice

**Jurisdiction ( \* denotes special jurisdictional note ) :**

CARROLL, STARK, TUSCARAWAS

**Special Jurisdictional Note :**

**Details :**

# Prevailing Wage Rate

## Skilled Crafts

**Name of Union: Bricklayer Local 23 (Youngstown Zone 2 Tile Setters & Finishers)**

**Change # : LCN1-2023ibLoc23YtownZone2TF**

**Craft : Bricklayer Effective Date : 06/01/2023 Last Posted : 05/31/2023**

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Bricklayer Tile Setter	\$27.48		\$8.89	\$6.90	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.91	\$57.65
Marble Mason	\$27.48		\$8.89	\$6.90	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.91	\$57.65
Terrazzo worker	\$27.48		\$8.89	\$6.90	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.91	\$57.65
Finisher Support	\$24.89		\$8.89	\$6.90	\$0.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.28	\$53.73
Apprentice Finisher Support Only												
1st 30 days	\$14.93		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$14.93	\$22.39
30 days-6 months	\$14.93		\$8.89	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$23.82	\$31.28
2ND 6 months	\$17.42		\$8.89	\$6.90	\$0.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.81	\$42.52
3RD 6 months	\$18.67		\$8.89	\$6.90	\$0.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$35.06	\$44.40
4TH 6 months	\$19.91		\$8.89	\$6.90	\$0.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36.30	\$46.26
5TH 6 months	\$21.16		\$8.89	\$6.90	\$0.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37.55	\$48.13
6TH 6 months	\$22.40		\$8.89	\$6.90	\$0.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$38.79	\$49.99
Apprentice	Percent											
1st 30 Days	60.00	\$16.49	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$16.49	\$24.73
30 days- 6 months	60.00	\$16.49	\$8.89	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$25.38	\$33.62
2nd 6 months	70.00	\$19.24	\$8.89	\$6.90	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$35.67	\$45.28
3rd 6 months	75.00	\$20.61	\$8.89	\$6.90	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37.04	\$47.35
4th 6 months	80.00	\$21.98	\$8.89	\$6.90	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$38.41	\$49.41

5th 6 months	85.00	\$23.36	\$8.89	\$6.90	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.79	\$51.47
6th 6 months	90.00	\$24.73	\$8.89	\$6.90	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.16	\$53.53
7th 6 months	95.00	\$26.11	\$8.89	\$6.90	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$42.54	\$55.59
8th 6 months	95.00	\$26.11	\$8.89	\$6.90	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$42.54	\$55.59

**Special Calculation Note :** Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.  
Note that the classification description is clarified after the local union number at the top of the page.

**Ratio :**

4 Journeymen to 1 Apprentice  
6 Journeymen to 1 Apprentice (Thereafter)

**Jurisdiction ( \* denotes special jurisdictional note ) :**

BELMONT, CARROLL, HARRISON, JEFFERSON,  
MONROE, STARK, TUSCARAWAS

**Special Jurisdictional Note :**

**Details :**



# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Carpenter Commercial NE Zone 2B

Change # : LCN01-2022sksLocNEZone2B

Craft : Carpenter Effective Date : 06/08/2022 Last Posted : 06/08/2022

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Carpenter	\$29.04		\$7.88	\$11.77	\$0.50	\$0.00	\$1.36	\$0.12	\$0.00	\$0.00	\$50.67	\$65.19
Apprentice	Percent											
1st 3 Months	60.00	\$17.42	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$17.42	\$26.14
2nd 3 Months	60.00	\$17.42	\$7.88	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$25.92	\$34.64
2nd 6 Months is 1st year	60.00	\$17.42	\$7.88	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$25.92	\$34.64
3rd 6 Months	60.00	\$17.42	\$7.88	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$25.92	\$34.64
4th 6 Months is 2nd year	60.00	\$17.42	\$7.88	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$25.92	\$34.64
5th 6 Months	70.00	\$20.33	\$7.88	\$8.24	\$0.50	\$0.00	\$0.95	\$0.12	\$0.00	\$0.00	\$38.02	\$48.18
6th 6 Months is 3rd year	75.00	\$21.78	\$7.88	\$8.83	\$0.50	\$0.00	\$1.02	\$0.12	\$0.00	\$0.00	\$40.13	\$51.02
7th 6 Months	80.00	\$23.23	\$7.88	\$9.42	\$0.50	\$0.00	\$1.09	\$0.12	\$0.00	\$0.00	\$42.24	\$53.86
8th 6 Months is 4th year	85.00	\$24.68	\$7.88	\$10.00	\$0.50	\$0.00	\$1.16	\$0.12	\$0.00	\$0.00	\$44.34	\$56.69

Special Calculation Note : \*Other is International Training

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction ( \* denotes special jurisdictional note ) :

CARROLL, STARK, TUSCARAWAS, WAYNE

Special Jurisdictional Note :

Details :



# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Carpenter Floorlayer NE Zone 2B

Change # : OCR01-2022sksLocNEZone2B

Craft : Carpenter Effective Date : 06/15/2022 Last Posted : 06/15/2022

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Carpenter Floorlayer	\$29.04		\$7.88	\$11.77	\$0.50	\$0.00	\$1.36	\$0.14	\$0.00	\$0.00	\$50.69	\$65.21
Apprentice	Percent											
1st 3 Months	60.00	\$17.42	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$17.42	\$26.14
2nd 3 Months	60.00	\$17.42	\$7.88	\$0.00	\$0.50	\$0.00	\$0.00	\$0.14	\$0.00	\$0.00	\$25.94	\$34.66
2nd 6 Months is 1st year	60.00	\$17.42	\$7.88	\$0.00	\$0.50	\$0.00	\$0.00	\$0.14	\$0.00	\$0.00	\$25.94	\$34.66
3rd 6 Months	60.00	\$17.42	\$7.88	\$0.00	\$0.50	\$0.00	\$0.00	\$0.14	\$0.00	\$0.00	\$25.94	\$34.66
4th 6 Months is 2nd year	60.00	\$17.42	\$7.88	\$0.00	\$0.50	\$0.00	\$0.00	\$0.14	\$0.00	\$0.00	\$25.94	\$34.66
5th 6 Months	70.00	\$20.33	\$7.88	\$8.24	\$0.50	\$0.00	\$0.95	\$0.14	\$0.00	\$0.00	\$38.04	\$48.20
6th 6 Months is 3rd year	75.00	\$21.78	\$7.88	\$8.83	\$0.50	\$0.00	\$1.02	\$0.14	\$0.00	\$0.00	\$40.15	\$51.04
7th 6 Months	80.00	\$23.23	\$7.88	\$9.42	\$0.50	\$0.00	\$1.09	\$0.14	\$0.00	\$0.00	\$42.26	\$53.88
8th 6 Months is 4th year	85.00	\$24.68	\$7.88	\$10.00	\$0.50	\$0.00	\$1.16	\$0.14	\$0.00	\$0.00	\$44.36	\$56.71

Special Calculation Note : \*Other is International Training

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction ( \* denotes special jurisdictional note ) :

CARROLL, STARK, TUSCARAWAS, WAYNE

Special Jurisdictional Note :

Details :

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Carpenter Insulation NE Zone 2B

Change # : LCN01-2022sksLocNEZone2B

Craft : Carpenter Effective Date : 06/15/2022 Last Posted : 06/15/2022

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Carpenter Insulation	\$23.23		\$7.88	\$11.77	\$0.50	\$0.00	\$1.36	\$0.12	\$0.00	\$0.00	\$44.86	\$56.48
Apprentice	Percent											
1st 3 months	50.00	\$11.62	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$11.62	\$17.42
2nd 3 months	50.00	\$11.62	\$7.88	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$20.12	\$25.92
2nd 6 months	50.00	\$11.62	\$7.88	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$20.12	\$25.92
3rd 6 months	55.00	\$12.78	\$7.88	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$21.28	\$27.66
4th 6 months	60.00	\$13.94	\$7.88	\$0.00	\$0.50	\$0.00	\$0.00	\$0.12	\$0.00	\$0.00	\$22.44	\$29.41
5th 6 months	70.00	\$16.26	\$7.88	\$8.24	\$0.50	\$0.00	\$0.95	\$0.12	\$0.00	\$0.00	\$33.95	\$42.08
6th 6 months	75.00	\$17.42	\$7.88	\$8.83	\$0.50	\$0.00	\$1.02	\$0.12	\$0.00	\$0.00	\$35.77	\$44.48
7th 6 months	80.00	\$18.58	\$7.88	\$9.42	\$0.50	\$0.00	\$1.09	\$0.12	\$0.00	\$0.00	\$37.59	\$46.89
8th 6 months	85.00	\$19.75	\$7.88	\$10.00	\$0.50	\$0.00	\$1.16	\$0.12	\$0.00	\$0.00	\$39.41	\$49.28

Special Calculation Note : \*Other is Training

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction ( \* denotes special jurisdictional note ) :

CARROLL, STARK, TUSCARAWAS, WAYNE

Special Jurisdictional Note :

Details :

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Carpenter Millwright NE Zone M3

Change # : OCR01-2022sksLocNEZoneM3

Craft : Carpenter Effective Date : 06/15/2022 Last Posted : 06/15/2022

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Carpenter Millwright	\$34.05		\$7.96	\$11.50	\$0.50	\$0.00	\$2.26	\$0.17	\$0.00	\$0.00	\$56.44	\$73.46
Certified Welder	\$35.05		\$7.96	\$11.50	\$0.50	\$0.00	\$2.26	\$0.17	\$0.00	\$0.00	\$57.44	\$74.96
Lay-Out Man on Monorail	\$35.55		\$7.96	\$11.50	\$0.50	\$0.00	\$2.26	\$0.17	\$0.00	\$0.00	\$57.94	\$75.71
Apprentice	Percent											
1st 6 months	60.00	\$20.43	\$7.96	\$11.50	\$0.50	\$0.00	\$2.26	\$0.17	\$0.00	\$0.00	\$42.82	\$53.03
2nd 6 months	60.00	\$20.43	\$7.96	\$11.50	\$0.50	\$0.00	\$2.26	\$0.17	\$0.00	\$0.00	\$42.82	\$53.03
3rd 6 months	62.00	\$21.11	\$7.96	\$11.50	\$0.50	\$0.00	\$2.26	\$0.17	\$0.00	\$0.00	\$43.50	\$54.06
4th 6 months	65.50	\$22.30	\$7.96	\$11.50	\$0.50	\$0.00	\$2.26	\$0.17	\$0.00	\$0.00	\$44.69	\$55.84
5th 6 months	69.00	\$23.49	\$7.96	\$11.50	\$0.50	\$0.00	\$2.26	\$0.17	\$0.00	\$0.00	\$45.88	\$57.63
6th 6 months	72.50	\$24.69	\$7.96	\$11.50	\$0.50	\$0.00	\$2.26	\$0.17	\$0.00	\$0.00	\$47.08	\$59.42
7th 6 months	76.00	\$25.88	\$7.96	\$11.50	\$0.50	\$0.00	\$2.26	\$0.17	\$0.00	\$0.00	\$48.27	\$61.21
8th 6 months	80.00	\$27.24	\$7.96	\$11.50	\$0.50	\$0.00	\$2.26	\$0.17	\$0.00	\$0.00	\$49.63	\$63.25

Special Calculation Note : Other is Training

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction ( \* denotes special jurisdictional note ) :

CARROLL, STARK, TUSCARAWAS, WAYNE

Special Jurisdictional Note :

Details :

The term "Millwright and Machine Erectors" jurisdiction shall mean the unloading, hoisting, rigging, skidding, moving, dismantling, aligning, erecting, assembling, repairing, maintenance and adjusting of all

structures, processing areas either under cover, under ground or elsewhere, required to process material, handle, manufacture or service, be it powered or receiving power manually, by steam, gas, electricity, gasoline, diesel, nuclear, solar, water, air or chemically, and in industries such as and including, which are identified for the purpose of description, but not limited to, the following: woodworking plants; canning industries; steel mills; coffee roasting plants; paper and pulp; cellophane; stone crushing; gravel and sand washing and handling; refineries; grain storage and handling; asphalt plants; sewage disposal; water plants; laundries; bakeries; mixing plants; can, bottle and bag packing plants; textile mills; paint mills; breweries; milk processing plants; power plants; aluminum processing or manufacturing plants; and amusement and entertainment fields. The installation of mechanical equipment in atomic energy plants; installation of reactors in power plants; installation of control rods and equipment in reactors; and installation of mechanical equipment in rocket missile bases, launchers, launching gantry, floating bases, hydraulic escape doors and any and all component parts thereto, either assembled, semi-assembled or disassembled. The installation of, but not limited to, the following: setting-up of all engines, motors, generators, air compressors, fans, pumps, scales, hoppers, conveyors of all types, sizes and their supports; escalators; man lifts; moving sidewalks; hoists; dumb waiters; all types of feeding machinery; amusement devices; mechanical pin setters and spotters in bowling alleys; refrigeration equipment; and the installation of all types of equipment necessary and required to process material either in the manufacturing or servicing. The handling and installation of pulleys, gears, sheaves, fly wheels, air and vacuum drives, worm drives and gear drives directly or indirectly coupled to motors, belts, chains, screws, legs, boots, guards, booth tanks, all bin valves, turn heads and indicators, shafting, bearings, cable sprockets, cutting all key seats in new and old work, troughs, chippers, filters, calendars, rolls, winders, rewinders, slitters, cutters, wrapping machines, blowers, forging machines, rams, hydraulic or otherwise, planing, extruder, ball, dust collectors, equipment in meat packing plants, splicing of ropes and cables. The laying-out, fabrication and installation of protection equipment including machinery guards, making and setting of templates for machinery, fabrication of bolts, nuts, pans, drilling of holes for any equipment which the Millwrights install regardless of materials; all welding and burning regardless of type, fabrication of all lines, hose or tubing used in lubricating machinery installed by Millwrights; grinding, cleaning, servicing and any machine work necessary for any part of any equipment installed by the Millwrights; and the break-in and trial run of any equipment or machinery installed by the Millwrights. It is agreed the Millwrights shall use the layout tools and optic equipment necessary to perform their work.

## Prevailing Wage Rate Skilled Crafts

**Name of Union: Carpenter NE District Industrial Dock & Door**

**Change # : LCN01-2014fbCarpNEStatewide**

**Craft : Carpenter Effective Date : 03/05/2014 Last Posted : 03/05/2014** *Final 6.20*

[illegible]

**Special Calculation Note :** No special calculations for this skilled craft wage rate are required at this time.

**Ratio :**

### 1 Journeymen to 1 Trainee

**Jurisdiction ( \* denotes special jurisdictional note ) :**

ADAMS, ALLEN, ASHLAND, ASHTABULA,  
ATHENS, AUGLAIZE, BELMONT, BROWN,  
BUTLER, CARROLL, CHAMPAIGN, CLARK,  
CLERMONT, CLINTON, COLUMBIANA,  
COSHOCOTON, CRAWFORD, CUYAHOGA,  
DARKE, DEFIANCE, DELAWARE, ERIE,  
FAIRFIELD, FAYETTE, FRANKLIN, FULTON,  
GALLIA, GEAUGA, GREENE, GUERNSEY,  
HAMILTON, HANCOCK, HARDIN, HARRISON,  
HENRY, HIGHLAND, HOCKING, HOLMES,  
HURON, JACKSON, JEFFERSON, KNOX,  
LAKE, LAWRENCE, LICKING, LOGAN,  
LORAIN, LUCAS, MADISON, MAHONING,

MARION, MEDINA, MEIGS, MERCER, MIAMI,  
MONROE, MONTGOMERY, MORGAN,  
MORROW, MUSKINGUM, NOBLE, OTTAWA,  
PAULDING, PERRY, PICKAWAY, PIKE,  
PORTAGE, PREBLE, PUTNAM, RICHLAND,  
ROSS, SANDUSKY, SCIOTO, SENECA,  
SHELBY, STARK, SUMMIT, TRUMBULL,  
TUSCARAWAS, UNION, VAN WERT, VINTON,  
WARREN, WASHINGTON, WAYNE,  
WILLIAMS, WOOD, WYANDOT

**Special Jurisdictional Note :** Industrial Dock and Door is the installation of overhead doors, roll up doors and dock leveling equipment

**Details :**

10/27/10 New Contract jc



# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Carpenter Pile Driver NE Zone P3

Change # : OCR01-2022sksLocNEZoneP3

Craft : Carpenter Effective Date : 06/15/2022 Last Posted : 06/15/2022

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Carpenter Pile Driver	\$28.85		\$8.05	\$11.50	\$0.50	\$0.00	\$2.15	\$0.17	\$0.00	\$0.00	\$51.22	\$65.65
Diver	\$43.28		\$8.05	\$11.50	\$0.50	\$0.00	\$2.15	\$0.17	\$0.00	\$0.00	\$65.65	\$87.29
Certified Welder	\$29.90		\$8.05	\$11.50	\$0.50	\$0.00	\$2.15	\$0.17	\$0.00	\$0.00	\$52.27	\$67.22
Apprentice	Percent											
1st 6 months	60.00	\$17.31	\$8.05	\$11.50	\$0.50	\$0.00	\$2.15	\$0.17	\$0.00	\$0.00	\$39.68	\$48.34
2nd 6 months	60.00	\$17.31	\$8.05	\$11.50	\$0.50	\$0.00	\$2.15	\$0.17	\$0.00	\$0.00	\$39.68	\$48.34
3rd 6 months	62.00	\$17.89	\$8.05	\$11.50	\$0.50	\$0.00	\$2.15	\$0.17	\$0.00	\$0.00	\$40.26	\$49.20
4th 6 months	65.50	\$18.90	\$8.05	\$11.50	\$0.50	\$0.00	\$2.15	\$0.17	\$0.00	\$0.00	\$41.27	\$50.72
5th 6 months	69.00	\$19.91	\$8.05	\$11.50	\$0.50	\$0.00	\$2.15	\$0.17	\$0.00	\$0.00	\$42.28	\$52.23
6th 6 months	72.50	\$20.92	\$8.05	\$11.50	\$0.50	\$0.00	\$2.15	\$0.17	\$0.00	\$0.00	\$43.29	\$53.74
7th 6 months	76.00	\$21.93	\$8.05	\$11.50	\$0.50	\$0.00	\$2.15	\$0.17	\$0.00	\$0.00	\$44.30	\$55.26
8th 6 months	80.00	\$23.08	\$8.05	\$11.50	\$0.50	\$0.00	\$2.15	\$0.17	\$0.00	\$0.00	\$45.45	\$56.99

Special Calculation Note : \*Other is Training

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction ( \* denotes special jurisdictional note ) :

STARK, WAYNE, CARROLL, TUSCARAWAS

Special Jurisdictional Note :

Details :

Pile Drivers duties shall include but not limited to: Pile driving, milling, fashioning, joining assembling, erecting, fastening, or dismantling of all material of wood, plastic, metal, fiber, cork and composition and all other substitute materials: pile driving, cutting, fitting and placing of lagging, and the handling, cleaning, erecting, installing and dismantling of machinery, equipment and erecting pre-engineered metal buildings.

Pile Drivers work but not limited to: unloading, assembling, erection, repairs, operation, signaling, dismantling and reloading all equipment that is used for pile driving including pile butts is defined as sheeting or scrap piling. Underwater work that may be required in connection with the installation of piling. The driver and his tender work as a team and shall arrive at their own financial arrangements with the contractor. Any configuration of wood, steel, concrete or composite that is jetted, driven or vibrated onto the ground by conventional pile driving equipment for the purpose of supporting a future load that may be permanent or temporary. The construction of all wharves and docks, including the fabrication and installation of floating docks. Driving bracing, plumbing, cutting off and capping of all piling whether wood, metal, pipe piling or composite, loading, unloading, erecting, framing, dismantling, moving and handling of pile driving equipment piling used in the construction and repair of all wharves, docks, piers, trestles, caissons, cofferdams and erection of all sea walls and breakwaters. All underwater and marine work on bulkheads, wharves, docks, shipyards, caissons, piers, bridges, pipeline, work, viaducts, marine cable and trestles, as well as salvage and reclamation work where divers are employed. Rate shall include carpenters, acoustic and ceiling installers, drywall installers, pile drivers and floorlayers.



# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Cement Mason Bricklayer Local 97 HevHwy A

Change # : LCN01-2022sksHvyHwy

Craft : Bricklayer Effective Date : 06/08/2022 Last Posted : 06/08/2022

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Cement Mason Bricklayer Sewer Water Works A	\$31.40		\$9.75	\$8.30	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$49.95	\$65.65
Apprentice	Percent											
1st year	70.00	\$21.98	\$9.75	\$8.30	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.53	\$51.52
2nd year	80.00	\$25.12	\$9.75	\$8.30	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.67	\$56.23
3rd year	90.00	\$28.26	\$9.75	\$8.30	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$46.81	\$60.94

**Special Calculation Note : NOT FOR BUILDING CONSTRUCTION.**

### Ratio :

3 Journeymen to 1 Apprentice  
 6 Journeymen to 2 Apprentice  
 9 Journeymen to 3 Apprentice  
 12 Journeymen to 4 Apprentice  
 15 Journeymen to 5 Apprentice

### Jurisdiction ( \* denotes special jurisdictional note ) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEauga, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN

WERT, VINTON, WARREN, WASHINGTON,  
WAYNE

**Special Jurisdictional Note :**

**Details :**

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Cement Mason Bricklayer Local 97 HevHwy B

Change # : LCN01-2022sksHvyHwy

Craft : Bricklayer Effective Date : 06/08/2022 Last Posted : 06/08/2022

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Cement Mason Bricklayer Power Plants Tunnels Amusement Parks B	\$32.39		\$9.75	\$8.30	\$0.51	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$50.95	\$67.15
Apprentice	Percent											
1st year	70.00	\$22.67	\$9.75	\$8.30	\$0.51	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.23	\$52.57
2nd year	80.00	\$25.91	\$9.75	\$8.30	\$0.51	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.47	\$57.43
3rd year	90.00	\$29.15	\$9.75	\$8.30	\$0.51	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$47.71	\$62.29

Special Calculation Note : NOT FOR BUILDING CONSTRUCTION.

### Ratio :

3 Journeymen to 1 Apprentice  
6 Journeymen to 2 Apprentice  
9 Journeymen to 2 Apprentice  
12 Journeymen to 4 Apprentice  
15 Journeymen to 5 Apprentice

### Jurisdiction ( \* denotes special jurisdictional note ) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT,

TRUMBULL, TUSCARAWAS, UNION, VAN  
WERT, VINTON, WARREN, WASHINGTON,  
WAYNE

**Special Jurisdictional Note :**

**Details :**

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Cement Mason Statewide HevHwy

Change # : LCN01-2023ibCementHevHwy

Craft : Cement Mason Effective Date : 05/01/2023 Last Posted : 04/26/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Cement Mason	\$33.74		\$8.50	\$7.55	\$0.65	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$52.76	\$69.63
Apprentice	Percent											
1st Year	70.00	\$23.62	\$8.50	\$7.55	\$0.65	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$42.64	\$54.45
2nd Year	80.00	\$26.99	\$8.50	\$7.55	\$0.65	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$46.01	\$59.51
3rd Year	90.00	\$30.37	\$8.50	\$7.55	\$0.65	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$49.39	\$64.57

Special Calculation Note : Other \$0.07 is for International Training Fund

Ratio :

1 Journeymen to 1 Apprentice  
2 to 1 thereafter

Jurisdiction ( \* denotes special jurisdictional note ) :

ADAMS, ALLEN, ASHLAND, ASHTABULA\*,  
ATHENS, AUGLAIZE, BELMONT, BROWN,  
BUTLER, CARROLL, CHAMPAIGN, CLARK,  
CLERMONT, CLINTON, COLUMBIANA,  
COSHOCOTON, CRAWFORD, CUYAHOGA\*,  
DARKE, DEFIANCE, DELAWARE, ERIE,  
FAIRFIELD, FAYETTE, FRANKLIN, FULTON\*,  
GALLIA, GEAUGA\*, GREENE, GUERNSEY,  
HAMILTON, HANCOCK\*, HARDIN, HARRISON,  
HENRY\*, HIGHLAND, HOCKING, HOLMES,  
HURON, JACKSON, JEFFERSON, KNOX, LAKE\*,  
LAWRENCE, LICKING, LOGAN, LORAIN,  
LUCAS\*, MADISON, MAHONING, MARION,  
MEDINA, MEIGS, MERCER, MIAMI, MONROE,  
MONTGOMERY, MORGAN, MORROW,  
MUSKINGUM, NOBLE, OTTAWA, PAULDING,  
PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE,  
PUTNAM\*, RICHLAND, ROSS, SANDUSKY,  
SCIOTO, SENECA, SHELBY, STARK, SUMMIT,  
TRUMBULL, TUSCARAWAS, UNION, VAN  
WERT, VINTON, WARREN, WASHINGTON,  
WAYNE, WILLIAMS, WOOD\*, WYANDOT

Special Jurisdictional Note : (A) Highway Construction, Sewer, Waterworks And Utility

Construction, Industrial & Building Site, Heavy  
Construction, Airport Construction Or Railroad Construction Work, Power Plant, Tunnels,  
Amusement Park, Athletic Stadium Site Work, Pollution Control, Sewer Plant, Waste & Water Plant,  
Water Treatment Facilities Construction.

\*For Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work, Pollution Control, Sewer  
Plant, Waste & Water Plant, Water Treatment Facility Construction work in the following Counties:  
Ashtabula, Cuyahoga, Fulton, Geauga, Hancock, Henry, Lake, Lucas, Putnam and Wood Counties,  
those counties will use the Cement Mason Statewide Heavy Highway Exhibit B District 1 Wage  
Rate.

**Details :**

This rate replaces the previous Cement Mason Heavy Highway Statewide Rates (Exhibit A and Exhibit B  
rates), except for Cement Mason Statewide Heavy Highway Exhibit B Dist 1. sks

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Cement Mason & Plasterer Local 109

Change # : LCN01-2022sksLoc109

Craft : Cement Effective Date : 06/01/2022 Last Posted : 06/01/2022

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Cement Mason	\$31.74		\$9.09	\$7.35	\$0.70	\$0.00	\$4.74	\$0.07	\$0.00	\$0.00	\$53.69	\$69.56
Plasterer	\$30.61		\$8.75	\$7.35	\$0.70	\$0.00	\$4.75	\$0.07	\$0.00	\$0.00	\$52.23	\$67.53
Apprentice Cement Mason	Percent											
1st year	70.00	\$22.22	\$9.09	\$7.35	\$0.70	\$0.00	\$4.74	\$0.07	\$0.00	\$0.00	\$44.17	\$55.28
2nd year	79.98	\$25.39	\$9.09	\$7.35	\$0.70	\$0.00	\$4.74	\$0.07	\$0.00	\$0.00	\$47.34	\$60.03
3rd year	90.00	\$28.57	\$9.09	\$7.35	\$0.70	\$0.00	\$4.74	\$0.07	\$0.00	\$0.00	\$50.52	\$64.80
Plasterer Apprentice												
1st year	67.53	\$21.43	\$8.75	\$7.35	\$0.70	\$0.00	\$4.75	\$0.07	\$0.00	\$0.00	\$43.05	\$53.77
2nd year	77.17	\$24.49	\$8.75	\$7.35	\$0.70	\$0.00	\$4.75	\$0.07	\$0.00	\$0.00	\$46.11	\$58.36
3rd year	86.80	\$27.55	\$8.75	\$7.35	\$0.70	\$0.00	\$4.75	\$0.07	\$0.00	\$0.00	\$49.17	\$62.95

**Special Calculation Note :** Other is for International Training.

### Ratio :

1 Journeymen to 1 Apprentice  
5 Journeymen to 2 Apprentice  
10 Journeyman to 3 Apprentice

### Jurisdiction ( \* denotes special jurisdictional note ) :

CARROLL, HOLMES, MEDINA, PORTAGE,  
STARK, SUMMIT, TUSCARAWAS, WAYNE

### Special Jurisdictional Note :

### Details :

Finishers when applying colorshake shall be paid an additional \$2.00 per DAY.  
Swing Scaffolds up to 50 feet shall be paid \$0.25 above the Journeymen rate.  
Swing Scaffolds over 50 feet shall be paid \$0.35 above the Journeymen rate.



# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Electrical Local 540 Inside

Change # : LCN01-2023ibLoc540in

Craft : Electrical Effective Date : 01/11/2023 Last Posted : 01/11/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Electrician	\$36.28		\$6.60	\$10.50	\$1.12	\$3.63	\$3.99	\$1.20	\$0.00	\$0.00	\$63.32	\$81.46
Apprentice	Percent											
1st 1000 hrs	45.00	\$16.33	\$6.60	\$0.00	\$0.46	\$0.00	\$0.49	\$0.49	\$0.00	\$0.00	\$24.37	\$32.53
2nd 1000 hrs	47.00	\$17.05	\$6.60	\$0.00	\$0.48	\$0.00	\$0.51	\$0.51	\$0.00	\$0.00	\$25.15	\$33.68
3rd 1500 hrs	50.00	\$18.14	\$6.60	\$2.63	\$0.55	\$1.45	\$0.59	\$0.59	\$0.00	\$0.00	\$30.55	\$39.62
4th 1500 hrs	60.00	\$21.77	\$6.60	\$5.25	\$0.66	\$1.74	\$0.71	\$0.71	\$0.00	\$0.00	\$37.44	\$48.32
5th 1500 hrs	70.00	\$25.40	\$6.60	\$7.88	\$0.77	\$2.03	\$0.82	\$0.82	\$0.00	\$0.00	\$44.32	\$57.01
6th 1500 hrs	80.00	\$29.02	\$6.60	\$10.50	\$0.88	\$2.32	\$0.94	\$0.94	\$0.00	\$0.00	\$51.20	\$65.72

**Special Calculation Note :** OTHER = (NEBF) National Electrical Benefit Fund. Vacation contribution is equal to 8% of the gross weekly wages.

### Ratio :

The first person assigned to any job site shall be a Journeyman Wireman. Ratio thereafter:

1-3 Journeymen to 2 Apprentices  
4 to 6 Journeymen up to 4 Apprentices  
7 to 9 Journeymen up to 6 Apprentices

### Jurisdiction ( \* denotes special jurisdictional note ) :

CARROLL\*, COLUMBIANA\*, HOLMES,  
MAHONING\*, STARK, TUSCARAWAS\*, WAYNE\*

**Special Jurisdictional Note :** Carroll County: North half including; Fox, Harrison, Rose and Washington Townships.

Columbiana County: Knox Township only.

Mahoning County: Smith Township only.

Tuscarawas County: That portion North of Auburn, Clay, Rush and York Townships.

Wayne County: That portion south of Baughman, Chester, Green and Wayne Townships.

### Details :





# Prevailing Wage Rate

## Skilled Crafts

**Name of Union: Electrical Local 540 Inside Lt Commercial Northern**

**Change # : LCN01-2023ibLoc540in**

**Craft : Electrical Effective Date : 01/11/2023 Last Posted : 01/11/2023**

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Electrician	\$36.28	\$6.60	\$10.50	\$1.12	\$3.63	\$3.99	\$1.20	\$0.00	\$0.00	\$63.32	\$81.46
CE-3 12,001-14,000 Hrs	\$27.59	\$6.51	\$0.00	\$0.82	\$0.00	\$0.83	\$0.83	\$0.00	\$0.10	\$36.68	\$50.47
CE-2 10,001-12,000 Hrs	\$21.68	\$6.51	\$0.00	\$0.82	\$0.00	\$0.65	\$0.65	\$0.00	\$0.10	\$30.41	\$41.25
CE-1 8,001-10,000 Hrs	\$19.71	\$6.51	\$0.00	\$0.82	\$0.00	\$0.59	\$0.59	\$0.00	\$0.10	\$28.32	\$38.18
CW-4 6,001-8,000 Hrs	\$17.74	\$6.51	\$0.00	\$0.82	\$0.00	\$0.53	\$0.53	\$0.00	\$0.10	\$26.23	\$35.10
CW-3 4,001-6,000 Hrs	\$15.77	\$6.51	\$0.00	\$0.82	\$0.00	\$0.47	\$0.47	\$0.00	\$0.10	\$24.14	\$32.03
CW-2 2,001-4,000 Hrs	\$14.78	\$6.51	\$0.00	\$0.82	\$0.00	\$0.44	\$0.44	\$0.00	\$0.10	\$23.09	\$30.48
CW-1 0-2,000 Hrs	\$13.80	\$6.51	\$0.00	\$0.82	\$0.00	\$0.41	\$0.41	\$0.00	\$0.10	\$22.05	\$28.95
<b>Apprentice</b>	<b>Percent</b>										
1st 1000 hrs	45.00	\$16.33	\$6.60	\$0.00	\$0.46	\$0.00	\$0.49	\$0.49	\$0.00	\$24.37	\$32.53
2nd 1000 hrs	47.00	\$17.05	\$6.60	\$0.00	\$0.48	\$0.00	\$0.51	\$0.51	\$0.00	\$25.15	\$33.68
3rd 1500 hrs	50.00	\$18.14	\$6.60	\$2.63	\$0.55	\$1.45	\$0.59	\$0.59	\$0.00	\$30.55	\$39.62
4th 1500 hrs	60.00	\$21.77	\$6.60	\$5.25	\$0.66	\$1.74	\$0.71	\$0.71	\$0.00	\$37.44	\$48.32
5th 1500 hrs	70.00	\$25.40	\$6.60	\$7.88	\$0.77	\$2.03	\$0.82	\$0.82	\$0.00	\$44.32	\$57.01
6th 1500 hrs	80.00	\$29.02	\$6.60	\$10.50	\$0.88	\$2.32	\$0.94	\$0.94	\$0.00	\$51.20	\$65.72

**Special Calculation Note : OTHER = (NEBF) National Electrical Benefit Fund**

**Ratio :**

1 to 3 Journeymen to 2 Apprentices  
4 to 6 Journeymen up to 4 Apprentices  
7 to 9 Journeymen up to 6 Apprentices

**Jurisdiction ( \* denotes special jurisdictional note ) :**

CARROLL\*, COLUMBIANA\*, HOLMES,  
MAHONING\*, STARK, TUSCARAWAS\*, WAYNE\*

### Construction Electrician and Construction Wireman Ratio

There shall be a minimum ratio of one inside Journeyman Wireman to every (4) employees of different classifications per jobsite. An Inside Journeyman Wireman is required on the project as the fifth (5th) worker or when apprentices are used.

**Special Jurisdictional Note :** Carroll County: North half including; Fox, Harrison, Rose and Washington Townships.

Columbiana County: Knox Township only.

Mahoning County: Smith Township only.

Tuscarawas County: That portion North of Auburn, Clay, Rush and York Townships.

Wayne County: That portion south of Baughman, Chester, Green, Wayne and Wooster Townships.

The scope of work for the light commercial agreement shall apply to the following small medical clinics, stand-alone doctor and dentist offices with up to 600 amp service (not attached to a hospital), gas stations/convenience stores, fast food restaurants and franchised chain restaurants including independent bars and taverns, places of worship, funeral homes, nursing homes, assisted living facilities and day-care facilities under 15,000 sq ft, small office, retail/wholesale facilities under 15,000 sq ft with less than 10 units attached, storage units, car washes, express hotels and motels (4 stories or less) without conference or restaurants facilities, residential units (subject to Davis Bacon Rates) small stand-alone manufacturing facilities when free standing and not part of a larger facility (less than 15,000 sq ft) solar projects (500 panels or less) unless other wise covered under this agreement, lighting retrofits (when not associated with remodels involving branch re-circuiting) Lighting retrofits shall be defined as the changing of lamps and ballasts in existing light fixtures and shall also include the one for one replacement of existing fixtures.

### Details :

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Electrical Local 540 Voice Data Video

Change # : LCN01-2022sksLoc540VDV

Craft : Voice Data Video Effective Date : 08/29/2022 Last Posted : 08/26/2022

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Electrical Installer Technician	\$23.26		\$6.50	\$4.79	\$0.58	\$2.33	\$2.07	\$0.77	\$0.00	\$0.00	\$40.30	\$51.93
Cable Puller	\$13.26		\$6.50	\$0.00	\$0.30	\$0.00	\$0.40	\$0.40	\$0.00	\$0.00	\$20.86	\$27.49
Apprentice Starting Prior to 08/01/2020												
6th Step 90%	\$20.93		\$6.50	\$4.79	\$0.51	\$1.67	\$2.07	\$0.68	\$0.00	\$0.00	\$37.15	\$47.61
Apprentice Starting After 08/01/2020	Percent											
1st Step	60.00	\$13.96	\$6.50	\$0.00	\$0.31	\$0.00	\$1.24	\$0.42	\$0.00	\$0.00	\$22.43	\$29.40
2nd Step	65.00	\$15.12	\$6.50	\$3.11	\$0.37	\$1.21	\$1.35	\$0.49	\$0.00	\$0.00	\$28.15	\$35.71
3rd Step	75.00	\$17.44	\$6.50	\$3.59	\$0.42	\$1.40	\$1.55	\$0.57	\$0.00	\$0.00	\$31.48	\$40.20
4th Step	85.00	\$19.77	\$6.50	\$4.07	\$0.48	\$1.58	\$1.76	\$0.64	\$0.00	\$0.00	\$34.80	\$44.69

**Special Calculation Note :** OTHER = (NEBF) National Electrical Benefit Fund.

VACATION PAY - For Journeymen is 10% of wages and 8% for Apprentices.

### Ratio :

1-3 Journeyman to 2 Apprentice

4-6 Journeyman to 4 Apprentice

### Jurisdiction ( \* denotes special jurisdictional note ) :

CARROLL\*, COLUMBIANA\*, HOLMES,

MAHONING\*, STARK, TUSCARAWAS\*, WAYNE\*

\*\* Exception - When fire alarm falls within the scope of this addendum, Cable Pullers can be used to aid in test and be the 2nd Teledata employee on the job

**Special Jurisdictional Note :** Carroll County includes the following townships: North half including Fox, Harrison, Rose and Washington. Tuscarawas County includes the following townships: The

portion North of Auburn, Clay, Rush and York. Wayne County includes the following townships: The portion South of Baughman, Chester, Green, and Wayne. Columbiana County includes Knox township. Mahoning County includes Smith township.

**Details :**

CABLE PULLERS - are for the installation of cable from one termination point to another.

The following work is EXCLUDED from the Teledata Technician work scope:

- \* - Installation of computer systems in industrial applications such as assembly lines, robotics, computer controller manufacturing systems.
- \* - Installation of conduit and/ or raceways shall be installed by Inside Wireman . On sites where there is no Inside Wireman employed, the Teledata Technician may install raceway, or conduit not greater than 10 feet.
- \* - Fire Alarm work on all new construction sites or wherever the fire alarm system is installed in conduit.
- \* - All HVAC control work.

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Electrical Local 71 High Tension Pipe Type Cable

Change # : LCN01-2023ibLoc7

Craft : Lineman Effective Date : 03/01/2023 Last Posted : 03/01/2023

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Electrical Lineman	\$48.59	\$7.00	\$1.46	\$0.49	\$0.00	\$11.66	\$0.75	\$0.00	\$0.00	\$69.95	\$94.24
Certified Lineman Welder	\$48.59	\$7.00	\$1.46	\$0.49	\$0.00	\$11.66	\$0.75	\$0.00	\$0.00	\$69.95	\$94.24
Certified Cable Splicer	\$48.59	\$7.00	\$1.46	\$0.49	\$0.00	\$11.66	\$0.75	\$0.00	\$0.00	\$69.95	\$94.24
Operator A	\$43.54	\$7.00	\$1.31	\$0.44	\$0.00	\$10.45	\$0.75	\$0.00	\$0.00	\$63.49	\$85.26
Operator B	\$38.54	\$7.00	\$1.16	\$0.39	\$0.00	\$9.25	\$0.75	\$0.00	\$0.00	\$57.09	\$76.36
Operator C	\$30.97	\$7.00	\$0.93	\$0.31	\$0.00	\$7.43	\$0.75	\$0.00	\$0.00	\$47.39	\$62.88
Groundman 0-12 months Exp	\$24.30	\$7.00	\$0.73	\$0.24	\$0.00	\$5.83	\$0.75	\$0.00	\$0.00	\$38.85	\$51.00
Groundman 0-12 months Exp w/CDL	\$26.72	\$7.00	\$0.80	\$0.27	\$0.00	\$6.41	\$0.75	\$0.00	\$0.00	\$41.95	\$55.31
Groundman 1 yr or more	\$26.72	\$7.00	\$0.80	\$0.27	\$0.00	\$6.41	\$0.75	\$0.00	\$0.00	\$41.95	\$55.31
Groundman 1 yr or more w/CDL	\$31.58	\$7.00	\$0.95	\$0.32	\$0.00	\$7.58	\$0.75	\$0.00	\$0.00	\$48.18	\$63.97
Equipment Mechanic A	\$38.54	\$7.00	\$1.16	\$0.39	\$0.00	\$9.25	\$0.75	\$0.00	\$0.00	\$57.09	\$76.36
Equipment Mechanic B	\$34.75	\$7.00	\$1.04	\$0.35	\$0.00	\$8.34	\$0.75	\$0.00	\$0.00	\$52.23	\$69.60
Equipment Mechanic C	\$30.97	\$7.00	\$0.93	\$0.31	\$0.00	\$7.43	\$0.75	\$0.00	\$0.00	\$47.39	\$62.88
X-Ray Technician	\$48.59	\$7.00	\$1.46	\$0.49	\$0.00	\$11.66	\$0.75	\$0.00	\$0.00	\$69.95	\$94.24



Apprentice	Percent											
1st 1000 hrs	60.00	\$29.15	\$7.00	\$0.87	\$0.29	\$0.00	\$7.00	\$0.75	\$0.00	\$0.00	\$45.06	\$59.64
2nd 1000 hrs	65.00	\$31.58	\$7.00	\$0.95	\$0.32	\$0.00	\$7.58	\$0.75	\$0.00	\$0.00	\$48.18	\$63.98
3rd 1000 hrs	70.00	\$34.01	\$7.00	\$1.02	\$0.34	\$0.00	\$8.16	\$0.75	\$0.00	\$0.00	\$51.28	\$68.29
4th 1000 hrs	75.00	\$36.44	\$7.00	\$1.09	\$0.36	\$0.00	\$8.75	\$0.75	\$0.00	\$0.00	\$54.39	\$72.61
5th 1000 hrs	80.00	\$38.87	\$7.00	\$1.17	\$0.39	\$0.00	\$9.33	\$0.75	\$0.00	\$0.00	\$57.51	\$76.95
6th 1000 hrs	85.00	\$41.30	\$7.00	\$1.24	\$0.41	\$0.00	\$9.91	\$0.75	\$0.00	\$0.00	\$60.61	\$81.26
7th 1000 hrs	90.00	\$43.73	\$7.00	\$1.31	\$0.44	\$0.00	\$10.50	\$0.75	\$0.00	\$0.00	\$63.73	\$85.60

**Special Calculation Note :** Other is Health Retirement Account

**Operator "A"**  
John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator),  
Cranes (greater then 25 tons and less than 45 tons).

**Operator "B"**  
Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure  
Digger- wheeled or tracked, all Tension wire Stringing equipment.

**Operator "C"**  
Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton &  
below), Skid Steer Loaders, Material Handler.

\*All Operators of cranes 45 ton or larger shall be paid the journeyman rate of pay. \$0.30 is for  
Health Retirement Account.

**Ratio :**  
  
1 Journeyman to 1 Apprentice

**Jurisdiction ( \* denotes special jurisdictional note ) :**  
ADAMS, ASHLAND, ASHTABULA, ATHENS,  
AUGLAIZE, BELMONT, BROWN, BUTLER,  
CARROLL, CHAMPAIGN, CLARK, CLERMONT,  
CLINTON, COLUMBIANA, COSHOCTON,  
CRAWFORD, CUYAHOGA, DARKE, DELAWARE,  
FAIRFIELD, FAYETTE, FRANKLIN, GALLIA,  
GEAUGA, GREENE, GUERNSEY, HAMILTON,  
HARRISON, HIGHLAND, HOCKING, HOLMES,  
JACKSON, JEFFERSON, KNOX, LAKE,  
LAWRENCE, LICKING, LOGAN, LORAIN,  
MADISON, MAHONING, MARION, MEDINA,  
MEIGS, MERCER, MIAMI, MONROE,  
MONTGOMERY, MORGAN, MORROW,  
MUSKINGUM, NOBLE, PERRY, PICKAWAY,  
PIKE, PORTAGE, PREBLE, RICHLAND, ROSS,  
SCIOTO, SHELBY, STARK, SUMMIT,  
TRUMBULL, TUSCARAWAS, UNION, VINTON,

WARREN, WASHINGTON, WAYNE

**Special Jurisdictional Note :**

**Details :**

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.



# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Electrical Local 71 Outside Utility Power

Change # : LCN01-2023ibLoc7

Craft : Lineman Effective Date : 03/01/2023 Last Posted : 03/01/2023

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Electrical Lineman	\$46.03	\$7.00	\$1.38	\$0.46	\$0.00	\$11.05	\$0.75	\$0.00	\$0.00	\$66.67	\$89.68
Substation Technician	\$46.03	\$7.00	\$1.38	\$0.46	\$0.00	\$11.05	\$0.75	\$0.00	\$0.00	\$66.67	\$89.68
Cable Splicer	\$48.21	\$7.00	\$1.45	\$0.48	\$0.00	\$11.57	\$0.75	\$0.00	\$0.00	\$69.46	\$93.56
Operator A	\$41.26	\$7.00	\$1.24	\$0.41	\$0.00	\$9.90	\$0.75	\$0.00	\$0.00	\$60.56	\$81.19
Operator B	\$36.47	\$7.00	\$1.09	\$0.36	\$0.00	\$8.75	\$0.75	\$0.00	\$0.00	\$54.42	\$72.65
Operator C	\$29.28	\$7.00	\$0.88	\$0.29	\$0.00	\$7.03	\$0.75	\$0.00	\$0.00	\$45.23	\$59.87
Groundman 0-12 months Exp	\$23.02	\$7.00	\$0.69	\$0.23	\$0.00	\$5.52	\$0.75	\$0.00	\$0.00	\$37.21	\$48.72
Groundman 0-12 months Exp w/CDL	\$25.32	\$7.00	\$0.76	\$0.25	\$0.00	\$6.08	\$0.75	\$0.00	\$0.00	\$40.16	\$52.82
Groundman 1 yr or more	\$25.32	\$7.00	\$0.76	\$0.25	\$0.00	\$6.08	\$0.75	\$0.00	\$0.00	\$40.16	\$52.82
Groundman 1 yr or more w/CDL	\$29.92	\$7.00	\$0.90	\$0.30	\$0.00	\$7.18	\$0.75	\$0.00	\$0.00	\$46.05	\$61.01
Equipment Mechanic A	\$36.47	\$7.00	\$1.09	\$0.36	\$0.00	\$8.75	\$0.75	\$0.00	\$0.00	\$54.42	\$72.65
Equipment Mechanic B	\$32.88	\$7.00	\$0.99	\$0.33	\$0.00	\$7.89	\$0.75	\$0.00	\$0.00	\$49.84	\$66.28
Equipment Mechanic C	\$29.28	\$7.00	\$0.88	\$0.29	\$0.00	\$7.03	\$0.75	\$0.00	\$0.00	\$45.23	\$59.87
Line Truck w/uuger	\$32.28	\$7.00	\$0.97	\$0.32	\$0.00	\$7.75	\$0.75	\$0.00	\$0.00	\$49.07	\$65.21
Apprentice	Percent										

1st 1000 hrs	60.00	\$27.62	\$7.00	\$0.83	\$0.28	\$0.00	\$6.63	\$0.75	\$0.00	\$0.00	\$43.11	\$56.92
2nd 1000 hrs	65.00	\$29.92	\$7.00	\$0.90	\$0.30	\$0.00	\$7.18	\$0.75	\$0.00	\$0.00	\$46.05	\$61.01
3rd 1000 hrs	70.00	\$32.22	\$7.00	\$0.97	\$0.32	\$0.00	\$7.73	\$0.75	\$0.00	\$0.00	\$48.99	\$65.10
4th 1000 hrs	75.00	\$34.52	\$7.00	\$1.04	\$0.35	\$0.00	\$8.28	\$0.75	\$0.00	\$0.00	\$51.94	\$69.20
5th 1000 hrs	80.00	\$36.82	\$7.00	\$1.10	\$0.37	\$0.00	\$8.84	\$0.75	\$0.00	\$0.00	\$54.88	\$73.30
6th 1000 hrs	85.00	\$39.13	\$7.00	\$1.17	\$0.39	\$0.00	\$9.39	\$0.75	\$0.00	\$0.00	\$57.83	\$77.39
7th 1000 hrs	90.00	\$41.43	\$7.00	\$1.24	\$0.41	\$0.00	\$9.94	\$0.75	\$0.00	\$0.00	\$60.77	\$81.48

**Special Calculation Note :** Other is Health Retirement Account**Operator "A"**

John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).

**Operator "B"**

Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.

**Operator "C"**

Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

**Ratio :**

(1) Journeyman Lineman to (1) Apprentice

**Jurisdiction ( \* denotes special jurisdictional note ) :**

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARRISON, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, RICHLAND, ROSS, SCIOTO, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VINTON, WARREN, WASHINGTON, WAYNE

**Special Jurisdictional Note :** 0.30 is for Health Retirement Account.

**Details :**

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the

**Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.**

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Electrical Local 71 Outside (North Central Ohio)

Change # : LCN01-2023ibLoc71CentralOhio

Craft : Lineman Effective Date : 03/01/2023 Last Posted : 03/01/2023

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Electrical Lineman	\$43.02	\$7.00	\$1.29	\$0.43	\$0.00	\$8.60	\$0.56	\$0.00	\$0.00	\$60.90	\$82.41
Traffic Signal & Lighting Journeyman	\$41.43	\$7.00	\$1.24	\$0.41	\$0.00	\$8.29	\$0.56	\$0.00	\$0.00	\$58.93	\$79.64
Equipment Operator	\$37.78	\$7.00	\$1.13	\$0.38	\$0.00	\$7.56	\$0.56	\$0.00	\$0.00	\$54.41	\$73.30
Groundman 0-12 months (W/O CDL)	\$22.91	\$7.00	\$0.69	\$0.23	\$0.00	\$4.58	\$0.56	\$0.00	\$0.00	\$35.97	\$47.42
Groundman 0-12 months (W/CDL) plus	\$25.03	\$7.00	\$0.75	\$0.25	\$0.00	\$5.01	\$0.56	\$0.00	\$0.00	\$38.60	\$51.12
Groundsman greater than 1 Year (W/CDL)	\$27.71	\$7.00	\$0.81	\$0.28	\$0.00	\$5.43	\$0.56	\$0.00	\$0.00	\$41.79	\$55.65
Traffic Signal Apprentices											
1st 1,000 hours	\$24.86	\$7.00	\$0.75	\$0.25	\$0.00	\$4.97	\$0.56	\$0.00	\$0.00	\$38.39	\$50.82
2nd 1,000 hours	\$26.93	\$7.00	\$0.81	\$0.27	\$0.00	\$5.39	\$0.56	\$0.00	\$0.00	\$40.96	\$54.43
3rd 1,000 hours	\$29.00	\$7.00	\$0.87	\$0.29	\$0.00	\$5.80	\$0.56	\$0.00	\$0.00	\$43.52	\$58.02
4th 1,000 hours	\$31.07	\$7.00	\$0.93	\$0.31	\$0.00	\$6.21	\$0.56	\$0.00	\$0.00	\$46.08	\$61.62
5th 1,000 hours	\$33.14	\$7.00	\$0.99	\$0.33	\$0.00	\$6.63	\$0.56	\$0.00	\$0.00	\$48.65	\$65.22
6th 1,000 hours	\$37.29	\$7.00	\$1.12	\$0.37	\$0.00	\$7.46	\$0.56	\$0.00	\$0.00	\$53.80	\$72.45
Apprentice Lineman	Percent										

1st 1,000 Hours	60.00	\$25.81	\$7.00	\$0.77	\$0.26	\$0.00	\$5.16	\$0.56	\$0.00	\$0.00	\$39.56	\$52.47
2nd 1,000 Hours	65.00	\$27.96	\$7.00	\$0.84	\$0.28	\$0.00	\$5.59	\$0.56	\$0.00	\$0.00	\$42.23	\$56.21
3rd 1,000 Hours	70.00	\$30.11	\$7.00	\$0.90	\$0.30	\$0.00	\$6.02	\$0.56	\$0.00	\$0.00	\$44.89	\$59.95
4th 1,000 Hours	75.00	\$32.27	\$7.00	\$0.97	\$0.32	\$0.00	\$6.54	\$0.56	\$0.00	\$0.00	\$47.66	\$63.79
5th 1,000 Hours	80.00	\$34.42	\$7.00	\$1.03	\$0.34	\$0.00	\$6.88	\$0.56	\$0.00	\$0.00	\$50.23	\$67.43
6th 1,000 Hours	85.00	\$36.57	\$7.00	\$1.10	\$0.37	\$0.00	\$7.31	\$0.56	\$0.00	\$0.00	\$52.91	\$71.19
7th 1,000 Hours	90.00	\$38.72	\$7.00	\$1.16	\$0.39	\$0.00	\$7.74	\$0.56	\$0.00	\$0.00	\$55.57	\$74.93

**Special Calculation Note :** Other is Safety & Education Fund (\$0.06) and HRA (\$0.50).

**Ratio :**

1 Journeymen to 1 Apprentice

**Jurisdiction ( \* denotes special jurisdictional note ) :**

BELMONT, CARROLL, HARRISON, HOLMES, JEFFERSON, MEDINA, PORTAGE, STARK, SUMMIT, WAYNE

**Special Jurisdictional Note :**

**Details :**

A groundman when directed shall assist a Journeyman in the performance of his/her work on the ground, including the use of hand tools. A Groundman under no circumstances shall climb poles, towers, ladders, or work from an elevated platform or bucket truck.

No more than three (3) Groundmen shall work alone. Jobs with more than three Groundmen shall be supervised by a Groundcrew Foreman, Journeyman Lineman, Journeyman Traffic Signal Technician or an Equipment Operator.

Scope of Work: installation and maintenance of highway and street lighting, highway and street sign lighting, electronic message boards and traffic control systems, camera systems, traffic signal work, substation and line construction including overhead and underground projects for private and industrial work as in accordance with the IBEW Constitution. This Agreement includes the operation of all tools and equipment necessary for the installation of the above projects.

**Name of Union: Electrical Local 71 Voice Data Video Outside**

**Craft : Voice Data Video Effective Date : 10/18/2017 Last Posted : 10/18/2017**

**Special Calculation Note :**

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE,  
BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK,  
CLERMONT, CLINTON, COLUMBIANA, COSHOCTON,  
CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD,  
FAYETTE, FRANKLIN, GALLIA, GEAUGA, GREENE, GUERNSEY,  
HAMILTON, HARRISON, HIGHLAND, HOCKING, HOLMES,  
JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING,  
LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA,  
MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN,  
MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE,  
PORTAGE, PREBLE, RICHLAND, ROSS, SCIOTO, SHELBY,  
STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VINTON,  
WARREN, WASHINGTON, WAYNE

**Cable Splicer:** Inspect and test lines or cables, analyze results, and evaluate transmission characteristics. Cover conductors with insulation or seal splices with moisture-proof covering. Install, splice, test, and repair cables using tools or mechanical equipment. This will include the splicing of



fiber.

**Journeyman Technician I:** Must know all aspects of telephone and cable work. This is to include aerial, underground, and manhole work. Must know how to climb and run bucket. Must have all the tools required to perform these tasks. Must be able to be responsible for the safety of the crew at all times. Must also have CDL license and have at least 5 years experience.

**Installer/Repairman:** Perform tasks of repairing, installing, and testing phone and CATV services.

**Technician II:** Have at least three years of telephone and CATV experience. Must have the knowledge of underground, aerial, and manhole work. Must be able to climb and operate bucket. Must have CDL. Must have all tools needed to perform these tasks.

**Equipment Operator I:** Able to operate a digger derrick or bucket truck. Have at least 5 years of experience and must have a valid CDL license.

**Equipment Operator II:** Able to operate a digger derrick or bucket truck. Have at least 3 years of experience and must have a valid CDL license.

**Groundman W/CDL:** Must have a valid CDL license and be able to perform tasks such as: climbing poles, pulling downguys, making up material, and getting appropriate tools for the job. Must have at least 5 year's experience.

**Groundman:** Perform tasks such as: climbing poles, pulling downguys, making up material, and getting appropriate tools for the job. Experience 0-5 years.

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Elevator Local 45

Change # : LCN01-2023ibLoc45

Craft : Elevator Effective Date : 02/01/2023 Last Posted : 02/01/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Elevator Mechanic	\$55.63		\$16.07	\$10.76	\$0.70	\$4.45	\$9.80	\$2.09	\$0.00	\$0.00	\$99.50	\$127.32
Assistant Mechanic	\$44.50		\$16.07	\$10.76	\$0.70	\$3.56	\$9.80	\$1.66	\$0.00	\$0.00	\$87.05	\$109.30
Helper	\$38.94		\$16.07	\$10.76	\$0.70	\$3.12	\$9.80	\$1.47	\$0.00	\$0.00	\$80.86	\$100.33
Apprentice	Percent											
Apprentice												
0-6 months Probation	50.00	\$27.82	\$0.00	\$0.00	\$0.00	\$1.67	\$0.00	\$0.00	\$0.00	\$0.00	\$29.48	\$43.39
1st year	55.00	\$30.60	\$16.07	\$10.76	\$0.70	\$1.84	\$9.80	\$1.15	\$0.00	\$0.00	\$70.92	\$86.21
2nd year	65.00	\$36.16	\$16.07	\$10.76	\$0.70	\$2.17	\$9.80	\$1.36	\$0.00	\$0.00	\$77.02	\$95.10
3rd year	70.00	\$38.94	\$16.07	\$10.76	\$0.70	\$2.34	\$9.80	\$1.47	\$0.00	\$0.00	\$80.08	\$99.55
4th year	80.00	\$44.50	\$16.07	\$10.76	\$0.70	\$2.67	\$9.80	\$1.66	\$0.00	\$0.00	\$86.16	\$108.42

Special Calculation Note : \*Other is Holiday Pay

Ratio :

Jurisdiction ( \* denotes special jurisdictional note ) :

The total number of Helpers & Apprentices employed shall not exceed the number of Mechanics on any one job, except on jobs where (2) teams or more are working, (1) extra Helper or Apprentice may be employed for the first (2) teams and an extra Helper or Apprentice for each additional (3) teams.

ASHLAND, CARROLL, COLUMBIANA, COSHOCTON, HARRISON, HOLMES, MAHONING, MEDINA, PORTAGE, RICHLAND, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, WAYNE

Special Jurisdictional Note :

Details :

Vacation 6%/under 5 years based on regular hourly rate for all hours worked. 8%/over 5 years based on regular hourly rate for all hours worked.



# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Glazier Local 1162

Change # : LCN01-2023ibLoc1162

Craft : Glazier Effective Date : 05/24/2023 Last Posted : 05/24/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Glazier	\$29.37		\$7.50	\$6.79	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.04	\$58.73
Apprentice	Percent											
1st 6 months	55.00	\$16.15	\$7.50	\$6.79	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30.82	\$38.90
2nd 6 months	60.00	\$17.62	\$7.50	\$6.79	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$32.29	\$41.10
3rd 6 months	65.00	\$19.09	\$7.50	\$6.79	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.76	\$43.31
4th 6 months	70.00	\$20.56	\$7.50	\$6.79	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$35.23	\$45.51
5th 6 months	75.02	\$22.03	\$7.50	\$6.79	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36.70	\$47.72
6th 6 months	80.00	\$23.50	\$7.50	\$6.79	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$38.17	\$49.91
7th 6 months	85.00	\$24.96	\$7.50	\$6.79	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.63	\$52.12
8th 6 months	90.00	\$26.43	\$7.50	\$6.79	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.10	\$54.32

### Special Calculation Note :

#### Ratio :

1 Journeyman to 1 Apprentice  
2 Journeyman to 1 Apprentice

#### Jurisdiction ( \* denotes special jurisdictional note ) :

ASHLAND, CARROLL, COSHOCTON, HOLMES,  
MEDINA, PORTAGE, RICHLAND, STARK,  
SUMMIT, TUSCARAWAS, WAYNE

### Special Jurisdictional Note :

#### Details :

Add \$1.25 per hour for High Pay which is all work that requires the employee be supported by equipment which hangs or suspends from the roof of a building or structure including all repelling .

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Ironworker Local 550

Change # : LCN01-2023ibLoc550

Craft : Ironworker Effective Date : 05/01/2023 Last Posted : 04/26/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Ironworker	\$33.00		\$9.48	\$9.02	\$0.77	\$0.00	\$3.00	\$0.41	\$0.00	\$0.00	\$55.68	\$72.18
Apprentice	Percent											
1st 6 months	65.00	\$21.45	\$9.48	\$9.02	\$0.77	\$0.00	\$3.00	\$0.41	\$0.00	\$0.00	\$44.13	\$54.85
2nd 6 months	69.00	\$22.77	\$9.48	\$9.02	\$0.77	\$0.00	\$3.00	\$0.41	\$0.00	\$0.00	\$45.45	\$56.84
3rd 6 months	73.00	\$24.09	\$9.48	\$9.02	\$0.77	\$0.00	\$3.00	\$0.41	\$0.00	\$0.00	\$46.77	\$58.81
4th 6 months	77.00	\$25.41	\$9.48	\$9.02	\$0.77	\$0.00	\$3.00	\$0.41	\$0.00	\$0.00	\$48.09	\$60.79
5th 6 months	81.00	\$26.73	\$9.48	\$9.02	\$0.77	\$0.00	\$3.00	\$0.41	\$0.00	\$0.00	\$49.41	\$62.78
6th 6 months	85.00	\$28.05	\$9.48	\$9.02	\$0.77	\$0.00	\$3.00	\$0.41	\$0.00	\$0.00	\$50.73	\$64.75
7th 6 months	90.00	\$29.70	\$9.48	\$9.02	\$0.77	\$0.00	\$3.00	\$0.41	\$0.00	\$0.00	\$52.38	\$67.23
8th 6 months	95.00	\$31.35	\$9.48	\$9.02	\$0.77	\$0.00	\$3.00	\$0.41	\$0.00	\$0.00	\$54.03	\$69.70

**Special Calculation Note :** OTHER IS: JOURNEYMAN UPGRADE AND WELLNESS FUND.

### Ratio :

4 Journeymen to 1 Apprentice  
 1 Journeymen to 1 Apprentice, spinning of cable for suspension bridge  
 1 Journeymen to 1 Apprentice, ornamental work  
 2 Journeymen to 1 Apprentice, reinforcing work  
 1 Journeymen to 2 Apprentice, roadway

### Jurisdiction ( \* denotes special jurisdictional note ) :

ASHLAND, CARROLL, COLUMBIANA\*,  
 COSHOCTON, HOLMES\*, HURON,  
 MAHONING\*, MEDINA\*, PORTAGE\*,  
 RICHLAND, STARK, SUMMIT\*, TUSCARAWAS,  
 WAYNE

**Special Jurisdictional Note :** The jurisdictional line between Local 17 and Local 550 is determined as follows: All territory North of Old Route 224 line to be within the jurisdiction of Local 17. All territory South of Old Route 224 line is to be the jurisdiction of Local 550, except for everything within the City limits of Barberton which shall be under the jurisdiction of Local 17.

### Details :





**Special Jurisdictional Note :** The jurisdictional line between Locals 17 and 550 is determined as follows: All territory North of Old Route 224 line is to be within the jurisdiction of Local 17.  
All territory South of Old Route 224 line is to be the jurisdiction of Local 550, except for everything within the City limits of Barberton which shall be under the jurisdiction of Local 17.

**Details :**

# Prevailing Wage Rate Skilled Crafts

Name of Union: Labor HewHwy 2

Change # : LCN01-2023ibLaborHewHwy2

Craft : Laborer Group 1 Effective Date : 05/01/2023 Last Posted : 04/26/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Laborer Group 1	\$35.05		\$8.20	\$4.05	\$0.45	\$0.00	\$1.00	\$0.00	\$0.10	\$0.00	\$48.85	\$66.37
Group 2	\$35.22		\$8.20	\$4.05	\$0.45	\$0.00	\$1.00	\$0.00	\$0.10	\$0.00	\$49.02	\$66.63
Group 3	\$35.55		\$8.20	\$4.05	\$0.45	\$0.00	\$1.00	\$0.00	\$0.10	\$0.00	\$49.35	\$67.12
Group 4	\$36.00		\$8.20	\$4.05	\$0.45	\$0.00	\$1.00	\$0.00	\$0.10	\$0.00	\$49.80	\$67.80
Watch Person	\$27.35		\$8.20	\$4.05	\$0.45	\$0.00	\$1.00	\$0.00	\$0.10	\$0.00	\$41.15	\$54.83
Apprentice	Percent											
0-1000 hrs	60.00	\$21.03	\$8.20	\$4.05	\$0.45	\$0.00	\$1.00	\$0.00	\$0.10	\$0.00	\$34.83	\$45.34
1001-2000 hrs	70.02	\$24.54	\$8.20	\$4.05	\$0.45	\$0.00	\$1.00	\$0.00	\$0.10	\$0.00	\$38.34	\$50.61
2001-3000 hrs	80.00	\$28.04	\$8.20	\$4.05	\$0.45	\$0.00	\$1.00	\$0.00	\$0.10	\$0.00	\$41.84	\$55.86
3001-4000 hrs	90.00	\$31.54	\$8.20	\$4.05	\$0.45	\$0.00	\$1.00	\$0.00	\$0.10	\$0.00	\$45.35	\$61.12
More Than 4000 hrs	100.00	\$35.05	\$8.20	\$4.05	\$0.45	\$0.00	\$1.00	\$0.00	\$0.10	\$0.00	\$48.85	\$66.37

**Special Calculation Note :** Watchman has no Apprentices. Tunnel Laborer rate with air-pressurized add \$1.00 to the above wage rate.

## Ratio :

1 Journeymen to 1 Apprentice  
3 Journeymen to 1 Apprentice thereafter

## Jurisdiction ( \* denotes special jurisdictional note ) :

ASHTABULA, ERIE, HURON, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PORTAGE, SANDUSKY, STARK, SUMMIT, TRUMBULL, WOOD

**Special Jurisdictional Note :** Hod Carriers and Common Laborers - Heavy, Highway, Sewer, Waterworks, Utility, Airport, Railroad, Industrial and Building Site, Sewer Plant, Waste Water Treatment Facilities Construction

## Details :

Group 1

Laborer (Construction); Plant Laborer or Yardman, Right-of-way Laborer, Landscape Laborer, Highway Lighting Worker, Signalization Worker, (Swimming) Pool Construction Laborer, Utility Man, \*Bridge Man, Handyman, Joint Setter, Flagperson, Carpenter Helper, Waterproofing Laborer, Slurry Seal, Seal Coating, Surface Treatment or Road Mix Laborer, Riprap Laborer & Grouter, Asphalt Laborer, Dump Man (batch trucks), Guardrail & Fence Installer, Mesh Handler & Placer, Concrete Curing Applicator, Scaffold Erector, Sign Installer, Hazardous Waste (level D), Diver Helper, Zone Person and Traffic Control.

\*Bridge Man will perform work as per the October 31, 1949, memorandum on concrete forms, by and between the United Brotherhood of Carpenters and Joiners of America and the Laborers' International Union of North America, which states in; "the moving, cleaning, oiling and carrying to the next point of erection, and the stripping of forms which are not to be re-used, and forms on all flat arch work shall be done by members of the Laborers' International Union of North America."

#### Group 2

Asphalt Raker, Screwman or Paver, Concrete Puddler, Kettle Man (pipeline), All Machine-Driven Tools (Gas, Electric, Air), Mason Tender, Brick Paver, Mortar Mixer, Skid Steer, Sheeting & Shoring Person, Surface Grinder Person, Screedperson, Water Blast, Hand Held Wand, Power Buggy or Power Wheelbarrow, Paint Striper, Plastic fusing Machine Operator, Rodding Machine Operator, Pug Mill Operator, Operator of All Vacuum Devices Wet or Dry, Handling of all Pumps 4 inches and under (gas, air or electric), Diver, Form Setter, Bottom Person, Welder Helper (pipeline), Concrete Saw Person, Cutting with Burning Torch, Pipe Layer, Hand Spiker (railroad), Underground Person (working in sewer and waterline, cleaning, repairing and reconditioning). Tunnel Laborer (without air), Caisson, Cofferdam (below 25 feet deep), Air Track and Wagon Drill, Sandblaster Nozzle Person, Hazardous Waste (level B), \*\*\*Lead Abatement, Hazardous Waste (level C)

\*\*\*Includes the erecting of structures for the removal, including the encapsulation and containment of Lead abatement process.

#### Group 3

Blast and Powder Person, Muckers will be defined as shovel men working directly with the miners, Wrencher (mechanical joints & utility pipeline), Yarnier, Top Lander, Hazardous Waste (level A), Concrete Specialist, Curb Setter and Cutter, Grade Checker, Concrete Crew in Tunnels. Utility pipeline Tappers, Waterline, Caulker, Signal Person will receive the rate equal to the rate paid the Laborer classification for which the Laborer is signaling.

#### Group 4

Miner, Welder, Guniting Nozzle Person

A.) The Watchperson shall be responsible to patrol and maintain a safe traffic zone including but not limited to barrels, cones, signs, arrow boards, message boards etc.

The responsibility of a watchperson is to see that the equipment, job and office trailer etc. are secure.



# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Labor Local 1015 Building

Change # : LCN01-2023ibLoc1015

Craft : Laborer Effective Date : 05/03/2023 Last Posted : 05/03/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Laborer Group 1	\$31.52		\$8.20	\$4.05	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$44.27	\$60.03
Group 2	\$32.52		\$8.20	\$4.05	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$45.27	\$61.53
Group 3	\$33.52		\$8.20	\$4.05	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$46.27	\$63.03
Group 4	\$33.47		\$8.20	\$4.05	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$46.22	\$62.96
Group 5	\$24.56		\$8.20	\$4.05	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$37.31	\$49.59
Apprentice	Percent											
0-1000 hrs	60.00	\$18.91	\$8.20	\$4.05	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$31.66	\$41.12
1001-2000 hrs	70.00	\$22.06	\$8.20	\$4.05	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$34.81	\$45.85
2001-3000 hrs	80.00	\$25.22	\$8.20	\$4.05	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$37.97	\$50.57
3001-4000 hrs	90.00	\$28.37	\$8.20	\$4.05	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$41.12	\$55.30
More than 4000 hrs	100.00	\$31.52	\$8.20	\$4.05	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$44.27	\$60.03

**Special Calculation Note :** No special calculations for this skilled craft wage rate are required at this time.

**Ratio :**

1 Journeyman to 1 Apprentice  
4 Journeyman to 1 Apprentice

**Jurisdiction ( \* denotes special jurisdictional note ) :**

CARROLL, STARK, WAYNE

**Special Jurisdictional Note :**

**Details :**

Group 1

Building & Construction Laborer, Signalman, Flagman, Tool Cribman, Carpenter Tender, Finisher Tender, Concrete Handler, Utility Construction Laborer, Guard Rail Erectors, Hazardous Waste (Level D)

Group 2

Bottom Man, Scaffold Builder, Tunnel laborer, Pipe Layer, Air and Power Driven Tools, Burner on Demolition Work, Swinging Scaffold, Mucker, Caisson Worker, Cofferdam Worker, Powder Men and



Dynamite Blaster, Creosote Worker, Form Setter, Plasterer Tender, Hod Carrier Laser Beam Set-up Man, All confined space work, furnaces, pickel tubs, acid-pits, and Hazardous Waste Level (C)

**Group 3**

Mason Tender, Mortar Mixer, Stonemason Tender, skid-loader, Hazardous Waste Level (B)

**Group 4**

Gunnite Operator, Hazardous Waste Level (A)

**Group 5**

Watchman

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Operating Engineers - Building Local 18 - Zone III

Change # : LCN01-2023ibLoc18zone3

Craft : Operating Engineer Effective Date : 05/01/2023 Last Posted : 04/26/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Operator Group A	\$41.49		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$57.74	\$78.48
Operator Group B	\$41.37		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$57.62	\$78.30
Operator Group C	\$40.33		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$56.58	\$76.74
Operator Group D	\$39.15		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$55.40	\$74.97
Operator Group E	\$33.69		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$49.94	\$66.78
Master Mechanic	\$41.74		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$57.99	\$78.86
Cranes & Mobile Concrete Pumps 150'-180'	\$41.99		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$58.24	\$79.23
Cranes & Mobile Concrete Pumps 180'-249'	\$42.49		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$58.74	\$79.98
Cranes & Mobile Concrete Pumps 249' and over	\$42.74		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$58.99	\$80.36
<b>Apprentice</b>	<b>Percent</b>											
1st Year	50.00	\$20.75	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$37.00	\$47.37
2nd Year	60.00	\$24.89	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$41.14	\$53.59
3rd Year	70.00	\$29.04	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$45.29	\$59.81
4th Year	80.00	\$33.19	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$49.44	\$66.04
Field Mechanic Trainee												
1st Year	50.00	\$20.75	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$37.00	\$47.37
2nd Year	60.00	\$24.89	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$41.14	\$53.59

3rd Year	70.00	\$29.04	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$45.29	\$59.81
4th Year	80.00	\$33.19	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$49.44	\$66.04

**Special Calculation Note :** Other: Education & Safety \$0.09; \*Misc is National Training

**Ratio :**

For every (3) Operating Engineer Journeymen employed by the company there may be employed (1) Registered Apprentice or trainee Engineer through the referral when they are available. An apprenice, while employed as part of a crew per Article VIII, paragraph 78, will not be subject to the apprenticeship ratios in this collective bargaining agreement

**Jurisdiction ( \* denotes special jurisdictional note ) :**

ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WYANDOT

**Special Jurisdictional Note :**

**Details :**

Note: There will be a 10% increase for the apprentices on top of the percentages listed above provided they are operating mobile equipment. Mechanic Trainees will receive 10% increase if required to have CDL

Group A- Barrier Moving Machines; Boiler Operators or Compressor Operators, when compressor or boiler is mounted on crane (Piggyback Operation); Boom Trucks (all types); Cableways Cherry Pickers; Combination - Concrete Mixers & Towers; All Concrete Pumps with Booms; Cranes (all types); Compact Cranes, track or rubber over 4,000 pounds capacity; Cranes self-erecting, stationary, track or truck (all configurations); Derricks (all types); Draglines; Dredges (dipper, clam or suction) 3-man crew; Elevating Graders or Euclid Loaders; Floating Equipment; Forklift (rough terrain with winch/hoist); Gradalls; Helicopter Operators, hoisting building materials; Helicopter Winch Operators, Hoisting building materials; Hoes (All types); Hoists (with two or more drums in use); Horizontal Directional Drill; Hydraulic Gantry (lift system); Laser Finishing Machines; Laser Screed and like equipment; Lift Slab or Panel Jack Operators; Locomotives (all types); Maintenance Operator/Technician(Mechanic Operator/Technician and/or Welder); Mixers, paving (multiple drum); Mobile Concrete Pumps, with booms; Panelboards, (all types on site); Pile Drivers; Power Shovels; Prentice Loader; Rail Tamper (with automatic lifting and aligning device); Rotary Drills (all), used on caissons for foundations and sub-structure; Side Booms; Slip Form Pavers; Straddle Carriers (Building Construction on site); Trench Machines (over 24” wide); Tug Boats.

Group B - Articulating/end dumps (minus \$4.00/hour from Group B rate); Asphalt Pavers; Bobcat-type and/or skid steer loader with hoe attachment greater than 7000 lbs.; Bulldozers; CMI type Equipment; Concrete Saw, Vermeer-type; Endloaders; Hydro Milling Machine; Kolman-type Loaders (Dirt Loading); Lead Greasemen; Mucking Machines; Pettibone-Rail Equipment; Power Graders; Power Scoops; Power Scrapers; Push Cats;, Rotomills (all), grinders and planers of all types.

Group C - A-Frames; Air Compressors, Pressurizing Shafts or Tunnels; All Asphalt Rollers; Bobcat-type and/or Skid Steer Loader with or without attachments; Boilers (15 lbs. pressure and over); All Concrete Pumps (without booms with 5 inch system); Fork Lifts (except masonry); Highway Drills - all types (with integral power); Hoists (with one drum); House Elevators (except those automatic call button controlled), Buck Hoists, Transport Platforms, Construction Elevators; Hydro Vac/Excavator (when a second person is needed, the rate of pay will be "Class E"); Man Lifts; Material hoist/elevators; Mud Jacks; Pressure Grouting; Pump Operators (installing or operating Well Points or other types of Dewatering Systems); Pumps (4 inches and over discharge); Railroad Tie (Inserter/Remover); Rotovator (Lime-Soil Stabilizer); Submersible Pumps (4" and over discharge); Switch & Tie Tampers (without lifting and aligning device); Trench Machines (24" and under); Utility Operators.

Group D - Backfillers and Tampers; Ballast Re-locator; Batch Plant Operators; Bar and Joint Installing Machines; Bull Floats; Burlap and Curing Machines; Clefplanes; Compressors, on building construction; Concrete Mixers, more than one bag capacity; Concrete Mixers, one bag capacity (side loaders); All Concrete Pumps (without boom with 4" or smaller system); Concrete Spreader; Conveyors, used for handling building materials; Crushers; Deckhands; Drum Fireman (in asphalt plants); Farm type tractors pulling attachments; Finishing Machines; Form Trenchers; Generators; Guniting Machines; Hydro-seeders; Pavement Breakers (hydraulic or cable); Post Drivers; Post Hole Diggers; Pressure Pumps (over 1/2") discharge); Road Widening Trenchers; Rollers (except asphalt); Self-propelled sub-graders; Shotcrete Machines; Tire Repairmen; Tractors, pulling sheepsfoot post roller or grader; VAC/ALLS; Vibratory Compactors, with integral power; Welders.

Group E - Allen Screed Paver (concrete); Boilers (less than 15 lbs. pressure); Cranes-Compact, track or rubber (under 4,000 pounds capacity); Directional Drill "Locator"; Fueling and greasing +\$3.00; Inboard/outboard Motor Boat Launches; Light Plant Operators; Masonry Fork Lifts; Oilers/Helpers; Power Driven Heaters (oil fired); Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signaller, Submersible Pumps (under 4" discharge).

Master Mechanics - Master Mechanic

Cranes 150' - 180' - Boom & Jib 150 - 180 feet

Cranes 180' - 249' - Boom & Jib 180 - 249 feet

Cranes 250' and over - Boom & Jib 250-feet or over

Prevailing Wage Rate

Skilled Crafts

Name of Union: Operating Engineers - HevHwy Zone II

Change # : LCN01-2023ibLoc18hevhwylI

Craft : Operating Engineer Effective Date : 05/01/2023 Last Posted : 04/26/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Operator Class A	\$41.49		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$57.74	\$78.48
Operator Class B	\$41.37		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$57.62	\$78.30
Operator Class C	\$40.33		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$56.58	\$76.74
Operator Class D	\$39.15		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$55.40	\$74.97
Operator Class E	\$33.69		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$49.94	\$66.78
Master Mechanic	\$41.74		\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$57.99	\$78.86
Apprentice	Percent											
1st Year	50.00	\$20.75	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$37.00	\$47.37
2nd Year	60.00	\$24.89	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$41.14	\$53.59
3rd Year	70.00	\$29.04	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$45.29	\$59.81
4th Year	80.00	\$33.19	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$49.44	\$66.04
Field Mech Trainee Class 2												
1st year	50.00	\$20.75	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$37.00	\$47.37
2nd year	60.00	\$24.89	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$41.14	\$53.59
3rd year	70.00	\$29.04	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$45.29	\$59.81
4th year	80.00	\$33.19	\$9.01	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.05	\$49.44	\$66.04

Special Calculation Note : Other: Education & Safety Fund is \$0.09 per hour. \*Misc is National Training

Ratio :

Jurisdiction ( \* denotes special jurisdictional note ) :

For every (3) Operating Engineer Journeymen employed by the company, there may be employed (1) Registered Apprentice or Trainee Engineer through the referral when they are available. An Apprentice, while employed as part of a crew per Article VIII,

ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE,



paragraph 65 will not be subject to the apprenticeship ratios in this collective bargaining agreement

FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

### Special Jurisdictional Note :

#### Details :

**\*\*Apprentices** will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment. **Mechanic Trainees** will receive 10% increase if they are required to have CDL.

**Class A** - Air Compressors on Steel Erection; Asphalt Plant Engineers (Cleveland District Only); Barrier Moving Machine; Boiler Operators, Compressor Operators, or Generators, when mounted on a rig; Boom Trucks (all types); Cableways; Cherry Pickers; Combination- Concrete Mixers & Towers; Concrete Plants (over 4 yd capacity); Concrete Pumps; Cranes (all types); Compact Cranes track or rubber over 4,000 pounds capacity; Cranes self-erecting stationary, track or truck; Derricks (all types); Draglines; Dredges dipper, clam or suction; Elevating Graders or Euclid Loaders; Floating Equipment (all types); Gradalls; Helicopter Crew (Operator- hoist or winch); Hoes (all types); Hoisting Engines; Hoisting Engines, on shaft or tunnel work; Hydraulic Gantry (lifting system); Industrial-type Tractors; Jet Engine Dryer (D8 or D9) diesel Tractors; Locomotives (standard gauge); Maintenance Operators/Technicians (class A); Mixers, paving (single or double drum); Mucking Machines; Multiple Scrapers; Piledriving Machines (all types); Power Shovels, Prentice Loader; Quad 9 (double pusher); Rail Tamper (with automatic lifting and aligning device); Refrigerating Machines (freezer operation); Rotary Drills, on caisson work; Rough Terrain Fork Lift with winch/hoist; Side Booms; Slip Form Pavers; Survey Crew Party Chiefs; Tower Derricks; Tree Shredders; Trench Machines (over 24" wide); Truck Mounted Concrete Pumps; Tug Boats; Tunnel Machines and /or Mining Machines; Wheel Excavators.

**Class B** - Asphalt Pavers; Automatic Subgrade Machines, self-propelled (CMI-type); Bobcat-type and /or Skid Steer Loader with hoe attachment greater than 7000 lbs.; Boring Machine Operators (more than 48 inches); Bulldozers; Concrete Saws, Vermeer type; Endloaders; Horizontal Directional Drill (50,000 ft. lbs. thrust and over); Hydro Milling Machine; Kolman-type Loaders (production type-dirt); Lead Greasemen; Lighting and Traffic Signal Installation Equipment includes all groups or classifications; Maintenance Operators/Technicians, Class B; Material Transfer Equipment (shuttle buggy) Asphalt; Pettibone-Rail Equipment; Power Graders; Power Scrapers; Push Cats; Rotomills (all), Grinders and Planners of all types, Groovers (excluding walk-behinds); Trench Machines (24 inch wide and under).

**Class C** - A-Frames; Air Compressors, on tunnel work (low Pressure); Articulating/straight bed end dumps if assigned (minus \$4.00 per hour); Asphalt Plant Engineers (Portage and Summit Counties only); Bobcat-type and/or skid steer loader with or without attachments; Drones; Highway Drills (all types); HydroVac/Excavator (when a second person is needed, the rate of pay will be "Class E"); Locomotives (narrow gauge); Material Hoist/Elevators; Mixers, concrete (more than one bag capacity); Mixers, one bag

capacity (side loader); Power Boilers (over 15 lbs. pressure); Pump Operators (installing or operating well Points); Pumps (4 inch and over discharge); Railroad Tie Inserter/Remover; Rollers, Asphalt; Rotovator (lime-soil Stabilizer); Switch & Tie Tampers (without lifting and aligning device); Utilities Operators, (small equipment); Welding Machines and Generators.

Class D – Backfillers and Tampers; Ballast Re-locator; Bar and Joint Installing Machines; Batch Plant Operators; Boring Machine Operators (48 inch or less); Bull Floats; Burlap and Curing Machines; Concrete Plants (capacity 4 yds. and under); Concrete Saws (multiple); Conveyors (highway); Crushers; Deckhands; Farm type tractors, with attachments (highway); Finishing Machines; Firemen, Floating Equipment (all types); Fork Lifts (highway), except masonry; Form Trenchers; Hydro Hammers; Hydro Seeders; Pavement Breakers (hydraulic or cable); Plant Mixers; Post Drivers; Post Hole Diggers; Power Brush Burners; Power Form Handling Equipment; Road Widening Trenchers; Rollers (brick, grade, macadam); Self-Propelled Power Spreaders; Self-Propelled Sub-Graders; Steam Firemen; Survey Instrument men; Tractors, pulling sheepsfoot rollers or graders; Vibratory Compactors, with integral power.

Class E - Compressors (portable, Sewer, Heavy and Highway); Cranes-Compact, track or rubber under 4,000 pound capacity; Drum Firemen (asphalt plant); Fueling and greasing (Primary Operator with Specialized CDL Endorsement Add \$3.00/hr); Generators; Inboard-Outboard Motor Boat Launches; Masonry Fork Lifts; Oil Heaters (asphalt plant); Oilers/Helpers; Power Driven Heaters (oil fired); Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalperson; Survey Rodmen or Chairmen; Tire Repairmen; VAC/ALLS.

Master Mechanic - Master Mechanic

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Painter Local 841

Change # : LCN01-2021sksLoc841

Craft : Painter Effective Date : 11/17/2021 Last Posted : 11/17/2021

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Painter Brush Roll	\$28.18		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$43.53	\$57.62
Paperhanger	\$28.18		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$43.53	\$57.62
Painter Spray Gun Operator Any and All Coatings)	\$29.03		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$44.38	\$58.90
Swing Scaffold, Bosum Chair, & Window Jacks	\$28.93		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$44.28	\$58.75
Sandblast, Painting of Standpipes, etc. from Scaffolds Open Structural Steel, Standpipes and Water Towers	\$29.43		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$44.78	\$59.50
Epoxy Application	\$28.83		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$44.18	\$58.60
Synthetic Exterior, Lead Abatement, Asbestos Removal	\$29.43		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$44.78	\$59.50
<b>Apprentice</b>	<b>Percent</b>											
1st Year	53.24	\$15.00	\$6.85	\$2.72	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$25.57	\$33.07
2nd Year	60.00	\$16.91	\$6.85	\$3.14	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$27.90	\$36.35
3rd Year	70.00	\$19.73	\$6.85	\$3.57	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$31.15	\$41.01
4th Year	80.00	\$22.54	\$6.85	\$4.34	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$34.73	\$46.01



**Special Calculation Note :** Apprentice pay based on percentage of above appropriate classification.

**Ratio :**

1 Journeymen to 1 Apprentice

**Jurisdiction ( \* denotes special jurisdictional note ) :**

CARROLL, COSHOCTON, HOLMES, MEDINA, PORTAGE\*, STARK, SUMMIT\*, TUSCARAWAS, WAYNE

**Special Jurisdictional Note :** Summit Cnty: South of and including the Ohio Turnpike, Portage Cnty: North to and including the Ohio Turnpike

**Details :**

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Painter Local 841 (Finisher/Taper)

Change # : LCN01-2021sksLoc841

Craft : Drywall Finisher Effective Date : 11/17/2021 Last Posted : 11/17/2021

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
<b>Classification</b>												
Painter Drywall Finisher/PainterTaper	\$29.43		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$44.78	\$59.50
<b>Apprentice</b>	<b>Percent</b>											
1st Year	50.98	\$15.00	\$6.85	\$2.72	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$25.57	\$33.08
2nd Year	65.00	\$19.13	\$6.85	\$3.52	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$30.50	\$40.06
3rd Year	80.00	\$23.54	\$6.85	\$4.34	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$35.73	\$47.51

**Special Calculation Note :** Apprentice pay based on percentage of above appropriate classification.

### Ratio :

1 Journeyman to 1 Apprentice

### Jurisdiction ( \* denotes special jurisdictional note ) :

CARROLL, COSHOCTON, HOLMES, MEDINA, PORTAGE\*, STARK, SUMMIT\*, TUSCARAWAS, WAYNE

**Special Jurisdictional Note :** Summit County South of and including the Ohio Turnpike, Portage Cnty: North of and including the Ohio Turnpike

### Details :

# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Painter Local 841 Bridge Painter

Change # : LCN01-2021sksLoc841

Craft : Painter Effective Date : 11/17/2021 Last Posted : 11/17/2021

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Painter Bridge Blaster Class 1	\$37.85	\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$53.20	\$72.12
Class 2 Bridge Painter, Rigger, Containment Builder, Spot Blaster	\$34.85	\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$50.20	\$67.62
Class 3 Equipment Operator/Field Mechanic, Grit Reclamation, Paint Mixer, Traffic Control, Boat Person, Dive (0-5 Years Exp)	\$27.85	\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$43.20	\$57.13
Class 3 Equipment Operator/Field Mechanic, Grit Reclamation, Paint Mixer, Traffic Control, Boat Person, Dive (5 plusYears Exp).	\$30.85	\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$46.20	\$61.63
Class 4 Concrete Sealing, Concrete Blasting/Power Washing/Etc.	\$30.85	\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$46.20	\$61.63
Class 5 Quality Control/Quality Assurance Traffic Safety, Competent Person.	\$30.85	\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$46.20	\$61.63
Apprentice	Percent										
1st Year	50.01	\$18.93	\$6.85	\$2.72	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$29.50	\$38.96
2nd Year	60.00	\$22.71	\$6.85	\$3.14	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$33.70	\$45.06
3rd year	70.00	\$26.50	\$6.85	\$3.57	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$37.92	\$51.16
4th Year	80.00	\$30.28	\$6.85	\$4.34	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$42.47	\$57.61

**Special Calculation Note :** Apprentice pay based on percentage of above appropriate classification.

**Ratio :**

1 Journeymen to 1 Apprentice

**Jurisdiction ( \* denotes special jurisdictional note ) :**

CARROLL, COSHOCTON, HOLMES, MEDINA, PORTAGE\*, STARK, SUMMIT\*, TUSCARAWAS, WAYNE

**Special Jurisdictional Note :** Summit County: South of and including the Ohio Turnpike, Portage County: North to and including the Ohio Turnpike

**Details :**

Class 1 – Abrasive blasting of any kind

Class 2 – Bridge painting, coating applications of any kind. All steel surface preparation other than abrasive blasting. All necessary rigging and containment building and all remedial/ spot blasting.

Class 3 – Tend to all equipment including but not limited to abrasive blasting, power washing, spray painting, forklifts, hoists, truck, etc. Load and unloading trucks, handle materials, man safety boats, handle traffic control, clean up/ vacuum abrasive blast materials and related tasks.

Class 4 – All aspects of concrete coating/ sealing including but not limited to preparation, containment, etc.

Class 5 – Verify and record that all work is completed according to job specifications. Assure that all health and safety standards are adhered to. Assure all traffic is safely handled.

**Name of Union: Painter Local 639**

[illegible]

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS,  
AUGLAIZE, BELMONT, BROWN, BUTLER, CHENOS,  
CHAMPAIGN, CLARK, CLERMONT, CLINTON,  
COLUMBIANA, COSHOCTON, CRAWFORD,  
CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE,  
FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA,  
GEAUGA, GREENE, GUERNSEY, HAMILTON,  
HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND,  
HOCKING, HOLMES, HURON, JACKSON, JEFFERSON,  
KNOX, LAKE, LAWRENCE, LICKING, LOGAN,  
LORAIN, LUCAS, MADISON, MAHONING, MARION,  
MEDINA, MEIGS, MERCER, MIAMI, MONROE,  
MONTGOMERY, MORGAN, MORROW, MUSKINGUM,  
NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY,  
PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND,  
ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY,  
STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION,

VAN WERT, VINTON, WARREN, WASHINGTON,  
WAYNE, WILLIAMS, WOOD, WYANDOT

**Special Jurisdictional Note :**

**Details :**

Top Helper: Shall perform the responsibilities of a Helper and be responsible for the setup, break down, safety and quality of the company's product.

Helper : Shall be responsible for performing tasks in refinishing, compliance with safety procedures, setting up and breaking down job sites, scaffolding and swing stages and preparing surfaces for refinishing including but not limited to, masking and stripping and cleaning, oxidizing, polishing and scratch removal on various surfaces

Class A Workers: Less than 1 Year of Service.

Class B Workers: More than 1 and less than 8 Years of Service.

Class C Workers: More than 8 Years of Service.

Metal Polisher Scope of Work: Polishing, buffing, stripping, coloring, lacquering, spraying, cleaning and maintenance of ornamental and architectural metals, iron, bronze, nickel, aluminum and stainless steel and in mental specialty work, various stone finishes, stone specialty work and any other work pertaining to the finishing of metal, stones, woods, and any window washing/cleaning done in conjunction with this work, using chemicals, solvents, coatings and hand applied lacquer thinner, removing scratches from mirror finished metals, burnishing of bronze, statuary finishes on exterior and interior surfaces and the use of all tools required to perform such work, including but not limited to polishes, spray equipment and scaffolding.

Swing State Rate: All work on scaffold 4 sections or higher, including any boom lifts and swing stage scaffolds including the rigging and derigging of hanging/suspended swing stage systems and rappelling/bolson chair work, ADD \$1.50 per hour.

Prevailing Wage Rate

Skilled Crafts

Name of Union: Painter Local 639 Zone 2 Sign

Change # : LCN01-2023ibLoc639

Craft : Painter Effective Date : 03/22/2023 Last Posted : 03/22/2023

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Painter Sign Journeyman Tech/Team Leader Class A	\$25.28	\$1.70	\$0.21	\$0.00	\$0.00	\$0.00	\$0.68	\$0.00	\$0.00	\$27.87	\$40.51
Painter Sign Journeyman Tech/Team Leader Class B	\$25.28	\$1.70	\$0.21	\$0.00	\$0.49	\$0.00	\$0.68	\$0.00	\$0.00	\$28.36	\$41.00
Painter Sign Journeyman Tech/Team Leader Class C	\$25.28	\$1.70	\$0.21	\$0.00	\$0.97	\$0.00	\$0.68	\$0.00	\$0.00	\$28.84	\$41.48
Painter Sign Journeyman Tech/Team Leader Class D	\$25.28	\$1.70	\$0.21	\$0.00	\$1.46	\$0.00	\$0.68	\$0.00	\$0.00	\$29.33	\$41.97
Sign Journeyman Class A	\$25.00	\$1.70	\$0.21	\$0.00	\$0.00	\$0.00	\$0.67	\$0.00	\$0.00	\$27.58	\$40.08
Sign Journeyman Class B	\$25.00	\$1.70	\$0.21	\$0.00	\$0.48	\$0.00	\$0.67	\$0.00	\$0.00	\$28.06	\$40.56
Sign Journeyman Class C	\$25.00	\$1.70	\$0.21	\$0.00	\$0.96	\$0.00	\$0.67	\$0.00	\$0.00	\$28.54	\$41.04
Sign Journeyman Class D	\$25.00	\$1.70	\$0.21	\$0.00	\$1.44	\$0.00	\$0.67	\$0.00	\$0.00	\$29.02	\$41.52
Tech Sign Fabrication/ Erector Class A	\$19.67	\$1.70	\$0.21	\$0.00	\$0.00	\$0.00	\$0.53	\$0.00	\$0.00	\$22.11	\$31.95
Tech Sign Fabrication/ Erector Class B	\$19.67	\$1.70	\$0.21	\$0.00	\$0.38	\$0.00	\$0.53	\$0.00	\$0.00	\$22.49	\$32.33

Tech Sign Fabrication/ Erector Class C	\$19.67	\$1.70	\$0.21	\$0.00	\$0.76	\$0.00	\$0.53	\$0.00	\$0.00	\$22.87	\$32.71
Tech Sign Fabrication/ Erector Class D	\$19.67	\$1.70	\$0.21	\$0.00	\$1.13	\$0.00	\$0.53	\$0.00	\$0.00	\$23.24	\$33.08

**Special Calculation Note :** Other is for paid holidays.

**Ratio :**

**Jurisdiction ( \* denotes special jurisdictional note ) :**  
ADAMS, ALLEN, AUGLAIZE, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GREENE, HAMILTON, HANCOCK, HARDIN, HENRY, HIGHLAND, HOLMES, HURON, JACKSON, KNOX, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MERCER, MIAMI, MONTGOMERY, MORROW, MUSKINGUM, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, WARREN, WAYNE, WILLIAMS, WOOD, WYANDOT

**Special Jurisdictional Note :**

**Details :**  
Class A: less that 1 year.  
Class B: 1-3 years.  
Class C; 3-10 years.  
Class D: More than 10 years.



# Prevailing Wage Rate Skilled Crafts

Name of Union: Plumber Pipefitter Local 94

Change # : LCN01-2021sksLoc94

Craft : Plumber/Pipefitter Effective Date : 11/24/2021 Last Posted : 11/24/2021

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Plumber Pipefitter	\$36.33		\$8.83	\$6.19	\$0.77	\$0.00	\$6.30	\$0.10	\$0.00	\$0.00	\$58.52	\$76.68
Apprentice Hired After 05-01-2017												
1st Year	\$14.53		\$8.83	\$0.00	\$0.77	\$0.00	\$3.15	\$0.10	\$0.00	\$0.00	\$27.38	\$34.65
2nd Year	\$18.17		\$8.83	\$0.50	\$0.77	\$0.00	\$3.15	\$0.10	\$0.00	\$0.00	\$31.52	\$40.61
3rd Year	\$21.80		\$8.83	\$0.50	\$0.77	\$0.00	\$3.15	\$0.10	\$0.00	\$0.00	\$35.15	\$46.05
4th Year	\$25.43		\$8.83	\$0.50	\$0.77	\$0.00	\$4.73	\$0.10	\$0.00	\$0.00	\$40.36	\$53.07
5th Year	\$29.06		\$8.83	\$0.50	\$0.77	\$0.00	\$4.55	\$0.10	\$0.00	\$0.00	\$43.81	\$58.34
Apprentice If Hired Before 5-01-2017	Percent											
5th yr 1st 6mos	85.00	\$30.88	\$8.83	\$0.50	\$0.77	\$0.00	\$1.82	\$0.10	\$0.00	\$0.00	\$42.90	\$58.34
5th yr 2nd 6 months	90.00	\$32.70	\$8.83	\$0.50	\$0.77	\$0.00	\$1.82	\$0.10	\$0.00	\$0.00	\$44.72	\$61.07

**Special Calculation Note :** Other is International Training Fund.

## Ratio :

1 Journeymen to 2 Apprentice  
4 Journeymen to 3 Apprentice  
6 Journeymen to 4 Apprentice  
9 Journeymen to 5 Apprentice  
11 Journeyman to 6 Apprentice

3 Journeyman to 1 Apprentice Thereafter

## Jurisdiction ( \* denotes special jurisdictional note ) :

CARROLL\*, STARK, WAYNE

**Special Jurisdictional Note :** In Carroll County the following townships are included: Ross, Monroe, Union, Lee, Orange, Perry and London.

## Details :



# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Roofer Local 88

Change # : LCN01-2023ibLoc88

Craft : Roofer Effective Date : 06/07/2023 Last Posted : 06/07/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Roofer	\$30.07		\$9.50	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$51.45	\$66.49
HELPERS												
Helper -500 Hrs. 1st 6 months	\$16.84		\$2.25	\$0.00	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$21.17	\$29.59
Helper - 500 Hrs. 2nd 6 months	\$18.65		\$9.50	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$40.03	\$49.35
2nd year Helper	\$20.45		\$9.50	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$41.83	\$52.05
3rd year Helper	\$22.26		\$9.50	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$43.64	\$54.77
4th year Helper	\$24.06		\$9.50	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$45.44	\$57.47
5th year Helper	\$25.86		\$9.50	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$47.24	\$60.17
Apprentice	Percent											
1st 6 months w/500 hrs	56.00	\$16.84	\$9.50	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$38.22	\$46.64
2nd 6 months w/500 hrs	62.02	\$18.65	\$9.50	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$40.03	\$49.35
3rd 6 months w/500 hrs	68.00	\$20.45	\$9.50	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$41.83	\$52.05
4th 6 months w/500 hrs	74.02	\$22.26	\$9.50	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$43.64	\$54.77
5th 6 months w/500 hrs	80.00	\$24.06	\$9.50	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$45.44	\$57.46
6th 6 months w/500 hrs	86.00	\$25.86	\$9.50	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$47.24	\$60.17

7th 6 months w/500 hrs	92.02	\$27.67	\$9.50	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$49.05	\$62.89
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**Special Calculation Note :** Roofers working in any form of coal tar pitch, whether hot or cold, installing and/or removing will be paid \$.25 more per hour.  
Other \$0.18 is for C.I.D.B.

**Ratio :**

No helper shall be used on any one job unless 1  
Journeyman, and 1 Apprentices are working on said  
job .One  
(1) Journeyman to One (1) Apprentice to One (1)  
Helper

**Jurisdiction ( \* denotes special jurisdictional  
note ) :**

ASHLAND, CARROLL, COSHOCTON,  
CRAWFORD, HOLMES, HURON, LORAIN\*,  
MEDINA, PORTAGE, RICHLAND, STARK,  
SUMMIT, TUSCARAWAS, WAYNE

**Special Jurisdictional Note :** In Lorain County (South of the Turnpike)

**Details :**

# Prevailing Wage Rate Skilled Crafts

Name of Union: Sheet Metal Local 33 (Akron)

Change # : LCN01-2023ibLoc33Akron

Craft : Sheet Metal Worker Effective Date : 06/01/2023 Last Posted : 05/31/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Sheet Metal Worker	\$34.90		\$9.65	\$13.20	\$0.93	\$0.00	\$7.64	\$0.00	\$0.00	\$0.00	\$66.32	\$83.77
1st year	60.00	\$20.94	\$9.65	\$4.81	\$0.17	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$35.57	\$46.04
2nd year	65.02	\$22.69	\$9.65	\$5.97	\$0.93	\$0.00	\$3.82	\$0.00	\$0.00	\$0.00	\$43.06	\$54.41
3rd year	70.00	\$24.43	\$9.65	\$6.37	\$0.93	\$0.00	\$3.82	\$0.00	\$0.00	\$0.00	\$45.20	\$57.41
4th year	80.00	\$27.92	\$9.65	\$7.18	\$0.93	\$0.00	\$3.82	\$0.00	\$0.00	\$0.00	\$49.50	\$63.46

**Special Calculation Note :** No special calculations for this skilled craft wage rate are required at this time.

## Ratio :

1 Journeymen to 1 Apprentice  
 2 Journeymen to 1 Apprentice  
 3 Journeymen to 2 Apprentice  
 4 Journeymen to 2 Apprentice  
 5-7 Journeymen to 3 Apprentice  
 8-10 Journeymen to 4 Apprentice  
 11-13 Journeymen to 5 Apprentice  
 14, 15 Journeymen to 6 Apprentice  
 and maintaining a three to one apprentice ratio thereafter.

## Jurisdiction ( \* denotes special jurisdictional note ) :

ASHLAND, CARROLL, COSHOCTON,  
 CRAWFORD, HOLMES, MEDINA, PORTAGE,  
 RICHLAND, STARK, SUMMIT, TUSCARAWAS,  
 WAYNE

## Special Jurisdictional Note :

## Details :

Scope of Work: This Agreement covers the rates of pay and conditions of employment of all employees of the Employer engaged in, but not limited to, the a) manufacture, fabrication, assembling, handling, erection, installation, dismantling, conditioning, adjustment, alteration, repairing and servicing of all ferrous or non-ferrous metal work and all other materials used in lieu thereof and of all HVAC systems, air-veyor systems, exhaust systems, and air handling systems regardless of material used, including the setting of all equipment and

# Prevailing Wage Rate Skilled Crafts

Name of Union: Sheet Metal Local 33 Industrial Door

Change # : LCN01-2023ibLoc33IndustrialDoor

Craft : Sheet Metal Worker Effective Date : 08/02/2023 Last Posted : 08/02/2023

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Sheet Metal Worker	\$25.42		\$8.66	\$5.55	\$0.17	\$0.00	\$2.15	\$0.00	\$0.00	\$0.00	\$41.95	\$54.66
Trainees	Percent											
1st 60 days Probationary Perios	52.00	\$13.22	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$13.22	\$19.83
61st day-12 months	58.00	\$14.74	\$8.66	\$1.92	\$0.17	\$0.00	\$1.41	\$0.00	\$0.00	\$0.00	\$26.90	\$34.28
2nd yr	68.00	\$17.29	\$8.66	\$1.92	\$0.17	\$0.00	\$1.59	\$0.00	\$0.00	\$0.00	\$29.63	\$38.27
3rd yr	73.00	\$18.56	\$8.66	\$1.92	\$0.17	\$0.00	\$1.69	\$0.00	\$0.00	\$0.00	\$31.00	\$40.27
4th yr	80.00	\$20.34	\$8.66	\$1.92	\$0.17	\$0.00	\$1.80	\$0.00	\$0.00	\$0.00	\$32.89	\$43.05
5th yr	86.00	\$21.86	\$8.66	\$1.92	\$0.17	\$0.00	\$1.91	\$0.00	\$0.00	\$0.00	\$34.52	\$45.45

Special Calculation Note :

Ratio :

Jurisdiction ( \* denotes special jurisdictional note ) :

ASHLAND, ASHTABULA, CARROLL, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DEFIANCE, ERIE, FULTON, GEauga, HANCOCK, HENRY, HOLMES, HURON, LAKE, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PAULDING, PORTAGE, PUTNAM, RICHLAND, SANDUSKY, SENECA, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, WAYNE, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :



# Prevailing Wage Rate

## Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : LCN01-2022sksLoc669

Craft : Sprinkler Fitter Effective Date : 04/06/2022 Last Posted : 04/06/2022

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Sprinkler Fitter	\$43.75		\$10.99	\$7.10	\$0.52	\$0.00	\$5.12	\$0.00	\$0.00	\$0.00	\$67.48	\$89.35
Apprentice Indentured after April 1, 2013	Percent											
CILASS 1	45.00	\$19.69	\$7.85	\$0.00	\$0.52	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$28.06	\$37.90
CLASS 2	50.02	\$21.88	\$7.85	\$0.00	\$0.52	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30.25	\$41.20
CLASS 3	54.43	\$23.81	\$10.99	\$7.10	\$0.52	\$0.00	\$1.15	\$0.00	\$0.00	\$0.00	\$43.57	\$55.48
CLASS 4	59.43	\$26.00	\$10.99	\$7.10	\$0.52	\$0.00	\$1.15	\$0.00	\$0.00	\$0.00	\$45.76	\$58.76
CLASS 5	64.43	\$28.19	\$10.99	\$7.10	\$0.52	\$0.00	\$1.40	\$0.00	\$0.00	\$0.00	\$48.20	\$62.29
CLASS 6	69.43	\$30.38	\$10.99	\$7.10	\$0.52	\$0.00	\$1.40	\$0.00	\$0.00	\$0.00	\$50.39	\$65.57
CLASS 7	74.43	\$32.56	\$10.99	\$7.10	\$0.52	\$0.00	\$1.40	\$0.00	\$0.00	\$0.00	\$52.57	\$68.85
CLASS 8	79.42	\$34.75	\$10.99	\$7.10	\$0.52	\$0.00	\$1.40	\$0.00	\$0.00	\$0.00	\$54.76	\$72.13
CLASS 9	84.43	\$36.94	\$10.99	\$7.10	\$0.52	\$0.00	\$1.40	\$0.00	\$0.00	\$0.00	\$56.95	\$75.42
CLASS 10	89.44	\$39.13	\$10.99	\$7.10	\$0.52	\$0.00	\$1.40	\$0.00	\$0.00	\$0.00	\$59.14	\$78.70

Special Calculation Note :

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction ( \* denotes special jurisdictional note ) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW,

MUSKINGUM, NOBLE, OTTAWA, PAULDING,  
PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE,  
PUTNAM, RICHLAND, ROSS, SANDUSKY,  
SCIOTO, SENECA, SHELBY, STARK, SUMMIT,  
TRUMBULL, TUSCARAWAS, UNION, VAN  
WERT, VINTON, WARREN, WASHINGTON,  
WAYNE, WILLIAMS, WOOD, WYANDOT

### **Special Jurisdictional Note :**

#### **Details :**

Sprinkler Fitter work shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Cardox Systems, Dry Chemical Systems, Foam Systems and all other fire protection systems.



# Prevailing Wage Rate

## Skilled Crafts

**Name of Union: Truck Driver Bldg & HevHwy Class 1**  
**Locals 20,40,92,92b,100,175,284,438,377,637,908,957**

**Change # : LCN01-2023ibBldgHevHwy**

**Craft : Truck Driver Effective Date : 05/01/2023 Last Posted : 04/26/2023**

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Truck Driver CLASS 1 4 wheel service, dump, and batch trucks; drivers on tandems; truck sweepers (not to include power sweepers & scrubbers)	\$31.24		\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$48.39	\$64.01
Apprentice	Percent											
First 6 months	80.00	\$24.99	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$42.14	\$54.64
7-12 months	85.00	\$26.55	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.70	\$56.98
13-18 months	90.00	\$28.12	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45.27	\$59.32
19-24 months	95.00	\$29.68	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$46.83	\$61.67
25-30 months	100.00	\$31.24	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$48.39	\$64.01

**Special Calculation Note :** No special calculations for this skilled craft wage rate are required at this time.

**Ratio :**

3 Journeymen to 1 Apprentice

**Jurisdiction ( \* denotes special jurisdictional note ) :**

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA,

COSHOCTON, CRAWFORD, DARKE, DEFIANCE,  
DELAWARE, ERIE, FAIRFIELD, FAYETTE,  
FRANKLIN, FULTON, GALLIA, GREENE,  
GUERNSEY, HAMILTON, HANCOCK, HARDIN,  
HARRISON, HENRY, HIGHLAND, HOCKING,  
HOLMES, HURON, JACKSON, JEFFERSON,  
KNOX, LAWRENCE, LICKING, LOGAN, LORAIN,  
LUCAS, MADISON, MAHONING, MARION,  
MEDINA, MEIGS, MERCER, MIAMI, MONROE,  
MONTGOMERY, MORGAN, MORROW,  
MUSKINGUM, NOBLE, OTTAWA, PAULDING,  
PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE,  
PUTNAM, RICHLAND, ROSS, SANDUSKY,  
SCIOTO, SENECA, SHELBY, STARK, SUMMIT,  
TRUMBULL, TUSCARAWAS, UNION, VAN  
WERT, VINTON, WARREN, WASHINGTON,  
WAYNE, WILLIAMS, WOOD, WYANDOT

**Special Jurisdictional Note :**

**Details :**

# Prevailing Wage Rate

## Skilled Crafts

**Name of Union: Truck Driver Bldg & Hwy Class 2**  
**Locals 20,40,92,92b,100,175,284,438,377,637,908,957**

**Change # : LCN01-2023ibBldgHwy**

**Craft : Truck Driver Effective Date : 05/01/2023 Last Posted : 04/26/2023**

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Truck Driver CLASS 2 Tractor Trailer-Semi Tractor Trucks; Pole Trailers; Ready Mix Trucks; Fuel Trucks; 5 Axle & Over; Belly Dumps; Low boys - Heavy duty Equipment(irrespective of load carried) when used exclusively for transportation; Truck Mechanics (when needed)	\$31.66	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$48.81	\$64.64
Apprentice	Percent										
First 6 months	80.00	\$25.33	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$42.48	\$55.14
7-12 months	85.00	\$26.91	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$44.06	\$57.52
13-18 months	90.00	\$28.49	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$45.64	\$59.89
19-24 months	95.00	\$30.08	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$47.23	\$62.27
25-30 months	100.00	\$31.66	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$48.81	\$64.64

**Special Calculation Note :** No special calculations for this skilled craft wage rate are required at this time.

**Ratio :**

3 Journeymen to 1 Apprentice

**Jurisdiction ( \* denotes special jurisdictional note ) :**

ADAMS, ALLEN, ASHLAND, ASHTABULA,  
 ATHENS, AUGLAIZE, BELMONT, BROWN,  
 BUTLER, CARROLL, CHAMPAIGN, CLARK,  
 CLERMONT, CLINTON, COLUMBIANA,  
 COSHOCTON, CRAWFORD, DARKE, DEFIANCE,  
 DELAWARE, ERIE, FAIRFIELD, FAYETTE,  
 FRANKLIN, FULTON, GALLIA, GREENE,  
 GUERNSEY, HAMILTON, HANCOCK, HARDIN,  
 HARRISON, HENRY, HIGHLAND, HOCKING,  
 HOLMES, HURON, JACKSON, JEFFERSON,

KNOX, LAWRENCE, LICKING, LOGAN, LORAIN,  
LUCAS, MADISON, MAHONING, MARION,  
MEDINA, MEIGS, MERCER, MIAMI, MONROE,  
MONTGOMERY, MORGAN, MORROW,  
MUSKINGUM, NOBLE, OTTAWA, PAULDING,  
PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE,  
PUTNAM, RICHLAND, ROSS, SANDUSKY,  
SCIOTO, SENECA, SHELBY, STARK, SUMMIT,  
TRUMBULL, TUSCARAWAS, UNION, VAN  
WERT, VINTON, WARREN, WASHINGTON,  
WAYNE, WILLIAMS, WOOD, WYANDOT

**Special Jurisdictional Note :**

**Details :**

# Prevailing Wage Rate

## Skilled Crafts

**Name of Union: Truck Driver Bldg & HevHwy Class 3**  
**Locals 20,40,92,92b,100,175,284,438,377,637,908,957**

**Change # : LCN01-2023ibBldgHevHwy3**

**Craft : Truck Driver Effective Date : 05/01/2023 Last Posted : 04/26/2023**

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Truck Driver CLASS 3 Articulated Dump Trucks; Ridge-Frame Rock Trucks; Distributor Trucks)	\$32.66		\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$49.81	\$66.14
Apprentice	Percent											
First 6 months	80.00	\$26.13	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.28	\$56.34
7-12 months	85.00	\$27.76	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.91	\$58.79
13-18 months	90.00	\$29.39	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$46.54	\$61.24
19-24 months	95.00	\$31.03	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$48.18	\$63.69
25-30 months	100.00	\$32.66	\$7.75	\$9.20	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$49.81	\$66.14

**Special Calculation Note :** No special calculations for this skilled craft wage rate are required at this time.

### Ratio :

3 Journeymen to 1 Apprentice

### Jurisdiction ( \* denotes special jurisdictional note ) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN,

HARRISON, HENRY, HIGHLAND, HOCKING,  
HOLMES, HURON, JACKSON, JEFFERSON,  
KNOX, LAWRENCE, LICKING, LOGAN, LORAIN,  
LUCAS, MADISON, MAHONING, MARION,  
MEDINA, MEIGS, MERCER, MIAMI, MONROE,  
MONTGOMERY, MORGAN, MORROW,  
MUSKINGUM, NOBLE, OTTAWA, PAULDING,  
PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE,  
PUTNAM, RICHLAND, ROSS, SANDUSKY,  
SCIOTO, SENECA, SHELBY, STARK, SUMMIT,  
TRUMBULL, TUSCARAWAS, UNION, VAN  
WERT, VINTON, WARREN, WASHINGTON,  
WAYNE, WILLIAMS, WOOD, WYANDOT

**Special Jurisdictional Note :**

**Details :**



**CITY OF CANTON  
FIRE STATION NO. 8 RENOVATIONS**

**1330 DUEBER AVENUE SW  
CANTON, OHIO 44706**

**TECHNICAL SPECIFICATIONS**

**JULY 17, 2023**

**ARCHITECTURAL DIVISIONS 2 THRU 12**

02 41 19	SELECTIVE DEMO, CUTTING AND PATCHING
06 41 16	ARCHITECTURAL CASEWORK
06 61 16	SOLID POLYMER FABRICATIONS
07 21 00	BUILDING INSULATION
07 84 13	FIRESTOPPING
07 92 13	JOINT SEALERS
08 12 13	STEEL DOORS AND FRAMES
08 31 13	ACCESS PANELS
08 41 13	ALUMINUM STOREFRONT SYSTEMS
08 70 00	DOOR HARDWARE
08 80 00	GLASS & GLAZING
09 21 16	GYPSON BOARD ASSEMBLIES
09 22 16	NON-STRUCTURAL METAL FRAMING
09 32 13	TILE WORK
09 65 13	RESILIENT RUBBER FLOORING
09 91 23	PAINTING
10 21 13	TOILET PARTITIONS
10 28 13	TOILET ROOM ACCESSORIES
12 24 13	WINDOW SHADES

**PLUMBING DIVISION 22**

22 01 00	PLUMBING GENERAL PROVISIONS
22 01 01	PLUMBING SUPPLEMENTAL GENERAL PROVISIONS
22 02 00	PLUMBING DEMOLITION
22 03 00	PLUMBING BASIC MATERIALS AND METHODS
22 04 00	PLUMBING FIRESTOPPING
22 07 00	PLUMBING INSULATION
22 10 00	PLUMBING SYSTEM COMPONENTS AND DEVICES
22 40 00	PLUMBING FIXTURES

**HVAC DIVISION 23**

23 01 00	HVAC GENERAL PROVISIONS
23 01 01	HVAC SUPPLEMENTAL GENERAL PROVISIONS
23 02 00	HVAC DEMOLITION
23 03 00	HVAC BASIC MATERIALS AND METHODS
23 04 00	HVAC FIRESTOPPING
23 07 00	HVAC INSULATION
23 30 00	AIR DISTRIBUTION
23 34 00	FANS
23 51 00	FLUES

**ELECTRICAL DIVISION 26**

26 01 00	ELECTRICAL GENERAL PROVISIONS
26 01 01	ELECTRICAL SUPPLEMENTAL GENERAL PROVISIONS
26 02 00	ELECTRICAL DEMOLITION
26 03 00	ELECTRICAL BASIC MATERIALS AND METHODS
26 03 10	LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES
26 03 20	RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS



**ELECTRICAL DIVISION 26 – CONT.**

26 03 40	WIRING DEVICES
26 04 00	ELECTRICAL FIRESTOPPING
26 05 00	EQUIPMENT IDENTIFICATION
26 21 00	POWER DISTRIBUTION EQUIPMENT
26 21 15	GROUNDING OF ELECTRICAL SYSTEMS
26 22 35	OVERCURRENT PROTECTION DEVICES
26 22 60	SURGE PROTECTIVE DEVICES (SPDS) LOW-VOLTAGE ELEC. POWER CIRCUITS
26 51 00	LED LUMINAIRES
26 52 00	STAND ALONE LIGHTING CONTROLS

SECTION 02 41 19 – SELECTIVE DEMOLITION, CUTTING AND PATCHING

A. SUMMARY OF WORK

1. Requirements and limitations for selective demolition, cutting and patching of work.

B. RELATED SECTIONS

1. Section 01 01 00 – Summary of Work
2. Section 01 33 00 – Submittals.
3. Section 01 60 00 – Product Requirements: Product Options and Substitutions.
4. Individual Product Specification Sections:
  - a. Selective demolition, cutting and patching incidental to work of the Section.
  - b. Advance notification to other Sections of openings required in work of those Sections.
  - c. Limitations on cutting structural members.

C. SUBMITTALS

1. Submit written request in advance of patching or alteration which affects:
  - a. Structural integrity of any element of Project.
  - b. Integrity of weather-exposed or moisture-resistant element.
  - c. Efficiency, maintenance, or safety of any operational element.
  - d. Visual qualities of sight-exposed elements.
2. Include in request:
  - a. Identification of Project.
  - b. Location and description of affected work.
  - c. Description of proposed work, and products to be used.
  - d. Alternatives to patching.
  - e. Effect on work of Owner or separate contractor.
  - f. Written permission of affected separate contractor.
  - g. Date and time work will be executed.

D. MATERIALS

1. Primary Products: Those required for original installation.
2. Product Substitution: For any proposed change in materials, submit request for substitution under provision of Section 01 60 00.

E. EXECUTION

1. Inspect existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching.
2. After uncovering existing work, inspect conditions affecting performance of work.
3. Beginning of cutting or patching means acceptance of existing conditions.

F. PREPARATION

1. Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.

G. SELECTIVE DEMOLITION

1. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete work within limitations of governing regulations and as follows:
  - a. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition work above each floor or tier before disturbing supporting members at lower levels.

- b. Neatly cut openings and holes plumb, square and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. To minimize disturbance of adjacent surfaces, use hand or small power tools designed for sawing or grinding, not hammering or chopping. Temporarily cover openings to remain.
  - c. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
  - d. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct or pipe interiors, verify condition and content of hidden space before starting flame-cutting operations. Maintain portable fire extinguishing devices during flame cutting operations.
  - e. Maintain adequate ventilation when using cutting torches.
  - f. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off site.
  - g. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact and dust generation.
  - h. Locate selective demolition equipment throughout the structure and remove debris and materials so as not to impose excessive loads on supporting walls, floors or framing.
  - i. Dispose of demolished items and materials promptly. In-site storage or sale of removed items is prohibited.
  - j. Return elements of construction and surfaces to remain to condition existing before start of selective demolition operations.
2. Demolish concrete and masonry in small sections. Cut concrete and masonry at junctures with construction to remain, using power driven masonry saw or hand tools; do not use power driven impact tools.

#### H. CUTTING AND PATCHING

1. Execute cutting, fitting, and patching including excavation and fill to complete work.
2. Fit products together, to integrate with other work.
3. Structural Work:
  - a. Do not cut-and-patch structural work in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio. Submit proposal and request and obtain Architect's approval before proceeding with cut-and-patch of structural work.
4. Operational/Safety Limitations:
  - a. Do not cut-and-patch operational elements and safety components in a manner resulting in decreased performance, shortened useful life, or increased maintenance. Submit proposals and requests and obtain Architect's approvals before proceeding with cut-and-patch work.
5. Visual/Quality Limitations:
  - a. Do not cut-and-patch work exposed to view (exterior and interior) in a manner resulting in noticeable reduction of visual qualities and similar qualities, as judged by the Architect.

#### I. PERFORMANCE

1. Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.
2. Employ original installer/fabricator, or if not available, an acceptable equivalent entity, to perform patching for all cut-and-patch materials and site-exposed surfaces.
3. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
4. Restore work with new products in accordance with requirements of Contract Documents.
5. Fit work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
6. At penetrations of fire-rated walls, partitions, ceiling, or floor construction, completely seal voids with fire-rated material to full thickness of the penetrated element.

7. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

J. LIMITATIONS OF APPROVALS

1. Architect's approval to proceed with cutting and patching does not waive the right to later require removal/replacement of work found to be cut-and-patched in an unsatisfactory manner, as judged by the Architect.

END OF SECTION 02 41 19

SECTION 06 41 16 – ARCHITECTURAL CASEWORK

A. WORK INCLUDED:

1. Provide and install Architectural casework as shown and specified. Architectural casework herein shall mean all casework exposed to view, including all exposed wood, plywood, and hard plastics.

B. RELATED WORK:

1. Section 06 10 00 - Rough Carpentry
2. Section 07 90 00 – Joint Sealants
3. Section 09 65 13 – Rubber Wall Base
5. Section 09 91 23 – Painting

C. REFERENCES

1. American Laminator's Association (ALA)
2. American National Standards Institute (ANSI)
  - a. A208.1 Wood Particleboard
  - b. A208.2 Medium Density Fiberboard for Interior Use
3. American Society of Mechanical Engineers (ASME)
  - a. B18.6.1 Wood Screws (Inch Series)
4. American Society of Testing and Materials (ASTM)
  - a. D 523 Test Method for Specular Gloss
5. Architectural Woodwork Institute (AWI)
  - a. AWI Quality Standards 6th Edition Version 1.1
6. Builders Hardware Manufacturers Association (BMHA)
  - a. A156.9 Cabinet Hardware
  - b. A156.18 Materials and Finishes
7. Federal Specification (FS)
  - a. FF-N-105 Nails, Brads, Staples, and Spikes: Wire, Cut and Wrought
8. Hardwood Plywood and Veneer Association (HPVA)
  - a. HP 1 Interim Voluntary Standard for Hardwood and Decorative Plywood
9. National Electrical Manufacturers Association (NEMA)
  - a. LD 3 High-Pressure Decorative Laminates
10. National Particleboard Association (NPA)
  - a. 9 Voluntary Standard for Formaldehyde Emission from Medium Density Fiberboard (MDF)

D. SUBMITTALS

1. Submit in accordance with General, Supplementary and Special Conditions.
2. Submit electronic pdf file of Shop Drawings for approval. Show materials, dimensions, cabinet-cut details, and sink locations. Shop Drawings shall be furnished for all casework, and shall be drawn in related and/or dimensional position with sections shown either full size or 3" scale.
3. Submit color samples upon award of contract for selection and coordination with other suppliers. Architect may request and retain samples and catalog cuts as required for accessory and special items.
4. Product certificates signed by woodwork manufacturer certifying that products comply with specified requirements.

E. QUALITY ASSURANCE

1. Fabricator Qualifications: Firm experienced in producing architectural woodwork similar to that indicated for this Project, and with record of successful in-service performance, as well as sufficient production capacity to produce required units without delaying Work.
2. Single-Source Responsibility for Fabrication and Installation: Engage qualified woodworking firm to assume undivided responsibility for fabricating, finishing, and installing woodwork specified in this Section.
3. Quality Standard: Except as otherwise indicated, comply with AWI Quality Standard "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork, construction, finishes, and other requirements.
4. Source of Cabinet Accessories: Provide accessories obtained from one single source for each type of hardware and accessories so that finishes match.
5. The casework manufacturer is responsible for details and dimensions not controlled by job conditions, and shall show on his Shop Drawings all required field measurements beyond his control.
6. The Contractor, when installing items not shop assembled shall distribute to the best over-all advantage the defects allowed in the quality grade specified.
7. The Contractor shall be responsible to deliver casework when the building and/or storage area is sufficiently dry, to prevent damaged caused by excessive changes in moisture content.
8. All Counters, Tops and Desk surfaces shall be fabricated as self-edge type, with 2" radius on all exposed corners when viewed in plan.

F. DELIVERY, STORAGE, AND HANDLING

1. Protect woodwork during transit, delivery, storage, and handling to prevent damage, soilage, and deterioration.
2. Do not deliver woodwork until painting and similar operations that could damage, soil, or deteriorate woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas whose environmental conditions meet requirements specified in "Project Conditions."

G. PROJECT CONDITIONS

1. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet-work is completed, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.
2. Field Measurements: Where woodwork is indicated to be fitted to other construction, check actual dimensions of other construction by accurate field measurements before fabrication, and show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying Work.
  - a. Verify locations of concealed framing, blocking, reinforcements, and furring that support woodwork by accurate field measurements before being enclosed. Record measurements on final shop drawings.
  - b. Where field measurements cannot be made without delaying Work, guarantee dimensions for accurate fit and proceed with fabricating woodwork without field measurements. Provide allowance for trimming at site and coordinate construction to ensure that actual dimensions correspond to guaranteed dimensions.

H. QUALITY, GRADE AND MATERIALS SELECTION

1. Quality, Grade: Material and workmanship of all cabinetry work shall conform to the "Custom Grade" requirements of the AWI Quality Standards.
2. Materials:
  - a. Laminated Plastics/Finishes:
    1. High-pressure plastic laminate, V32 grade, for exterior cabinet surfaces shall exceed NEMA

- standards for vertical grade.
2. Color Selection Available: Textured finish vertical surface grade from casework manufacturer's stock colors consisting of complete range of colors and patterns.
  3. Plastic Laminate Balancing Sheet: Heavy gauge plastic laminate backing sheet shall be textured surface, and meet NEMA standards, and be of a type and thickness to properly balance face-finish.
  4. Counter top High Pressure Plastic Laminate: High-pressure plastic laminate, textured finish .050 thickness. Color as selected from manufacturer's stock standard patterns and solid colors.
  5. Heavy gauge neutral colored backing sheet for balanced construction.
- b. Pressure Fused Laminate:
1. Thermosetting acid resistant Pressure Fused laminate, permanently bonded to substrate.
  2. Pressure Fused laminate color to be selected by Architect.
  3. The following agency requirements, standards and tests shall apply:

U.S. Federal	F.S.L.P.-508
ASTM	D-1300-53T
U.S. Food & Drug	Section 175.300
NEMA	LD3-1985
  4. Neutral colored Pressure Fused for semi-exposed cabinet interiors behind doors and drawers, interiors of all open cabinets, and underside of wall cabinets.
- c. High Performance Particle Board Core:
1. Particle Board to be of 47 lb. density, and balanced construction with moisture content not to exceed 8%. 3-Ply Particleboard shall exceed the requirements for its type and classification under Commercial Standard CS-236-66. Federal Specifications LLL-8-800A, and ASTM D 1037-78.
  2. ParticleBoard shall meet the following Performance Requirements. Submit compliance data from the manufactured prior to fabrication:

Screw Holding, Face	371 lbs.
Modulus of Rupture	2,400 psi
Modoulus of Elasticity	450,000 psi
Internal Bond	90 psi
Surface Hardness	900 lbs
- d. Hardboard: Hardboard shall meet or exceed Commercial Standards CS-251 and Federal Specifications LLL-B-00810. Tempered hardboard ¼ inch thick – smooth both sides.
- e. Hardware:
1. Acceptable Manufacturers:
    - a. Accuride
    - b. Amerock
    - c. Grass
    - d. Ives
    - e. Knape & Vogt
  2. Hinges:
    - a. Heavy duty, 120-degree concealed cabinet hinge, 3-3/8". Provide Grass 3803 Hinge, or approved equal.
    - b. One pair per door to 48 inch height. One and one-half pair over 48 inch in height. Hinge to accommodate 13/16 inch thick laminated door, and allow 270 degree swing.
  3. Pulls: 4" centers, brushed Aluminum (26D).
  4. Drawer Slides:
    - a. Standard Drawers: 20" Full Extension Drawer Glides, with positive in-stop, out-stop and out-keeper to maintain drawer in 80% open position. Captive nylon rollers, both front and rear. Minimum 100 lb. dynamic load rating. Provide adjuster cam to regulate body side sway.

1. Standard Specified: Accuride - Model 7432.
- b. File Drawers: Full extension, 3 part progressive opening slide, minimum 150 lb., zinc plated or epoxy coated at manufacturer's option.
  1. Standard Specified: Accuride - Model 9301.
- c. Pencil Drawers: Minimum 45 lb.
  1. Standard Specified: Accuride - Model 2006.
5. Catches: 6 lb. magnetic catch for base and wall cabinets. Provide two 6 lb. pulls at each tall cabinet door.
6. Locks (all cabinet doors and drawers):
  1. Standard Specified: National Cabinet Lock NL-C8055-14A disc tumbler cam lock.

## I. CABINET CONSTRUCTION

1. Sub-Base:
  - a. Cabinet Subbase: To be separate and continuous (no cabinet body sides-to floor), water resistant exterior grade plywood with concealed fastening to cabinet bottom. Ladder-type construction, of front, back and intermediates, to form a secure and level platform to which cabinets attach.
2. Cabinet Top and Bottom:
  - a. Base and tall cabinet bottoms to be Pressure Fused laminated particle board interior side,  $\frac{3}{4}$  inch thick with phenolic neutral colored backer sheet on concealed side.
  - b. Solid sub-top to be  $\frac{3}{4}$  inch, and furnished for all base and tall cabinets.
  - c. Wall cabinet and library stack bottoms and tops are 1 inch thick.
  - d. Exterior exposed wall cabinet bottoms to be Pressure Fused laminate both sides. Assembly devices to be concealed on bottom side of wall cabinets.
3. Cabinet Ends:
  - a. Pressure Fused laminated particle board interior side;  $\frac{3}{4}$  inch thick with phenolic neutral colored back sheet on concealed side.
  - b. Exposed exterior cabinet ends to be laminated with plastic laminate.
  - c. Exposed edges to be 1 mm edging.
4. Fixed and Adjustable Shelves:
  - a. Pressure Fused laminated particle board – all sides.
  - b. Thickness:  $\frac{3}{4}$  inch standard shelving to 36 inches wide. One inch shelving 36 inches wide and over.
  - c. Shelf edges shall have 1 mm edging.
5. Cabinet Backs:
  - a. Standard cabinet back to be  $\frac{3}{4}$  inch thick, Pressure Fused laminated particle board interior side for use on all cabinets with or without doors. Rear, unexposed, side of back to receive continuous bead of hot melt adhesive at joint between back and sides/top/bottom for sealing against moisture and vermin, and further contribute to case rigidity.
  - b.  $\frac{3}{4}$  inch thick hang rails shall be glued to rear of cabinet back and screwed to cabinet sides. Provide minimum of 2 at base, 2 at wall, and 3 at tall cabinets.
  - c. Exposed exterior backs to be  $\frac{3}{4}$  inch particle board faced with high pressure plastic laminate.
6. Door and Drawer Fronts:
  - a. Plastic laminated doors and drawer fronts to be  $\frac{13}{16}$  inch thick for all hinged and sliding doors. Core material to be  $\frac{3}{4}$  inch thick, 47 lb. density particle board bonded on exterior with high pressure plastic laminate and with colored heavy gauge balancing sheet on interior face. Drawer fronts and hinged doors are to overlay the cabinet body. Maintain a maximum  $\chi$ " reveal between pairs of doors, between door and drawer front, or between multiple drawer fronts within the cabinet.
  - b. Doors and drawer fronts shall have 3 mm edging.
7. Drawers:
  - a. Drawer fronts shall be applied to separate drawer body component sub-front.
  - b. Sides and back of drawers to be  $\frac{1}{2}$  inch thick Pressure Fused laminated fiberboard; sub-front same, to be  $\frac{5}{8}$  inch thick.



- c. Fiberboard to be of uniform density and meet the following minimum standards:
    - Screw Holding, Face 355 lbs.
    - Screw Holding, Edge 300 lbs.
    - Modulus of Rupture 4,500 psi.
    - Modulus of Elasticity 500,000 psi.
    - Internal Bond 100 psi.
  - d. Drawer sides shall be dadoed to receive front and back, machine squared and held under pressure while hot melt glued and pinned together.
  - e. Drawer bottom to be Pressure Fused laminate surface, ¼ inch thick, housed into front, sides and back. Underside of drawer to receive continuous hot melt adhesive at joint between bottom and back/sides/front for sealing and rigidity. Reinforce drawer bottoms as required with intermediate spreaders.
8. Countertops:
- a. Plastic Laminate:
    - 1. High pressure plastic laminate bonded to particle board core. Thickness as shown on plans and specifications. Underside to be properly balanced with heavy gauge backing sheet. Edges to be high pressure plastic laminate to match horizontal surface color. Furnish countertops in design as shown on drawings. Provide continuous tops for counter type cabinets fixed in a line.
  - b. Solid Surface Material
    - 1. Grade: Custom
    - 2. Solid-Surface Material Thickness: 3/4 inch
    - 3. Colors, Patterns, and Finishes: As selected from manufacturer's full range.
    - 4. Fabricate tops in one piece, unless otherwise indicated. Comply with solid surface material manufacturer's written recommendations for adhesives, sealers, fabrication and finishing.
      - a. Fabricate tops with shop-applied edges of materials and configuration indicated on the contract documents.
      - b. Fabricate tops with backsplashes for field application.
    - 5. Install integral sink bowls in countertops in shop.
    - 6. Drill holes in countertops for plumbing fittings and soap dispensers in shop.
9. Workmanship:
- a. All exposed exterior cabinet surfaces to be V32 decorative high pressure plastic laminate, color as selected from manufacturer's stock colors consisting of complete range of colors and patterns. Laminate surface/backer to core under controlled conditions, by approved and regulated laminating methods to assure a premium lamination. Natural-setting adhesives that cure thru chemical reaction are required. Methods requiring heat are not allowed; "contact" methods of laminating are not allowed.
  - b. Cabinet parts shall be accurately machined and bored for premium grade quality joinery construction utilizing automatic machinery to insure consistent sizing of modular components.
  - c. End panels shall be doweled to receive bottom and top. Back panel shall be fully housed into, and recessed 1/2 inch from the back of cabinet sides, top and bottom to insure rigidity and a fully closed cabinet.
  - d. Drawer bottom shall be fully housed into, and recessed up ½ inch from the bottom of sides, back and subfront. Sides of drawer shall be fully dadoed to receive drawer back, locked in fully to subfront, fastened with glue and mechanical fasteners.
  - e. ¾ inch thick hang rails shall be glued to backside and screwed to end panels of all wall, base and tall cabinets for extra rigidity and to facilitate installation.
  - f. Rear of cabinet back, and underside of drawer bottom joints to receive a continuous bead of hot melt adhesive to add to unit body strength and develop moisture and vermin seal.
  - g. All cases shall be square, plumb and true.

J. COORDINATION

1. Coordinate work of this section with related work of other Sections as necessary to obtain proper installation of all items.
2. Verify site dimensions of cabinet locations in building prior to fabrication.
3. Prior to installation of Architectural woodwork, examine shipped fabricated work for completion and work as required, including back priming and removal of packing.
4. Coordinate installation with Owner supplied appliances and/or devices.

K. INSTALLATION

1. Quality Standard: Install woodwork to comply with AWI Section 1700.
2. Storage and Protection: Casework shall be protected in transit. Store under cover in a ventilated building not exposed to extreme temperature and humidity changes. Do not store or install casework in building until concrete, masonry, and plaster work is dry.
3. Condition woodwork to average prevailing humidity conditions prior to installing.
4. Install the work plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8" in 8'-0" for plumb and level, including countertops, and with 1/16" maximum offsets in flush adjoining surfaces, 1/8" maximum offsets in revealed adjoining surfaces.
5. Scribe and cut work to fit adjoining work and refinish cut surfaces or repair damaged finish at cuts.
6. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners as required for complete installation.
7. Cabinets: Install without distortion so that doors and drawers fit openings properly, and are accurately aligned. Adjust hardware to center doors and drawers in openings, and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated. Install cabinets with no more than 1/8-inch in 96-inch sag, bow, or other variation from a straight line.
8. Tops: Anchor securely to base units and other support systems as indicated. Caulk space between backsplash and wall with specified sealant.
  - a. Install countertops with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
  - b. Secure backsplashes to tops with concealed metal brackets at 16-inches o. c.
  - c. Align adjacent solid-surfacing-material countertops and form seams to comply with manufacturer's written recommendations using adhesive in color to match countertop. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
9. Install all items complete and adjust all moving parts to operate properly.
10. Install with minimum number of joints, using full-length pieces where possible. Stagger joints in adjacent and related members. Cope at returns, miter at corners, and comply with Quality Standards of Joinery.
11. Leave surface clean and free from defects at time of final acceptance.
12. Guarantee: All materials shall be guaranteed for a period of 1 year from manufacturer's defects and workmanship.
13. Clean Up: Remove all cartons, debris, sawdust, scraps, etc., and leave spaces clean and all casework ready for owner's use.

L. ADJUSTING AND CLEANING

1. Repair damaged and defective woodwork where possible to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
2. Clean, lubricate, and adjust hardware.
3. Clean woodwork on exposed and semi-exposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

M. PROTECTION

1. Provide final protection and maintain conditions, in a manner acceptable to Architect that ensures that casework is without damage or deterioration at time of Substantial Completion.

END OF SECTION 06 41 16

SECTION 06 61 16 - SOLID POLYMER FABRICATIONS

A. WORK INCLUDED

1. Provide all material, labor, tools and equipment necessary to furnish and install solid polymer fabrications as indicated on the Drawings and as specified herein.
2. Solid polymer fabrications include the following:
  - a. Windowsills
  - b. Counters

B. RELATED SECTIONS

1. Section 06 10 00 – Rough Carpentry
2. Section 06 41 16 – Architectural Woodwork & Cabinetry
3. Section 22 42 13 – Plumbing Fixtures

C. REFERENCES

1. American National Standards Institute (ANSI)
2. American Society for Testing and Materials (ASTM)

D. SUBMITTALS

1. Submit under provisions of Division 1.
2. Product Data: Indicate product description, fabrication information, and compliance with specified performance requirements.
3. Shop Drawings:
  - a. Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices and other components.
    1. Show full-size details, edge details, thermoforming requirements, attachments, etc.
    2. Show locations and sizes of furring, blocking, including concealed blocking and reinforcement specified in other Sections.
    3. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, waste receptacle and other items installed in solid surface.
4. Samples:
  - a. For each type of product indicated.
    1. Submit minimum 6-inch by 6-inch sample in specified gloss.
    2. Cut sample and seam together for representation of inconspicuous seam.
    3. Indicate full range of color and pattern variation.
  - b. Approved samples will be retained as a standard for work.
5. Maintenance data:
  - a. Submit manufacturer's care and maintenance data, including repair and cleaning instructions.
    1. Maintenance kit for finishes shall be submitted.
  - b. Include in project closeout documents.

E. QUALITY ASSURANCE

1. Qualifications:
  - a. Shop that employs skilled workers who custom fabricate products similar to those required for this project and whose products have a record of successful in-service performance.
  - b. Fabricator/installer qualifications: Work of this section shall be by a certified fabricator/installer, certified in writing by the manufacturer.
2. Applicable standards:
  - a. Standards of the following, as referenced herein:

1. American National Standards Institute (ANSI)
2. American Society for Testing and Materials (ASTM)
3. National Electrical Manufacturers Association (NEMA)
4. NSF International
- b. Fire test response characteristics:
  1. Provide with the following Class A (Class I) surface burning characteristics as determined by testing identical products per UL 723 (ASTM E84) or another testing and inspecting agency acceptable to authorities having jurisdiction:
    - a. Flame Spread Index: 25 or less.
    - b. Smoke Developed Index: 450 or less.

F. DELIVERY, STORAGE, AND HANDLING

1. Deliver no components to project site until areas are ready for installation. Store components indoors prior to installation.
2. Handle materials to prevent damage to finished surfaces. Provide protective coverings to prevent physical damage or staining following installation for duration of project.

G. WARRANTY

1. Provide manufacturer's 10 year warranty against defects in materials. Warranty shall provide material and labor to repair or replace defective materials. Damage caused by physical or chemical abuse or damage from excessive heat will not be warranted.

H. MANUFACTURERS

1. Acceptable Manufacturers – Price Category 5.
  - a. DuPont-Corlan.
  - b. Formica Corporation.
  - c. Wilsonart.

I. MATERIALS

1. Solid Polymer Material: Homogeneous filled acrylic meeting ANSI Z124.3 and Z124.6, Type Six, and FS WW-P-541E/GEN; not coated, laminated, or of composite construction.
2. Price Category: 1 thru 4
3. Tensile Strength: 6,000 psi minimum, per ASTM D 638.
4. Tensile Modulus: 1,500,000 psi minimum, per ASTM D 638.
5. Flexural Strength: 10,000 psi minimum, per ASTM D 790.
6. Flexural Modulus: 1,200,000 psi minimum, per ASTM D 790.
7. Elongation: 0.4 percent minimum, per ASTM D 638.
8. Hardness: 85-Rockwell "M" scale minimum.
9. Thermal Expansion:  $1.80 \times 10^{-6}$  inch/inch/F degree maximum, per ASTM D 696.
10. Color Stability: No change, 100 hours minimum, per NEMA LD3-3.10.
11. Gloss (60° Gardner): 5–75 (matte—highly polished), per ANSI Z124.
12. Light Resistance: (Xenon Arc) No effect, per NEMA LD 3-2000.
13. Fungus and Bacteria Resistance: Does not support microbial growth, per ASTM G21&G22
14. Wear and Cleanability: Passes ANSI Z124.3 and Z124.6.
15. Abrasion Resistance: No loss of pattern, maximum weight loss (1,000 cycles) equal to 0.9 g, per NEMA LD3-3.01, ANSI Z124.3.
16. Boiling Water Surface Resistance: No change, per NEMA LD3-3.05.
17. High Temperature Resistance: No change, per NEMA LD3-3.06.
18. Impact Resistance:

- a. (Notched Izod): 0.28 foot-pounds minimum, per ASTM D 256, Method A.
  - b. (Gardner Ball Drop): 9.0 foot-pounds minimum, per ASTM D 5420.
  - c. 1/2 inch Sheet: 140 inches minimum, 1/2 pound ball, no failure per NEMA LD3-3.03.
19. Stain Resistance: Passes ANSI Z124.3 and Z124.6.
20. Water Absorption by Weight: Maximum percent, per ASTM D 570.
21. Flammability: 25 flame spread, 25 smoke developed, Class 1, per ASTM E 84.
- J. ACCESSORIES
1. Joint adhesive: Manufacturer's standard one- or two-part adhesive kit to create inconspicuous, nonporous joints.
  2. Sealant: Manufacturer's standard mildew-resistant, FDA-compliant, NSF 51-compliant (food zone — any type), UL-listed silicone sealant in colors matching components.
  3. Sink/lavatory mounting hardware: Manufacturer's standard bowl clips, panel inserts and fasteners for attachment of undermount sinks/lavatories.
  4. Conductive tape: Manufacturer's standard aluminum foil tape, with required thickness, for use with cutouts near heat sources.
  5. Insulating felt tape: Manufacturer's standard for use with conductive tape in insulating solid surface material from adjacent heat source.
- K. SOLID POLYMER FABRICATIONS
1. Sills and Countertops: 1/2" Solid polymer material; adhesively joined with inconspicuous seams.
- L. FABRICATION
1. Fabricate components in shop to greatest extent practical to sizes and shapes indicated, in accordance with approved shop drawings and solid polymer manufacturer requirements.
  2. Form joints between components using manufacturer's standard joint adhesive, joints inconspicuous in appearance and without voids. a. Reinforce with strip of solid polymer material, 2" wide.
  3. Rout and finish component edges to a smooth, uniform finish. Repair or reject defective or inaccurate work.
  4. Finish all surfaces uniformly - Semigloss: Gloss rating of 25-50.
  5. Allowable Tolerances: Variation in Component Size: Plus or minus 1/8 inch.
  6. Fixture Mounting: Seamed undermount.
  7. Backsplash: Coved.
  8. Sidesplash: Coved.
- M. EXAMINATION
1. Examine substrates and conditions, with fabricator present for compliance with requirements for installation tolerances and other conditions affecting performance of work.
  2. Proceed with installation only after unsatisfactory conditions have been corrected.
- N. INSTALLATION
1. Install components plumb, level and rigid, scribed to adjacent finishes, in accordance with approved shop drawings, product data and installation details.
    - a. Provide product in the largest pieces available.
    - b. Form field joints using manufacturer's recommended adhesive, with joints inconspicuous in finished work. Exposed joints/seams shall not be allowed.
    - c. Reinforce field joints with solid surface strips extending a minimum of 1 inch on either side of the seam with the strip being the same thickness as the top.
    - d. Cut and finish component edges with clean, sharp returns.
    - e. Rout radii and contours to template.

- f. Anchor securely to base cabinets or other supports.
- g. Align adjacent countertops and form seams to comply with manufacturer's written recommendations using adhesive in color to match countertop.
- h. Carefully dress joints smooth, remove surface scratches and clean entire surface.
- i. Install countertops with no more than 1/8-inch (3 mm) sag, bow or other variation from a straight line.
- 2. Coved backsplashes and sidesplashes:
  - a. Provide coved backsplashes and sidesplashes at all walls and adjacent millwork.
  - b. Fabricate radius cove at intersection of counters with backsplashes to dimensions shown on the drawings.
  - c. Adhere to countertops using manufacturer's standard color-matched Joint Adhesive.

O. REPAIR

- 1. Repair or replace damaged work which cannot be repaired to Architect's satisfaction.
- 2. Superficial damage to a depth of 0.010 inch (.25 mm) shall be repairable by sanding and/or polishing.

P. CLEANING AND PROTECTION

- 1. Keep components clean during installation.
- 2. Remove adhesives, sealants and other stains.

END OF SECTION 06 61 16

SECTION 07 21 00 - BUILDING INSULATION

A. SUMMARY

1. The work included in this section consists of furnishing all labor, materials, tools, and equipment necessary to furnish and install the following types of thermal insulation:
  - a. Batt-type Fiberglass Acoustic Insulation.
2. Related Sections:
  - b. Division 7 Section 07 92 00 - Joint Sealants.
  - c. Division 9 Section 09 21 16 - Gypsum Board Assemblies.
  - d. Division 9 Section 09 51 13 - Acoustical Ceiling Systems.
  - e. Division 23 Section 23 07 13 - Mechanical: Duct and equipment insulation, and pipe insulation.

B. REFERENCES

1. ASTM International:
  - a. ASTM C423 Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
  - b. ASTM C1338 Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings.
  - c. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
  - d. ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
  - e. ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials.

C. SUBMITTALS

1. General: Submit listed submittals in accordance with provisions of Section 01300 Administrative Requirements.
2. Product Data: Manufacturer's data sheets on each product to be used, including:
  - a. Preparation instructions and recommendations.
  - b. Storage and handling requirements and recommendations.
  - c. Installation methods.
3. Samples: Submit manufacturer's standard selection and verification samples.
4. Quality Assurance/Control Submittals: Submit the following:
  - a. Test Reports: Upon request, submit test reports from recognized test laboratories.
  - b. Certificates: Submit manufacturer's certificate that products meet or exceed specified requirements.

D. QUALITY ASSURANCE

1. Obtain each type of building insulation through a single source.
2. Manufacturer Qualifications: Manufacturer with a minimum of ten years experience manufacturing products in this section shall provide all products listed.
3. Installer Qualifications: Products listed in this section shall be installed by a single organization with at least five years experience successfully installing insulation on projects of similar type and scope as specified in this section.

E. DELIVERY, STORAGE & HANDLING

1. General: Comply with Division 1 Product Requirement Section.
2. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
3. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.



F. PROJECT CONDITIONS

1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

G. PRODUCTS

1. Insulating Materials - General:
  - a. General: Provide insulating materials that comply with requirements and referenced standards.
    1. Preformed Units: Sizes to fit applications indicated; selected from manufacturer's standard thicknesses, widths and lengths.
2. Fiberglass Batt Acoustical Insulation
  - a. Unfaced glass fiber acoustical insulation complying with ASTM C 665, Type 1, Class A rating.
    1. Acceptable Manufacturer's:
      - a. Celotex Corporation
      - b. Certainteed Corporation
      - c. Owens - Corning Fiberglass
  - b. Size shall be 3-1/2" thick x 16" wide.
  - c. Fire Resistance Ratings: Passes ASTM E 119 Test.
  - d. Sound Transmission Class: STC 50.
  - e. Dimensional Stability: Linear Shrinkage less than 0.1%.
3. Miscellaneous Materials:
  - a. Adhesive for bonding insulation: The type recommended by the insulation manufacturer and complying with fire-resistance requirements and insurance requirements.
  - b. Mastic sealer: Type recommended by insulation manufacturer for bonding edge joints between units and filling voids in the work.

H. EXAMINATION

1. Site Verification of Conditions:
  - a. Verify that site conditions are acceptable for installation of building insulation.
  - b. Do not proceed with installation of building insulation until unacceptable conditions are corrected.
2. Do not proceed with the installation of insulation until subsequent work which conceals the insulation is ready to be performed, unless directed otherwise.

I. PREPARATION

1. Protection: Protect adjacent work areas and finish surfaces from damage during product installation.

J. INSTALLATION

1. General: Comply with insulation manufacturer's written instructions applicable to products and application indicated.
  - a. Install insulation that is undamaged, dry and unsoiled and that has not been left exposed at any time to ice and snow.
  - b. Extend insulation in thickness indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation.
  - c. Water Piping Coordination: If water piping is located on inside of insulated exterior walls, coordinate location of piping to ensure that it is placed on warm side of insulation and insulation encapsulates piping.
  - d. Apply single layer of insulation to produce thickness indicated, unless multiple layers are otherwise shown or required to make up total thickness.
2. Installation of General Building Insulation:
  - a. Seal joints between closed-cell (non-breathing) insulation units by applying adhesive, mastic or

- sealant to edges of each unit to form a tight seal as units are shoved into place. Fill voids in completed installation with adhesive, mastic or sealant as recommended by insulation manufacturer.
- b. Set vapor-retarder-faced units with vapor retarder to warm side of construction, unless otherwise indicated. Do not obstruct ventilation spaces, except for firestopping.
    - 1. Tape ruptures in vapor retarder, and seal each continuous area of insulation to surrounding construction to ensure airtight installation.
  - c. Install glass-fiber blankets in cavities formed by framing members according to the following requirements:
    - 1. Use blanket widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill cavity, provide lengths that will produce a snug fit between ends.
    - 2. Place blankets in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
    - 3. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically and support faced blankets by taping stapling flanges to flanges of metal studs.
  - d. Acoustical Insulation Installation: Install insulation where indicated in sound rated assemblies. Maintain acoustical rating of assembly.
  - e. Board Insulation Installation: Install insulation where indicated:
    - 1. Fasten board insulation to masonry in cavity as recommended by manufacturer.
  - f. Installation of Vapor Retarders:
    - a. General: Extend vapor retarder to extremities of areas to be protected from vapor transmission. Secure in place with adhesives or other anchorage system as indicated. Extend vapor retarder to cover miscellaneous voids in insulated substrates, including those filled with loose-fiber insulation.
    - b. Firmly attach vapor retarders to substrates with mechanical fasteners or adhesives as recommended by vapor retarder manufacturer.
    - c. Seal joints caused by pipes, conduits, electrical boxes and similar items penetrating vapor retarders with vapor retarder tape to create an airtight seal between penetrating objects and vapor retarder.
    - d. Repair any tears or punctures in vapor retarders immediately before concealment by other work.

J. PROTECTION

- 1. Protect installed work from damage due to subsequent construction activity on the site, until completion of the project. Repair damage to installed products prior to installation of finish materials.

END OF SECTION 07 21 00

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## SECTION 07 84 13 - FIRESTOPPING

### A. SUMMARY

1. Through penetration firestops and smoke-stops for all fire-rated bearing and non-bearing wall and floor assemblies, both blank (empty) and those accommodating penetrating items such as cables, conduits, pipes, ducts, etc.
2. Membrane penetration protection for fire-rated walls.
3. Architectural/Construction joint firestops within walls, floors, or the intersection of floors to exterior walls, or the intersection of top of walls to ceilings.
4. Top of wall firestopping in all fire-rated partitions.
5. Top of wall and construction joint smoke-stopping in all smoke partitions.

### B. RELATED WORK

1. Proper execution of this work will maintain the hourly ratings of the walls and floors and ensure progress of work in other Sections. Coordinate work of this Section with the work of the following Sections:
  - a. Cast In Place Concrete
  - b. Unit Masonry
  - c. Joint Sealers
  - d. Gypsum Board
  - e. Fire Suppression and Supervisory Systems
  - h. Basic Mechanical Materials & Methods
  - i. Mechanical Insulation
  - j. Fire Protection
  - k. Plumbing
  - l. Basic Electrical Materials & Methods

### C. REFERENCES

1. American Society For Testing and Materials Standards (ASTM):
  - a. ASTM E84: Standard Test Method For Surface Burning Characteristics of Building Materials
  - b. ASTM E814: Standard Test method For Fire Tests of Through-Penetration Firestops
2. Underwriters Laboratories Inc.:
  - a. UL 723 Surface Burning Characteristics of Building Materials
  - b. UL 1479 Fire Tests of Through-Penetration Firestops
3. UL Fire Resistance Directory:
  - a. Through Penetration Firestop Devices (XHJI)
  - b. Fire Resistive Ratings (BXUV)
  - c. Through Penetration Firestop Systems (XHEZ)
  - d. Fill, Void, or Cavity Material (XHHW)

### D. SUBMITTALS

1. Submit manufacturer's product literature for each type of firestop material to be installed. Literature shall indicate product characteristics, typical uses, performance and limitation criteria, and test data. Submittal should be in compliance with Section 01300.
2. Material Safety Data Sheets (MSDS): Submit MSDS for each firestop product.
3. UL Tested Systems: Submit drawings showing typical installation details for the methods of installation. Indicate which firestop materials will be used and thickness for different hourly ratings.
4. Submit manufacturer's installation procedures for each type of product.
5. Approved Applicator: Submit document from manufacturer wherein manufacturer recognizes the installer as qualified or submit a list of past projects to demonstrate capability to perform intended work.

### E. QUALITY ASSURANCE

1. Firestopping systems (materials and design):

- a. Shall conform to both Flame (F) and Temperature (T) ratings as required by local building codes and as tested by nationally accepted test agencies per ASTM E814 or UL 1479 fire tests in a configuration that is representative of field conditions.
  - b. The F rating must be a minimum of one (1) hour but not less than the fire resistance rating of the assembly being penetrated. T rating when required by code authority shall be based on measurement of the temperature rise on penetrating item(s). The fire test shall be conducted with a minimum positive pressure differential of 0.01 inches of water column.
  - c. For joints, must be tested to UL 2079 with movement capabilities equal to those of the anticipated conditions.
2. Firestopping materials & systems must be capable of closing or filling through-openings created by 1) the burning or melting of combustible pipes, cable jacketing, or pipe insulation materials, or 2) deflection of sheet metal due to thermal expansion (electrical & mechanical duct work).
  3. Firestopping material shall be asbestos and lead free and shall not incorporate nor require the use of hazardous solvents.
  4. Firestopping sealants must be flexible, allowing for normal pipe movement.
  5. Firestopping materials shall not shrink upon drying as evidenced by cracking or pulling back from contact surfaces.
  6. Firestopping materials shall be moisture resistant, and may not dissolve in water after curing.
  7. All firestopping materials shall be manufactured by one manufacturer (to the maximum extent possible).
  8. Installation of firestopping systems shall be performed by a contractor (or contractors) trained or approved by the firestop manufacturer.
  9. Material used shall be in accordance with the manufacturer's written installation instructions.

F. PRODUCT DELIVERY, STORAGE, AND HANDLING

1. Deliver material in the manufacturer's original, unopened containers or packages with the manufacturer's name, product identification, lot number, UL label, and mixing and installation instructions as applicable.
2. Store materials in the original, unopened containers or packages, and under conditions recommended by the manufacturer.
3. All firestop materials shall be installed prior to expiration of shelf life.

G. PROJECT CONDITIONS

1. Conform to manufacturer's printed instructions for installation and when applicable, curing in accordance with temperature and humidity. Conform to ventilation and safety requirements.
2. Verify the condition of the substrates before starting work.
3. Weather Conditions: Do not proceed with installation of firestop materials when temperatures fall outside the manufacturer's suggested limits.
4. Care should be taken to ensure that firestopping materials are installed so as not to contaminate adjacent surfaces.

H. SEQUENCING

1. Schedule firestopping after installation of penetrants but prior to concealing the openings.
2. Firestopping shall precede gypsum board finishing.

I. PROTECTION

1. Where firestopping is installed at locations which will remain exposed in the completed work, provide protection as necessary to prevent damage to adjacent surfaces and finishes, and protect as necessary against damage from other construction activities.

J. GENERAL

1. Firestopping materials and systems shall meet the requirements specified herein.
2. Architect must approve in writing any alternates to the materials and systems specified herein.

3. All firestop products and systems shall be designed and installed so that the basic sealing system will allow the full restoration of the thermal and fire resistance properties of the barrier being penetrated with minimal repair if penetrants are subsequently removed.
4. For applications where combustible penetrants are involved, i.e. insulated and plastic pipe, a suitable intumescent material must be used.

K. ACCEPTABLE MANUFACTURERS

1. 3m Company
2. Hilti
3. Specified Technologies Inc.
4. United States Gypsum Co.

L. MATERIALS

1. Standard specified is that of Specified Technologies Inc.
  - a. Intumescent Firestop Sealants and Caulks: SpecSeal SSS100
  - b. Latex Firestop Sealant: SpecSeal LC150 Sealant
  - c. Acrylic Water-Based Sealant: SpecSeal ES100 Elastomeric Sealant
  - d. Silicone Firestop Sealants and Caulks: SpecSeal Pensil 300
  - e. Firestop Putty: SpecSeal SSP100 Firestop Putty Bars and Pads
  - f. Firestop Collars: SpecSeal SSC Firestop Collars
  - g. Wrap Strips: SpecSeal SSW Wrap Strip
  - h. 2-Part Silicone Firestop Foam: SpecSeal Pensil 200
  - i. Firestop Mortar: SpecSeal SSM Mortar
  - j. Firestop Pillows: STI SpecSeal SSB Pillows
  - k. Elastomeric Spray: SpecSeal AS Elastomeric Spray
  - l. Accessories:
    1. Forming/Damming Materials: Mineral fiberboard or other type as per manufacturer recommendation.

M. CONDITIONS REQUIRING FIRESTOPPING

1. General: Provide firestopping for conditions specified whether or not firestopping is indicated, and if indicated, whether such material is designed as insulation, safing, or otherwise.
2. Through-Penetrations: Firestopping shall be installed in all open penetrations and in the annular space in all penetrations in any bearing or non-bearing fire-rated barrier.
3. Membrane-Penetrations: Where required by code, all membrane-penetrations in rated walls shall be protected with firestopping products that meet the requirements of third party time/temperature testing.
4. Construction Joints/Gaps: Firestopping shall be provided:
  - a. between the edges of floor slabs and exterior walls
  - b. between the tops of walls and the underside of floors
  - c. in the control joint in masonry walls and floors
  - d. in expansion joints
5. Smoke-Stopping: As required by the other Sections, Smoke-Stops shall be provided for Through-Penetrations, Membrane-Penetrations, and Construction Gaps with a material approved and tested for such application.

N. EXAMINATION

1. Examine the areas and conditions where firestops are to be installed and notify the architect of conditions detrimental to the proper and timely completion of the work. Do not proceed with work until unsatisfactory conditions have been corrected by the contractor in a manner acceptable to the architect and in accordance with Section 01039.
2. Verify that environmental conditions are safe and suitable for installation of firestop products.

3. Verify that all pipe, conduit, cable, and other items which penetrate fire-rated construction have been permanently installed prior to installation of firestops.

O. INSTALLATION

1. Installation of firestops shall be performed by an applicator/installer qualified and trained by the manufacturer. Installation shall be performed in strict accordance with manufacturer's detailed installation procedures.
2. Apply firestops in accordance with fire test reports, fire resistance requirements, acceptable sample installations, and manufacturer's recommendations.
3. Unless specified and approved, all insulation used in conjunction with through-penetrants shall remain intact and undamaged and may not be removed.
4. Seal holes and penetrations to ensure an effective smoke seal.
5. In areas of high traffic, protect firestopping materials from damage. If the opening is large, install firestopping materials capable of supporting the weight of a human.
6. Insulation types specified in other sections shall not be installed in lieu of firestopping material specified herein.
7. All combustible penetrants (e.g. non-metallic pipes or insulated metallic pipes) shall be firestopped using products and systems tested in a configuration representative of the field condition.

P. FIELD QUALITY CONTROL

1. Prepare and install firestopping systems in accordance with manufacturer's printed instructions and recommendations.
2. Follow safety procedures recommended in the Material Safety Data Sheets.
3. Finish surfaces of firestopping which are to remain exposed in the completed work to a uniform and level condition.
4. All areas of work must be accessible until inspection by the applicable Code Authorities.
5. Correct unacceptable firestops and provide additional inspection to verify compliance with this specification.

Q. CLEANING

1. Remove spilled and excess materials adjacent to firestopping without damaging adjacent surfaces.
2. Leave finished work in neat, clean condition with no evidence of spill overs or damage to adjacent surfaces.

END OF SECTION 07 84 13

SECTION 07 92 13 - JOINT SEALERS

A. SCOPE OF WORK

1. Include all materials, labor and equipment necessary for the complete caulking and sealant work as specified, indicated on the drawings, or as otherwise necessary. Include, but not limited to all joints both interior and exterior, as follows:
  - a. Joints in masonry walls.
  - b. Perimeter door frames, door sills, windows and other openings.
  - c. Building control joints.
  - d. All locations where casework and counters adjoins walls.
  - e. Necessary locations of joints requiring weathertight sealant.
2. Drawings and general conditions and other Division 1 Specification Sections apply to this Section.

B. STANDARDS

1. American Society of Testing and Materials (ASTM).

C. PRODUCT HANDLING

1. Deliver, store and handle material in a manner to prevent the entrance of foreign materials and damage of materials by water or breakage. Damaged materials shall not be installed. The name of manufacturer and trade name of each caulking shall be on each container.

D. SUBMITTALS

1. Submit samples per the requirements outlined in Division 1.

E. QUALITY ASSURANCE

1. Applicator shall have a minimum of two (2) years experience and must be approved by the manufacturer.
2. Obtain elastomeric materials only from single manufacturer.

F. PROJECT CONDITIONS

1. Preparation of joint surfaces, backing, and the conditions under which the sealant and caulking is to be installed shall conform to manufacturer's recommendations.
2. Environmental Conditions: Do not proceed with installation of joint sealants under the following conditions:
  - a. When ambient and substrate temperature conditions are outside the limits permitted by sealant manufacturer.
  - b. When joint substrates are wet.
  - c. Where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
  - d. Contaminants capable of interfering with adhesion have not yet been removed from joint substrate.

F. WARRANTY

1. Provide manufacturer's two (2) year guarantee on materials.
2. Workmanship must be guaranteed against leakage for minimum of two (2) years from date of Owner's acceptance of the building.

G. MANUFACTURERS

1. Subject to the compliance with the requirements, provide products by one of the following:
  - a. DAP, Inc.
  - b. Dow Corning Corp.
  - c. Hilti Construction Chemicals

- d. General Electric Co., GE Silicones
- e. Pecora Corp.
- f. Sonneborn Building Products
- g. Tremco, Inc.

#### H. MATERIALS

1. General
  - a. Provide type, grade, class, hardness and similar characteristics of material as indicated or, where not indicated, to comply with manufacturer's recommendations relative to exposures, traffic, weather conditions and other factors of the joint system for best possible overall performance. Except as otherwise indicated, joint sealers are required to permanently maintain airtight and waterproof seals, without failures in joint movement accommodation, cohesion, adhesion (where applicable), migration, staining, and other performances as specified.
  - b. Color shall be selected by Architect from manufacturer's full range of samples.
2. Caulking Compounds (Acrylic Latex Sealant)
  - a. Latex rubber modified, acrylic emulsion polymer sealant compound; manufacturer's standard one-part, non-sag, mildew resistant, acrylic emulsion sealant complying with ASTM C 834, formulated to be paintable, and recommended for exposed applications on interior locations involving joint movement of not more than +/- 5%.
    1. Acceptable Products:
      - a. Acrylic Latex Caulk with Silicone – DAP, Inc.
      - b. AC-20 – Pecora Corp.
      - c. Sonolac – Sonneborn Building Products.
      - d. Acrylic Latex Caulk 834 – Sonneborn Building Products.
3. One-Part Elastomeric Sealant (Silicone)
  - a. One component elastomeric sealant, complying with ASTM C 920, Class 25, Type NS (non-sag), unless Type S (self leveling) recommended by manufacturer for the application shown. Provide additional movement capability where indicated.
    1. Acceptable Products:
      - a. Dow Corning 790 – Dow Corning Corp.
      - b. Silpruf – GE
      - c. Pecora 864 Architectural Silicone Sealant – Pecora Corp.
      - d. Omniseal - Sonneborn Building Products.
      - e. Spectrum 1 - Sonneborn Building Products.
  - b. One component mildew resistant silicone sealant: (Around countertops, and backsplashes, and other locations subject to moisture and wet conditions.)
    1. Acceptable Products:
      - a. Dow Corning 786 – Dow Corning Corp.
      - b. Sanitary 1700 – GE
      - c. Tremsil 600 – Tremco, Inc.
      - d. 898 Silicone Sanitary Sealant – Pecora Corp.
4. Elastomeric Sealant (Polyurethane)
  - a. One component polyurethane sealant complying with ASTM C 920, Type S, Grade NS, Class 25 (non-sag).
    1. Acceptable Products:
      - a. Dynatrol I - Pecora Corp.
      - b. Sonolastic NP 1 - Sonneborn Building Products.
      - c. Dymonic or Vulkem 921 - Tremco, Inc.
  - b. Two component polyurethane sealant complying with ASTM C 920, Type M, Grade NS, Class 25 (non-sag).
    1. Acceptable Products:



- a. Dynatrol II - Pecora Corp.
  - b. Sonolastic NP 2 - Sonneborn Building Products.
  - c. Dymeric 511 or Vulkem 922 - Tremco, Inc.
5. One-Part Self-Leveling Polyurethane Sealant (for traffic areas)
  - a. One component polyurethane self-leveling sealant, complying with ASTM C 920, Type S, Grade P, Class 25.
    1. Acceptable Products:
      - a. NR-201 Urexpan - Pecora Corp.
      - b. Sonolastic SL 1 - Sonneborn Building Products.
      - c. Vulkem 45 - Tremco, Inc.
    - b. Two component polyurethane self-leveling sealant, complying with ASTM C 920, Type M, Grade P, Class 25.
      1. Acceptable Products:
        - a. NR-200 Urexpan - Pecora Corp.
        - b. Sonolastic SL 2 - Sonneborn Building Products.
        - c. Vulkem 245 or THC900/THC901 - Tremco, Inc.
  6. Miscellaneous Materials:
    - a. Provide joint cleaner and joint primer sealer as recommended by sealant or caulking compound manufacturer.
    - b. Sealant backer rod shall be compressible rod stock polyethylene foam, polyethylene jacketed polyurethane foam, butyl rubber foam, neoprene foam, or other similar material as recommended by the manufacturer.
      1. Cylindrical Sealant Backings: ASTM C 1330, of type indicated below and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
        - a. Type C: Closed cell material with a surface skin.
      2. Where a 2 inch building expansion joint is indicated, provide an expanding foam secondary sealant, behind sealant, in lieu of backer rod.
    - c. Primer: Provide type recommended by joint sealer manufacturer where required for adhesion of sealant to joint substrates.
    - d. Cleaners for Non-Porous Surfaces: Provide non-staining, chemical cleaners of type which are acceptable to manufacturers of sealant and sealant backing materials, and do not harm or affect substrates or adjacent materials.

**I. EXAMINATION, PREPARATION AND INSTALLATION**

1. Examine joints indicated and/or required to receive sealants, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint sealant performance. If unsuitable conditions are present, notify Architect of items requiring correction. Do not proceed with installation of joint sealants until unsatisfactory conditions have been corrected.
2. All surfaces must be clean, dry, and free from loose aggregate, paint, corrosion, oil, grease, wax, tar, or other impurities. Joints must not be contaminated with bituminous materials.
3. Prime joints, if required, apply back-up material and sealants in strict accordance with manufacturer's directions.
4. Joints with wrinkles, sags, poor adhesion, or improperly cured, shall be cut out and replaced without additional cost to the owner.

**J. SELECTION OF MATERIAL**

1. Caulking compounds shall be used for interior non-moving joints and at locations indicated, including, but not limited to:
  - a. Perimeter joints of exterior openings, unless otherwise noted.
  - b. Perimeter joints between interior wall surfaces and frames of interior doors and windows.

- c. Interior control joints, unless otherwise indicated.
- 2. One component elastomeric silicone sealants shall be used at exterior and interior joints where thermal or dynamic movement is anticipated, including, but not limited to:
  - a. Metal to metal joints.
  - b. Sheet metal flashing, coping, pre-formed metal caps, fascia and trim.
  - c. Glass to metal joints.
  - d. Exterior insulation and finish system. Provide at joints within system, and at joints where system abuts other materials.
- 3. One component mildew resistant silicone sealant at locations indicated, including, but not limited to:
  - a. Joints between plumbing fixtures and adjoining walls, floors and counters.
  - b. Joints between countertops and backsplashes and walls.
- 4. One or two part elastomeric polyurethane sealants shall be used at exterior and interior joints where weatherproofing or waterproofing is required, and at exterior and interior joints between dissimilar materials including, but not limited to:
  - a. Exterior and interior sides of building expansion joints.
  - b. Exterior side of frame of doors, windows, and louvers to adjacent dissimilar materials.
  - c. Lintels and shelf angles to masonry construction.
  - d. Exterior building control joints and masonry expansion joints.
  - e. Joints in concrete sitework (sidewalks, ramps, retaining walls, etc.), and the joint between concrete slabs and dissimilar materials.
  - f. Sealant in pipe sleeves where materials perforate floor slab (non-rated).
  - g. Perimeter of floor slabs and concrete curbs which abut vertical surfaces.
  - h. Tile control and expansion interior joints in vertical and horizontal non-traffic surfaces.
  - i. Exterior joints between dissimilar materials where the joining of two surfaces require a watertight seal.
- 5. One or two part self-leveling polyurethane sealant shall be used for exterior and interior horizontal joints subject to pedestrian and moderate vehicular traffic.

K. CLEANING

- 1. Clean off excess sealants or smears adjacent to joints as the work progresses, with materials recommended by joint sealer manufacturer.

L. PROTECTION

- 1. Protect joint sealants during and after curing period from contact with contaminating substrates and from damage resulting from construction operations, or other causes, for acceptance at time of substantial completion. If damage occurs, cut out and remove damaged or deteriorated joint sealants, immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION 07 92 13

## SECTION 08 12 13 - STEEL DOORS AND FRAMES

### A. SUMMARY

1. Section Includes hollow metal steel doors and frames.

### B. RELATED SECTIONS

1. Section 08 21 00 - Wood Doors
2. Section 08 70 00 - Door Hardware
3. Section 08 80 00 – Glazing
4. Section 09 90 00 – Painting

### C. REFERENCES

1. ASTM - American Society for Testing and Materials
  - a. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - b. ASTM A 924 - Specification for General Requirements for Steel Sheet, Metallic Coated by the Hot Dip Process.
  - c. ASTM A 1008/A 1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, High Strength Low-Alloy, High Strength Low Alloy with Improved Formability, Solution Hardened, and Bake Hardenable.
  - d. ASTM E 90 - Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions.
  - e. ASTM E 413 - Classification for Rating Sound Insulation.
2. ANSI - American National Standards Institute
  - a. ANSI/DHI A115 - Specifications for Hardware Preparations in Standard Steel Doors and Frames.
  - b. ANSI/DHI A115.IG - Installation Guide for Doors and Hardware.
  - c. ANSI A156.7 - Hinge Template Dimensions.
  - d. ANSI A 250.3 - Test Procedure and Acceptance Criteria for Factory Applied Finish Painted Steel Surfaces for Steel Doors and Frames.
  - e. ANSI A250.4 – Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors and Hardware Reinforcing.
  - f. ANSI A 250.8 - SDI-100 Recommended Specifications for Standard Steel Doors and Frames.
  - g. ANSI A 250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.
  - h. ANSI/SDI 250.11 - Recommended Erection Instructions for Steel Frames
3. SDI - Steel Door Institute
  - a. SDI 105 - Recommended Erection Instructions for Steel frames.
  - b. SDI 111 - Recommended Details and Guidelines for Standard Steel Doors and Frames and Accessories.
  - c. SDI 112 - Zinc-Coated (Galvanized/Galvannealed) Standard Steel Doors and Frames.
  - d. SDI 117 - Manufacturing Tolerances for Standard Steel Doors and Frames.
  - e. SDI 118 - Basic Fire Door Requirements.
  - f. SDI 122 - Installation and Troubleshooting Guide for Standard Steel Doors and Frames.
  - g. SDI 124 - Maintenance of Standard Steel Doors and Frames.
4. NAAMM/HMMA - Hollow Metal Manufacturers Association
  - a. HMMA 840 - Guide Specification for Installation and Storage of Hollow Metal Doors and Frames
  - b. HMMA 820 TN01- Grouting Hollow Metal Frames
  - c. HMMA 820 TN03 – Guidelines for Glazing of Hollow Metal Transom, Sidelight and Windows
5. Building Code references
  - a. NFPA 80 - Standard for Fire Doors and Other Opening Protectives.
  - b. NFPA 252 – Standard Method of Fire Tests of Door Assemblies

- c. ANSI/UL 10C - Standard for Safety for Positive Pressure Fire Tests of Door Assemblies
- d. UL 1784 - Air Leakage Tests of Door Assemblies
- e. UL - Building Materials Directory; Underwriters Laboratories Inc
- f. WH - Certification Listings; Warnock Hersey International Inc.

**D. SUBMITTALS**

- 1. Submit for review PDF files of the hollow metal shop drawings covering complete identification of items required for the project. Include manufacturer's names and identification of product. Included PDF files of catalog cuts and/or technical data sheets and other pertinent data as required to indicate compliance with these specifications.
- 2. Shop Drawings: submit complete and detailed with respect to quantities, dimensions, specified performance, and design criteria, materials and similar data to enable the Architect to review the information as required.
- 3. Indicate frames configuration, anchor types and spacing, location of cutouts for hardware, reinforcement, to ensure doors and frames are properly prepared and coordinated to receive hardware.
- 4. Indicate door elevations, internal reinforcement, closure method, and cutouts for glass lights and louvers.
- 5. Submit manufacturer's installation instructions, including a current copy of ANSI A250.11 as part of the shop drawing submittal.
- 6. Shop drawings, product data, and samples: stamp with Contractor's stamp verifying they have been coordinated and reviewed for completeness and compliance with the contract documents.
- 7. Shop drawings submitted without the above requirements will be considered incomplete, will NOT be reviewed, and will be returned directly to the Contractor.
- 8. Follow the same procedures for re-submittal as the initial submittal with the appropriate dates revised.
- 9. Provide evidence of manufacturer's membership in the Steel Door Institute.

**E. QUALITY ASSURANCE**

- 1. Select a qualified hollow metal distributor who is a direct account of the manufacturer of the products furnished. In addition, that distributor must have in their regular employment an Architectural Hardware Consultant (AHC), a Certified Door Consultant (CDC) or an Architectural Openings Consultant (AOC), who will be available to consult with the Architect and Contractor regarding matters affecting the door and frame opening.
- 2. Conform to requirements of the above reference standards. Submit test reports upon request by the Owner or Architect.
- 3. Underwriters' Laboratories and Intertek Testing Services / Warnock Hersey, labeled fire doors and frames:
  - a. Label fire doors and frames listed in accordance with Underwriters Laboratories standard UL10C, and Positive Pressure Fire Tests of Door Assemblies.
  - b. Construct and install doors and frames to comply with applicable issue of ANSI/NFPA 80.
  - c. Manufacture Underwriters' Laboratories labeled doors and frames under the UL factory inspection program and in strict compliance to UL procedures, and provide the degree of fire protection, heat transmission and panic loading capability indicated by the opening class.
  - d. Manufacture Intertek Testing Services / Warnock Hersey labeled doors and frames under the ITS/WH factory inspection program and in strict compliance to ITS/WH procedures, and provide the degree of fire protection capability indicated by the opening class.
  - e. Affixed physical label or approved marking to fire doors and/or fire door frames, at an authorized facility as evidence of compliance with procedures of the labeling agency. Labels to be metal, paper or plastic. Stamped or die cast labels are not permitted. Labels are not to be removed, defaced or made illegible while the door is in service as covered in NFPA Pamphlet 80.
  - f. Conform to applicable codes for fire ratings. It is the intent of this specification that hardware and its application comply or exceed the standards for labeled openings. In case of conflict between types required for fire protection, furnish type required by NFPA and UL.

4. Manufacturer Qualifications: Member of the Steel Door Institute.
5. Installer: Minimum five years documented experience installing products specified in this Section.

F. DELIVERY, STORAGE AND HANDLING

1. Storage of Doors
  - a. Store doors vertically in a dry area, under proper cover. Place the units on at least 4" high wood sills on floors in a manner that will prevent rust and damage. Avoid storage in non-vented plastic or canvas shelters, which create a humidity chamber and promote rusting. If the door becomes wet, or moisture appears, remove protective wrapping immediately. Provide a 4" space between the doors to permit air circulation. Proper storage is required to meet the requirements of ANSI/SDI A250.11 and HMMA 840.
2. Storage of Frames
  - a. Store frames in an upright position with heads uppermost under cover on 4" wood sills on floors in a manner that will prevent rust and damage. Do not use non-vented plastic or canvas shelters, which create a humidity chamber and promote rusting. Store assembled frames in a vertical position, five units maximum in a stack. Provide a 2" space between frames to permit air circulation.
  - b. Provide proper storage for doors and frames, to maintain the quality and integrity of the factory applied paint, and maintain the requirements of ANSI/SDI A250.10 and HMMA 840.
  - c. Sand, touch up and clean prime painted surfaces prior to finish painting in accordance with the manufacturer's instructions.

G. COORDINATION

1. Coordinate Work with other directly affected sections involving manufacture or fabrication of internal cutouts and reinforcement for door hardware, electric devices and recessed items.
2. Coordinate work with frame opening construction, door and hardware installation.
3. Sequence installation to accommodate required door hardware.
4. Verify field dimensions for factory assembled frames prior to fabrication.

H. STANDARDS AND MANUFACTURERS

1. Standards: Comply with the requirements of Steel Door Institute, "Recommended Specifications for Standard Steel Doors and Frames," (SDI-100), and as herein specified.
2. Manufacturers: A recognized producer of hollow metal work complying with the requirements, including any one of the following:
  - American Welding and Manufacturing Co.
  - Ceco Corp.
  - Fenestra
  - Mesker Brothers Industries, Inc.
  - Republic Steel Corp.
  - Steelcraft Manufacturing Co.
  - Virginia Metal Products

I. MATERIALS

1. DOORS:
  - a. Construct exterior/interior doors to these designs and gages:
    1. Exterior Doors: Zinc-Iron Alloy-Coated galvanized steel, ASTM A 653, Class A60, 18 gage Zinc-Iron Alloy-Coated galvanized steel, with closed tops.
      - a. Include galvanized components and internal reinforcements with galvanized doors.
      - b. Close tops of exterior swing-out doors to eliminate moisture penetration. Galvanized steel top caps are permitted.
    2. Interior Doors: Cold-rolled steel, A 1008, 18 gage cold rolled or galvanized steel.

- a. Include galvanized components and internal reinforcements with galvanized doors.
3. Factory prime painted doors indicated on door schedule as HM.
4. Hardware Reinforcements:
  - a. Hinge reinforcements for full mortise hinges: minimum 7 gage.
  - b. Lock reinforcements: minimum 16 gage.
  - c. Closer reinforcements: minimum 14 gage, 20" long.
  - d. Galvanized doors: include galvanized hardware reinforcements.
  - e. Projection welded hinge and lock reinforcements to the edge of the door.
  - f. Provided adequate reinforcements for other hardware as required.
5. Glass moldings and stops (both labeled and non-labeled doors):
  - a. Fabricate glass trim from 24 gage steel conforming to:
    1. Interior openings ASTM designation A 366 cold rolled steel
    2. Exterior openings ASTM designation A 924 Zinc-Iron Alloy-Coated galvanized steel with a zinc coating of 0.06 ounces per square foot (A60) for exterior openings.
  - b. Install trim into the door as a four sided welded assembly with mitered, reinforced and welded corners.
  - c. Trim: identical on both sides of the door.
  - d. Exposed fasteners are not permitted. Labeled and non-labeled doors: use the same trim.
  - e. Acceptable mounting methods:
    1. Fit into a formed area of the door face, not extending beyond the door face, and interlocking into the recessed area.
    2. Cap the cutout not extend more than 1/16" from the door face.
- b. Full Flush Type Doors Construction
  1. ANSI-A250.4 criteria and tested to 5,000,000 operating cycles.
  2. Approved door core constructions:
    - a. Honeycomb: Reinforced, stiffened, sound deadened and insulated with impregnated Kraft honeycomb core completely filling the inside of the doors and laminated to inside faces of both panels using contact adhesive applied to both panels and honeycomb core.
    - b. Polystyrene: Reinforced, stiffened, sound deadened and insulated with a rigid polystyrene core bonded to the inside faces of both panels with contact adhesive. Fill voids around the perimeter of the door with honeycomb.
    - c. Steel Stiffened: Vertically stiffened with steel stiffeners and sound deadened with fiberglass batt insulation. Fabricate hat shaped stiffeners from 20 gage. Locate vertical interior webs 6" apart, welded to the inside of the face sheets 5" on center. Weld the hat shape stiffeners together at the top and bottom of the door. Fill areas between stiffeners with fiberglass.
  3. Vertical edge seams: Provide doors with continuous vertical mechanical inter-locking joints at lock and hinge edges with visible edge seams, or a one piece full height 14 gage channel. Apply a continuous bead of structural epoxy in the internal vertical connection.
    - a. Filled Vertical Edges (F): Continuous vertical mechanical interlocking joint with internal epoxy seal; edge seams epoxy filled and ground smooth.
  4. Bevel hinge and lock door edges 1/8 inch (3 mm) in 2 inches (50 mm). Square edges on hinge and/or lock stiles are not acceptable.
  5. Reinforce top and bottom of doors with galvanized 14 gage, welded to both panels.
2. DOOR FRAMES:
  - a. Construct exterior and metal door frames to these profiles, designs and gages;
    1. Exterior Frames: Zinc-Iron Alloy-Coated galvanized steel, ASTM A 653, Class A60, 16 gage Zinc-Iron Alloy-Coated galvanized steel.
    2. Interior Frames in Masonry: Zinc-Iron Alloy-Coated galvanized steel, ASTM A 653, Class A60, 16 gage galvanized steel.
    3. Interior Frames in stud wall construction: 16 gage cold rolled frames.

4. Include galvanized components and internal reinforcements with galvanized frames.
- b. Flush Frames: knocked down for field assembly or set-up and welded with temporary shipping bars. Factory die-mitered corner connections reinforced with four integral tabs to secure and interlock at jambs to head. Unless otherwise indicated, frame will have 2" faces and 5/8" stops. Frame depths per the architectural door schedule.
  1. Provide frames with a minimum of six wall anchors and two adjustable base anchors of manufacturer's standard design.
  2. Provide welded 3 sided frames as follows:
    - a. Face welded: Weld miter joints between head and jamb faces completely along their length either internally or externally. The remaining elements of the frame profile (soffit, stop and rabbets) are not welded. Grind and finish face joints smooth.
- c. Drywall Frames: same as flush frames, 16 gage except:
  1. Form frames with double return backbends to prevent cutting into drywall surface. Design knock down frames to be securely installed in the rough opening after wallboard is applied.
    - a. Drywall frames: knocked down for field assembly. Factory die-mitered corner connections reinforced at miters, including soffit tabs to secure and interlock at jambs to head.
  2. Locate adjustable anchors in each jamb 4" from the top of the door opening to hold frame in rigid alignment.
    - a. Provide security anchor at strike jambs on all frames 7'6" high and over.
  3. Base anchor: Weld-in base anchor attaching plate in each jamb for field installation of loose base anchors to allow proper anchoring at base of frame.
- d. Prepare frames to receive inserted type door silencers (3) per strike jamb on single doors, and (2) per head for pair of doors. Stick-on silencers are not permitted.
- e. Frame Hardware Reinforcements:
  1. Mortise hinge reinforcement: minimum 7 gage.
    - a. Provide high frequency hinge reinforcement for top hinge on all exterior, cross corridor, and stairwell frames, in accordance with SDI 111-H, Example "A" Application, where full mortise hinges are specified.
  2. Strike reinforcements: minimum 16 gage and prepared for an ANSI-A115.1-2 strike.
  3. Closer reinforcement: minimum 14 gage steel.
  4. Projection weld hinge and strike reinforcements to the door frame.
  5. Provide metal plaster guards for all mortised cutouts.
  6. Provide adequate reinforcements for other hardware as required.
  7. Include galvanized hardware reinforcements in all galvanized frames.

J. FABRICATION:

1. Face Welded Frames:
  - a. Continuous face weld the joint between the head and jamb faces along their length either internally or externally. Grind, prime paint, and finish smooth face joints with no visible face seams.
  - b. Externally weld, grind, prime paint, and finish smooth face joints at meeting mullions or between mullions and other frame members per a current copy of ANSI/SDI A250.8.
  - c. Provide two temporary steel spreaders (welded to the jambs at each rabbet of door openings) on welded frames during shipment. Remove temporary steel spreaders prior to installation of the frame.

K. FINISH:

1. Doors, frames and frame components are required to be cleaned, phosphatized, and finished with one coat of baked-on rust inhibiting prime paint in accordance with the ANSI/SDI A250.10 "Test Procedures and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames."
2. Back prime all hollow metal door frames that are to be installed in masonry walls with suitable product as recommended by manufacturer.

L. INSTALLATION:

1. Install doors and frames in accordance with Steel Door Institute's recommended erection instructions for steel frames ANSI A250.11.
2. Install label doors and frames in accordance with NFPA-80.
3. Remove temporary steel spreaders prior to installation of frames.
4. Set frames accurately in position; plumb, align and brace until permanent anchors are set. After wall construction is complete, remove temporary wood spreaders.
  - a. Field splice only at approved locations indicated on the shop drawings. Weld, grind, and finish as required to conceal evidence of splicing on exposed faces.
5. Provide full height 3/8" to 1-1/2" thick strip of polystyrene foam blocking at non-labeled frames requiring grouting where continuous hinges are specified. Apply the strip to the back of the frame, where the hinge is to be installed, to facilitate field drilling or tapping.
6. Where grouting is required in masonry, provide and install temporary bottom and intermediate wood spreaders to maintain proper width and avoid bowing or deforming of frame members. Refer to ANSI A250.11-2001, Standard.
  - a. Hollow Metal Frames to receive grouting: comply with a current copy of ANSI/SDI Standard A250.8, paragraph 4.2.2, whereby grout will be mixed to provide a 4" maximum slump consistency and hand troweled into place. Do not use grout mixed to a thinner, pumpable consistency. Refer to HMMA 820 TN01 Grouting Hollow Metal Frames.
7. Provide a vertical wood brace during grouting of frame at openings over 4'0" wide, to prevent sagging of frame header.
8. Glaze and seal exterior transom, sidelight and window frames in accordance with HMMA-820 TN03.
9. Apply hardware in accordance with hardware manufacturers' instructions and Section 08 70 00 FINISH HARDWARE of these Specifications. Install hardware with only factory-provided fasteners. Adjust door installation to provide uniform clearance at head and jambs, to achieve maximum operational effectiveness and appearance.

M. ADJUSTING

1. Final Adjustments: Adjust operating doors and hardware items just prior to final inspection and acceptance by the Owner and Architect. Leave work in complete and proper operating condition. Remove and replace defective work, including doors or frames that are damaged, bowed or otherwise unacceptable.
2. Prime Coat Touch-Up: Immediately after erection, sand smooth rusted or damaged areas of prime coat, and apply touch-up of compatible air-drying primer.

N. PROTECTION

1. Provide protective measures required throughout the construction period to ensure that door and frame units will be without damage or deterioration, other than normal weathering, at time of acceptance.

END OF SECTION 08 12 13



## SECTION 08 31 13 - ACCESS PANELS

### A. RELATED DOCUMENTS

1. Drawings and general provisions of the contract, including supplementary conditions and Division 1 specification sections, apply to this section.

### B. SUMMARY

1. Section includes: access panels for the following types of installations:
  - a. Wall access panels
  - b. Ceiling access panels
  - c. Fire Rated access panels for walls and ceilings

### C. REFERENCES

1. Insulated fire rated units shall bear Underwriters Laboratories, Inc. 1-1/2 hour "B" label with 250-temperature rise.
2. Uninsulated fire rated units for walls only shall bear the Underwriters Laboratories, Inc. label for 1-1/2 hour "B" label with NO temperature rise.

### D. SUBMITTALS

1. General: In accordance with conditions of Division 1 specifications.
  - a. Shop drawings.
  - b. Manufacturer's literature and data.

### E. QUALITY ASSURANCE

1. Provide all access panels for the project by the same source and the same manufacturer.
2. Fire Rated door assemblies that comply with NFPA 80 and are labeled by Underwriters Laboratories, or other testing facilities acceptable to authorities having jurisdiction.

### F. COORDINATION

1. Determine specific locations and sizes for access panels needed to gain access to concealed equipment and indicate on schedule specified under "submittals" article.
2. Access panels to gain access to equipment specified in Division 22, 23 or 25 and where panels are not shown on drawings are to be provided by applicable subcontractor and in compliance with requirements listed in this section.

### G. DELIVERY, STORAGE AND HANDLING

1. Package, ship and store in accordance to manufacturer's recommendations.

### H. MANUFACTURER

1. Milcor
2. Nystrom Building Products
3. Williams Brothers Corporation

### I. MATERIALS

1. Commercial quality, cold steel sheet with baked on rust inhibitive gray primer.

### J. ACCESS PANELS

1. Non rated flush access doors
  - a. Door: Fabricate from 14-gauge cold rolled sheet steel.
  - b. Frame: Fabricate from 16-gauge cold rolled sheet steel of configuration to suit material application.

- c. Hinge: Concealed pin type, spring loaded to allow for door removal, set to open 175 degrees.
- d. Latching/Locking Devices: Key operated cylinder lock with two (2) keys per lock, keyed alike.
- 2. Insulated fire rated access panels for walls and ceilings.
  - a. Door: Fabricate from 20-gauge cold rolled sheet steel, insulated sandwich type construction.
  - b. Frame: Fabricate from 16-gauge cold rolled steel of configuration to suit material application.
  - c. Hinge: Concealed pin hinge, spring loaded to allow for door removal, set to open 175 degrees.
  - d. Latching/Locking mechanism: Key operated cylinder lock with two (2) keys per lock, keyed alike.
  - e. Insulation: 2" thick fire rated mineral fiber.
  - f. Automatic closure device: Integral automatic spring closure device for each door.
  - g. Interior latch release: Mechanism to allow for panel to open from interior side - standard on panels 18" and larger (safety feature).

K. FABRICATION

- 1. Manufacture each access panel assembly as an integral unit ready for installation.
- 2. Welded construction: Furnish with a sufficient quantity of 1/4" mounting holes to secure access panels to types of supports indicated.
- 3. Furnish number of latches required to hold door in flush smooth pane when closed.

L. EXAMINATION

- 1. Verify conditions are ideal for suitable installation.

M. PREPARATION

- 1. Advise installers of work relating to access panel installation including rough opening dimensions, locations of supports, and anchoring methods. Coordinate delivery with other work to avoid delay.

N. INSTALLATION

- 1. Follow manufacturer's instructions for installing access panels.
- 2. Set frames to proper alignment with the wall or ceiling.
- 3. Position access panels for proper access to concealed equipment requiring access.

O. ADJUST AND CLEAN

- 1. Adjust panel after installation for proper operation.
- 2. Remove and replace panels or frames that are warped, bowed, or damaged.

END OF SECTION 08 31 13

SECTION 08 41 13 - ALUMINUM STOREFRONT SYSTEMS

A. WORK INCLUDED

1. Furnish and install aluminum storefront systems as shown on drawings and specified in this section.

B. RELATED WORK

1. Masonry – Section 04 20 00
2. Joint Sealers – Section 07 92 00
3. Finish Hardware – Section 08 70 00
4. Glass and Glazing – Section 08 80 00

C. SUBMITTALS

1. Contractor shall submit shop drawings, finish samples, test reports, and warranties per Division 1 General Requirements.
  - a. Samples of materials as may be requested without cost to owner, i.e., metal, glass, fasteners, anchors, frame sections, etc.
  - b. Design for windload of 30 PSF with maximum deflection in both vertical and horizontal mullions not to exceed 1/175 of span.

D. STANDARDS

1. American Society for Testing and Materials (ASTM)
2. Underwriter's Laboratories (UL)
3. American National Standards Institute (ANSI)
4. Aluminum Association (AA)

E. WARRANTY

1. Materials and workmanship furnished and installed shall be free from defects for a period of one (1) year from date of final acceptance. It is the responsibility of this contractor to provide a watertight installation.

F. PRODUCTS

1. Aluminum Storefront System: Standard specified shall be Kawneer Trifab 451T thermally broken system, with GlassVent units where indicated.
  - a. Acceptable Manufacturers:
    - a. Kawneer Co., Inc.
    - b. Vistawall Architectural Products
    - c. Tubelite
    - d. YKK
  - b. Frames
    1. Aluminum Extrusions shall be ASTM B221: 6063-T6 alloy and tempered.
    2. Not less than 0.070" (1.8 mm) wall thickness at any location for the main frame.
  - c. Fasteners:
    1. Aluminum, nonmagnetic stainless steel or other materials must be non-corrosive and compatible with aluminum members, trim hardware, anchors, and other components.
  - d. Anchors, Clips, and Accessories:
    1. Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating.
    2. Anchors, clips, and accessories shall provide sufficient strength to withstand the design pressure indicated.
  - e. Reinforcing Members:
    1. Reinforcing members must provide sufficient strength to withstand the design pressure indicated.
  - f. Sealant:

1. For sealants required within fabricated storefront system, provide permanently elastic, non-shrinking, and non-migrating type recommended by sealant manufacturer for joint size and movement.
  - g. Tolerances:
    1. References to tolerances for wall thickness and other cross-sectional dimensions of storefront members are nominal and in compliance with AA Aluminum Standards and Data.
  - h. Break Metal: Where indicated on the Drawings, all break metal shall be .063 anodized aluminum. All break metal shall be broken to required shape at factory before final anodization.
  - i. Fabrication: Accurately fit to surrounding work. Connections securing the aluminum framing to the building structure shall be so designed that the framing can be properly plumbed and aligned to compensate for variations in the building sub-structure.
  - j. Finish: Class I, Dark Bronze Anodic Finish: AA-M12C22A42 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I) complying with AAMA 607.1.
2. Storefront Framing System
- a. Thermal Barrier:
    1. Manufacturer's standard dual nominal 1/4" (6.4 mm) separation consisting of a two-part chemically curing, high-density polyurethane, which is mechanically and adhesively joined to aluminum storefront sections.
    2. Thermal break shall be designed in accordance with AAMA TIR-A8 and tested in accordance with AAMA 505.
  - b. Brackets and Reinforcements:
    1. Manufacturer's standard high-strength aluminum with non-staining, non-ferrous shims for aligning system components.
  - c. Fasteners and Accessories:
    1. Manufacturer's standard corrosion-resistant, non-staining, non-bleeding fasteners and accessories must be compatible with adjacent materials.
    2. Where exposed, fasteners and accessories shall be stainless steel.
  - d. Perimeter Anchors:
    1. When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.
  - e. Glazing Systems:
    1. Glazing to meet requirements in Division 08 Glazing Section.
    2. Glazing Gaskets:
      - a. Manufacturer's standard compression types.
      - b. Replaceable, extruded EPDM rubber.
    3. Spacers and Setting Blocks:
      - a. Manufacturer's standard elastomeric type.
    4. Bond-Breaker Tape:
      - a. Manufacturer's standard TFE-fluorocarbon or polyethylene material to which sealants will not develop adhesion.
    5. Glazing Sealants for structural-sealant-glazed systems as recommended by manufacturer for joint type, and as follows:
      - a. Structural Sealant:
        1. ASTM C 1184
        2. Single-component neutral-curing silicone formulation that is compatible with the system components with which it comes in contact.
        3. Specifically formulated and tested for use as structural sealant and approved by a structural-sealant manufacturer for use in the aluminum-framed systems indicated.
        4. Color: Black

b. Weatherseal sealant:

1. ASTM C 920 for Type S, Grade NS, Class 25, Uses NT, G, A, and O.
2. Single-component neutral-curing formulation that is compatible with the structural sealant and other system components with which it comes in contact.
3. Recommended by structural-sealant, weatherseal-sealant, and aluminum-framed-system manufacturers for this use
4. Color: Matching structural sealant

G. DELIVERY, STORAGE, AND HANDLING

1. Do not allow doors and frames to be delivered to project site until work has sufficiently progressed and preparations made that will enable new window installation to proceed upon delivery.
2. Comply with manufacturer's recommendations for handling, storage, and protection during installation.

H. WARRANTIES

1. Total System
  - a. The contractor shall assume full responsibility and warrant for one year the satisfactory performance of the total door and window installation which includes that of the doors, frames, windows, glass, glazing, anchorage and setting system, sealing, flashing, etc., as it relates to air, water and structural adequacy as called for in the specifications and approved shop drawings.
  - b. Any deficiencies due to such elements not meeting the specifications shall be corrected by the contractor at his expense during the warranty period.

I. EXECUTION

1. Inspection
  - a. Verify that openings are dimensionally within allowable tolerances, plumb, level, clean, provide a solid anchoring surface and are in accordance with approved shop drawings.
2. Installation
  - a. Use only skilled tradesmen. Complete work in accordance with approved shop drawings and specifications.
  - b. Plumb and align units in a single plane for each wall plane and erect materials square and true. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.
  - c. Furnish and apply sealants to provide a weathertight installation at all joints and inter-sections and at opening perimeters. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.
3. Adjusting and Cleaning
  - a. After completion of installation, doors and windows shall be inspected, adjusted, put into working order and left clean, free of labels, dirt, etc.

END OF SECTION 08 41 13

SECTION 08 70 00 - FINISH HARDWARE

A. WORK INCLUDED

1. This work shall include the furnishing and delivery to the Contractor of all the finish hardware, including all screws, bolts and other devices required to complete the work.
2. Templates of all hardware shall be promptly furnished to the metal door frame manufacturer.

B. DELIVERY OF HARDWARE

1. All finish hardware will be installed under the Carpentry Division. The Contractor will issue instructions for the time and place of delivery.

C. SUBMITTALS

1. Submit electronic hardware schedule to Architect together with catalog-cuts of each item of hardware listed for approval. Submit prior to ordering material, in accordance with General conditions.

D. INSTALLATION

1. Install all hardware per manufacturer's directions, a mounting heights recommended by the Door and Hardware Institute, and in compliance with the 2010 ADA Standards for Accessible Design.

E. FINISH HARDWARE SCHEDULE

1. All hardware shall be of the makes and models listed in the attached Hardware Schedule, or approved equals.
2. Furnish and deliver all finish hardware, complete with all necessary fasteners. Provide templates for all hardware to metal door manufacturer.

PRODUCT	SPECIFIED MANUFACTURER	APPROVED EQUAL
Hinges	Hager	Stanley, McKinney
Locksets, Cylinders	Sargent	Schlage
Closers	Sargent	LCN, Corbin/Russwin
Stops	Hager	Burns, Ives, Rockwood
Kickplates	Hager	Burns, Ives, Rockwood
Thresholds	National Guard	Pemko, Zero
Weatherstrip	National Guard	Pemko, Zero

HARDWARE SET 1 - Door: 100C, 100F, 110

9	Ea.	Hinges	BB1168 4.5 x 4.5 x US26D x NRP	HA
3	Ea.	Lever Lockset	10G05 LL x 26D	SA
3	Ea.	Closer	351CPS x EN	SA
3	Ea.	Kick Plate	190S 8" x 34" x US32D	HA
3	Ea.	Threshold	424 x 36" x AL	NA
3	Ea.	Door Sweep	102 VA x 36"	NA
3	Ea.	Weatherstrip	700 NA 1 x 36" + 2 x 84"	NA

Note: Doors shall be equipped with door contacts. Coordinate with Security Contractor.

HARDWARE SET 2 - Door: 101, 103, 105, 214

12	Ea.	Hinges	BB1279 4.5 x 4.5 x US26D	HA
4	Ea.	Lever Lockset	10G04 LL x 26D	SA
4	Ea.	Wall Stop	232W x US32D	HA

HARDWARE SET 3 - Door: 104, 109, 213

9	Ea.	Hinges	BB1168 4.5 x 4.5 x US26D	HA
3	Ea.	Lever Lockset	10U15 LL x 26D	SA
3	Ea.	Closer	351CPS x EN	SA
3	Ea.	Wall Stop	232W x US32D	HA
3	Ea.	Kick Plate	190S 8" x 34" x US32D	HA

HARDWARE SET 4 - Door: 108

3	Ea.	Hinges	BB1279 4.5 x 4.5 x US26D	HA
1	Ea.	Locksets	8265 x VN1 x V20 x L x 32D	SA
1	Ea.	Wall Stop	232W x US32D	HA

HARDWARE SET 5 - Door: 111A, 111B

6	Ea.	Hinges	BB1279 4.5 x 4.5 x US26D	HA
2	Ea.	Lever Lockset	10G05 LL x 26D	SA
2	Ea.	Wall Stop	232W x US32D	HA

HARDWARE SET 6 - Door: 112

3	Ea.	Hinges	BB1279 4.5 x 4.5 x US26D	HA
1	Ea.	Lever Lockset	10U15 LL x 26D	SA

HARDWARE SET 7 - Door: 201

3	Ea.	Hinges	BB1279 4.5 x 4.5 x US26D	HA
1	Ea.	Lever Lockset	10U15 LL x 26D	SA
1	Ea.	Wall Stop	232W x US32D	HA

HARDWARE SET 8 - Door: 202, 203, 207, 208, 209, 210, 211

21	Ea.	Hinges	BB1279 4.5 x 4.5 x US26D	HA
7	Ea.	Locksets	8265 x VN1 x V20 x L x 32D	SA
7	Ea.	Closer	351CPS x EN	SA
7	Ea.	Wall Stop	232W x US32D	HA
7	Ea.	Kick Plate	190S 8" x 34" x US32D	HA

HARDWARE SET 9 - Door: 204, 206

6	Ea.	Hinges	BB1279 4.5 x 4.5 x US26D	HA
2	Ea.	Locksets	10U15 LL x 26D	SA
2	Ea.	Closer	351CPS x EN	SA
2	Ea.	Wall Stop	232W x US32D	HA
2	Ea.	Kick Plate	190S 8" x 34" x US32D	HA

END OF SECTION 08 70 00

SECTION 08 80 00 - GLASS AND GLAZING

A. SCOPE OF WORK

1. Furnish and install float glass, of the types and at the locations indicated on the drawings, including but not limited to the following:
  - a. Insulated Glass for Aluminum Storefront Systems - See Section 08 41 13.
  - b. Interior glass for Interior Borrow Lights and Vision Panels.

B. STANDARDS

1. American National Standard Institute (ANSI).
2. American Society for Testing Materials (ASTM).
3. Flat Glass Marketing Association (FGMT).
4. Ohio Building Code (OBC).
5. Underwriters Laboratories (UL).
6. Manufacturer's published glazing recommendations.

C. REFERENCES

1. ANSI Z 97.1 - Glazing Materials Used in Buildings, Safety Performance Specifications and Methods of Test.
2. ASTM C 1036 - Standard Specification for Flat Glass.
3. ASTM C 1048 - Standard Specification for Heat-Treated Flat Glass--Kind HS, Kind FT Coated and Uncoated Glass.
4. ASTM C 1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Glass.
5. ASTM E 773 - Standard Test Method for Accelerated Weathering of Sealed Insulating Glass Units.
6. ASTM E 774 - Standard Specification for the Classification of the Durability of Sealed Insulating Glass Units.
7. ASTM E 2188 - Standard Test Method for Insulating Glass Unit Performance.
8. ASTM E 2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation.
9. CPSC 16CFR-1201 - Safety Standard for Architectural Glazing Materials.
10. Glass Association of North America (GANA) Glazing Manual.

D. DEFINITIONS

1. Sealed Insulating Glass Unit Surfaces:
  - a. Surface No. 1: Exterior surface of outer lite.
  - b. Surface No. 2: Interior surface of outer lite.
  - c. Surface No. 3: Exterior surface of inner lite.
  - d. Surface No. 4: Interior surface of inner lite.
  - e. Airspace: Space between lites of an insulating glass unit that contains dehydrated air or other inert specified gas.

E. SUBMITTALS

1. Product Data: Manufacturer's specifications, including performance characteristics, and installation instructions for each type of glass and glazing material specified, and spacers and compressible filler rod.
2. Shop Drawings: Submit manufacturer's or fabricator's shop drawings, including plans, elevations, sections, and details, indicating glass dimensions, tolerances, types, thicknesses, and coatings.
3. Samples:
  - a. Glass: 12 x 12 inch pieces for each type of glass specified.
  - b. Setting blocks, full size.
  - c. Color Samples for Glazing Materials: Manufacturer's standard colors.
4. Fabricator's Certification: Submit fabricator's certification by manufacturer.



5. Quality Control Submittals:
  - a. Test Reports: Certified test data to sufficiently substantiate glass or glass assembly compliance with requirements specified.
6. Warranty: Submit manufacturer's standard warranty for sealed insulating glass units.

F. QUALITY ASSURANCE

1. Manufacturer's Qualifications: Minimum of 5 years experience manufacturing specified glass type(s).
2. Fabricator's Qualifications: Minimum of 5 years experience manufacturing insulating glass units meeting ASTM E 2190, Class CBA.
  - a. Certified by manufacturer.
3. Mock-Ups: Obtain acceptance of mock-ups by Architect before proceeding with work.

G. DELIVERY, STORAGE, AND HANDLING

1. Delivery:
  - a. Deliver glass to site in accordance with manufacturer's instructions.
  - b. Deliver glass in manufacturer's or fabricator's original containers and packaging, with labels clearly identifying product name and manufacturer.
2. Storage:
  - a. Store glass in accordance with manufacturer's instructions.
  - b. Store glass in clean, dry area indoors.
  - c. Protect from exposure to direct sunlight and freezing temperatures.
  - d. Apply temporary coverings loosely to allow adequate ventilation.
  - e. Protect from contact with corrosive chemicals.
  - f. Avoid placement of glass edge on concrete, metal, and other hard objects.
  - g. Rest glass on clean, cushioned pads at 1/4-points.
3. Handling:
  - a. Handle glass in accordance with manufacturer's instructions.
  - b. Protect glass from damage during handling and installation.
  - c. Do not slide 1 lite of glass against another.
  - d. Do not use sharp objects near unprotected glass.

H. PRODUCTS AND MANUFACTURERS

1. Double-Glazed Sputter-Coated Insulating Glass Units: Standard Specified: Guardian Industries SN 68
  - a. Conformance: ASTM E 2190, Class CBA.
  - b. Outboard Lite: Clear float glass.
    1. Annealed Clear Float Glass: ASTM C 1036, Type 1, Class 1, Quality q3.
    2. Pattern 62 on Surface No. 1
    3. Glass Thickness: 6 mm (1/4 inch).
    4. Heat-Treatment:
      - a. Heat-strengthened, ASTM C 1048, Kind HS.
      - b. Tempered; ASTM C 1048, Kind FT; CPSC 16CFR-1201; ANSI Z 97.1.
  - c. Air Space: 12 mm (1/2 inch) wide, hermetically sealed, dehydrated air space.
  - d. Inboard Lite: Sputter-coated Low-E clear float glass.
    1. Annealed Clear Float Glass: ASTM C 1036, Type 1, Class 1, Quality q3.
    2. Vacuum Deposition Sputtered Coating: ASTM C 1376 on Surface No. 3.
    3. Glass Thickness: 6 mm (1/4 inch).
    4. Heat Treatment:
      - a. Heat-strengthened, ASTM C 1048, Kind HS.
      - b. Tempered; ASTM C 1048, Kind FT; CPSC 16CFR-1201; ANSI Z 97.1.
  - e. Glass Unit Performance Characteristics:

1. Visible Light Transmittance: 68 percent
2. Visible Light Reflectance Outdoors: 11 percent
3. Direct Solar Energy Transmittance: 33 percent
4. Direct Solar Energy Reflectance Outdoors: 32 percent
5. Winter U-Value Nighttime: 0.29
6. Summer U-Value Daytime: 0.28
7. Shading Coefficient: 0.43
8. Solar Heat Gain Coefficient: 0.38
9. Summer Relative Heat Gain: 90
- f. Edge Seals: ASTM E 773, with aluminum spacers and silicone sealant for glass-to-spacer seals.
- g. Sealant: Approved by glass manufacturer.
3. Interior glass at vision panels: 1/4" clear tempered plate safety glass.
4. Acceptable Manufacturers:
  - a. AFG
  - b. Ford Glass
  - c. Guardian Industries Corp.
  - d. Libby-Owens-Ford Co.
  - e. PPG
5. Glazing Materials:
  - a. Silicone sealant: FS FF-S001543, Class A; non-acid type, except acid type if channel surfaces are porous.

I. EXAMINATION

1. The glazing contractor shall examine the framing or glazing channel surfaces, backing, removable stop design, and the conditions under which the glazing is to be performed, and notify the Architect in writing, of any conditions detrimental to the proper and timely completion of the work. Do not proceed with the glazing until all unsatisfactory conditions have been corrected in a manner acceptable to the glazing contractor.

J. PREPARATION

1. Verify glazing openings are correct size and within tolerance.
2. Verify glazing channels, recesses, and weeps are clean and free of obstructions.

K. INSTALLATION OF GLASS

1. General: Except as otherwise indicated, comply with glass manufacturer's instructions, glazing materials manufacturer's instructions, and "Glazing Manual" by FGMA and other technical publications of recognized authorities in the industry. Install each piece to achieve watertight and airtight performance, and to minimize breakage.
  - a. Clean channel surfaces and prime as recommended by sealant manufacturer.
  - b. Cut glass to size required for measured opening; provide adequate edge clearance and glass bit all around. Cut prior to tempering or strengthening, if any, and prior to fabrication into insulating glass units, if any.
  - c. Do not install sheets which have significant edge damage or other defects.
  - d. Install setting blocks at quarter points. Set in a bed of sealant if heel-bead is used.
  - e. Install spacers inside and out, all around, wherever liquid or plastic/mastic compounds are used.
  - f. Do not leave voids in the glazing channel.
  - g. Replace glass which is broken or damaged prior to the time of acceptance.
  - h. Required Performance: Each piece of exterior glass must be airtight and watertight, and without glass breakage through normal weather/temperature cycles and through normal door/window operations.

L. FIELD QUALITY CONTROL

1. Coated glass, when viewed from minimum of 10 feet, exhibiting slightly different hue or color not apparent in hand samples, will not be cause of rejection of glass units, as determined by Architect.
2. Verify glass is free of chips, cracks, and other inclusions that could inhibit structural or aesthetic integrity.

L. CLEANING

1. Clean glazing in accordance with manufacturer's instructions. Use only procedures and cleaning agents approved by glazing manufacturer.
2. Remove excess glazing compounds.
3. Remove labels and protective masking paper.
4. Wash both faces of glazing.
5. Remove debris from the premises.

M. PROTECTION

1. Protect installed glass from damage during construction.
2. Protect installed glass from contact with contaminating substances resulting from construction operations.
3. Remove and replace glass that is broken, chipped, cracked, abraded, or damaged in other ways during construction period, including natural causes, accidents, and vandalism.

END OF SECTION 08 80 00

SECTION 09 21 16 – GYPSUM BOARD ASSEMBLIES

A. DESCRIPTION OF WORK

1. The extent of the gypsum drywall is shown on the Drawings and in schedules and is hereby defined to include gypsum board work with a tape-and-compound joint treatment system known as "drywall finishing" work.
2. The types of work required include the following:
  - a. Gypsum drywall including screw-type metal support system.
  - b. Drywall finishing (joint tape-and-compound treatment).
  - c. See drawings for limits of drywall installation and limits of other installations of finishes.

B. QUALITY ASSURANCE

1. Where work is indicated for fire-resistance ratings, including those required to comply with governing regulations, provide materials and installations identical with applicable assemblies which have been tested and listed to be recognized authorities.
2. Comply with applicable requirements of GA-216 "Application and Finishing of Gypsum Board" by the Gypsum Association, except where more detailed or more stringent requirements are indicated, including the recommendations of the manufacturer.
3. 1/8" offsets between planes of board faces and 1/4" in 8'-0" for plumb, level, warp, and bow.
4. Obtain gypsum boards, trim accessories, adhesives, and joint treatment products from a single manufacturer or from manufacturers recommended by the prime manufacturer of gypsum boards.

C. SUBMITTALS

1. For information only, submit two copies of manufacturer's product Specifications and installation instructions for each gypsum drywall component, including other data as may be required to show compliance with these Specifications. Distribute an additional copy of each installation instruction to the installer.

D. PRODUCT HANDLING

1. Deliver gypsum drywall materials in sealed containers and bundles, fully identified with manufacturer's name, brand, type, and grade. Store in a dry, well ventilated space, protected from the weather, under cover and off the ground.

E. JOB CONDITIONS

1. Installer must examine the substrates and the spaces to receive gypsum drywall and the conditions under which gypsum drywall is to be installed and shall notify the Contractor, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
2. Maintain ambient temperatures at not less than 55 degrees F for the period of 24 hours before drywall finishing, during installation, and until compounds are dry.

F. PRODUCTS

1. Metal Support Materials:
  - a. To the extent not otherwise indicated, comply with Gypsum Association Specification GA – 203 "Installation of Screw-Type Steel Framing." Members to receive gypsum board (as specified and recommended), for metal system supporting gypsum drywall work.
  - b. Drywall Suspension System: Armstrong Contract Interiors – Drywall System.
    1. Hangers shall be 3/8" threaded steel rods. Include all fasteners and accessories.
  - c. Studs: 1-1/2 x 3-5/8 steel as furnished under Carpentry, except as otherwise indicated.

- d. Runners: Match studs, type recommended by stud manufacturer for floor and ceiling support of studs and for vertical abutment of drywall work at other work.
- e. Stud System Accessories: Provide stud manufacturer's standard clips, shoes, ties, reinforcements, fasteners, and other accessories as needed for a complete stud system. Horizontal reinforcement shall be provided as per manufacturer's published recommendations for height of various assemblies.
- f. Fasteners: Type and size recommended by furring manufacturer for the substrate and application indicated.
- g. Screw-type metal stud framing is to be designed to support all dead and live loads.
- 2. Gypsum Board Products: To the extent not otherwise indicated, comply with GA-216 as specified and recommended:
  - a. Gypsum Wall Board: Type "X" Mold and Mildew Resistant gypsum drywall with tapered long edges.
    - 1. Sheet Size: Maximum length available which will minimize end joints.
    - 2. Thickness: 5/8" except where otherwise indicated.
    - 3. Manufacturers:
      - a. BPB America, Inc.
      - b. Georgia Pacific Gypsum
      - c. National Gypsum Co.
      - d. U.S. Gypsum
- 3. Trim Accessories:
  - a. Manufacturer's standard galvanized steel beaded units with flanges for concealment in joint compound, including corner beads, edge trim, and control joints; except provide semi-finishing type (flange not concealed) where indicated.
- 4. Joint Treatment Materials:
  - a. ASTM C475, type recommended by the manufacturer for the application indicated, except as otherwise indicated.
  - b. Joint Tape: Perforated type.
  - c. Joint Compound: Ready-mixed vinyl type for interior use.
- 5. Miscellaneous Material:
  - a. Provide auxiliary materials for gypsum drywall work of the type and grade recommended by the manufacturer of the gypsum board.
  - b. Gypsum Board Fasteners: Comply with GA-216.
  - c. Concealed Acoustical Sealant: Mastic type, non-shrinking, non-drying, non-migrating, and non-staining.
  - d. Exposed Acoustical Sealant: Latex, acrylic, or acrylic-latex type, permanently elastic and paintable.
  - e. Sound Insulation: See Division 7 – Insulation.

#### G. EXECUTION

- 1. Installation of metal support systems:
  - a. To the extent not otherwise indicated, comply with GA-216 and manufacturer's instructions.
  - b. Install supplementary framing, runners, furring, blocking, and bracing at opening and terminations in the work and at locations required to support fixtures, equipment, services, heavy trim, furnishings, and similar work which cannot be adequately supported directly on gypsum board alone.
- 2. General Gypsum Board Installation Requirements:
  - a. Meet at the project site with the installers of related work and review the coordination and sequencing of work to ensure that everything to be concealed by gypsum drywall has been accomplished and that chases, access panels, openings, supplementary framing and blocking, and similar provisions have been completed.
  - b. Install sound insulation if indicated, prior to gypsum board.
  - c. Install wall/partition boards vertically to avoid end-butt joints wherever possible. At high walls, install boards horizontally with end joints staggered over studs.

- d. Space fasteners in gypsum boards in accordance with GA-216 and manufacturer's recommendations, except as otherwise indicated.
- 3. Installation of Drywall Trim Accessories:
  - a. Where feasible, use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports. Otherwise, fasten flanges by nailing or stapling in accordance with manufacturer's instructions and recommendations.
  - b. Install metal corner beads to external corners of drywall work.
  - c. Install metal edge trim whenever edge of gypsum board would otherwise be exposed or semi-exposed.
- 4. Installation of Drywall Finishing: Comply with ASTM C 840 and GA-216 for Level 5 finish for all gypsum board exposed to view.
  - a. Apply treatment at gypsum board joints (both directions, flanges, of trim accessories, penetration, fastener heads, surface defects, and elsewhere as required to prepare work for decoration). Prefill open joints and rounded or beveled edges, using type of compound recommended by manufacturer.
  - b. Apply joint tape at between gypsum boards, except where a trim accessory is indicated.
  - c. Apply joint compound in three coats (not including prefill of openings in base) and sand between last two coats and after last coat.
  - d. Refer to other section for decorative finishes to be applied to drywall work.

H. PROTECTION OF WORK

- 1. Installer shall advise contractor of required procedures for protection of the gypsum drywall work from damage and deterioration during the remainder of the construction period.

END OF SECTION 09 21 16

## SECTION 09 22 16 – NON-STRUCTURAL METAL FRAMING

### A. RELATED DOCUMENTS

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

### B. SUMMARY

1. This Section includes the following:
  - a. Wall Studs.
  - b. Bracing, fasteners, and related accessories for light-gauge, load-bearing metal elements.
2. Related Sections include the following:
  - a. Division 5 Section "Structural Steel" for masonry shelf angles and connections.
  - b. Division 5 Section "Steel Deck" for metal decking.
  - c. Division 6 Section "Carpentry" for wall sheathing or roof sheathing using wood-based products.
  - d. Division 7 for insulation, roof deck assemblies, shingles, and metal roofing.

### C. DEFINITIONS

1. Minimum Uncoated Steel Thickness: Minimum uncoated thickness of cold-formed framing delivered to the Project site shall be not less than 95 percent of the thickness used in the cold-formed framing design. Lesser thicknesses shall be permitted at bends due to cold forming.
2. Producer: Entity that produces steel sheet coil fabricated into cold-formed members.

### D. PERFORMANCE REQUIREMENTS

1. Structural Performance: Where cold-formed metal framing sizes are not indicated on drawings, provide cold-formed metal framing capable of withstanding design loads within limits and under conditions indicated.
  - a. Design framing systems to provide for movement of framing members without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change of 120 deg F (67 deg C).
    1. Upward and downward movement of 1/2 inch.

### E. SUBMITTALS

1. Product Data: For each type of cold-formed metal framing product and accessory indicated.
2. Shop Drawings: Show layout, spacings, sizes, thicknesses, and types of cold-formed metal framing; fabrication; and fastening and anchorage details, including mechanical fasteners. Show reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining Work.
  - a. For cold-formed metal framing indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
3. Mill certificates signed by steel sheet producer [or test reports from a qualified independent testing agency] indicating steel sheet complies with requirements.
4. Welding Certificates: Copies of certificates for welding procedures and personnel.
5. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
6. Product Test Reports: From a qualified testing agency indicating that each of the following complies with requirements, based on comprehensive testing of current products:
  - a. Power-actuated anchors.

- b. Mechanical fasteners.
  - c. Vertical deflection clips.
  - d. Miscellaneous structural clips and accessories.
7. Research/Evaluation Reports: Evidence of cold-formed metal framing's compliance with The Ohio Building Code.

F. QUALITY ASSURANCE

1. Installer Qualifications: An experienced installer who has completed cold-formed metal framing similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
2. Engineering Responsibility: Engage a qualified professional engineer to prepare design calculations, Shop Drawings, connection details, and other structural data.
3. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of cold-formed metal framing that are similar to those indicated for this Project in material, design, and extent.
4. Mill certificates signed by steel sheet producer [or test reports from a qualified independent testing agency] indicating steel sheet complies with requirements, including uncoated steel thickness, yield strength, tensile strength, total elongation, chemical requirements, [ductility,] and galvanized-coating thickness.
5. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM E 329 to conduct the testing indicated, as documented according to ASTM E 548.
6. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel," and AWS D1.3, "Structural Welding Code--Sheet Steel."
7. AISI Specifications: Comply with AISI's "Specification for the Design of Cold-Formed Steel Structural Members" for calculating structural characteristics of cold-formed metal framing.
  - a. CCFSS Technical Bulletin: "AISI Specification Provisions for Screw Connections."
8. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings."

G. DELIVERY, STORAGE, AND HANDLING

1. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling.
2. Store cold-formed metal framing, protect with a waterproof covering, and ventilate to avoid condensation.

H. MANUFACTURERS

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering cold-formed metal framing that may be incorporated into the Work include, but are not limited to, the following:
  - a. Allied American Studco, Inc.
  - b. Angeles Metal Systems.
  - c. California Expanded Metal Products Co.
  - d. California Metal Systems, Inc.
  - e. Clark Steel Framing Industries.
  - f. Consolidated Fabricators Corp.
  - g. Consolidated Systems, Inc.
  - h. Dale Industries, Inc.
  - i. Design Shapes in Steel.
  - j. Dietrich Industries, Inc.



- k. Knorr Steel Framing Systems.
- l. MarinoWare; Div. of Ware Industries, Inc.
- m. Steel Construction Systems.
- n. Unimast, Inc.
- o. United Metal Products, Inc.

I. MATERIALS

- 1. Comply with ASTM C955-00.
- 2. Steel Sheet: ASTM A 653/A 653M, structural steel, zinc coated, of grade and coating as follows:
  - a. Grade: 40 (yield point 40,000 psi) for units 16-gauge and heavier. Grade: 33 (yield point 33,000 psi) for units 18-gauge and lighter.
  - b. Coating: Galvanized ASTM A525 [G60].

J. WALL STUDS

- 1. Steel Studs: Manufacturer's standard C-shaped steel sections, of web depths indicated, with stiffened flanges, complying with ASTM C 955, and as follows:
  - a. Minimum Uncoated-Steel Thickness: As indicated on drawings.
  - b. Flange Width: As indicated on drawings.
  - c. Section Properties: As indicated on drawings.

K. FRAMING ACCESSORIES

- 1. Fabricate steel-framing accessories of the same material and finish used for framing members, with a minimum yield strength of 33,000 psi (230 MPa).
- 2. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated, as follows:
  - a. Supplementary framing.
  - b. Bracing, bridging, and solid blocking.
  - c. Web stiffeners.
  - d. End clips.
  - e. Gusset plates.
  - f. Stud kickers, knee braces, and girts.
  - g. Joist hangers and end closures.
  - h. Hole reinforcing plates.
  - i. Backer plates.

L. ANCHORS, CLIPS, AND FASTENERS

- 1. Steel Shapes and Clips: ASTM A 36/A 36M, zinc coated by hot-dip process according to ASTM A 123.
- 2. Anchor Bolts: ASTM F 1554, Grade 36, threaded carbon-steel headless, hooked bolts and carbon-steel nuts; and flat, hardened-steel washers; zinc coated by hot-dip process according to ASTM A 153/A 153M, Class C.
- 3. Power-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 10 times design load, as determined by testing per ASTM E 1190 conducted by a qualified independent testing agency.
- 4. Mechanical Fasteners: Corrosion-resistant-coated, self-drilling, self-threading steel drill screws.
  - a. Head Type: Low-profile head beneath sheathing, manufacturer's standard elsewhere.
- 5. Welding Electrodes: Comply with AWS standards.

M. MISCELLANEOUS MATERIALS

- 1. Galvanizing Repair Paint: SSPC-Paint 20 or DOD-P-21035.

2. Cement Grout: Portland cement, ASTM C 150, Type I; and clean, natural sand, ASTM C 404. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration or premixed, non-metallic, non-corrosive, non-staining grout containing selected silica sands, Portland cement, shrinkage-compensating agents, and plasticizing and water-reducing agents, complying with ASTM C 1107, with fluid consistency and 30-minute working time.

N. FABRICATION

1. Fabricate cold-formed metal framing and accessories plumb, square, and true to line, and with connections securely fastened, according to manufacturer's written recommendations and requirements in this Section.
  - a. Fabricate framing assemblies using jigs or templates.
  - b. Cut framing members by sawing or shearing; do not torch cut.
  - c. Fasten cold-formed metal framing members by welding or screw fastening, as standard with fabricator. Wire tying of framing members is not permitted.
    1. Comply with AWS D1.3 requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
    2. Locate mechanical fasteners and install according to Shop Drawings, with screw penetrating joined members by not less than three exposed screw threads.
  - d. Fasten other materials to cold-formed metal framing by welding, bolting, or screw fastening, according to Shop Drawings.
2. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies to prevent damage or permanent distortion.
3. Fabrication Tolerances: Fabricate assemblies level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet (1:960) and as follows:
  - a. Spacing: Space individual framing members no more than plus or minus 1/8 inch (3 mm) from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.
  - b. Squareness: Fabricate each cold-formed metal framing assembly to a maximum out-of-square tolerance of 1/8 inch (3 mm).

O. EXAMINATION

1. Examine supporting substrates and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

P. PREPARATION

1. Grout bearing surfaces uniform and level to ensure full contact of bearing flanges or track webs on supporting concrete or masonry construction.

Q. INSTALLATION, GENERAL

1. Cold-formed metal framing may be shop or field fabricated for installation, or it may be field assembled.
2. Install cold-formed metal framing according to ASTM C 1007, unless more stringent requirements are indicated.
3. Install shop- or field-fabricated, cold-formed framing and securely anchor to supporting structure.
  - a. Bolt or weld wall panels at horizontal and vertical junctures to produce flush, even, true-to-line joints with maximum variation in plane and true position between fabricated panels not exceeding 1/16 inch (1.6 mm).
4. Install cold-formed metal framing and accessories plumb, square, and true to line, and with connections securely fastened, according to manufacturer's written recommendations and requirements in this Section.

- a. Cut framing members by sawing or shearing; do not torch cut.
- b. Fasten cold-formed metal framing members by welding or screw fastening, as standard with fabricator. Wire tying of framing members is not permitted.
  1. Comply with AWS D1.3 requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
  2. Locate mechanical fasteners and install according to Shop Drawings, with screw penetrating joined members by not less than three exposed screw threads.
  3. Reinforce connections and attachments with fasteners in direct tension (pull out) with minimum 0.0538 inch – 16-gauge cover plates.
5. Install framing members in one-piece lengths, unless splice connections are indicated for track or tension members.
6. Install temporary bracing and supports to secure framing and support loads comparable in intensity to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.
7. Do not bridge building expansion and control joints with cold-formed metal framing. Independently frame both sides of joints.
8. Fasten hole reinforcing plate over web penetrations that exceed size of manufacturer's standard punched openings.
9. Erection Tolerances: Install cold-formed metal framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet (1:960) and as follows:
  - a. Space individual framing members no more than plus or minus 1/8 inch (3 mm) from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

R. FIELD QUALITY CONTROL

1. Remove and replace Work that does not comply with specified requirements.

S. REPAIRS AND PROTECTION

1. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed metal framing with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
2. Protect paper-surfaced gypsum sheathing that will be exposed to weather for more than 30 days by covering exposed exterior surface of sheathing with a securely fastened air-infiltration barrier. Apply covering immediately after sheathing is installed.
3. Protect cutouts, corners, and joints in sheathing by filling with a flexible sealant or by applying tape recommended by sheathing manufacturer at time sheathing is applied.
4. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure cold-formed metal framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION 09 22 16

SECTION 09 32 13 - TILE WORK

A. DESCRIPTION OF WORK

1. The extent of tile work is shown on the Drawings and in schedules. The work generally includes all floor and wall tile work, including preparation and accessories.

B. RELATED SECTIONS

1. Section 04 20 00 – Unit Masonry
2. Section 07 92 00 – Joint Sealants
3. Section 09 21 16 – Gypsum Board Assemblies

C. REFERENCES

1. ANSI A108.1A, 1999 - Specifications for Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar.
2. ANSI A108.1B, 1999 - Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex Portland Cement Mortar.
3. ANSI A108.1C, 1999 - Specifications for Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar -or- Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex Portland Cement Mortar.
4. ANSI A108.4, 1999 - Specifications for Ceramic Tile Installed with Organic Adhesives or Water-Cleanable Tile Setting Epoxy Adhesive.
5. ANSI A108.5, 1999 - Specifications for Ceramic Tile Installed with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar.
6. ANSI A108.6, 1999 - Specifications for Ceramic Tile Installed with Chemical-Resistant, Water-Cleanable Tile-Setting and -Grouting Epoxy.
7. ANSI A108.9, 1999 - Specifications for Ceramic Tile Installed with Modified Epoxy Emulsion Mortar/Grout.
8. ANSI A108.10, 1999 - Specifications for Installation of Grout in Tilework.
9. ANSI A118.1, 1999 - Standard Specification for Dry-Set Portland Cement Mortar.
10. ANSI A118.3, 1999 - Chemical-Resistant, Water-Cleanable, Tile-Setting and -Grouting Epoxy and Water-Cleanable Tile-Setting Epoxy Adhesive.
11. ANSI A118.4, 1999 - Latex-Portland Cement Mortar.
12. ANSI A118.6, 1999 - Standard Ceramic Tile Grouts.
13. ANSI A118.7, 1999 - Polymer Modified Cement Grouts.
14. ANSI A118.8, 1999 - Modified Epoxy Emulsion Mortar/Grout.
15. ANSI A118.9, 1999 - Test Methods and Specifications for Cementitious Backer Units
16. ANSI A118.10, 1999 - Load bearing, Bonded, Waterproof Membranes for Thinset Ceramic Tile and Dimensional Stone.
17. ANSI A136.1, 1999 - Organic Adhesives for Installation of Ceramic Tile.
18. ANSI A137.1, 1988 - Specifications for Ceramic Tile.
19. ASTM C50 - Standard Specification for Portland Cement.
20. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar.
21. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes.
22. ASTM C847 - Standard Specification for Metal Lath.
23. ASTM C1028 - Test method for Determining the Static Coefficient of Friction on Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull meter Method.
24. ASTM D4397 - Specification for Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications.
25. TCA (HB) - Handbook for Ceramic Tile Installation; Tile Council of America, Inc.

**D. SUBMITTALS**

1. Submit under provisions of Section 01 33 00.
2. Manufacturer's data sheets on each product to be used, including:
  - a. Preparation instructions and recommendations.
  - b. Storage and handling requirements and recommendations.
  - c. Installation methods.
3. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.
4. Selection Samples: Samples of actual tiles for selection.
5. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
6. Maintenance Data: Include recommended cleaning methods, cleaning materials, stain removal methods, and polishes and waxes.

**E. QUALITY ASSURANCE**

1. Furnish tile conforming with Standard Grade requirements of ANSI A 137.1.
2. When using setting and grouting material manufactured under TCA license, include identification together with formula on each container.
3. Provide materials obtained from only one source for each type and color of tile, mortar, adhesive and grout.
4. Handle, store, mix, and apply all materials in compliance with manufacturer's instructions.
5. Installer Qualifications: Company specializing in performing the work of this section with minimum 10 years experience.

**F. PERFORMANCE REQUIREMENTS**

1. Static Coefficient of Friction: Tile on walkway surfaces shall be provided with the following values as determined by testing in conformance with ASTM C 1028.
  - a. Level Surfaces: Minimum of 0.6 (Wet).
  - b. Step Treads: Minimum of 0.6 (Wet).
  - c. Ramp Surfaces: Minimum of 0.8 (Wet).

**F. DELIVERY AND STORAGE**

1. Deliver packaged materials and store in original containers with seals unbroken and labels intact until time of use, in accordance with manufacturer's instructions.
2. Protect adhesives and liquid additives from freezing or overheating in accordance with manufacturer's instructions.
3. Store tile and setting materials on elevated platforms, under cover and in a dry location and protect from contamination, dampness, freezing or overheating.

**G. ENVIRONMENTAL REQUIREMENTS**

1. Do not install adhesives in an unventilated environment.
2. Maintain ambient and substrate temperature of 50 degrees F (10 degrees C) during installation of mortar materials.

**H. MATERIALS**

1. General: Provide tile that complies with ANSI A137.1 for types, compositions and other characteristics indicated. Provide tile in the locations and of the types colors and pattern indicated on the Drawings, and specified herein. Tile shall also be provided in accordance with the following:
  - a. Factory Blending: For tile exhibiting color variations within the ranges selected under Submittal of samples, blend tile in the factory and package so tile taken from one package shows the same range of colors as those taken from other packages.
  - b. Mounting: For factory mounted tile, provide back or edge mounted tile assemblies as standard with the

- manufacturer, unless otherwise specified.
- c. Factory Applied Temporary Protective Coatings: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating with a continuous film of petroleum paraffin wax applied hot. Do not coat unexposed tile surfaces.
2. Tile Products
    - a. Floor Tile
      1. Floor Tile FT-1: Daltile – “Keystones” 1” x 1” Mosaic Tile. Color: As selected by Architect.
    - b. Base Tile
      1. Base Tile FB-2: Daltile Classic “Color Wheel Classic” 6” x 6” Coved Ceramic Wall Tile. Color: As selected by Architect.
      2. Base Tile FB-3: Florium USA – “Layers” 6” x 12” Coved Porcelain Tile. Color: “Sediment”.
    - b. Wall Tile
      1. Wall Tile WT-1: Daltile Classic “Color Wheel Classic” Ceramic Wall Tile
        - a. Polished Finish; Price Group 2.
        - b. Wall Tile: 6” x 6” Ceramic Tile; color to be selected by Architect.
        - c. Wall Tile Trim: 2” x 6” Bullnose Ceramic Tile; color to be selected by Architect.
  3. Accessories:
    - a. Schluter QUADREC Stainless Steel exterior corners.
    - b. Schluter JOLLEY Stainless Steel edge.
    - c. Size shall be as recommended for type of tile.
    - d. Finish shall be brushed stainless steel.
  4. Setting Materials:
    - a. Mortar: Standard multi-purpose polymer modified thinset mortar, complying with ANSI A 118.4.
    - b. Grout: Sanded, Group I, Latex fortified. Color as selected by Architect.
  5. Grout sealer: Provide and apply grout manufacturer’s recommended standard water-based penetrating sealer for all grout surfaces. Sealant shall be resistant to all water based stains.
- I. EXAMINATION
1. Installer must examine the areas and conditions under which tile work is to be installed and notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.
  2. Verify that wall surfaces are free of substances which would impair bonding of setting materials, smooth and flat within tolerances specified in ANSI A137.1, and are ready to receive tile.
  3. Verify that sub-floor surfaces are dust-free, and free of substances which would impair bonding of setting materials to sub-floor surfaces, and are smooth and flat within tolerances specified in ANSI A137.1.
  4. Verify that concrete sub-floor surfaces are ready for tile installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within limits recommended by tile manufacturer and setting materials manufacturer.
- J. PREPARATION
1. Protect surrounding work from damage.
  2. Remove any curing compounds or other contaminates.
  3. Vacuum clean surfaces and damp clean.
  4. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
  5. Install cementitious backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of dry-set mortar to a feather edge.
  6. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.
- K. INSTALLATION
1. General

- a. Install tile and grout in accordance with applicable requirements of ANSI A108.1 through A108.13, manufacturer's instructions, and TCA Handbook recommendations. Maintain minimum temperature limits and installation practices as recommended by proprietary mortar and grout materials manufacturer.
- b. Lay tile to pattern indicated. Arrange pattern so that a full tile or joint is centered on each wall and that no tile less than 1/2 width is used. Do not interrupt tile pattern through openings.
- c. Extend tile work into recesses and under equipment and fixtures to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at obstructions, edges, and corners without disruption of pattern or joint alignments. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
- d. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.
- e. Form internal angles square and external angles bullnosed.
- f. Install thresholds where indicated, or where intended for material transitions.
- g. Sound tile after setting. Replace hollow sounding units.
- h. Keep expansion joints free of adhesive or grout. Apply sealant to joints.
- i. Allow tile to set for a minimum of 48 hours prior to grouting.
- j. Grout tile joints. Use standard grout unless otherwise indicated.
- k. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.
2. Installation – Floors, Thin-set Method
  - a. Over interior concrete substrates, install in accordance with TCA Handbook Method F113, latex-portland cement bond coat, with standard grout, unless otherwise indicated.
3. Installation – Wall Tile
  - a. Over interior concrete and masonry install in accordance with TCA Handbook Method W202, thin-set with latex-portland cement bond coat.
  - b. Over cementitious backer units on studs, install in accordance with TCA Handbook Method W244, using membrane at toilet rooms.
- L. CLEANING AND PROTECTION OF FINISHED WORK
  1. Clean all tile and grout surfaces in accordance with manufacturer's written instructions. Use only products recommended by manufacturer for types of surfaces to be cleaned.
  2. Do not permit traffic over finished floor surface for 72 hours after installation.
  3. Cover floors with kraft paper and protect from dirt and residue from other trades.
  4. Where floor will be exposed for prolonged periods cover with plywood or other similar type walkways.
  5. Leave finished installation clean and free of cracked shipped, broken, unbonded, or otherwise defective tile work.

END OF SECTION 09 32 13

SECTION 09 65 13 - RESILIENT RUBBER FLOORING

A. SUMMARY OF WORK

1. Section includes the following:
  - a. Rubber Treads and Risers, including rubber sheet flooring to match rubber treads and risers at stair landings where scheduled.

B. REFERENCES (Industry Standards)

1. American Society for Testing and Materials (ASTM)
  - a. ASTM D-2047 - Static coefficient of friction.
  - b. ASTM D-2240 - Material hardness.
  - c. ASTM D-2859 - Test method for flammability of finished textile floor covering materials.
  - d. ASTM D-3389 - Resistance to tabor abrasion using H-18 wheels, 500 gram load, at 1,000 cycles.
  - e. ASTM E-492 - Test method for noise reduction (impact insulation class).
  - f. ASTM E-662 - Test method for specific density of smoke generated by solid materials.
  - g. ASTM F-710 - Practice for preparing concrete floors and other monolithic floors to receive resilient flooring.
  - h. ASTM F-925 - Test method for resistance to chemicals.
  - i. ASTM F-970 - Test method for static load limit.
  - j. ASTM F-1344 - Standard specification for rubber floor tile.
  - k. ASTM F-1514 - Test method for measuring heat stability.
  - l. ASTM F-1515 - Test method for measuring light stability.
  - m. ASTM F-1860 - Standard specification for rubber sheet flooring with backing.
  - n. ASTM F-1861 - Standard specification for resilient wall base.
  - o. ASTM F-1914 - Test method for measuring residual indentation.
2. National Fire Protection Association (NFPA)
  - a. NFPA 253 - Test method for critical radiant flux of floor covering systems using a radiant energy source.
  - b. NFPA 255 - Test method of surface burning characteristics of building materials (Steiner Tunnel Test).
  - c. NFPA 258 - Test method for specific density of smoke generated by solid materials.
3. Other references
  - a. Americans with Disabilities Act - ADA.
  - b. American National Standards Institute – ANSI
  - c. ANSI - A117.1-1986 - Tactile Surface.

C. SUBMITTALS

1. Product Data: Submit manufacturer's product data, installation instructions, and maintenance recommendations for each material proposed for use.
2. Samples: Submit verification samples of each product specified in color selected for use.
3. Certificates: Attesting fire rated materials tested by independent testing agency and comply with specifications.
4. Material Safety Data Sheets (MSDS): Submit MSDS for each manufacturer's recommended adhesive proposed for use.

D. QUALITY ASSURANCE

1. Manufacturer: Provide resilient flooring manufactured by a firm with a minimum of 10 years experience in the production of resilient flooring of types equivalent to those specified. Manufacturers proposed for use, which are not named in the Section, shall submit evidence of ability to meet performance requirements specified not less than 10 days prior to bid date.
  - a. Color Matching: Provide resilient flooring products, including wall base and accessories, from one manufacturer to ensure color matching.
  - b. Manufacturer capable of providing field service representation.



2. Installer's Qualifications: Installer experienced (minimum of 5 years) to perform work of this Section, who has specialized in the installation of work similar to that required for this project and who is acceptable to the product manufacturer.
3. Materials: For each type of material required for the work of this Section, provide primary materials, which are the products of one manufacturer. Provide secondary materials, which are acceptable to the manufacturer of the primary materials. Comply with applicable regulations regarding VOC (volatile organic compound) content of the adhesives.

E. DELIVERY, STORAGE AND HANDLING

1. Deliver materials in labeled packages. Store and handle in strict compliance with manufacturer's recommendations. Protect from damage due to weather, excessive temperatures, and construction operations.
2. Deliver materials sufficiently in advance of installation to condition materials to room temperature prior to installation.

F. PROJECT CONDITIONS

1. Maintain a temperature of 70<sup>0</sup> F (21<sup>0</sup> C) plus or minus 5<sup>0</sup> F (3<sup>0</sup> C) in spaces to receive resilient flooring products. Specified temperature shall be maintained at least 48 hours before, during, and 48 hours after the installation.

G. WARRANTY

1. Provide manufacturer's standard one-year warranty against defects in manufacturing and workmanship of resilient flooring products. Provide manufacturer's standard limited wear warranty as specified under each product, as applicable.

H. PRODUCTS

1. Acceptable Manufacturers:
  - a. Freudenberg Building Systems – Nora Rubber Flooring
  - b. Johnsonite
  - c. Roppe
2. Standard Specified:
  - a. Rubber Sheet Flooring, One-Piece Treads and Risers: Johnsonite – “Roundel” (Round Pattern)
3. All resilient product colors shall be selected by Architect from manufacturer's range of standard colors.

J. EXAMINATION

1. Verify that spaces to receive resilient materials are suitable for installation. Do not proceed with work until unsatisfactory conditions are corrected. Comply with manufacturer's recommendations including the following:
  - a. Substrates shall be clean and dry.
  - b. Substrates shall be free of depressions, raised areas, or other defects which would telegraph through the installed resilient material.
  - c. Temperature of resilient materials and substrate shall be within specified tolerances.
  - d. Moisture condition and adhesive bond tests shall be performed as specified.
2. For applications on concrete, verify curing, hardening, and sealing compounds have not been used. If there are any, do not proceed until compounds have been removed.
3. For applications on concrete slabs "on-grade or below grade", verify vapor barrier below slab was installed. If no vapor barrier was installed, do not proceed with work unless written acceptance of such conditions is received and submitted.
4. Perform moisture condition test in each major area. A minimum of 1 test per 1000 sq. ft. prior to installation. Moisture condition shall not exceed 3 pounds per 1000 sq. ft. per 24 hours in accordance with ASTM F-1869 Standard Test Method for Measuring Moisture Vapor Emission of Concrete Subfloor

Using Anhydrous Calcium Chloride. Do not proceed with work until results of moisture condition tests are acceptable.

5. Perform adhesive bond test in each major area, minimum of 1 test per 1000 sq. ft., prior to installation. Examine after 72 hours to determine whether bond is solid and no moisture is evident. Do not proceed with work until results of bond test are acceptable.

K. PREPARATION

1. Comply with ASTM F-710 and manufacturer's recommendations for surface preparation. Remove substances incompatible with resilient flooring adhesive by method acceptable to manufacturer.
  - a. Concrete floors with steel troweled (slick) finish shall be properly roughened or sanded to ensure suitable adhesion.
  - b. Concrete floors with curing, hardening, or sealing compounds shall be abraded by mechanical methods, i.e.: bead blast, to remove compounds.
2. Fill all voids, cracks, and depressions with a trowel applied cementitious compound acceptable to the manufacturer. Remove projections and repair other defects to tolerances acceptable to the manufacturer.
3. Vacuum subfloors immediately prior to installation.

L. INSTALLATION

1. Resilient Flooring: Install resilient flooring in accordance with manufacturer's printed installation instructions.

M. MAINTENANCE

1. Do not perform manufacturer's recommended maintenance procedures until adhesive has fully cured, no sooner than 72 hours after installation.
2. Use only cleaning products recommended by the manufacturer.
3. Protect installed product from damage and construction operations and inspect immediately before final acceptance of project.

END OF SECTION 09 65 13

SECTION 09 91 23 – PAINTING

A. WORK INCLUDED

1. The work under this section includes the furnishing of all labor, material, equipment, appliances, and tools to perform the work indicated on the Drawings or specified herein including, but not limited to the following:
  - a. Painting
  - b. Preparation of surfaces for painting.

B. WORK EXCLUDED

1. The following listed work is included under other sections:
  - a. Shop coat on miscellaneous iron and steel.
  - b. Factory finish on exterior metal.
  - c. Prime coat on new hollow metal work shall be furnished under the Hollow Metal Section.

C. REFERENCES

1. Society for Protective Coatings (SSPC)
  - a. SSPC-SP 1 - Solvent Cleaning
  - b. SSPC-SP 2 - Hand Tool Cleaning
  - c. SSPC-SP 3 - Power Tool Cleaning
  - d. SSPC-SP 7 – Brush-off Blast Cleaning
2. Environmental Protective Agency (EPA)
  - a. EPA-Method 24
3. American Society of Testing and Materials (ASTM)
  - a. ASTM D3960-04 Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings
  - b. ASTM D6886 - Test Method for Speciation of the Volatile Organic Compounds (VOCs) in Low VOC Content Waterborne Air-Dry Coatings by Gas Chromatography.

D. SUBMITTALS

1. Submit under provisions of General Conditions and Division 1.
2. Product Data: Manufacturer's data sheets on each paint and coating product to be used, including:
  - a. Product characteristics.
  - b. Preparation instructions and recommendations.
  - c. Primer requirements and recommendations.
  - d. Storage and handling requirements and recommendations.
  - e. Application methods.
  - f. Cautions, VOC's.
3. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and sheens.

E. QUALITY ASSURANCE

1. VOC Content: Determine VOC (Volatile Organic Compound) content of solvent borne and waterborne paints and related coatings in accordance with EPA Method 24 or ASTM D3960.

F. DELIVERY, STORAGE AND HANDLING

1. Delivery: Deliver manufacturer's unopened containers to the work site. Packaging shall bear the manufacturer's name, label, and the following list of information:
  - a. Product name, and type (description)
  - b. Application & use instructions

- c. Surface preparation
  - d. VOC content
  - e. Environmental issues
  - f. Batch date
  - g. Color number/name
2. Storage: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction. Store materials in an area that is within the acceptable temperature range, per manufacturer's instructions. Protect from freezing.
  3. Handling: Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

G. MATERIALS

1. All finished materials, thinners, etc., shall be the best quality, first line materials as manufactured by:
  - a. Benjamin Moore
  - b. The Glidden Company
  - c. Harrison Paint Co.
  - d. ICI Dulux
  - e. Pittsburgh Paints - PPG
  - f. Pratt and Lambert, Inc.
  - g. The Sherwin-Williams Company
2. All paint materials shall be delivered to the job in the manufacturer's original unopened labeled containers, and they shall be used strictly in accordance with the manufacturer's directions.
3. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such a procedure is specifically described in manufacturer's product instructions. VOC numbers used in this document need to be confirmed by using the products MSDS sheets.

H. APPLICATIONS/SCOPE

1. Scope: Use products specified in this section to finish ALL interior and exterior surfaces exposed to view, unless otherwise indicated; DO NOT PAINT THE FOLLOWING:
  - a. Items specified or provided with factory finish; materials and products having factory-applied primer are not considered factory finished.
  - b. Items indicated to receive other finishes.
  - c. Items indicated to remain unfinished.
  - d. Marble, granite, slate, and other natural stones.
  - e. Brick, concrete, cast stone.
  - f. Glass.
  - g. Stainless steel, anodized aluminum, bronze.
  - h. Equipment nameplates, fire rating labels, and operating parts of equipment.
  - i. Concealed pipes, ducts, and conduits.
2. Exterior Surfaces to be Painted:
  - a. Hollow metal doors and frames.
  - b. Structural components (columns, lintels, etc.) exposed to view.
3. Interior Surfaces to be Painted:
  - a. Hollow metal doors and frames.
  - b. Gypsum board walls and ceilings, concrete masonry walls, soffits, bulkheads, and column enclosures.
  - c. Bare metal, primed metal, and galvanized metal – all metal exposed to view, regardless of location, including, but not limited to, columns, beams, joists, deck, purlins and girts.
  - d. Pipes, ducts, conduits, hangers and supports, equipment, and equipment enclosures exposed to view in all rooms and spaces.

- e. Access panels and equipment cabinets.
- 4. Colors: To be selected by Architect from manufacturer's full range of available colors. See item J below.

I. EXTERIOR AND INTERIOR PAINT SPECIFICATIONS

1. If these Specifications conflict with the recommendations of the manufacturer, this discrepancy shall be brought to the attention of the Architect, to decide which method shall be followed.
2. Raw linseed oil, turpentine, benzine, gloss oil, or coal oil shall not be used in any of the materials for interior work. Any thinner used shall be subject to the provisions stated above.
3. All Surfaces To Be Painted, Unless Otherwise Specified:
  - a. Concrete Masonry Surfaces (Semi-Gloss): (Lower Odor/Low VOC Vinyl Acrylic Latex System)
    1. Primer: Waterborne Vinyl Acrylic Block Filler - (16 mils wet, 8 mils dry)
    2. Two (2) Finish Coats: Waterborne Vinyl Acrylic Semi-Gloss (4 mils wet, 1.6 mils dry per coat)
  - b. Concrete Masonry Surfaces (Semi-Gloss): (Lower Odor/Low VOC Epoxy System)
    1. Primer: Waterborne Epoxy Block Filler - (16 mils wet, 8 mils dry)
    2. Two (2) Finish Coats: Waterborne Semi-Gloss Catalyzed Epoxy - (2.5 - 3 mils dry per coat)
  - c. Metal – Ferrous (Semi-Gloss): (Lower Odor/Low VOC Waterborne Acrylic Latex System)
    1. Primer: Waterborne Acrylic Metal Primer - (5-10 mils wet, 2-4 mils dry)
    2. Two (2) Finish Coats: Waterborne Acrylic Latex, Semi-Gloss - (4 mils wet, 1.4 mils dry per coat)
    3. Surfaces: Structural Steel Columns, Joists, Trusses, Beams, Miscellaneous & Ornamental Iron, Structural Iron, Ferrous Metal.
  - d. Exposed Architectural Steel – Ferrous (Satin): (Lower Odor/Low VOC Acrylic Waterborne System )
    1. Preparation as specified by manufacturer.
    2. Primer: Waterborne Acrylic Metal Primer - (5-10 mils wet, 2-4 mils dry)
    3. Finish Coats: Satin: 2 coats Acrylic Waterborne Dry-Fall System - (11 mils wet, 4.5 mils dry)
    4. Surfaces: Interior Overhead Steel - Including deck, panels, joists, structural members, ducts, piping, louvers.
  - e. Exposed Architectural Steel – Galvanized (Satin): (Lower Odor/Low VOC Acrylic Waterborne System)
    1. Prepare and clean per SSPC-SP1 using detergent and water or a degreasing cleaner to remove greases and oils. Apply a test area, priming as required. Allow the coating to dry at least one week before testing. If adhesion is poor, Brush Blast per SSPC-SP7 is necessary to remove these treatments.
    2. Primer: Waterborne Acrylic Metal Primer - (5-10 mils wet, 2-4 mils dry)
    3. Finish Coats: Satin: 2 coats Acrylic Waterborne Dry-Fall System - (11 mils wet, 4.5 mils dry)
    4. Surfaces: Interior Overhead Galvanized Steel - Including deck, panels, ducts.
  - f. Gypsum Board (Egg-Shell): (Lower Odor/Low VOC Acrylic Latex System)
    1. Primer: Vinyl Acrylic Latex - (4 mils wet, 1.3 mils dry per coat)
    2. Two (2) Finish Coats: Modified Alkyd Egg-Shell - (4 mils wet, 1.6 mils dry per coat)
    3. Surfaces: Ceilings and bulkheads.
  - g. Gypsum Board (Semi-Gloss): (Lower Odor/Low VOC Acrylic Latex System)
    1. Primer: Vinyl Acrylic Latex - (4 mils wet, 1.5 mils dry per coat)
    2. Two (2) Finish Coats: Vinyl Acrylic Semi-Gloss - (4 mils wet, 1.6 mils dry per coat)
    3. Surfaces: Gypsum Wallboard Walls
  - h. Gypsum Board (Semi-Gloss): (Lower Odor/Low VOC Epoxy System)
    1. Primer: Waterborne Epoxy Primer - (4 mils wet, 1.5 mils dry per coat)
    2. Two (2) Finish Coats: Waterborne Catalyzed Epoxy Semi-Gloss - (2.5 - 3 mils dry per coat)

J. COLOR SAMPLES

1. Colors will be selected by the Architect from the manufacturer's standard colors. Final colors must match exactly with the approved sample.
2. Colors shall be chosen by Architect for each of the following surfaces:
  - a. Exterior steel doors and frames.
  - b. Interior steel doors and frames.
  - c. Interior steel structure, joists and deck.
  - d. Interior C.M.U.
  - e. Gypsum drywall walls, ceilings, bulkheads and soffits.
  - f. Louvers and Vents
  - g. Handrails, guards and steel stair components
  - h. Plumbing, Mechanical and Electrical equipment and access panels.
3. In rooms or spaces where exposed roof deck and steel joists are scheduled to be painted, joist and deck may be scheduled to receive different colors. Exposed ductwork and diffusers may be scheduled to be painted different colors than the exposed deck. Conduit and piping to be painted to match adjacent wall or roof deck.
4. Contractor shall include in his Base Bid, the following sample paint areas:
  - a. Four (4) wall sample paint colors – 50 square feet each. Colors shall be selected by Architect.
  - b. Three (3) ceiling sample paint colors – 50 square feet each. Colors shall be selected by Architect.

K. STORAGE

1. Store materials where directed by the Architect. Oily rags, waste and empty cans shall be removed from the building each night. They shall not be kept in unventilated rooms, and they shall not be permitted to accumulate.
2. Proper fire extinguishers shall be placed near storage area.

L. PROJECT CONDITIONS

1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not apply coatings under environmental conditions outside manufacturer's absolute limits. This specification does not take into consideration wet areas or areas needing high performance coatings.

M. EXAMINATION

1. Do not begin application of coatings until substrates have been properly prepared. Notify Architect of unsatisfactory conditions before proceeding.
2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
3. Proceed with work only after conditions have been corrected and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.

N. PROTECTIONS

1. Before applying any paint, cover and protect all finished surfaces and equipment with clean drop cloths or with heavy gauge visqueen as directed. All surfaces or equipment discolored or otherwise damaged under this section, shall be repaired or replaced at no expense to the Owner.
2. Place "fresh paint" signs in conspicuous places at all unguarded points where fresh or undried paint occurs.
3. Use no plumbing fixture or pipe whatsoever for disposing of waste or mixed materials.

O. PREPARATION

1. Painting Contractor shall provide adequate light in all areas of painting.

2. All coats to be applied at proper temperature, in accordance with coating manufacturer's printed recommendations.
3. All surfaces to receive finish coatings shall be prepared in accordance with coating manufacturer's printed recommendations, including methods of cleaning and acceptable surface conditions.
4. Do not apply to wet or damp surfaces.
  - a. Wait at least 30 days before applying to new concrete or masonry. Or follow manufacturer's procedures to apply appropriate coatings prior to 30 days.
5. Unpainted and shop coated steel and iron shall be washed clean with Pratt and Lambert Duosol Reducer. Remove any rust which may have formed and spot prime.
6. Galvanized metal shall be cleaned thoroughly with Pratt and Lambert Duosol.
7. Drywall imperfections shall be spackled and sanded smooth. Nail holes, splits or scratches shall be puttied or spackled smooth after the prime coat.
8. The Painting Contractor is completely responsible for the satisfactory condition of his finished work. He shall notify the Architect if he considers any surface unsuitable for a proper finish. The starting of work by this Contractor will be considered as evidence that all surfaces are acceptable to him.

P. INSTALLATION/WORKMANSHIP

1. No exterior painting shall be done in rainy or freezing weather and no painting shall be done in dirty or dusty surrounding.
2. Mix and thin coatings according to manufacturer's printed recommendations.
3. All work shall be done by skilled mechanics. Paint shall be brushed, rolled or sprayed, then immediately rolled on walls.
4. All materials shall be applied and cut in neatly so as to dry uniformly to the color and sheen specified, free from runs, sags, wrinkles, shiners, streaks, and brush marks.
5. All materials shall be applied in accordance with the manufacturer's printed directions. Minimum drying time between coats shall be as specified by the manufacturer.
6. Paint top and bottom edges of all doors the same as the vertical surfaces after hardware and doors are fitted.
7. Dark Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.
8. Protect finished coatings from damage until completion of project.
9. Touch-up damaged coatings after substantial completion, following manufacture's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.
10. This Contractor shall remove all paint spots, rags, and discarded material from the areas in which he has been conducting his work and shall leave these spaces clean and orderly.

END OF SECTION 09 91 23

## SECTION 10 21 13 - TOILET PARTITIONS

### A. SUMMARY

1. Furnish, deliver and install all Toilet Partitions as indicated on the drawings and as required by actual conditions at the building. The Toilet Partitions shall include the furnishing of all necessary screws, special screws, bolts, special bolts, expansion shields and all other devices necessary for the proper installation and application of the Toilet Partitions.

### B. REFERENCES

1. All toilet partitions must be scheduled, supplied and installed in accordance with:
  - a. Ohio Building Code
  - b. ANSI (American National Standards Institute)
  - c. ADA (Americans with Disabilities Act)
2. In all cases the above references shall be taken to mean the latest edition of that particular standard including all revisions.

### C. SUBMITTALS

1. Provide all submittals in accordance with Section 01 30 00.
2. Shop Drawings: Submit PDF file of detailed shop drawings for the Architect's review.
3. Product Data: Submit PDF file of product sheets and/or catalogue cuts, of all products listed in the shop drawings.
4. Samples: Submit (3) sets of actual samples of metal and finish colors for Architect's selection and verification. Include all samples in manufacturer's complete range of colors.
5. Operations and Maintenance Data: At completion of the job, furnish to the General Trades Prime Contractor, complete Owners Operation and Maintenance Manual information, in quantities specified for inclusion in Project Manual, to be provided to the Owner.

### D. QUALITY ASSURANCE

1. Supplier Qualifications: Toilet Partition shop drawings and Toilet Partitions shall be procured from a single source. Supplier is responsible for the complete Toilet Partition subcontract.

### E. DELIVERY, STORAGE AND HANDLING

1. Toilet Partitions shall be delivered to the job site in the manufacturers' original packages and marked to correspond with the approved shop drawings.
2. Toilet Partitions shall be delivered at appropriate time, in proper sequence of construction activities, as coordinated with the General Trades Prime Contractor.

### F. WARRANTY

1. The Toilet Partition manufacturer shall guarantee all Solid Plastic Toilet Partitions by written certification, for a period of (25) years from date of certified substantial completion of the project, against breakage, delamination, and corrosion of solid plastic parts. Warranty is for manufacturer's material only and does not include installation errors, improper usage or vandalism. Any defects as described will be replaced by the manufacturer at no additional cost to the owner.

### G. MAINTENANCE

1. Upon request, at completion of the project, the Toilet Partition supplier may be required to brief Owner's maintenance staff regarding proper care of Toilet Partitions, such as: required lubrications, adjustments, cleaning, etc.



H. MANUFACTURERS

1. Provide solid plastic toilet partitions as manufactured by one of the following:
  - a. ASI Global Partitions
  - b. Comtec Industries
  - c. General Partitions Manufacturing Company
  - d. Hadrian Inc.
  - e. Metpar Corporation
  - f. The Mills Company

I. PRODUCTS

1. Construction: Doors, panels and pilasters shall be certified CLASS B polyethylene or 100% post-consumer recycled polyethylene solid plastic. The material shall contain no foaming agents, which can cause the formation of air pockets. The self-lubricating surface is resistant to marking and can be maintained effectively with ordinary household cleaners. Material is ideal for toilet partition installations, especially in high abuse and high moisture environments.
2. Doors: Shall be 1" thick by 55" high straight cut with fine radius edges.
3. Panels: Shall be 1" thick by 55" high straight cut with fine radius edges.
4. Pilasters: Shall be 1" thick by 82" high straight cut with fine radius edges.
5. Headrail: Shall be 1.25" by 1.75" extruded anodized aluminum with anti-grip design. Wall thickness to be 0.060" and shall be securely attached to wall and pilasters with manufacturer's fittings in such a way as to make a rigid installation. All joints in headrails shall be made at a pilaster.
6. Hardware and Fittings: Doors are installed with 1/8" thick heavy extruded clear anodized aluminum hinges, which wrap around both the door and pilaster. Hinges are fastened to door and pilaster with tamper-proof 6-lobe security head stainless steel thru-bolts and fastened to the edge of the door and pilaster with a #10 x 1" screw. Top hinges have adjustable nylon cams. Strike-keeper and throw latch are extruded clear anodized aluminum. Three heavy-duty aluminum brackets are used at the panel to wall connection and a full-height continuous aluminum channel is used at the panel to pilaster connection. Inswing doors shall be fitted with a zinc die cast, #4 brushed combined coat hook and bumper. Outswing doors shall be fitted with a #4 brushed stainless steel flat coat hook. Fasteners are theft-proof 6-lobe security head stainless steel screws. Pilasters shall be securely and rigidly fastened to the floor with 3" (76mm) high stainless steel anchor shoes.

J. FINISH

1. Doors, panels, and pilasters shall be certified CLASS B polyethylene or 100% post-consumer recycled polyethylene with uniform color throughout. Color shall be as selected from manufacturer's complete range of colors.

K. EXAMINATION

1. The contractor must examine all site conditions that would prevent the proper application and installation of Toilet Partitions. Any defect must be immediately identified and corrected, prior to the installation of the Toilet Partitions.

L. INSTALLATION

1. Install partitions rigid, straight, plumb and level in accordance with manufacturer's printed instructions. Set units with not more than 1/2" between pilasters and panels, and not more than 1" clearances between panels and walls.
2. Adjust and lubricate hardware for proper operation after installation.
  - a. Set hinges on in-swing doors to hold open approx. 30 deg. from the closed position when unlatched.
  - b. Set hinges on out-swing doors to return to fully closed position.
3. After installation has been completed, inspect all Toilet Partitions to determine that all items have been supplied and installed in accordance with the drawings and specifications. Verify the operation and

adjustment of all Toilet Partitions. Any discrepancies, or malfunctioning product, must be reported to the Architect immediately.

M. ADJUSTMENT AND CLEANING

1. At final completion, Toilet Partitions shall be left clean and free from disfigurement. Make all final adjustments. Where Toilet Partitions are found defective, repair or replace or otherwise correct as directed.

N. PROTECTION

1. The Contractor must provide for the proper protection of all Toilet Partitions until the owner accepts the project as complete.

END OF SECTION 10 21 13

SECTION 10 28 13 – TOILET ROOM ACCESSORIES

A. SUMMARY

1. Section Includes the following Toilet Room Accessories:
  - a. Grab bars. (Provided and installed by Contractor)
  - b. Mirrors. (Provided and installed by Contractor)
  - c. Soap dispensers (Provided by Owner, Installed by Contractor).
  - e. Toilet tissue dispensers. (Provided by Owner; Installed by Contractor)
  - f. Paper Towel Dispensers. (Provided by Owner; Installed by Contractor)
  - g. Shower rods and curtains. (Provided and installed by Contractor).
  - i. Hooks - Towel Hook. (Provided and installed by Contractor).
  - j. Surface Mounted Soap Dish (Provided and installed by Contractor).
2. See Drawings for locations.

B. RELATED REQUIREMENTS

1. Section 04 20 00 – Unit Masonry.
2. Section 10 21 13 - Toilet Partitions.

C. REFERENCES

1. ASTM International:
  - a. ASTM A123/A123M – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
  - b. ASTM A153/A153M – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Hardware.
  - c. ASTM A269 – Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for general Service.
  - d. ASTM A653/A653M – Standard Specification Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron-Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - e. ASTM A666 – Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
  - f. ASTM B456 – Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
  - g. ASTM C1036 – Standard Specification for Flat Glass.
2. Federal Specification Unit: FS A-A-3002 – Mirrors, Glass.
3. ANSI A117- 1986 Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.
4. OBC – Chapter 11, *Accessibility*.
5. ADA, *Accessibility Guidelines for Buildings and Facilities*

D. SUBMITTALS

1. Product Data: Submit manufacturer's data sheets for each product specified.
2. Sample Warranty: Submit for each product specified.

E. QUALITY ASSURANCE

1. Manufacturer: Provide products manufactured by a company with a minimum of 10 years successful experience manufacturing similar products.
2. Single Source Requirements: To the greatest extent possible provide products from a single manufacturer.

3. Accessibility Requirements: Comply with requirements applicable in the jurisdiction of the project, including but not limited to ADA and ICC/ANSI A117.1 requirements as applicable.

F. DELIVERY, STORAGE, AND HANDLING

1. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations. Protect from damage.

G. WARRANTY

1. Manufacturer's Warranty for Washroom Accessories: Manufacturer's standard warranty for materials and workmanship.
2. Mirrors: Manufacturer's 15-Year warranty against silver spoilage of mirrors.

H. MANUFACTURER

1. Standard Specified: Bobrick Washroom Equipment, Inc.
2. Acceptable Manufacturers:
  - a. Bobrick Washroom Equipment, Inc.
  - b. American Specialties, Inc.
  - c. Bradley Corp.

I. PRODUCTS

1. **Toilet Room Stainless Steel Grab Bars: With snap flange covers.**

- a. Bobrick Model B-6806 ( x36; x 42; x 18)
- b. Compliance: Universal/accessibility design, including ADA-ABA and ICC/ANSI. for structural strength.
  1. Capacity: Designed to support 900 lbs in compliant installations.
- c. Description: Grab bar with 90 degree return to flange. Clearance between grab bar and finished wall is 1-1/2 inches (38mm).
- d. Grab Bar Materials: 18-8, Type 304, 18 gauge stainless steel tubing with satin finish, ends of grab bar pass through flanges and are heliarc welded to flanges to form one structural unit, outside diameter 1-1/2 inches.
- e. Mounting Flanges: Concealed, 18-8, Type 304, 1/8 inch thick, stainless steel plate.
  1. End Flanges: 2 inches x 3-1/8 inches with two holes for attachment to wall.
  2. Intermediate Flanges: 2-5/8 inches x 3-1/8 inches wide x 3-1/8 inch diameter.
- f. Snap Flange Covers: 18-8, Type 304, 22 gauge drawn stainless steel with satin finish, 3-1/4 inch diameter x 1/2 inches deep; snap over mounting flange to conceal mounting screws.
- g. Mounting Accessories: Provide mounting accessories as required for complete installation.

2. **Shower Stall Stainless Steel Grab Bars: Horizontal two-wall, with snap flange covers.**

- a. Bobrick Model B-6861 Grab Bar for 36 inch x 36 inch Shower Stall.
  1. Finish: Satin finish.
  2. Size: 15-7/8 inches x 30-7/8 inch.
  3. Diameter: 1-1/2 inches.
  4. Size: 15-7/8 inches x 30-7/8 inch.
- b. Compliance: Universal/accessibility design, including ADA-ABA and ICC/ANSI. for structural strength.
  1. Capacity: Designed to support 900 lbs in compliant installations.

- c. Description: Grab bar with 90 degree return to flange. Clearance between grab bar and finished wall is 1-1/2 inches.
- d. Grab Bar Materials: 18-8, Type 304, 18 gauge stainless steel tubing with satin finish, ends of grab bar pass through flanges and are heliarc welded to flanges to form one structural unit, outside diameter 1-1/2 inches.
- e. Mounting Flanges: Concealed, 18-8, Type 304, 1/8 inch thick, stainless steel plate.
  - 1. End Flanges: 2 inches x 3-1/8 inches with two holes for attachment to wall.
  - 2. Intermediate Flanges: 2-5/8 inches x 3-1/8 inches wide x 3-1/8 inch diameter.
- f. Snap Flange Covers: 18-8, Type 304, 22 gauge drawn stainless steel with satin finish, 3-1/4 inch diameter x 1/2 inches deep; snap over mounting flange to conceal mounting screws.
- g. Mounting Accessories: Provide mounting accessories as required for complete installation.

### **3. Stainless Steel, Welded, Angle Frame Mirrors:**

- a. Bobrick Model B-290
- b. Angle Frame:
  - 1. Materials: Type 304 stainless steel angle 3/4 inch x 3/4 inch (19 x19mm), with satin finish with vertical grain on exposed surfaces.
  - 2. Construction: One-piece, roll-formed construction with continuous integral stiffener.
  - 3. Design: Beveled design on front of angle to hold mirror tightly against frame; prevents exposure to sharp edges.
  - 4. Corners: Heliarc welded, ground, and polished smooth.
- c. Mirror:
  - 1. No. 1 quality, 1/4 inch float/plate glass.
  - 2. Edges: Protected with plastic filler strips.
  - 3. Back of Mirror: Protected by full-size, shock-absorbing, water-resistant, non-abrasive 3/16 inch thick polyethylene padding.
- d. Mounting: Removable, galvanized steel back with integral horizontal hanging brackets located at top and bottom for mounting on Concealed one-piece rectangular wall hanger(s); galvanized steel back fastened to frame with Concealed screws to permit glass replacement; attachment by rivets or tabs is not acceptable; Concealed Phillips head locking setscrews secure mirror to wall hanger in bottom of frame.

### **4. Shower Rods and Curtains**

- a. Shower Curtain Hooks: Bobrick Part No. 204-1 Shower Curtain Hook.
  - 1. Materials: 18-8, Type 304, 0.09 inch diameter stainless steel.
  - 2. Operation: Can be used with 1 inch and 1-1/4 inch diameter rods.
- b. Vinyl Shower Curtains: Bobrick Model 204-2.
  - 1. Width: 42 inch, requires 7 hooks.
  - 2. Curtain: Opaque, matte white, 0.008 inch thick vinyl containing antibacterial and flame-retardant agents; hemmed bottom and sides.
  - 3. Grommets: Nickel-plated brass, along top edge every 6 inches.
  - 4. Height: 72 inches.
- c. Shower Curtain Rods: Bobrick Model B-6047 x 36.
  - 1. Length: 36 inches.
  - 2. Curtain Rod: 18-8, Type 304, 18 gauge stainless steel tubing with satin finish.
  - 3. Outside Diameter: 1-1/4 inches.

4. Flanges: One-piece, die-formed, 18-8, Type 304, 20 gauge stainless steel with satin finish.

**5. Towel Hooks: Bobrick Model B-983.**

- a. Mounting: Secured from front.
- b. Projection from Wall: 2-1/8 inch.
- c. Faceplate: Drawn, one-piece, seamless construction 14 gauge, 18-8, Type 304 stainless steel with satin finish on exposed surfaces.
- d. Hooks: Snap down for safety if excessively loaded.
- e. Fasteners: Tamper-resistant, flat-head, hex-socket, stainless steel machine screws.

**6 Surface Mounted Soap Dish: Bobrick Model B-6807**

- a. One-piece stainless steel soap dish welded to support arm.
- b. 4-1/4" wide; 2" high; projects 3-3/8" from wall.
- c. One per shower stall.
- d. Location for installation to be directed in the field.

**J. INSTALLATION**

1. Install products in strict compliance with manufacturer's written instructions and recommendations, including the following:
  - a. Verify blocking has been installed properly.
  - b. Verify location does not interfere with door swings or use of fixtures.
  - c. Comply with manufacturer's recommendations for backing and proper support.
  - d. Use fasteners and anchors suitable for substrate and project conditions.
  - e. Install units rigid, straight, plumb, and level, in accordance with manufacturer's installation instructions and approved shop drawings.
  - f. Conceal evidence of drilling, cutting, and fitting to room finish.
  - g. Test for proper operation.

**K. CLEANING AND PROTECTION**

1. Clean exposed surfaces of compartments, hardware, and fittings using methods acceptable to the manufacturer.
2. Touch-up, repair or replace damaged products until Substantial Completion.

END OF SECTION 10 28 13

## SECTION 12 24 13 - WINDOW SHADES

### A. SUMMARY

1. Provide all material, labor, tools and equipment necessary to furnish and install manually operated roll-up fabric interior window shades as indicated on the drawings and specified herein. Include all mounting and operating hardware.

### B. RELATED SECTIONS

1. Section 06 10 0 - Rough Carpentry: Blocking for support of window shade hardware.
2. Section 07 92 00 - Joint Treatment
3. Section 09 21 16 - Gypsum Board Assemblies
4. Section 09 51 13 - Acoustical Ceiling Systems

### C. REFERENCES

1. NFPA 701-99 - Fire Tests for Flame-Resistant Textiles and Films.

### D. SUBMITTALS

1. General: Submit under provisions of Section 01 33 00 - Submittal Procedures.
2. Product Data: Manufacturer's data sheets on each product specified, including:
  - a. Preparation instructions and recommendations.
  - b. Installation and maintenance instructions.
  - c. Styles, material descriptions, dimensions of individual components, profiles, features, finishes and operating instructions.
  - d. Storage and handling requirements and recommendations.
  - e. Mounting details and installation methods.
3. Shop Drawings: Plans, elevations, sections, product details, installation details, operational clearances and relationship to adjacent work.
4. Window Treatment Schedule: For all roller shades. Use same room designations as indicated on the Drawings, field verified window dimensions, quantities, type of shade, controls, fabric, and color, and include opening sizes and key to typical mounting details.
5. Selection Samples: For each finish product specified, two complete sets of shade cloth options and aluminum finish color samples representing manufacturer's full range of available colors and patterns.
6. Verification Samples: For each finish product specified, two complete sets of shade components, unassembled, demonstrating compliance with specified requirements. Shade fabric sample and aluminum finish sample as selected, representing actual product, color, and patterns. Mark face of material to indicate interior faces.
7. Maintenance Data: Methods for maintaining roller shades, precautions regarding cleaning materials and methods, instructions for operating hardware and controls.
8. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

### E. QUALITY ASSURANCE

1. Manufacturer Qualifications: Obtain roller shades through one source from a single manufacturer with a minimum of twenty years experience in manufacturing products comparable to those specified in this section.
2. NFPA Flame-Test: Passes NFPA 701. Materials tested shall be identical to products proposed for use.

### F. DELIVERY, STORAGE, AND HANDLING

1. Do not deliver window shades until building is enclosed and construction within spaces where shades will be installed is substantially complete.
2. Deliver products in manufacturer's original, unopened, undamaged containers with labels intact.

3. Label containers and shades according to Window Shade Schedule.
4. Store products in manufacturer's unopened packaging until ready for installation.

G. SEQUENCING

1. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
2. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

H. PROJECT CONDITIONS

1. Install roller shades after finish work and ambient temperature, humidity and ventilation conditions are maintained at levels recommended for project upon completion.

I. WARRANTY

1. Hardware and Shade Fabric: Manufacturer's standard twenty-five year limited warranty.

J. PRODUCTS

1. Standard Specified: FlexShade, as manufactured by Draper, Inc.
  - a. Manually operated, vertical roll-up, fabric window shade with components necessary for complete installation.
    1. Operation: Bead chain and clutch operating mechanism allowing shade to stop when chain is released. Designed never to need adjustment or lubrication. Provide limit stops to prevent shade from being raised or lowered too far.
      - a. Clutch mechanism: Fabricated from high carbon steel and molded fiberglass reinforced polyester or injected molded nylon.
      - b. Bead chain loop: Stainless steel bead chain hanging at side of window.
      - c. Idler Assembly: Provide roller idler assembly of molded nylon with adjustable length idler pin to facilitate easy installation, and removal of shade for service.
    2. Mounting:
      - a. Mounting brackets.
      - b. Endcaps and fascia.
    3. Roller Tube: Fabricated from extruded aluminum, galvanized steel, or enameled steel. Diameter, wall thickness, and material selected by manufacturer to accommodate shade type and size. Fabric connected to the roller tube with LSE (low surface energy) double sided adhesive specifically developed to attach coated textiles to metal. Adhesive attachment to eliminate horizontal impressions in fabric.
    4. Brackets: Plated stamped steel. Provide size compatible with roller size.
      - a. Mounted to wall.
    5. Shade slat: Slat encased in heat seamed hem.
    6. Fascia: L shaped aluminum extrusion to conceal shade roller and hardware.
      - a. Attachment: Snaps onto endcaps without requiring exposed fasteners of any kind. Fascia can be mounted continuously across two or more shade bands.
      - b. Finish: Clear anodized.
  - b. Fabric: Shear Weave SW2900 - Color as selected by Architect, unless noted otherwise.

K. EXAMINATION

1. Do not begin installation until substrates have been properly prepared.
2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.



L. INSTALLATION

1. Install in accordance with manufacturer's instructions.
2. Install roller shades level, plumb, square, and true. Allow proper clearances for window operation hardware.

M. TESTING AND DEMONSTRATION

1. Demonstrate operation of shades to Owner's designated representatives.

N. PROTECTION

1. Protect installed products until completion of project.
2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 12 24 13

## SECTION 220100 - PLUMBING GENERAL PROVISIONS

### PART 1 - GENERAL

#### 1.1 RELATED CONTRACT DOCUMENTS

- A. Refer to this Division's Supplemental General Provisions for additional Project requirements.
- B. The provisions of the Instructions to Bidders, General Conditions, Supplementary Conditions, Alternates and Addenda are a part of this Specification. Contractors and Subcontractors shall examine these provisions as they may affect work under this Division.
- C. Contractor shall examine Division 1 Contract Documents for general project requirements.
- D. Contractor shall also examine the Contract Documents of all Divisions which may affect and require work under this Division and be responsible for all work required under this Division.

#### 1.2 DESCRIPTION OF WORK

- A. This project involves work in an existing operating facility and will require close communication with Owner with regard to access and work hours. Coordinate all work schedules with Owner prior to bidding. When project includes a Construction Manager, all work schedules shall also be coordinated with the Construction Manager, prior to bidding.
- B. All Drawings as well as the Specifications for all Divisions shall be defined as the Contract Documents. Contractor shall review entire set of Contract Documents prior to bidding.
- C. Drawings and Specifications are to be considered as supplementing each other. Work specified but not shown, or shown but not specified, shall be performed or furnished as though mentioned in both the Specifications and the Drawings.
- D. Prior to submitting bid, Contractor shall examine all Drawings and Specifications to develop a complete understanding of the project scope. Contractor shall ask for clarifications during the pre-bid phase of the project. Failure to do so will not relieve the Contractor of their responsibility to perform all required work.
- E. Where the project scope involves renovations and additions, it is recommended that Contractors visit the site of the work and become familiar with the conditions affecting the installation. Submission of a Bid shall presuppose knowledge of such conditions and no additional compensation shall be allowed where extra labor or materials are required because of the lack of knowledge of these conditions.

- F. Bid shall include any special phasing requirements related to the construction work as described in the Contract Documents. Coordinate with Division 1.
- G. Extra costs which might result from deviations from the Drawings, so as to avoid interferences, shall be considered a "Job Condition", and no additional compensation shall be considered applicable. In the event that such interferences occur in course of the work, due to an error, omission, or oversight by the Contractor, no additional compensation shall be allowed. Interferences that may occur during the course of construction shall be brought to the immediate attention of the Architect and Engineer, and the Architect and Engineer's decision, confirmed in writing, shall be final.
- H. The following general terms as used within the context of the Contract Documents shall be defined as follows:
  - 1. "Contract Documents" - The complete set of Drawings and Specifications for all Divisions included in the project.
  - 2. "Drawings" - Drawings furnished as part of the Contract Documents.
  - 3. "Contractor" - This Division's Contractor and the Subcontractors to this Division's Contractor.
  - 4. "Responsible" - To perform work required.
  - 5. "Furnish" - To supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations.
  - 6. "Install" - Work which includes the actual unloading, unpacking, assembly, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
  - 7. "Provide" - To furnish and install, complete and ready for the intended use.
  - 8. "Equal" - To meet or exceed the standards of the specified products or listed manufacturers.

### 1.3 WORK INCLUDES

- A. Include all labor, material, equipment, services, permits, fees, coordination, supervision and administration necessary for the proper completion of all work shown. Items omitted, but necessary, to make all systems complete and workable shall be understood to form part of the work.
- B. Material for work required to complete installation such as earthwork, concrete, masonry, mortar, reinforcing steel, patching and painting shall be provided as specified in other applicable Divisions covering such work.
- C. Provide material and labor which is neither drawn nor specified but which is obviously a component part of and necessary to complete work and which is customarily a part of work of similar character.
- D. Include all testing, test reports, system programming, start-up reports and warranties for each system as outlined elsewhere in these Specifications. Refer to "Operating and Maintenance Manuals" for additional requirements.

1.4 ALTERNATES

- A. Refer to Division 1 for a description of alternates.

1.5 PERMITS AND FEES

- A. Secure and pay for permits and inspections required for all work related to this Division. Turn over certificates of approval to the Owner or Construction Manager promptly when received, and before payment is made for the work.
- B. Give proper authorities notice as required by law relative to the work in their charge. Comply with the regulations regarding temporary enclosures, obstructions or excavations and pay all legal fees involved.

1.6 QUALITY ASSURANCE

- A. Work shall be installed in accordance with provisions of all applicable codes, as interpreted by the local Authority Having Jurisdiction (AHJ), as well as any further modifications or regulations published by local or State Authorities.
- B. Reference to the codes and standards listed shall constitute the minimum acceptable requirements. Nothing in the Specifications shall be construed to permit deviation from the requirements of the governing code. Where requirements of the Drawings and Specifications exceed those of the code listed, follow the Drawings and Specifications.
- C. The following building codes with amendments shall be followed:
  - 1. Ohio Building Code
  - 2. Ohio Fire Code
- D. Applicable portions of the following codes, standards, societies and agencies shall be followed. Where a specific edition is listed, it shall be used. Where not listed, the edition recognized by the Authority Having Jurisdiction shall be used. Listing of a specific portion of a code, standard, society or agency does not preclude the Contractor from following all other applicable portions of the code, standard, society or agency.
  - 1. American National Standards Institute (ANSI)
  - 2. American Society of Testing and Material (ASTM)
  - 3. Americans with Disabilities Act (ADA) - Americans with Disabilities Act Accessibility Guidelines (ADAAG)
  - 4. Federal Occupational Safety and Health Act (OSHA)
  - 5. NFPA Standards as referenced by the Building Codes.

1.7 ELECTRONIC MEDIA

- A. Electronic drawing files are available to the Contractor from the Engineer for coordination purposes as defined in Division 0 and Division 1.

- B. Contractor shall deliver closeout documents on a portable memory device. Portable memory device shall refer to CD, DVD, Flash Drive, external hard drive or any other portable media used for storing electronic files.

#### 1.8 SUBMITTALS

- A. Conform to submittal requirements outlined in Division 1 Specifications. Provide Submittals in an electronic format. The file format shall be portable data file (.pdf).
- B. Submittal transmittal shall list corresponding Specification Section and a description of item(s) being submitted. Each submittal shall only include items from one Specification Section. Submittals which include items from multiple specification sections will be returned "REVISE AND RESUBMIT."
- C. Prepare Submittals with adequate details and dimensions as necessary to clearly show construction. Clearly identify each item on the submittal with designation as indicated on Drawings including location and use. Include with Submittals Manufacturers published descriptive literature, specifications, performance data (normal operating characteristics, curves, ratings, etc.), wiring diagrams and installation instructions. Indicate for each item the operating characteristics, design conditions, features, and optional items that are intended for application on this project. Where contents of Submittal literature include data not pertinent to the Submittal, clearly indicate (highlight) which portion of content is being submitted for review.
- D. Contract Documents include scheduled equipment which is the Basis of Design and used to establish design and space requirements. Contract Documents may also include alternative acceptable manufacturers. Where alternative manufacturer's equipment is submitted which alters the design or space requirements indicated in the Contract Documents, the Contractor shall be responsible for the revised design and construction including the costs of all associated trades involved. No costs associated with deviations from the Basis of Design shall be borne by the .
- E. If for any reason, the Submittal shows variations from the requirements of the Contract Documents, the Contractor shall make mention of such variation in the letter of transmittal. The Contractor shall note in red on the Submittal any change in design or dimension on the items submitted including changes made by the Manufacturer which may differ from catalog information.
- F. Where additional installation drawings, wiring diagrams or other drawings are specified elsewhere as part of the project requirements, they shall be submitted at the same time as the Submittals. Partial Submittals are not acceptable.
- G. Contractor shall review each Submittal prior to submission, and check for compliance with the Contract Documents. Corrections shall be noted. Mark with approval stamp prior to submission. Submittals that do not bear the Contractor's approval stamp will be returned without action.

- H. The Submittals will be reviewed only for General compliance and not for dimensions, quantities, etc. The responsibility of correct procurement remains solely with the Contractor. The Submittal review shall not relieve the Contractor of responsibility for errors or omissions and deviations from the Contract Document requirements. Submittals which are not required under this Division shall be returned to the Contractor.
  - I. Where Submittal review format, whether hard copy or software based, includes pre-determined language that includes the word "Approved", the following shall apply:
    - 1. "Approved" shall be defined as "Reviewed, No Exceptions Taken".
    - 2. "Approved as Noted" or similar verbiage shall be defined as "Reviewed, Exceptions as Noted".
  - J. After review of submittals by the Engineer, the Contractor shall revise and resubmit if required to establish compliance with the Contract Document requirements. Resubmittal shall include a document with a written response to each of the Engineer's previous comments.
  - K. The Contractor shall notify the Engineer when all product data and/or shop drawings for all equipment, materials and systems have been submitted for review.
  - L. The Contractor agrees that Submittals, processed by the Engineer, are not change orders; that the purpose of submittals by the Contractor is to demonstrate to the Engineer that the Contractor understands the design intent of the project. This understanding is demonstrated by indicating which equipment and material is required, and by what methods of fabrication and installation will be utilized.
  - M. The Contractor further agrees that if deviations, discrepancies or conflicts between the Submittals and the Contract Documents are discovered, either prior to or after Submittals are processed by the Engineer, the Drawings and Specifications shall control and shall be followed.
  - N. Final reviewed submittals shall be included in the Operating and Maintenance Manuals. Where Submittals are returned "REVIEWED, EXCEPTIONS AS NOTED", the final Submittals shall be updated to include the exceptions. Upon ordering equipment, order sufficient number of sets of product data literature for the Operating and Maintenance Manuals.
- 1.9 GUARANTEE AND WARRANTIES
- A. Warrant that equipment and all work is installed in accordance with good workmanship practice. All equipment shall be installed in accordance with the Manufacturer's recommendations and shall meet the requirements specified. Any equipment failing to perform or function as specified shall be replaced with complying equipment without cost to the . Warranty shall commence upon acceptance of substantial completion of construction by the . Sign-off of individual equipment start-up procedures shall not activate the warranty commencement.

- B. Guarantee against defects in workmanship and materials; repair or replace any defective work, material or equipment within one year from date of formal written warranty commencement. Longer product warranties provided by individual equipment manufacturers shall supersede this one year guarantee; however, the Contractor shall maintain the one year workmanship and materials guarantee for installation of such equipment. Coordinate guarantee and warranty requirements with Division 1 Specifications.

#### 1.10 CLOSEOUT DOCUMENTS

- A. Record Drawings:
  - 1. Record Drawings shall consist of marked-up Drawings as defined elsewhere in the Specifications. Refer to Division 1 for quantities, special formatting, and additional requirements.
  - 2. The Contractor shall produce updated shop drawings electronically from the original shop drawings in an approved format. Updated CAD drawings shall include any deviations or changes made during construction. At the end of the project, the Contractor shall transfer the electronic drawings onto a portable memory device. Both hard copy drawings and the portable memory device shall be provided as Record Drawings.
  - 3. The Contractor shall keep one complete set of the original Drawings on the project site on which shall be recorded any deviations or changes from such Drawings made during construction. These drawings shall become the Record Drawings, shall be kept clean and undamaged, and shall not be used for any other purpose other than recording deviations from the original Drawings. At the end of the project, the Contractor shall make electronic .pdfs of these drawings and transfer them onto a portable memory device. Both hard copy drawings and the portable memory device shall be provided as Record Drawings.
  - 4. After the project is completed, the Record Drawings shall be delivered to the Architect/Engineer for inclusion into the Operating and Maintenance Manuals, as a permanent record of the installation as constructed.

#### 1.11 SITE REPORTS AND PUNCHLISTS

- A. The Engineer may visit the site periodically during construction and provide written Construction Observation Reports to the Contractor identifying areas where installation does not meet the intent of the Contract Documents. The Contractor shall provide a written response to these reports within 5 business days, indicating the reason the installation is out of compliance with the Contract Documents. After review, the Engineer may or may not require the Contractor to correct the installation. The Contractor shall correct the installation unless the reason for non-compliance is accepted, in writing, by the Engineer or .
- B. Final Punch List

1. The Engineer will visit the site to perform a scheduled Final Punch List to identify areas where the installation is incomplete or does not meet the intent of the Contract Documents.
  2. If the Engineer is requested to perform the Final Punch List prior to the Contractor being 100% complete with their scope of work, the Contractor shall furnish a Contractor's Completion List, indicating all incomplete work. This list shall be furnished to the Engineer a minimum of 24 hours prior to the scheduled Final Punch List.
  3. The Contractor shall respond to each punch list item along with a date, indicating that the item has been completed or corrected.
  4. A copy of the Final Punch List with the Contractor's responses shall be included on the Operating and Maintenance Manual.
- C. Where on-line documentation management services or project management software requires the author/initiator of a corrective action to close it, and the Engineer is the author/initiator, the following shall apply:
1. When the corrective action is reported as corrected/complete, by either the responsible Contractor or the Construction Manager, the Engineer will assume that the parties responsible for construction have reviewed and approved the correction.
  2. By closing the corrective action, the Engineer is in no way approving nor assuming responsibility for the installation.

## PART 2 - PRODUCTS

### 2.1 EQUIPMENT AND MATERIALS

- A. All equipment and materials used on this project shall be new and listed or labeled by a Nationally Recognized Testing Laboratory (NRTL) such as UL, ETL, CSA, etc. or as approved by the local Authority Having Jurisdiction. Equipment and materials shall be installed or used in accordance with instructions included with the listing or labeling. Where possible, the same brand or manufacturer shall be used for each type of material or equipment. such as.
- B. Equipment and materials for the construction shall be the responsibility of the Contractor and shall be protected by the Contractor until formally accepted by the .
- C. All Manufacturers of equipment shall verify to the satisfaction of the Contractor and Engineer that their equipment will function properly under the conditions of use, as shown on the Drawings and as specified herein. Dimensions, weights, operating characteristics and all other related appurtenances shall be verified before submittal of shop drawings.
- D. Domestic steel shall be used for steel products as required by the Ohio Revised Code, Chapter 153.



## 2.2 MATERIAL SUBSTITUTIONS

- A. Bids shall be based upon the specified products, suppliers or listed alternatives. The Drawings and Specifications are based on the products specified by type, model, size and suppliers if indicated and thus establish minimum qualities which substitutes must meet to qualify for review.
- B. Should the Contractor propose to furnish materials, equipment and/or suppliers other than those specified, submit a written request for substitutions to the Architect or Engineer in accordance with Division 1 requirements. The request shall be an alternate to the original Bid and shall be accompanied with complete descriptive (manufacturer, brand name, catalog number, supplier name and references, etc.) and technical data for all items. Indicate any additions or deductions to the base Bid price.
- C. Where substitutions alter the design or space requirements indicated in the Contract Documents, the Contractor shall be responsible for the revised design and construction including the costs of all associated trades involved. No costs associated with the use of a substitution shall be borne by the .
- D. Acceptance or rejection of the proposed substitutions shall be subject to approval of the Architect or Engineer. If requested, the Contractor shall submit inspection samples of both the specified and the proposed substitute items for review.
- E. In all cases where substitutions are permitted, the Contractor shall bear any and all extra cost of evaluating the equality of the material and equipment to be installed.
- F. Where only one Manufacturer or supplier is named in the Contract Documents, the system or equipment shall be provided as specified.
- G. Verbal requests or approvals of substitutions shall not be binding on the Architect, Engineer or .

## PART 3 - EXECUTION

### 3.1 SAFETY

- A. The Contractor shall follow all safety requirements as defined herein, as described in Division 1 and as defined by safety protocols.
- B. Work shall be performed on de-energized equipment in accordance with NFPA 70E.
- C. Should suspected hazardous materials be encountered, Contractor shall adhere to procedures, methods and regulations of the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) and immediately notify .

### 3.2 COORDINATION

- A. Take all field measurements necessary and assume responsibility for the accuracy.
- B. If any work is fabricated or assembled off-site, assume responsibility for the accuracy of such pre-manufactured assemblies.
- C. Install work that is to be concealed within the building construction in sufficient time to secure proper location without delay to the work of other trades.
- D. Assume responsibility for location of chases, other openings through masonry and concrete construction. When work cannot be installed concurrent with building construction, arrange for rough-in boxes, sleeves, inserts and other items, as necessary for installation thereof at a later date.
- E. If any work is installed so that the architectural design cannot be adhered to, Contractor is responsible for making such changes as Architect may require. Before installing work, report any interferences between work of this Division and work of other Divisions to Architect as soon as discovered. Architect will determine which work must be relocated, or make adjustments to maintain clearances, maximum headroom and to avoid conflict with other work.
- F. Become familiar with the construction where work attaches. Review Structural Drawings for coordination of openings. Cut no structural members or slabs without Architect's and/or Structural Engineer's written approval.
- G. Exercise caution when working in areas where concealed systems or materials may exist. Any costs for repair of damage incurred shall be the responsibility of Contractor causing the damage.

### 3.3 PROTECTION

- A. All finished surfaces shall be protected from damage and spills during construction.
  - 1. Protect finished floors with a heavy duty flexible fiber reinforced floor protection board - Ram Board or equal.
  - 2. When setting up pipe cutting and threading machines, protect area against staining and abrasion. Provide plywood protection over Ram Board underlayment.
  - 3. Protect finished surfaces from chips and cutting oil by use of a chip receiving pan and oil proof cover.
  - 4. Protect equipment and finished surfaces from welding and cutting spatters with baffles and spatter blankets.
  - 5. Protect finished surfaces from paint droppings, insulation adhesive, etc. by use of drop cloths.
- B. The cost of correcting any such condition will be charged against the respective Contractor.

### 3.4 EQUIPMENT INSTALLATION

- A. Install equipment in accordance with equipment manufacturer's published installation instructions.
- B. Should the Drawings and/or Specifications include procedures that exceed or call for materials that differ from the manufacturer's instructions, the Contractor shall follow the Drawings and/or Specifications. This requirement does not release the Contractor from the obligation to follow all other published instructions and installation recommendations. Contractor shall make Engineer aware, in writing, of discrepancies between the Drawings and Specifications and the manufacturer's published installation instructions, and/or confirm Engineer's design intent, prior to installation of the equipment. Failure to comply may result in reworking the equipment installation or replacement of materials associated with the equipment at no additional cost to the .

### 3.5 CUTTING AND PATCHING

- A. All cutting and patching in construction as necessary for installation of this work shall be the responsibility of this Division and performed by the Tradesmen related to that specific Division of work. Subcontract this work to the appropriate Trade Division.
- B. Do not cut any structural member, including but not limited to steel framing and structural floors, without specific permission from the Architect and/or Structural Engineer.
- C. Do not cut openings in roof or floor construction without specific permission from the Architect and/or Structural Engineer. Where locations of penetrations are inaccurate or where building components are improperly cut by inadequate methods, the Contractor in error shall be responsible for complete repair.
- D. The Contractor shall assume responsibility for removing and replacing existing ceiling tiles as required for installation of all work. Areas include that as outlined by the project scope and areas outside the scope where the Contractor is required to make connections to existing systems and install new work. Damaged tiles shall be replaced.

### 3.6 SERVICE SHUTDOWNS

- A. This project involves remodeling of existing areas in an operating facility. Plan work including alterations and connections to existing facilities, to permit carrying on normal building functions. When necessary to temporarily interrupt a service, shutdowns shall be scheduled through the Owner and shall be done at a time as directed by the Owner. No additional compensation shall be allowed for these shutdown periods even though premium time work may be required unless specifically defined in Division 1.
- B. Provide temporary service to equipment or systems that cannot be shut down, and as determined by Owner, or as described in the Contract Documents. Remove temporary services when permanent work is completed

- C. Provide a minimum of one week notice to the Owner before any service shutdown is scheduled.

END OF SECTION

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## SECTION 220101 - PLUMBING SUPPLEMENTAL GENERAL PROVISIONS

### PART 1 - GENERAL

#### 1.1 RELATED CONTRACT DOCUMENTS

- A. Refer to 22 01 00: Plumbing General Provisions for additional Project requirements.

#### 1.2 ALTERNATES

- A. Division 22 does not have alternates.

#### 1.3 QUALITY ASSURANCE

- A. Reference to the codes and standards listed shall constitute the minimum acceptable requirements. Nothing in the Specifications shall be construed to permit deviation from the requirements of the governing code. Where requirements of the Drawings and Specifications exceed those of the code listed, follow the Drawings and Specifications.
- B. The following building codes with amendments shall be followed where applicable:
  - 1. 2017 Ohio Mechanical Code
  - 2. 2017 Ohio Plumbing Code
  - 3. 2015 International Fuel Gas Code
- C. Lead-free Compliance
  - 1. In compliance with "The Reduction of Lead in Drinking Water Act" signed into federal law on January 4, 2011 and in effect as of January 4, 2014, all applicable products and materials installed shall meet the standard of ANSI/NSF 372 pertaining to any wetted surfaces of pipes, pipe fittings, plumbing fittings, and plumbing fixtures having a weighted-average lead content of no more than 0.25% ( 0.20% for solders and flux) when used in applications intended to convey or dispense water for human consumption through drinking or cooking.
  - 2. Model numbers specified herein may or may not reflect manufacturer's updated compliant versions; however distinguishing product identification is required of the manufacturer per the ANSI/NSF 372 standard. It is the intent of this specification to specify only compliant versions of any model or product whether a revised number is available, or not at the time of this printing.
  - 3. It is the responsibility of the installing contractor to secure only compliant materials, equipment, components, etc. for installation. Formerly made versions or models of equipment containing non-compliant components are not acceptable.

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- D. Applicable portions of the following codes, standards, societies and agencies shall be followed. Where a specific edition is listed, it shall be used. Where not listed, the edition recognized by the Authority Having Jurisdiction shall be used. Listing of a specific portion of a code, standard, society or agency does not preclude the Contractor from following all other applicable portions of the code, standard, society or agency.
1. American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
  2. ASHRAE 90.1--2010: Energy Standard for Buildings
  3. American Society of Mechanical Engineers (ASME)
  4. ASME BPVC-2010: Boiler and Pressure Vessel Code
  5. American Society of Sanitary Engineers (ASSE)
  6. American Water Works Association (AWWA)
  7. American Welding Society (AWS)
  8. Cast Iron Soil Pipe Institute (CISPI)
  9. National Fire Protection Association (NFPA)
  10. NFPA 70-2017: National Electric Code
  11. NSF International

#### 1.4 SUBMITTALS

- A. Prior to commencing work, submit product data and/or shop drawings for Plumbing equipment, materials and systems as required in each individual Division 22 Specification section. Provide all Submittals far enough in advance of scheduled dates for installation to provide sufficient time for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery.
- B. Prefabricated Plumbing Assemblies: submit fabrication diagrams complete with all components, hardware, fastening, shipping reinforcement, and field connection points.

#### 1.5 CONSTRUCTION DOCUMENTATION

- A. Coordination Drawings
1. Supply HVAC Contractor information necessary for the development of Coordination Drawings. Information shall include but not be limited to: locations and sizes of Plumbing equipment and devices; piping routing and sizes; and required service clearances affecting the work of other trades. How this information is supplied shall be discussed and decided between all trades.
  2. Before supplying information to the HVAC Contractor, coordinate locations of all floor, wall, and roof penetrations including sleeve requirements with General Trades. Coordinate locations and types of all access doors with the Architect and General Trades.
  3. Before supplying information to the HVAC Contractor, provide to the Architect and/or Structural Engineer information indicating the size and location of all penetrations through floor slabs. The Contractor shall make all adjustments as required by the Architect and/or Structural Engineer.

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4. Contractor shall approve Coordination Drawings prior to submittal to Architect for review and must indicate acceptance of illustrated conditions by attaching their endorsement to each Drawing.

B. Wall hung fixture carrier installation sign-off approval

1. Submit documentation to Engineer upon completion prior to chase wall construction.
2. Refer to Section 224000 for additional information.
3. Final copies shall be included in the Operating and Maintenance Manuals.

C. Pressure Tests and Disinfection

1. Submit pipe system pressure testing and disinfection documentation to Engineer upon completion.
2. Refer to Section 220300 for additional information.
3. Final copies shall be included in the Operating and Maintenance Manuals.

1.6 CLOSEOUT DOCUMENTS

A. Record Drawings:

1. Record Drawings shall reflect as-built conditions and show changes in:
  - a. Size, type, capacity, etc. of any material, device or piece of equipment
  - b. Location of any device or piece of equipment
  - c. Location of any outlet or source in building service system.
  - d. Routing of any piping, conduit, sewers or other building services.
2. Record Drawings shall indicate the location of all underground, under floor and concealed piping .
3. Record Drawings shall indicate rated walls where firestop materials have been applied.
4. Record Drawings shall indicate the location of all tagged valves including the tag designations.

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## PART 2 - PRODUCTS

### 2.1 NOT USED

## PART 3 - EXECUTION

### 3.1 COORDINATION

- A. Consult the Contract Documents and Submittals pertaining to the work for other trades. Review the field layouts for all trades and make adjustments accordingly in laying out the Plumbing work.
- B. Examine the work of all other trades when it comes in contact with, or is covered by, work in this Division. Do not attach to, cover up, or finish against any defective work, or install work in a manner which will prevent proper installation of the work of other trades. Plumbing Contractor shall be responsible for the costs of adjustments required.

### 3.2 PRODUCT HANDLING

- A. Pay all costs for transportation of materials, equipment to job site.
- B. Provide all scaffolding, tackle, hoists, rigging necessary for placing Plumbing materials and equipment in their proper place. Scaffolding, hoisting equipment: comply with applicable Federal, State, and Local regulations. Remove temporary work when no longer required.
- C. Arrange for packaging of equipment, which must be hoisted, so that there will be no damage or distortion caused by hoisting operation. Protect all piping, ductwork, and equipment from any damage during hoisting operation.
- D. Store equipment, fixtures, controllers, insulation, etc., in dry location and protect from dirt and moisture until building is ready to receive them.
- E. Coordinate location of stored items with other trades. Where necessary, store materials and equipment on movable carts so they may be moved when interfering with the work of other trades.

### 3.3 DAMAGE AND EMERGENCY REPAIRS

- A. Assume responsibility for any damage to new or existing building components caused by work provide as part of the Contract Documents, including leaks in piping systems being installed or reworked. Repair all damage without extra cost to Owner.



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- B. Owner reserves the right to make emergency repairs as required to keep equipment in operation, without voiding Contractor's guarantee or relieving him of responsibility during warranty period.
- C. Restore roads, grounds, paving, insulation, piping, building components, etc., to their original condition whenever this work causes damage.

#### 3.4 CLEANING

- A. At all times keep premises and building in neat and orderly condition, follow explicitly any instructions in regard to storing of materials, protective measures and disposing of debris.
- B. After all tests and adjustments have been completed, clean all equipment leaving everything in working order at the completion of this work. Thoroughly clean all piping, fixtures and equipment of dirt, dust, grease, oil, debris and paint, after all other trades have completed their work.
- C. All debris created by the execution of this work shall be removed as directed by the Architect or Owner.
- D. Upon completion of work remove all tools, equipment and surplus materials.

#### 3.5 PAINTING

- A. Finish painting is included under Division 9 - Finishes, except where specifically called for in Section 220300.
- B. Materials and equipment installed under this Division shall be left free from dirt, grease and foreign matter, ready for painting.
- C. No equipment or piping shall be painted before being tested.
- D. Damaged surfaces of prefinished materials and equipment shall be touch-up painted to match existing finish.

END OF SECTION 220101

## SECTION 220200 – PLUMBING DEMOLITION

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Plumbing equipment, piping and systems indicated on the Demolition Drawings are shown to indicate the extent of demolition only and not intended to be a record drawing of the existing conditions. The Drawings and Specifications establish the minimum standards for workmanship and materials.
  - 1. If additional interpretation is required regarding the scope of demolition, contact the Engineer prior to bid.
- B. Include all labor, materials, equipment, services, and permits necessary for completion of the demolition work.
- C. Provide protection for all adjacent areas before, during, and after execution of the demolition work.
- D. Comply with all the rules and regulations of local and state Authorities Having Jurisdiction, including applicable OSHA safety requirements.
- E. Visit the site and become familiar with conditions affecting the demolition work. No additional compensation shall be approved on claims that arise from a lack of knowledge of the existing conditions.
- F. Normal building functions shall be maintained during the demolition work. Coordinate the day and time of any temporary building system interruptions with the Owner. Additional compensation shall not be approved for premium time effort.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Provide materials and equipment for completion of the demolition work as described within the Specifications and on the Drawings.
- B. Materials and equipment shall be new and UL labeled for the application.

### PART 3 - EXECUTION

#### 3.1 GENERAL DEMOLITION WORK

- A. Disconnect and remove existing Plumbing Work made necessary because of Project alterations as indicated or implied on the Contract Documents of all trades. Relocate equipment and/or devices where indicated. Existing Plumbing equipment, piping and systems not affected by these changes shall remain and shall be protected whether shown on the Drawings or not.
- B. Plumbing equipment, piping and systems shall be de-energized prior to disconnection and removal.
- C. Demolition Work under this Contract shall be accomplished by the Contractor in complete accordance with the Construction Procedure and Progress Schedule specified under Division 1. Proposal shall include any special phasing requirements related to demolition work as described in the Division 1 Specifications.
- D. Remove existing equipment indicated including piping connections. Existing equipment shown as being reused or relocated shall be carefully removed, stored on the premises, and refurbished before reinstallation.
- E. Equipment to be salvaged by the Owner shall be carefully removed and stored on site by the Contractor for delivery to the Owner. All other materials, equipment and debris shall become the property of the Contractor and shall be removed from the site.
- F. Remove all previously abandoned equipment and piping encountered above existing ceilings.
- G. Where required, re-support existing to remain piping above ceilings being removed.
- H. Remove piping as described on the Drawings. Cap or plug as indicated or as required by Code. Insulate portion of system left exposed by the piping removal. Insulation shall match that of the existing adjacent insulation or be as specified for new service. Identify in the field where piping connections are to be reused.
- I. Provide drainage, capping, and re-filling as necessary to isolate portions of systems to enable full or partial demolition.
- J. Provide valves as necessary whether indicated or not to isolate portions of systems to enable full or partial demolition and to make ready for re-connection of the new work.
- K. For portions of existing piping systems to be re-used, visually inspect for signs of leaks. Report any such cases immediately upon discovery to the Architect or Engineer. Provide testing similar to that as required for new piping systems to ensure adequate condition. Should any compromised pipe be discovered, notify Architect and Engineer immediately.

- L. Maintain necessary venting for any fixture(s) to remain as a result of partial demolition . If necessary, provide temporary venting to ensure proper fixture operation.
- M. Maintain necessary recirculating hot water for any fixture(s) to remain as a result of partial demolition . If necessary, provide temporary circuits and valves to ensure proper fixture operation.
- N. Cutting, patching, finishing, etc., for removed or relocated Plumbing equipment, piping and systems shall be included as part of the Plumbing Work. All holes and damage caused by the demolition work shall be properly patched with suitable materials to match existing construction. Patching shall be performed by the qualified trade.
- O. Where equipment, piping and systems are removed from fire or smoke rated construction, penetrations shall be patched to match existing ratings with suitable materials matching existing construction. Patching shall be performed by the qualified trade.
- P. Remove and reinstall existing ceiling tiles in areas outside the scope of demolition work as required to complete the demolition work outlined within these Specifications or indicated on the Demolition Drawings. Damaged tiles shall be replaced to match existing.

END OF SECTION

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## SECTION 220300 - PLUMBING BASIC MATERIALS AND METHODS

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

##### A. Materials

1. Pipe and Fittings
2. Pipe Joining Systems
3. Valves
4. Unions
5. Dielectric Connections
6. Floor, Ceiling, and Wall Plates
7. Sleeves
8. Inserts, Hangers, and Supports
9. Nameplates, Markers, and Tags

##### B. Methods

1. General Installation Requirements
2. Access to Equipment and Devices
3. General Piping Installation
4. Pipe Joining
5. Expansion Compensation Installation
6. Installation of Sanitary and Storm Drainage Systems
7. Installation of Domestic Water Supply System
8. Startups
9. Tests and Adjustments
10. System and Equipment Identification

#### 1.2 SUBMITTALS

- A. Refer to Sections 22 01 00 and 22 01 01 for additional requirements.
- B. Submit product data for all piping, materials and manufactured items listed in paragraph 1.1 WORK INCLUDES. Exceptions: Floor, Ceiling and Wall Plates, Sleeves and Paint.

#### 1.3 CONSTRUCTION DOCUMENTATION

- A. Refer to Section 220101.
- B. Submit pipe pressure test and disinfection documentation upon completion of testing and disinfecting. Include final copies in the Operating and Maintenance Manuals.

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## PART 2 - PRODUCTS

### 2.1 PIPED SYSTEMS

- A. Application schedule of required pipe materials and joining:

PIPE AND JOINING APPLICATION SCHEDULE			
PIPED SYSTEM	PIPE SIZE RANGE	PIPE SPECIFIED TYPE (s)	JOINING SPECIFIED METHOD(s)
Domestic Water Inside Building	2" and smaller	Cu-L	Soldered, or Pressed fitting system
Trap Primer Feed Piping Within Ceilings/Above Floors	1/2"	Cu-L	Soldered, or Pressed fitting system
Sanitary Drainage, Waste and Vent Piping - Above Ground	1-1/2" to 15"	CI-NH	No-Hub coupling, or MG fitting
Sanitary Drainage, Waste and Vent Piping - Above Ground (Not in HVAC Plenums)	1-1/2" to 15"	PVC-DWV	Solvent Weld

### 2.2 PIPE AND FITTINGS SPECIFICATIONS

- A. CI-NH: No hub cast iron pipe and fittings (ASTM A888, CISPI-301). Acceptable Manufacturers: Charlotte, Tyler, or AB & I.
- B. Cu-L: Type "L" hard drawn seamless copper tube (ASTM B88). Fittings for copper pipe - wrought copper solder joint type (ASME B16.22). Where silver brazing alloy is used to join pipe and fittings, fittings to be suitable for brazing (ASME B16.50).
- C. PVC-DWV : Schedule 40 PVC solid core DWV pipe and fittings per ASTM D2665 with solvent-weld socket fittings for schedule 40 pipe. Acceptable manufacturers: Charlotte Pipe, JM Eagle, Lasco, North American Pipe Corporation, or Spears.

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## 2.3 PIPE JOINING SYSTEMS:

- A. Copper Press System: Where listed for acceptable joining method in above application schedule, the following press system may be used.
  - 1. Press Fittings - Copper press fittings shall conform to the material and sizing requirements of ASME B16.18 or ASME B16.22. O-rings for copper press fittings shall be EPDM.
  - 2. Installation must be in accordance to manufacturer's instructions and specifications.
  - 3. Manufacturer - Viega Pro-Press or equivalent by NIBCO, or Apollo.

## 2.4 VALVES

- A. Provide all valves of the same manufacturer where possible.
- B. Valves in domestic water shall be "Lead Free": Refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content  $\leq 0.25\%$  per Safe Drinking Water Act as amended January 4th 2011 Section 1417.
- C. Manufacturers: Valve basis of design are of NIBCO manufacture. Other acceptable manufactures
  - 1. Apollo
  - 2. Hammond
  - 3. Jomar
  - 4. Milwaukee
  - 5. Watts
- D. Provide valves with joining ends to match that of the specified piped system(s).
- E. Utilize adapter fittings only when listed valve manufacturer does not offer suitable ends for joining to the specified piped system's joining.
- F. Grooved and pressed piping systems may have valves of the same manufacturer of the grooved or pressed piping joining system providing they meet criteria of valves specified below.
- G. Valves for Water Filled Piping
  - 1. Valves in water piping 2 inches and smaller - Two-piece ball valves with cast silicon bronze body, Teflon seats, full port, blow-out proof stem, adjustable packing gland, stainless steel or silicon bronze ball, soldered, Press or threaded ends, minimum 150 WSP, 600 WOG. Provide thermoplastic extended handle for 2" of insulation. Conform to ASTM, NIBCO S/T/PC 585-66-LF Series.

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## 2.5 STRAINERS

- A. 2 inches and smaller, 'Y' type pipe line strainer, brass or bronze body, threaded ends, 304 stainless steel screen with 20 mesh openings, 400 PSIG at 210 degree F. Complete with solid retainer cap and gasket. WATTS Series 777 or equivalent by CLA-VAL, Conbraco, Febco, or Wilkins.

## 2.6 UNIONS

- A. Unions in copper piping 2 inches and smaller: Cast brass solder fittings with machined and lapped seats suitable for 175 PSI working pressures.

## 2.7 DIELECTRIC CONNECTIONS

- A. Provide at connections between copper and ferrous metal piping materials in domestic cold water systems ASTM F441, Schedule 80, CPVC threaded pipe nipples, 4 inches minimum length. Provide for dielectric connections in pipe sizes 2 inches and smaller.
- B. Provide at connections between copper and ferrous piping in domestic hot water systems Victaulic Clearflow dielectric waterway Style 47. Fitting consists of zinc plated casing with a chemically inert NSF/FDA listed dielectric thermoplastic lining.

## 2.8 FLOOR, CEILING, AND WALL PLATES

- A. Fit all pipe passing exposed through walls, floors, or ceilings in finished rooms with steel or brass escutcheons. Where surface is to receive a paint finish make escutcheons prime painted; otherwise make escutcheons nickel or chrome plated. Where piping is insulated, fit escutcheons outside insulation.

## 2.9 SLEEVES

- A. Where pipes pass through masonry or concrete walls, set machine cut steel pipe sleeves 1 inch larger than outside diameter of pipe, with ends of sleeves flush with wall faces. Sleeves in partitions other than masonry or concrete where firestopping is required: 28 gage galvanized steel sheet.
- B. Where pipes pass through floors, set Schedule 40 galvanized steel pipe sleeves 1 inch larger than the outside diameter of the pipe. Top of sleeve to be 4 inches above finished floor in machine rooms and wet floor locations.
- C. Where pipes are insulated, provide sleeves large enough to allow insulation to pass through sleeve. Center pipes in sleeves.
- D. Set sleeves true to line, grade; position and plumb or level and so maintain throughout construction period.



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- E. Where concrete or masonry walls are core drilled for pipe passage steel sleeves are not required.
- F. Provide fire stopping between pipe and sleeve or opening as required to maintain the integrity of the fire rating of all walls and floors.
- G. Where pipes pass through exterior walls below grade, set Schedule 40 steel pipe or manufactured castings or sleeves 1-1/2 inch larger than the outside diameter of the pipe. Make the pipe to wall penetration closure with "Link-Seal" as manufactured by the Thunderline Corp. or Metraseal.

## 2.10 INSERTS, HANGERS, AND SUPPORTS

- A. Manufacturer: Basis of design shall be Anvil. Other acceptable manufacturers include Mason, Holdrite, or Erico/Caddy.
- B. Support all piping from building structure with appropriate attachment. Do not support from another pipe, ductwork, ceiling framing, or metal roof deck. Where fireproofing is removed or damaged to allow attachment to building structural members, repair to maintain integrity of fireproofing.
- C. Provide installation to properly support and retain piping, equipment and related conduits and connections. Install in a manner to control expansion, contraction, water hammer, sway, and vibrations with the appropriate anchorage and guides, sway bracing, and rodding restraints.
- D. Provide supplementary angles, channels, and plates where necessary between building structural members to achieve adequate spacing of piping and equipment supports as required by code and this specification. Attach supplementary materials to building structural members by welding, bolting or anchors without compromise to the building's structure.
- E. Provide all inserts for support in concrete construction and forged steel beam clamps when attaching to steel construction. Pressed steel beam clamps are not permitted. Provide threaded rods, turnbuckles, and all other miscellaneous specialties for the attachment of hangers and supports to structure. Provide additional lock nut on each threaded support rod.
  - 1. For up to 3/4 inch diameter rod: Anvil Figure 92, 93, or 94 beam clamps.
  - 2. For up to 7/8 inch and 1 inch diameter rod: Anvil Figure 134 beam clamp with Anvil Figure 290 eyenut.
- F. Hanger Rod Size Application
  - 1. For steel, ductile iron, or cast iron pipe:
    - a. 3/8 inch threaded rod for; 1/2 inch through 2 inch nominal pipe size.
    - b. 1/2 inch threaded rod for; 2-1/2 inch through 3-1/2 inch nominal pipe size.

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- c. 5/8 inch threaded rod for; 4 inch through 5 inch nominal pipe size.
  - d. 3/4 inch threaded rod for; 6 inch through 8 inch nominal pipe size.
  - e. 7/8 inch threaded rod for; 10 inch through 12 inch nominal pipe size.
  - f. 1 inch threaded rod for; 14 inch through 18 inch nominal pipe size.
- 2. For copper and plastic pipe:
  - a. 3/8 inch threaded rod for; 1/2 inch through 2 inch nominal pipe/tube size.
  - b. 1/2 inch threaded rod for; 2-1/2 inch through 5 inch nominal pipe/tubing size.
  - c. 5/8 inch threaded rod for; 6 inch nominal pipe/tubing size.
  - d. 3/4 inch threaded rod for; 8 inch through 12 inch nominal pipe/tubing size.
- G. Provide support saddles where pipes are insulated. All insulation shall be continuous through all hangers.
- H. Suspended Piping Hangers
  - 1. Uninsulated piping 2 inches and smaller - Anvil Figure #69 adjustable swivel ring.
  - 2. Uninsulated piping 2-1/2 inches and larger - Anvil Figure 260, Carbon Steel adjustable wrot clevis type.
  - 3. Copper tubing (uninsulated) - Anvil Figure CT-69 carbon steel ring and malleable iron adjusting nut completely copper plated.
  - 4. Insulated piping 2 inches and smaller - 18 gage galvanized steel shield (Anvil Figure 167) over insulation in 180 degree segments, minimum 12 inches long with Anvil Figure 260 adjustable clevis type hanger. Or option of using Insulation Saddle System by ANVIL, Figure. #260ISS. ASTM A36 Carbon Steel Clevis Hanger with V-Block Hi Impact Glass reinforced Polypropylene Saddle with low thermal conductivity of .77 (BTU-Sq.Ft. - Hr-Deg F), Flammability Rating Dual Listed ASTM E84 and V-0 UL 94, and Carbon Steel Spacer.
  - 5. Insulated piping 2-1/2 inches and larger (except cold piping) - Anvil Figure 260 adjustable clevis type hanger with pipe covering protection saddle or Anvil Figure 160 Series (depending on insulation thickness). Or option of using Insulation Saddle System by ANVIL, Figure. #260ISS. ASTM A36 Carbon Steel Clevis Hanger with V-Block Hi Impact Glass reinforced Polypropylene Saddle with low thermal conductivity of .77 (BTU-Sq.Ft. - Hr-Deg F), Flammability Rating Dual Listed ASTM E84 and V-0 UL 94, and Carbon Steel Spacer.
  - 6. Rollers - Where thermal movement causes a hanger rod to deviate more than five degrees from the vertical or where longitudinal expansion may cause a movement of more than 1/2 inch in the piping, use and install roller hangers or chairs, Anvil Figure 181, 171, or 175.
  - 7. Plastic piping systems: 18 gauge galvanized steel shield (Anvil Figure 168) over 180 degrees of bottom of pipe, length as recommended by manufacturer. Use with Anvil Figure 260 adjustable clevis type hanger.
- I. Suspended Piping Hanger Spacing

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1. Hanger spacing intervals, at a minimum, shall comply with project's referenced Plumbing Code's maximum spacing allowance as listed for various pipe materials. However, should the pipe manufacturer's installation criteria have more stringent spacing (less distance), it shall be followed.
  2. For systems and piping materials not covered by the project's referenced Plumbing Code, the piping system's manufacturer's installation criteria shall govern to uphold the system's warranty for considerations of content medium's temperature and pressure.
- J. Provide additional hanger support within two feet of each elbow and at valves, strainers and other equipment in pipe lines.
- K. Provide additional supports where necessary to maintain proper alignment for copper and plastic pipe and tubing.
- L. Support cast iron DWV piping at every hub or coupling within 18 inches of hub or coupling. Installations requiring multiple joints within a 4 foot developed length shall be supported at every other or alternating hubs or couplings. Supports shall not exceed 10 feet between hangers. Vertical components shall be secured at each base stack. Provide additional supports where necessary to maintain proper alignment and grade.
- M. Trapeze hangers may be used for multiple runs of piping in lieu of many individual runs. Construct trapeze style support with steel angle or channel-strut products. Provide with adjustable hanger rods and hardware capable for the combined loading. The Contractor shall be responsible for confirmation with engineering representation of such products and hold all liability. Determine trapeze spacing by the smallest pipe supported within the combined run. Install all piping free for independent movement on the trapeze hanger. Provide insulation protection, saddles, and dielectric safeguards similar to that of individually specified supports.
- N. Vertical Piping Support
1. Vertical piping support intervals and required guides, at a minimum, shall comply with project's referenced Plumbing Code's maximum spacing allowance as listed for various pipe materials. However, should the pipe manufacturer's installation criteria have more stringent spacing (less distance), it shall be followed.
  2. For systems and piping materials not covered by the project's referenced Plumbing Code, the piping system's manufacturer's installation criteria shall govern to uphold the system's warranty for considerations of content medium's temperature and pressure.
- O. Secondary Pipe Positioning and Supports
1. Field devised methods of plumbing pipe support, such as with the use of scrap framing materials, are not allowed. Support and positioning of all secondary piping shall be done by means of engineered methods that comply with IAPMO PS 42-96.

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2. Pipe Clamps in Plenum-Rated Environments: All non-metallic clamps must meet ASTM E-84 25/50.
3. Suspended Equipment: Suspended water heaters of 30 gallons or less, suspended from the structure above, shall be installed with an engineered and manufactured product such as the Suspended Water Heater Platform with integral drain body.
4. Hubless Cast Iron Soil Pipe Restraints: CISPI 310-11 complainant engineered restraints comprised of 16 GA, CRS, Galvanized straps and/or heavy duty black steel or galvanized pipe clamps with stainless steel bands, and galvanized steel hardware.
5. Manufacturer: Hubbard Holdrite or equivalent by Erico/Caddy, or Sioux Chief.

## 2.11 NAMEPLATES, MARKERS AND TAGS

### A. Valve Tags:

1. Tags shall be 2" diameter, 1/16" thick, multilayered acrylic with engraved letters.
2. Lettering shall be 3/4" high for type service and 1/2" for number. Tag shall indicate service and valve number. Letter and number designations shall be coordinated with the Owner.
3. Each service shall be a different color in conformance with the "Scheme for the Identifications of Piping Systems" (ANSI/ASME A13.1).
4. Tag shall be attached with chain similar to Seton No. 16 stainless steel jack chain. Use of beaded chain or wire is not acceptable.
5. Acceptable Manufacturers: Seton Nameplate Company, Marking Services Inc.

### B. Pipe Markers

1. Each marker background shall be appropriately color coded with a clearly printed legend to identify the contents of the pipe in conformance with the "Scheme for the Identifications of Piping Systems" (ANSI/ASME A13.1).
2. Flow direction arrows shall be included on each marker.
3. Snap-around markers shall be used for overall diameters up to 6" and strap-around markers shall be used above 6" overall diameters.
4. Underground pipe markers shall be detectable tape, color coded and labeled same as indoors.
5. Acceptable Manufacturers: Seton Nameplate Company, Marking Services Inc.

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## PART 3 - EXECUTION

### 3.1 GENERAL REQUIREMENTS

- A. Location of piping, equipment, etc., on the drawings are diagrammatic; indicated positions shall be followed as closely as possible, exact locations shall be subject to building construction and interferences with other work. In general, conceal piping located outside of equipment rooms. Difficulties preventing the installation of any part of work as indicated, shall be called to the attention of the Architect. Architect will determine locations and changes. Contractor shall install the work accordingly. Architect reserves right to make minor changes in location of any part of the work up to the time of roughing-in without additional cost.
- B. Attempts have been made to identify existing equipment locations and piping routing and sizes with use of existing drawings and field observations. Contractor shall field verify all existing information, report any discrepancies to the Architect or Engineer and note on the Record Drawings.
- C. At locations in project involving alterations, assume responsibility for removal, rerouting, protection and replacement of existing facilities as necessary to install new work. Work to be executed by craft which customarily or by jurisdictional award performs such service. Refer to 22 02 00 for additional information.
- D. Coordinate all work with the phasing of the Project. Certain services must remain active to serve occupied areas during construction. Coordinate all phasing requirements with the Owner.
- E. Install all materials and equipment in a neat and workmanlike manner by competent specialist for each subtrade. The installation of any materials and equipment not meeting these standards may require removal and reinstallation at no additional cost to the Owner.
- F. Locate piping and other services, in pipe spaces, to ensure maximum accessibility. Where necessary to cross pipe spaces, crossing must be made near the floor or 6 feet or more above floor.
- G. Install, connect equipment, services, and materials according to best engineering practice and in conformity with manufacturer's printed instructions. Provide complete auxiliary piping, water seals, valves, electric connections, controls, etc., as recommended by respective equipment manufacturer or required for proper operation.
- H. Take all measurements and determine all elevations at the building.

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### 3.2 ACCESS TO EQUIPMENT AND DEVICES

- A. All valves, equipment, and other devices requiring examination, adjustment, service, and maintenance shall be accessible. If located above drywall ceiling or behind finished walls, provide an access door. Coordinate all access door locations with the Architect and General Trades.
- B. To ensure accessibility during and after construction, when a device is installed, its location shall be marked with securely attached temporary signage. Signage shall indicate the amount of clearance required for the specific device. Signage shall remain in place until the ceiling or access door is installed or until substantial completion.
- C. Clearance shall include not only code required clearance but also clearance for Owner's staff to access the device. This access shall be from the floor or from the floor level using normal maintenance ladders and apparatus to meet all OSHA requirements. Consideration shall be given to accessing a device through an access door.
- D. Where a device is installed above finished ceilings, signage shall be hung below the device at the finished ceiling level. Where a device is exposed, in open ceiling areas, signage shall be hung at approximately 8' above the floor level.
- E. Plumbing Contractor shall monitor these access locations until substantial completion and notify Architect, Owner and Engineer when the access area is encroached upon so that corrective action may be taken immediately.
- F. Corrective action shall be the responsibility of the trade encroaching the access area unless identified that the equipment in question is installed incorrectly or not where indicated on the signed-off coordination drawings.

### 3.3 GENERAL PIPING INSTALLATION

- A. Drawings (floor plans, schematics, and diagrams) indicate the general location and arrangement of the piping systems. Location and arrangement of piping layout take into consideration pipe sizing and friction loss, expansion, pump sizing, and other design considerations. So far as practical, install piping as indicated.
- B. Conceal all pipe installations in walls, pipe chases, utility spaces, above ceilings, below grade or floors, unless indicated to be exposed to view.
- C. Provide shutoff valves at all branch connections to main, at all fixture groupings, each piece of apparatus, and in mains to sectionalize the systems and elsewhere as indicated.
- D. Install ball valves with the stems at the horizontal position and the handle pointing in the direction of flow.
- E. Install all valves and equipment with unions or flanges or grooved couplings to facilitate removal.

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- F. Provide hose end drain valves with cap at all low points, trapped sections and on equipment side of all branch valves to permit draining of all or part of liquid piping systems.
- G. Locate covered piping a sufficient distance from walls, other pipe, ductwork, or other obstacles, to permit application of the full thickness of insulation specified; if necessary, use extra fittings and pipe.
- H. Use Dielectric Connectors where pipe materials change from ferrous to copper.
- I. Make piping connections to equipment and fixtures indicated.
- J. Install all piping, including shut-off valves and strainers, to pumps, and equipment line size with reduction in size being made only at inlet to pump or equipment. Install outlet piping from pump or equipment, full size of outlet connection. Increase to line size and install piping, check valves, strainers and shut-off valves line size.
- K. Plug open ends of pipe or equipment at all times during installation to keep dirt and foreign material out of system.
- L. Arrange and install all pipes, valves, cleanouts, access openings and equipment so as to be accessible for service. Locate equipment to maintain clearances for tube pulling, periodic servicing.
- M. Unless otherwise specified, make branch connections in welded steel piping less than 2/3 of main size with weldolets, butt, or threaded type. Make branch connections 2/3 of main size and larger with weld tees, laterals, or crosses. Shaped nipples are not acceptable.
- N. Make reductions in piping lines with reducing coupling.
- O. Support piping so as not to place a strain on valves or equipment.

#### 3.4 PIPE JOINING

- A. Joint methods shall be as previously specified in this section for the respective piped systems.
- B. All pipes must be reamed and cleaned before assembly. Apply pipe compound to male end of threaded joints. Make all welded joints as previously specified.
- C. Assemble soldered copper pipe by cleaning, fluxing, and soldering per ASTM B32 with lead free solder and fluxes, except where a silver brazing alloy is specified.
- D. Make solvent welded joints in PVC piping with compatible solvents and/or cleaning chemical specified by manufacturer of the particular brand piping being installed. Contractor shall be responsible for safeguarding against incompatible solvents and cleaners and to maintain all product warranties.

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### 3.5 DWV NO-HUB CAST IRON PIPE JOINING

- A. Provide code required CISPI 310-11 complainant anchorage and restraints in cast iron hubless piping system for 5 inch in size and greater.
- B. Make joints in above ground no-hub cast iron pipe systems for storm drain, sanitary, waste, vent and drain piping with engineered couplings comprised of rubber/elastomeric ribbed or grooved gasket, stainless steel shield band, and multiple stainless steel clamping comprised of either 1/4, 5/16, or 3/8 inch drives. The following coupling application indicates duty classes and shall be the minimum required for the project. The contractor may option to exceed the minimums to utilize one clamp for the entire project at no extra cost.
  - 1. Joints located in systems with less than 50 feet of elevation above.
    - a. For sizes through 2 inches, provide standard duty, CISPI 310 compliant as manufactured by Tyler, Anaco, Ideal, Clamp-All Corporation, or Husky.
    - b. For sizes 2-1/2 inches and larger, provide 80 inch pound torque hubless soil pipe couplings. Provide Clamp-All Corporation Model 80, Husky Series 2000, Ideal MD, or Mission HW coupling conforming to FM1680 class one and ASTM C1540.

### 3.6 PRESS FIT JOINING SYSTEM INSTALLATION

- A. Install Press System according to manufacturer's recommendations.
- B. Pipe shall be fully inserted into the fitting and pipe marked at the shoulder of the fittings.
- C. The fitting alignment shall be checked against the mark on the pipe to assure the pipe is fully engaged (inserted) into the fitting.
- D. Joint shall be pressed using the tool provided by the manufacturer.

### 3.7 EXPANSION

- A. Install all piping throughout the project with adequate allowance for expansion to prevent damage to building, equipment, and piping. Provide anchors, loops, expansion compensators, or expansion joints for complete control of movement.
- B. Rooftop gas piping shall limit straight runs no longer than 80 feet. Provide field piped loops or deliberate offsets. Do not lead long runs directly to any equipment connections. Provide deliberate offsets to avoid undue stress to equipment.
- C. Make changes in directions with fittings.



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- D. Make branch connections to mains for domestic hot water risers with at least two (2) 90 degree elbows.
- E. Bullhead connections in any piping service are prohibited.

### 3.8 SANITARY AND STORM DRAINAGE SYSTEMS

- A. Run all drainage and vent piping as direct as possible. Install drains, soil, waste, and storm piping in an actual location to meet the various building conditions. Do any work necessary to conceal piping or clear piping and ductwork of other trades.
- B. Slope branch soil, waste and storm pipes at an incline of at least 1/4 inch per foot of run, and main house drain and storm drain at 1/8 inch per foot unless noted otherwise. Make changes in direction of drainage piping by means of "Y" branches and 1/4, 1/8 or 1/16 bends except that sanitary "T"s and crosses may be used on vertical stacks. Make no unnecessary bends or offsets, where changes in direction are unavoidable make with bends of not more than 45 degrees.
- C. Provide cleanouts at base of all stacks and downspouts, at changes of direction and as indicated. Where more than one change of direction occurs in a run, only one cleanout is required for each 40 feet of developed length of drainage piping. Extend cleanouts on underground lines flush with finished floor or grade. Provide cleanouts not over 50 feet on center along straight runs. Install cleanouts same size of pipe up to 4 inch in diameter. Provide pipe over 4 inch in diameter with a 4 inch cleanout. All cleanouts shall be accessible.

### 3.9 DOMESTIC WATER SUPPLY SYSTEM

- A. Install water system as indicated with hot and cold water being supplied and connected to all fixtures and equipment.
- B. Pitch all water piping to drainage points, provide hose end drain valves at such points.
- C. Provide domestic water piping to trap primers for all floor drains as required.
- D. Provide pressure gauge with shutoff cock on cold water service line inside building.
- E. Provide reduced pressure back flow preventers and install where indicated.
- F. Provide water hammer arrestors on all cold and hot water lines at each group of fixtures and at isolated individual fixtures having flush valves, hose sprays, and electronic quick closing activation. Install and size per manufacturers requirements and in an accessible location - provide access door as needed.
- G. Provide water hammer arrestors in water lines before all quick closing valves such as at dishwashers and washing machines. Install and size per manufacturers requirements and in an accessible location - provide access door as needed.

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- H. Provide unions at all equipment valves, strainers, etc., to facilitate removal for repair or replacement without disturbing adjacent piping.

### 3.10 TESTS AND ADJUSTMENTS

- A. Obtain all inspections required by law, ordinances, rules, regulations of authorities having jurisdiction, furnish certificates of such inspections. Pay all fees, and provide all equipment, power and labor necessary for inspections and tests.
- B. During testing period maintain on the project an engineer thoroughly familiar with all phases for as long a period as required to thoroughly adjust all systems and demonstrate that they are functioning properly.
- C. Perform all tests, including but not limited to those specified, make necessary adjustments to obtain specified equipment and system characteristics.
- D. Do not consider work under this Specification complete until required inspections have been obtained, tests performed, necessary adjustments made, and satisfactory evidence of compliance has been submitted. Architect reserves right to make spot checks to determine accuracy and completeness of final adjustments.

#### E. Piping Pressure Tests

- 1. All piping shall be given the following pressure test without pressure drop. Equipment which would be damaged by the required test pressure shall be isolated from the system during test.
  - a. Domestic Water within Building; hydrostatic test @125 PSIG for (6) hours.
  - b. DWV Systems; sanitary and storm sewers per State Plumbing Code and/or Local Authority
- 2. Correct any leaks by re-making a failed joint or replacing entirely with new joining materials. Once complete, re-test and prove prior to pipe covering and labeling. Patch remedy repairing is not acceptable.
- 3. Perform all tests before piping is concealed or covered.
- 4. Be responsible for completely draining the systems after hydrostatic tests are performed. Any damage from freezing prior to acceptance of the completed installation shall be repaired at no additional cost to the Owner.
- 5. All tests shall be scheduled and documented. Include copy of the piping system pressure test reports in the Operating and Maintenance Manual.

### 3.11 SYSTEM AND EQUIPMENT IDENTIFICATION

- A. Valve Identification

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1. Identify all valves with tags attached with chain. Local valves need not be tagged. All valves shall be designated by distinguishing numbers and letters carefully coordinated with a valve directory. All letter and number designations shall be coordinated with the Owner.
2. Designations and locations shall be accurately recorded on the Record Drawings.

B. Pipe Markers

1. Identify each new and existing pipe connections, in Equipment Rooms, above accessible ceilings and in accessible shafts. Labels shall match those on drawings.
2. Markers shall be located:
  - a. Adjacent to each valve
  - b. At each branch
  - c. At each cap for future
  - d. At each riser takeoff
  - e. At each pipe passage through wall (each side)
  - f. At each pipe passage 20' - 0" intervals maximum
  - g. At each piece of equipment
  - h. At all access doors.
  - i. A minimum of one (1) marker shall be provided at each room.

END OF SECTION

## SECTION 220400 - PLUMBING FIRESTOPPING

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Work of this Section includes, but is not limited to, furnishing and installing firestopping for fire-rated construction in the following areas:
  - 1. All openings in fire-rated floor, wall, ceiling and roof assemblies, both empty and those accommodating penetrating items.
  - 2. Openings at each floor level in shafts or stairwells.
  - 3. Empty openings intentionally designed as spare openings in fire rated Construction.
- B. This Division's Contractor shall include in his bid, all labor and materials to accommodate support for firestop third party testing including, but not limited to the following:
  - 1. Meet with third party testing agency and discuss project requirements, firestop system requirements and database requirements.
  - 2. Coordinate each firestop location and receive approval of firestop product to be utilized.
  - 3. Coordinate each firestop location and receive firestop identification number.
  - 4. Coordinate each firestop location and accompany third party agent with inspection of each firestop location.
  - 5. Perform any adjustments to firestop at each location as required by the third party agent. Remove and replace firestop when rejected.
- C. Penetrating items shall include the following:
  - 1. Cables.
  - 2. Conduit.
  - 3. Pipes without insulation.
  - 4. Pipes with insulation. All insulation must remain intact, undamaged and shall run continuously through walls and floors.
  - 5. Ductwork without fire dampers. Where insulated, all insulation must remain intact, undamaged and shall run continuously through walls and floors.
  - 6. Raceways.
  - 7. Cable trays.
  - 8. Busways

#### 1.2 QUALITY ASSURANCE

- A. General

1. Firestopping materials shall conform to Flame (F) and Temperature (T) ratings required by local building code and as tested by nationally accepted test agencies per fire tests in a configuration that is representative of field conditions. The F rating must be a minimum of one (1) hour but not less than the fire resistance of the assembly being penetrated.
  2. Manufacturer<sup>TMTM</sup>s engineering judgments will be accepted for non-standard applications or where no tested system exists. Drawings for engineering judgments must indicate the UL tested system or systems upon which the judgment is based, in order to evaluate the engineering judgment against a known performance. Engineering judgments shall be approved by the Architect.
  3. Firestopping materials and systems shall be capable of closing or filling openings created by:
    - a. The burning or melting of combustible materials.
    - b. Deflection of materials due to thermal expansion.
  4. Firestopping material shall be non-halogenated, lead and asbestos free and shall not incorporate nor require the use of hazardous solvents.
  5. Firestop products which dissolve in water after curing are not acceptable.
  6. Firestopping materials shall not shrink upon drying as evidenced by cracking or pulling back from contact surfaces.
  7. All firestopping materials shall be manufactured by one manufacturer (to the maximum extent possible).
- B. Engage an experienced installer who is certified, licensed or otherwise qualified by the firestopping manufacturer as having been provided the necessary training to install firestop products per specified requirements. A manufacturer's willingness to sell its through-penetration firestop system products to a Contractor or to an installer engaged by Contractor does not in itself confer qualifications on buyer.
- C. Manufacturer's Field Representative: The Manufacturer of the firestop material of this Section shall provide a qualified field representative at the site.
- D. Pre-Installation Conference: Contractor shall hold a pre-installation conference with representatives of the Architect, Contractor, Installer, Materials Manufacturer and various trades involved in the Work, to review conditions affecting the installation and consistency of manufacturer to be used by all trades.
- E. Conform to Manufacturer's printed instructions for installation in accordance with a U.L rated system or Manufacturer<sup>TMTM</sup>s engineering judgement.
- F. Codes and Standards
1. ASTM E 84
  2. ASTM E 119
  3. ASTM E 814
  4. UL 263
  5. UL 1479
  6. NFPA 101

### 1.3 SUBMITTALS

- A. Refer to Sections 2X 01 00 and 2X 01 01 for additional requirements.
- B. All submittals shall conform completely to the requirements of the Contract Documents.
- C. Product Data: For each type of material to be installed, literature shall indicate product characteristics, typical uses, performance, test data and Manufacturer's installation procedures.
- D. Shop Drawings: Include U.L. rated system number and details for each type of penetration or configuration.
  - 1. Show typical installation details including:
    - a. Minimum and maximum allowable annular spacing.
    - b. Base material composition.
    - c. Firestop materials selected.
    - d. Applied thickness required to achieve the hourly rating.
- E. Where required, submit Product Data and Shop Drawings to the Authority Having Jurisdiction (AHJ) for review and approval. Information shall include the Manufacturer's assembly detail with UL system number, technical data and installation instructions for each penetration type occurring on the project.
- F. Close-out Documents
  - 1. Final approved product data and shop drawings of all materials installed shall be included in operating and maintenance manuals.
  - 2. Record Drawings shall indicate rated walls where firestop materials have been applied.

### 1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver through-penetration firestop system products to Project site in original, unopened containers or packages with intact and legible manufacturer<sup>TM</sup>s labels identifying product and manufacturer, UL label, date of manufacturer; lot number; shelf life, if applicable; qualified testing and inspection agency's classification marking; and mixing instructions for multicomponent materials.
- B. Store and handle materials for through-penetration firestop systems to prevent their deterioration or damage due to moisture, temperature changes, contaminants or other causes. Materials shall be stored off the ground and protected from environmental conditions as required by manufacturer.
- C. All firestop materials shall be installed prior to expiration of shelf life.

## 1.5 PROJECT CONDITIONS

- A. Conform to manufacturer's printed instructions for installation and when applicable, provide for curing in accordance with manufacturer suggested temperature requirements.
- B. Do not install through-penetration firestop systems when ambient or substrate temperatures are outside limitations recommended by manufacturer.
- C. Do not install through-penetration firestop systems when substrates are wet due to rain, frost, condensation, or other causes.
- D. Do not use materials that contain flammable solvents.
- E. Do not install water based or products that are conductive when wet in contact with energized electrical conductors. Exercise care when energizing penetrants.

## 1.6 PROTECTION

- A. Where firestopping is installed at locations which shall remain exposed in the completed work, provide protection as necessary to prevent damage to adjacent surfaces and finishes, and protect as necessary against damage from other construction activities.

## 1.7 SEQUENCING

- A. Coordinate this work as required with work of other trades.
- B. Firestopping shall precede finishing of gypsum board. Schedule installation of cast-in-place firestop devices after completion of floor formwork, metal deck placement or composite deck installation but before placement of concrete.

## 1.8 WARRANTY

- A. Contractor shall provide written certification that all firestopping was installed in accordance with the Manufacturer's written instructions for UL tested assemblies and that all firestop systems installed meet firestopping requirements as herein specified.

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. Firestopping materials shall meet the requirements specified herein.

- B. For applications where combustible penetrants are involved, i.e. insulated or plastic pipe, a suitable intumescent material must be used.

## 2.2 ACCEPTABLE MANUFACTURERS

- A. Specified Technologies, Inc. (STI)
- B. 3M
- C. Hilti, Inc.

## 2.3 FIRESTOP MATERIALS

- A. Firestop Mortar
- B. Intumescent Firestop Sealants and Caulks
- C. Elastomeric Firestop Sealants and Caulks
- D. Endothermic Firestop Sealants and Caulks
- E. Firestop Putty
- F. Rough-in Box Inserts
- G. Firestop Pillows/Blocks
- H. Fire Rated Pathways
- I. Firestop Grommets
- J. Firestop Collars
- K. Wrap Strips
- L. Cast in Place Devices
- M. Firestop Foams
- N. Composite Sheets
- O. Intumescent Gaskets



### PART 3 - EXECUTION

#### 3.1 GENERAL

- A. In an occupied building, permanent firestopping shall be installed within 24 hours of penetrating a fire rated assembly. If permanent firestopping cannot be installed within this time period, temporary firestop pillows/blocks are permitted, where installation allows, until permanent firestop materials can be properly installed.

#### 3.2 INSPECTION

- A. Examine the areas and conditions where firestops are to be installed and notify the Architect of conditions detrimental to the proper and timely completion of the work. Do not proceed with work until the Contractor, in a manner acceptable to the Architect has corrected unsatisfactory conditions.
- B. Verify that environmental conditions are safe and suitable for the installation of the firestop products.

#### 3.3 CONDITIONS REQUIRING FIRESTOPPING

##### A. General

- 1. Provide firestopping for conditions specified elsewhere whether or not firestopping is indicated and, if indicated whether such material is designed as insulation, safing, or otherwise.
- 2. All firestopping shall be installed in accordance to the UL rated system designed for the application.
- 3. Grout, Mortar or Gypsum based products shall not be installed in lieu of firestopping material specified herein.
- 4. All smoke walls (smoke barriers, smoke partitions, etc.), rated or non-rated, shall be firestopped with systems designed to maintain a minimum 1 hour rating or that which is equal to the rating of the wall.

##### B. Penetrations - Provide firestopping as follows:

- 1. Where penetrations pass through one or both surfaces of a fire rated floor or wall.
- 2. Where a penetration occurs through fire rated walls or partitions of hollow-type construction, provide firestopping to completely fill spaces around the penetration, on each side of the wall or partition.
- 3. Except for slab on grade, where penetrations pass through a non-fire rated floor.
- 4. The requirements for penetrations shall apply whether or not sleeves have been provided, and whether or not penetrations are to be equipped with escutcheons or other trim. If penetrations are sleeved, firestop annular space, if any, between sleeve and wall opening. Upon installation of cabling through sleeve, firestop the remaining open area within the conduit.

- C. Where demolition has occurred in rated walls, floors and assemblies, the material used to patch the opening shall match the material used for the assembly construction. Firestopping materials may be utilized upon approval of Architect and Engineer. Materials used shall be provided with submittals. Work performed shall be the responsibility of the Contractor whose work was removed, performed by the appropriate trade.

### 3.4 PREPARATION

- A. Surface to receive firestop shall be free of dirt, dust, grease, oil, oil from release agents, or other matter that would impair the bond of the firestop material to the substrate or penetrating items.
- B. Substrate shall be frost free.

### 3.5 INSTALLATIONS

#### A. General

1. Sleeves and core-drilled holes shall be sized at least 1-1/2" larger in diameter than penetrating items.
2. Installation of firestops shall be performed by applicators/installers qualified and trained by the Manufacturer. Installation shall be performed in strict accordance with the Manufacturer's detailed installation procedures.
3. Apply firestops in strict accordance with UL rated system designs, and Manufacturer's recommendations.
4. Coordinate with all other trades to assure that all items which penetrate fire rated construction have been permanently installed prior to installation of firestops. Schedule and sequence the work to assure that partitions and other Construction which would conceal penetrations are not erected prior to the installation of firestop.
5. Gun grade sealants and putties shall be tooled into place to insure proper adhesion to penetrations and surrounding surfaces.
6. Where existing penetrations are reused that contain remnants of existing firestop products remain, remove all existing firestopping.

#### B. Dam Construction

1. Install dams when required to properly contain firestopping materials within openings and as required to achieve required fire resistance rating.
2. Placement of dams shall not interfere with functions or adversely affect the appearance of adjacent construction.

#### C. Field Quality Control

1. Install work in full accordance with rules, regulations, and safety requirements of Federal, State, County and City authorities having jurisdiction over premises. Do not construe this as relieving Contractor from compliance with any requirements of the Specifications which are in excess of Code requirements and not in conflict therewith.
2. Correct unacceptable firestopping and provide additional inspection to verify compliance with this Specification at no additional cost.
3. Finish surfaces of firestopping that is to remain exposed in the completed work to a uniform and level condition.

### 3.6 LABELING

- A. Where firestopping installations occur, Contractor shall provide a label adjacent to each penetration. Label shall include:
  1. UL rated system used.
  2. Date of installation.
  3. Name of installing Contractor
- B. Labels shall be furnished by the firestop manufacturer.

END OF SECTION

## SECTION 220700 - PLUMBING INSULATION

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. All labor, equipment, accessories, materials and services required to provide the following insulation systems:
  - 1. Pipe Insulation
  - 2. Equipment Insulation

#### 1.2 SUBMITTALS

- A. Refer to Section 220100 and 220101 for additional information.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.

#### 1.3 QUALITY ASSURANCE

- A. The Insulation Contractor shall be regularly engaged in the installation of insulation systems and shall have a minimum of five (5) years of demonstrated experience in the installation of insulation systems similar in type and size.
- B. Install insulation materials and accessories in accordance with the manufacturer's published instructions, recognized industry standards and this specification to ensure that it will serve its intended purpose.

### PART 2 - PRODUCTS

#### 2.1 GENERAL

- A. Insulation material, performance and thickness shall comply with ASHRAE 90.1 - 2010 requirements.
- B. Insulation material (insulation, jackets, fitting covers, tapes, adhesives, cements, mastics, sealants, coatings and finishes) shall have a composite Fire and Smoke Hazard rating as tested under procedure ASTM E-84 or UL 723, not exceeding the following:
  - 1. Flame Spread 25
  - 2. Smoke Developed 50

- C. Mastics, cements, coatings, adhesives, sealants and finishes shall be suitable for contact with the surface material for which it is applied to and rated for the working temperature of the service. All adhesives and sealants wet applied on site shall comply with chemical content requirements of the South Coastal Air Quality Management District (SCAQM) Rule 1168. Acceptable Manufacturers: Foster Products, Childers Products and Vimasco Corporation.

## 2.2 PIPE INSULATION

- A. Insulation Types: Fiberglass - Pipe Insulation: Owens-Corning SSL II-ASJ one piece fiberglass pipe insulation with All Service Jacket and double adhesive longitudinal lap seal. Furnish as a complete system with pressure sensitive butt strip seals having factory applied adhesives. Other acceptable manufacturers: Knauf and Johns Manville.

### 1. Fiberglass Insulation Protection

- a. PVC Fitting Covers complete with premolded fiberglass inserts with vinyl vapor barrier facing, solvent weld adhesives, stainless steel tack fasteners, silicone caulking and adhesive tapes. Acceptable Manufacturers: Proto Corporation, Speedline Corporation and Zeston.

- B. Refer to Pipe Insulation Schedule on Drawings.

## 2.3 EQUIPMENT INSULATION

- A. Closed-Cell - Equipment Insulation: Armacell AP/Armaflex fiber free sheet and roll insulation. Furnish as a complete system with contact adhesives and pressure-sensitive seam tape. Other acceptable manufacturers: K-Flex USA and Aeroflex USA, Inc.

- B. Refer Equipment Insulation Schedule on Drawings.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Install insulation products according to manufacturer's published instructions, this specification and recognized industry standards to ensure it will serve its intended purpose.
- B. Protect insulation stored on site and during delivery from damage and moisture such as rainwater and building system leaks.
- C. Ensure that insulation is clean, dry, and in good mechanical condition and that all factory-applied facings are intact and undamaged. Wet, dirty, or damaged insulation is not acceptable for installation
- D. Install insulation over clean dry surfaces.

- E. Install insulation subsequent to pressure testing, and painting.
- F. Install insulation materials with smooth and even surfaces. Rework poorly fitted joints. Do not use joint sealer or mastic as filler for joint gaps or excessive voids resulting from poor workmanship.
- G. Once in place, all tape shall be sealed with a squeegee type device provided by the Manufacturer.
- H. Repair existing pipe and equipment insulation where removed to make new connections or where damaged by new construction. Use same insulation as specified for new service.
- I. Where existing asbestos containing materials are discovered or suspected notify the building Owner immediately so they can be removed under a separate "Asbestos Removal Contract" direct with the Owner.

### 3.2 PIPE INSULATION

- A. Insulate each continuous run of piping with full-length units of insulation, with single cut piece to complete run. Do not use cut pieces or scraps abutting each other. Butt insulation joints firmly to ensure complete, tight fit over all piping surfaces.
- B. Install insulation continuous through all sleeves and all wall, floor and ceiling penetrations. Sleeves and penetration openings shall be sized accordingly to allow application of full thickness insulation. Coordinate requirements with wall, floor and ceiling construction.
- C. On exposed piping, locate insulation and cover seams in least visible locations.
- D. Extend all pipe insulation through floors and countertops. Wherever subject to moisture or cleaning equipment provide 0.016 inch thick aluminum jacket of sufficient length for protection.
- E. Seal fiberglass pipe insulation longitudinal seams with integral lap seal and butt joints with butt strips. Taper all insulation ends, seal and cover with glass cloth. Insulate valve bodies, fittings, strainer bodies and flanges using premolded fiberglass inserts with PVC Fitting Covers.
- F. Install insulation continuous through all pipe hanger locations with circumferential insulation joint made outside the hanger. Piping shall be supported in such a manner that the insulation is not compromised by the hanger or the effects of the hanger. Include hanger accessories as follows:
  - 1. Piping 2" and smaller - to protect against compression. Provide insulation protection shields for fiberglass insulation and pre-insulated pipe hanger supports for closed-cell insulation.

2. Piping 2-1/2 inches and larger - provide thermal break between piping and hanger by use of an insulation protection shield with polyisocyanurate hard block insulation, capable of supporting the weight of the filled piping system. Polyisocyanurate insulation thickness shall match the adjacent pipe insulation thickness.
  3. Other piping 2-1/2 inches and larger - provide pipe covering protection saddle.
- G. Do not cover valve bonnets, unions and strainer cleanouts with insulation on hot water systems where there is no possibility of condensation.
- H. Insulation system for cold water piping and all piping with a possibility of condensation shall be continuous and provided with a vapor barrier jacket with vapor seal integrity maintained throughout the entire system, including valves and fittings.
1. Longitudinal seams shall be vapor sealed with factory-applied pressure-sensitive adhesive vapor retarder, self-sealing lap. All circumferential joints shall be vapor sealed with factory-furnished, matching pressure-sensitive butt strip seals. Coat all raw edges of pipe insulation with vapor retarder mastic extending onto the adjacent insulation jacketing a minimum of 2 inches.
  2. PVC Fitting Covers, installed on fiberglass insulation systems are not vapor barriers. It is important that a separate vapor barrier is intact below and prior to installation of PVC Fitting Covers.
  3. Cover valve bonnets, unions and strainer cleanouts with prefabricated 1" thick closed-cell insulation fitting covers, suitable for removal without damaging the permanent adjacent pipe insulation. All insulation shall be form fitted and tight to surface to prevent condensation.
  4. Insulate cold water system thermometer and pressure gage extensions with 1/2" thick closed-cell insulation.

### 3.3 EQUIPMENT INSULATION

- A. Apply insulation using staggered joint method for both single and multi-layer installations, applying each layer of insulation separately.
- B. Apply the manufacturer's recommended adhesive for closed-cell sheet and roll insulation based on the working temperature of service. Seal all joints with seam tape.
- C. Items such as ASME stamps, Manufacturer's nameplates, and parts of equipment requiring removal or opening for periodic service shall be left uninsulated unless omitting insulation would cause a condensation problem. When such is the case, provide removable insulation sections with appropriate tagging to identify the presence of the covered items. Provide neatly beveled edges at all interruptions of insulation.

### 3.4 FIELD QUALITY ASSURANCE

- A. Upon completion of all insulation work covered by this specification, visually inspect the work and verify that it has been correctly installed. This may be accomplished while work is in progress to assure compliance with requirements to cover and protect insulation materials during installation.

3.5 PROTECTION

- A. Replace damaged insulation which cannot be satisfactorily repaired, including insulation with vapor barrier damage and moisture-saturated insulation.
- B. Maintain the integrity of factory-applied vapor barrier jacketing on all insulation, protecting it against puncture, tears or other damage.
- C. The insulation installer shall advise all other trades as to requirements for protection of the insulation work during the remainder of the construction period, to avoid damage and deterioration of the finished insulation work.

END OF SECTION 220700



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## SECTION 221000 - PLUMBING SYSTEM COMPONENTS AND DEVICES

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Water Supply Specialties
  - 1. Water Hammer Arrestors
  - 2. Pressure Gauges
  - 3. Backflow Preventers
- B. Utility Wall Boxes
  - 1. Water and Waste Wall Boxes
- C. Drainage Specialties
  - 1. Floor and Shower Drains

#### 1.2 SUBMITTALS

- A. Refer to Sections 22 01 00 and 22 01 01 for additional requirements.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.

### PART 2 - PRODUCTS

#### 2.1 Water SUPPLY SPECIALTIES

- A. Water Hammer Arrestors
  - 1. Bellows type, with stainless steel casing and bellows, tested and certified in accordance with PDI Standard WH-201. Provide a pressure reducing valve on the inlet to the device where system pressures are above 80psi. Manufacturer: Jay R. Smith. Other acceptable manufacturers are: Josam, Wade, and Zurn.
- B. Pressure Gauges
  - 1. Provide a gauge at the domestic water entry after the backflow preventer and additionally as indicated.
  - 2. Provide gauges having proper ranges as required by conditions. Gauges to have 4-1/2 inch diameter dials, cocks, snubbers, and siphons.

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3. Select scale ranges so pressure condition will fall approximately at mid-scale.
4. Manufacturer: Tetrice or equivalent by American Consolidated, Marsh or Ashcroft.

C. Backflow Preventers (BFP):

1. Reduced pressure principle type (2 inches and smaller). Conforming to American Society of Sanitary Engineering (ASSE) Standard 1013. Differential relief valve located between two positive seating check valves Bronze body construction with stainless steel internal parts. Supplied with manufacturer's standard strainer. Furnish with manufacturer's standard full port ball valves with resilient seats on inlet and outlet. Furnish with ball type test cocks. Maximum working pressure: 175 psi. Maximum water temperature: 140 degrees F. Watts Regulator Co. Series 909 or equivalent by Cla-Val, Conbraco/Apollo, Wilkins, Febco or Hersey.

Backflow Prevention Device Application Schedule	
Equipment served	Device type to be installed
Building domestic potable water service	ASSE 1013 reduced pressure principle BFP

2.2 Utility wall boxes

A. Wall Boxes:

1. Provide UPC, UL, or CSA listed wall box appropriately configured for applications noted on drawings. All boxes shall be recessed with integral mounting tabs and detachable finish frame. Valves shall comply with ASME A112.18.1.
2. Wall boxes installed in fire rated walls shall be UL listed non-metallic ASTM-E814 fire rated, or constructed of powder coated steel or stainless steel. All non-rated walls may be non-metallic.
3. Furnish wall boxes in the following variations of factory supplied components and configurations.
  - a. WB-1: (2) ¾" hose connection quarter turn supply valves with (2) water hammer arresters and 2" drain suited for residential clothes washer.
4. Manufacturer: IPS/Guy Gray or equivalent by Oatey or Watts.

2.3 DRAINAGE SPECIALTIES

A. Cleanouts and Drains Manufacturers.

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1. Cast Iron leanouts and floor drains/sinks indicated are Jay R. Smith. Other acceptable manufacturers:
  - a. Jonespec
  - b. Josam
  - c. Wade
  - d. Watts Drainage
  - e. Zurn
  - f. MIFAB
- B. Floor Drains:
  1. Traps: Where floor drains are specified without integral traps, provide deep seal pattern 'P' traps with trap primer connection. Furnish traps three (3) inches in diameter or less above grade with cleanout plugs.
  2. FD-1 (Finished Floors): Jay R. Smith Fig 2005A. Duco cast iron body, flashing collar with protector cap, nickel bronze adjustable strainer with vandal proof secured square hole grate, nominal 6 inch round top, and trap primer connection. Shower drain similar (no trap primer connection required).

### PART 3 - EXECUTION

#### 3.1 GENERAL

- A. Refer to section 220300 part 3 Execution in addition to the following.
- B. Drawings (floor plans, schematics, and diagrams) indicate the general location and arrangement of equipment. Location and arrangement of equipment takes into consideration pipe connections locations, panel clearance, replacement and service access, and other design considerations. So far as practical, install equipment as indicated or request deviations with supportive reasoning to the Engineer of record.

#### 3.2 INSTALLATION

- A. Provide all drains installed in waterproof slabs with a flashing ring and coordinate elevation with general trades.
- B. Install all components per the manufacturer's recommendations and requirements.

END OF SECTION

## SECTION 224000 - PLUMBING FIXTURES

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Plumbing Fixtures
- B. Flush Valves
- C. Faucets
- D. Fixture Trim and Accessories
- E. Fixture Carriers and Supports
- F. Fixture Supplies, Drain Assemblies, and Traps
- G. Fixture Operation
- H. ADA Compliant Installations
- I. Water Supply Temperature
- J. Protective Wraps
- K. Sealants
- L. Coordination With Other Trades

#### 1.2 SUBMITTALS

- A. Refer to Sections 22 01 00 and 22 01 01 for additional requirements.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.
- C. Group all components of individual fixtures to corresponding tags indicated on Contract Drawings.

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. Refer to the Plumbing Fixture Schedules on the Drawings. The scheduled fixtures indicate the basis of design and their configuration with manufactures and model numbers for each fixture, fitting, and accessory. The remainder of this section shall further cover the general requirements for typical fixture types and installations, and do not contradict the schedule.
- B. All fixtures and their components furnished by this contractor shall bear the identification of the manufacturer with such markings and be listed by an approved third party agency complying with applicable referenced standards such as but not limited to: IAPMO ANSI, ASME, UPC, and NSF.
- C. Provide all plumbing fixtures complete, cleaned, adjusted, and ready for use including, but not limited to supply stop-valves, check-stops, fixture supplies, traps, escutcheons, vacuum breakers, miscellaneous supports, low voltage wiring and any required accessories.
- D. All supply stops, supply tubing, covers/wraps, tubular traps and wastes shall be consistent throughout the project. Multiple styles and brands of such commodity items are not acceptable.
- E. Refer to Architectural elevations for intended placement of fixtures and their components provided under this division and components provided by other divisions that affect the installation and use of the fixture. Install all components within required ADA dimensions mandated by the applicable State observed code referenced ANSI 117.A along with manufacturer's rough-in dimensions necessary to its function. In the event of a conflict with said requirements of fixtures and components verse the Architectural elevations, notify the construction managing party, or design team prior to rough-in for clarification and resolution. The locations of piping and or drops shown on the plumbing drawings are diagrammatic, not precise, nor defining of actual rough-in or fixture placement.
- F. Fixture Finishes
  - 1. Provide fixtures constructed of vitreous china white in color unless noted otherwise, and with all visible surfaces glazed.
  - 2. Furnish enameled cast iron fixtures constructed of cast iron with non-staining, acid resistant, porcelain enameled coat thoroughly fused on the surfaces.
  - 3. Furnish stainless steel sinks with satin finish, unless noted otherwise.
  - 4. Provide exposed faucets, traps, connecting piping, stops, flush valves and other fixture trim with chromium plated finish and brass construction unless noted otherwise.
  - 5. Provide all fasteners of chromium plated brass, Type 302 stainless steel or matching color and finish of fixture.

G. ADA Protective Covers

1. ANSI A177-1-1980 Vinyl or compliant insulation kit. Closed cell PVC molded anti-microbial components for wastes and supplies of lavatories complete with weep holes and vandal resistant fastening.
2. Manufacturer: Plumberex, or equivalent kits by Dearborn, McGuire or Truebro.

H. Sealant: For use between plumbing fixture and wall: General Electric Sanitary Silicone 1702.

1. Provide pick-proof caulk in Penal, Security, and Behavior Health applications. Refer to general trades specifications for product data.

I. Fixture P-Trap wastes: P-traps shall be chrome plated heavy cast brass with cleanout and 17 - gauge seamless brass adjustable wall bend. To include cast brass, slip joint nuts and no reducing washers. P-Trap to have 2" water seal and rough-in complete. P-Trap shall be certified by CSA or other recognized third-party testing authority and marked with manufacturer's name. No private label wholesale products will be allowed.

J. Fixture Grid Drains: grid drains shall be chrome plated cast brass strainer (with or without overflow) and brass lock nut. Drain tailpiece shall be 17-gauge seamless brass tube and a minimum of 6" long. Grid drain shall be certified by CSA or other recognized independent third-party testing authority, and shall be marked with manufacturers' name. No private label wholesale products will be allowed.

K. Fixture Supplies: supply kits shall include chrome plated all brass stops with brass stems, no plastic stems. Kits shall have 12" chrome plated copper risers and cast brass flange with set screw. Inlet shall be 1/2" compression or IPS connection and the outlet shall be 3/8" compression. All washers shall be EPDM material Peroxide cured. Supply kit shall be certified by recognized independent third-party testing authority, will be marked with the manufacturer's name and comply with the SDWA (Safe Drinking Water Act) "No Lead" restrictions of ANSI NSF 61, Sec. 9. No private label wholesale products will be allowed.

1. Supplies serving fixtures called for having an ASSE 1070 thermostatic mixing valve, provide supply stops with integral check valve.

2.2 ACCEPTABLE MANUFACTURERS

A. Vitreous China Fixtures

1. Kohler

B. Water Closet Seats

1. American Standard
2. Bemis

3. Church
4. Jones Stephens Corp
5. Johler
6. Olsonite
7. Zurn

C. Flush Valves

1. Sloan

D. Fixture Carriers

1. Jay R. Smith
2. Josam
3. Wade
4. Watts Drainage
5. Zurn
6. MIFAB

E. Faucets

1. Moen Commercial

F. Fixture Supplies, Drain Assemblies, and Traps

1. Chicago
2. EBC
3. Watts (commercial only)
4. Brass Craft
5. Dearborn Brass
6. McQuire Manufacturing
7. T & S Brass
8. Just
9. Elkay
10. Kohler
11. Zurn

G. Shower and Bath Valves

1. Combination Thermostatic/Pressure Balanced Valves:
  - a. Chicago Faucet
  - b. Lawler
  - c. Leonard
  - d. Powers
  - e. Acorn

## 2.3 WATER CLOSETS

- A. Fixtures: Vitreous china or stainless steel siphon jet action, elongated or round bowl, in configurations of wall hung - wall outlet, floor mounted - floor outlet, or floor mounted - wall outlet as scheduled on drawings. ADA compliant fixtures shall have a seat height of 17" to 19" above finished floor.
  - 1. Flush tank type closets: close coupled or one piece tank with or without power assist, and gallon per flush volume as scheduled on drawings. Tank trip lever location on tank for ADA applications shall be ordered properly to be on the access side of the fixture installation. Provide chrome plated field bent tubing with loose key or handle quarter- turn ball valve stop, reducer, and escutcheon at wall.
- B. Seats: Color matching heavy duty commercial grade, open front, integral bumpers, self-sustaining check hinges with 300 stainless steel posts, and stay tight torque shearing fasteners. For all healthcare and educational facilities, provide seats with impervious anti-microbial agent and lift-able hinge system for cleaning. Provide matching lids only when scheduled

## 2.4 URINALS

- A. Fixtures: Vitreous china or stainless steel. Washout or blowout flushing action, or waterless. Configurations of wall hung - 2" wall outlet or floor mounted - 3" floor outlet. ADA compliant wall hung fixtures shall have a lip height of 14" to 17" above finished floor as required by the manufacturer's installation instructions. Location of ADA urinals shall be as indicated on the architectural drawings.
  - 1. Flush valve type urinals with ¾" or 1-1/4" top or rear spud, and gallon per flush volume as scheduled on drawings.
- B. Flush Valves: Exposed, chrome plated metal oscillating non-hold-open handle or auto-sensing activation, 1 inch I.P.S. inlet, screw driver check angle stop with protective cap, adjustable tail piece, vacuum breaker flush connection and spud coupling for top or rear spud, wall and spud flanges and gallon per flush volume as scheduled on drawings.
- C. Carriers: Wall hung fixtures for frame wall construction shall be supported by ASME A112.6.1M compliant concealed adjustable carrier with steel uprights and block feet for securing to the floor. Masonry wall supports to be similar less steel uprights.
  - 1. Fixture carriers shall be capable to withstand the 200 lb load test as per the ASME standard.



## 2.5 LAVATORIES

- A. Fixtures: Vitreous china, stainless steel, or integral countertop material by another division in configurations of wall-hung, countertop drop-in, or under mount.
- B. Carriers: Wall hung fixtures for frame wall construction shall be supported by ASME A112.6.1M compliant concealed arm adjustable carrier with steel uprights, arms for concealed support, and block feet for securing to the floor. Masonry wall supports to be similar less steel uprights.
  - 1. All assemblies of wall hung lavatory fixtures and their fixture carriers shall be capable to withstand the 250 lb load test as per the ASME standard.
- C. Faucets: Commercial grade lead free brass construction with chrome plated finish. Deck or wall-mounted, auto-sensing or manual operation with fixed or swivel spout. Furnish complete with all suitable mounting hardware and components. All faucets shall have a vandal resistant removable laminar flow outlet, aerator, or spray-head at the outlet of the spout.
  - 1. Manual operated faucets shall have vandal resistant removable handles and replaceable cartridges or ceramic discs. Provide ASSE 1070 thermostatic mixing valve for all public lavatories per Plumbing Code.
  - 2. Auto-sensing faucets shall have all necessary electronic components for activation. Auto-sensing faucets without user adjustable temperature control shall be furnished with an ASSE 1070 thermostatic mixing valve (blending valves are not acceptable).
- D. Supplies: Chrome plated field bent tubing supplies with loose key or handle quarter-turn ball valve stops, reducers, and escutcheons at wall or casework backing.
- E. Lavatory Drains: Chrome plated flat grid (7) hole minimum, or pop-up waste with 1-1/4" tailpiece.
- F. Traps: Provide 17 gauge chrome plated brass tubular waste piping with adjustable "P" trap with cleanout. Provide escutcheon at wall or casework backing. Non threaded slip type gasket trap adapters shall not be acceptable.

## 2.6 SHOWER AND BATH VALVES

- A. Valves: Shall be pressure balanced, thermostatic, or combination thermostatic/pressure balanced controlled and ASSE 1016 compliant. Valves shall be cast brass body with number of ports, diverter valve, shower head and accessories as scheduled on drawing and complete with integral angle check stops, adjustable temperature limit stop, stainless steel cover plate, and corrosion resistant index.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Refer to Architectural Drawings for indication of mounting heights for plumbing fixtures.
- B. Install all fixtures square with wall, inline, level, and plumb. Install faucet lever and wrist blade type handles also parallel with the wall and completely symmetrical. Install specified convertible faucet spouts in the rigid fashion for lavatories and hand washing sinks, install them in the swing fashion for all large sinks in lounges and utility cleaning rooms and at double compartment sinks.
- C. Fixture Carriers: Install and anchor in according to the manufacturer's published instructions.
- D. Fixture carriers: To comply with the ASME A112.6.1M standard, the installing contractor shall install and anchor all fixtures explicitly per the manufacturer's instructions including all specified hardware. Compliance to size, material, and quantity of fasteners as prescribed by the manufacturer shall be the responsibility of the installing contractor. Provide and submit documentation and sign-off approval of the installation from the construction manager prior to concealing behind walls. Failure of any fixture without submitted documentation shall be the responsibility of the plumbing contractor including all wall repairs.
- E. Secure plumbing fixture P-traps, lavatory wall supplies and flush valve supply to wall to prevent any movement.
- F. Water Closets: For handicapped accessible fixtures, mount flush valve handle and trip levers on the access side of the fixture.
- G. Install all exposed plumbing trim, supplies, and waste, including traps.
- H. Install shut off valves for each hot and cold water connection to fixtures and equipment if not provided with stops. Use angle or straight type fixture stops adapted for each particular location. Locate fixture stops immediately adjacent to the fixture. Provide threaded adapters when used in conjunction with copper piping.
- I. Provide vacuum breakers as a part of the fixture trim wherever there is a possibility of back-siphoning.
- J. Seal space between plumbing fixtures and wall or floor with silicone sealant to provide watertight installation.
- K. Clean all fixtures removing stains. Remove labels. Adjust flush valves and other fixture water supplies to provide proper water flow.

- L. Protect plumbing fixtures after installation until construction is completed and accepted by Owner. Remove protection, including paper covering on china and enameled ware, when ready for use.
- M. For solid surface countertops requiring basins, faucets, and equipment to be installed, the plumbing contractor shall provide templates, locations, and dimensions of all required cut-outs and drilled holes. The cutting and drilling of solid surface material countertops shall be performed by the general contractor that is responsible for installing such. For laminate type countertops, the plumbing contractor shall be responsible for all cut-out and drilling required.
- N. All fixture low voltage wiring shall be by this Contractor. Wiring shall be run in conduit per Division 26 requirements.

END OF SECTION 224000

## SECTION 230100 - HVAC GENERAL PROVISIONS

### PART 1 - GENERAL

#### 1.1 RELATED CONTRACT DOCUMENTS

- A. Refer to this Division's Supplemental General Provisions for additional Project requirements.
- B. The provisions of the Instructions to Bidders, General Conditions, Supplementary Conditions, Alternates and Addenda are a part of this Specification. Contractors and Subcontractors shall examine these provisions as they may affect work under this Division.
- C. Contractor shall examine Division 1 Contract Documents for general project requirements.
- D. Contractor shall also examine the Contract Documents of all Divisions which may affect and require work under this Division and be responsible for all work required under this Division.

#### 1.2 DESCRIPTION OF WORK

- A. This project involves work in an existing operating facility and will require close communication with Owner with regard to access and work hours. Coordinate all work schedules with Owner prior to bidding. When project includes a Construction Manager, all work schedules shall also be coordinated with the Construction Manager, prior to bidding.
- B. All Drawings as well as the Specifications for all Divisions shall be defined as the Contract Documents. Contractor shall review entire set of Contract Documents prior to bidding.
- C. Drawings and Specifications are to be considered as supplementing each other. Work specified but not shown, or shown but not specified, shall be performed or furnished as though mentioned in both the Specifications and the Drawings.
- D. Prior to submitting bid, Contractor shall examine all Drawings and Specifications to develop a complete understanding of the project scope. Contractor shall ask for clarifications during the pre-bid phase of the project. Failure to do so will not relieve the Contractor of their responsibility to perform all required work.
- E. Where the project scope involves renovations and additions, it is recommended that Contractors visit the site of the work and become familiar with the conditions affecting the installation. Submission of a Bid shall presuppose knowledge of such conditions and no additional compensation shall be allowed where extra labor or materials are required because of the lack of knowledge of these conditions.

- F. Bid shall include any special phasing requirements related to the construction work as described in the Contract Documents. Coordinate with Division 1.
- G. Extra costs which might result from deviations from the Drawings, so as to avoid interferences, shall be considered a "Job Condition", and no additional compensation shall be considered applicable. In the event that such interferences occur in course of the work, due to an error, omission, or oversight by the Contractor, no additional compensation shall be allowed. Interferences that may occur during the course of construction shall be brought to the immediate attention of the Architect and Engineer, and the Architect and Engineer's decision, confirmed in writing, shall be final.
- H. The following general terms as used within the context of the Contract Documents shall be defined as follows:
  - 1. "Contract Documents" - The complete set of Drawings and Specifications for all Divisions included in the project.
  - 2. "Drawings" - Drawings furnished as part of the Contract Documents.
  - 3. "Contractor" - This Division's Contractor and the Subcontractors to this Division's Contractor.
  - 4. "Responsible" - To perform work required.
  - 5. "Furnish" - To supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations.
  - 6. "Install" - Work which includes the actual unloading, unpacking, assembly, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
  - 7. "Provide" - To furnish and install, complete and ready for the intended use.
  - 8. "Equal" - To meet or exceed the standards of the specified products or listed manufacturers.

### 1.3 WORK INCLUDES

- A. Include all labor, material, equipment, services, permits, fees, coordination, supervision and administration necessary for the proper completion of all work shown. Items omitted, but necessary, to make all systems complete and workable shall be understood to form part of the work.
- B. Material for work required to complete installation such as earthwork, concrete, masonry, mortar, reinforcing steel, patching and painting shall be provided as specified in other applicable Divisions covering such work.
- C. Provide material and labor which is neither drawn nor specified but which is obviously a component part of and necessary to complete work and which is customarily a part of work of similar character.
- D. Include all testing, test reports, system programming, start-up reports and warranties for each system as outlined elsewhere in these Specifications. Refer to "Operating and Maintenance Manuals" for additional requirements.

1.4 ALTERNATES

- A. Refer to Division 1 for a description of alternates.

1.5 PERMITS AND FEES

- A. Secure and pay for permits and inspections required for all work related to this Division. Turn over certificates of approval to the Owner or Construction Manager promptly when received, and before payment is made for the work.
- B. Give proper authorities notice as required by law relative to the work in their charge. Comply with the regulations regarding temporary enclosures, obstructions or excavations and pay all legal fees involved.

1.6 QUALITY ASSURANCE

- A. Work shall be installed in accordance with provisions of all applicable codes, as interpreted by the local Authority Having Jurisdiction (AHJ), as well as any further modifications or regulations published by local or State Authorities.
- B. Reference to the codes and standards listed shall constitute the minimum acceptable requirements. Nothing in the Specifications shall be construed to permit deviation from the requirements of the governing code. Where requirements of the Drawings and Specifications exceed those of the code listed, follow the Drawings and Specifications.
- C. The following building codes with amendments shall be followed:
  - 1. Ohio Building Code
  - 2. Ohio Fire Code
- D. Applicable portions of the following codes, standards, societies and agencies shall be followed. Where a specific edition is listed, it shall be used. Where not listed, the edition recognized by the Authority Having Jurisdiction shall be used. Listing of a specific portion of a code, standard, society or agency does not preclude the Contractor from following all other applicable portions of the code, standard, society or agency.
  - 1. American National Standards Institute (ANSI)
  - 2. American Society of Testing and Material (ASTM)
  - 3. Americans with Disabilities Act (ADA) - Americans with Disabilities Act Accessibility Guidelines (ADAAG)
  - 4. Federal Occupational Safety and Health Act (OSHA)
  - 5. NFPA Standards as referenced by the Building Codes.

1.7 ELECTRONIC MEDIA

- A. Electronic drawing files are available to the Contractor from the Engineer for coordination purposes as defined in Division 0 and Division 1.

- B. Contractor shall deliver closeout documents on a portable memory device. Portable memory device shall refer to CD, DVD, Flash Drive, external hard drive or any other portable media used for storing electronic files.

## 1.8 SUBMITTALS

- A. Conform to submittal requirements outlined in Division 1 Specifications. Provide Submittals in an electronic format. The file format shall be portable data file (.pdf).
- B. Submittal transmittal shall list corresponding Specification Section and a description of item(s) being submitted. Each submittal shall only include items from one Specification Section. Submittals which include items from multiple specification sections will be returned "REVISE AND RESUBMIT."
- C. Prepare Submittals with adequate details and dimensions as necessary to clearly show construction. Clearly identify each item on the submittal with designation as indicated on Drawings including location and use. Include with Submittals Manufacturers published descriptive literature, specifications, performance data (normal operating characteristics, curves, ratings, etc.), wiring diagrams and installation instructions. Indicate for each item the operating characteristics, design conditions, features, and optional items that are intended for application on this project. Where contents of Submittal literature include data not pertinent to the Submittal, clearly indicate (highlight) which portion of content is being submitted for review.
- D. Contract Documents include scheduled equipment which is the Basis of Design and used to establish design and space requirements. Contract Documents may also include alternative acceptable manufacturers. Where alternative manufacturer's equipment is submitted which alters the design or space requirements indicated in the Contract Documents, the Contractor shall be responsible for the revised design and construction including the costs of all associated trades involved. No costs associated with deviations from the Basis of Design shall be borne by the .
- E. If for any reason, the Submittal shows variations from the requirements of the Contract Documents, the Contractor shall make mention of such variation in the letter of transmittal. The Contractor shall note in red on the Submittal any change in design or dimension on the items submitted including changes made by the Manufacturer which may differ from catalog information.
- F. Where additional installation drawings, wiring diagrams or other drawings are specified elsewhere as part of the project requirements, they shall be submitted at the same time as the Submittals. Partial Submittals are not acceptable.
- G. Contractor shall review each Submittal prior to submission, and check for compliance with the Contract Documents. Corrections shall be noted. Mark with approval stamp prior to submission. Submittals that do not bear the Contractor's approval stamp will be returned without action.

- H. The Submittals will be reviewed only for General compliance and not for dimensions, quantities, etc. The responsibility of correct procurement remains solely with the Contractor. The Submittal review shall not relieve the Contractor of responsibility for errors or omissions and deviations from the Contract Document requirements. Submittals which are not required under this Division shall be returned to the Contractor.
- I. Where Submittal review format, whether hard copy or software based, includes pre-determined language that includes the word "Approved", the following shall apply:
  - 1. "Approved" shall be defined as "Reviewed, No Exceptions Taken".
  - 2. "Approved as Noted" or similar verbiage shall be defined as "Reviewed, Exceptions as Noted".
- J. After review of submittals by the Engineer, the Contractor shall revise and resubmit if required to establish compliance with the Contract Document requirements. Resubmittal shall include a document with a written response to each of the Engineer's previous comments.
- K. The Contractor shall notify the Engineer when all product data and/or shop drawings for all equipment, materials and systems have been submitted for review.
- L. The Contractor agrees that Submittals, processed by the Engineer, are not change orders; that the purpose of submittals by the Contractor is to demonstrate to the Engineer that the Contractor understands the design intent of the project. This understanding is demonstrated by indicating which equipment and material is required, and by what methods of fabrication and installation will be utilized.
- M. The Contractor further agrees that if deviations, discrepancies or conflicts between the Submittals and the Contract Documents are discovered, either prior to or after Submittals are processed by the Engineer, the Drawings and Specifications shall control and shall be followed.
- N. Final reviewed submittals shall be included in the Operating and Maintenance Manuals. Where Submittals are returned "REVIEWED, EXCEPTIONS AS NOTED", the final Submittals shall be updated to include the exceptions. Upon ordering equipment, order sufficient number of sets of product data literature for the Operating and Maintenance Manuals.

#### 1.9 GUARANTEE AND WARRANTIES

- A. Warrant that equipment and all work is installed in accordance with good workmanship practice. All equipment shall be installed in accordance with the Manufacturer's recommendations and shall meet the requirements specified. Any equipment failing to perform or function as specified shall be replaced with complying equipment without cost to the . Warranty shall commence upon acceptance of substantial completion of construction by the . Sign-off of individual equipment start-up procedures shall not activate the warranty commencement.



- B. Guarantee against defects in workmanship and materials; repair or replace any defective work, material or equipment within one year from date of formal written warranty commencement. Longer product warranties provided by individual equipment manufacturers shall supersede this one year guarantee; however, the Contractor shall maintain the one year workmanship and materials guarantee for installation of such equipment. Coordinate guarantee and warranty requirements with Division 1 Specifications.

#### 1.10 CLOSEOUT DOCUMENTS

- A. Record Drawings:
  - 1. Record Drawings shall consist of marked-up Drawings as defined elsewhere in the Specifications. Refer to Division 1 for quantities, special formatting, and additional requirements.
  - 2. The Contractor shall produce updated shop drawings electronically from the original shop drawings in an approved format. Updated CAD drawings shall include any deviations or changes made during construction. At the end of the project, the Contractor shall transfer the electronic drawings onto a portable memory device. Both hard copy drawings and the portable memory device shall be provided as Record Drawings.
  - 3. The Contractor shall keep one complete set of the original Drawings on the project site on which shall be recorded any deviations or changes from such Drawings made during construction. These drawings shall become the Record Drawings, shall be kept clean and undamaged, and shall not be used for any other purpose other than recording deviations from the original Drawings. At the end of the project, the Contractor shall make electronic .pdfs of these drawings and transfer them onto a portable memory device. Both hard copy drawings and the portable memory device shall be provided as Record Drawings.
  - 4. After the project is completed, the Record Drawings shall be delivered to the Architect/Engineer for inclusion into the Operating and Maintenance Manuals, as a permanent record of the installation as constructed.

#### 1.11 SITE REPORTS AND PUNCHLISTS

- A. The Engineer may visit the site periodically during construction and provide written Construction Observation Reports to the Contractor identifying areas where installation does not meet the intent of the Contract Documents. The Contractor shall provide a written response to these reports within 5 business days, indicating the reason the installation is out of compliance with the Contract Documents. After review, the Engineer may or may not require the Contractor to correct the installation. The Contractor shall correct the installation unless the reason for non-compliance is accepted, in writing, by the Engineer or .
- B. Final Punch List

1. The Engineer will visit the site to perform a scheduled Final Punch List to identify areas where the installation is incomplete or does not meet the intent of the Contract Documents.
  2. If the Engineer is requested to perform the Final Punch List prior to the Contractor being 100% complete with their scope of work, the Contractor shall furnish a Contractor's Completion List, indicating all incomplete work. This list shall be furnished to the Engineer a minimum of 24 hours prior to the scheduled Final Punch List.
  3. The Contractor shall respond to each punch list item along with a date, indicating that the item has been completed or corrected.
  4. A copy of the Final Punch List with the Contractor's responses shall be included on the Operating and Maintenance Manual.
- C. Where on-line documentation management services or project management software requires the author/initiator of a corrective action to close it, and the Engineer is the author/initiator, the following shall apply:
1. When the corrective action is reported as corrected/complete, by either the responsible Contractor or the Construction Manager, the Engineer will assume that the parties responsible for construction have reviewed and approved the correction.
  2. By closing the corrective action, the Engineer is in no way approving nor assuming responsibility for the installation.

## PART 2 - PRODUCTS

### 2.1 EQUIPMENT AND MATERIALS

- A. All equipment and materials used on this project shall be new and listed or labeled by a Nationally Recognized Testing Laboratory (NRTL) such as UL, ETL, CSA, etc. or as approved by the local Authority Having Jurisdiction. Equipment and materials shall be installed or used in accordance with instructions included with the listing or labeling. Where possible, the same brand or manufacturer shall be used for each type of material or equipment. such as.
- B. Equipment and materials for the construction shall be the responsibility of the Contractor and shall be protected by the Contractor until formally accepted by the .
- C. All Manufacturers of equipment shall verify to the satisfaction of the Contractor and Engineer that their equipment will function properly under the conditions of use, as shown on the Drawings and as specified herein. Dimensions, weights, operating characteristics and all other related appurtenances shall be verified before submittal of shop drawings.
- D. Domestic steel shall be used for steel products as required by the Ohio Revised Code, Chapter 153.

## 2.2 MATERIAL SUBSTITUTIONS

- A. Bids shall be based upon the specified products, suppliers or listed alternatives. The Drawings and Specifications are based on the products specified by type, model, size and suppliers if indicated and thus establish minimum qualities which substitutes must meet to qualify for review.
- B. Should the Contractor propose to furnish materials, equipment and/or suppliers other than those specified, submit a written request for substitutions to the Architect or Engineer in accordance with Division 1 requirements. The request shall be an alternate to the original Bid and shall be accompanied with complete descriptive (manufacturer, brand name, catalog number, supplier name and references, etc.) and technical data for all items. Indicate any additions or deductions to the base Bid price.
- C. Where substitutions alter the design or space requirements indicated in the Contract Documents, the Contractor shall be responsible for the revised design and construction including the costs of all associated trades involved. No costs associated with the use of a substitution shall be borne by the .
- D. Acceptance or rejection of the proposed substitutions shall be subject to approval of the Architect or Engineer. If requested, the Contractor shall submit inspection samples of both the specified and the proposed substitute items for review.
- E. In all cases where substitutions are permitted, the Contractor shall bear any and all extra cost of evaluating the equality of the material and equipment to be installed.
- F. Where only one Manufacturer or supplier is named in the Contract Documents, the system or equipment shall be provided as specified.
- G. Verbal requests or approvals of substitutions shall not be binding on the Architect, Engineer or .

## PART 3 - EXECUTION

### 3.1 SAFETY

- A. The Contractor shall follow all safety requirements as defined herein, as described in Division 1 and as defined by safety protocols.
- B. Work shall be performed on de-energized equipment in accordance with NFPA 70E.
- C. Should suspected hazardous materials be encountered, Contractor shall adhere to procedures, methods and regulations of the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) and immediately notify .

### 3.2 COORDINATION

- A. Take all field measurements necessary and assume responsibility for the accuracy.
- B. If any work is fabricated or assembled off-site, assume responsibility for the accuracy of such pre-manufactured assemblies.
- C. Install work that is to be concealed within the building construction in sufficient time to secure proper location without delay to the work of other trades.
- D. Assume responsibility for location of chases, other openings through masonry and concrete construction. When work cannot be installed concurrent with building construction, arrange for rough-in boxes, sleeves, inserts and other items, as necessary for installation thereof at a later date.
- E. If any work is installed so that the architectural design cannot be adhered to, Contractor is responsible for making such changes as Architect may require. Before installing work, report any interferences between work of this Division and work of other Divisions to Architect as soon as discovered. Architect will determine which work must be relocated, or make adjustments to maintain clearances, maximum headroom and to avoid conflict with other work.
- F. Become familiar with the construction where work attaches. Review Structural Drawings for coordination of openings. Cut no structural members or slabs without Architect's and/or Structural Engineer's written approval.
- G. Exercise caution when working in areas where concealed systems or materials may exist. Any costs for repair of damage incurred shall be the responsibility of Contractor causing the damage.

### 3.3 PROTECTION

- A. All finished surfaces shall be protected from damage and spills during construction.
  - 1. Protect finished floors with a heavy duty flexible fiber reinforced floor protection board - Ram Board or equal.
  - 2. When setting up pipe cutting and threading machines, protect area against staining and abrasion. Provide plywood protection over Ram Board underlayment.
  - 3. Protect finished surfaces from chips and cutting oil by use of a chip receiving pan and oil proof cover.
  - 4. Protect equipment and finished surfaces from welding and cutting spatters with baffles and spatter blankets.
  - 5. Protect finished surfaces from paint droppings, insulation adhesive, etc. by use of drop cloths.
- B. The cost of correcting any such condition will be charged against the respective Contractor.

### 3.4 EQUIPMENT INSTALLATION

- A. Install equipment in accordance with equipment manufacturer's published installation instructions.
- B. Should the Drawings and/or Specifications include procedures that exceed or call for materials that differ from the manufacturer's instructions, the Contractor shall follow the Drawings and/or Specifications. This requirement does not release the Contractor from the obligation to follow all other published instructions and installation recommendations. Contractor shall make Engineer aware, in writing, of discrepancies between the Drawings and Specifications and the manufacturer's published installation instructions, and/or confirm Engineer's design intent, prior to installation of the equipment. Failure to comply may result in reworking the equipment installation or replacement of materials associated with the equipment at no additional cost to the .

### 3.5 CUTTING AND PATCHING

- A. All cutting and patching in construction as necessary for installation of this work shall be the responsibility of this Division and performed by the Tradesmen related to that specific Division of work. Subcontract this work to the appropriate Trade Division.
- B. Do not cut any structural member, including but not limited to steel framing and structural floors, without specific permission from the Architect and/or Structural Engineer.
- C. Do not cut openings in roof or floor construction without specific permission from the Architect and/or Structural Engineer. Where locations of penetrations are inaccurate or where building components are improperly cut by inadequate methods, the Contractor in error shall be responsible for complete repair.
- D. The Contractor shall assume responsibility for removing and replacing existing ceiling tiles as required for installation of all work. Areas include that as outlined by the project scope and areas outside the scope where the Contractor is required to make connections to existing systems and install new work. Damaged tiles shall be replaced.

### 3.6 SERVICE SHUTDOWNS

- A. This project involves remodeling of existing areas in an operating facility. Plan work including alterations and connections to existing facilities, to permit carrying on normal building functions. When necessary to temporarily interrupt a service, shutdowns shall be scheduled through the Owner and shall be done at a time as directed by the Owner. No additional compensation shall be allowed for these shutdown periods even though premium time work may be required unless specifically defined in Division 1.
- B. Provide temporary service to equipment or systems that cannot be shut down, and as determined by Owner, or as described in the Contract Documents. Remove temporary services when permanent work is completed

- C. Provide a minimum of one week notice to the Owner before any service shutdown is scheduled.

END OF SECTION

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## SECTION 230101 - HVAC SUPPLEMENTAL GENERAL PROVISIONS

### PART 1 - GENERAL

#### 1.1 RELATED CONTRACT DOCUMENTS

- A. Refer to 23 01 00: HVAC General Provisions for additional Project requirements.

#### 1.2 ALTERNATES

- A. Division 23 does not have alternates.

#### 1.3 QUALITY ASSURANCE

- A. Reference to the codes and standards listed shall constitute the minimum acceptable requirements. Nothing in the Specifications shall be construed to permit deviation from the requirements of the governing code. Where requirements of the Drawings and Specifications exceed those of the code listed, follow the Drawings and Specifications.

- B. The following building codes with amendments shall be followed:

1. 2017 Ohio Mechanical Code
2. 2017 Ohio Plumbing Code
3. 2015 International Fuel Gas Code

- C. Applicable portions of the following codes, standards, societies and agencies shall be followed. Where a specific edition is listed, it shall be used. Where not listed, the edition recognized by the Authority Having Jurisdiction shall be used. Listing of a specific portion of a code, standard, society or agency does not preclude the Contractor from following all other applicable portions of the code, standard, society or agency.

1. American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
2. ASHRAE 90.1-2010: Energy Standard for Buildings
3. American Society of Mechanical Engineers (ASME)
4. American Welding Society (AWS)
5. National Fire Protection Association (NFPA)
6. NFPA 70-2017: National Electric Code
7. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA)

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#### 1.4 SUBMITTALS

- A. Prior to commencing work, submit product data and/or shop drawings for HVAC equipment, materials and systems as required in each individual Division 23 Specification section. Provide all Submittals far enough in advance of scheduled dates for installation to provide sufficient time for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery.

#### 1.5 CONSTRUCTION DOCUMENTATION

##### A. Coordination Drawings

1. Refer to Electronic Media section for requirements for obtaining electronic drawing files of the project floor plans.
2. Prepare Coordination Drawings at minimum scale of 1/4" = 1'-0". Submit electronic drawing files to Architect for review. Drawings shall be submitted on a portable memory device.
3. Secure from other trades, information necessary for the development of Coordination Drawings. Items shall include but not be limited to: framing and suspension of ceilings; locations and sizes of equipment and devices; conduit, piping, and ductwork routing and sizes; and required service clearances. How this information is supplied shall be discussed and decided between all trades.
4. Before preparing Coordination Drawings, coordinate locations of all floor, wall, and roof penetrations including sleeve requirements with General Trades. Coordinate locations and types of all access doors with the Architect and General Trades.
5. Before preparing Coordination Drawings, provide to the Architect and/or Structural Engineer information indicating the size and location of all penetrations through floor slabs. The Contractor shall make all adjustments as required by the Architect and/or Structural Engineer.
6. Secure approval of Coordination Drawings from other trades affected, prior to submittal to Architect for review. Each trade must indicate acceptance of illustrated conditions by attaching their endorsement to each Drawing.

##### B. Testing, Adjusting and Balancing Report

1. Submit Testing, Adjusting and Balancing Report to Engineer upon completion.
2. Refer to Section 23 03 00 for additional information.
3. Final copy shall be included in Closeout Documents provided to the Owner.

#### 1.6 CLOSEOUT DOCUMENTS

##### A. Record Drawings:

1. Record Drawings shall reflect as-built conditions and show changes in:



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- a. Size, type, capacity, etc. of any material, device or piece of equipment
  - b. Location of any device or piece of equipment
  - c. Location of any outlet or source in building service system.
  - d. Routing of any piping, conduit, ducts or other building services.
2. Record Drawings shall indicate the location of all underground, under floor and concealed piping .
3. Record Drawings shall indicate rated walls where firestop materials have been applied.

## PART 2 - PRODUCTS

### 2.1 NOT USED

## PART 3 - EXECUTION

### 3.1 COORDINATION

- A. Consult the Contract Documents and Submittals pertaining to the work for other trades. Review the field layouts for all trades and make adjustments accordingly in laying out the HVAC work.
- B. Examine the work of all other trades when it comes in contact with, or is covered by, work in this Division. Do not attach to, cover up, or finish against any defective work, or install work in a manner which will prevent proper installation of the work of other trades. HVAC Contractor shall be responsible for the costs of adjustments required.

### 3.2 PRODUCT HANDLING

- A. Pay all costs for transportation of materials, equipment to job site.
- B. Provide all scaffolding, tackle, hoists, rigging necessary for placing HVAC materials and equipment in their proper place. Scaffolding, hoisting equipment: comply with applicable Federal, State, and Local regulations. Remove temporary work when no longer required.
- C. Arrange for packaging of equipment, which must be hoisted, so that there will be no damage or distortion caused by hoisting operation. Protect all piping, ductwork, and equipment from any damage during hoisting operation.
- D. Store equipment, controllers, insulation, ductwork, etc., in a dry location and protect from dirt and moisture until building is ready to receive them.

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- E. Coordinate location of stored items with other trades. Where necessary, store materials and equipment on movable carts so they may be moved when interfering with the work of other trades.

### 3.3 DAMAGE AND EMERGENCY REPAIRS

- A. Assume responsibility for any damage to new or existing building components caused by work provided as part of the Contract Documents, including leaks in piping systems being installed or reworked. Repair all damage without extra cost to Owner.
- B. Owner reserves the right to make emergency repairs as required to keep equipment in operation, without voiding Contractor's guarantee or relieving him of responsibility during warranty period.
- C. Restore roads, grounds, paving, insulation, piping, ductwork building components, etc., to their original condition whenever this work causes damage.

### 3.4 CLEANING

- A. At all times keep premises and building in neat and orderly condition, follow explicitly any instructions in regard to storing of materials, protective measures and disposing of debris.
- B. After all tests and adjustments have been completed, clean all equipment leaving everything in working order at the completion of this work. Thoroughly clean all piping, ductwork, and equipment of dirt, dust, grease, oil, debris and paint, after all other trades have completed their work.
- C. All debris created by the execution of this work shall be removed as directed by the Architect or Owner.
- D. Upon completion of work remove all tools, equipment and surplus materials.

### 3.5 PAINTING

- A. Finish painting is included under Division 9 - Finishes, except where specifically called for in Section 230300.
- B. Materials and equipment installed under this Division shall be left free from dirt, grease and foreign matter, ready for painting.
- C. No equipment, piping or ductwork shall be painted before being tested.
- D. Damaged surfaces of prefinished materials and equipment shall be touch-up painted to match existing finish.
- E. Under no circumstance shall any open cabling be painted.

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END OF SECTION 230101

## SECTION 230200 – HVAC DEMOLITION

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. HVAC equipment, piping, ductwork, and systems indicated on the Demolition Drawings are shown to indicate the extent of demolition only and are not intended to be a record drawing of the existing conditions. The Drawings and Specifications establish the minimum standards for workmanship and materials.
  - 1. If additional interpretation is required regarding the scope of demolition, contact the Engineer prior to bid.
- B. Include all labor, materials, equipment, services, and permits necessary for completion of the demolition work.
- C. Provide protection for all adjacent areas before, during, and after execution of the demolition work.
- D. Comply with all the rules and regulations of local and state Authorities Having Jurisdiction, including applicable OSHA safety requirements.
- E. Visit the site and become familiar with conditions affecting the demolition work. No additional compensation shall be approved on claims that arise from a lack of knowledge of the existing conditions.
- F. Normal building functions shall be maintained during the demolition work. Coordinate the day and time of any temporary building system interruptions with the Owner. Additional compensation shall not be approved for premium time effort.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Provide materials and equipment for completion of the demolition work as described within the Specifications and on the Drawings.
- B. Materials and equipment shall be new and UL labeled for the application.

### PART 3 - EXECUTION

#### 3.1 GENERAL DEMOLITION WORK

- A. Disconnect and remove existing HVAC Work made necessary because of Project alterations as indicated or implied on the Contract Documents of all trades. Relocate equipment and/or devices where indicated. Existing HVAC equipment, piping, ductwork and systems not affected by these changes shall remain and shall be protected whether shown on the Drawings or not.
- B. HVAC equipment, piping, ductwork and systems shall be de-energized prior to disconnection and removal.
- C. Demolition Work under this Contract shall be accomplished by the Contractor in complete accordance with the Construction Procedure and Progress Schedule specified under Division 1. Proposal shall include any special phasing requirements related to demolition work as described in the Division 1 Specifications.
- D. Remove existing equipment indicated including piping and ductwork connections. Existing equipment shown as being reused or relocated shall be carefully removed, stored on the premises, and refurbished before reinstallation.
- E. Equipment to be salvaged by the Owner shall be carefully removed and stored on site by the Contractor for delivery to the Owner. All other materials, equipment and debris shall become the property of the Contractor and shall be removed from the site.
- F. Remove all previously abandoned equipment, piping, and ductwork encountered above existing ceilings.
- G. Where required, re-support existing to remain piping and ductwork above ceilings being removed.
- H. Remove piping and ductwork as described on the Drawings. Cap or plug as indicated or as required by Code. Insulate portion of system left exposed by the piping or ductwork removal. Insulation shall match that of the existing adjacent insulation or be as specified for new service. Identify in the field where piping or ductwork connections are to be reused.
- I. For portions of existing ductwork systems to be re-used, visually inspect for signs of leaks. Report any such cases immediately upon discovery to the Architect or Engineer. Provide testing similar to that as required for new ductwork systems to ensure adequate condition.
- J. Cutting, patching, finishing, etc., for removed or relocated HVAC equipment, piping, ductwork, and systems shall be included as part of the HVAC Work. All holes and damage caused by the demolition work shall be properly patched with suitable materials to match existing construction. Patching shall be performed by the qualified trade.

- K. Where equipment, piping, ductwork and systems are removed from fire or smoke rated construction, penetrations shall be patched to match existing ratings with suitable materials matching existing construction. Patching shall be performed by the qualified trade.
- L. Remove and reinstall existing ceiling tiles in areas outside the scope of demolition work as required to complete the demolition work outlined within these Specifications or indicated on the Demolition Drawings. Damaged tiles shall be replaced to match the existing.

### 3.2 REFRIGERANTS

- A. Where existing systems contain CFCs, HCFCs, or HFCs, Contractor personnel shall have a UNIVERSAL certification as required by Environmental Protection Agency, Section 608 Regulatory Requirements: Stationary Refrigeration and Air Conditioning.

END OF SECTION

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## SECTION 230300 - HVAC BASIC MATERIALS AND METHODS

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Inserts, Hangers and Supports
- B. Access to Equipment and Devices
- C. Cleaning
- D. Tests and Adjustments

#### 1.2 SUBMITTALS

- A. Refer to Sections 23 01 00 and 23 01 01 for additional requirements.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES. Exceptions: Paint.

#### 1.3 CONSTRUCTION DOCUMENTATION

- A. Refer to Section 230101.
- B. Submit draft copies of testing, adjusting and balancing report for review prior to final acceptance of Project. Include final copies in the Operating and Maintenance Manuals.

### PART 2 - PRODUCTS

#### 2.1 INSERTS, HANGERS, AND SUPPORTS

- A. Manufacturer: Basis of design shall be Anvil. Other acceptable manufacturers include Mason, Modern or Erico/Caddy.
- B. Provide all inserts, hangers, anchors, guides and supports to properly support and retain piping, ductwork, conduits and equipment; to control expansion, contraction, anchorage, drainage and prevent sway and vibration.
- C. Provide inserts for support of work in concrete construction.
- D. Provide forged steel beam clamps when attaching to steel construction.

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- E. Provide supplementary steel angles, channels, and plates where supports are required between building structural members, span the space and attach to building structural members by welding, bolting or anchors.
- F. Provide supplementary steel angles, channels or supports around roof penetrations where roof decking is compromised.
- G. Provide hangers, rollers, threaded rods, turnbuckles, saddles, insulation protectors, anchors, and all other miscellaneous specialties for the attachment of hangers and supports to structure.
  - 1. For up to 3/4 inch diameter rod: Anvil Figure 92, 93, or 94 beam clamps.
  - 2. For 7/8 inch and 1 inch diameter rod: Anvil Figure 134 beam clamp with Anvil Figure 290 eyenut.
  - 3. Pressed steel beam clamps are not permitted.
- H. Provide rods, angles, rails, struts, brace plates, and platforms required for suspension or support of piping, conduit and equipment.
- I. Do not support piping or ductwork from another pipe or ductwork. Do not support piping or ductwork from conduit. Do not support ceiling framing or lighting from piping or ductwork. Do not support any item from metal roof deck.
- J. Where fireproofing is removed or damaged to allow attachment to building structural members, repair to maintain integrity of fireproofing.
- K. Refer to Specification 23 30 00 for additional ductwork support requirements.

## PART 3 - EXECUTION

### 3.1 GENERAL INSTALLATION REQUIREMENTS

- A. Location of piping, equipment, ducts, etc., on the drawings are diagrammatic; indicated positions shall be followed as closely as possible, exact locations shall be subject to building construction and interferences with other work. In general, conceal piping and ductwork located outside of equipment rooms. Difficulties preventing the installation of any part of work as indicated, shall be called to the attention of the Architect. Architect will determine locations and changes. Contractor shall install the work accordingly. Architect reserves right to make minor changes in location of any part of the work up to the time of roughing-in without additional cost.
- B. Attempts have been made to identify existing equipment locations and piping and ductwork routing and sizes with use of existing drawings and field observations. Contractor shall field verify all existing information, report any discrepancies to the Architect or Engineer and note on the Record Drawings.



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- C. At locations in project involving alterations, assume responsibility for removal, rerouting, protection and replacement of existing facilities as necessary to install new work. Work to be executed by craft which customarily or by jurisdictional award performs such service. Refer to 23 02 00 for additional information.
- D. Coordinate all work with the phasing of the Project. Certain services must remain active to serve occupied areas during construction. Coordinate all phasing requirements with the Owner.
- E. Install all materials and equipment in a neat and workmanlike manner by competent specialist for each subtrade. The installation of any materials and equipment not meeting these standards may require removal and reinstallation at no additional cost to the Owner.
- F. Locate piping, ductwork and other services, in pipe spaces, to ensure maximum accessibility. Where necessary to cross pipe spaces, crossing must be made near the floor or 6 feet or more above floor.
- G. Install, connect equipment, services, materials according to best engineering practice and in conformity with manufacturer's printed instructions. Provide complete auxiliary piping, water seals, valves, electric connections, controls, etc., as recommended by respective equipment manufacturer or required for proper operation.
- H. Take all measurements and determine all elevations at the building.
- I. All roof mounted equipment shall be installed a minimum of 10 feet from edge of roof, unless indicated otherwise.
- J. Provide perimeter reinforcement for all roof penetrations where penetration compromises structural integrity of roof deck. Perimeter supports shall frame the opening and be welded or bolted to structural members as required to support the weight of the roof decking and the equipment above, where applicable. Supports shall not compromise the integrity of structural members. Coordinate installation with structural engineer where details are not provided.

### 3.2 ACCESS TO EQUIPMENT AND DEVICES

- A. All valves, dampers, air vents, equipment, control components and other devices requiring examination, adjustment, service, and maintenance shall be accessible. If located above drywall ceiling or behind finished walls, provide an access door. Coordinate all access door locations with the Architect and General Trades.
- B. To ensure accessibility during and after construction, when a device is installed, its location shall be marked with securely attached temporary signage. Signage shall indicate the amount of clearance required for the specific device. Signage shall remain in place until the ceiling or access door is installed or until substantial completion.

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- C. Clearance shall include not only code required clearance but also clearance for Owner's staff to access the device. This access shall be from the floor or from the floor level using normal maintenance ladders and apparatus to meet all OSHA requirements. Consideration shall be given to accessing a device through an access door.
- D. Where a device is installed above finished ceilings, signage shall be hung below the device at the finished ceiling level. Where a device is exposed, in open ceiling areas, signage shall be hung at approximately 8' above the floor level.
- E. HVAC Contractor shall monitor these access locations until substantial completion and notify Architect, Owner and Engineer when the access area is encroached upon so that corrective action may be taken immediately.
- F. Corrective action shall be the responsibility of the trade encroaching the access area unless identified that the equipment in question is installed incorrectly.

### 3.3 CLEANING

- A. After all tests and adjustments have been completed, clean all equipment leaving everything in working order at the completion of this work. Thoroughly clean all piping, ductwork, and equipment of dirt, dust, grease, oil, debris and paint, after all other trades have completed their work.
- B. Do not operate air handling equipment without proper filtration. Replace all filters used during construction with proper system filters at completion of work. Refer to Specification 23 30 00 for additional information.
- C. Refer to Specification 23 30 00 for ductwork cleaning requirements.

### 3.4 TESTS AND ADJUSTMENTS

- A. Obtain all inspections required by law, ordinances, rules, regulations of authorities having jurisdiction, furnish certificates of such inspections. Pay all fees, and provide all equipment, power and labor necessary for inspections and tests.
- B. During testing period maintain on the project an engineer thoroughly familiar with all phases for as long a period as required to thoroughly adjust all systems and demonstrate that they are functioning properly.
- C. Perform all tests, including but not limited to those specified, make necessary adjustments to obtain specified equipment and system characteristics.
- D. Do not consider work under this Specification complete until required inspections have been obtained, tests performed, necessary adjustments made and satisfactory evidence of compliance has been submitted. Architect reserves right to make spot checks to determine accuracy and completeness of final adjustments.
- E. HVAC Systems Testing, Adjusting and Balancing

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1. Refer to Section 230593 "Testing, Adjusting and Balancing".
2. Provide services of a certified AABC or NEBB test agency to test and balance HVAC systems. Conduct all tests and provide a report in accordance with Associated Air Balance Council, National Standards for Field Measurements and Instrumentation.
- 3.
4. The testing and balancing agency and the temperature control installer shall cooperate in a joint effort as necessary to achieve properly tested and balanced systems.
  - a. The responsibility of the temperature control installer will be to establish the mode of operation required by the testing and balancing agency for proper testing and to perform programming and/or setpoint changes as required by the testing and balancing agency.
  - b. The responsibility of the testing and balancing agency is to perform all the actual testing and balancing of all HVAC equipment and to verify the operation of HVAC temperature control system.
5. The Mechanical Contractor shall make all changes in sheaves, belts, and dampers and shall add dampers as requested by the Air Balance Agency for correct balance at no additional cost to the Owner.
6. Do not begin adjustments until systems have been completed and are in full working order. Put all heating, ventilating, exhaust and air conditioning systems and equipment into full operation and continue operation of same during each working day of testing and balancing. All testing and balancing shall be done under both summer and winter design conditions.
7. Perform tests and balance systems in accordance with following requirements:
  - a. Identify each diffuser, grille and register as to location and area; in readings and tests of diffusers, grilles and registers, tabulate required velocity and CFM, and test velocity and CFM after adjustment and list size, type and manufacturer of diffusers, grilles and registers. Adjust supply diffusers, grilles and registers for proper air distribution pattern to eliminate drafts.
  - b. Furnish 2 AABC/ NEBB certified copies of balancing results.
8. Submit Testing, Adjusting and Balancing Report to Engineer for review. After review, perform additional testing, adjusting and balancing as noted and revise report as required.
  - a. At project completion, furnish one (1) AABC or NEBB certified hard copy of Final Report and one (1) electronic copy on a portable memory device. Refer to Section 230100.
  - b. In addition, a final report shall be included in the Closeout Documents.

END OF SECTION 230300

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SEC. 230300 HVAC BASIC MATERIALS AND  
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## SECTION 230400 - HVAC FIRESTOPPING

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Work of this Section includes, but is not limited to, furnishing and installing firestopping for fire-rated construction in the following areas:
  - 1. All openings in fire-rated floor, wall, ceiling and roof assemblies, both empty and those accommodating penetrating items.
  - 2. Openings at each floor level in shafts or stairwells.
  - 3. Empty openings intentionally designed as spare openings in fire rated Construction.
- B. This Division's Contractor shall include in his bid, all labor and materials to accommodate support for firestop third party testing including, but not limited to the following:
  - 1. Meet with third party testing agency and discuss project requirements, firestop system requirements and database requirements.
  - 2. Coordinate each firestop location and receive approval of firestop product to be utilized.
  - 3. Coordinate each firestop location and receive firestop identification number.
  - 4. Coordinate each firestop location and accompany third party agent with inspection of each firestop location.
  - 5. Perform any adjustments to firestop at each location as required by the third party agent. Remove and replace firestop when rejected.
- C. Penetrating items shall include the following:
  - 1. Cables.
  - 2. Conduit.
  - 3. Pipes without insulation.
  - 4. Pipes with insulation. All insulation must remain intact, undamaged and shall run continuously through walls and floors.
  - 5. Ductwork without fire dampers. Where insulated, all insulation must remain intact, undamaged and shall run continuously through walls and floors.
  - 6. Raceways.
  - 7. Cable trays.
  - 8. Busways

#### 1.2 QUALITY ASSURANCE

- A. General

1. Firestopping materials shall conform to Flame (F) and Temperature (T) ratings required by local building code and as tested by nationally accepted test agencies per fire tests in a configuration that is representative of field conditions. The F rating must be a minimum of one (1) hour but not less than the fire resistance of the assembly being penetrated.
  2. Manufacturer<sup>TMTM</sup>s engineering judgments will be accepted for non-standard applications or where no tested system exists. Drawings for engineering judgments must indicate the UL tested system or systems upon which the judgment is based, in order to evaluate the engineering judgment against a known performance. Engineering judgments shall be approved by the Architect.
  3. Firestopping materials and systems shall be capable of closing or filling openings created by:
    - a. The burning or melting of combustible materials.
    - b. Deflection of materials due to thermal expansion.
  4. Firestopping material shall be non-halogenated, lead and asbestos free and shall not incorporate nor require the use of hazardous solvents.
  5. Firestop products which dissolve in water after curing are not acceptable.
  6. Firestopping materials shall not shrink upon drying as evidenced by cracking or pulling back from contact surfaces.
  7. All firestopping materials shall be manufactured by one manufacturer (to the maximum extent possible).
- B. Engage an experienced installer who is certified, licensed or otherwise qualified by the firestopping manufacturer as having been provided the necessary training to install firestop products per specified requirements. A manufacturer's willingness to sell its through-penetration firestop system products to a Contractor or to an installer engaged by Contractor does not in itself confer qualifications on buyer.
- C. Manufacturer's Field Representative: The Manufacturer of the firestop material of this Section shall provide a qualified field representative at the site.
- D. Pre-Installation Conference: Contractor shall hold a pre-installation conference with representatives of the Architect, Contractor, Installer, Materials Manufacturer and various trades involved in the Work, to review conditions affecting the installation and consistency of manufacturer to be used by all trades.
- E. Conform to Manufacturer's printed instructions for installation in accordance with a U.L rated system or Manufacturer<sup>TMTM</sup>s engineering judgement.
- F. Codes and Standards
1. ASTM E 84
  2. ASTM E 119
  3. ASTM E 814
  4. UL 263
  5. UL 1479
  6. NFPA 101

### 1.3 SUBMITTALS

- A. Refer to Sections 2X 01 00 and 2X 01 01 for additional requirements.
- B. All submittals shall conform completely to the requirements of the Contract Documents.
- C. Product Data: For each type of material to be installed, literature shall indicate product characteristics, typical uses, performance, test data and Manufacturer's installation procedures.
- D. Shop Drawings: Include U.L. rated system number and details for each type of penetration or configuration.
  - 1. Show typical installation details including:
    - a. Minimum and maximum allowable annular spacing.
    - b. Base material composition.
    - c. Firestop materials selected.
    - d. Applied thickness required to achieve the hourly rating.
- E. Where required, submit Product Data and Shop Drawings to the Authority Having Jurisdiction (AHJ) for review and approval. Information shall include the Manufacturer's assembly detail with UL system number, technical data and installation instructions for each penetration type occurring on the project.
- F. Close-out Documents
  - 1. Final approved product data and shop drawings of all materials installed shall be included in operating and maintenance manuals.
  - 2. Record Drawings shall indicate rated walls where firestop materials have been applied.

### 1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver through-penetration firestop system products to Project site in original, unopened containers or packages with intact and legible manufacturer<sup>TM</sup>s labels identifying product and manufacturer, UL label, date of manufacturer; lot number; shelf life, if applicable; qualified testing and inspection agency's classification marking; and mixing instructions for multicomponent materials.
- B. Store and handle materials for through-penetration firestop systems to prevent their deterioration or damage due to moisture, temperature changes, contaminants or other causes. Materials shall be stored off the ground and protected from environmental conditions as required by manufacturer.
- C. All firestop materials shall be installed prior to expiration of shelf life.

## 1.5 PROJECT CONDITIONS

- A. Conform to manufacturer's printed instructions for installation and when applicable, provide for curing in accordance with manufacturer suggested temperature requirements.
- B. Do not install through-penetration firestop systems when ambient or substrate temperatures are outside limitations recommended by manufacturer.
- C. Do not install through-penetration firestop systems when substrates are wet due to rain, frost, condensation, or other causes.
- D. Do not use materials that contain flammable solvents.
- E. Do not install water based or products that are conductive when wet in contact with energized electrical conductors. Exercise care when energizing penetrants.

## 1.6 PROTECTION

- A. Where firestopping is installed at locations which shall remain exposed in the completed work, provide protection as necessary to prevent damage to adjacent surfaces and finishes, and protect as necessary against damage from other construction activities.

## 1.7 SEQUENCING

- A. Coordinate this work as required with work of other trades.
- B. Firestopping shall precede finishing of gypsum board. Schedule installation of cast-in-place firestop devices after completion of floor formwork, metal deck placement or composite deck installation but before placement of concrete.

## 1.8 WARRANTY

- A. Contractor shall provide written certification that all firestopping was installed in accordance with the Manufacturer's written instructions for UL tested assemblies and that all firestop systems installed meet firestopping requirements as herein specified.

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. Firestopping materials shall meet the requirements specified herein.



- B. For applications where combustible penetrants are involved, i.e. insulated or plastic pipe, a suitable intumescent material must be used.

## 2.2 ACCEPTABLE MANUFACTURERS

- A. Specified Technologies, Inc. (STI)
- B. 3M
- C. Hilti, Inc.

## 2.3 FIRESTOP MATERIALS

- A. Firestop Mortar
- B. Intumescent Firestop Sealants and Caulks
- C. Elastomeric Firestop Sealants and Caulks
- D. Endothermic Firestop Sealants and Caulks
- E. Firestop Putty
- F. Rough-in Box Inserts
- G. Firestop Pillows/Blocks
- H. Fire Rated Pathways
- I. Firestop Grommets
- J. Firestop Collars
- K. Wrap Strips
- L. Cast in Place Devices
- M. Firestop Foams
- N. Composite Sheets
- O. Intumescent Gaskets

### PART 3 - EXECUTION

#### 3.1 GENERAL

- A. In an occupied building, permanent firestopping shall be installed within 24 hours of penetrating a fire rated assembly. If permanent firestopping cannot be installed within this time period, temporary firestop pillows/blocks are permitted, where installation allows, until permanent firestop materials can be properly installed.

#### 3.2 INSPECTION

- A. Examine the areas and conditions where firestops are to be installed and notify the Architect of conditions detrimental to the proper and timely completion of the work. Do not proceed with work until the Contractor, in a manner acceptable to the Architect has corrected unsatisfactory conditions.
- B. Verify that environmental conditions are safe and suitable for the installation of the firestop products.

#### 3.3 CONDITIONS REQUIRING FIRESTOPPING

##### A. General

- 1. Provide firestopping for conditions specified elsewhere whether or not firestopping is indicated and, if indicated whether such material is designed as insulation, safing, or otherwise.
- 2. All firestopping shall be installed in accordance to the UL rated system designed for the application.
- 3. Grout, Mortar or Gypsum based products shall not be installed in lieu of firestopping material specified herein.
- 4. All smoke walls (smoke barriers, smoke partitions, etc.), rated or non-rated, shall be firestopped with systems designed to maintain a minimum 1 hour rating or that which is equal to the rating of the wall.

##### B. Penetrations - Provide firestopping as follows:

- 1. Where penetrations pass through one or both surfaces of a fire rated floor or wall.
- 2. Where a penetration occurs through fire rated walls or partitions of hollow-type construction, provide firestopping to completely fill spaces around the penetration, on each side of the wall or partition.
- 3. Except for slab on grade, where penetrations pass through a non-fire rated floor.
- 4. The requirements for penetrations shall apply whether or not sleeves have been provided, and whether or not penetrations are to be equipped with escutcheons or other trim. If penetrations are sleeved, firestop annular space, if any, between sleeve and wall opening. Upon installation of cabling through sleeve, firestop the remaining open area within the conduit.

- C. Where demolition has occurred in rated walls, floors and assemblies, the material used to patch the opening shall match the material used for the assembly construction. Firestopping materials may be utilized upon approval of Architect and Engineer. Materials used shall be provided with submittals. Work performed shall be the responsibility of the Contractor whose work was removed, performed by the appropriate trade.

### 3.4 PREPARATION

- A. Surface to receive firestop shall be free of dirt, dust, grease, oil, oil from release agents, or other matter that would impair the bond of the firestop material to the substrate or penetrating items.
- B. Substrate shall be frost free.

### 3.5 INSTALLATIONS

#### A. General

1. Sleeves and core-drilled holes shall be sized at least 1-1/2" larger in diameter than penetrating items.
2. Installation of firestops shall be performed by applicators/installers qualified and trained by the Manufacturer. Installation shall be performed in strict accordance with the Manufacturer's detailed installation procedures.
3. Apply firestops in strict accordance with UL rated system designs, and Manufacturer's recommendations.
4. Coordinate with all other trades to assure that all items which penetrate fire rated construction have been permanently installed prior to installation of firestops. Schedule and sequence the work to assure that partitions and other Construction which would conceal penetrations are not erected prior to the installation of firestop.
5. Gun grade sealants and putties shall be tooled into place to insure proper adhesion to penetrations and surrounding surfaces.
6. Where existing penetrations are reused that contain remnants of existing firestop products remain, remove all existing firestopping.

#### B. Dam Construction

1. Install dams when required to properly contain firestopping materials within openings and as required to achieve required fire resistance rating.
2. Placement of dams shall not interfere with functions or adversely affect the appearance of adjacent construction.

#### C. Field Quality Control

1. Install work in full accordance with rules, regulations, and safety requirements of Federal, State, County and City authorities having jurisdiction over premises. Do not construe this as relieving Contractor from compliance with any requirements of the Specifications which are in excess of Code requirements and not in conflict therewith.
2. Correct unacceptable firestopping and provide additional inspection to verify compliance with this Specification at no additional cost.
3. Finish surfaces of firestopping that is to remain exposed in the completed work to a uniform and level condition.

### 3.6 LABELING

- A. Where firestopping installations occur, Contractor shall provide a label adjacent to each penetration. Label shall include:
  1. UL rated system used.
  2. Date of installation.
  3. Name of installing Contractor
- B. Labels shall be furnished by the firestop manufacturer.

END OF SECTION

## SECTION 230700 - HVAC INSULATION

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. All labor, equipment, accessories, materials and services required to provide the following insulation systems:

- 1. Ductwork Insulation

#### 1.2 SUBMITTALS

- A. Refer to Section 230100 and 23 01 01 for additional information.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.

#### 1.3 QUALITY ASSURANCE

- A. The Insulation Contractor shall be regularly engaged in the installation of insulation systems and shall have a minimum of five (5) years of demonstrated experience in the installation of insulation systems similar in type and size.
- B. Install insulation materials and accessories in accordance with the manufacturer's published instructions, recognized industry standards and this specification to ensure that it will serve its intended purpose.

### PART 2 - PRODUCTS

#### 2.1 GENERAL

- A. Insulation material, performance and thickness shall comply with ASHRAE 90.1 - 2010 requirements.
- B. Provide all insulation material (insulation, jackets, fitting covers, tapes, adhesives, cements, mastics, sealants, coatings and finishes) with a composite Fire and Smoke Hazard rating as tested under procedure ASTM E-84 or UL 723, not exceeding the following:
  - 1. Flame Spread 25
  - 2. Smoke Developed 50

- C. External duct insulation shall be legibly printed or identified at intervals not to exceed 36 inches with the name of the manufacturer, the thermal resistance R-value at the specified thickness and the flame spread and smoke developed indexes of the composite materials.
- D. Mastics, cements, coatings, adhesives, sealants and finishes shall be suitable for contact with the surface material for which it is applied to and rated for the working temperature of the service. All adhesives and sealants wet applied on site shall comply with chemical content requirements of the South Coastal Air Quality Management District (SCAQM) Rule 1168. Acceptable Manufacturers: Foster Products, Childers Products and Vimasco Corporation.

## 2.2 DUCTWORK INSULATION

- A. Insulation Types:
  - 1. Wrap FRK: Owens-Corning SOFTR Duct Wrap, Type 100, 1.00 pcf, glass fiber blanket insulation factory laminated to a Foil Reinforced Kraft facing.
  - 2. All insulation shall be furnished as a complete system with pressure-sensitive tape matching the facing.
  - 3. Other acceptable manufacturers: Knauf and Johns Manville.
- B. Provide insulation for the complete system, including but not limited to, reheat coils, sound attenuators, motor operated dampers and smoke dampers. Insulation thickness shall match that as required for the ductwork.
- C. Insulation shall include full thickness coverage for standing seams, flanges and steel angle supports.
- D. Refer to Ductwork Insulation Schedule on Drawings.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Install insulation products according to manufacturer's published instructions, this specification and recognized industry standards to ensure it will serve its intended purpose.
- B. Protect insulation stored on site and during delivery from damage and moisture such as rainwater and building system leaks.
- C. Ensure that insulation is clean, dry, and in good mechanical condition and that all factory-applied facings are intact and undamaged. Wet, dirty, or damaged insulation is not acceptable for installation.

- D. Install insulation over clean dry surfaces. Install insulation materials with smooth and even surfaces. Rework poorly fitted joints. Do not use joint sealer or mastic as filler for joint gaps or excessive voids resulting from poor workmanship.
- E. Once in place, all tape shall be sealed with a squeegee type device provided by the Manufacturer.
- F. Repair existing pipe, ductwork and equipment insulation where removed to make new connections, to add temperature controls, or where damaged by new construction. Use same insulation as specified for new service.
- G. Where existing asbestos containing materials are discovered or suspected notify the building Owner immediately so they can be removed under a separate "Asbestos Removal Contract" direct with the Owner.

### 3.2 DUCTWORK INSULATION

- A. Ductwork insulation shall be continuous through all wall and floor penetrations except at fire and fire/smoke damper locations. All joints and seams shall be sealed to maintain a continuous vapor barrier.
- B. Insulation shall not cover ductwork access doors. Insulation shall be tapered towards and taped to the entire perimeter of the access door frame.
- C. Ductwork where indicated to be lined shall not require insulation on exterior of ductwork.
- D. Duct Wrap Insulation:
  - 1. Wrap duct wrap insulation tightly on the ductwork with all circumferential joints butted and longitudinal joints overlapped a minimum of 2 inches
  - 2. Apply contact spray adhesive on bottom of duct prior to installation of insulation to adhere insulation to duct. Secure insulation to the bottom of rectangular ductwork over 24 inches with mechanical fasteners at not more than 18 inches on center.
  - 3. Secure facing for circumferential and longitudinal joints firmly with 5 inch wide pressure sensitive joint sealing tape with finish to match insulation finish. Tape all pin penetrations or punctures in facing.

### 3.3 FIELD QUALITY ASSURANCE

- A. Upon completion of all insulation work covered by this specification, visually inspect the work and verify that it has been correctly installed. This may be accomplished while work is in progress to assure compliance with requirements to cover and protect insulation materials during installation.

3.4 PROTECTION

- A. Replace damaged insulation which cannot be satisfactorily repaired, including insulation with vapor barrier damage and moisture-saturated insulation.
- B. Maintain the integrity of factory-applied vapor barrier jacketing on all insulation, protecting it against puncture, tears or other damage.
- C. The insulation installer shall advise all other trades as to requirements for protection of the insulation work during the remainder of the construction period, to avoid damage and deterioration of the finished insulation work.

END OF SECTION 230700



## SECTION 233000 - AIR DISTRIBUTION

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Ductwork
- B. Inserts, Hanger and Supports
- C. Flexible Duct
- D. Flexible Duct Connections
- E. Dampers and Deflectors
- F. Grilles and Diffusers

#### 1.2 QUALITY ASSURANCE

- A. Air Distribution System Cleanliness
  - 1. The air distribution system shall be free of construction debris. New ductwork installation shall comply with this Specification and SMACNA Duct Cleanliness for New Construction Guidelines - Intermediate Duct Cleanliness Level.
    - a. Protect ductwork and air distribution equipment stored on site and during delivery, from construction dust and debris and from moisture such as rainwater and building system leaks. Ductwork stored on the project site shall be stored off the ground, on wood pallets or blocks and covered with plastic or tarps to prevent from becoming covered with construction dust or debris prior to installation.
    - b. The internal surfaces of ductwork and air distribution equipment shall be wiped to remove dust, immediately prior to installation.
    - c. Installed ductwork and air distribution equipment shall be protected prior to air distribution system operation. All open ends of ductwork or openings to equipment shall be covered/sealed to prevent entry of dust and debris. This includes both completed systems and overnight work in progress.
    - d. Protect ductwork and air distribution equipment with methods meeting the following minimum standards.
      - 1) Ductwork openings for ductwork installed or stored on site
        - a) Plastic adhesive film: colored for easy identification on the project site. Thickness: minimum 2.5 mils. Tensile strength: minimum 11 pounds per inch.

- b) Protective cover bag: colored for easy identification on the project site. Polypropylene plastic. Thickness: .002 mil. Elastic end band.
    - 2) Air distribution equipment openings
      - a) Plastic coverings as described for ductwork.
      - b) Plywood or sheet metal with protective tape around edges.
      - c) Plastic shrink wrap.
    - 3) Plastic garbage bags, grocery bags, scrap plastic sheeting, are not acceptable for use in protection of air distribution systems.
  - e. Remove all ductwork and air distribution equipment protection prior to equipment start up, testing, and balancing. Dispose of removed materials properly and remove from site.
2. If air distribution system is to be used during construction, comply with the following requirements:
- a. Cover all outdoor air and return air openings to duct system with temporary construction filters. Filters shall be a minimum of MERV 8. Replace filters when dirty. At completion of construction, filters shall be removed.
  - b. In addition to filters specified on outdoor air and return air duct openings, provide specified pre-filters and final filters in air handling equipment. Replace periodically when dirty. Do not operate air handling equipment without specified pre-filters and final filters installed.
  - c. After construction is complete and before project turnover, provide new (clean) pre-filters and (clean) final filters in air handling units.
3. If ductwork and/or air distribution equipment become dirty or contaminated with construction dust, dirt, or debris, during delivery or installation, while stored or installed on site, or being operated during construction, equipment and/or ductwork shall be cleaned.
- a. Cleaning to include air handling units, fans, ductwork, terminal units, coils, dampers, louvers, grilles and diffusers.
  - b. Contractor shall be a member of the National Air Duct Cleaners Association (NADCA) and certified by NADCA to perform Air Conveyance System (ACS) cleaning.
  - c. The standard of cleanliness shall be consistent with NADCA Standard ARC - 2013: Assessment, Cleaning and Restoration of HVAC Systems.
  - d. Interior of the entire air distribution system shall be cleaned using direct contact vacuum methods. Provide access openings at intervals that will enable the cleaning technician to maintain close contact with the surfaces being cleaned. Remote type vacuuming, air washing or cleaning methods utilizing hoses longer than can be visually observed from the point of insertion are not acceptable.

- e. All access openings shall be closed with prefabricated sheet metal cover plates, fastened with sheet metal screws and caulked to prevent air leakage. Access openings cut into round ductwork shall be closed with Ductmate brand round access doors to ensure proper air tight enclosure. Any rigid or blanket type insulation removed to allow for installation of duct access openings shall be re-installed and seams covered and secured to eliminate any heat or cooling loss.

### 1.3 SUBMITTALS

- A. Refer to Section 230100 and 23 01 01 for additional information.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.

## PART 2 - PRODUCTS

### 2.1 DUCTWORK

- A. General Ductwork
  - 1. Ductwork and plenum chambers shall be constructed to the gauge and corresponding reinforcing schedule as indicated in the latest edition of SMACNA Standards.
  - 2. All ductwork shall be constructed of galvanized steel except where indicated to be of another material.
- B. Ductwork with a static pressure above 2-inches.
  - 1. Round Ductwork
    - a. Galvanized steel spiral conduit, lock seam construction.
      - 1) Fittings, welded steel construction for tight slip fit with spiral. Provide connections from mains to branches or to flexible ducts with conical tee take-off.
      - 2) All spiral ducts and fittings shall be as manufactured by United Sheet Metal Co., Semco or Lindab.
  - 2. Rectangular Ductwork
    - a. Construct of galvanized steel of the U.S. standard gauge indicated in the latest edition of SMACNA Standards.
- C. Air Duct Sealants
  - 1. Air duct sealants shall conform to NFPA 90A, ASTM E84, ASTM E96, UL181A, and UL181B.

2. Acceptable manufacturers: Ductmate Industries, Inc. "Proseal" or "Fiberseal", RCD Corp. Provide all products in this section from a single manufacturer.
3. Air duct sealant: Ductmate Industries, Inc. "Proseal", water-based, 66% solids content, 11 lbs. per gallon, non-flammable, synthetic latex emulsion for permanently sealing fabricated joints and seams of sheet metal air ducts, UL 181 listed rigid fiberglass air ducts, UL181 listed flexible air ducts and thermal insulation; for repairing damaged and leaking air duct.
4. Air duct sealant where fiberglass reinforcement is required. Ductmate Industries, Inc. "Fiberseal", water-based, 66% solids content, 11 lbs. per gallon, non-flammable, synthetic latex emulsion with polypropylene fiber reinforcement for permanently sealing fabricated joints and seams of sheet metal air ducts, UL181 listed rigid fiberglass air ducts, UL181 listed flexible air ducts and thermal insulation; for repairing damaged and leaking air ducts.
5. Sealant application temperature: 35 degrees F to 110 degrees F; Sealant service temperature: -25 degrees F to 175 degrees F; Storage temperature: 40 degrees F to 85 degrees F.
6. VOC content of air duct sealants shall not exceed 10 grams per liter.

D. Acoustic Duct Lining

1. Where indicated, for ductwork located inside building line ductwork with 1 inch thick Owens-Corning QuietR Acoustic Duct Liner Type 300 (R-Value = 4.3). Coating shall be UL rated for flame spread less than 25 and smoke developed less than 50. Lining to be installed with stick-klips and adhesive per manufacturer's instructions.
2. Equivalent Manufacturers: Knauf, Certain Teed, and Johns Manville.

2.2 INSERTS, HANGERS AND SUPPORTS

- A. Manufacturer: Basis of design shall be Anvil. Other acceptable manufacturers include Mason, Modern or Erico/Caddy.
- B. Provide all inserts, hangers, anchors, guides and supports to properly support and retain ductwork and prevent sway and vibration.
- C. Provide inserts for support of work in concrete construction.
- D. Provide forged steel beam clamps when attaching to steel construction.
- E. Provide supplementary steel angles, channels, and plates where supports are required between building structural members, span the space and attach to building structural members by welding, bolting or anchors.
- F. Provide hangers, threaded rods, anchors, and all other miscellaneous specialties for the attachment of hangers and supports to structure.
  1. For up to 3/4 inch diameter rod: Anvil Figure 92, 93, or 94 beam clamps.
  2. For 7/8 inch and 1 inch diameter rod: Anvil Figure 134 beam clamp with Anvil Figure 290 eyenut.
  3. Pressed steel beam clamps are not permitted.

- G. Provide rods, angles, rails, struts, brace plates, and platforms required for suspension or support of ductwork.
- H. Do not support ductwork from another pipe or ductwork. Do not support ductwork from conduit. Do not support ceiling framing or lighting from ductwork. Do not support any item from metal roof deck.
- I. Support ductwork with 16 gage galvanized steel strap hangers, steel rods or steel trapeze hangers per SMACNA Standards. Maximum spacing 8'-0".
- J. Where fireproofing is removed or damaged to allow attachment to building structural members, repair to maintain integrity of fireproofing.

## 2.3 FLEXIBLE DUCT

### A. Type 1 - Insulated

- 1. Tested and classified by Underwriters Laboratories, Inc. as Class 1 Air Duct and labeled in accordance with Underwriters Laboratories, Inc. Standard for Air Ducts, UL 181. The flame spread rating shall be 25 or less and the smoke developed rating shall not exceed 50.
- 2. Flexible ductwork shall be rated for low or high pressure with a vapor transmittance of 0.05 perm per ASTM E96, Procedure A. Minimum positive pressure rating shall be 6" w.g. for sizes up to 12", and 4" w.g for size 14" and above. Minimum negative pressure rating shall be  $\frac{3}{4}$ " w.g for sizes up to 12", and  $\frac{1}{2}$ " w.g for sizes 14" and above. Minimum rated air velocity of 5000 feet per minute.
- 3. Inner core construction shall be double or triple laminated, polyester, or Chlorinated polyethylene (CPE) that is permanently bonded to or encapsulating a steel wire helix. Outer jacket shall be made of fiberglass scrim reinforced metalized polyester.
- 4. Fiberglass insulation sleeve shall have minimum thermal resistance value of R-4.2. Flexible duct shall be manufactured with the following information printed on the exterior jacket: name of manufacturer, thermal resistance R-value at the specified thickness, flame spread and smoke development of the composite material.
- 5. Product shall carry a minimum 5 year limited warranty.
- 6. Manufacturer: Atco UPC #030, Flexmaster Type 5M, or Thermaflex Type M-KE.

## 2.4 FLEXIBLE DUCT CONNECTIONS

- A. Provide flexible connections with 1 inch slack between ducts and fans where indicated. Flexible material shall be Duro Dyne Metal Fab with "Grip Loc" metal to fabric seam.
- B. Flexible fabric shall be UL classified black neoprene coated woven fiberglass (weight 30 oz/sq.yd.)

## 2.5 DAMPERS AND DEFLECTORS

- A. Furnish and install all manual dampers, and deflectors where indicated or where necessary to properly distribute and balance air. Provide damper in each supply duct leaving duct main and in each branch serving individual supply, return and exhaust outlets and where otherwise indicated.
- B. Dampers shall be fabricated with blades no larger than 8 inches wide by 48 inches long. Dampers over 48 inches in length shall have intermediate support and bearings.
- C. Provide all manual dampers with Young Regulator Company, Ventlock or Duro Dyne operators. Use Young Regulator No. 443-B operators for balancing dampers. Opposite end of damper rod shall have Young Regulator No. 670 or 656 bearing set.
- D. Install additional dampers where required by the Air Balance Contractor to properly adjust the system air volumes.

## 2.6 GRILLES AND DIFFUSERS

- A. See Drawings for all grille, diffuser and accessory specifications, locations and air quantity.
- B. In general, Titus grilles and diffusers are specified, equals as manufactured by Anemostat, Krueger, E. H. Price Company, Tuttle and Bailey or Nailor-Hart are acceptable.
- C. All grilles, registers and diffusers shall have a factory applied white finish unless noted otherwise.
- D. Refer to Architectural Drawings for exact location of ceiling diffusers.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Provide all sheet metal work as indicated and according to the latest edition of the ASHRAE guide and data book, SMACNA standards and this specification, the most demanding of which shall be the minimum standard.
- B. Install ductwork where indicated. Make all necessary changes in cross sections and offsets, whether or not specifically indicated.
- C. All changes in cross section shall be made without reducing the design area of the duct.
- D. Cap all open ends of ductwork until connected to grilles, diffusers, equipment to prevent entrance of debris, dust, etc.

- E. No pipe or other obstructions shall pass through air ducts.
- F. Install all ductwork run above ceiling so as to maintain design ceiling heights, ductwork run exposed shall be installed to provide maximum headroom in all rooms and corridors.
- G. Locate ductwork a sufficient distance from walls, piping, other ductwork, other obstacles, to permit application of full thickness of insulation specified.
- H. Ducts shall not be hung from other ducts, pipe, conduit or from metal deck.
- I. Duct dimensions are gross including dimensions for lined ducts where dimensions are outside sheet metal size.
- J. All joints and seams in ducts shall be air-tight; poorly made joints, splits, visible holes at corners, etc., shall be reworked or new pieces of ductwork installed. Where excessive pulsating of ductwork or plenum housing is found, additional stiffeners shall be added. Any cracking in the coating around seams or joints, or in any other part of the formed ducts that is apparent upon inspection shall be sufficient to warrant rejection.
- K. Sheet metal exposed to view through air distribution devices in finished areas of the building shall be coated with primer and a flat black finish coat.
- L. Provide flexible duct connections at all fan inlets and outlets.
- M. Size openings for ductwork penetrating non fire-rated walls and floor or ceilings so the opening is 1/2 to 3/4 inches larger than the duct or sleeve. Loosely stuff the annular opening with glass or mineral fiber, and caulk both sides with a non-aging, non-hardening acoustical sealant.

### 3.2 DUCTWORK

#### A. General Ductwork

- 1. Ductwork shall be constructed per SMACNA Standard for the static pressure and seal class as follows:

System	Static Press.	Seal Class
Supply ductwork	2	A
Return ductwork	2	A
Exhaust ductwork	2	A

2. Radius elbow shall be utilized throughout the ductwork systems where possible and as shown on the Drawings. Do not substitute 90° mitered elbows with turning vanes unless specifically shown on the Drawings or without prior approval of the Engineer.
3. Branch connections shall be 45 degree entry for rectangular and round ducts. Straight taps are not permitted. Conical tees are acceptable in round branch take-off from round duct mains.
4. Seal all seams, joints, fasteners, penetrations and connections per SMACNA requirements.

### 3.3 FLEXIBLE DUCT

- A. Flexible duct shall only be used in non-visible locations above a ceiling. Type shall be as follows:
  1. Type 1: Supply air connections to diffusers and air terminal unit inlets.
- B. Flexible duct shall not be used where ductwork is exposed (visible). Flexible duct shall not penetrate through walls or floors - rigid sheetmetal ductwork is required at all wall or floor penetrations. Flexible duct shall not be installed in chases.
- C. Install flexible duct per manufacturer's recommendations.
- D. The minimum length of flexible duct shall be used. Install flexible duct fully extended free of sags and properly supported to avoid any kinks or airflow restrictions. Support with 3 inch wide saddle type supports as manufactured by Thermo Manufacturing Inc. Do not lay unsupported on ceiling tiles.
- E. Secure flexible duct in place with duct adhesive and plastic band using banding tool supplied by manufacturer. Adhesive shall be RCD No. 8, Duro Dyne "DSW" or MEI ECC EZ Seal 44-41. Adhesive must be compatible with flexible duct material. Where insulated flexible duct is used, insulation vapor barrier shall be taped in place tight to duct collar connections with two (2) complete wraps of duct tape.
- F. Maximum length of flexible duct connections to diffusers and grilles shall be 60 inches. Bends shall be made with not less than one duct diameter centerline radius.
- G. Maximum length of flexible duct connections to air terminal unit inlets shall be 24 inches. Maximum bend shall be 22 degrees.

END OF SECTION 233000



## SECTION 233400 - FANS

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Ceiling Fans

#### 1.2 SUBMITTALS

- A. Refer to Section 230100 and 230101 for additional information.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.

### PART 2 - PRODUCTS

#### 2.1 CEILING FANS (CF)

- A. Ceiling mounted exhaust fans shall be of the centrifugal direct drive type of model, size and capacity scheduled.
- B. The fan housing shall be constructed of heavy gauge galvanized steel with prepunched mounting brackets. The housing interior shall be lined with 1/2 inch acoustical fiberglass insulation.
- C. The fan wheel shall be of the forward curved centrifugal type, constructed of galvanized steel, statically and dynamically balanced.
- D. The outlet duct collar shall include an aluminum backdraft damper and shall be adaptable for horizontal or vertical discharge. The access for wiring shall be external.
- E. The motor disconnect shall be internal and of the plug in type. The motor shall be mounted on vibration isolators.
- F. Fans shall be licensed to bear the AMCA Certified Ratings Seals for sound and air performance and shall be UL Listed.
- G. Provide fan with accessories as scheduled.
- H. Acceptable manufacturers: Acme, Greenheck, Loren Cook and Twin City Fans.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Install fans as indicated, and in accordance with manufacturer's installation instructions. Support fans from building structure, do not support from adjacent ductwork. Provide vibration isolation as indicated elsewhere in the specifications.
- B. Install each fan level and accurately in position indicated in relation to other work; and maintain sufficient clearance for normal service and maintenance, but in no case less than that recommended by manufacturer
- C. Make ductwork connections to fans with flexible connections.

#### 3.2 START-UP

- A. Prior to start-up, verify electrical connection for correct voltage.
- B. After startup, verify fan rotation.

END OF SECTION 233400

## SECTION 235100 - FLUES

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Flues
- B. Combustion Air Intakes

#### 1.2 SUBMITTALS

- A. Refer to Section 230100 and 23 01 01 for additional information.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.
- C. Submit fabrication drawings for flues and combustion air intakes indicating layout, fittings, reinforcing, elevations and configuration.

#### 1.3 QUALITY ASSURANCE

- A. Where applicable, products furnished under this section shall conform to the requirements of the following:
  - 1. International Fuel Gas Code
  - 2. NFPA 54 - National Fuel Gas Code
  - 3. NFPA 211 - Standard for Chimneys, Fireplaces, Vents and Solid Fuel Burning Appliances

### PART 2 - PRODUCTS

#### 2.1 PVC IS NOT ACCEPTABLE

- A. Use of PVC pipe is NOT acceptable for flues or combustion air intakes even if approved by equipment manufacturer for use.

#### 2.2 FLUES

- A. CPVC Pipe
  - 1. Flue Category II & IV.
  - 2. Maximum continuous flue gas temperature shall not exceed 180°F.

3. Schedule 80 Chlorinated Polyvinyl Chloride (ASTM F441), 210 degree F temperature limit with CPVC solvent-weld socket type fittings (ASTM F439). Joints shall be solvent welded or flanged.
4. Flanges: Class 150 CPVC (ANSI B16.6).
5. Provide all pipe, fittings, supports, etc. required for a complete installation.

## 2.3 COMBUSTION AIR INTAKES

### A. CPVC Pipe

1. Schedule 80 Chlorinated Polyvinyl Chloride (ASTM F441), 210 degree F temperature limit with CPVC solvent-weld socket type fittings (ASTM F439). Joints shall be solvent welded or flanged.
2. Flanges: Class 150 CPVC (ANSI B16.6).
3. Provide all pipe, fittings, supports, etc. required for a complete installation.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Use of PVC pipe is NOT acceptable for flues or combustion air intakes. If installed, the Mechanical Contractor is responsible for the removal and disposal of the PVC materials and for the installation of the flue and/or combustion air materials listed in this specification at no additional cost to the Owner.
- B. All products shall be installed in accordance with listing NFPA, International Fuel Gas Code and the manufacturer's recommendations.
- C. Store delivered materials inside, out of weather. Protect material from accidental damage or vandalism.
- D. Install all materials with adequate allowance for expansion to prevent damage including damage to building and equipment. Provide anchors, guides and expansion joints for complete control of movement.
- E. Flue and combustion air intake sizes indicated on the Drawings are based on the requirements of scheduled equipment which is the Basis of Design. If the Mechanical Contractor uses equipment, other than the Basis of Design, it is the Mechanical Contractor's responsibility to confirm flue and combustion air intake sizes based on the submitted equipment manufacturer's requirements prior to installation. If an increase in size is required, the Mechanical Contractor is responsible for this size increase including modifications to any adjacent systems and/or building modifications to create additional space. The Mechanical Contractor is responsible for the revised design and construction including the costs of all associated trades involved.

### 3.2 FLUES

- A. All flues shall be securely supported from building construction. Non-metal type flues shall be supported by hangers per Specification Section 232000. Maximum horizontal spacing for polypropylene flues is 39", maximum vertical spacing is 78".
- B. Flues passing through exterior walls shall be provided with weatherproof flashings. Flues passing through roof shall be provided with weatherproof flashing and counter flashing collar. Where flues pass exposed through interior building walls provide a sheet metal collar to conceal the gap between the wall opening and the flue. Maintain code required clearances to combustible materials.
- C. Cap all open ends of flues until installation is complete to prevent entrance of debris, dust, etc.
- D. For condensing type appliances, provide drain piping as indicated - drain piping shall be installed per appliance manufacturer's recommendations. Terminate drain at floor drain with air gap.
- E. Install and slope flues in accordance with appliance manufacturer's recommendations.
- F. Flue Schedule: Equipment - Flue Type
  - 1. Furnace - CPVC Pipe

### 3.3 COMBUSTION AIR INTAKES

- A. All intakes shall be securely supported from building construction. Non-metal type intakes shall be supported by hangers per Specification Section 232000. Maximum horizontal spacing for polypropylene flues is 39", maximum vertical spacing is 78".
- B. Intakes passing through exterior walls shall be provided with weatherproof flashings. Intakes passing through roof shall be provided with weatherproof flashing and counter flashing collar. Where intakes pass exposed through interior building walls provide a sheet metal collar to conceal the gap between the wall opening and the intake.
- C. Cap all open ends of intakes until installation is complete to prevent entrance of debris, dust, etc.
- D. Install and slope intakes in accordance with appliance manufacturer's recommendations.
- E. Combustion Air Intake Schedule: Equipment - Intake Type
  - 1. Furnace - CPVC Pipe

END OF SECTION 235100

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## SECTION 260100 - ELECTRICAL GENERAL PROVISIONS

### PART 1 - GENERAL

#### 1.1 RELATED CONTRACT DOCUMENTS

- A. Refer to this Division's Supplemental General Provisions for additional Project requirements.
- B. The provisions of the Instructions to Bidders, General Conditions, Supplementary Conditions, Alternates and Addenda are a part of this Specification. Contractors and Subcontractors shall examine these provisions as they may affect work under this Division.
- C. Contractor shall examine Division 1 Contract Documents for general project requirements.
- D. Contractor shall also examine the Contract Documents of all Divisions which may affect and require work under this Division and be responsible for all work required under this Division.

#### 1.2 DESCRIPTION OF WORK

- A. This project involves work in an existing operating facility and will require close communication with Owner with regard to access and work hours. Coordinate all work schedules with Owner prior to bidding. When project includes a Construction Manager, all work schedules shall also be coordinated with the Construction Manager, prior to bidding.
- B. All Drawings as well as the Specifications for all Divisions shall be defined as the Contract Documents. Contractor shall review entire set of Contract Documents prior to bidding.
- C. Drawings and Specifications are to be considered as supplementing each other. Work specified but not shown, or shown but not specified, shall be performed or furnished as though mentioned in both the Specifications and the Drawings.
- D. Prior to submitting bid, Contractor shall examine all Drawings and Specifications to develop a complete understanding of the project scope. Contractor shall ask for clarifications during the pre-bid phase of the project. Failure to do so will not relieve the Contractor of their responsibility to perform all required work.
- E. Where the project scope involves renovations and additions, it is recommended that Contractors visit the site of the work and become familiar with the conditions affecting the installation. Submission of a Bid shall presuppose knowledge of such conditions and no additional compensation shall be allowed where extra labor or materials are required because of the lack of knowledge of these conditions.

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- F. Bid shall include any special phasing requirements related to the construction work as described in the Contract Documents. Coordinate with Division 1.
- G. Extra costs which might result from deviations from the Drawings, so as to avoid interferences, shall be considered a "Job Condition", and no additional compensation shall be considered applicable. In the event that such interferences occur in course of the work, due to an error, omission, or oversight by the Contractor, no additional compensation shall be allowed. Interferences that may occur during the course of construction shall be brought to the immediate attention of the Architect and Engineer, and the Architect and Engineer's decision, confirmed in writing, shall be final.
- H. The following general terms as used within the context of the Contract Documents shall be defined as follows:
  - 1. "Contract Documents" - The complete set of Drawings and Specifications for all Divisions included in the project.
  - 2. "Drawings" - Drawings furnished as part of the Contract Documents.
  - 3. "Contractor" - This Division's Contractor and the Subcontractors to this Division's Contractor.
  - 4. "Responsible" - To perform work required.
  - 5. "Furnish" - To supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations.
  - 6. "Install" - Work which includes the actual unloading, unpacking, assembly, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
  - 7. "Provide" - To furnish and install, complete and ready for the intended use.
  - 8. "Equal" - To meet or exceed the standards of the specified products or listed manufacturers.

### 1.3 WORK INCLUDES

- A. Include all labor, material, equipment, services, permits, fees, coordination, supervision and administration necessary for the proper completion of all work shown. Items omitted, but necessary, to make all systems complete and workable shall be understood to form part of the work.
- B. Material for work required to complete installation such as earthwork, concrete, masonry, mortar, reinforcing steel, patching and painting shall be provided as specified in other applicable Divisions covering such work.
- C. Provide material and labor which is neither drawn nor specified but which is obviously a component part of and necessary to complete work and which is customarily a part of work of similar character.
- D. Include all testing, test reports, system programming, start-up reports and warranties for each system as outlined elsewhere in these Specifications. Refer to "Operating and Maintenance Manuals" for additional requirements.

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1.4 ALTERNATES

- A. Refer to Division 1 for a description of alternates.

1.5 PERMITS AND FEES

- A. Secure and pay for permits and inspections required for all work related to this Division. Turn over certificates of approval to the Owner or Construction Manager promptly when received, and before payment is made for the work.
- B. Give proper authorities notice as required by law relative to the work in their charge. Comply with the regulations regarding temporary enclosures, obstructions or excavations and pay all legal fees involved.

1.6 QUALITY ASSURANCE

- A. Work shall be installed in accordance with provisions of all applicable codes, as interpreted by the local Authority Having Jurisdiction (AHJ), as well as any further modifications or regulations published by local or State Authorities.
- B. Reference to the codes and standards listed shall constitute the minimum acceptable requirements. Nothing in the Specifications shall be construed to permit deviation from the requirements of the governing code. Where requirements of the Drawings and Specifications exceed those of the code listed, follow the Drawings and Specifications.
- C. The following building codes with amendments shall be followed:
  - 1. Ohio Building Code
  - 2. Ohio Fire Code
- D. Applicable portions of the following codes, standards, societies and agencies shall be followed. Where a specific edition is listed, it shall be used. Where not listed, the edition recognized by the Authority Having Jurisdiction shall be used. Listing of a specific portion of a code, standard, society or agency does not preclude the Contractor from following all other applicable portions of the code, standard, society or agency.
  - 1. American National Standards Institute (ANSI)
  - 2. American Society of Testing and Material (ASTM)
  - 3. Americans with Disabilities Act (ADA) - Americans with Disabilities Act Accessibility Guidelines (ADAAG)
  - 4. Federal Occupational Safety and Health Act (OSHA)
  - 5. NFPA Standards as referenced by the Building Codes.



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1.7 ELECTRONIC MEDIA

- A. Electronic drawing files are available to the Contractor from the Engineer for coordination purposes as defined in Division 0 and Division 1.
- B. Contractor shall deliver closeout documents on a portable memory device. Portable memory device shall refer to CD, DVD, Flash Drive, external hard drive or any other portable media used for storing electronic files.

1.8 SUBMITTALS

- A. Conform to submittal requirements outlined in Division 1 Specifications. Provide Submittals in an electronic format. The file format shall be portable data file (.pdf).
- B. Submittal transmittal shall list corresponding Specification Section and a description of item(s) being submitted. Each submittal shall only include items from one Specification Section. Submittals which include items from multiple specification sections will be returned "REVISE AND RESUBMIT."
- C. Prepare Submittals with adequate details and dimensions as necessary to clearly show construction. Clearly identify each item on the submittal with designation as indicated on Drawings including location and use. Include with Submittals Manufacturers published descriptive literature, specifications, performance data (normal operating characteristics, curves, ratings, etc.), wiring diagrams and installation instructions. Indicate for each item the operating characteristics, design conditions, features, and optional items that are intended for application on this project. Where contents of Submittal literature include data not pertinent to the Submittal, clearly indicate (highlight) which portion of content is being submitted for review.
- D. Contract Documents include scheduled equipment which is the Basis of Design and used to establish design and space requirements. Contract Documents may also include alternative acceptable manufacturers. Where alternative manufacturer's equipment is submitted which alters the design or space requirements indicated in the Contract Documents, the Contractor shall be responsible for the revised design and construction including the costs of all associated trades involved. No costs associated with deviations from the Basis of Design shall be borne by the .
- E. If for any reason, the Submittal shows variations from the requirements of the Contract Documents, the Contractor shall make mention of such variation in the letter of transmittal. The Contractor shall note in red on the Submittal any change in design or dimension on the items submitted including changes made by the Manufacturer which may differ from catalog information.
- F. Where additional installation drawings, wiring diagrams or other drawings are specified elsewhere as part of the project requirements, they shall be submitted at the same time as the Submittals. Partial Submittals are not acceptable.

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- G. Contractor shall review each Submittal prior to submission, and check for compliance with the Contract Documents. Corrections shall be noted. Mark with approval stamp prior to submission. Submittals that do not bear the Contractor's approval stamp will be returned without action.
- H. The Submittals will be reviewed only for General compliance and not for dimensions, quantities, etc. The responsibility of correct procurement remains solely with the Contractor. The Submittal review shall not relieve the Contractor of responsibility for errors or omissions and deviations from the Contract Document requirements. Submittals which are not required under this Division shall be returned to the Contractor.
- I. Where Submittal review format, whether hard copy or software based, includes pre-determined language that includes the word "Approved", the following shall apply:
  - 1. "Approved" shall be defined as "Reviewed, No Exceptions Taken".
  - 2. "Approved as Noted" or similar verbiage shall be defined as "Reviewed, Exceptions as Noted".
- J. After review of submittals by the Engineer, the Contractor shall revise and resubmit if required to establish compliance with the Contract Document requirements. Resubmittal shall include a document with a written response to each of the Engineer's previous comments.
- K. The Contractor shall notify the Engineer when all product data and/or shop drawings for all equipment, materials and systems have been submitted for review.
- L. The Contractor agrees that Submittals, processed by the Engineer, are not change orders; that the purpose of submittals by the Contractor is to demonstrate to the Engineer that the Contractor understands the design intent of the project. This understanding is demonstrated by indicating which equipment and material is required, and by what methods of fabrication and installation will be utilized.
- M. The Contractor further agrees that if deviations, discrepancies or conflicts between the Submittals and the Contract Documents are discovered, either prior to or after Submittals are processed by the Engineer, the Drawings and Specifications shall control and shall be followed.
- N. Final reviewed submittals shall be included in the Operating and Maintenance Manuals. Where Submittals are returned "REVIEWED, EXCEPTIONS AS NOTED", the final Submittals shall be updated to include the exceptions. Upon ordering equipment, order sufficient number of sets of product data literature for the Operating and Maintenance Manuals.

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## 1.9 GUARANTEE AND WARRANTIES

- A. Warrant that equipment and all work is installed in accordance with good workmanship practice. All equipment shall be installed in accordance with the Manufacturer's recommendations and shall meet the requirements specified. Any equipment failing to perform or function as specified shall be replaced with complying equipment without cost to the . Warranty shall commence upon acceptance of substantial completion of construction by the . Sign-off of individual equipment start-up procedures shall not activate the warranty commencement.
- B. Guarantee against defects in workmanship and materials; repair or replace any defective work, material or equipment within one year from date of formal written warranty commencement. Longer product warranties provided by individual equipment manufacturers shall supersede this one year guarantee; however, the Contractor shall maintain the one year workmanship and materials guarantee for installation of such equipment. Coordinate guarantee and warranty requirements with Division 1 Specifications.

## 1.10 CLOSEOUT DOCUMENTS

- A. Record Drawings:
  - 1. Record Drawings shall consist of marked-up Drawings as defined elsewhere in the Specifications. Refer to Division 1 for quantities, special formatting, and additional requirements.
  - 2. The Contractor shall produce updated shop drawings electronically from the original shop drawings in an approved format. Updated CAD drawings shall include any deviations or changes made during construction. At the end of the project, the Contractor shall transfer the electronic drawings onto a portable memory device. Both hard copy drawings and the portable memory device shall be provided as Record Drawings.
  - 3. The Contractor shall keep one complete set of the original Drawings on the project site on which shall be recorded any deviations or changes from such Drawings made during construction. These drawings shall become the Record Drawings, shall be kept clean and undamaged, and shall not be used for any other purpose other than recording deviations from the original Drawings. At the end of the project, the Contractor shall make electronic .pdfs of these drawings and transfer them onto a portable memory device. Both hard copy drawings and the portable memory device shall be provided as Record Drawings.
  - 4. After the project is completed, the Record Drawings shall be delivered to the Architect/Engineer for inclusion into the Operating and Maintenance Manuals, as a permanent record of the installation as constructed.

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1.11 SITE REPORTS AND PUNCHLISTS

- A. The Engineer may visit the site periodically during construction and provide written Construction Observation Reports to the Contractor identifying areas where installation does not meet the intent of the Contract Documents. The Contractor shall provide a written response to these reports within 5 business days, indicating the reason the installation is out of compliance with the Contract Documents. After review, the Engineer may or may not require the Contractor to correct the installation. The Contractor shall correct the installation unless the reason for non-compliance is accepted, in writing, by the Engineer or .
- B. Final Punch List
  - 1. The Engineer will visit the site to perform a scheduled Final Punch List to identify areas where the installation is incomplete or does not meet the intent of the Contract Documents.
  - 2. If the Engineer is requested to perform the Final Punch List prior to the Contractor being 100% complete with their scope of work, the Contractor shall furnish a Contractor's Completion List, indicating all incomplete work. This list shall be furnished to the Engineer a minimum of 24 hours prior to the scheduled Final Punch List.
  - 3. The Contractor shall respond to each punch list item along with a date, indicating that the item has been completed or corrected.
  - 4. A copy of the Final Punch List with the Contractor's responses shall be included on the Operating and Maintenance Manual.
- C. Where on-line documentation management services or project management software requires the author/initiator of a corrective action to close it, and the Engineer is the author/initiator, the following shall apply:
  - 1. When the corrective action is reported as corrected/complete, by either the responsible Contractor or the Construction Manager, the Engineer will assume that the parties responsible for construction have reviewed and approved the correction.
  - 2. By closing the corrective action, the Engineer is in no way approving nor assuming responsibility for the installation.

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## PART 2 - PRODUCTS

### 2.1 EQUIPMENT AND MATERIALS

- A. All equipment and materials used on this project shall be new and listed or labeled by a Nationally Recognized Testing Laboratory (NRTL) such as UL, ETL, CSA, etc. or as approved by the local Authority Having Jurisdiction. Equipment and materials shall be installed or used in accordance with instructions included with the listing or labeling. Where possible, the same brand or manufacturer shall be used for each type of material or equipment. such as.
- B. Equipment and materials for the construction shall be the responsibility of the Contractor and shall be protected by the Contractor until formally accepted by the .
- C. All Manufacturers of equipment shall verify to the satisfaction of the Contractor and Engineer that their equipment will function properly under the conditions of use, as shown on the Drawings and as specified herein. Dimensions, weights, operating characteristics and all other related appurtenances shall be verified before submittal of shop drawings.
- D. Domestic steel shall be used for steel products as required by the Ohio Revised Code, Chapter 153.

### 2.2 MATERIAL SUBSTITUTIONS

- A. Bids shall be based upon the specified products, suppliers or listed alternatives. The Drawings and Specifications are based on the products specified by type, model, size and suppliers if indicated and thus establish minimum qualities which substitutes must meet to qualify for review.
- B. Should the Contractor propose to furnish materials, equipment and/or suppliers other than those specified, submit a written request for substitutions to the Architect or Engineer in accordance with Division 1 requirements. The request shall be an alternate to the original Bid and shall be accompanied with complete descriptive (manufacturer, brand name, catalog number, supplier name and references, etc.) and technical data for all items. Indicate any additions or deductions to the base Bid price.
- C. Where substitutions alter the design or space requirements indicated in the Contract Documents, the Contractor shall be responsible for the revised design and construction including the costs of all associated trades involved. No costs associated with the use of a substitution shall be borne by the .
- D. Acceptance or rejection of the proposed substitutions shall be subject to approval of the Architect or Engineer. If requested, the Contractor shall submit inspection samples of both the specified and the proposed substitute items for review.

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- E. In all cases where substitutions are permitted, the Contractor shall bear any and all extra cost of evaluating the equality of the material and equipment to be installed.
- F. Where only one Manufacturer or supplier is named in the Contract Documents, the system or equipment shall be provided as specified.
- G. Verbal requests or approvals of substitutions shall not be binding on the Architect, Engineer or .

### PART 3 - EXECUTION

#### 3.1 SAFETY

- A. The Contractor shall follow all safety requirements as defined herein, as described in Division 1 and as defined by safety protocols.
- B. Work shall be performed on de-energized equipment in accordance with NFPA 70E.
- C. Should suspected hazardous materials be encountered, Contractor shall adhere to procedures, methods and regulations of the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) and immediately notify .

#### 3.2 COORDINATION

- A. Take all field measurements necessary and assume responsibility for the accuracy.
- B. If any work is fabricated or assembled off-site, assume responsibility for the accuracy of such pre-manufactured assemblies.
- C. Install work that is to be concealed within the building construction in sufficient time to secure proper location without delay to the work of other trades.
- D. Assume responsibility for location of chases, other openings through masonry and concrete construction. When work cannot be installed concurrent with building construction, arrange for rough-in boxes, sleeves, inserts and other items, as necessary for installation thereof at a later date.
- E. If any work is installed so that the architectural design cannot be adhered to, Contractor is responsible for making such changes as Architect may require. Before installing work, report any interferences between work of this Division and work of other Divisions to Architect as soon as discovered. Architect will determine which work must be relocated, or make adjustments to maintain clearances, maximum headroom and to avoid conflict with other work.

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- F. Become familiar with the construction where work attaches. Review Structural Drawings for coordination of openings. Cut no structural members or slabs without Architect's and/or Structural Engineer's written approval.
- G. Exercise caution when working in areas where concealed systems or materials may exist. Any costs for repair of damage incurred shall be the responsibility of Contractor causing the damage.

### 3.3 PROTECTION

- A. All finished surfaces shall be protected from damage and spills during construction.
  - 1. Protect finished floors with a heavy duty flexible fiber reinforced floor protection board - Ram Board or equal.
  - 2. When setting up pipe cutting and threading machines, protect area against staining and abrasion. Provide plywood protection over Ram Board underlayment.
  - 3. Protect finished surfaces from chips and cutting oil by use of a chip receiving pan and oil proof cover.
  - 4. Protect equipment and finished surfaces from welding and cutting spatters with baffles and spatter blankets.
  - 5. Protect finished surfaces from paint droppings, insulation adhesive, etc. by use of drop cloths.
- B. The cost of correcting any such condition will be charged against the respective Contractor.

### 3.4 EQUIPMENT INSTALLATION

- A. Install equipment in accordance with equipment manufacturer's published installation instructions.
- B. Should the Drawings and/or Specifications include procedures that exceed or call for materials that differ from the manufacturer's instructions, the Contractor shall follow the Drawings and/or Specifications. This requirement does not release the Contractor from the obligation to follow all other published instructions and installation recommendations. Contractor shall make Engineer aware, in writing, of discrepancies between the Drawings and Specifications and the manufacturer's published installation instructions, and/or confirm Engineer's design intent, prior to installation of the equipment. Failure to comply may result in reworking the equipment installation or replacement of materials associated with the equipment at no additional cost to the .

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### 3.5 CUTTING AND PATCHING

- A. All cutting and patching in construction as necessary for installation of this work shall be the responsibility of this Division and performed by the Tradesmen related to that specific Division of work. Subcontract this work to the appropriate Trade Division.
- B. Do not cut any structural member, including but not limited to steel framing and structural floors, without specific permission from the Architect and/or Structural Engineer.
- C. Do not cut openings in roof or floor construction without specific permission from the Architect and/or Structural Engineer. Where locations of penetrations are inaccurate or where building components are improperly cut by inadequate methods, the Contractor in error shall be responsible for complete repair.
- D. The Contractor shall assume responsibility for removing and replacing existing ceiling tiles as required for installation of all work. Areas include that as outlined by the project scope and areas outside the scope where the Contractor is required to make connections to existing systems and install new work. Damaged tiles shall be replaced.

### 3.6 SERVICE SHUTDOWNS

- A. This project involves remodeling of existing areas in an operating facility. Plan work including alterations and connections to existing facilities, to permit carrying on normal building functions. When necessary to temporarily interrupt a service, shutdowns shall be scheduled through the Owner and shall be done at a time as directed by the Owner. No additional compensation shall be allowed for these shutdown periods even though premium time work may be required unless specifically defined in Division 1.
- B. Provide temporary service to equipment or systems that cannot be shut down, and as determined by Owner, or as described in the Contract Documents. Remove temporary services when permanent work is completed
- C. Provide a minimum of one week notice to the Owner before any service shutdown is scheduled.

END OF SECTION



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## SECTION 260101 - ELECTRICAL SUPPLEMENTAL GENERAL PROVISIONS

### PART 1 - GENERAL

#### 1.1 RELATED CONTRACT DOCUMENTS

- A. Refer to 26 01 00: Electrical General Provisions for additional Project requirements.

#### 1.2 DESCRIPTION OF WORK

- A. The following general term as used within the context of the Electrical Contract Documents shall be defined as follows:
  - 1. The term "Technology" shall refer to all low voltage systems, related cabling infrastructure and conduit/backbox rough-in work indicated on the Division 27 Contract Documents. Refer to the Technology General Provisions section for additional Technology definitions.

#### 1.3 WORK INCLUDES

- A. The Electrical Contractor is responsible for all work scope included in the Division 26 Contract Documents and applicable Division 26 scope indicated in the Division 27 Contract Documents. A separate Technology Contractor is responsible for all work scope included in the Division 27 Contract Documents unless otherwise indicated in the Division 27 Contract Documents.

#### 1.4 ALTERNATES

- A. Division 26 does not have alternates.

#### 1.5 QUALITY ASSURANCE

- A. Reference to the code and standards listed shall constitute the minimum acceptable requirements. Nothing in the Specifications shall be construed to permit deviation from the requirements of the governing code. Where requirements of the Drawings and Specifications exceed those of the code listed, follow the Drawings and Specifications.
- B. Applicable portions of the following codes, standards, societies and agencies shall be followed. Where a specific edition is listed, it shall be used. Where not listed, the edition recognized by the Authority Having Jurisdiction shall be used. Listing of a specific portion of a code, standard, society or agency does not preclude the Contractor from following all other applicable portions of the code, standard, society or agency.
  - 1. National Fire Protection Association (NFPA):

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- a. NFPA 70 - National Electrical Code, 2017
  - b. NFPA 72 - National Fire Alarm Code, 2016
  - c. NFPA 110 - Emergency and Standby Power Systems, 2016
- 2. American National Standards Institute (ANSI):
    - a. ANSI A117.1 - Standard for Accessible and Usable Buildings and Facilities, 2017
  - 3. National Electrical Manufacturers Association (NEMA)
  - 4. Institute of Electrical and Electronic Engineers (IEEE)
  - 5. Illuminating Engineering Society (IES)
  - 6. ASHRAE 90.1-2010: Energy Standard for Buildings
- C. Workmanship shall be in accordance with the best NECA (National Electrical Contractor Association) practices of the trade. Electrical work shall be installed by journeymen electricians under the supervision of a competent foreman.

#### 1.6 WORK REQUIRED FOR EQUIPMENT FURNISHED OR PROVIDED BY OTHERS

- A. The Electrical Contractor shall wire items normally associated with equipment supplied by others such as line voltage limit switches and motor operated dampers. Line voltage shall be defined as the same voltage that the associated equipment is rated.
- B. Starters supplied as an integral part of the equipment shall be provided under the Division furnishing the equipment. All other disconnect switches and starters shall be provided and wired by the Electrical Contractor.
- C. Variable frequency drives furnished under the Division providing the equipment being controlled shall be installed and wired by the Electrical Contractor. Any associated additional disconnect switches shall be provided by the Electrical Contractor.

#### 1.7 SUBMITTALS

- A. Prior to commencing work, submit product data and/or shop drawings for Electrical equipment, materials and systems as required in each individual Division 26 Specification section. Provide all submittals far enough in advance of scheduled dates for installation to provide sufficient time for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery.

#### 1.8 CLOSEOUT DOCUMENTS

- A. Record Drawings:
  - 1. Record Drawings shall indicate the location of all underground, under floor and concealed conduits .
  - 2. Record Drawings shall indicate rated walls where firestop materials have been applied.

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B. Operating and Maintenance Manual (OMM)

1. Once submittals are completed, provide an OMM index to the Engineer for review. Once index is approved, submit an electronic copy of the OMM to the Engineer for acceptance.
2. Furnish electronic Portable Document Format (PDF) of Operating and Maintenance Manuals. Refer to Division 1 Specifications for additional requirements.
3. Each OMM shall be assembled into electronic file or multiple files broken up by section if the file size is larger than 15Mb.
4. Combine all electronic files and arrange as follows, unless directed otherwise by Division 1. If a section listed below does not apply to the Project, renumber sections accordingly. Multiple files broken up by section are allowed if file size is greater than 15Mb.
  - a. First Page --- Title of Project, Owner, Address, Date of Submittal, Name of Contractor and Name of Engineer, including contact information, phone number and email addresses.
  - b. Second Page --- Index. Index shall include hyperlinks to each section listed.
  - c. First Section --- Written description of system contents including where actually located in building, how each part functions individually, and how system works as a whole. Conclude with a list of items requiring service and either state the service needed or refer to the Manufacturer's data in the file that describes the proper service.
  - d. Second Section --- A copy of each shop drawing and catalog data sheet with an index at the beginning of the section. Index shall include hyperlinks to each item listed.
  - e. Third Section --- A copy of each Manufacturer's operating and maintenance instructions with an index at the beginning of the section, and a copy of each Manufacturer's start up report.
  - f. Fourth Section --- A copy of each wiring diagram utilized in the installation.
  - g. Fifth Section --- A copy of all test results, in chart form, performed by the Contractor.
  - h. Sixth Section --- Copies of all warranties, approvals, etc.
  - i. Seventh Section --- Owner training sign-in sheets and a list of all digitally recorded training sessions.
    - 1) Include electronic format of all recorded training sessions on portable memory device (Optical media or USB stick).
  - j. Eighth Section --- Record Drawings.
  - k. Ninth Section --- A list of attic stock furnished for the project.
  - l. An index shall be included at the beginning of each individual section.

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5. The electronic OMM shall be delivered to the Owner and Engineer on portable memory device or other optical media - Owner shall be provided with up to 5 copies on separate portable memory devices or optical media and the Engineer shall be provided with a single copy.
  - a. OMM index page shall have cross-reference links to each section.
  - b. Sections containing more than 30 pages shall have a section index with cross-reference links.
  - c. PDF text shall be recognizable and shall be searchable by use of a "Ctrl-F" or "find text" function.

## 1.9 OWNER TRAINING

- A. Before final payment, demonstrate to the Owner's satisfaction the proper operation of each of the systems provided as part of the Contract Documents.
- B. Provide to Owner after all equipment, systems and controls are in operation and at an agreeable time, instructions for the purpose of training Owner's maintenance personnel in the operation and maintenance of all Electrical equipment, systems and controls.
- C. Provide a "sign-in" sheet at each training session. A copy of each "sign-in" sheet shall be included in the Operating and Maintenance Manual.
- D. The Contractor shall video record training sessions for systems if required in other Specification sections. Turn one copy of each on DVD over to the Owner upon completion as part of Operating and Maintenance Manual. Coordinate preferred type of recording media with the Owner.
- E. Refer to individual Division 26 sections for minimum time periods for training.
- F. Deliver to the Owner all special tools and appurtenances for proper operation and maintenance of the equipment provided and request receipt for same. Attach to the Contractor's request for final payment.

## PART 2 - PRODUCTS

### 2.1 NOT USED

## PART 3 - EXECUTION

### 3.1 COORDINATION

- A. Consult the Contract Documents and Submittals pertaining to the work for other trades. Review the field layouts for all trades and make adjustments accordingly in laying out the Division 26 work.

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- B. Examine the work of all other trades when it comes in contact with, or is covered by, work in this Division. Do not attach to, cover up, or finish against any defective work, or install work in a manner which will prevent proper installation of the work of other trades. Electrical Contractor shall be responsible for the costs of adjustments required.

### 3.2 PRODUCT HANDLING

- A. Pay all costs for transportation of materials, equipment to job site.
- B. Provide all scaffolding, tackle, hoists, rigging necessary for placing electrical materials and equipment in their proper place. Scaffolding, hoisting equipment: comply with applicable Federal, State, and Local regulations. Remove temporary work when no longer required.
- C. Arrange for packaging of equipment, which must be hoisted, so that there will be no damage or distortion caused by hoisting operation.
- D. Store Electrical equipment, etc., in a dry location and protect all Electrical equipment from dirt and moisture until the building is ready to receive them.
- E. Coordinate location of stored items with other trades. Where necessary, store materials and equipment on movable carts so they may be moved when interfering with the work of other trades.

### 3.3 DAMAGE AND EMERGENCY REPAIRS

- A. Assume responsibility for any damage to new or existing building components caused by work provided as part of Contract Documents. Repair all damage without extra cost to Owner.
- B. Owner reserves the right to make emergency repairs as required to keep equipment in operation, without voiding Contractor's guarantee or relieving him of responsibility during warranty period.
- C. Restore roads, grounds, paving, building components, etc., to their original condition whenever this work causes damage.

### 3.4 CLEANING

- A. At all times keep premises and building in neat and orderly condition, follow explicitly any instructions in regard to storing of materials, protective measures and disposing of debris.
- B. After all tests and adjustments have been completed, clean all equipment leaving everything in working order at the completion of this work. Clean all equipment of dirt, dust, grease, oil, debris and paint, after all other trades have completed their work.

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- C. All debris created by the execution of this work shall be removed as directed by the Architect or Owner.
- D. Upon completion of work remove all tools, equipment and surplus materials.

### 3.5 PAINTING

- A. Finish painting is included under Division 9 - Finishes, except where specifically called for in Basic Materials and Methods.
- B. Materials and equipment installed under this Division shall be left free from dirt, grease and foreign matter, ready for painting.
- C. No equipment or conduits shall be field painted before being connected or terminated. Where in-field painting occurs, insure components required for continuation of grounding systems are protected from paint until connected and installed.
- D. Damaged surfaces of prefinished materials and equipment shall be touch-up painted to match the existing finish.
- E. Under no circumstance shall any open cabling be painted.

### 3.6 TEMPORARY JOBSITE SERVICE

- A. Provide a temporary electrical service adequate in size for power tools, heating, for the use of all trades and for the lighting of each room during construction. Include all utility company charges for providing this service to the project site. This service shall be provided as described in the Division 1 Specifications.
  - 1. Provide temporary lighting and power distribution equipment as directed by the General Contractor and CM.
  - 2. Provide a written description and/or typical layouts of temporary lighting for construction as required by the local Authority.
  - 3. Provide temporary service to equipment or systems which cannot be shut down, as determined by the Owner.
- B. Temporary wiring shall conform to OSHA requirements.
- C. The temporary electrical service can be extended from the Owner's existing power distribution system. The Owner must approve of the point of supply, the method of extension and the routing of necessary temporary feeders. No temporary service shall be extended from the emergency system unless approved by Owner.

END OF SECTION 260101

## SECTION 260200 – ELECTRICAL DEMOLITION

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Electrical equipment indicated on the Demolition Drawings is shown to indicate the extent of demolition only, and is not intended to be a record drawing of the existing conditions. The Drawings and Specifications establish the minimum standards for workmanship and materials.
  - 1. If additional interpretation is required regarding the scope of demolition, contact the Engineer prior to bid.
- B. Include all labor, materials, equipment, services, and permits necessary for completion of the demolition work.
- C. Provide protection for all adjacent areas before, during and after execution of the demolition work.
- D. "Electrical equipment" as used in this section shall refer to lighting fixtures, light switches, receptacles and all other power and low voltage communication system devices.
- E. Comply with all the rules and regulations of local and state Authorities Having Jurisdiction, including applicable OSHA safety requirements.
- F. Visit the site and become familiar with conditions affecting the demolition work. No additional compensation shall be approved on claims that arise from a lack of knowledge of the existing conditions.
- G. Normal building functions shall be maintained during the demolition work. Coordinate the day and time of any temporary building system interruptions with the Owner. Additional compensation shall not be approved for premium time effort.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Provide materials and equipment for completion of the demolition work as described within the Specifications and on the Drawings.
- B. Materials and equipment shall be new and UL labeled for the application.

### PART 3 - EXECUTION

#### 3.1 GENERAL DEMOLITION WORK

- A. Disconnect and remove the existing Electrical Work made necessary because of Project alterations as indicated or implied on the Contract Documents of all trades. Existing electrical equipment and systems not affected by these changes shall remain and shall be protected whether shown on the Drawings or not. Relocate equipment and/or devices where indicated. Maintain existing circuit continuity as described in the Specifications and on the Drawings, or as required for continued operation of the electrical equipment and systems.
- B. The Contractor shall de-energize circuits and panel feeders as required to make areas being demolished safe for demolition work. Coordinate exact power shutdown procedures with the Owner. Maintain power to areas that cannot be shutdown as determined by the Owner. All work shown on Contract Documents assumes work is performed on de-energized equipment unless otherwise noted.
- C. Demolition Work under this Contract shall be accomplished by the Contractor in complete accordance with the Construction Procedure and Progress Schedule specified under Division 1. Proposal shall include any special phasing requirements related to demolition work as described in the Division 1 Specifications.
- D. Where required, re-support existing conduits and cabling above ceilings being removed.
- E. Electrically disconnect devices and equipment to be removed at the point of power supply and remove conduit and wiring complete to devices and equipment being removed. For building and mechanical equipment being removed by other trades, remove related disconnect switches, starters, and/or VFD's, as well as related conduit and wiring complete to the point of power supply.
- F. Where building systems or circuits are interrupted because of the demolition work, Contractor shall reroute or relocate, modify and reconnect to provide a continuous system.
- G. Cutting, patching and finishing, etc., for removed and relocated electrical equipment shall be included as part of the electrical work. All holes and damage caused by the demolition work shall be properly patched with suitable materials to match existing construction. Patching shall be performed by the qualified trade.
- H. Where devices or conduits are removed from fire or smoke rated construction, penetrations shall be patched to match existing ratings with suitable materials to match existing construction. Patching shall be performed by the qualified trade. Where floor devices are removed, provide approved patching or fill components to maintain required fire ratings.



- I. Existing electrical equipment shown as being reused or relocated shall be carefully removed, stored on the premises, and refurbished before reinstallation.
- J. Where existing electrical equipment is indicated on the Drawings to remain, the existing wiring shall remain, along with the related conduit system, unless otherwise shown or noted on the Drawings.
- K. In all cases where existing branch circuit conduit and wiring is to be re-used or extended within the remodeled area, the Contractor shall test for grounding continuity and shall test the existing branch circuit wiring as though new, in accordance with the testing procedures outlined elsewhere in these Specifications.
- L. Cap existing empty conduits and plug open knockouts in existing electrical boxes or enclosures.
- M. The Contractor shall be responsible for the complete removal of all abandoned cabling as required by the National Electrical Code.
- N. Remove and reinstall existing ceiling tiles in areas outside the scope of demolition work as required to complete the demolition work outlined within these Specifications or indicated on the Demolition Drawings. Damaged tiles shall be replaced to match existing.
- O. Consult the Drawings covering the work of all other trades, as well as the respective Contractors field layouts, and tick trace or utilize ground penetrating radar technology all concrete slabs being removed to identify the exact location of concealed electrical conduits. All conflicts shall be brought to the attention of the Architect and Engineer prior to the beginning of slab removal. Rework or reroute existing conduits and feeders as directed by the Engineer.

### 3.2 DISPOSAL

#### A. Mercury Abatement

- 1. Remove and recycle mercury containing fluorescent and HID lamps as universal waste, in accordance with the EPA universal waste rule.
- 2. All Mercury-related operations shall be performed in accordance with the EPA universal waste rule, Regulation 40 CFR Parts 260, 261, 264, 265, 268, 270 and 273 for mercury containing fluorescent and HID lamps.

#### B. PCB Abatement

- 1. Remove ballasts which contain polychlorinated biphenyl (PCB), in accordance with current environmental regulations.
- 2. All PCB-related operations shall be performed in accordance with EPA Regulation 40 CFR 761, Polychlorinated Biphenyls, Manufacturing, Process, Distribution in Commercial Use Prohibition.

- C. Properly dispose of all ionization type smoke detectors during demolition work as required by local, state, and regional codes.
- D. Properly dispose of all batteries during demolition work as required by local, state, and regional codes.

### 3.3 SERVICE DEMOLITION WORK

- A. Coordinate utility service outages with the Utility Companies.
- B. Maintain existing electrical and low voltage communication systems in service until the new systems are complete and ready for service. Disable the systems only to make switchovers and connections. All shutdowns shall be performed as premium time work and all shutdowns shall be scheduled with the Owner. A minimum of a two week notice shall be given prior to any service shutdown. No additional compensation shall be allowed for these shutdown periods.

END OF SECTION

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## SECTION 260300 - ELECTRICAL BASIC MATERIALS AND METHODS

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Variable Frequency Drives
- B. Supporting Devices
- C. Equipment Mounting
- D. Concrete Equipment Pads
- E. Equipment Connections
- F. Access to Equipment and Devices

#### 1.2 SUBMITTALS

- A. Refer to Sections 26 01 00 and 26 01 01 for additional requirements.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS AND EQUIPMENT

- A. Materials and equipment installed under this Contract shall be new and of the quality herein specified. Each class of materials shall be of the same type and make throughout the building.

#### 2.2 EQUIPMENT IDENTIFICATION

- A. The Electrical Contractor shall provide signage regarding electrical service, disconnects per the National Electrical Code.

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### PART 3 - EXECUTION

#### 3.1 VARIABLE FREQUENCY DRIVES

- A. Variable frequency drives shall be supplied by the Mechanical Contractor installed and wired by the Electrical Contractor. Refer to variable frequency drive schedules on the Contract Documents for quantity of drives and specific data. Coordinate final requirements with the Mechanical Contractor prior to installation.
- B. Line, load and control wiring shall be installed in separate metallic conduits. Line, load and control wiring shall not share conduits or wireways.
- C. For installations where the load conductor length exceeds 100 feet, Contractor shall coordinate and provide of output LC filters in the VFD package.
- D. Where a disconnect switch is utilized downstream of a mechanical equipment as a local means of disconnect, the disconnect switch be furnished with auxiliary contact. EC shall provide control wiring from VFD to disconnect.

#### 3.2 SUPPORTING DEVICES

- A. All hardware, supports, hangers, brackets, angle iron, channels, rods and clamps necessary to install Electrical equipment shall be provided to suit the field conditions and the applications intended as shown on the Drawings. The use of perforated straps is not permitted. Approved Manufacturers are Unistrut, Allied, Kindorf or equal.
- B. Where fireproofing is removed to install supporting hardware, it shall be patched and re-installed using approved products.
- C. Supporting devices and hardware shall be galvanized steel or aluminum material.
- D. Design all miscellaneous steel in accordance with American Institute of Steel Construction (AISC) Steel Construction Manual and as specified under other Divisions within these Specifications.
- E. All supporting devices shall conform to latest requirements of ANSI Codes, and shall be UL Listed, where applicable.

#### 3.3 EQUIPMENT MOUNTING

- A. All Equipment mounted on interior or exterior block or masonry walls or on interior equipment room walls where additional support is required shall be attached to "Strut" type channel or equal. Struts shall be secured to metal studs. Toggle bolts through drywall only are not acceptable. Where struts are used, provide additional wall support by furnishing and installing metal banding near top and bottom of wall mounted electrical equipment prior to drywall installation.

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- B. Disconnect switches or motor starters (including variable frequency drives) mounted on or adjacent to mechanical and building Equipment shall be located to allow the proper working clearance as defined in Article 110 of the National Electrical Code.
- C. It is the responsibility of the Electrical Contractor to provide additional mounting supports such as channel, brackets, angle iron, etc. as may be required to install equipment such as disconnect switches, motor starters (including variable frequency drives), panels and other Electrical equipment. This requirement extends to field conditions where ample wall space is not available, proper clearances cannot be maintained, or similar instances.

#### 3.4 CONCRETE EQUIPMENT PADS AND FOUNDATIONS

- A. The Electrical Contractor shall provide concrete pads and foundations for Electrical equipment as indicated on the Contract Documents.
- B. All floor mounted interior Equipment shall be installed on 3.5" concrete pads. Construct pads of 4000 PSI concrete complete with all necessary rebar, anchor bolts, sleeves, anchor plates, washers and nuts. The pads shall extend 2" beyond the front edge of the equipment with a 1" chamfered edge, unless indicated otherwise within these Specifications or on the Drawings.
- C. Provide concrete pads and foundations for all equipment installed outdoors at grade. Construct pads of 4000 PSI concrete complete with all necessary rebar, anchor bolts, sleeves, anchor plates, washers and nuts. The pads shall extend below the frost level, 42" deep minimum, to inhibit seasonal movement of the equipment. Coordinate pad size, depth and rebar requirements with the structural engineer and as described in Division 03. The pad shall extend a minimum of 4" above finished grade, extend 2" beyond the front edge of the equipment with a 1" chamfered edge, unless indicated otherwise within these Specifications or on the Drawings.
- D. Exterior concrete pads and foundations shall be weather sealed.

#### 3.5 EQUIPMENT CONNECTIONS

- A. Install the required power and control feeds, and connect equipment being installed during the construction period. Provide facilities only for equipment that will be moved in, set and connected later by the Owner, as indicated on the Drawings.

#### 3.6 ACCESS TO EQUIPMENT AND DEVICES

- A. All electrical equipment and other devices requiring examination, adjustment, service, and maintenance shall be accessible. If located above drywall ceiling or behind finished walls, provide an access door. Coordinate all access door locations with the Architect and General Trades.

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- B. To ensure accessibility during and after construction, when a device is installed, its location shall be marked with securely attached temporary signage. Signage shall indicate the amount of clearance required for the specific device. Signage shall remain in place until the ceiling or access door is installed or until substantial completion.
- C. Clearance shall include not only code required clearance but also clearance for Owner's staff to access the device. This access shall be from the floor or from the floor level using normal maintenance ladders and apparatus to meet all OSHA requirements. Consideration shall be given to accessing a device through an access door.
- D. Electrical Contractor shall monitor these access locations until substantial completion and notify Architect, Owner and Engineer when the access area is encroached upon so that corrective action may be taken immediately.
- E. Corrective action shall be the responsibility of the trade encroaching the access area unless identified that the equipment in question is installed incorrectly .

END OF SECTION 260300

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## SECTION 260310 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Copper Wire and Cable

#### 1.2 SUBMITTALS

- A. Refer to Sections 26 01 00 and 26 01 01 for additional requirements.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS AND EQUIPMENT

- A. Materials and equipment installed under this Contract shall be new and of the quality herein specified. Each class of materials shall be of the same type and make throughout the building.

#### 2.2 COPPER WIRE AND CABLE

- A. Wire and cable for branch circuits and for feeders, 600 volt and below shall be 90°C., 600 volt, Type THHN/THWN-2, copper only, unless otherwise indicated on the Drawings. Type XHHW shall also be acceptable for feeders. All 600 volt wiring shall be in conduit. Conduit shall be as specified elsewhere in these Specifications.
- B. Where wire size is not indicated on the Drawings, use ampacity ratings of 60°C for wire 100 amperes and below, and 75°C for wire above 100 amperes, as listed in Table 310.15(B)(16) of the National Electrical Code.
- C. Minimum size for power and lighting branch circuits, including lighting fixture "whips", shall be #12. Wire sizes #10 and smaller may be solid or stranded. Wire sizes #8 and larger shall be stranded.
- D. Control wires shall be #14 stranded THWN copper. All control wiring shall be terminated with fork type "Sta-Kon" type connectors.

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### PART 3 - EXECUTION

#### 3.1 WIRE AND CABLE

- A. Wire shall be delivered to the project site in complete coils with Manufacturer's name and approval tag indicating wire size and type of insulation, fastened to each coil.
- B. Wire shall be installed in all lighting and appliance panelboards, power panelboards, switchboards and switchgear in a neat and workmanlike manner per NEC and NECA standards. No coiled, excess and draped wiring is permissible.
- C. Individual branch circuits are shown on the Drawings for clarity. Lighting and receptacle circuits may be grouped for homeruns, with a maximum of three (3) circuits per conduit.
- D. Neutral conductors shall not be shared. Neutral conductors shall be provided in each outlet box containing luminaire control devices.
- E. For 120 volt branch circuits where size is not shown, conductor size #12 minimum shall be used for circuits less than 125 feet, and size #10 minimum shall be used for circuits 125 feet or greater. For 277 volt branch circuits where size is not shown, conductor size #12 minimum shall be used for circuits less than 250 feet, and size #10 minimum shall be used for circuits 250 feet or greater. Ground conductors shall also be increased to #10 accordingly.
- F. Identify wire and cable for branch circuits as follows: For 208Y/120V, 3-phase, 4-wire systems, phase A/B/C shall be black/red/blue respectively with white neutral and green ground conductors. For 480Y/277V, 3-phase, 4-wire systems, phase A/B/C shall be brown/orange/yellow with gray neutral and green ground conductors.
- G. Color coding of feeders shall be by means of colored tape or colored insulation at terminals.
  - 1. If required, re-identify conductors at switches as required by Article 200.7(C) of the National Electrical Code.
- H. Provide all branch circuits wiring with adhesive label indicating circuit number at the phase and neutral conductor at the termination location in each panelboard.
- I. All mechanical wire and cable terminations shall be torque tightened with a torque wrench or a torque screwdriver to Manufacturer's recommended torque values.
- J. It is the Contractor's responsibility to coordinate wire sizes shown on Drawings with lugs provided on mechanical equipment during the submittal phase. Any compression cable adapters required shall be provided and shall be listed for the intended current carrying capacity of the conductors specified.



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- K. Pull wire and cables into conduit using Ideal Industries "Yellow 77 or 77 plus", or equivalent product or method.
- L. Leave 6 inches free wire at all outlet boxes for wiring device connection.
- M. Mechanical means may be used to pull conductor size #4 and larger.
- N. Joints in conductor size #10 and smaller shall be made with Minnesota Mining and Manufacturing Co. (3M) insulated "Scotch Locks", Ideal Industries "Wing-Nut", Thomas and Betts (T & B) Co. "Marrette" connectors, or with mechanically crimped sleeves as manufactured by Thomas and Betts (T & B) Co. or Ideal Industries. Connector sleeves shall be insulated with pressure sensitive electrical tape equal to Minnesota Mining and Manufacturing Co. (3M) Scotch No. 33 plus.
- O. Joints and splices in conductor size #8 and larger shall be made with pressure type mechanical connectors and insulated with electrical tape to 150% of the insulating value of the conductor insulation.
- P. Splices in wireways, where indicated on Drawings, where an incoming feeder is spliced to serve multiple outgoing loads shall be provided with Multi-tap conductor kit by IlSCO or equal.
- Q. Splices and joints are not acceptable in panelboards, switchboards and switchgear.

END OF SECTION 260310

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## SECTION 260320 - RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Boxes
- B. Conduits

#### 1.2 SUBMITTALS

- A. Refer to Sections 26 01 00 and 26 01 01 for additional requirements.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS AND EQUIPMENT

- A. Materials and equipment installed under this Contract shall be new and of the quality herein specified. Each class of materials shall be of the same type and make throughout the building.
- B. Raceway systems, conduit, boxes, grounding, busbars, hardware, cable tray, etc. required for all Technology systems, cabling and/or devices shall be provided by the Electrical Contractor unless otherwise indicated on the Drawings (Scope Matrix) or as indicated in the Division 27 Contract Documents. The Electrical Contractor shall fully coordinate all requirements with the systems suppliers and shall review the Technology Drawings and Specifications prior to bidding.

#### 2.2 BOXES

- A. Contractor shall provide junction boxes with covers in order to accommodate branch circuiting as shown on the Drawings.
- B. Flush device boxes in masonry walls shall be masonry boxes listed for the purpose, or 4-inch square boxes with raised coverplates listed for masonry. Flush boxes in other walls shall have raised coverplates suitable for the wall material.
- C. Wiring device boxes for surface conduit work shall be stamped steel boxes listed for their applications.

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- D. All junction boxes and pullboxes shall be 4 inch x 4 inch x 2 inch deep minimum, or sized in accordance with the National Electrical Code if a larger box is required. Junction box and pullbox coverplates shall be suitable for their intended use. Provide identification on the coverplates as described elsewhere in these Specifications.
- E. All junction boxes for dimmers shall be 4 inch x 4 inch x 2-1/2 inch deep.
- F. Exterior boxes shall be cast aluminum type. Where outdoor weatherproof receptacles are installed, weatherproof gasketing shall be provided.

## 2.3 CONDUITS

### A. Electrical Metallic Tubing (EMT)

- 1. All conduits, unless otherwise specified herein, shall be Electrical Metallic Tubing (EMT). Conduits shall be 3/4 inch trade size, minimum, unless otherwise noted on the Drawings or within these Specifications. Where sizes are not shown, conduits shall be as required to accommodate the number and type of conductors in accordance with the National Electrical Code wiring tables, but shall not be smaller than 3/4 inch.

### B. Metal Clad (MC) Cable

- 1. As part of the Base Bid, flexible metal conduit or MC type cable may be used in lieu of EMT conduit within architectural casework and low partitions (6 feet and less).

### C. Rigid Galvanized Steel (RGS)

- 1. Conduits shall be heavy wall rigid galvanized steel or intermediate grade steel in the following areas unless otherwise noted:
  - a. In damp or wet locations
  - b. In crawl spaces
- 2. Conduits that are exposed in public or normally occupied spaces shall be heavy wall rigid galvanized steel to a level of 8 feet above finished floor. Electrical rooms and Mechanical rooms are not considered public or normally occupied spaces.

### D. Conduit for Special Conditions

- 1. Conduits passing from exterior to interior require foam based adhesive to protect water leakage into building to be installed after conductors are installed. Acceptable Manufacturer shall be Polywater FST-250 or approved equal.

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2. Conduits that stub through the roof shall be supplied with pipe seals as manufactured by the Pate Co. or approved equal and shall be installed as recommended by the Manufacturer by a licensed Roofing Contractor. Pipe seals shall be one piece aluminum base type with five inch sloped roof surface flanges, graduated stepped PVC boots and adjustable stainless steel clamps. RPS Corporation and Thycurb Corporation are approved equivalent Manufacturers. When applicable, the Contractor shall coordinate and verify exact requirements with the Roofing Contractor prior to procurement and installation of the pipe seals.
3. Exposed conduits installed in parking garages shall be aluminum PVC 80

E. Fittings and Couplings

1. Cold-rolled steel double set screw fittings shall be used for all EMT conduits. Provide single set screw for ¾" conduits and smaller.
2. Heavy wall rigid galvanized steel conduits shall have threaded fittings. Heavy wall rigid galvanized steel conduit couplings and hubs shall have no less than five (5) threads of conduit engaged and screwed tight.

PART 3 - EXECUTION

3.1 CONDUITS

A. Interior Conduits

1. Conduits shall be continuous and secured to all boxes in such a manner that each conduit system shall be electrically continuous from the point of service to all device boxes. Conduits shall be supported in accordance with the National Electrical Code. Terminals of all conduits shall be furnished with locknuts and insulating bushings. Plug ends of each conduit with an approved cap to prevent the entrance of foreign materials during construction.
  - a. Actual routing of conduits shall be installed to suit the various field conditions. Any field changes necessary to conceal conduit or to avoid work of other trades shall be made without additional expense to the Owner.
2. Flexible metal conduit and flexible metallic cable assemblies shall be supported at intervals not exceeding 4½ feet and within 12 inches of every outlet box, junction box, cabinet, light fixture, or fitting, unless otherwise allowed by the National Electrical Code.
3. Conduits concealed in masonry construction shall be installed during wall construction.
4. Install exposed conduits parallel to, or at right angles to building structural members. Vertical runs shall be plumb.
5. All conduits terminating in sheet metal enclosures shall be provided with a single grounding/bonding type locknut with a set screw.

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6. All exposed conduit ends within enclosures shall be provided with insulated bushings.
7. Provide expansion conduit fittings at all points where conduits cross building expansion joints.
8. Empty conduits shall include heavy duty pull line with labels identifying the conduit's origin and destination. Pull lines shall be made of continuous fiber polypropylene, have tensile strength of 210 lbs., be rot and mildew resistant, be capable of being blown directly into conduit and have a colored tracer for easy identification.
9. Contractor shall provide a minimum of three empty ¾-inch conduits stubbed into the nearest accessible ceiling space (above or below) for all recessed panelboards, fire alarm control panels, and other system control panels.
10. Conduits, boxes or other raceway systems that penetrate through fire rated floors, walls, ceilings, decks, smoke partitions, etc. shall be constructed so as to maintain the integrity of the fire or smoke rated areas. Penetrations shall not exceed an aggregate area of 1 square foot in any 100 square feet of surface area, or as dictated by local codes.
11. Conduits shall not be installed on the exterior walls or on the roof of the building, unless noted otherwise on the Drawings.
12. All interior building conduits shall be concealed in new construction, unless noted otherwise on the Drawings.
13. In remodeled areas, or where it is not possible to install concealed conduit, permission must be obtained from the Architect to run surface mounted raceways or conduit. The routing and elevation must be coordinated with the Architect before installation. Exposed raceways in finished areas shall be painted to match adjacent finishes.

B. Exterior Conduits and Special Conditions

1. Conduits in wet or damp areas shall be water tight. Joints shall be sealed with weatherproof sealing compound. Contractor shall provide covers during Construction to prevent water from entering conduits.
2. Conduits passing from the exterior to the interior of a building shall be filled with an approved material to prevent the circulation of warm air to a colder section of the raceway per Article 300.7(A) of the National Electrical Code. Provide pullbox or similar device at this location such that material is visible for inspection.
3. Conduit supporting systems shall be attached to the deck, slab, or structural framing only and not to any other appurtenances at the ceiling such as mechanical ducts, pipes and suspended ceiling hanger wires, framing members, etc.

C. Fittings and Couplings

1. Contractor shall utilize boxes, fittings and mounting accessories appropriate for the specific conduit systems installed as recommended by the conduit Manufacturer.
2. All PVC fittings and joints shall be cleaned and provided with associated adhesive.

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### 3.2 OUTLET BOXES

- A. Outlet boxes concealed in masonry construction shall be installed during wall construction.
- B. All boxes shall be rigidly supported from the building structure independent of the conduit system. Boxes cast into masonry or concrete are considered to be rigidly supported. Box stabilizers shall be utilized to properly support boxes in metal stud construction.
- C. All outlets, toggle switches and receptacles shall be centered with regard to paneling, trim equipment, etc., and shall line up with either bottom or top of masonry courses. Changes to the specified mounting heights of any device shall be approved by the Architect or Owner's representative before rough-in.
  - 1. Changes will not be permitted where such changes conflict with ADA mounting height requirements.
  - 2. Determine the actual direction of all door swings such that toggle switches and other control devices shall be installed at the lock side of doors unless otherwise noted or unless field conditions do not allow. Improperly located devices shall be relocated without additional expense to the Owner.

END OF SECTION 260320

## SECTION 260340 - WIRING DEVICES

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Toggle Switches
- B. Receptacles
- C. Coverplates and Identification

#### 1.2 SUBMITTALS

- A. Refer to Sections 26 01 00 and 26 01 01 for additional requirements.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS AND EQUIPMENT

- A. Materials and equipment installed under this Contract shall be new and of the quality herein specified. Each class of materials shall be of the same type and make throughout the building.

#### 2.2 TOGGLE SWITCHES

- A. Local toggle switches shall be 20 ampere, 120/277 Volts, AC specification grade, with grounding terminal:
  - 1. Locking Toggle (Key Operated), provide two keys per switch:
    - a. Hubbell # HBL1221L thru HBL1224L Series with 1209 Keys.
  - 2. Pilot light - light on with load on.
    - a. Hubbell # HBL1221-PL.
  - 3. Illuminated toggle - light on with load off.
    - a. Hubbell # HBL1221-IL.

4. The equivalent series by Pass and Seymour, Cooper or Leviton shall be acceptable.

## 2.3 CONTROL DEVICES

- A. Luminaire Control Occupancy Sensors - Refer to Luminaire Control Specification Section for requirements.

## 2.4 RECEPTACLES

- A. Duplex receptacles shall be tamper resistant, 20A, 125V, 2 pole, 3 wire grounding type as follows:
  1. Heavy duty duplex receptacles:
    - a. Hubbell # HBL5362TR.
  2. The equivalent series by Pass and Seymour, Cooper or Leviton shall be acceptable for receptacles specified above.
- B. Duplex GFCI receptacles shall be tamper resistant, 20A, 125V, 2 pole, 3 wire, with UL943 integral ground fault circuit interrupter as follows:
  1. Heavy duty duplex receptacles:
    - a. Hubbell # GF5362SG.
  2. The equivalent series by Pass and Seymour, Cooper or Leviton shall be acceptable for GFCI receptacles specified above.
- C. For damp or wet locations, duplex GFCI receptacles shall be tamper resistant and weather resistant, 20A, 125V, 2 pole, 3 wire, with UL943 integral ground fault circuit interrupter as follows:
  1. Heavy duty duplex receptacles:
    - a. Hubbell # GF5362SG.
  2. The equivalent series by Pass and Seymour, Cooper or Leviton shall be acceptable for receptacles specified above.
- D. Special purpose single receptacles, if required, shall be as indicated on the Drawings. Verify the proper NEMA configuration of such receptacles with the equipment to be served, before installation.
  1. 15A and 20A, 125V and 250V rated special purpose single receptacles located in damp and wet locations shall be Weather-Resistant (WR) rated.
- E. All receptacles shall be provided with a self-grounding clip at the mounting screw.



## 2.5 DEVICE AND COVERPLATE COLORS AND IDENTIFICATION

- A. All toggle switches, dimmers and receptacles shall be white unless otherwise indicated within these Specifications. Verify color with the Architect prior to procurement of the devices.
- B. Coverplates for receptacles and all types of luminaire control devices shall be as described below:
  - 1. All coverplates shall be #302 stainless steel
- C. The inside of all coverplates shall be permanently marked to identify panel and circuit number.
- D. In unfinished areas, use cadmium plated, round corner, steel coverplates for surface mounted outlet boxes.
- E. Weatherproof receptacle covers in damp locations shall be single gang, GFCI duplex type, flip-up/self-closing type, die cast aluminum, UL Listed for wet locations while in use.
- F. Weatherproof switch covers shall be clear bubble plate type for use with AC toggle switches.
- G. Provide tamper resistant coverplates for tamper resistant devices, including associated backplate, hardware, and (3) screwdrivers, where shown on Drawings.
- H. The coverplates shall be by the same Manufacturer as the wiring device.

## PART 3 - EXECUTION

### 3.1 RECEPTACLES AND TOGGLE SWITCHES

- A. Install devices as indicated on the Drawings. All devices shall be flush mounted unless otherwise shown on the Drawings or indicated in these Specifications.
  - 1. Provide individual duplex GFCI receptacles as shown on the Drawings. Standard receptacles wired to "upstream" GFCI receptacle for GFCI protection shall NOT be acceptable. GFCI receptacles shall not be through-wired.
- B. Verify device and coverplate colors with the Architect before procurement.
- C. Adjacent devices of the same voltage class shall be mounted in ganged boxes. Provide a common coverplate.
- D. Mounting heights to the center of outlet boxes shall be as indicated on the Drawings.

- E. Verify mounting heights and locations with the Architect before rough-in. Refer to details and interior wall elevations shown on the Architectural Drawings.
- F. Outlets shall not be installed back to back.
- G. As described elsewhere in this Section, receptacles and toggle switches shall be permanently marked to indicate the panel and circuit number of the device. Panelboard abbreviations shown on Drawings are not permitted. Indicate complete panel name and circuit number.
- H. All receptacles shall be installed with the ground opening above the phase and neutral openings. Horizontally mounted receptacles shall be installed with the neutral opening above the phase opening.
- I. All devices shall be secured with more than a single screw.

END OF SECTION 260340

## SECTION 260400 - ELECTRICAL FIRESTOPPING

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Work of this Section includes, but is not limited to, furnishing and installing firestopping for fire-rated construction in the following areas:
  - 1. All openings in fire-rated floor, wall, ceiling and roof assemblies, both empty and those accommodating penetrating items.
  - 2. Openings at each floor level in shafts or stairwells.
  - 3. Empty openings intentionally designed as spare openings in fire rated Construction.
- B. This Division's Contractor shall include in his bid, all labor and materials to accommodate support for firestop third party testing including, but not limited to the following:
  - 1. Meet with third party testing agency and discuss project requirements, firestop system requirements and database requirements.
  - 2. Coordinate each firestop location and receive approval of firestop product to be utilized.
  - 3. Coordinate each firestop location and receive firestop identification number.
  - 4. Coordinate each firestop location and accompany third party agent with inspection of each firestop location.
  - 5. Perform any adjustments to firestop at each location as required by the third party agent. Remove and replace firestop when rejected.
- C. Penetrating items shall include the following:
  - 1. Cables.
  - 2. Conduit.
  - 3. Pipes without insulation.
  - 4. Pipes with insulation. All insulation must remain intact, undamaged and shall run continuously through walls and floors.
  - 5. Ductwork without fire dampers. Where insulated, all insulation must remain intact, undamaged and shall run continuously through walls and floors.
  - 6. Raceways.
  - 7. Cable trays.
  - 8. Busways

#### 1.2 QUALITY ASSURANCE

- A. General

1. Firestopping materials shall conform to Flame (F) and Temperature (T) ratings required by local building code and as tested by nationally accepted test agencies per fire tests in a configuration that is representative of field conditions. The F rating must be a minimum of one (1) hour but not less than the fire resistance of the assembly being penetrated.
  2. Manufacturer<sup>TMTM</sup>s engineering judgments will be accepted for non-standard applications or where no tested system exists. Drawings for engineering judgments must indicate the UL tested system or systems upon which the judgment is based, in order to evaluate the engineering judgment against a known performance. Engineering judgments shall be approved by the Architect.
  3. Firestopping materials and systems shall be capable of closing or filling openings created by:
    - a. The burning or melting of combustible materials.
    - b. Deflection of materials due to thermal expansion.
  4. Firestopping material shall be non-halogenated, lead and asbestos free and shall not incorporate nor require the use of hazardous solvents.
  5. Firestop products which dissolve in water after curing are not acceptable.
  6. Firestopping materials shall not shrink upon drying as evidenced by cracking or pulling back from contact surfaces.
  7. All firestopping materials shall be manufactured by one manufacturer (to the maximum extent possible).
- B. Engage an experienced installer who is certified, licensed or otherwise qualified by the firestopping manufacturer as having been provided the necessary training to install firestop products per specified requirements. A manufacturer's willingness to sell its through-penetration firestop system products to a Contractor or to an installer engaged by Contractor does not in itself confer qualifications on buyer.
- C. Manufacturer's Field Representative: The Manufacturer of the firestop material of this Section shall provide a qualified field representative at the site.
- D. Pre-Installation Conference: Contractor shall hold a pre-installation conference with representatives of the Architect, Contractor, Installer, Materials Manufacturer and various trades involved in the Work, to review conditions affecting the installation and consistency of manufacturer to be used by all trades.
- E. Conform to Manufacturer's printed instructions for installation in accordance with a U.L rated system or Manufacturer<sup>TMTM</sup>s engineering judgement.
- F. Codes and Standards
1. ASTM E 84
  2. ASTM E 119
  3. ASTM E 814
  4. UL 263
  5. UL 1479
  6. NFPA 101

### 1.3 SUBMITTALS

- A. Refer to Sections 2X 01 00 and 2X 01 01 for additional requirements.
- B. All submittals shall conform completely to the requirements of the Contract Documents.
- C. Product Data: For each type of material to be installed, literature shall indicate product characteristics, typical uses, performance, test data and Manufacturer's installation procedures.
- D. Shop Drawings: Include U.L. rated system number and details for each type of penetration or configuration.
  - 1. Show typical installation details including:
    - a. Minimum and maximum allowable annular spacing.
    - b. Base material composition.
    - c. Firestop materials selected.
    - d. Applied thickness required to achieve the hourly rating.
- E. Where required, submit Product Data and Shop Drawings to the Authority Having Jurisdiction (AHJ) for review and approval. Information shall include the Manufacturer's assembly detail with UL system number, technical data and installation instructions for each penetration type occurring on the project.
- F. Close-out Documents
  - 1. Final approved product data and shop drawings of all materials installed shall be included in operating and maintenance manuals.
  - 2. Record Drawings shall indicate rated walls where firestop materials have been applied.

### 1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver through-penetration firestop system products to Project site in original, unopened containers or packages with intact and legible manufacturer<sup>TM</sup>s labels identifying product and manufacturer, UL label, date of manufacturer; lot number; shelf life, if applicable; qualified testing and inspection agency's classification marking; and mixing instructions for multicomponent materials.
- B. Store and handle materials for through-penetration firestop systems to prevent their deterioration or damage due to moisture, temperature changes, contaminants or other causes. Materials shall be stored off the ground and protected from environmental conditions as required by manufacturer.
- C. All firestop materials shall be installed prior to expiration of shelf life.

## 1.5 PROJECT CONDITIONS

- A. Conform to manufacturer's printed instructions for installation and when applicable, provide for curing in accordance with manufacturer suggested temperature requirements.
- B. Do not install through-penetration firestop systems when ambient or substrate temperatures are outside limitations recommended by manufacturer.
- C. Do not install through-penetration firestop systems when substrates are wet due to rain, frost, condensation, or other causes.
- D. Do not use materials that contain flammable solvents.
- E. Do not install water based or products that are conductive when wet in contact with energized electrical conductors. Exercise care when energizing penetrants.

## 1.6 PROTECTION

- A. Where firestopping is installed at locations which shall remain exposed in the completed work, provide protection as necessary to prevent damage to adjacent surfaces and finishes, and protect as necessary against damage from other construction activities.

## 1.7 SEQUENCING

- A. Coordinate this work as required with work of other trades.
- B. Firestopping shall precede finishing of gypsum board. Schedule installation of cast-in-place firestop devices after completion of floor formwork, metal deck placement or composite deck installation but before placement of concrete.

## 1.8 WARRANTY

- A. Contractor shall provide written certification that all firestopping was installed in accordance with the Manufacturer's written instructions for UL tested assemblies and that all firestop systems installed meet firestopping requirements as herein specified.

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. Firestopping materials shall meet the requirements specified herein.

- B. For applications where combustible penetrants are involved, i.e. insulated or plastic pipe, a suitable intumescent material must be used.

## 2.2 ACCEPTABLE MANUFACTURERS

- A. Specified Technologies, Inc. (STI)
- B. 3M
- C. Hilti, Inc.

## 2.3 FIRESTOP MATERIALS

- A. Firestop Mortar
- B. Intumescent Firestop Sealants and Caulks
- C. Elastomeric Firestop Sealants and Caulks
- D. Endothermic Firestop Sealants and Caulks
- E. Firestop Putty
- F. Rough-in Box Inserts
- G. Firestop Pillows/Blocks
- H. Fire Rated Pathways
- I. Firestop Grommets
- J. Firestop Collars
- K. Wrap Strips
- L. Cast in Place Devices
- M. Firestop Foams
- N. Composite Sheets
- O. Intumescent Gaskets

### PART 3 - EXECUTION

#### 3.1 GENERAL

- A. In an occupied building, permanent firestopping shall be installed within 24 hours of penetrating a fire rated assembly. If permanent firestopping cannot be installed within this time period, temporary firestop pillows/blocks are permitted, where installation allows, until permanent firestop materials can be properly installed.

#### 3.2 INSPECTION

- A. Examine the areas and conditions where firestops are to be installed and notify the Architect of conditions detrimental to the proper and timely completion of the work. Do not proceed with work until the Contractor, in a manner acceptable to the Architect has corrected unsatisfactory conditions.
- B. Verify that environmental conditions are safe and suitable for the installation of the firestop products.

#### 3.3 CONDITIONS REQUIRING FIRESTOPPING

##### A. General

- 1. Provide firestopping for conditions specified elsewhere whether or not firestopping is indicated and, if indicated whether such material is designed as insulation, safing, or otherwise.
- 2. All firestopping shall be installed in accordance to the UL rated system designed for the application.
- 3. Grout, Mortar or Gypsum based products shall not be installed in lieu of firestopping material specified herein.
- 4. All smoke walls (smoke barriers, smoke partitions, etc.), rated or non-rated, shall be firestopped with systems designed to maintain a minimum 1 hour rating or that which is equal to the rating of the wall.

##### B. Penetrations - Provide firestopping as follows:

- 1. Where penetrations pass through one or both surfaces of a fire rated floor or wall.
- 2. Where a penetration occurs through fire rated walls or partitions of hollow-type construction, provide firestopping to completely fill spaces around the penetration, on each side of the wall or partition.
- 3. Except for slab on grade, where penetrations pass through a non-fire rated floor.
- 4. The requirements for penetrations shall apply whether or not sleeves have been provided, and whether or not penetrations are to be equipped with escutcheons or other trim. If penetrations are sleeved, firestop annular space, if any, between sleeve and wall opening. Upon installation of cabling through sleeve, firestop the remaining open area within the conduit.



- C. Where demolition has occurred in rated walls, floors and assemblies, the material used to patch the opening shall match the material used for the assembly construction. Firestopping materials may be utilized upon approval of Architect and Engineer. Materials used shall be provided with submittals. Work performed shall be the responsibility of the Contractor whose work was removed, performed by the appropriate trade.

### 3.4 PREPARATION

- A. Surface to receive firestop shall be free of dirt, dust, grease, oil, oil from release agents, or other matter that would impair the bond of the firestop material to the substrate or penetrating items.
- B. Substrate shall be frost free.

### 3.5 INSTALLATIONS

#### A. General

1. Sleeves and core-drilled holes shall be sized at least 1-1/2" larger in diameter than penetrating items.
2. Installation of firestops shall be performed by applicators/installers qualified and trained by the Manufacturer. Installation shall be performed in strict accordance with the Manufacturer's detailed installation procedures.
3. Apply firestops in strict accordance with UL rated system designs, and Manufacturer's recommendations.
4. Coordinate with all other trades to assure that all items which penetrate fire rated construction have been permanently installed prior to installation of firestops. Schedule and sequence the work to assure that partitions and other Construction which would conceal penetrations are not erected prior to the installation of firestop.
5. Gun grade sealants and putties shall be tooled into place to insure proper adhesion to penetrations and surrounding surfaces.
6. Where existing penetrations are reused that contain remnants of existing firestop products remain, remove all existing firestopping.

#### B. Dam Construction

1. Install dams when required to properly contain firestopping materials within openings and as required to achieve required fire resistance rating.
2. Placement of dams shall not interfere with functions or adversely affect the appearance of adjacent construction.

#### C. Field Quality Control

1. Install work in full accordance with rules, regulations, and safety requirements of Federal, State, County and City authorities having jurisdiction over premises. Do not construe this as relieving Contractor from compliance with any requirements of the Specifications which are in excess of Code requirements and not in conflict therewith.
2. Correct unacceptable firestopping and provide additional inspection to verify compliance with this Specification at no additional cost.
3. Finish surfaces of firestopping that is to remain exposed in the completed work to a uniform and level condition.

### 3.6 LABELING

- A. Where firestopping installations occur, Contractor shall provide a label adjacent to each penetration. Label shall include:
  1. UL rated system used.
  2. Date of installation.
  3. Name of installing Contractor
- B. Labels shall be furnished by the firestop manufacturer.

END OF SECTION

## SECTION 260500 - EQUIPMENT IDENTIFICATION

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. This Section includes identification of electrical materials, equipment, and installations. It includes requirements for electrical identification components including but not limited to the following:
  - 1. Identification for Normal system service
  - 2. Identification for conduits, raceways, cables and conductors
  - 3. Equipment labels and signs
  - 4. Identification of control devices, receptacles and coverplates
  - 5. Identification for Arc Flash warning labels
  - 6. Warning and caution signs
- B. Refer to other Division 26 sections for additional specific requirements and details shown on drawings.

#### 1.2 SUBMITTALS

- A. Refer to Sections 26 01 00 and 26 01 01 for additional requirements.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.

#### 1.3 QUALITY ASSURANCE

- A. Electrical Component Standard: Components and installation shall comply with NFPA 70 "National Electrical Code".

### PART 2 - PRODUCTS

#### 2.1 QUALITY ASSURANCE

- A. Manufacturers: Subject to compliance with requirements, provide products by the following:
  - 1. 3M
  - 2. Panduit Corp.
  - 3. Thomas & Betts
  - 4. W. H. Brady, Co.

## 2.2 ELECTRICAL IDENTIFICATION PRODUCTS

- A. Engraved, Plastic-Laminated Labels, Signs, and Instruction Plates: Engraving stock melamine plastic laminate, 1/16-inch minimum thick for signs up to 20 square inches, or 8 inches in length; 1/8-inch thick for larger sizes. Refer to details on drawings for additional engraved nameplate information.
- B. Cable Ties (Zip ties): Fungus-inert, self-extinguishing, nylon one-piece, self-locking cable ties, 0.18-inch minimum width, 50-lb minimum tensile strength, and suitable for a minimum temperature range from minus 50 deg F to 350 deg F. Provide ties in specified colors when used for color-coding.
- C. Identification Cable Ties: Same as "Cable Ties" above, except with integral tab of suitable size for marking requirements.

## 2.3 LOCATIONS AND REQUIREMENTS OF LABELING AND IDENTIFICATION

- A. The Electrical Contractor shall provide signage regarding electrical service, disconnects per the National Electrical Code.
- B. Provide nameplates on all equipment of the type listed in the following schedule:
  - 1. Panelboards including general Arc Flash Warning
  - 2. Distribution Equipment including general Arc Flash Warning
  - 3. Safety Switches including general Arc Flash Warning
  - 4. System Distribution Junction Boxes and Pullboxes
  - 5. System Control Panels
  - 6. Spare Conduits/Conduit Stubs - Identify system and/or purpose at source, if possible, and at termination end. Also at termination end, indicate location of conduit origination.
  - 7. Grounding Busbars
- C. Unless otherwise indicated on the Drawings, lettering shall include the name or designation of equipment, horsepower, voltage rating and service designation.
- D. Nameplates for panels and other distribution equipment shall be color coded as indicated below. Nameplates may be attached to wall adjacent to equipment if area for attachment is too small.
- E. Nameplates for Normal Power Systems shall be white with black core letters.
  - 1. Nameplates for Fire Alarm shall be red with black core letters.
- F. Cabinet and panel doors shall be marked with the identification numbers as indicated on the Drawings. Recessed panel doors shall be marked on the inside of door. Surface panels and distribution equipment shall be marked on the exterior trim near the top of the cabinet.

- G. Junction box Identification shall comply with the following:
1. The outside of the coverplates for all junction boxes, splice boxes, pull boxes shall be permanently marked to identify the following systems:
    - a. Normal System including voltage including panel and/or system serving box
    - b. Voice/Data
    - c. Cable Television
    - d. Sound/Paging
    - e. Security
  2. The identification shall be inside of the coverplate where located in finished areas.
  3. Junction box identification shall comply with the following:
    - a. Hand written permanent marker
- H. For device, receptacle or toggle switch coverplate where labeling is required on the inside of the coverplate, refer to specification section 260340.
- I. Identification of branch circuits shall be typewritten on directory cards as described elsewhere within these Specifications.
- J. Provide new typewritten directory cards with updated schedules for all existing panels with new or modified circuits. Existing load description should be obtained from existing panel schedules in the field and reflected in new, updated directory cards.
- K. Each ungrounded conductor of a branch circuit or feeder, where accessible, shall be identified by system.
- L. The grounded conductor shall be identified in accordance with Article 200.6 of the National Electrical Code.
- M. The equipment grounding conductor shall be identified in accordance with Article 250.119 of the National Electrical Code.
- N. The means of identification of branch circuit and feeder conductors shall be permanently posted at each branch circuit and distribution panel.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION - GENERAL

- A. All labels shall be installed as equipment is installed, energized and ready for use. Request for final punch list shall not be requested by Contractor until all labels are installed.

- B. Fastening for Plastic-Laminated and Metal Signs: Refer to details on drawings for installation requirements.
- C. Install identification devices in accordance with manufacturer's written instructions and requirements of NEC.
- D. Apply identification to areas as follows:
  - 1. Clean surface of dust, loose material, and oily films before label installation.
- E. Underground Electrical Line Identification: During trench backfilling, for exterior underground power, signal, and communications lines, install continuous underground line marking tape located as indicated on details on drawings.
- F. Apply warning, caution, and instruction signs and stencils as follows:
  - 1. Install warning, caution, or instruction signs where required by NEC, where indicated, or where reasonably required to assure safe operation and maintenance of electrical systems and of the items to which they connect. Install engraved plastic-laminated instruction signs with Owner approved legend where instructions or explanations are needed for system or equipment operation. Install fiberglass signs or outdoor items.
- G. Apply labels of engraved plastic laminate for disconnect switches, circuit breakers, pushbuttons, pilot lights, motor control centers, and similar items for power distribution and control components above, except panelboards and alarm and signal components, where labeling is specified elsewhere. For panelboards, provide framed, typed circuit schedules with explicit description and identification of items served by each individual switch and circuit breaker.
- H. Install labels at locations indicated and at locations for best convenience of viewing without interference with operation and maintenance of equipment.
- I. Nameplate Data: Provide manufacturer, factory installed, permanent operational data nameplate on each item of power operated equipment, indicating manufacturer, product name, model number, serial number, capacity, operating and power characteristics, labels of tested compliances, and similar essential data. Locate nameplates in an accessible location.

END OF SECTION 260500

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## SECTION 262100 - POWER DISTRIBUTION EQUIPMENT

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Power Distribution Equipment
- B. Lighting and Appliance Branch Circuit Panelboards
- C. Safety Switches
- D. CT Metering Cabinets

### PART 2 - PRODUCTS

#### 2.1 LIGHTING AND APPLIANCE BRANCH CIRCUIT PANELBOARDS (208Y/120 OR 240 VOLT RATED)

- A. Furnish and install branch circuit panelboards equipped with circuit breakers, with frame and trip ratings listed on the Drawings.
- B. Panelboard bus structure and main lugs or main circuit breaker shall have current ratings as shown on the Drawings. Such ratings shall be established by heat rise tests, conducted in accordance with UL Standard 67. Bus structure shall be insulated. Bus bar connections to the branch circuit breakers shall be the "distributed phase" or phase sequence type and shall accept bolt-on circuit breakers. All current carrying parts of the bus structure shall be copper. Each panelboard shall be fully bussed, ready to accept future devices. Each panelboard shall contain a grounding bus. Each panelboard shall contain a 100% rated neutral bus.
- C. The panelboard bus assembly shall be enclosed in a steel cabinet. The rigidity and gauge of steel shall be as specified in UL Standard 50 for cabinets. Wiring gutter space shall be in accordance with UL Standard 67 for panelboards. The box shall be fabricated from galvanized steel or equivalent rust resistant steel. A circuit directory frame and card with a clear plastic covering shall be provided on the inside of the door.
  - 1. Fronts shall have "door-within-door" trim, hinged box to front type with latch on outer door. Fronts shall have an inner door over the branch circuit disconnect area secured with one latch with lock. Doors shall be mounted with completely concealed steel hinges. Fronts shall not be removable with door in the locked position.
  - 2. Enclosures shall be NEMA 4x Fiberglass for panelboards in pool pump rooms.
- D. Locks shall be flush cylinder tumbler type with catch and spring loaded door pull. All panelboard locks shall be keyed alike.

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- E. Each panelboard, as a complete unit, shall have a minimum symmetrical short circuit current rating no less than that required by the overcurrent protective devices specified elsewhere. This rating shall be established by testing with the overcurrent devices mounted in the panelboard in accordance with Underwriters Laboratories Standard UL 67. Panelboards shall be marked with their maximum short circuit current rating at the supply voltage.

- 1. Circuit breakers shall be fully rated. Series ratings are not permitted unless otherwise indicated on the Drawings.

- F. Each panelboard served directly by a transformer secondary shall have a main circuit breaker or other main overcurrent protection, sized in accordance with Article 240 of the National Electrical Code.

- G. Panelboards shall be listed by Underwriters Laboratories and bear the UL label. When required, panelboards shall be suitable for use as service equipment. Panelboards shall be as manufactured by Eaton, Schneider Electric, Siemens, or ABB.

## 2.2 LIGHTING AND APPLIANCE BRANCH CIRCUIT PANELBOARDS (480Y/277 VOLT RATED)

- A. The requirements for 480Y/277 volt rated panelboards shall be similar to 208Y/120 or 240 volt rated panelboards, but shall have a minimum symmetrical short circuit current rating no less than that required by the overcurrent protective devices specified elsewhere.

## 2.3 SAFETY SWITCHES

- A. Safety switches shall be heavy duty fusible or nonfusible type as indicated on the Drawings, and shall be suitable for the voltage and current ratings as shown on the Drawings. Safety switches shall be UL Listed for their application.
- B. Switches shall have switch blades which are visible in the "Off" position when the door is open. Switches shall have removable arc suppressors, where necessary, to permit easy access to the line side lugs. All current carrying parts shall be plated.
- C. Switches shall have an integral quick-make, quick-break operating handle mechanism. Switches shall have a dual cover interlock to prevent opening of the switch door in the "ON" position or to prevent closing of the switch mechanism with the door open. Handle position shall indicate if the switch is "ON" or "OFF".
- D. Fuse holders shall accept only Class J, R or L fuses.
- E. Indoor enclosures shall be NEMA 1. Exterior enclosures shall be NEMA 3R. NEMA 1 enclosures shall be code gauge UL 98 sheet steel, treated with a rust inhibiting phosphate primer and finished in gray baked enamel. Enclosures shall be provided with padlocking provisions.



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- F. Acceptable manufacturers shall be: Eaton, Schneider Electric, Siemens, or ABB.

#### 2.4 CT METERING CABINETS

- A. Furnish and install CT Metering Cabinets as approved by the Power Company.
- B. Cabinets shall be UL 414 listed as CT Metering Cabinets.

#### 2.5 MATCHING EXISTING OVERCURRENT PROTECTION DEVICES

- A. New circuit breakers or fusible switches installed in existing panels shall match the existing in type, manufacturer (if possible), and short circuit ratings.

### PART 3 - EXECUTION

#### 3.1 LIGHTING AND APPLIANCE BRANCH CIRCUIT PANELBOARDS

- A. Panels shall be mounted so that the top of the cabinet is at 6'-0" above floor.
- B. A glazed directory frame shall be provided inside each panel door and shall be of sufficient size to give a complete description of each circuit. Typed directory cards shall be provided with a detailed listing of each circuit served, including descriptions of the load and location (room numbers as applicable). Panelboard schedules included with the Contract Documents are not intended nor are they permitted to be used to meet this requirement.
- C. Panels indicated with double lugging or oversized conductors on the Drawings shall be installed with an oversized tub or a wireway or splice box (flush mounted if required).
- D. The Contractor shall balance the continuous load on each panel when the work is complete.
- E. The branch circuit numbers used on the Drawings shall be applied for the construction. However, at the completion of the work, circuit number adjustments shall be made as required to provide balanced phase loading on each panel. Balancing required shall be no greater than 15%. Any rebalancing performed shall also require relabeling of the conductors.
- F. Flush mounted panels shall be installed with a minimum of three empty 3/4" conduits stubbed up to the nearest accessible ceiling space for convenient future expansion.
- G. Spare circuit breakers shall be identified as such on the panel directory cards and shall be left in the "OFF" position.
- H. Provide engraved nameplates with information as shown on the Drawings.

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- I. Where wireways are installed to serve multiple branch panelboards, the conduits entering the panelboard shall be of size and quantity to allow the panel to be filled to maximum capacity based on total available breaker space and be no more than 50% filled.

END OF SECTION 262100

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## SECTION 262115 - GROUNDING OF ELECTRICAL SYSTEMS

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. New Grounding Electrode System
- B. Grounding and Bonding Equipment
- C. Busbars
- D. Separately Derived Systems

#### 1.2 SUBMITTALS

- A. Refer to Sections 26 01 00 and 26 01 01 for additional requirements.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.
- C. Submittals
  - 1. Submit product data of manufactured materials.
  - 2. Submit copies of certified test reports of grounding resistance tests, including method of measurement as part of operating and maintenance manuals per standard.
- D. Shop Drawings:
  - 1. Submit Shop Drawings including site plans that indicate locations of ground rods or rings, grounding connections, locations of embedded and buried grounding conductors, locations of stub-outs and pigtails for future connections to the grounding system.
  - 2. Shop Drawings shall indicate location of test points to measure grounding resistance.

#### 1.3 QUALITY ASSURANCE

- A. INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
  - 1. IEEE 81 - Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System
  - 2. IEEE 142 - IEEE Recommended Practice for Grounding of Industrial and Commercial Power Systems
  - 3. IEEE 1100 - Powering and grounding sensitive electronic equipment

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B. UNDERWRITERS LABORATORIES INC. (UL)

1. UL 467 - Grounding and Bonding Equipment
2. UL 486A - Wire Connectors and Soldering Lugs for Use with Copper Conductors

C. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS

1. NFPA 70 - National Electrical Code Article 250

1.4 RECORD DRAWINGS

- A. Contractor shall provide electronic drawings showing all the applicable components of the Grounding System, all grounding bus bars, termination points to main electrical grounding electrode.
- B. All as-built information shall be submitted as described in General Provisions.

PART 2 - PRODUCTS

2.1 GROUNDING

- A. The Electrical Service to the building shall be grounded in accordance with Article 250 of the National Electrical Code (NEC) and all other related articles.
- B. The grounding electrode conductor shall be sized in accordance with NEC Article 250.66. Refer to grounding detail for conductor sizes.
- C. The minimum service grounding installation shall, in accordance with NEC Article 250.52, include utilization of the concrete encased electrode metal, , water main and driven rods. Refer to grounding detail on drawings. Provide exothermic connections or irreversible connections. Refer to Paragraph 2.2 for product information.
  1. Connect to underground water piping system with approved grounding clamp connectors. Provide braided type bonding jumpers to electrically bypass water meters. Where a dielectric main water fitting is installed, connect grounding conductor to service side of fitting. Do not install a grounding jumper across dielectric fittings.
  2. Bond interior metal piping systems and metal air ducts to associated equipment grounding conductors.
- D. Ground all electrical system conduits, raceways, busways, cable trays, motors, panels, cabinets, fixtures, metal boxes, and other exposed non-current carrying metal parts of electrical equipment in accordance with all provisions of the National Electrical Code, State Building Code and local or regional codes.

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- E. Grounding of the electrical system shall be by means of an insulated grounding conductor installed with feeder and branch circuit conductors in all conduits. Grounding conductors shall be sized in accordance with NEC Article 250.122 and shall run from the grounding bus of serving panel to the grounding bus of served panel, to the grounding screws of receptacles, to lighting fixture housings, to the grounding screws of light switches, to metal boxes and to the metal enclosures of service equipment.
  - 1. Install bonding jumpers across all building expansion joints, and across all conduit, busway and cable tray expansion fittings.
  - 2. Where grounding conductors are subject to mechanical damage, protect such conductors by encasement in concrete or installation in a rigid metallic raceway.
- F. All terminations of the grounding electrode conductors shall be by means of solderless or irreversible connections. Connector products utilized shall be listed for their intended use and manufactured by Erico, ILSCO, Utilico, or equal.
- G. Extension of existing grounding system to new electrical equipment shall be by means of an insulated grounding conductor installed with feeder and branch circuit conductors in all conduits. Grounding conductors shall be sized in accordance with NEC Article 250.122 and shall run from the grounding bus of serving panel to the grounding bus of served panel, to the grounding screws of receptacles, to lighting fixture housings, to the grounding screws of light switches, to metal boxes and to the metal enclosures of service equipment.
- H. Provide Test Well at ground rod or ground ring location near service entrance, top flush with finished grade. Fill with 1 inch maximum sized crushed stone or gravel. Test Wells shall be Erico # T416C, or equal. Where multiple connections are made, provide a busbar system, compression connectors, and an Erico # T416A Ground Inspection Well, or equal by ILSCO or Utilico.

## 2.2 GROUND RODS

- A. Refer to grounding detail for system requirements.
- B. Acceptable manufacturers shall be:
  - 1. Erico, or equal.

## 2.3 BUSBARS

- A. General Requirements
  - 1. Busbars shall be ¼" solid electro-tin plated copper.
  - 2. Busbars shall be ASTM B187-C11000 compliant.
  - 3. Busbars shall be UL 467 Listed.
  - 4. Refer to grounding detail for busbar sizes.

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B. Insulators

1. All insulators shall be manufactured from an environmentally friendly, halogen free nylon material, reinforced with fiberglass.
2. All insulators shall be 2" tall.
3. All insulators shall meet UL 94 VO for self-extinguishing.

C. Brackets and Fasteners

1. All brackets and fasteners shall be constructed of stainless steel.
2. All brackets shall be 1/8" thick.

D. Acceptable manufacturers shall be:

1. Panduit
2. ERICO
3. Harger

2.4 IRREVERSIBLE COMPRESSION CONNECTIONS

- A. Irreversible compression connections shall be tin plated copper two hole lug type. Two hole lugs shall be attached to equipment with (2) screws. Paint shall be removed to provide metal to metal contact.
- B. Irreversible compression connections shall have color coded barrels that correspond to the correct crimp die connections shall possess an inspection window to visually assure full conductor insertion. Connections shall be tin-plated to inhibit corrosion.
- C. Irreversible compression connections shall be UL Listed for use up to 35KV, temperature rated 90°C and CSA Certified to 600V when installed in compliance with the manufacturer's specifications.
- D. Acceptable manufacturers shall be:
  1. Panduit LCC-\*\*\* Series
  2. FCI Burndy
  3. Harger
  4. Thomas and Betts

2.5 TAPS

- A. All taps shall be made from high conductivity copper, and shall be electro tin-plated to inhibit corrosion.
- B. All taps shall be of slotted design and have legible, color-coded die index numbers for crimping dies that remain legible after crimping.
- C. Taps shall be housed in an optically clear cover to allow 360° inspections.

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- D. Tap covers shall be of snap-on design and shall be constructed of a high impact strength, self-extinguishing plastic with UL 94V-0 flammability rating and minimum oxygen index of 31.
- E. Acceptable manufacturers shall be:
  - 1. Panduit
  - 2. FCI Burndy
  - 3. Harger
  - 4. Thomas and Betts

## 2.6 GROUND CABLE ELECTRODES

- A. Grounding cable shall be stranded and bare copper for outdoor underground installations.
- B. Ground cable shall be stranded, insulated copper for interior installations and install in EMT conduit.

## 2.7 EXOTHERMIC CONNECTIONS

- A. Exothermic connections shall be by Cadweld or Thermoweld methods.

## 2.8 DELIVERY, STORAGE AND HANDLING

- A. Provide marking on wire and cable in accordance with applicable standards.
- B. Ship each item of equipment and materials securely wrapped, packaged and labeled for safe handling in shipment and to avoid damage.
- C. Store equipment and materials in a secure and dry storage facility remotely or on project site.

# PART 3 - EXECUTION

## 3.1 GROUND CONNECTIONS

- A. Outdoor buried and embedded connections shall be exothermically welded or irreversible connections.
- B. Interior applications, connections. The tool for crimping shall emboss the die index number into the connector as the crimp is completed. Each compression type connector shall have an inspection port for use in checking proper conductor insertion.

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- C. All connections shall be made in accordance with the manufacturer's requirements. All connections shall be cleaned and coated with a bitumastic epoxy before backfilling per manufacturer's requirements.
- D. Splice connections shall be made in accordance with manufacturer's requirements.

### 3.2 FIELD QUALITY CONTROL

- A. Ground Resistance:
  - 1. The grounding system shall be tested as documented in IEEE 142-2007 and IEEE 1100-2005. The impedance established as a result of this testing shall not exceed a maximum of 5 OHMS. Should the grounding system exceed the desired impedance, appropriate measures shall be taken to reduce the impedance to that specified herein. Coordinate recommended solution with Engineer. The testing agency shall be a member company of the National Electrical Testing Association (NETA). Provide test results as part of Operating and Maintenance Manuals.
  - 2. To meet the resistance requirement, if necessary, bury additional ground rods.
- B. Test equipment enclosures, conduits, raceways, exposed expansion joints, lighting fixtures, receptacles, etc. for ground system continuity.

### 3.3 LABELING

- A. Refer to grounding detail and specification 260500 for additional labeling requirements.

END OF SECTION 262115



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## SECTION 262235 - OVERCURRENT PROTECTION DEVICES

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Molded Case Thermal Magnetic Circuit Breakers

#### 1.2 SUBMITTALS

- A. Refer to Sections 26 01 00 and 26 01 01 for additional requirements.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.
- C. Submit wiring diagrams including interconnection wiring between components and remote devices.
- D. Installation, operation and maintenance manual with pre-startup, detailed wiring, connections and diagrams, and instructions.
- E. Field Test Results as specified herein.

#### 1.3 WARRANTY

- A. Manufacturer shall warrant overcurrent protection devices to be free from defects in materials and workmanship for one year from date of Owner's formal acceptance.

### PART 2 - PRODUCTS

#### 2.1 20A-800A MOLDED CASE THERMAL MAGNETIC CIRCUIT BREAKERS

- A. Approved Manufacturers:
  - 1. Eaton
  - 2. GE/ABB
  - 3. Schneider Electric (Square D)
  - 4. Siemens
- B. Overcurrent devices shall be designed and manufactured according to the latest revision of the following standards:
  - 1. UL 489: Molded Case Circuit Breakers, Molded Case Switches and Circuit Breaker Enclosures.

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2. IEC 60947-2, IEC 60947-3, ISO 9001, Nema AB-1
- C. New circuit breakers installed in existing lighting and appliance or power distribution panelboards shall match the existing in type, manufacturer (if possible), and short circuit ratings.
- D. For lighting and appliance panelboards, provide molded case thermal magnetic circuit breakers with trip ratings listed on the Drawings. The molded case circuit breakers shall provide for the inverse time delay overload and instantaneous short circuit protection by means of a thermal magnetic element.
- E. For power distribution panelboards, provide molded case thermal magnetic circuit breakers with frame and trip ratings listed on the Drawings. The molded case circuit breakers shall provide for the inverse time delay overload and instantaneous short circuit protection by means of a thermal magnetic element.
- F. The circuit breaker ampere rating shall be clearly visible without removing the panel cover.
- G. Circuit breakers shall be single pole or multi-pole with an integral crossbar to assure simultaneous opening of all poles.
- H. Circuit breakers shall have an over-center, trip-free, toggle-type operating mechanism with quick-make, quick-break action and positive handle indication.
- I. Handles shall have "ON", "OFF" and "TRIPPED" positions.
- J. Circuit breakers shall be fully rated. Series ratings are not permitted.
- K. Lighting and appliance panelboards for nominal 208Y/120-volt or 240-volt systems, provide minimum symmetrical short circuit current rating of 10,000 amperes, unless otherwise noted on the Drawings.
- L. Lighting and appliance panelboards for nominal 480Y/277-volt systems, provide minimum symmetrical short circuit current rating of 14,000 amperes, unless otherwise noted on the Drawings.
- M. For circuit breakers provided in power distribution panelboards, minimum symmetrical short circuit current rating shall be 22,000 amperes, unless otherwise noted on the Drawings.
- N. Breaker shall be standard (80%) rated for all units. Where indicated on drawings, circuit breaker shall be rated 100%.
- O. Circuit breakers shall include factory installed mechanical lugs. Lugs shall be UL listed and rated 75 degrees C.
- P. Special Requirements:

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1. Circuit breakers serving high intensity discharge lighting circuits shall be "HID" rated for use on high intensity discharge lighting systems.
2. Circuit breakers serving HVAC loads shall be "HACR" rated.

### PART 3 - EXECUTION

#### 3.1 DELIVERY, HANDLING AND STORAGE

- A. Deliver, store, protect, and handle devices and components in accordance with recommended practices listed in manufacturer's installation manuals.
- B. Store devices and components in a clean, dry space. Maintain factory protection or cover with plastic to keep out dirt, water, construction debris, etc., until time of installation.

END OF SECTION 262235

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SECTION 262260 - SURGE PROTECTIVE DEVICES (SPDs) LOW-VOLTAGE ELECTRICAL POWER CIRCUITS

PART 1 - GENERAL

1.1 WORK INCLUDES

- A. Surge Protective Devices (SPDs)

1.2 SUBMITTALS

- A. Refer to Sections 26 01 00 and 26 01 01 for additional requirements.
- B. Submit shop drawings and product information for approval and final documentation in the quantities listed according to the Conditions of the Contract. All transmittals shall be identified by customer name, customer location, and customer order number.
- C. Product Data: For each type of product indicated. Include rated capacities, operating weights, operating characteristics, furnished specialties, and accessories
- D. Submittals shall include UL 1449 4th Edition Listing documentation with the following ratings:
1. Short Circuit Current Rating (SCCR)
  2. Voltage Protection Ratings (VPRs) for all modes
  3. Maximum Continuous Operating Voltage rating (MCOV)
  4. I-nominal rating (I-n)
  5. SPD shall be UL 1449 4th Edition as a Type 2 Component or Listed Assembly. When connected to supply or utility side of service SPD shall be labeled as Type 1.
- E. Upon request, an unencapsulated, complete SPD shall be presented for visual inspection.
- F. Minimum of ten (10) year warranty.

1.3 QUALITY ASSURANCE

- A. The Surge Protective Devices in this Specification are associated with power distribution systems and shall be designed and manufactured according to the latest revision of the following standards (unless otherwise noted):
1. UL 1449 - 4th Edition: Standard for Safety for Surge Protective Devices
  2. UL 1283: Standard for Safety for Electromagnetic Interference Filters
  3. ANSI / IEEE C62.41.1: Guide on the Surge Environment in Low Voltage AC Power Circuits
  4. ANSI / IEEE C62.41.2: Recommended Practice on the Characterization of Surges in Low-Voltage AC Power Circuits
  5. ANSI / IEEE C62.45: Guide on Surge Testing for Equipment Connected to Low-Voltage AC Power Circuits
  6. ANSI / IEEE C62.62: Standard Test Specifications for Surge Protective Devices (SPDs) for Use on the Load Side of the Service Equipment in Low Voltage AC Power Circuits

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7. NFPA 70 (National Electrical Code), Latest Edition

#### 1.4 WARRANTY

- A. Manufacturer shall provide a ten (10)-year warranty against failure or workmanship defects when installed in compliance to the Manufacturer's written installation instructions, UL listing requirements and the National Electrical Code.

### PART 2 - PRODUCTS

#### 2.1 GENERAL REQUIREMENTS

- A. Furnish and install Surge Protective Devices (SPDs) as herein specified and as shown on the Drawings. The SPDs shall provide continuous protection from damaging transients and electrical line noise.
- B. Components shall be suitable for voltage systems as shown on the Drawings.
- C. SPDs shall be of a solid state, parallel multi-staged hybrid design and shall be bi-directional and voltage limiting. SPDs shall utilize Thermally Protected Metal Oxide Varistors (TPMOVs) as suppression components sourced from Mersen or ProSurge. Devices that use spark gaps, gas tubes, rectifiers, silicon diodes, stacked distribution grade MOVs, or selenium cells are prohibited.
- D. SPDs shall utilize high energy ( $\geq 32\text{mm}$ ) MOVs that are protected by a combination of thermal fuses and  $8 \times 20\mu\text{s}$  surge rated fuses. Designs that include high component count arrays of electronic grade MOVs ( $\leq 32\text{ mm}$ ) are prohibited. SPD shall be UL 1449 listed and labeled as Type 2, verifiable at UL.com, without need for external or supplemental overcurrent controls. Every suppression component of every mode, including N-G. SPDs relying upon external or supplementary installed safety disconnectors do not meet the intent of this specification.
- E. SPD shall be UL labeled with 20kA I-nominal (L-N) as recommended for UL 96A Lightning Protection Master Labeling and NFPA 780.
- F. Three Phase SPDs shall be UL labeled with 200kA Short Circuit Current Rating (SCCR). Split phase units shall be UL labeled with 100kA Short Circuit Current Rating (SCCR) or greater.
- G. External or Wall mounted service entrance SPD shall be connected to the electrical service via a dedicated 60A breaker or with a 200kA rated integral disconnect switch.
- H. UL 1449 Listed Maximum Continuous Operating Voltage (MCOV)
  - 1. 208Y/120V
    - a. Allowable System Voltage Fluctuation (%)
      - 1) 25% or 50%
    - b. MCOV
      - 1) 150V or 180V

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2. 480Y/277V
  - a. Allowable System Voltage Fluctuation (%)
    - 1) 15%
  - b. MCOV
    - 1) 320V

## 2.2 POWER SERVICE ENTRANCE SURGE PROTECTIVE DEVICES

- A. Provide Surge Protective Devices (SPDs) from one of the following suppliers:
  1. ABB/Current Technology - TG3 Series
  2. ABB/General Electric - THE Series
  3. Eaton - SPD Series
  4. Square D/Schneider Electric - EMA Series
  5. Siemens - TPS3 Series
- B. Power service entrance SPDs shall have the following design and performance ratings:
  1. Surge Rating per Phase: 250 kA
  2. UL 1449 - 4th Edition Revision; effective March 26, 2015 Voltage Protection Ratings shall not exceed the following:
    - a. Voltage 208Y/120V Wye
      - 1) L-N: 700V
      - 2) L-G: 700V
      - 3) N-G: 700V
      - 4) L-L: 1200V
      - 5) MCOV: 150V
    - b. Voltage 480Y/277V Wye
      - 1) L-N: 1200V
      - 2) L-G: 1200V
      - 3) N-G: 1200V
      - 4) L-L: 2000V
      - 5) MCOV: 320V
  3. Protection Modes: L-L, L-N, L-G, N-G
  4. SPD, Type 2 only, shall incorporate a UL 1283 listed EMI/RFI filter with minimum attenuation of - 50dB at 100 kHz
  5. SPD shall include a serviceable, replaceable module or modules.
- C. SPD Monitoring and Control:

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1. Each SPD Mode shall be capable of being visibly monitored with a green LED. If protection is unavailable in any Mode, the green LED will be extinguished and a red LED shall illuminate.
  2. Each SPD Mode shall include Form C auxiliary contacts. In addition, Form C contacts shall be provided for 70% under-voltage, and phase loss and power loss.
  3. SPD shall include a surge counter on the face of the enclosure which shall count all transients above the system clamping voltage. If surge counters are current based, it must increment for surges greater than 300A.
  4. SPD shall include a solid state audible alarm system. Components shall include an alarm silence switch and an alarm test switch. An LED shall be provided to indicate audible alarm is disabled.
- D. SPD shall be mounted external to emergency power switchboard provided with a NEMA 12 dust-tight enclosure with an integral thru-door disconnect switch.

## 2.3 POWER DISTRIBUTION PANELBOARD SURGE PROTECTIVE DEVICES

- A. Provide Surge Protective Devices (SPDs) from one of the following suppliers:
1. ABB/General Electric - THE Series
  2. Eaton - SPD Series
  3. Square D/Schneider Electric - EMA Series
  4. Siemens - TPS3 Series
- B. Distribution Panelboard SPDs shall have the following design and performance ratings:
1. Surge Rating per Phase: 150kA
  2. UL 1449 - 4th Edition Revision; effective March 26, 2015 Voltage Protection Ratings shall not exceed the following:
    - a. Voltage 208Y/120V Wye
      - 1) L-N 700V
      - 2) L-G: 700V
      - 3) N-G: 700V
      - 4) L-L: 1200V
      - 5) MCOV: 150V
    - b. Voltage 480Y/277V Wye
      - 1) L-N: 1200V
      - 2) L-G: 1200V
      - 3) N-G: 1200V
      - 4) L-L: 2000V
      - 5) MCOV 320V
  3. Protection Modes: L-L, L-N, L-G, N-G
  4. SPD, Type 2 only, shall incorporate a UL 1283 listed EMI/RFI filter with minimum attenuation of - 50dB at 100 kHz

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C. SPD Monitoring and Control:

1. Each SPD Mode shall be capable of being visibly monitored with a green LED. If protection is unavailable in any Mode, the green LED will be extinguished and a red LED shall illuminate.
2. Each SPD Mode shall include Form C auxiliary contacts. In addition, Form C contacts shall be provided for 70% under-voltage, and phase loss and power loss.
3. SPD shall include a surge counter on the face of the enclosure which shall count all transients above the system clamping voltage. If surge counters are current based, it must increment for surges greater than 300A.
4. SPD shall include a solid-state audible alarm system. Components shall include an alarm silence switch and an alarm test switch. An LED shall be provided to indicate audible alarm is disabled.

- D. Distribution panelboard SPDs shall be wall or externally mounted or as an integral part of the panelboard assembly. When specified for integral mounting, refer to additional requirements as specified in Part 3 of this section.

2.4 POWER BRANCH PANELBOARD SURGE PROTECTIVE DEVICES

A. Provide Surge Protective Devices (SPDs) from one of the following suppliers:

1. ABB/General Electric - THE Series
2. Eaton - SPD Series
3. Square D/Schneider Electric - EMA Series
4. Siemens - TPS3 Series

B. Power Branch Panelboard SPDs shall have the following design and performance ratings:

1. Surge Rating per Phase: 100 kA
2. UL 1449 - 4th Edition Revision; effective March 26, 2015 Voltage Protection Ratings shall not exceed the following:
  - a. Voltage: 208Y/120V Wye
    - 1) L-N: 700V
    - 2) L-G: 700V
    - 3) N-G: 700V
    - 4) L-L: 1200V
    - 5) MCOV: 150V
  - b. Voltage 480Y/277V Wye
    - 1) L-N: 1200V
    - 2) L-G: 1200V
    - 3) N-G: 1200V
    - 4) L-L: 2000V
    - 5) MCOV: 320V



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3. Protection Modes: L-L, L-N, L-G, N-G.
4. SPD, Type 2 only, shall incorporate a UL 1283 listed EMI/RFI filter with minimum attenuation of - 50dB at 100 kHz

C. SPD Monitoring and Control:

1. Each SPD Mode shall be capable of being visibly monitored with a green LED. If protection is unavailable in any Mode, the green LED will be extinguished and a red LED shall illuminate.
2. Each SPD Mode shall include Form C auxiliary contacts. In addition, Form C contacts shall be provided for 70% under-voltage, and phase loss and power loss.
3. SPD shall include a surge counter on the face of the enclosure which shall count all transients above the system clamping voltage. If surge counters are current based, it must increment for surges greater than 300A.
4. SPD shall include a solid state audible alarm system. Components shall include an alarm silence switch and an alarm test switch. An LED shall be provided to indicate audible alarm is disabled.

D. Branch circuit panelboard SPDs shall be wall or externally mounted. When specified for integral mounting, refer to additional requirements as specified in Part 3 of this section.

2.5 SURGE PROTECTIVE DEVICES FOR ELEVATORS, DUMBWAITERS, ESCALATORS, MOVING WALKS, PLATFORM LIFT, OR STAIRWAY CHAIRLIFTS IN COMPLIANCE TO NEC ARTICLE 620.51(E).

A. Provide Surge Protective Devices (SPDs) from one of the following suppliers:

1. ABB/General Electric - THE Series
2. Eaton - SPD Series
3. Square D/Schneider Electric - 420 Series
4. Siemens - TPS3 Series

B. SPD shall be **mounted external to** the load disconnect, and it shall be UL 1449 labeled as Type 1, verifiable at UL.com, without need for external or supplemental overcurrent controls. Every suppression component of every mode shall be a Mersen TPMOV protected by internal overcurrent and thermal overtemperature controls. SPDs relying upon external or supplementary installed safety disconnectors do not meet the intent of this specification.

C. Power Load Disconnect SPDs shall have the following design and performance ratings:

1. Surge Rating per Phase: 50 kA
2. UL 1449 – 4th Edition Revision; effective March 26, 2015 Voltage Protection Ratings shall not exceed the following:
  - a. Voltage 208Y/120V Wye
    - 1) L-N/G: 700V
    - 2) L-L: 1200V
    - 3) MCOV: 150V

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b. Voltage 480Y/277V Wye

- 1) L-N/G: 1200V
- 2) L-L: 2000V
- 3) MCOV: 320V

3. SPD shall be UL labeled with 20kA I-nominal (I-n).
4. SPD shall be UL labeled with 200kA Short Circuit Current Rating (SCCR).
5. Protection Modes: L-N/G and L-L.

D. SPD Monitoring and Control:

1. Each SPD Mode shall be capable of being visibly monitored with a green LED. If protection is unavailable in any Mode, the green LED will extinguish.

E. Unless otherwise noted, SPD enclosure type shall match or exceed NEMA enclosure rating of equipment to which it is connected. Minimum NEMA 1 for indoor installations and NEMA 3R for exterior locations.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Installation and wiring shall be in accordance with each Manufacturer's recommendations and shall be performed in compliance with the National Electrical Code.
- B. The Electrical Contractor shall install the SPD with short and straight conductors as practically as possible. SPD input conductors shall be twisted together to reduce input conductor inductance.
- C. Perform visual and mechanical inspection. Verify that electrical wiring installation complies with Manufacturer's installation requirements.
- D. After installation of each SPD, prior to energizing, complete all system startup checks per the Manufacturer's written instructions.

3.2 SERVICE ENTRANCE SURGE PROTECTIVE DEVICES

- A. Service entrance SPDs shall be flush mounted in the face of the power distribution equipment, surface mounted to or wall mounted adjacent to the power distribution equipment, in accordance with the Manufacturer's instructions.
- B. Electrical Contractor shall limit conductor length between terminals of surge protection devices and disconnect devices or bus connections to less than 48 inches. The wiring shall be twisted and tie-racked with no 90° bends.
- C. Before energizing, installer shall verify service Neutral to Ground bonding jumpers, per NEC 250.24(B) and 250.28, are present and secure.

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- D. Connecting to SPDs to disconnect terminals must comply with NEC 2017, Section 110.14(A), which states that the number of conductors in a terminal is limited to that for which the terminal is designed and listed. Disconnect accessories like multi-barrel lugs, quick connect tabs, and lugs with factory drilled taps are example accessories allowing for NEC compliant installations.

### 3.3 PANELBOARD SURGE PROTECTIVE DEVICES

- A. Panelboard SPDs shall be mounted as an integral assembly with the panelboard. SPD is to be direct bussed or breaker fed with a 30A breaker (or larger).
- B. Before energizing, installer shall verify separately derived system Neutral to Ground bonding jumpers are installed at the main service as well as the secondary of the transformer where a new separately derived system begins, per NEC 250.24(B) and 250.28. Ensure bonding jumpers are present and secure. Measure neutral-to-ground voltage to verify the presence of bonding jumper.

END OF SECTION 262260

## SECTION 265100 – LED LUMINAIRES

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Interior Luminaires

#### 1.2 SUBMITTALS

- A. Refer to Sections 26 01 00 and 26 01 01 for additional requirements.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.

#### 1.3 DESCRIPTION OF WORK

- A. Luminaires shall be provided as specified in the Luminaire Schedule or as indicated on the Drawings complete with lamps, power wiring, and control for a fully operational system. Contractor is responsible for providing proper mounting accessories. Contractor shall refer to this Specification for LED and driver requirements. Refer to the Drawings and Specifications for control requirements. Submittals shall include product information for luminaires. Where a catalog number and a narrative or pictorial description are provided, the written description shall take precedence. If equal or alternate luminaire Manufacturers are not indicated, then the luminaires shall be provided as specified. The Engineer is not responsible for the performance of substituted luminaires approved by the Architect or Owner without the consent of, or review by, the Engineer.

#### 1.4 QUALITY ASSURANCE

- A. Codes and Standards
  - 1. Luminaires shall be installed in accordance with Article 410 of the National Electrical Code and shall be grounded as required by the National Electrical Code. The Contractor is responsible for proper installation of luminaires, including verification that luminaires are installed according to their intended use. Any conflicts regarding actual architectural conditions shall be brought to the attention of the Architect and Engineer immediately.
  - 2. All luminaires and assembled components shall be new, of good quality, and bear the label of and be approved by UL laboratories for the applicable location and conditions (wet, damp, dry, etc.).
  - 3. All luminaires shall meet all required local, state and/or national building, electrical and energy codes and regulations.

## PART 2 - PRODUCTS

### 2.1 LIGHT EMITTING DIODES (LEDs):

- A. Refer to the Luminaire Schedule for additional requirements.
- B. General Requirements:
  - 1. All products shall be tested by a Nationally Recognized Testing Laboratory (NRTL) in accordance with IES LM-79 testing methods and shall carry a UL or ETL label. Luminaire Manufacturer shall confirm in writing that the LEDs within the luminaire will not exceed the maximum temperature to which the LED die was tested using IES LM-80 testing methods.
  - 2. All LEDs must be batch sorted for color and brightness visual consistency, and must be manufactured by a reputable LED Manufacturer, such as Philips Lumileds, Osram Sylvania, Nichia, Cree or approved equal. All luminaires of the same type shall be supplied at the same time and shall come from the same batch. Spare luminaires shall be provided from the same batch.
  - 3. Color Rendering Index (CRI): Minimum CRI of 75.
  - 4. All interior LEDs shall be 4000 K.
  - 5. All exterior LEDs shall be 4000 K.
  - 6. All LED components shall be mercury and lead-free.
  - 7. All LED luminaires shall be subjected to the following JEDEC Reliability Tests for Lead-free Semiconductors: HTOL, RTOL, LTOL, PTMCL, TMSK, Mechanical Shock, Variable Vibration Frequency, SHR, Autoclave.
- C. Thermal Management:
  - 1. Luminaire Manufacturers shall adhere to device Manufacturer guidelines, certification programs, and test procedures for thermal management.
  - 2. The thermal management (of the heat generated by the LEDs) shall be of sufficient capacity to assure proper operation of the Luminaire over the expected useful life. The LED Manufacturer's maximum thermal pad temperature for the expected life shall not be exceeded.
  - 3. Thermal management shall be passive by design. The use of fans or other mechanical devices shall not be allowed.
  - 4. The Luminaire shall have a minimum heat sink surface such that LED Manufacturer's maximum junction temperature is not exceeded at maximum rated ambient temperature. The heat sink material shall be aluminum.
- D. Special Warranty: Provide a written warranty indicating that the complete system (LED luminaires, drivers and power supplies) shall carry a minimum 5-year warranty.

### 2.2 LED DRIVERS

- A. Non-dimming LED drivers shall meet the following requirements:

1. Minimum Efficiency: 85%
  2. Starting Temperature: -40° C
  3. Input Voltage: 120 to 480 volts  $\pm 10\%$ , single phase
  4. Power Factor (PF):  $\geq 0.90$
  5. Total Harmonic Distortion (THD):  $\leq 20\%$
  6. Sound Rating: Class A
  7. Surge Protection: The system must survive 250 repetitive strikes of "C Low" (C Low – 6kV/1.2 x 50 $\mu$ s, 10kA/8 x 20 $\mu$ s) waveforms at 1 minute intervals with less than 10% degradation in clamping voltage. "C Low" waveforms are as defined in IEEE/ASNI C62.41.2-2002, Scenario 1 Location Category C.
  8. Power supplies can be UL Class I or II output.
- B. Dimming drivers shall be similar to non-dimming drivers, with the following additional requirements.
1. 0-10V dimming drivers shall dim to a minimum for 10%, and shall be type as recommended by manufacturer unless noted otherwise on the contract documents.
  2. Drivers shall be compatible with dimmer control specified in the Luminaire Controls Specification Section.
- C. Drivers shall comply with FCC 47 cfr Part 18 non-consumer RFI/EMI standards.
- D. Provide low temperature drivers for LED luminaires in exterior applications or in unheated areas.

### PART 3 - EXECUTION

#### 3.1 LUMINAIRE SUPPORTS

- A. All boxes upon which luminaires are to be installed shall be equipped with 3/8 inch luminaire studs. Luminaires which weigh over 50 lbs. shall be supported independently of the box, unless the box is listed for the weight to be supported.
- B. Boxes serving recessed luminaires in accessible ceilings shall be capable of being accessed through the ceiling opening. Install a maximum 6 feet of 1/2 inch flexible metal conduit (or MC cable) or between the rigidly supported box and the luminaire housing. The box shall be located a minimum of one foot from the luminaire housing.
- C. Surface mounted luminaires mounted on ceilings other than accessible lay-in ceiling systems, or to the building structure, shall be securely supported in a manner approved by the Architect. Mounting shall also be in accordance with Article 410 of the National Electrical Code, and as recommended by the luminaire Manufacturer.

- D. Recessed luminaires shall be provided with mounting accessories compatible with the ceiling types installed. Plaster frames shall be furnished for each recessed luminaire installed in plaster or dry wall type ceilings. Verify all ceiling types with the Division 1 Contractor and with the Architectural reflected ceiling plans prior to submitting shop Drawings.
- E. Recessed luminaires in accessible lay-in ceiling systems shall be supported as follows:
  - 1. The grid system tees shall be supported at each corner of each luminaire with a suspended ceiling support wire up to a building structural member, or up to the structural deck. It is the responsibility of the Electrical Contractor to include such supports in Bid regardless of which Division installs the supports.
  - 2. Each luminaire shall also be securely fastened to the grid system tees by mechanical means, such as bolts, screws, rivets or by clips identified for use with the type ceiling framing member installed.

### 3.2 CONNECTIONS AND INSTALLATION REQUIREMENTS

- A. Connections to recessed and surface luminaires installed in drywall or inaccessible ceilings shall be made utilizing 1/2" flexible metal conduit or MC cable from luminaire to nearest junction box located in an accessible ceiling area or at access panel locations as approved by Architect. Manufactured wiring systems are not acceptable. Complete installation shall require ability to access connection points and replace wiring from accessible junction boxes to any luminaires.

### 3.3 MISCELLANEOUS

- A. At the conclusion of the Work, each luminaire shall be in good operating condition.
- B. Remote drivers shall be grounded as recommended by the luminaire Manufacturer.
- C. Provide wiring from low voltage dimmers to luminaires as recommended by the Manufacturer.

### 3.4 EXTERIOR LUMINAIRES

- A. Provide low temperature drivers for all exterior luminaires and for luminaires in unheated rooms or areas.
- B. Adjustable exterior luminaires shall be aimed by the Contractor at night for optimum coverage of their task, to the satisfaction of, and under the direction of the Architect.

### 3.5 AIMING OF ADJUSTABLE LUMINAIRES

- A. All luminaires (including "Normally-Off" emergency luminaires) that are capable of being aimed shall be aimed by the Contractor for the optimum coverage of their task, to the satisfaction of, and under the direction of the Architect.

3.6      ADDITIONAL MATERIALS

- A.      The Electrical Contractor shall furnish additional materials described below that match the products installed. These materials shall be packaged with protective covering for storage, and shall be clearly labeled to indicate their use. The Contractor shall coordinate the designated storage location with the Owner on site upon project completion.
1.      Spare ballasts, LED drivers, LED power supplies, etc., amounting to 1% (minimum of 2) of each type and rating installed.
  2.      Spare diffusers and lenses amounting to 1% (minimum of 2) of each type and rating installed.

END OF SECTION



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## SECTION 265200 - STAND ALONE LIGHTING CONTROLS

### PART 1 - GENERAL

#### 1.1 WORK INCLUDES

- A. Toggle Switches
- B. Dimmers
- C. Lighting Control Vacancy Sensors
- D. Lighting Control Vacancy Sensors with Dimming

#### 1.2 SUBMITTALS

- A. Refer to Sections 26 01 00 and 26 01 01 for additional requirements.
- B. Submit product data for all manufactured items listed in paragraph 1.1 WORK INCLUDES.
- C. Submittals shall include all installation drawings and wiring diagrams where applicable as required for a complete installation. Wiring diagrams shall detail all system interconnections. Provide an itemized bill of materials and product data sheets.

#### 1.3 DESCRIPTION OF WORK

- A. Vacancy Sensors
  - 1. Vacancy sensors shall be provided as indicated on the Drawings. Contractor is responsible for providing proper mounting accessories. Submittals shall include product information. If alternate Vacancy sensor Manufacturers are not indicated, then the devices shall be provided as specified. The Engineer is not responsible for the performance of substituted devices approved by the Architect or Owner without the consent of, or a review by, the Engineer.

#### 1.4 QUALITY ASSURANCE

- A. Codes and Standards

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1. Vacancy sensors shall be installed in accordance with Article 410 and Article 411 of the National Electrical Code and shall be grounded as required by the National Electrical Code. The Contractor is responsible for proper installation, including verification that devices are installed according to their intended use. Any conflicts regarding actual architectural conditions shall be brought to the attention of the Architect and Engineer immediately.
2. Vacancy sensors shall comply with NEMA WD-7.

#### 1.5 WARRANTY AND MAINTENANCE CONTRACT

- A. Provide Manufacturer's 5-year parts warranty.
- B. Warranties shall commence upon project closeout and final acceptance by the Owner.

#### 1.6 OWNER TRAINING

- A. A representative of the device Manufacturer shall supervise final connections, test, program, and adjust the device settings. Also train the Owner's personnel on operation and maintenance of the system. Training shall include general overview of all control components and interconnections. The training session shall be video recorded by the Contractor for future Owner use. Programming shall be provided as coordinated with the Owner.
  1. A minimum of four hours of instruction shall be provided in one day.
  2. Time delay setting of vacancy sensors shall be coordinated with the Owner for all spaces listed in the Lighting Control Matrix.

### PART 2 - PRODUCTS

#### 2.1 TOGGLE SWITCHES

- A. Devices shall be manufactured by Hubbell, with model numbers as indicated.
- B. Alternate devices shall be manufactured by:
  1. Legrand - Pass and Seymour
  2. Cooper Electric
  3. Leviton
- C. Local toggle switches shall be 20 ampere, 120/277 Volts, AC specification grade, with grounding terminal:
  1. Single pole - Hubbell HBL1221 - Extra Heavy Duty.
  2. Three way - Hubbell HBL1223 - Extra Heavy Duty.
  3. Four way - Hubbell HBL1224 - Extra Heavy Duty.

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- D. For other types of toggle switches specified, the equivalent series by Pass and Seymour, Cooper or Leviton shall be acceptable.

## 2.2 DIMMERS

- A. Devices shall be manufactured by Lutron Technologies, with model numbers as indicated.
- B. Alternate devices shall meet or exceed the performance and area of coverage of the specified sensors and be manufactured by:
  - 1. Crestron
  - 2. Cooper Wiring Devices "Aspire" Series
  - 3. Leviton "Vizia" Series
- C. 0-10V LED driver dimmers shall be Lutron Diva series, for 3-way or single-pole, 8A or 50mA maximum control current, #DVSTV-XX. Control provides dimming signal only. For dimming with on/off switching, single pole only, 30mA maximum control current, #DVSCSTV-XX. Provide Lutron Power Pack #PP-120H for 120V or #PP-277H for 277V.
- D. Dimmers shall be Lutron Maestro Series, unless noted otherwise herein.

## 2.3 LIGHTING CONTROL VACANCY SENSORS

- A. Devices shall be manufactured by Legrand (Wattstopper), with model numbers as indicated.
- B. Alternate devices shall meet or exceed the performance and area of coverage of the specified sensors and be manufactured by:
  - 1. Lutron
  - 2. Steinel (Crestron)
  - 3. Leviton
  - 4. Hubbell
  - 5. Acuity
  - 6. Cooper Controls (Greengate)
- C. Passive Infrared Sensors
  - 1. Type PS: Wall switch sensors where indicated on Drawings shall be 800 Watts, 120/277 volt with manual on/off override control, vandal resistant lens, two-level detection pattern minimum, nuisance shield and 180 degree horizontal coverage for 300 square foot maximum area. Sensors shall be programmed for manual on, auto off. Sensors shall be:
    - a. Wattstopper: #PW-100 single zone

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D. Dual Technology Sensors

1. Type DC: Ceiling mounted sensors where indicated on Drawings shall operate at 24 Volts DC from remote power packs. Sensors shall have (1) NO/NC isolated relay rated for 1 amp at 24 volts DC and 360°, 1,000 square foot extended range lens with a nine-level detection pattern. Sensors shall be:
  - a. Wattstopper: #DT-300

E. Remote Power Packs

1. Power packs shall have universal voltage capabilities and have an integral transformer relay system for 24 VDC output at 225mA, auto-on or manual-on operating mode, output contact rated at 20A for incandescent loads and 20A for electronic ballast loads. Power packs shall be #BZ-150.
2. Refer to Manufacturer's installation wiring diagrams for exact wiring and installation requirements.

2.4 LIGHTING CONTROL VACANCY SENSORS WITH DIMMING

- A. Devices shall be manufactured by Lutron Technologies, with model numbers as indicated.
- B. Alternate devices shall meet or exceed the performance and area of coverage of the specified sensors and be manufactured by:
  1. Steinel (Crestron)
  2. Legrand (Wattstopper)
  3. Hubbell
  4. Acuity
  5. Cooper Controls (Greengate)
- C. Passive Infrared Sensors
  1. Type PSD: Wall dimmer sensors where indicated on Drawings shall be 0-10V, 8A with two-level detection pattern, adjustable sensitivity, and 180 degree horizontal coverage for 900 square foot maximum area. Sensors shall be manufactured by Lutron Technologies, #MS-Z101-XX.

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION REQUIREMENTS

- A. Adjacent devices of the same voltage class shall be mounted in ganged boxes. Provide a common coverplate.

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- B. Lighting control devices shall be permanently marked to indicate the panel and circuit number of the device. Refer to Basic Materials and Methods Specification Section for additional information.
- C. Ceiling mounted sensors shall not be installed within 6 feet of an HVAC diffuser or an incandescent or halogen luminaire, as this may result in inaccurate detection.

### 3.2 SETTINGS / PROGRAMMING

- A. Contractor shall coordinate all time delays with Owner.

### 3.3 MISCELLANEOUS

- A. Provide wiring of devices as recommended by the Manufacturer. Low voltage cabling shall be supported above accessible ceilings with J-hooks, and shall be kept separate from other system wiring.

END OF SECTION 265200



# RENOVATIONS FOR FIRE STATION NO. 8 CITY OF CANTON

1330 DUEBER AVENUE S.W. CANTON, OH 44706

CONSTRUCTION DOCUMENTS: JULY 17, 2023

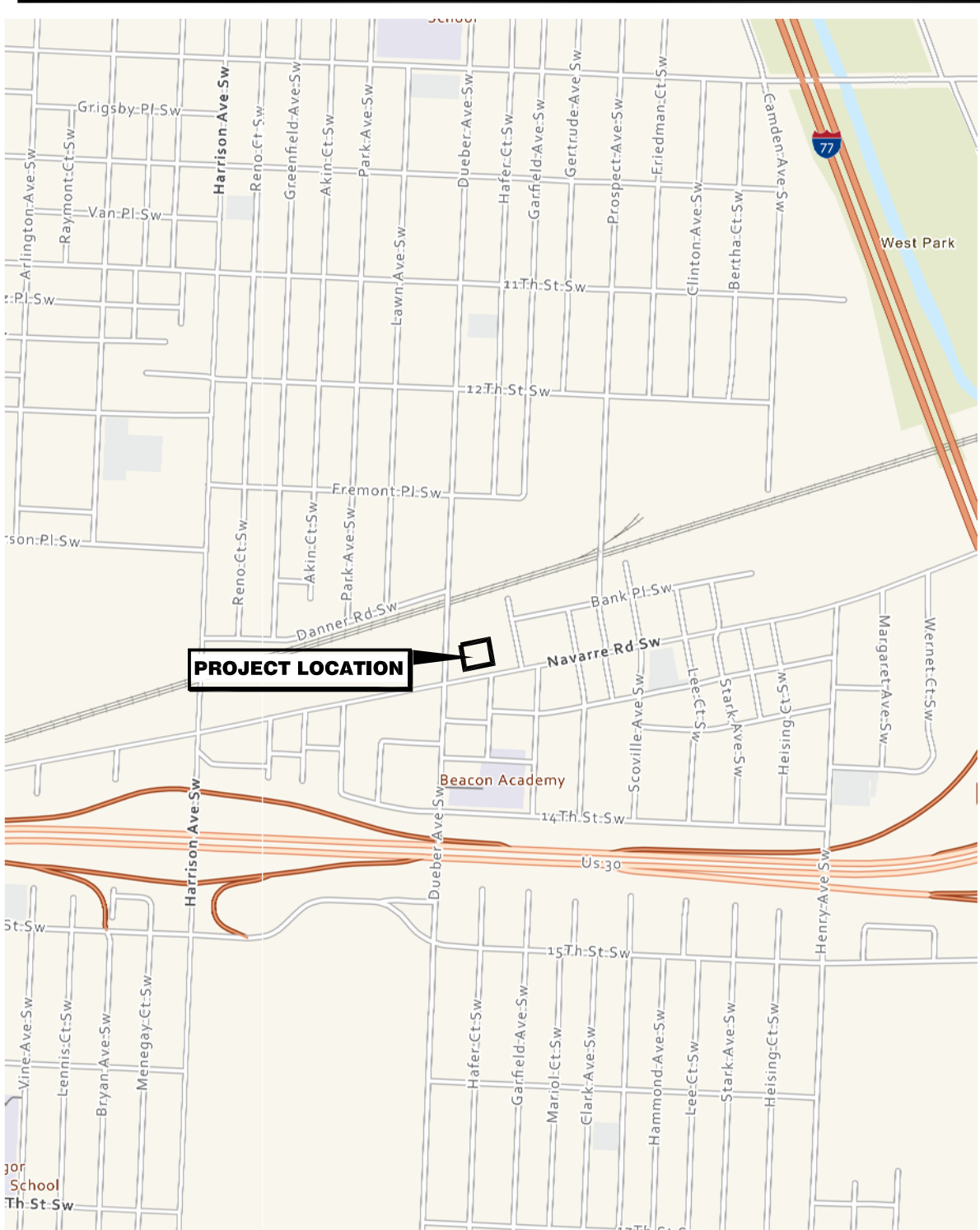
MOTTER & MEADOWS

ARCHITECTS

600 MARKET AVENUE NORTH  
CANTON, OHIO 44702  
PHONE: (330) 454-6165  
FAX: (330) 454-6789

STRUCTURAL ENGINEER: BARBER & HOFFMAN, INC  
MEP ENGINEER: KARPINSKI ENGINEERING

## VICINITY MAP / PROJECT LOCATION



## MATERIALS



## ABBREVIATIONS

ACOUS.	ACOUSTICAL	INSUL.	INSULATION
A.F.F.	ABOVE FINISH FLOOR	JT.	JOINT
ALUM.	ALUMINUM	MANFR.	MANUFACTURER (ALSO 'MFR.')
@	AT	M.C.	MECHANICAL CONTRACTOR
BD.	BOARD	M.H.	MANHOLE
BRG.	BEARING	M.O.	MASONRY OPENING
BLK.	BLOCK	MFG.	MANUFACTURING
BLKG.	BLOCKING	MAX.	MAXIMUM
CLG.	CEILING	MECH.	MECHANICAL
CL.	CENTERLINE	MTL.	METAL
COL.	COLUMN	MIN.	MINIMUM
CONC.	CONCRETE	NOM.	NOMINAL
CONT.	CONTINUOUS	N.I.C.	NOT IN CONTRACT
C.J.	CONTROL JOINT	N.T.S.	NOT TO SCALE
DET.	DETAIL	O/	ON OR OVER
DIA.	DIAMETER	O.C.	ON CENTER
D.S.	DOWNSPOUT	P.C.	PLUMBING CONTRACTOR
DWGS.	DRAWINGS	PL.	PLASTIC LAMINATE (ALSO 'P.L.')
EA.	EACH	LAM.	LAM.
E.C.	ELECTRICAL CONTRACTOR	PLUMB.	PLUMBING
ELEC.	ELECTRICAL	±	PLUS OR MINUS
E.T.R.	EXISTING TO REMAIN	ℓ	PROPERTY LINE
E.W.	EACH WAY	REINF.	REINFORCING
E.W.C.	ELECTRIC WATER COOLER	R	RISER
ELEV.	ELEVATION (ALSO 'EL.')	R.D.	ROOF DRAIN
EXIST.	EXISTING (ALSO 'EXG.')	R.O.	ROUGH OPENING
EXP.	EXPANSION	SIM.	SIMILAR
E.J.	EXPANSION JOINT	SPECS.	SPECIFICATIONS
F.F.	FINISH FLOOR	S.S.	STAINLESS STEEL
F.F.	FIRE EXTINGUISHER ON	STL.	STEEL
F.E.	FIRE EXTINGUISHER IN CABINET	STRUCT.	STRUCTURAL
F.E.C.	FIRE EXTINGUISHER IN CABINET	S.O.G.	SLAB ON GRADE
F.D.	FLOOR DRAIN	SUSP.	SUSPENDED
F.P.C.	FIRE PROTECTION CONTRACTOR	T	TREAD
FTG.	FOOTING	T.O.F.	TOP OF FOOTING
F.V.	FIELD VERIFY	T.O.S.	TOP OF STEEL
GALV.	GALVANIZED	TYP.	TYPICAL
G.C.	GENERAL CONTRACTOR	VERT.	VERTICAL
GYP.	GYPSPUM	V.T.R.	VENT THRU ROOF
H.M.	HOLLOW METAL	W/	WITH
HORIZ.	HORIZONTAL	WD.	WOOD

## GENERAL NOTES

- ALL WORK SHALL BE IN FULL COMPLIANCE WITH NATIONAL, STATE AND LOCAL CODES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND FURNISHING ALL REQUIRED PERMITS AND INSPECTIONS.
- CONTRACTOR SHALL VERIFY EXISTING CONSTRUCTION AND DIMENSIONS, AND NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.
- CONTRACTOR SHALL PERFORM ALL PATCH AND REPAIR WORK, FINISHED TO MATCH ADJACENT LIKE SURFACES. AT ALL LOCATIONS AFFECTED BY DEMOLITION OPERATIONS, OR OTHERWISE GENERALLY IMPLIED, AS NECESSARY FOR CONTINUOUS FINISHES THROUGHOUT THE WORK AREAS.
- ALIGN FINISH SURFACES OF NEW CONSTRUCTION WITH FINISH SURFACES OF EXISTING.
- CONTRACTOR SHALL MAINTAIN ALL REQUIRED EGRESS ROUTES FREE OF CONSTRUCTION EQUIPMENT, MATERIAL AND DEBRIS.

## PROJECT DATA

INTENT OF THIS SUBMITTAL DRAWING IS TO DEMONSTRATE COMPLIANCE WITH OHIO BUILDING CODE FOR RENOVATIONS TO CITY OF CANTON FIRE STATION NO. 8.

EXISTING OCCUPANCY CLASSIFICATION:  
B BUSINESS  
S-STORAGE  
R-2 RESIDENTIAL

CALCULATED OCCUPANT LOAD:  
APPARATUS/ACCESSORY STOR.: 2,797 SF / 300 GROSS 9 PERSONS  
BUSINESS AREAS: 982 SF / 100 GROSS 8 PERSONS  
RESIDENTIAL: 1,429 SF/ 200 GROSS 7 PERSONS  
24 PERSONS

TOILET FACILITIES REQUIRED:  
MALE: (1) W.C. ; (1) LAV  
FEMALE: (1) W.C. ; (1) LAV  
(1) SERVICE SINK

TOILET FACILITIES PROVIDED:  
MALE: (2) W.C. ; (1) URINAL ; (4) LAV  
FEMALE: (1) W.C. ; (2) LAV  
(1) SERVICE SINK

## DRAWING INDEX

### ARCHITECTURAL

- A-2.1 MAIN LEVEL DEMOLITION PLAN; DEMOLITION NOTES
- A-2.2 UPPER LEVEL DEMOLITION PLAN; DEMOLITION NOTES
- A-2.3 MAIN LEVEL PLAN; WALL TYPE LEGEND; CASEWORK SECTION; PLAN DETAIL; CASEWORK ELEVATIONS
- A-2.4 UPPER LEVEL PLAN; WALL TYPE LEGEND; WINDOW DETAIL; SILL TYPES
- A-3.1 WINDOW TYPES; EXTERIOR ELEVATIONS; TILE LAYOUT; RESTROOM ELEVATIONS
- A-3.2 GENERAL NOTES; DETAILS
- A-4.1 ROOM FINISH SCHEDULE; DOOR SCHEDULE; DOOR TYPES; FRAME TYPES; REFLECTED CEILING PLANS

### PLUMBING

- PD-1 FIRST FLOOR PLUMBING DEMOLITION PLAN
- PD-2 SECOND FLOOR PLUMBING DEMOLITION PLAN
- PD-1 PLUMBING LEGEND, SCHEDULES, AND NOTES
- P1-1 FIRST FLOOR PLUMBING PLAN
- P1-2 SECOND FLOOR PLUMBING PLAN
- P6-1 PLUMBING DETAILS AND DIAGRAMS

### MECHANICAL

- HD-1 FIRST FLOOR HVAC DEMOLITION PLAN
- HD-2 SECOND FLOOR HVAC DEMOLITION PLAN
- HO-1 HVAC LEGEND, SCHEDULES, AND GENERAL NOTES
- H1-1 FIRST FLOOR HVAC PLAN
- H1-2 SECOND FLOOR HVAC PLAN
- HB-1 HVAC DETAILS AND DIAGRAMS

### ELECTRICAL

- ED-1 FIRST FLOOR ELECTRICAL DEMOLITION PLAN
- ED-2 SECOND FLOOR ELECTRICAL DEMOLITION PLAN
- EO-1 ELECTRICAL SYMBOL, LEGEND AND GENERAL NOTES
- EO-2 ELECTRICAL SCHEDULES
- E1-1 FIRST FLOOR LIGHTING PLAN
- E1-2 SECOND FLOOR LIGHTING PLAN
- E2-1 FIRST FLOOR POWER AND FIRE ALARM PLAN
- E2-2 SECOND FLOOR POWER AND FIRE ALARM PLAN
- E7-1 ONE LINE DIAGRAM
- EB-1 PANEL SCHEDULES



GENERAL DEMOLITION NOTES

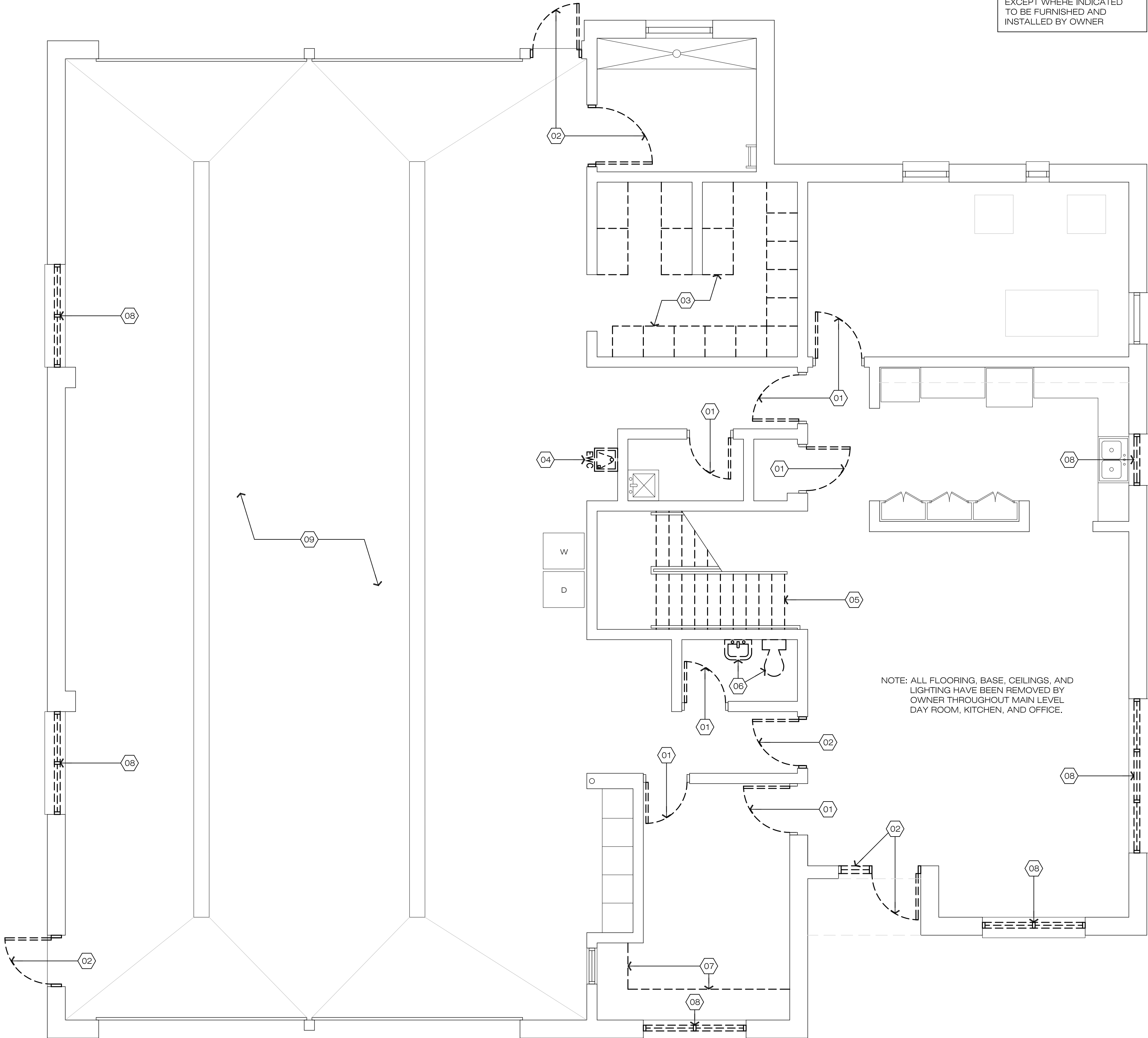
1. THE INTENT OF THE DEMOLITION WORK INCLUDED IN THIS PROJECT IS TO COMPLETELY REMOVE ALL EXISTING COMPONENTS INDICATED AND GENERALLY IMPLIED, TO FACILITATE THE CONSTRUCTION AND RENOVATION FOR A COMPLETE, CLEAN AND READY TO USE SPACE. REMOVE ALL EXISTING COMPONENTS (FASTENERS, BRACKETS, SCREWS, BOLTS, HANGERS, SHELVING, SIGNAGE, DUCTWORK, LIGHTING, ETC.) THAT ARE OBSOLETE, AND NOT ASSOCIATED WITH ITEMS INDICATED TO BE REMOVED.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE NATIONAL, STATE AND LOCAL CODES AND REGULATIONS.
3. ALL ITEMS INDICATED TO BE REMOVED SHALL INCLUDE ALL ASSOCIATED COMPONENTS, WHETHER VISIBLE OR NOT, INCLUDING ALL SUSPENSION COMPONENTS BACK TO STRUCTURE, ALL FASTENERS, TRIM, CAULKING, ADHESIVES, ETC.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION, REMOVAL, AND LEGAL DISPOSAL.
5. THE CONTRACTOR SHALL PERFORM ALL PATCH AND REPAIR WORK OF EXISTING BUILDING FOR ITEMS REMOVED, THAT WILL BE EXPOSED IN THE NEW WORK. PATCH AND REPAIR WORK SHALL MATCH EXISTING ADJACENT WORK, OR MATCH NEW ADJACENT WORK IF PRESENT.
6. IF ANY MISCELLANEOUS ITEMS IN THE SPACES HAVE INADVERTENTLY BEEN OMITTED FROM THE DEMOLITION DRAWINGS, IT IS THE INTENT THAT THE WORK WILL FACILITATE THE CONSTRUCTION OF COMPLETE, CLEAN AND READY TO USE SPACES, AND ANY SUCH ITEM (S) SHALL BE REMOVED AS REQUIRED.
7. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND DIMENSIONS, AND NOTIFY ARCHITECT OF ANY DISCREPANCIES, PRIOR TO PROCEEDING WITH THE WORK.
8. THE CONTRACTOR SHALL PROVIDE TEMPORARY ENCLOSURES, BARRICADES, ETC., AS REQUIRED TO PROTECT ADJACENT SPACES COMMON AREAS, ETC., FROM DUST, NOISE AND DEBRIS ASSOCIATED WITH PERFORMANCE OF THE WORK.
9. THE CONTRACTOR SHALL MAINTAIN ALL REQUIRED EGRESS ROUTES IN FULL UNOBSTRUCTED OPERATION FOR SPACES THAT WILL BE OCCUPIED DURING CONSTRUCTION ACTIVITIES. ANY WORK THAT WILL CAUSE INTERRUPTION OF THE EGRESS ROUTES SHALL BE COORDINATED WITH OWNER, TO MAINTAIN SAFETY AND PROPER EGRESS OF THE OCCUPANTS.
10. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY SHORING AS REQUIRED AT NEW OPENINGS IN EXISTING WALLS

GENERAL SCOPE NOTE

GENERAL CONTRACTOR SHALL PERFORM ALL WORK SHOWN ON THIS DRAWING, EXCEPT WHERE INDICATED TO BE FURNISHED AND INSTALLED BY OWNER

FLOOR PLAN DEMOLITION NOTES

- 01 - REMOVE EXISTING DOOR - FRAME TO REMAIN
- 02 - REMOVE EXISTING DOOR AND FRAME
- 03 - REMOVE EXISTING TURN-OUT GEAR STORAGE
- 04 - REMOVE EXISTING ELECTRIC WATER COOLER
- 05 - REMOVE EXISTING RESILIENT TREADS & RISERS
- 06 - REMOVE & REPLACE EXISTING LAVATORY & WATER CLOSET
- 07 - REMOVE EXISTING BUILT-IN DESK
- 08 - REMOVE EXISTING ALUMINUM WINDOW SYSTEM -PREPARE OPENING FOR INSTALLATION OF NEW ALUM. WINDOW SYSTEM
- 09 - REMOVE ALL OBSOLETE COMPONENTS -SEE GENERAL DEMOLITION NOTES
- 10 - REMOVE EXISTING FRAMED WALL INFILL
- 11 - REMOVE EXISTING LOCKERS - SALVAGE & DELIVER TO OWNER
- 12 - REMOVE EXISTING COUNTERTOP & (4) LAVATORIES
- 13 - REMOVE EXISTING RESTROOM PARTITIONS
- 14 - REMOVE EXISTING SHOWER FLOOR & WALL TILE FINISHES
- 15 - REMOVE EXISTING FLOOR TILE & BASE
- 16 - REMOVE EXISTING URINAL
- 17 - REMOVE EXISTING WATER CLOSET



MAIN LEVEL  
DEMOLITION PLAN

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



REVISIONS:

CONSTRUCTION DRAWINGS

MOTTER & MEADOWS  
ARCHITECTS

THIS DWG :  
MAIN DEMOLITION PLAN;  
DEMOLITION NOTES

COMM 22155  
DATE 07-17-23

DWG  
A-2.1

600 MARKET AVENUE NORTH

CANTON OHIO 44702

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATIONS  
1330 DUEBER AVE SW  
CANTON, OHIO



DAVID I. PATTERSON  
LICENSE #11150  
EXPIRATION DATE  
12-31-2023

GENERAL DEMOLITION NOTES

1.

THE INTENT OF THE DEMOLITION WORK INCLUDED IN THIS PROJECT IS TO COMPLETELY REMOVE ALL EXISTING COMPONENTS INDICATED AND GENERALLY IMPLIED, TO FACILITATE THE CONSTRUCTION AND RENOVATION FOR A COMPLETE, CLEAN AND READY TO USE SPACE. REMOVE ALL EXISTING COMPONENTS (FASTENERS, BRACKETS, SCREWS, BOLTS, HANGERS, SHELVING, SIGNAGE, DUCTWORK, LIGHTING, ETC.) THAT ARE OBSOLETE, AND NOT ASSOCIATED WITH ITEMS INDICATED TO BE REMOVED.
2.

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE NATIONAL, STATE AND LOCAL CODES AND REGULATIONS.
3.

ALL ITEMS INDICATED TO BE REMOVED SHALL INCLUDE ALL ASSOCIATED COMPONENTS, WHETHER VISIBLE OR NOT, INCLUDING ALL SUSPENSION COMPONENTS BACK TO STRUCTURE, ALL FASTENERS, TRIM, CAULKING, ADHESIVES, ETC.
4.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION, REMOVAL, AND LEGAL DISPOSAL.
5.

THE CONTRACTOR SHALL PERFORM ALL PATCH AND REPAIR WORK OF EXISTING BUILDING FOR ITEMS REMOVED, THAT WILL BE EXPOSED IN THE NEW WORK. PATCH AND REPAIR WORK SHALL MATCH EXISTING ADJACENT WORK, OR MATCH NEW ADJACENT WORK IF PRESENT.
6.

IF ANY MISCELLANEOUS ITEMS IN THE SPACES HAVE INADVERTENTLY BEEN OMITTED FROM THE DEMOLITION DRAWINGS, IT IS THE INTENT THAT THE WORK WILL FACILITATE THE CONSTRUCTION OF COMPLETE, CLEAN AND READY TO USE SPACES, AND ANY SUCH ITEM (S) SHALL BE REMOVED AS REQUIRED.
7.

THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND DIMENSIONS, AND NOTIFY ARCHITECT OF ANY DISCREPANCIES, PRIOR TO PROCEEDING WITH THE WORK.
8.

THE CONTRACTOR SHALL PROVIDE TEMPORARY ENCLOSURES, BARRICADES, ETC., AS REQUIRED TO PROTECT ADJACENT SPACES COMMON AREAS, ETC., FROM DUST, NOISE AND DEBRIS ASSOCIATED WITH PERFORMANCE OF THE WORK.
9.

THE CONTRACTOR SHALL MAINTAIN ALL REQUIRED EGRESS ROUTES IN FULL UNOBSTRUCTED OPERATION FOR SPACES THAT WILL BE OCCUPIED DURING CONSTRUCTION ACTIVITIES. ANY WORK THAT WILL CAUSE INTERRUPTION OF THE EGRESS ROUTES SHALL BE COORDINATED WITH OWNER, TO MAINTAIN SAFETY AND PROPER EGRESS OF THE OCCUPANTS.
10.

CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY SHORING AS REQUIRED AT NEW OPENINGS IN EXISTING WALLS

GENERAL SCOPE NOTE

GENERAL CONTRACTOR SHALL PERFORM ALL WORK SHOWN ON THIS DRAWING, EXCEPT WHERE INDICATED TO BE FURNISHED AND INSTALLED BY OWNER

FLOOR PLAN DEMOLITION NOTES

- 01

- REMOVE EXISTING DOOR - FRAME TO REMAIN
- 02

- REMOVE EXISTING DOOR AND FRAME
- 03

- REMOVE EXISTING TURN-OUT GEAR STORAGE
- 04

- REMOVE EXISTING ELECTRIC WATER COOLER
- 05

- REMOVE EXISTING RESILIENT TREADS & RISERS
- 06

- REMOVE & REPLACE EXISTING LAVATORY & WATER CLOSET
- 07

- REMOVE EXISTING BUILT-IN DESK
- 08

- REMOVE EXISTING ALUMINUM WINDOW SYSTEM -PREPARE OPENING FOR INSTALLATION OF NEW ALUM. WINDOW SYSTEM
- 09

- REMOVE ALL OBSOLETE COMPONENTS -SEE GENERAL DEMOLITION NOTES
- 10

- REMOVE EXISTING FRAMED WALL INFILL
- 11

- REMOVE EXISTING LOCKERS - SALVAGE & DELIVER TO OWNER
- 12

- REMOVE EXISTING COUNTERTOP & (4) LAVATORIES
- 13

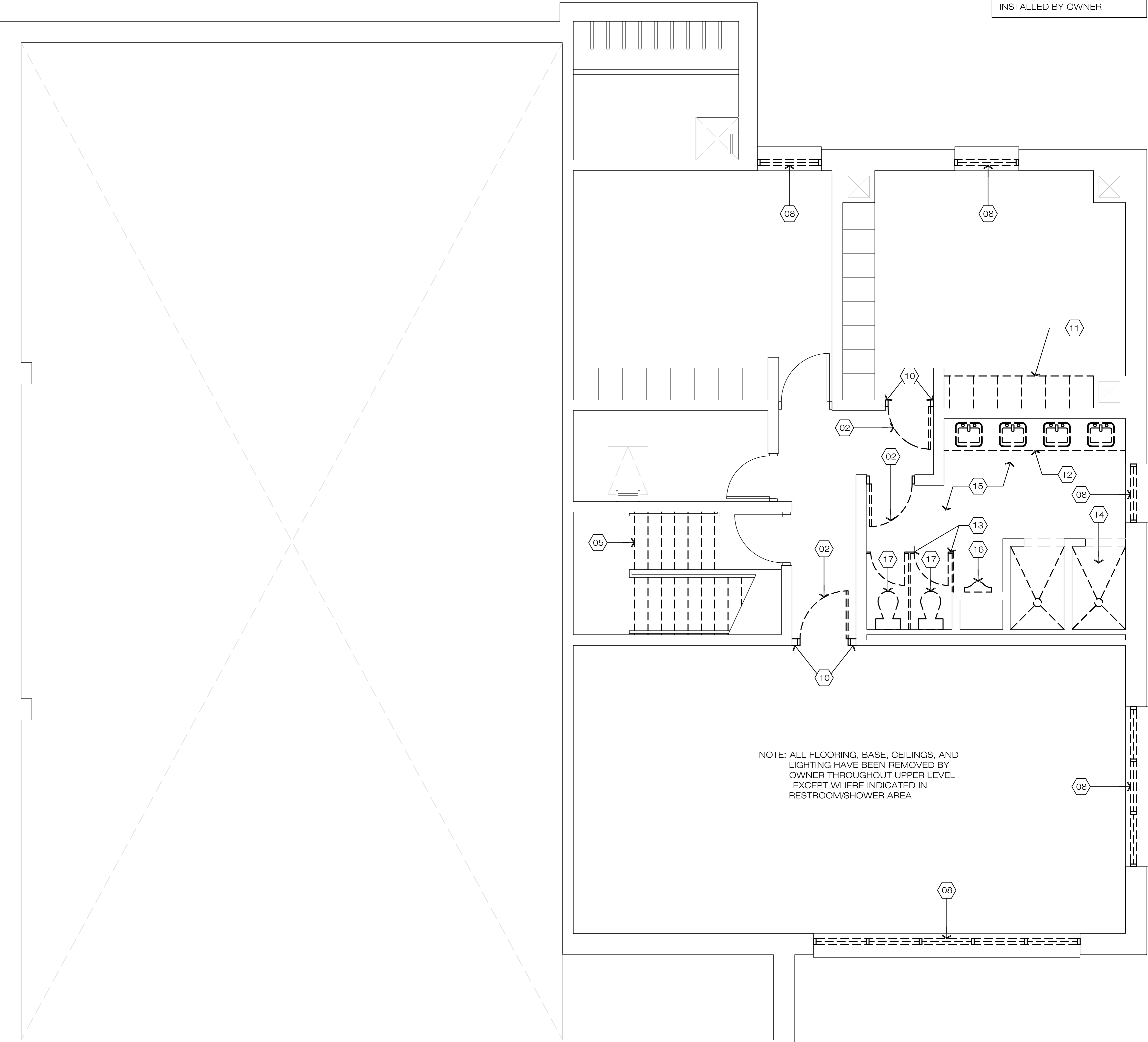
- REMOVE EXISTING RESTROOM PARTITIONS
- 14

- REMOVE EXISTING SHOWER FLOOR & WALL TILE FINISHES
- 15

- REMOVE EXISTING FLOOR TILE & BASE
- 16

- REMOVE EXISTING URINAL
- 17

- REMOVE EXISTING WATER CLOSET



UPPER LEVEL  
DEMOLITION PLAN

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



REVISIONS:

CONSTRUCTION DRAWINGS

MOTTER & MEADOWS  
ARCHITECTS

600 MARKET AVENUE NORTH

CANTON OHIO

44702

CITY OF CANTON

FIRE STATION NO. 8 - RENOVATIONS

CANTON, OHIO

1330 DUEBER AVE SW



DAVID I. PATTERSON  
LICENSE #11150  
EXPIRATION DATE  
12-31-2023

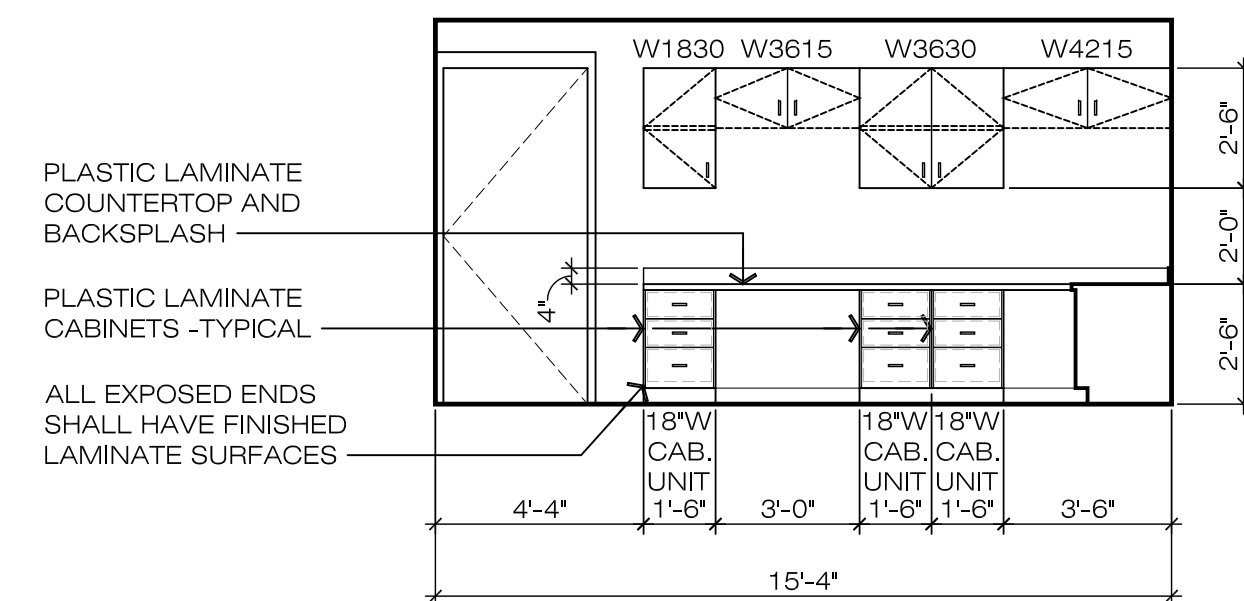
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UPPER DEMOLITION PLAN  
DEMOLITION NOTES

COMM 22155  
DATE 07-17-23

DWG

A-2.2

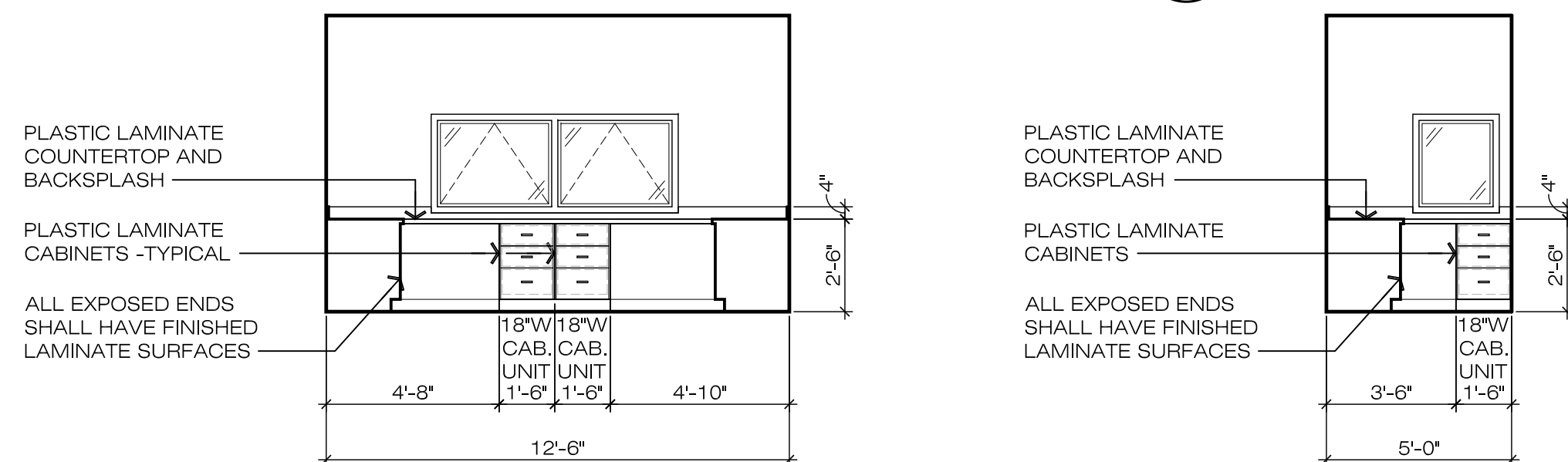




## WATCH ROOM 111

### CASEWORK ELEVATION

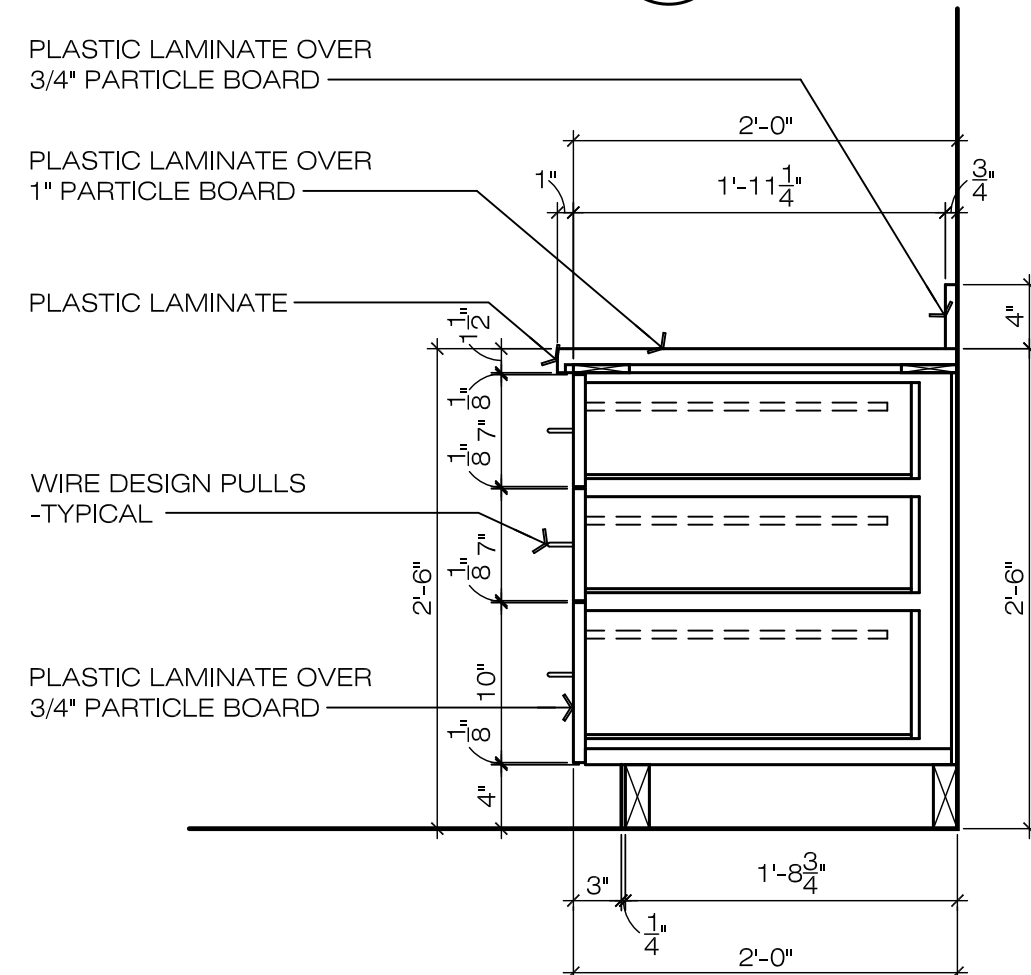
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## WATCH ROOM 111

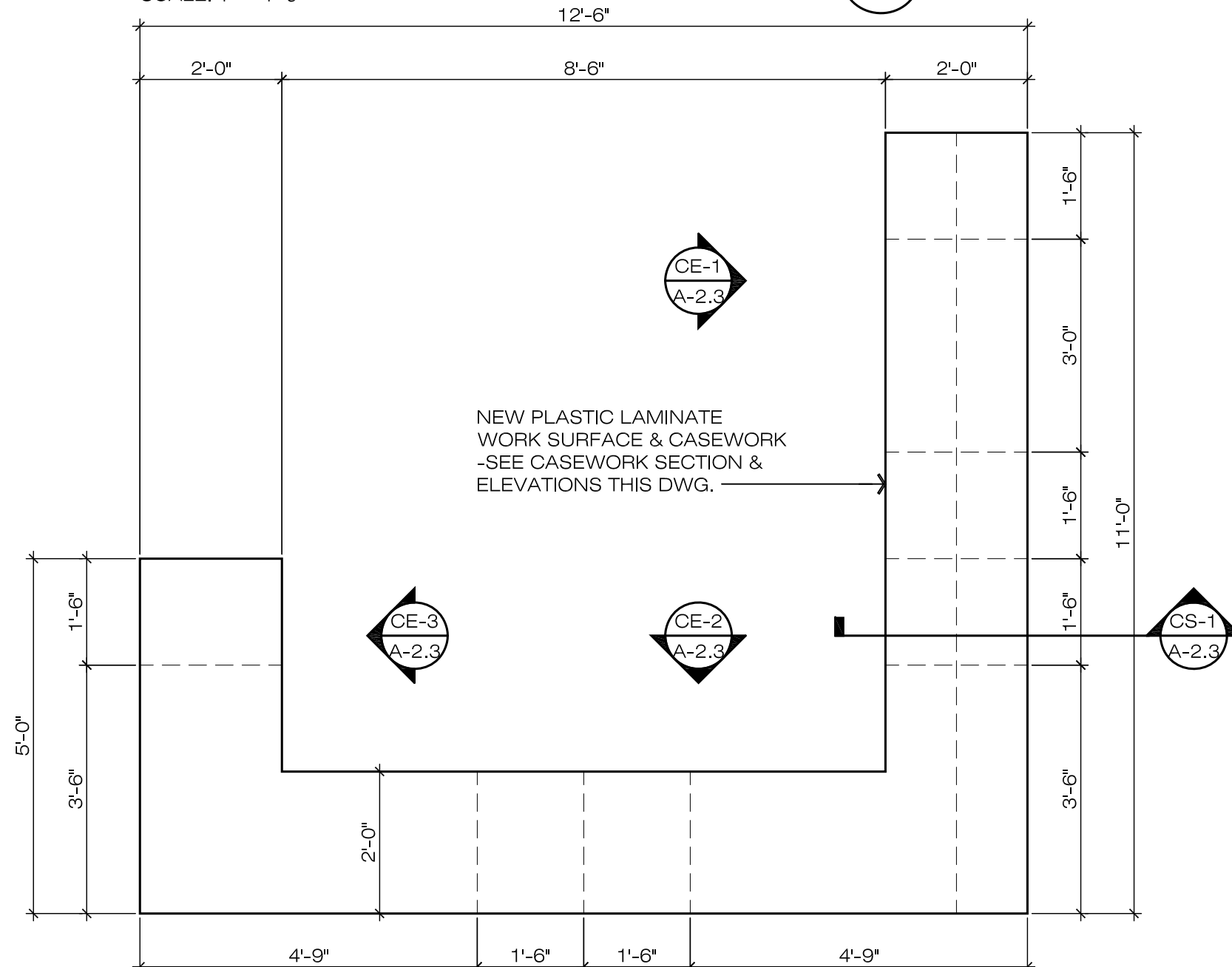
### CASEWORK ELEVATION

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



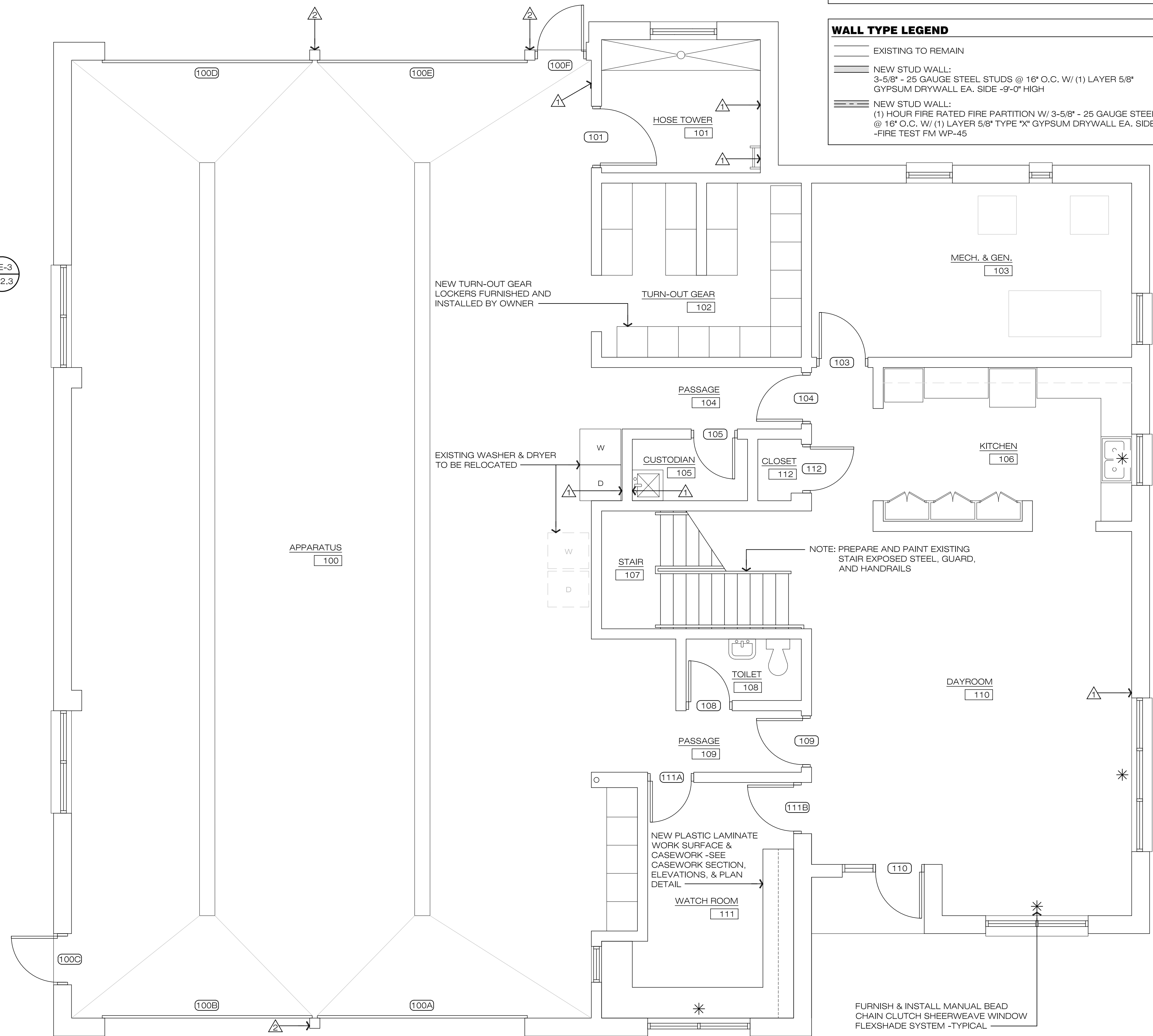
**WATCH ROOM 111  
CASEWORK SECTION**

SCALE: 1" = 1'-0"







## WATCH ROOM 111 FLOOR PLAN DETAIL

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



## STRUCTURAL REPAIRS - KEY NOTES

- |   |  |
|---|--|
|  | CRACKED CMU WALL TO BE REPAIRED W/ SIKA SIKADUR STRUCTURAL EPOXY CRACK FIX OR EQUIVALENT - REMOVE DIRT PRIOR TO APPLICATION OF EPOXY CRACK FIX, APPLY EPOXY UNTIL CRACK IS COMPLETELY FILLED |
|  | EXISTING HSS8x8x1/4 STEEL COLUMN TO BE REPAIRED - SEE DETAILS D-1, D-2, & D-3 ON A-3.2 FOR DEMOLITION & REPAIR @ BASE OF COLUMN  |
|  | DAMAGED DRYWALL TO BE REPLACED W/ NEW 5/8" GYPSUM DRYWALL  |
|  | NEW 1/2" SOLID SURFACE PLASTIC WINDOW SILL - SEE SILL TYPE ST-1/A-2.4  |

## MAIN LEVEL PLAN

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

## GENERAL SCOPE NOTE

GENERAL CONTRACTOR  
SHALL PERFORM ALL WORK  
SHOWN ON THIS DRAWING,  
EXCEPT WHERE INDICATED  
TO BE FURNISHED AND  
INSTALLED BY OWNER

### OWNER PERFORMED SCOPE

1. FURNISH AND INSTALL ALL RESILIENT FLOORING AND BASE THROUGHOUT.
2. FURNISH AND INSTALL ALL BEDROOM WALL FRAMING, INSULATION, AND DRYWALL INSTALLATION/FURNISHING  
-E.C. TO INSTALL ELECTRICAL
3. FURNISH AND INSTALL ALL SUSPENDED ACOUSTICAL CEILING SYSTEM THROUGHOUT. -E.C. TO ROUGH-IN AS INDICATED.
4. FURNISH AND INSTALL ALL 2X2 AND 2X4 LED LIGHT FIXTURES THROUGHOUT. -E.C. TO ROUGH-IN AS INDICATED.

### WALL TYPE LEGEND

- EXISTING TO REMAIN
- NEW STUD WALL:  
3-5/8" - 25 GAUGE STEEL STUDS @ 16" O.C. W/ (1) LAYER 5/8"  
GYPSUM DRYWALL EA. SIDE -9'-0" HIGH
- NEW STUD WALL:  
4" FOUR FIRE RATED FIRE PARTITION W/ 3-5/8" - 25 GAUGE STEEL STUDS  
@ 16" O.C. W/ (1) LAYER 5/8" TYPE "X" GYPSUM DRYWALL EA. SIDE  
-FIRE TEST FM WP-45

REVISIONS:

600 MARKET AVENUE NORTH CANTON OHIO 44702

MOTHER & MEADOWS  
ARCHITECTS

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATIONS  
1330 DUEBER AVE SW  
CANTON, OHIO



DAVID I. PATTERSON  
LICENSE #11150  
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12-31-2023

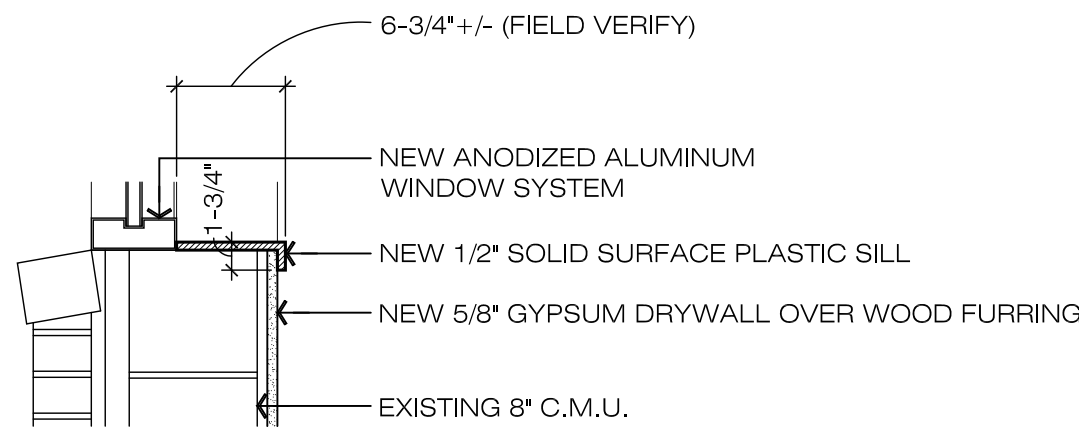
**THIS DWG :**  
MAIN LEVEL PLAN;  
WALL TYPE LEGEND;  
CASEWORK SECTION;  
PLAN DETAIL;  
CASEWORK  
ELEVATIONS

**COMM** 22155  
**DATE** 07-17-23

DWG

**A-2.3**

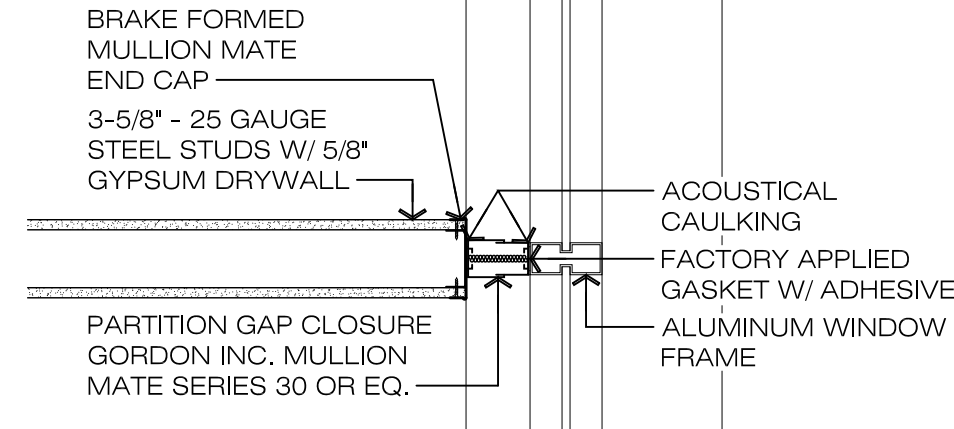
# CONSTRUCTION DRAWINGS



**SILL TYPE 1**

SCALE: 1" = 1'-0"

ST-1  
A-2.4



**WINDOW DETAIL**

SCALE: 1" = 1'-0"

WD-1  
A-2.4

**GENERAL SCOPE NOTE**

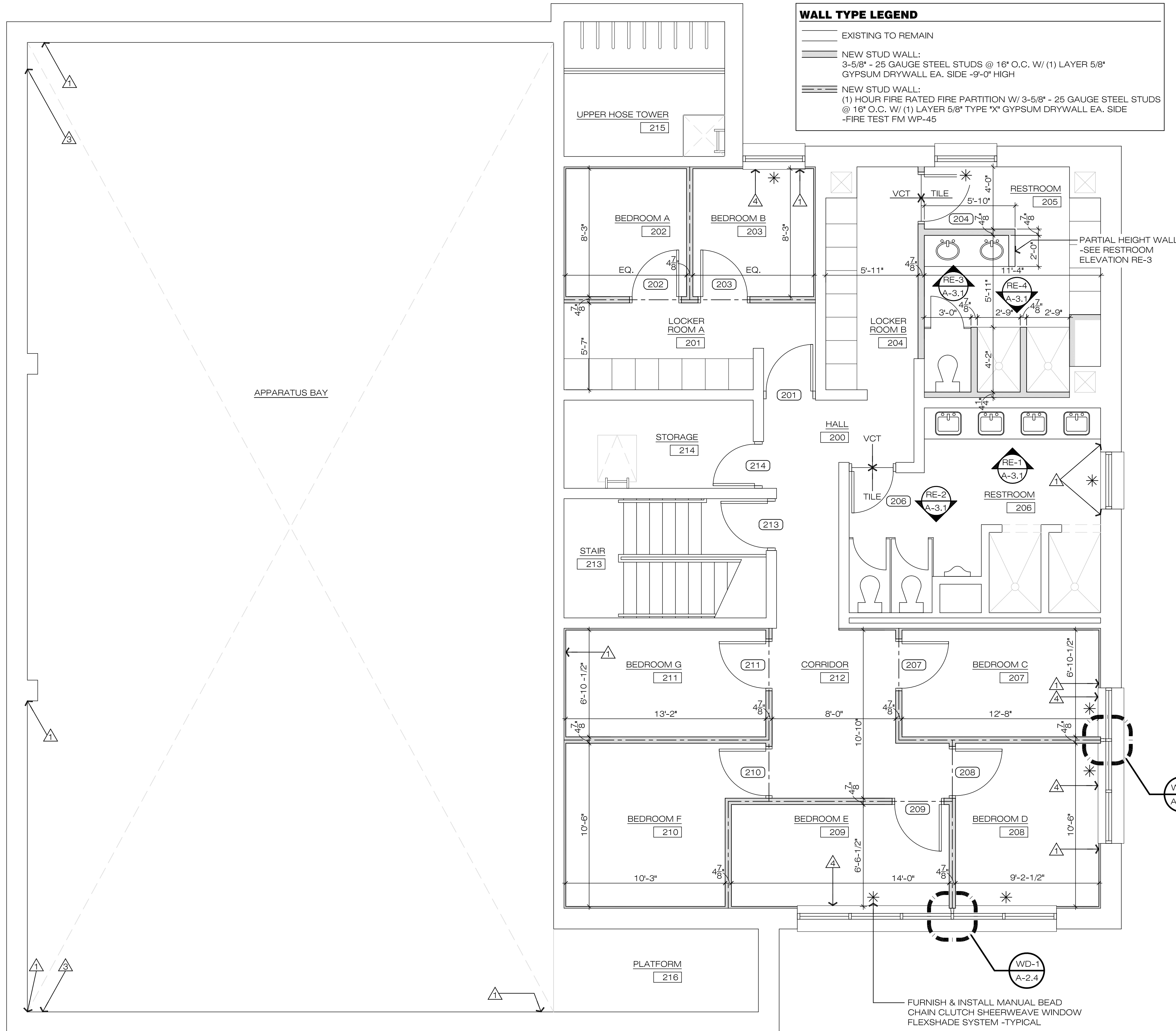
GENERAL CONTRACTOR SHALL PERFORM ALL WORK SHOWN ON THIS DRAWING, EXCEPT WHERE INDICATED TO BE FURNISHED AND INSTALLED BY OWNER

**OWNER PERFORMED SCOPE**

1. FURNISH AND INSTALL ALL RESILIENT FLOORING AND BASE THROUGHOUT.
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-E.C. TO INSTALL ELECTRICAL.
3. FURNISH AND INSTALL ALL SUSPENDED ACOUSTICAL CEILING SYSTEM THROUGHOUT. -E.C. TO ROUGH-IN AS INDICATED.
4. FURNISH AND INSTALL ALL 2X2 AND 2X4 LED LIGHT FIXTURES THROUGHOUT. -E.C. TO ROUGH-IN AS INDICATED.

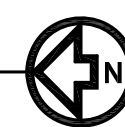
**WALL TYPE LEGEND**

- EXISTING TO REMAIN
- NEW STUD WALL:  
3-5/8" - 25 GAUGE STEEL STUDS @ 16" O.C. W/ (1) LAYER 5/8" GYPSUM DRYWALL EA. SIDE -9'-0" HIGH
- NEW STUD WALL:  
(1) HOUR FIRE RATED FIRE PARTITION W/ 3-5/8" - 25 GAUGE STEEL STUDS @ 16" O.C. W/ (1) LAYER 5/8" TYPE "X" GYPSUM DRYWALL EA. SIDE -FIRE TEST FM WP-45



**UPPER LEVEL PLAN**

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



**STRUCTURAL REPAIRS - KEY NOTES**

- CRACKED CMU WALL TO BE REPAIRED W/ SIKA SIKADUR STRUCTURAL EPOXY CRACK FIX OR EQUIVALENT - REMOVE DIRT PRIOR TO APPLICATION OF EPOXY CRACK FILL, APPLY EPOXY UNTIL CRACK IS COMPLETELY FILLED
- EXISTING HSS8x8x1/4 STEEL COLUMN TO BE REPAIRED - SEE DETAILS D-1, D-2, & D-3 ON A-3.2 FOR DEMOLITION & REPAIR @ BASE OF COLUMN
- DAMAGED DRYWALL TO BE REPLACED W/ NEW 5/8" GYPSUM DRYWALL
- NEW 1/2" SOLID SURFACE PLASTIC WINDOW SILL - SEE SILL TYPE ST-1/A-2.4

CONSTRUCTION DRAWINGS

MOTTER & MEADOWS

ARCHITECTS

600 MARKET AVENUE NORTH CANTON OHIO 44702

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATIONS  
1330 DUEBER AVE SW  
CANTON, OHIO

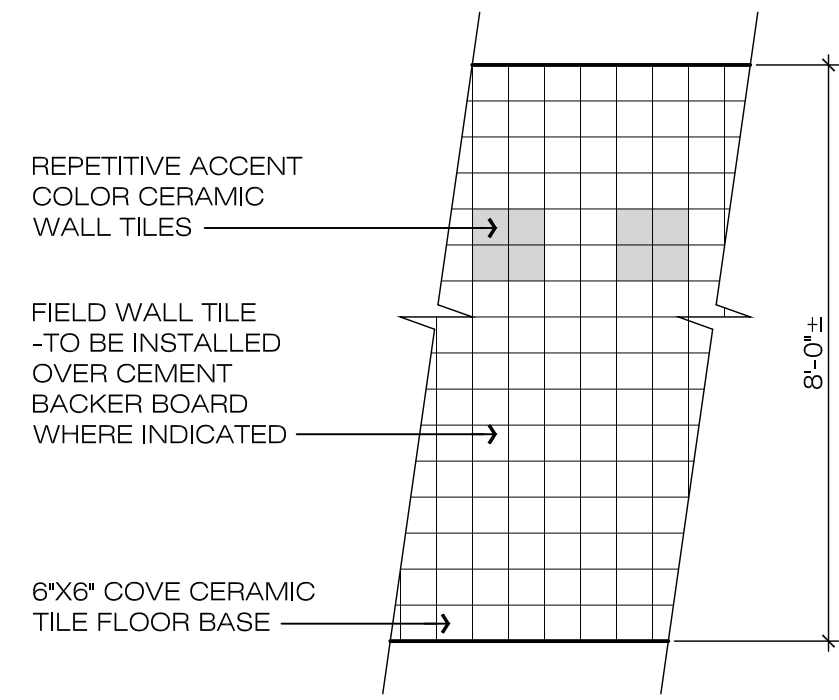


DAVID I. PATTERSON  
LICENSE #11150  
EXPIRATION DATE  
12-31-2023

**THIS DWG :**  
UPPER LEVEL PLAN;  
WALL TYPE LEGEND;  
WINDOW DETAIL;  
SILL TYPE

**COMM** 22155  
**DATE** 07-17-23

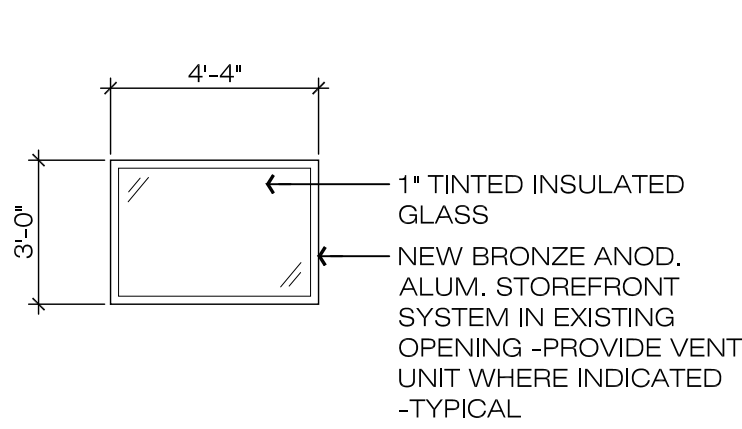
**DWG**  
**A-2.4**



## RESTROOM TILE LAYOUT

SCALE: 3/8" = 1'-0"

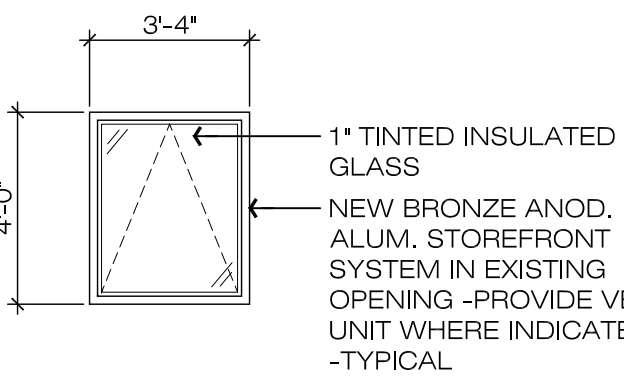
TL-1  
A-3.1



## WINDOW TYPE 1

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

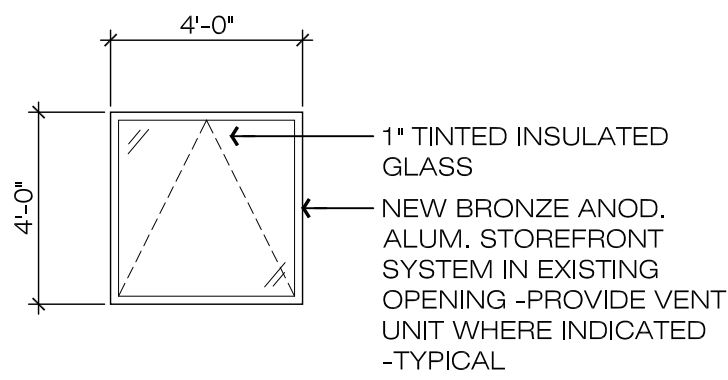
WT-1  
A-3.1



## WINDOW TYPE 2

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

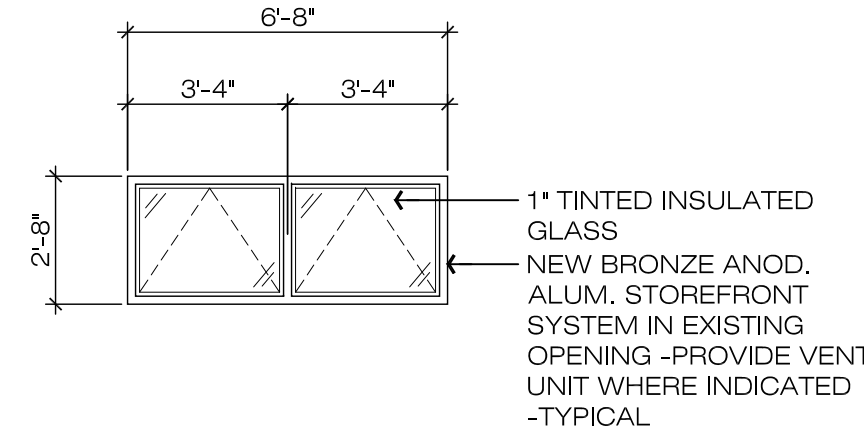
WT-2  
A-3.1



## WINDOW TYPE 3

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

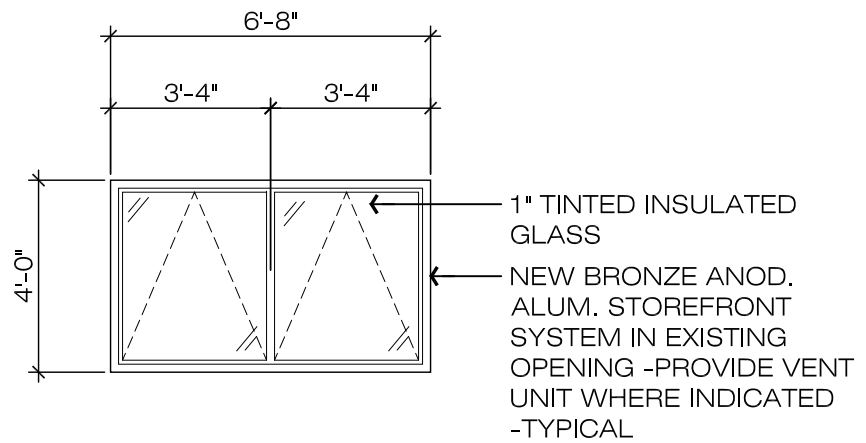
WT-3  
A-3.1



## WINDOW TYPE 4

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

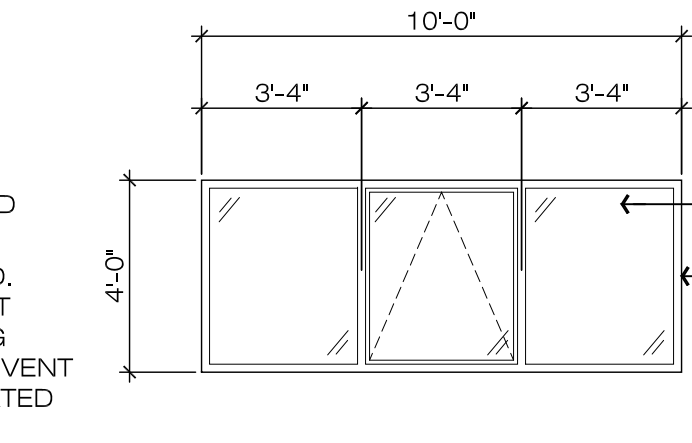
WT-4  
A-3.1



## WINDOW TYPE 5

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

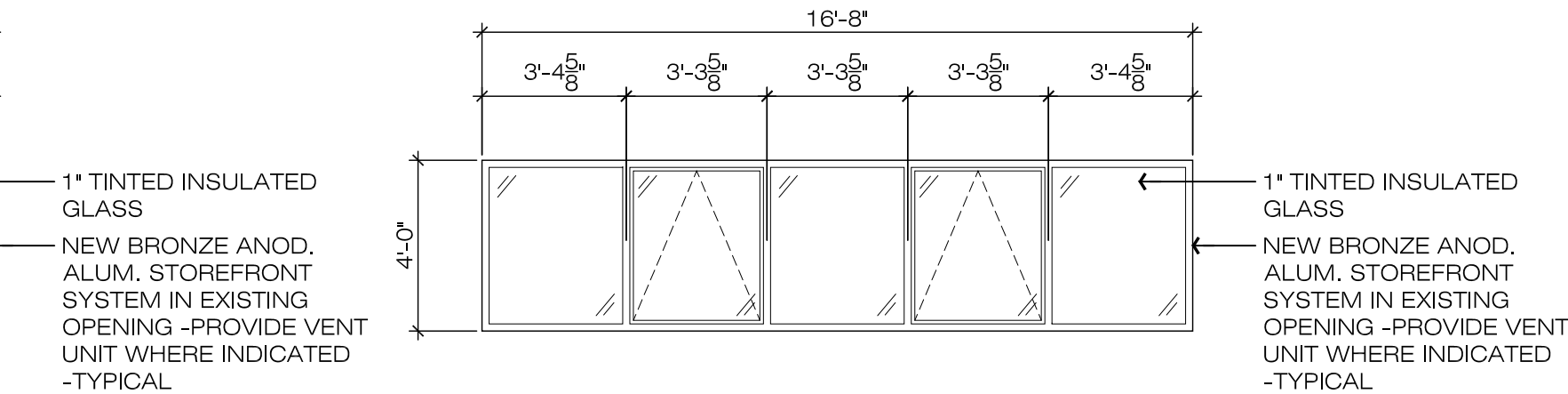
WT-5  
A-3.1



## WINDOW TYPE 6

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

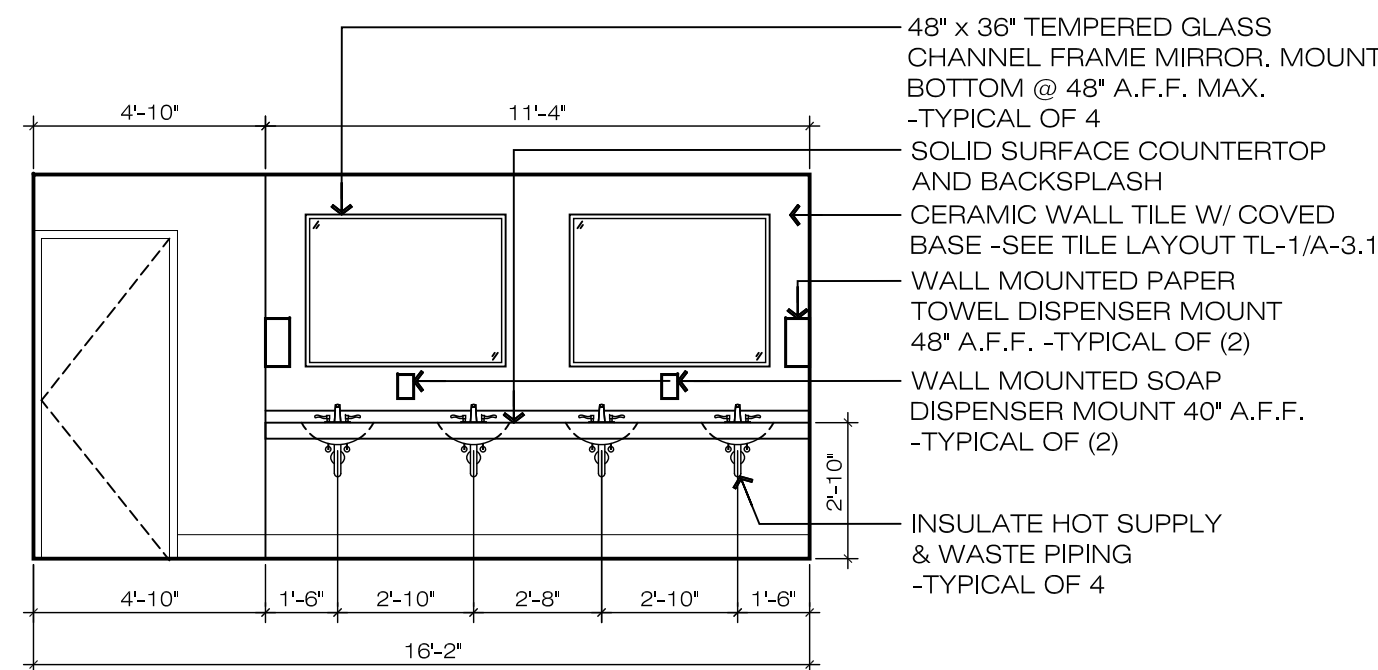
WT-6  
A-3.1



## WINDOW TYPE 7

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

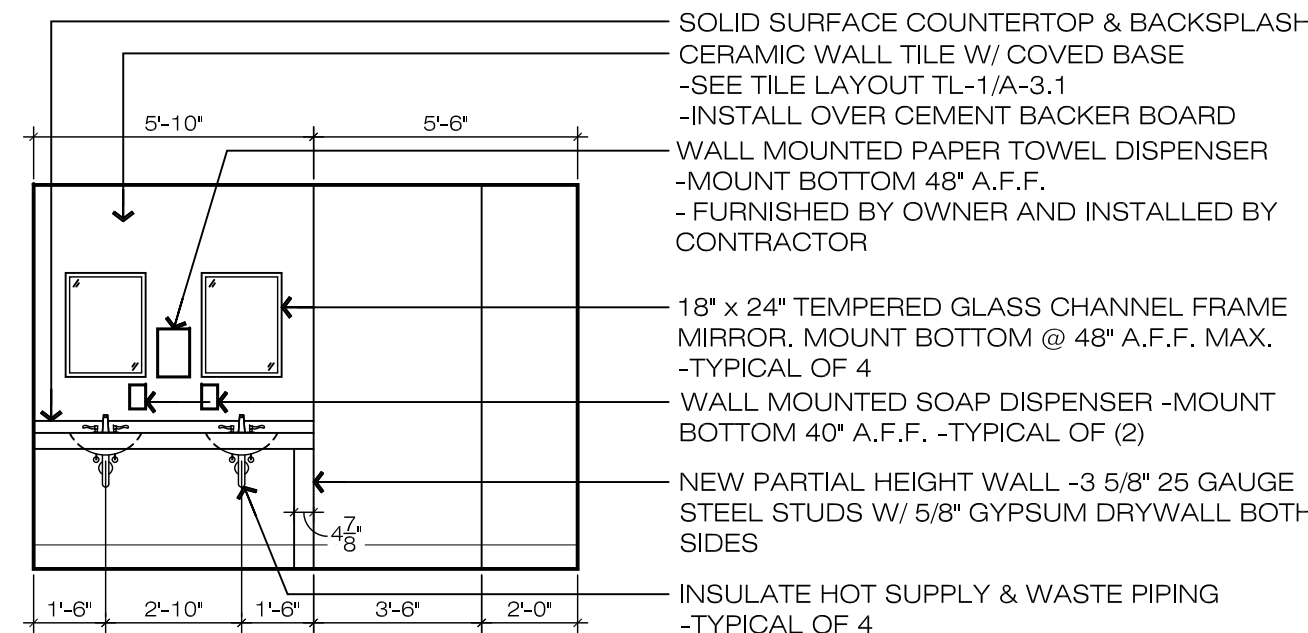
WT-7  
A-3.1



## MEN'S 206 RESTROOM ELEVATION

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

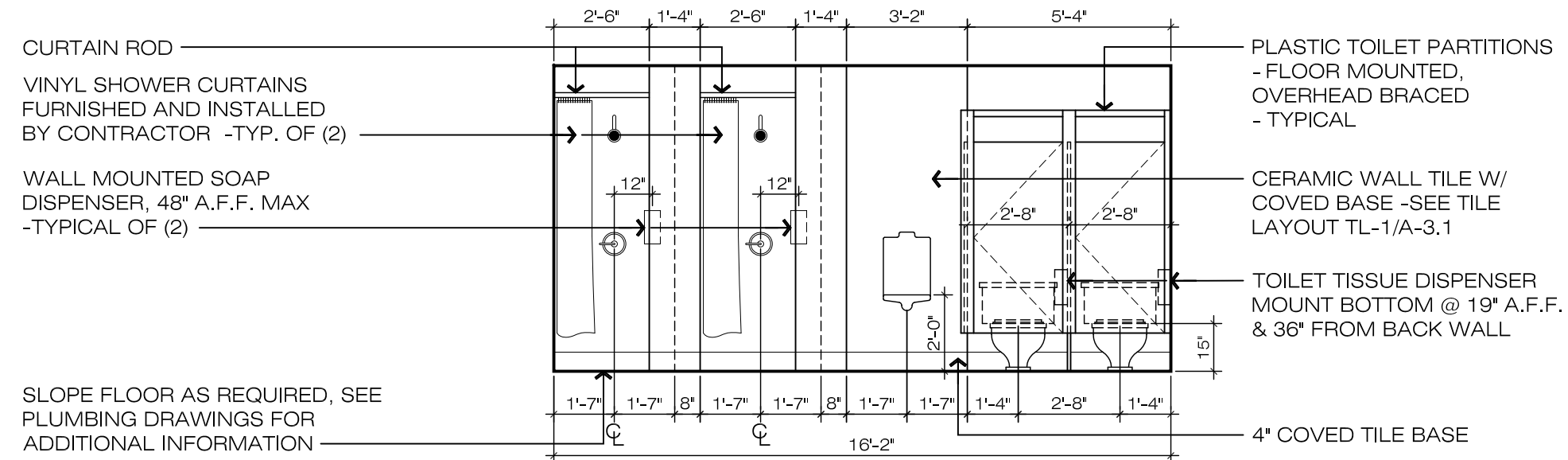
RE-1  
A-3.1



## WOMEN'S 204 RESTROOM ELEVATION

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

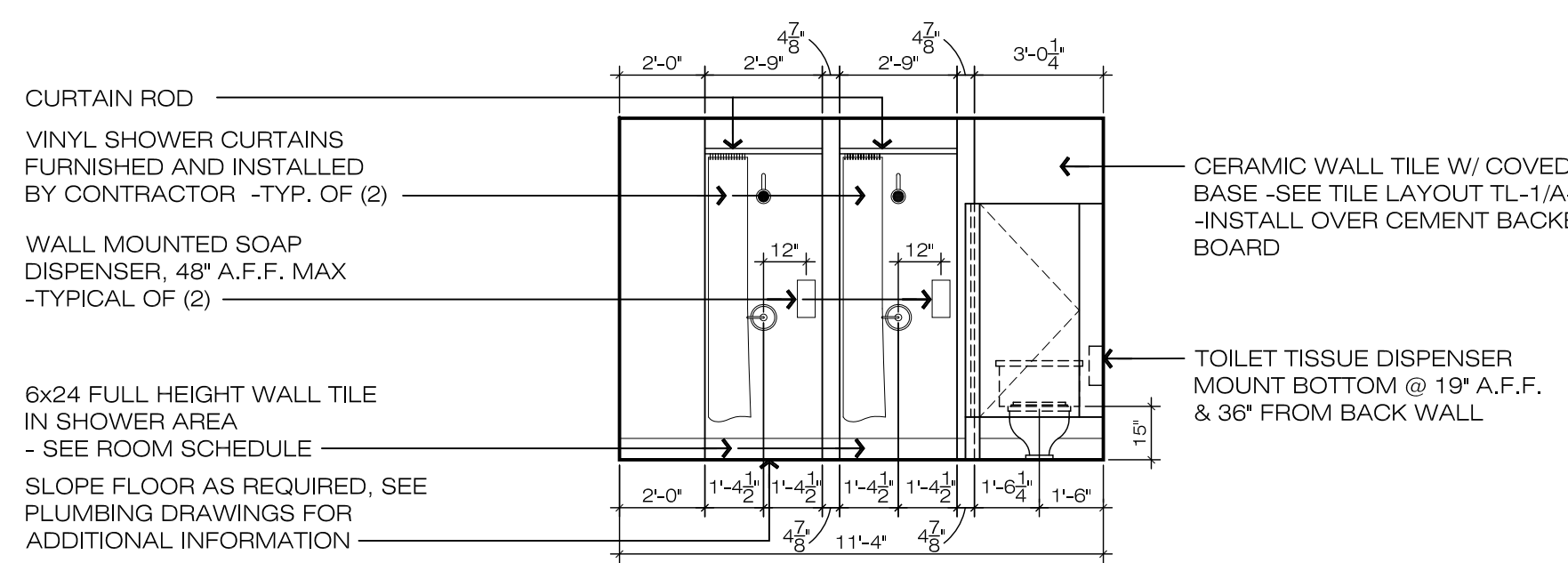
RE-3  
A-3.1



## MEN'S 206 RESTROOM ELEVATION

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

RE-2  
A-3.1



## WOMEN'S 204 RESTROOM ELEVATION

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

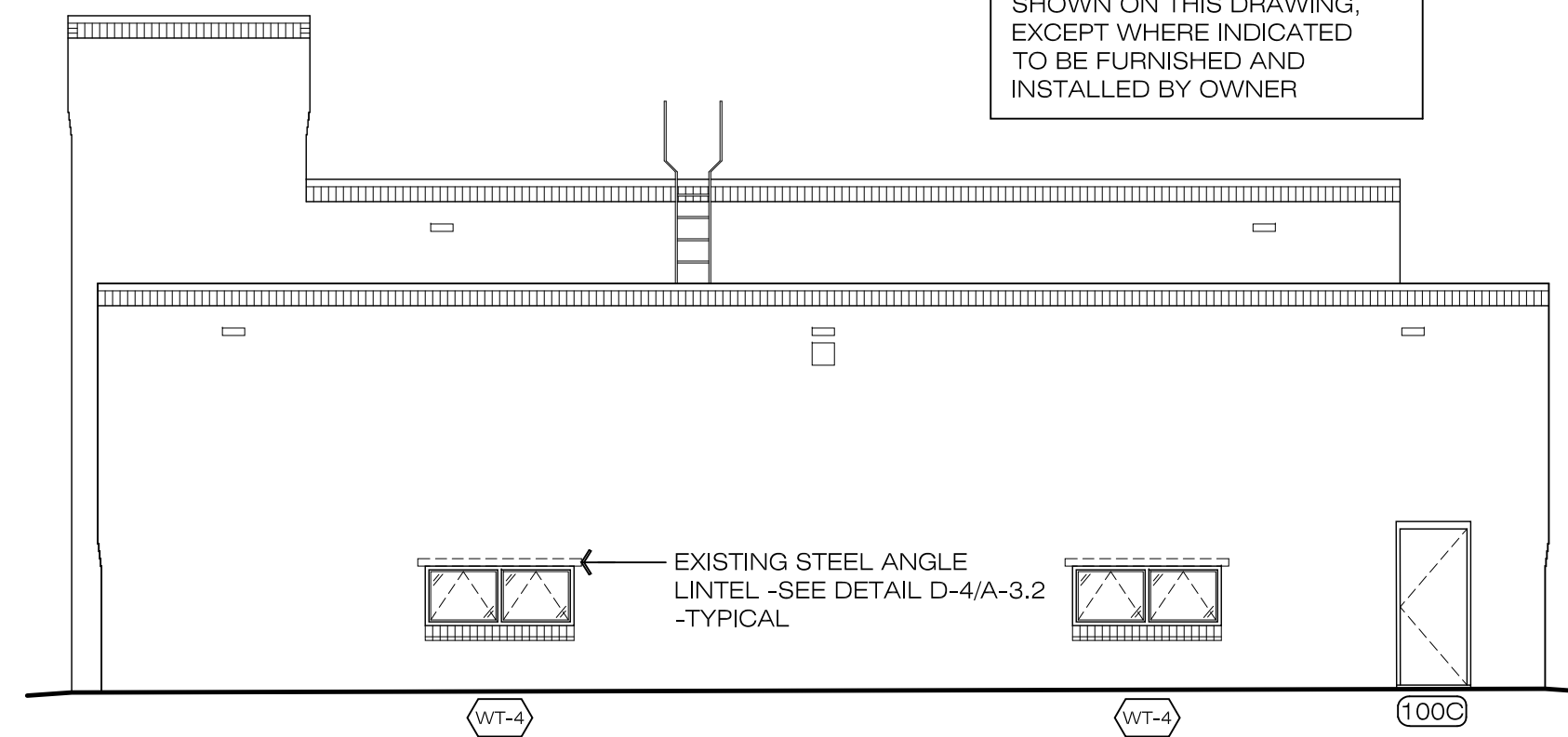
RE-4  
A-3.1

### GENERAL LINTEL REPAIR NOTES

- EXISTING CONDITIONS AS ILLUSTRATED ON THE PLANS ARE ILLUSTRATIVE IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF DEMOLITION WORK. IF CONDITIONS ENCOUNTERED ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL AND STATE PERMITS REQUIRED FOR DEMOLITION WORK.
- THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ARCHITECT AND OWNER FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT, AND/OR EXISTING FACILITIES OCCURRING IN THE COURSE OF THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
- ALL DEMOLITION MATERIALS SHALL BE TAKEN FROM THE SITE IMMEDIATELY (UNLESS OTHERWISE NOTED) AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL LAWS, REGULATIONS, AND ORDINANCES. NO BURNING OF ANY MATERIALS WILL BE ALLOWED ON OR OFF SITE.
- USE SUITABLE METHODS TO LIMIT DUST AND DIRT TO ADJACENT STRUCTURES AND PROPERTY. CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR SHALL PROTECT TREES, LANDSCAPING, SITE IMPROVEMENTS, AND OTHER ITEMS NOT SCHEDULED FOR CLEARING, OR THAT MIGHT BE DAMAGED BY CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR REPAIRING OR REPLACING ANY ITEMS THAT ARE DAMAGED.
- ANY AND ALL DAMAGE TO EXISTING PAVEMENT WITH THE LAYDOWN AREA SHALL BE REPAIRED.
- CONTRACTOR SHALL PERFORM ALL CLEARING, GRUBBING, AND TREE REMOVAL NECESSARY TO PERFORM THE WORK INDICATED HEREIN. CONTRACTOR SHALL LIMIT LAND DISTURBANCE TO ONLY THAT REQUIRED TO COMPLETE THE PROPOSED IMPROVEMENTS.
- ALL EXISTING MASONRY IS TO REMAIN. ALL EXISTING STEEL LINTEL ANGLES AND/OR STEEL BEAM LINTELS AND BOTTOM PLATES ARE TO REMAIN. REMOVE EXISTING DETERIORATED SEALANT BEFORE PAINTING & INSTALLING NEW SEALANT. WIRE BRUSH ALL ACCESSIBLE STEEL SURFACES AND CLEAN PER SSPC-SF2; THEN APPLY 2 COATS SHERWIN-WILLIAMS DURA-PLATE 235 MULTI-PURPOSE EPOXY. (4-8 MILS DRY FINISH THICKNESS EACH COAT) - (EXTERIOR ONLY)

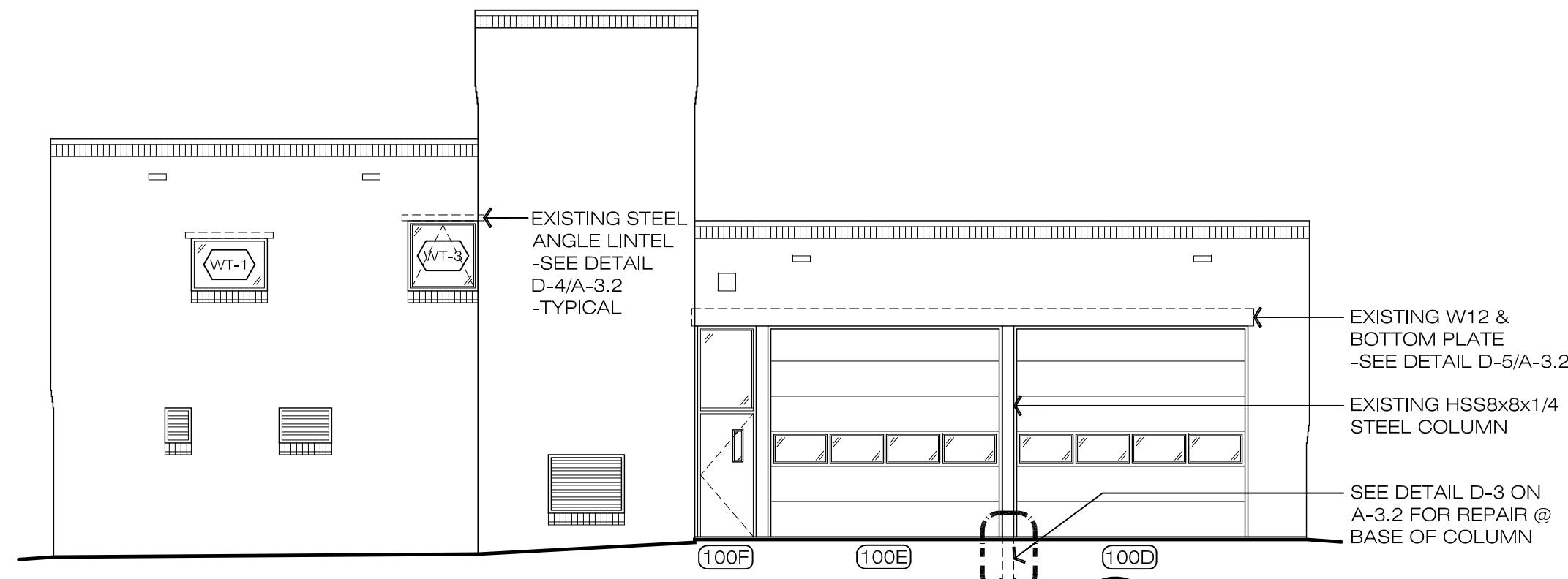
### GENERAL SCOPE NOTE

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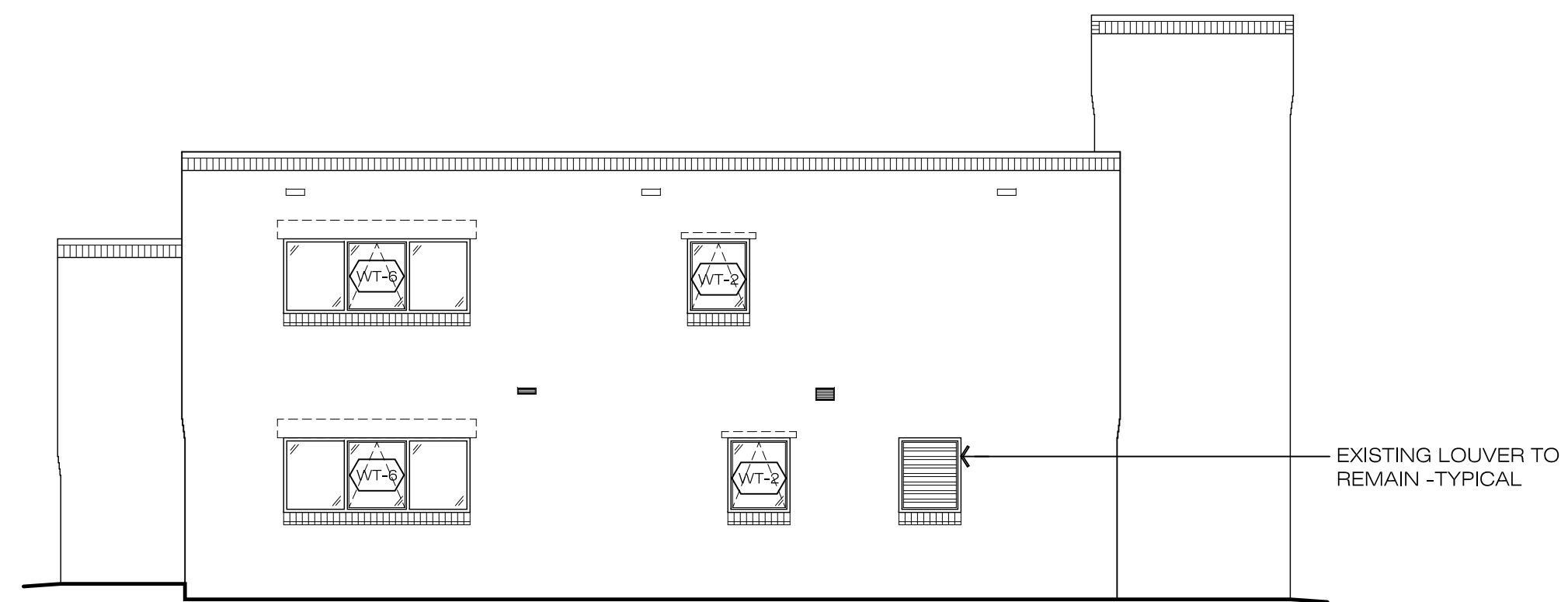
## NORTH ELEVATION

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



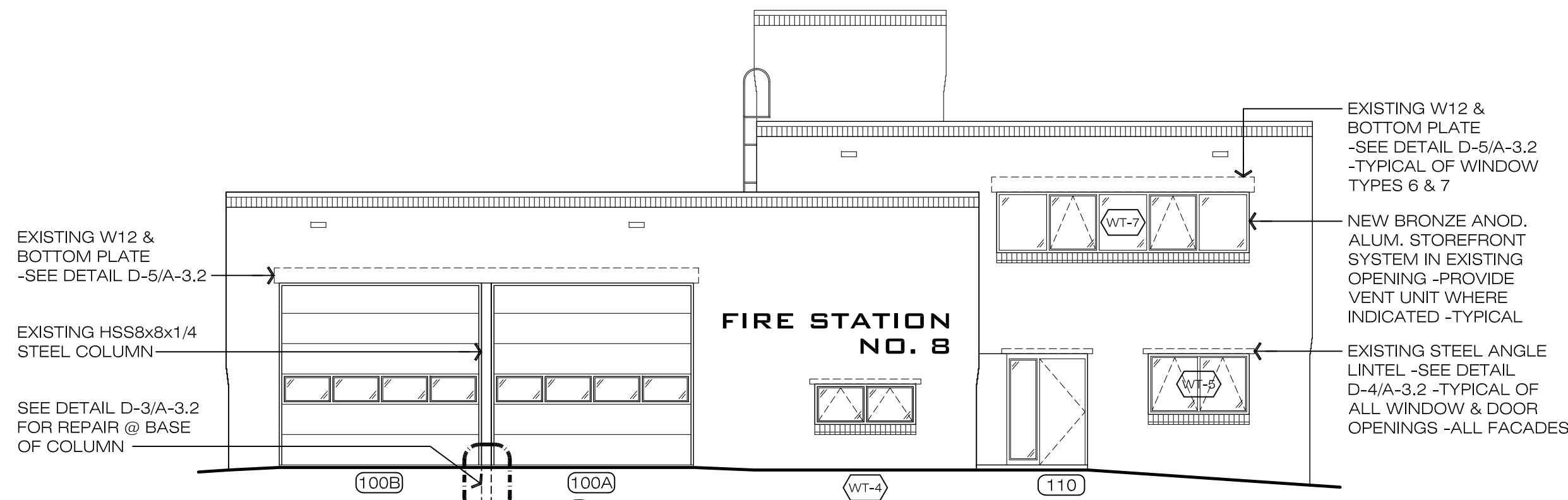
## EAST ELEVATION

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



## SOUTH ELEVATION

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



## WEST ELEVATION

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

REVISIONS:

CANTON OHIO 44702

600 MARKET AVENUE NORTH

MOTTER & MEADOWS  
ARCHITECTS

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATIONS  
1330 DUEBER AVE SW  
CANTON, OHIO

DAVID I. PATTERSON  
REGISTERED ARCHITECT  
LICENSE #11150  
EXPIRATION DATE 12-31-2023

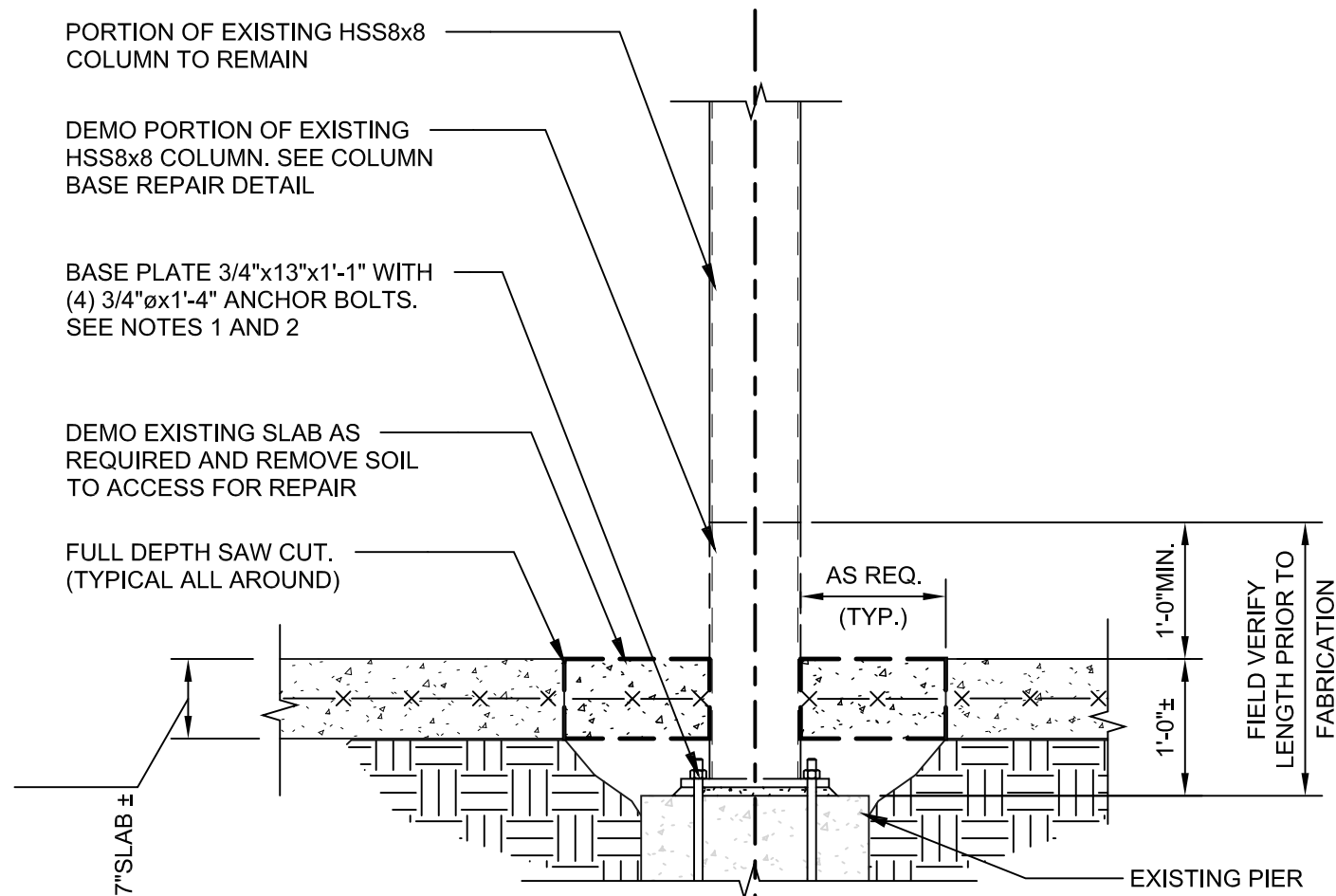
THIS DWG :  
WINDOW TYPES;  
EXTERIOR ELEVATIONS;  
TILE LAYOUT;  
RESTROOM ELEVATIONS

COMM 22155  
DATE 07-17-23

DWG  
A-3.1

CONSTRUCTION DRAWINGS

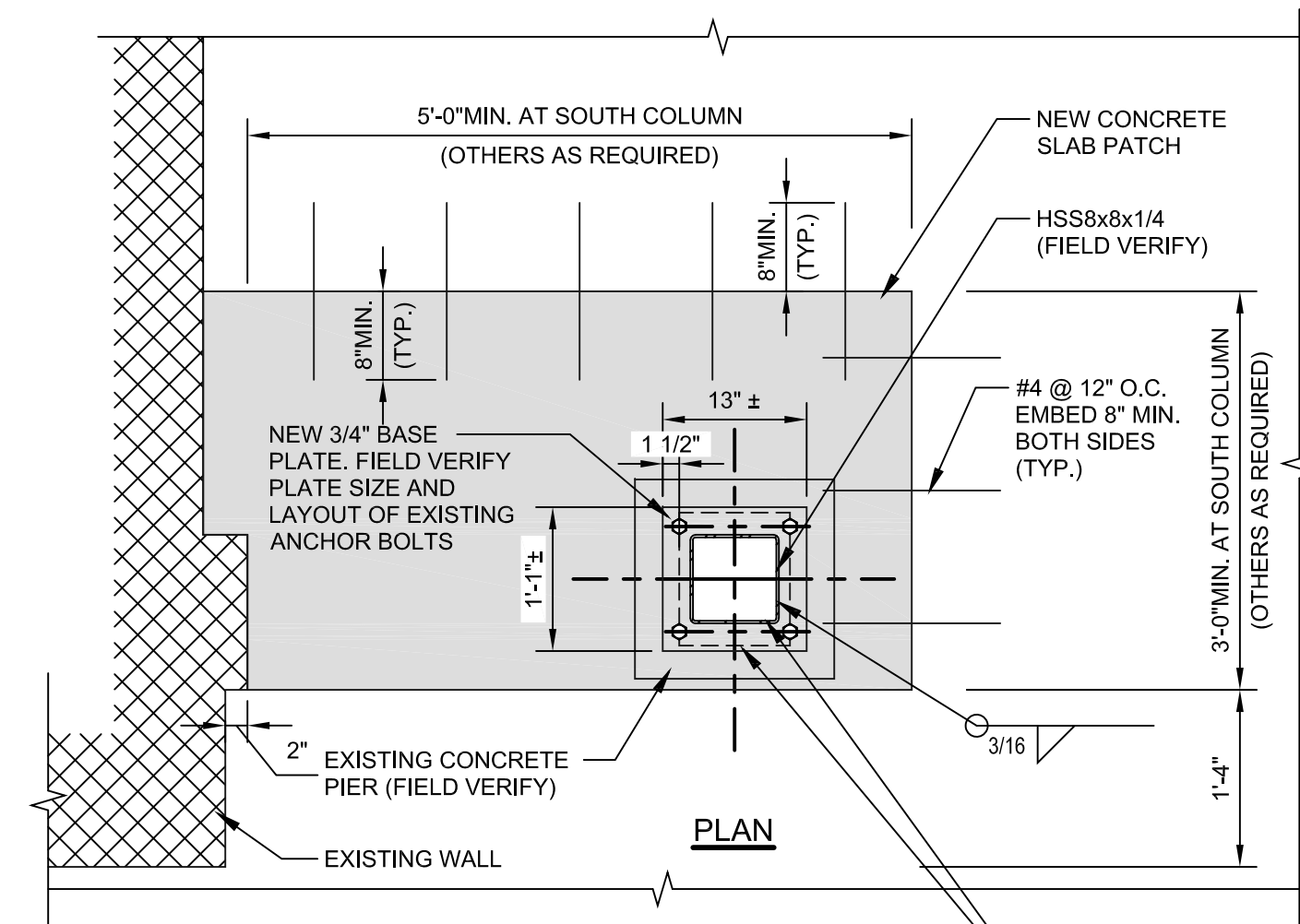




## COLUMN FOOTING DEMOLITION DETAIL

SCALE: 3/4" = 1'-0"

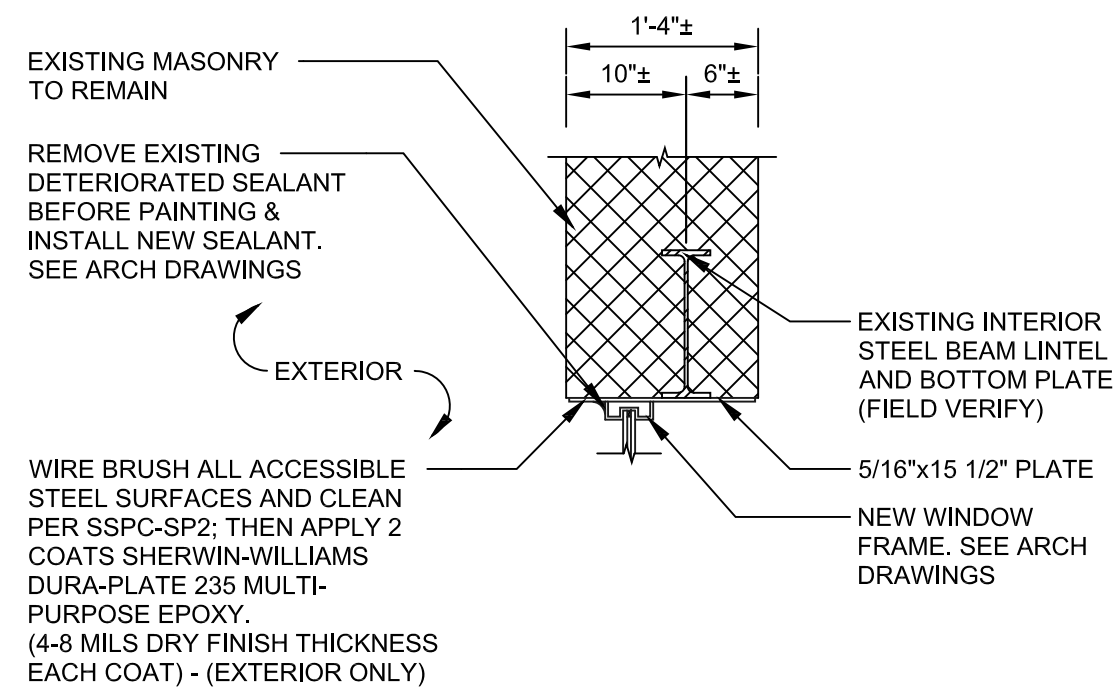
D-2  
A-3.2



## COLUMN BASE REPAIR DETAIL

SCALE: 3/4" = 1'-0"

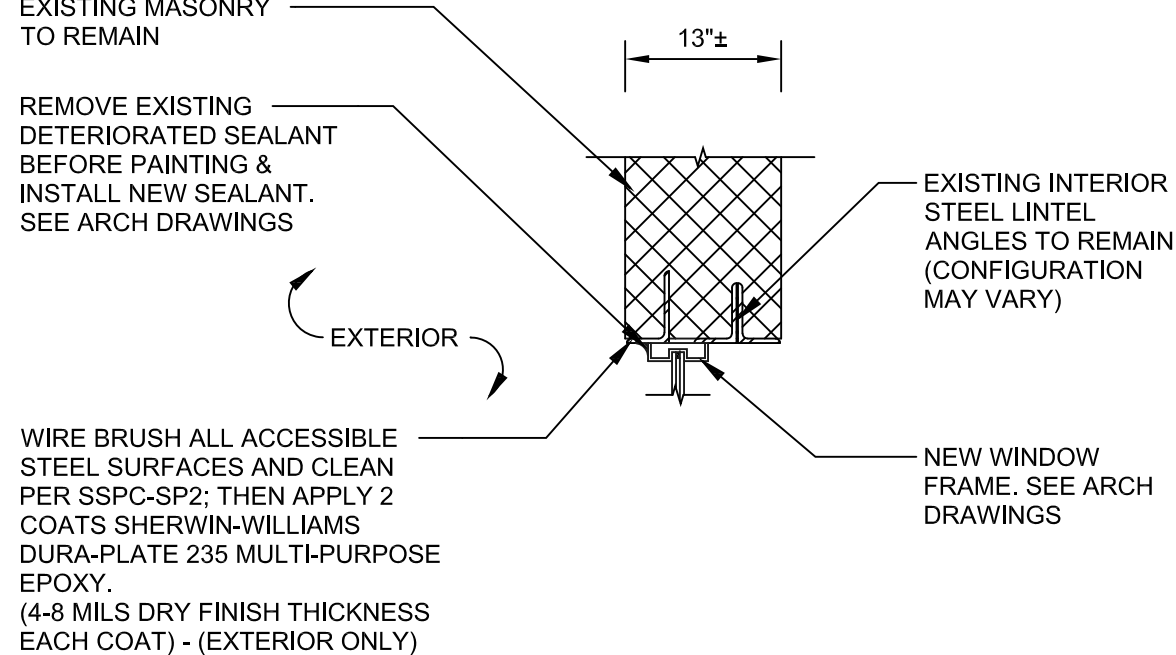
D-3  
A-3.2



## STEEL BEAM LINTEL CLEANING & PAINTING DETAIL

SCALE: 3/4" = 1'-0"

D-5  
A-3.2



## STEEL LINTEL ANGLE CLEANING & PAINTING DETAIL

SCALE: 3/4" = 1'-0"

D-4  
A-3.2

### CODES AND STANDARDS

- New construction has been designed to, and shall be constructed in accordance with the following building codes and standards:
  - 2017 Ohio Building Code (OBC 2017)
  - ASCE 7-10, Minimum Design Loads for Buildings and Other Structures
- Unless explicitly modified in the Contract Drawings and Specifications, the Contractor shall comply with provisions of:
  - AISC 360-10, Specification for Structural Steel Buildings
  - AWS D1.1-10, Structural Welding Code - Steel

### DESIGN LOADS

#### Roof live load

Roof live load	20 psf
Rain Load (OBC 1611.1) ponded water	5 psf min. not critical

#### Roof snow load data

Minimum roof snow load	30 psf
Ground snow load (ASCE 7, Figure 7-1)	$p_g = 20$ psf
Flat-roof snow load (ASCE 7, 7.3)	$p_f = 24$ psf <sup>(1)</sup>
Minimum snow load (ASCE 7, 7.3.4)	$p_{sr} = 24$ psf
Rain-on-snow surcharge (ASCE 7, 7.10)	5 psf
Snow exposure factor (ASCE 7, Table 7-2)	$C_e = 1$
Snow importance factor (ASCE 7, Table 1.5-2)	$I_s = 1.2$
Thermal factor (ASCE 7, Table 7-3)	$C_t = 1$

<sup>(1)</sup> Increased for snow buildup / unbalanced per ASCE 7, 7.6 to 7.9

#### Wind design data

Minimum wind load (Allowable)	20 psf
Less than 50'	$V_{ult} = 120$ mph
Ultimate design wind speed (ASCE 7, Figure 26.5-1)	$V_{des} = 90$ mph
Nominal design wind speed (OBC 1609.3.1)	IV
Risk category (ASCE 7, Table 1.5-1)	B
Exposure category (ASCE 7, 26.7.3)	GC-III
Internal pressure coefficient (ASCE 7, Table 26.11-1)	$GC_{PI} = 0.55 \pm$

#### Earthquake design data

Alterations are in accordance with ASCE 7, Appendix 11B.4. Proposed structural alterations comply with OBC requirements for new structures. Additionally, proposed alterations do not increase the seismic force in any existing structural element by more than 10 percent, nor do they decrease the design strength of any existing structural element to resist seismic forces by more than 10 percent. Therefore, further analysis and design of the existing structure for seismic force-resistance are not required.

### DESIGN STRESSES

Concrete minimum compressive strength in 28 days:	$f'_c = 5,000$ psi
Structural concrete subject to freezing and thawing	$F_y = 60,000$ psi
Reinforcing bars (ASTM A615, Grade 60)	$F_y = 70,000$ psi
Welded wire reinforcement (ASTM A1064)	$F_y = 36,000$ psi
Structural steel other shapes (ASTM A36)	$F_y = 55,000$ psi
Anchor rods (ASTM F1554, Grade 55 weldable)	$F_y = 50,000$ psi
Hollow structural sections (ASTM A500, Grade C)	$F_y = 46,000$ psi
Rectangular	
Round	

### STRUCTURAL TESTING AND SPECIAL INSPECTIONS

Special structural testing and inspections are required. The Owner shall hire an approved independent testing agency. The agency shall be designated as the special inspector and shall provide structural testing and special inspections as required by the building code and as noted in the Contract Documents. Reports of inspection and testing shall be sent to the Architect, Engineer, Owner, Contractor, and Building Department. Structural testing and special inspection shall include:

- Concrete: mix data, daily pour reports, cylinder tests, slump, entrained air tests, and temperature.
- Reinforcement: placement, type, size, and grade of steel.
- Structural steel: welding and bolting in the shop and field. See specifications for all testing and inspection requirements.
- Earth Fill: certification of all fill material and in-place density tests.

### GENERAL

- All new construction shall comply with the Contract Documents and the Building Code.
- Typical details and general notes apply to all parts of the work except where specifically detailed or unless otherwise noted.
- The structural drawings illustrate structural members. Refer to architectural, mechanical, and electrical drawings for non-structural items which require special provisions during the construction of the structural members.
- Drawings are not to be scaled.
- Refer to architectural plans for floor depressions, openings, slopes, drains, curbs, pads, embedded items, non-bearing partitions, etc. Refer to mechanical and electrical plans for sleeves, openings, and hangers for pipes, ducts, and equipment.
- No pipes or ducts shall be embedded into structural members unless so shown on the plans or approved by the Engineer.
- The Contractor shall verify and be responsible for all dimensions and conditions which impact the work. Field verify sizes, elevations, hole locations, etc., prior to fabrication.
- The Contractor shall carefully review the drawings to identify the scope of work required, visit the site to relate the scope of work to existing conditions and determine the extent to which those conditions and physical surroundings will impact the work.
- Existing conditions as shown on these plans are for reference only. The Contractor is required to field verify all existing conditions prior to construction.
- Locate existing underground utilities in areas of construction. Coordinate with utility companies for any shut-off requirements of still active lines.
- The Contractor shall resolve any conflicts on the drawings or in the specifications with the Architect/Engineer before proceeding with the work.
- Any deviation, modification, or substitution from the approved set of structural drawings shall be submitted to the Owner, Architect, and Engineer for review/approval prior to its use or inclusion on the shop drawings.
- The Contractor shall provide all necessary shores, braces, and guys required to support all loads to which the building structure and components, soils, other structures, and utilities may be subjected during construction. Shoring systems shall be designed, signed, and sealed by a professional engineer licensed in the jurisdiction where the project is located.
- The Contractor shall provide means, method, techniques, sequence, and procedure of construction as required.
- The Contractor shall protect all work, materials, and equipment from damage and shall provide proper storage facilities for materials and equipment during construction.
- Site visits performed by the Architect/Engineer do not constitute inspections of means and methods of construction performed by the Contractor.
- Structural observations performed by the Architect/Engineer during construction are not the continuous and special inspection services and do not waive the responsibility for the inspections required of the Building Department Inspector or the testing agency. Observations also do not guarantee the Contractor's performance and shall not be considered as supervision of construction.
- The Contractor shall review shop drawings for completeness and compliance with contract documents. The Contractor shall stamp shop drawings prior to submission to the Architect and Engineer.
- Review of the shop drawings by the Architect's Engineers shall not be construed as an authorization to deviate from the Contract Documents.
- Shop drawings will not be processed if they are incomplete, lack coordination with relevant portion of contract documents, lack calculations if required, or if deviations, modifications, and substitutions are indicated without prior written approval from the Architect/Engineer.

### DEMOLITION

- Notify all local agencies having jurisdiction.
- Demolition procedures, shoring requirements, sequence techniques, etc., either given in or implied by these drawings, are suggestions only. Contractor shall retain, at his own expense, a professional engineer licensed in the jurisdiction where the project is located to determine all construction phase requirements. Contractor shall submit drawings, signed and sealed by his Engineer, to the Owner and Engineer for concept review and record purposes. Contractor shall be solely responsible for the protection, stability, etc., of existing and new structures during execution of the work.
- Before undertaking any demolition work, ascertain the existing conditions of the properties and buildings adjoining or in close proximity to the premises by survey.
- Contractor shall perform all work in such a manner as to protect existing and adjacent structures and be responsible to properly repair any damage that occurs as a result of his work. Contractor shall repair all damage to streets, sidewalks, utility lines, or any other public or private properties resulting from the execution of the work at no cost to the Owner or Engineer.
- Cease operations and notify Owner and Engineer immediately if safety or integrity of structure appears to be endangered. Properly brace and support structure before resuming operations.
- Notify Owner and Engineer immediately if any portion of existing structure which is not to be demolished is damaged. Contractor shall pay for all repair costs, including design and inspection expenses.
- Do not cut or alter any structural members without written authorization of the Engineer unless indicated on the structural drawings.
- Do not allow resulting debris to accumulate. Dispose of this material in a legal manner.

### TEMPORARY SHORING AND BRACING

- Structure is designed to be self-supporting and stable after the building is fully completed.
- Each contractor shall be responsible for erection procedures and sequence, shall maintain stability of the building and its component parts, and shall be responsible for adequacy of temporary or incomplete construction and connections during erection. Such responsibilities include, but are not limited to: addition of shoring as required to support forms, decks, columns, walls, and other elements as required during construction, sheeting, temporary connections, bracing, guys, or tie-downs necessary to maintain stability of parts, subassemblies, or all of the structure. Contractor shall assume full design responsibility for temporary shoring and bracing, which shall be designed, signed, and sealed by a professional engineer licensed in the jurisdiction where project is located.
- Temporary shoring shall be maintained throughout construction and shall be removed only after completion of all required supporting elements.
- Remove any remaining temporary shoring after construction is complete.

### CONCRETE CONSTRUCTION

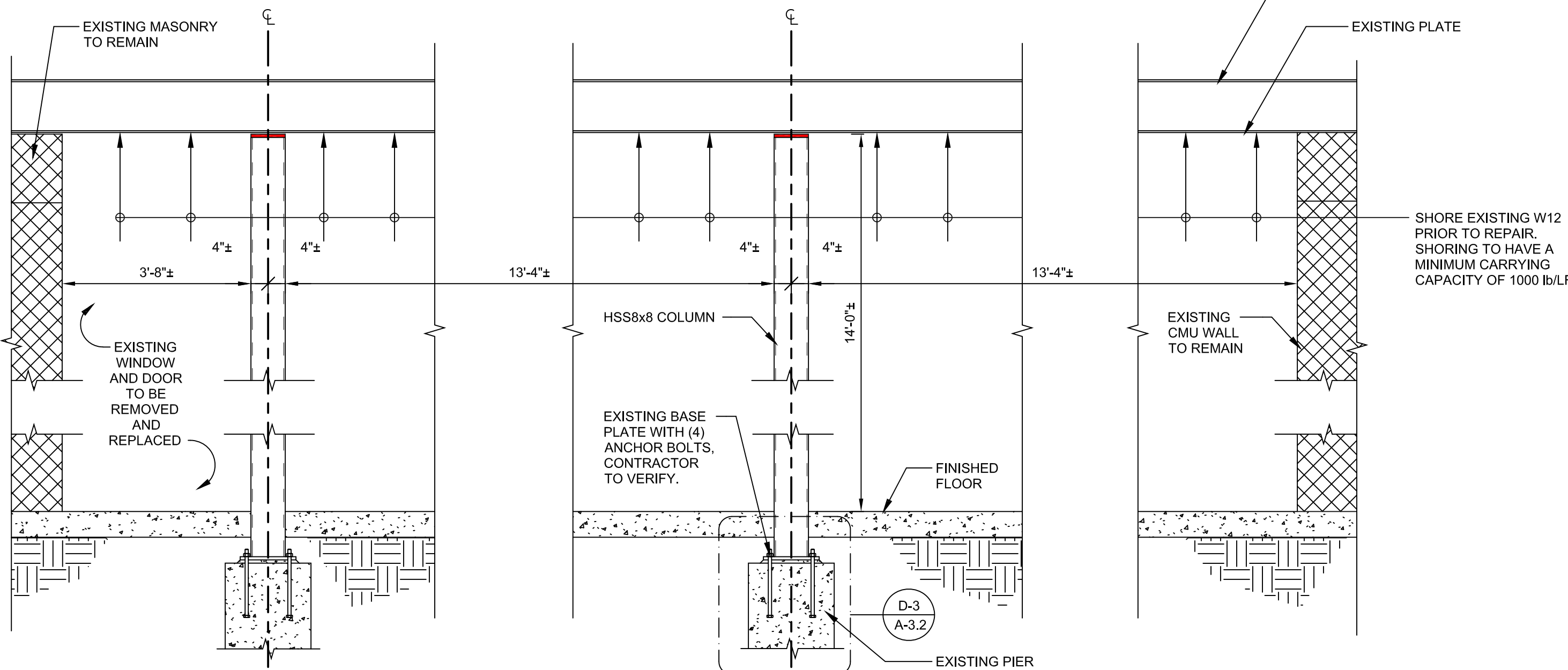
- Unless noted otherwise in project specifications or drawings, all exposed concrete subjected to freezing and thawing shall have a minimum cement content of 610 pounds per yard, a maximum water/cement ratio of 0.40, and 6%±1.5% of entrained air.

Bar Size	Class B Tension Lap Splice					
	$f'_c = 3,000$ psi		$f'_c = 4,000$ psi		$f'_c = 5,000$ psi	
	Top	Other	Top	Other	Top	Other
#3	28"	22"	24"	19"	22"	17"
#4	37"	29"	33"	25"	29"	23"
#5	47"	36"	41"	31"	36"	28"
#6	56"	43"	49"	37"	43"	34"
#7	81"	63"	71"	54"	63"	49"
#8	93"	72"	81"	62"	72"	56"
#9	105"	81"	91"	70"	81"	63"
#10	118"	91"	102"	79"	92"	70"
#11	131"	101"	113"	87"	102"	78"

Bar Size	Class A Development Length, $l_d$					
	$f'_c = 3,000$ psi		$f'_c = 4,000$ psi		$f'_c = 5,000$ psi	
	Top	Other	Top	Other	Top	Other
#3	22"	17"	19"	15"	17"	13"
#4	29"	22"	25"	19"	23"	17"
#5	36"	28"	31"	24"	28"	22"
#6	43"	33"	37"	29"	34"	26"
#7	63"	48"	54"	42"	49"	38"
#8	72"	55"	62"	48"	56"	43"
#9	81"	62"	70"	54"	63"	48"
#10	91"	70"	79"	61"	70"	54"
#11	101"	78"	87"	67"	78"	60"

### STRUCTURAL STEEL WELDING

- All welding shall be in strict conformance with the latest building code and AWS D1.1.
- The Contractor shall provide welding procedure specification (WPS) and detailed sequence of welding sketch for review and approval prior to starting of fabrication. The sequence of welding shall be planned to minimize locked-in stresses and distortion.
- All welding electrodes (filler metal) shall be E70XX (70 ksi), unless otherwise noted. Complete penetration groove welds shall have filler metal with Charpy V-notch toughness of 20 ft.-lbs. average at 40° F.
- Certify conformance to Charpy V-notch toughness requirements with tests by an independent testing laboratory for each AWS classification, manufacturer, and trade name. The sizes as specified by AWS shall be tested.
- Welders shall be qualified and certified for the work they will be performing and shall have current certifications.
- All partial and full penetration welds which are exposed to view shall be ground smooth and flush with finish surface of steel. Holes shall be filled with weld metal or body solder and smoothed by grinding or filing.
- Clean groove preparation thermal cuts by grinding.
- Welds shall be terminated at the end of a joint in a manner that will ensure sound welds. Whenever necessary, this shall be done by the use of extension bars and run-off tabs.
- To assure the proper amperage and voltage of the welding process, a hand-held calibrated amp and volt meter shall be used. This equipment shall be used by the fabricator, erector, and inspectors. Amperage and voltage shall be measured at the arc with this equipment. Travel speed and electrode stick out shall be verified to be in compliance with the electrode manufacturer's recommendations and with the approved WPS.



## EXISTING BEAM SHORING DETAIL

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

D-1  
A-3.2

### REVISIONS:

### GENERAL SCOPE NOTE

GENERAL CONTRACTOR SHALL PERFORM ALL WORK SHOWN ON THIS DRAWING, EXCEPT WHERE INDICATED TO BE FURNISHED AND INSTALLED BY OWNER

MOTTED MEADOWS  
ARCHITECTS

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATIONS  
1330 DUEBER AVE SW



THIS DWG :  
GENERAL NOTES;  
DETAILS

COMM 22155  
DATE 07-17-23

DWG  
A-3.2

600 MARKET AVENUE NORTH CANTON OHIO 44702

CONSTRUCTION DRAWINGS

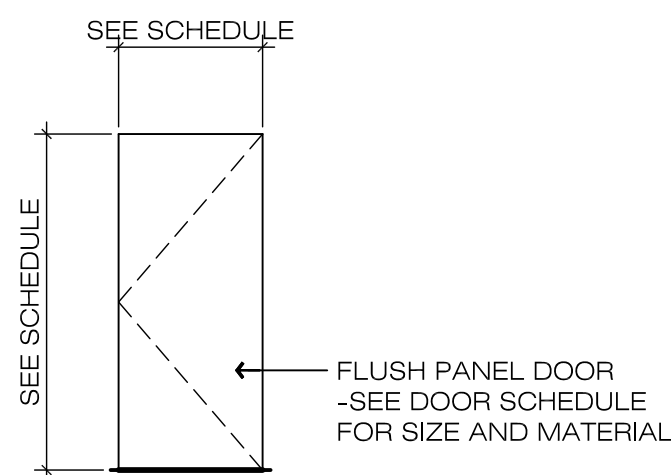


ROOM FINISH SCHEDULE									
ROOM		FLOOR	BASE	WALLS	CEILING		NOTES		
NO.	NAME	MATERIAL	MATERIAL	MATERIAL	MATERIAL	HEIGHT			
100	APPARATUS	VINYL COMPOSITION TILE -BY OWNER							
101	HOSE TOWER	CERAMIC TILE							
102	GEAR		EXISTING TO REMAIN	RUBBER TREADS AND RISERS					
103	MECH. & GEN.		SEALED CONCRETE						
104	PASSAGE		4" COVE RUBBER: FB-1 BY OWNER						
105	CUSTODIAN		8" COVE RUBBER: FB-2 BY OWNER						
106	KITCHEN		COVE TILE: FB-2						
107	STAIR		EXISTING TO REMAIN						
108	TOILET		GYPSUM DRYWALL -BY CONTRACTOR						
109	PASSAGE								
110	DAYROOM								
111	WATCH ROOM								
112	CLOSET								
200	HALL								
201	LOCKER ROOM A								
202	BEDROOM A								
203	BEDROOM B								
204	LOCKER ROOM B								
205	RESTROOM								
206	RESTROOM								
207	BEDROOM C								
208	BEDROOM D								
209	BEDROOM E								
210	BEDROOM F								
211	BEDROOM G								
212	CORRIDOR								
213	STAIR								
214	STORAGE								
215	UPPER HOSE TOWER								
216	PLATFORM								

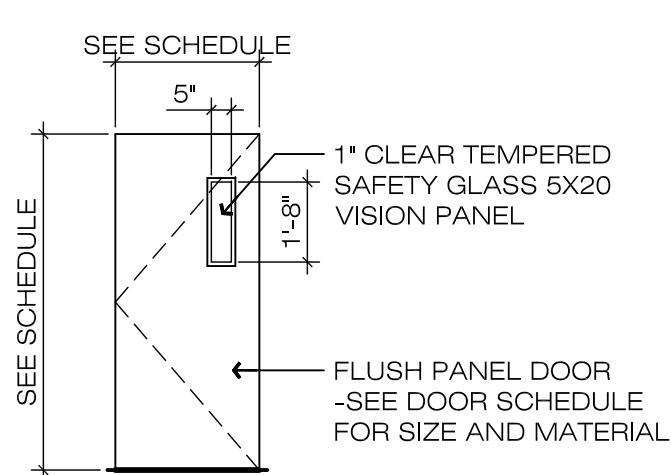
NOTES:  
1. ALL C.M.U. WALLS TO BE REPAIRED AND CLEANED AS REQUIRED BEFORE PAINTING - SEE FLOOR PLANS.  
2. REPAIR DRYWALL CEILINGS AS REQUIRED - SEE FLOOR PLANS.

DOOR SCHEDULE													
DOOR NO.	DOOR				FRAME				HARDWARE TYPE	U.L. LABEL	NOTES		
	W	H	T	TYPE	MAT'L	CONSTR	MAT'L	JAMB	HEAD	TYPE			
100A	EXISTING TO REMAIN												
100B	EXISTING TO REMAIN												
100C	3'-0"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	4"	FT-A		1,2,3,4,6,7	
100D	EXISTING TO REMAIN												
100E	EXISTING TO REMAIN												
100F	3'-0"	7'-0"	1-3/4"	DT-B	STEEL	H.M.	H.M.	2"	4"	FT-A		1,2,3,4,6,7	
101	3'-8"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	4"	FT-A		1,2,3	
103	3'-0"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	4"	FT-A		1,2,3,4	
104	3'-0"	7'-0"	1-3/4"	DT-B	STEEL	H.M.	H.M.	2"	4"	FT-A		1,2,3,6	
105	2'-8"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	4"	FT-A		1,2,3	
108	2'-8"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	4"	FT-A		1,2,3	
109	3'-0"	7'-0"	1-3/4"	DT-B	STEEL	H.M.	H.M.	2"	4"	FT-A		1,2,3,6	
110	3'-0"	7'-0"	1-3/4"	DT-C	STEEL	H.M.	H.M.	2"	4"	FT-B		1,2,3,4,6,7	
111A	3'-0"	7'-0"	1-3/4"	DT-B	STEEL	H.M.	H.M.	2"	4"	FT-A		1,2,3	
111B	3'-0"	7'-0"	1-3/4"	DT-B	STEEL	H.M.	H.M.	2"	4"	FT-A		1,2,3	
112	2'-8"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	4"	FT-A		1,2,3	
201	EXISTING TO REMAIN -REPLACE HARDWARE												
202	3'-0"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	2"	FT-A		1,2,3,4,6	
203	3'-0"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	2"	FT-A		1,2,3,4,6	
204	3'-0"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	2"	FT-A		1,2,3,4,6	
206	2'-8"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	4"	FT-A		1,2,3,5,6	
207	3'-0"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	2"	FT-A		1,2,3,4,6	
208	3'-0"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	2"	FT-A		1,2,3,4,6	
209	3'-0"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	2"	FT-A		1,2,3,4,6	
210	3'-0"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	2"	FT-A		1,2,3,4,6	
211	3'-0"	7'-0"	1-3/4"	DT-A	STEEL	H.M.	H.M.	2"	2"	FT-A		1,2,3,4,6	
213	EXISTING TO REMAIN -REPLACE HARDWARE												
214	EXISTING TO REMAIN -REPLACE HARDWARE												

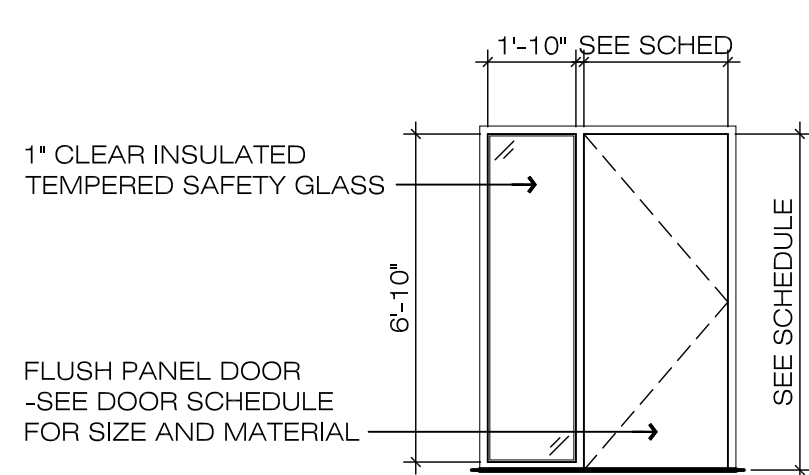
NOTES:  
1. ALL DOOR HARDWARE SHALL COMPLY WITH THE OBC CHAPTER 11 AND ICC A117.1 - 2009 EDITION.  
2. DOOR HARDWARE SHALL BE STANDARD COMMERCIAL GRADE HARDWARE.  
3. DOOR SHALL BE EQUIPPED WITH (3) MEDIUM DUTY HINGES UNLESS OTHERWISE NOTED  
4. DOOR SHALL BE EQUIPPED WITH A LEVER-TYPE LOCKSET  
SEE SPECIFICATIONS FOR FUNCTION  
5. PUSH/PULL  
6. CLOSER  
7. DOOR THRESHOLD SHALL NOT EXCEED 1/2" IN HEIGHT IN COMPLIANCE WITH O.B.C. 1008.1.7



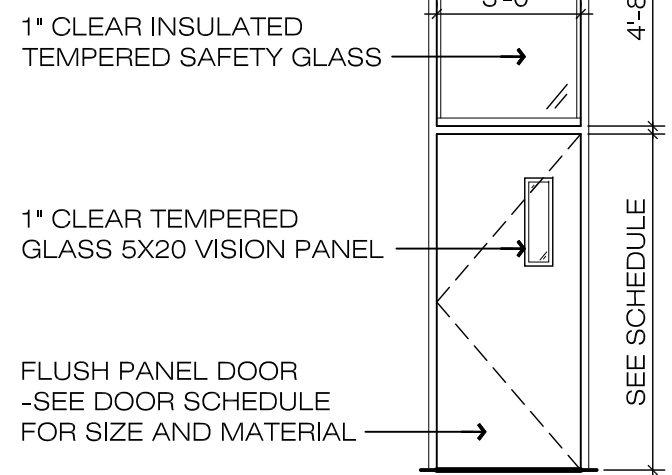
DOOR TYPE 'A' DT-A A-4.1  
SCALE: 1/4" = 1'-0"



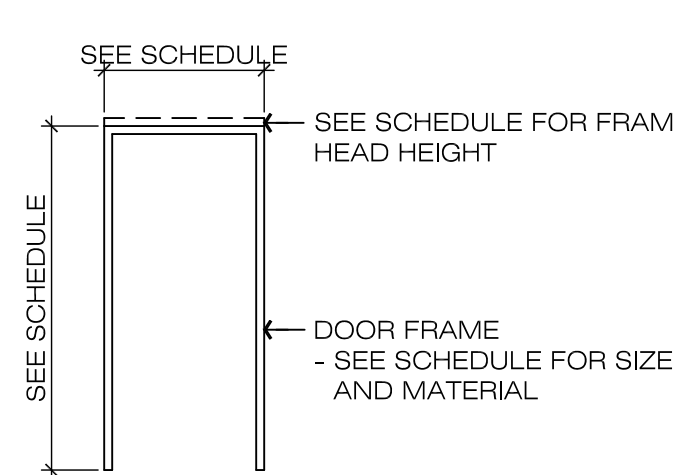
DOOR TYPE 'B' DT-B A-4.1  
SCALE: 1/4" = 1'-0"



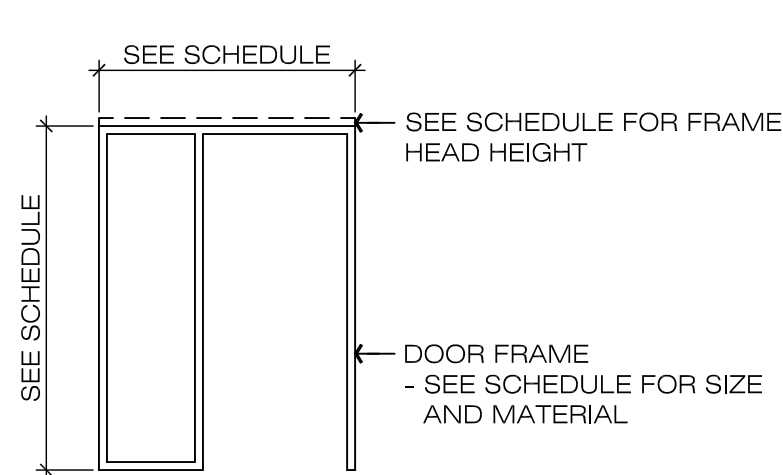
DOOR TYPE 'C' DT-C A-4.1  
SCALE: 1/4" = 1'-0"



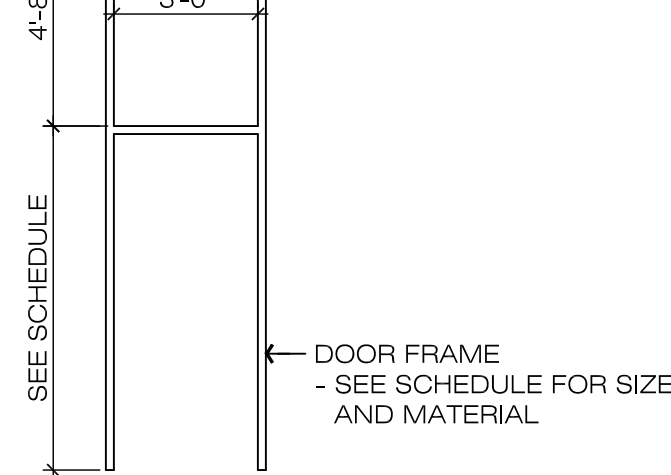
DOOR TYPE 'D' DT-D A-4.1  
SCALE: 1/4" = 1'-0"



FRAME TYPE 'A' FT-A A-4.1  
SCALE: 1/4" = 1'-0"



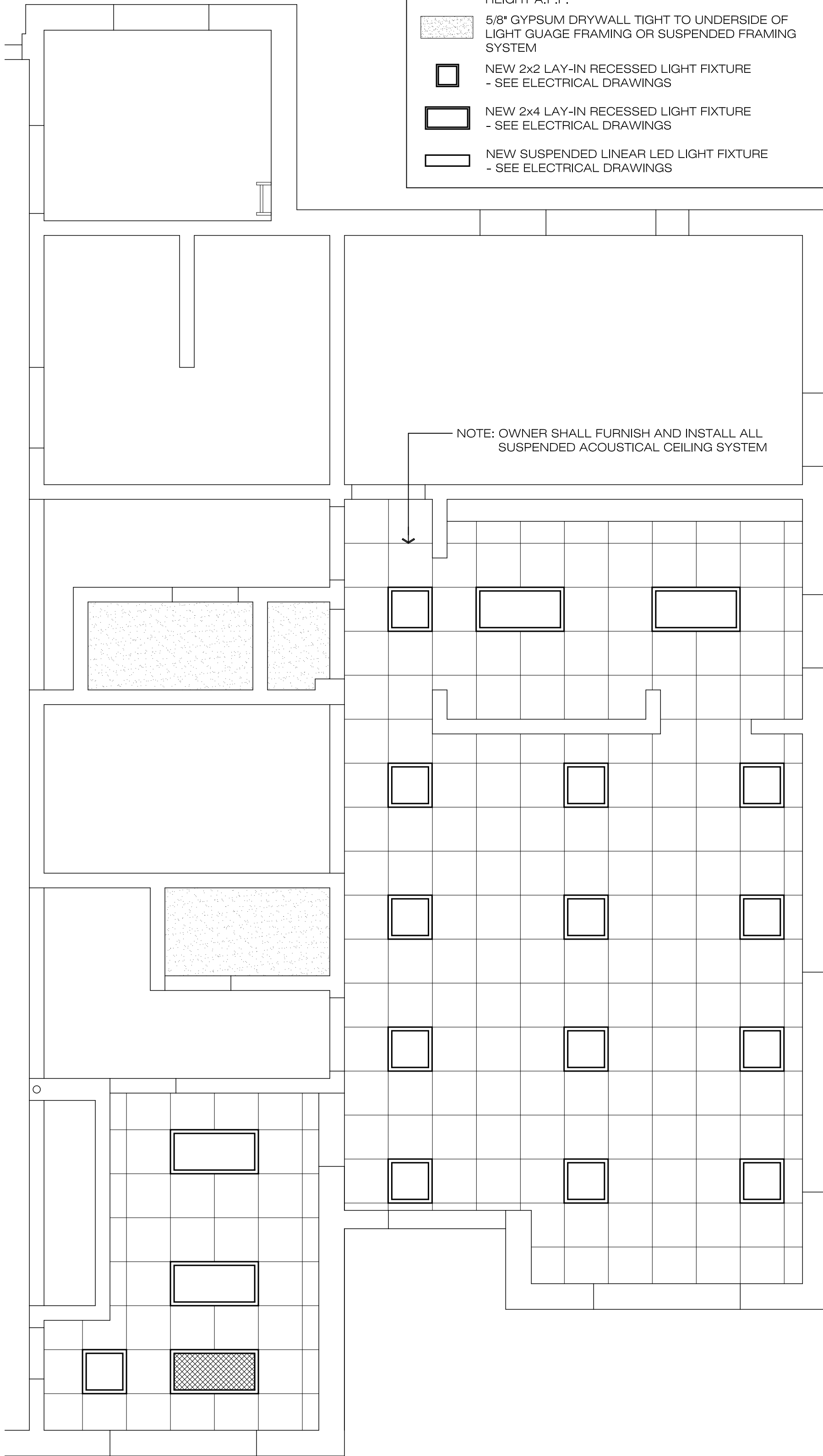
FRAME TYPE 'B' FT-B A-4.1  
SCALE: 1/4" = 1'-0"



FRAME TYPE 'C' FT-C A-4.1  
SCALE: 1/4" = 1'-0"

## MAIN LEVEL REFLECTED CEILING PLAN

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



REFLECTED CEILING PLAN LEGEND

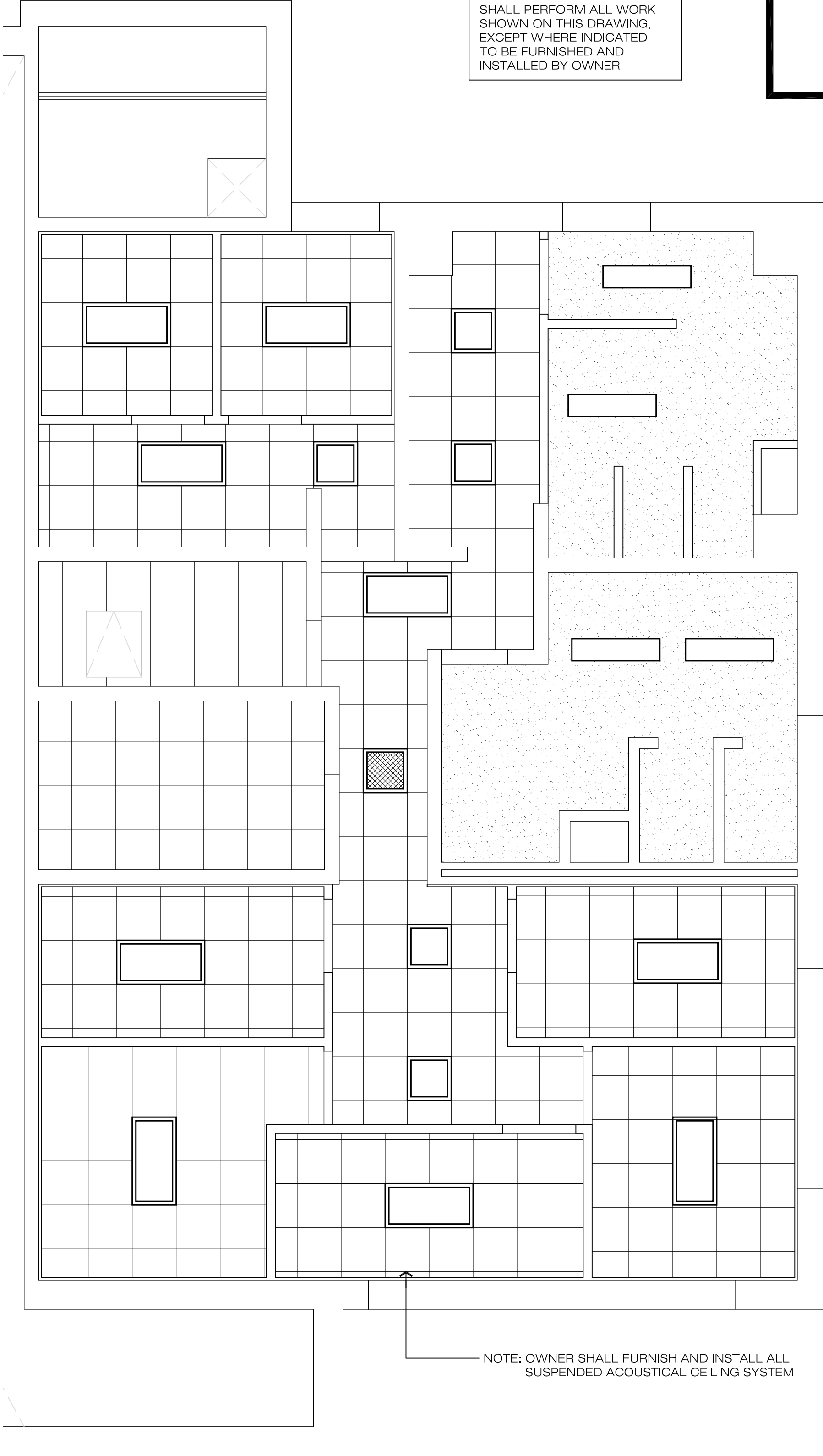
2x2 SUSPENDED CEILING SYSTEM  
-SEE ROOM FINISH SCHEDULE FOR TYPE AND HEIGHT A.F.F.

5/8" GYPSUM DRYWALL TIGHT TO UNDERSIDE OF LIGHT GUAGE FRAMING OR SUSPENDED FRAMING SYSTEM

NOTE: OWNER SHALL FURNISH AND INSTALL ALL SUSPENDED ACOUSTICAL CEILING SYSTEM

## UPPER LEVEL REFLECTED CEILING PLAN

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



NOTE: OWNER SHALL FURNISH AND INSTALL ALL SUSPENDED ACOUSTICAL CEILING SYSTEM

GENERAL SCOPE NOTE

GENERAL CONTRACTOR SHALL PERFORM ALL WORK SHOWN ON THIS DRAWING, EXCEPT WHERE INDICATED TO BE FURNISHED AND INSTALLED BY OWNER

REVISIONS:

MOTTER & MEADOWS

ARCHITECTS

600 MARKET AVENUE NORTH CANTON OHIO 44702

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATIONS  
1330 DUEBER AVE SW  
CANTON, OHIO

STATE OF OHIO  
DAVID I. PATTERSON  
11150  
REGISTERED ARCHITECT

DAVID I. PATTERSON  
LICENSE #11150  
EXPIRATION DATE  
12-31-2023

THIS DWG :  
ROOM FINISH SCHEDULE;  
DOOR SCHEDULE; DOOR  
TYPES; FRAME TYPES;  
REFLECTED CEILING  
PLANS

COMM 22155  
DATE 07-17-23

DWG  
A-4.1

CONSTRUCTION DRAWINGS

13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

# 600 MARKET AVENUE NORTH

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATION

CANTON, OHIO

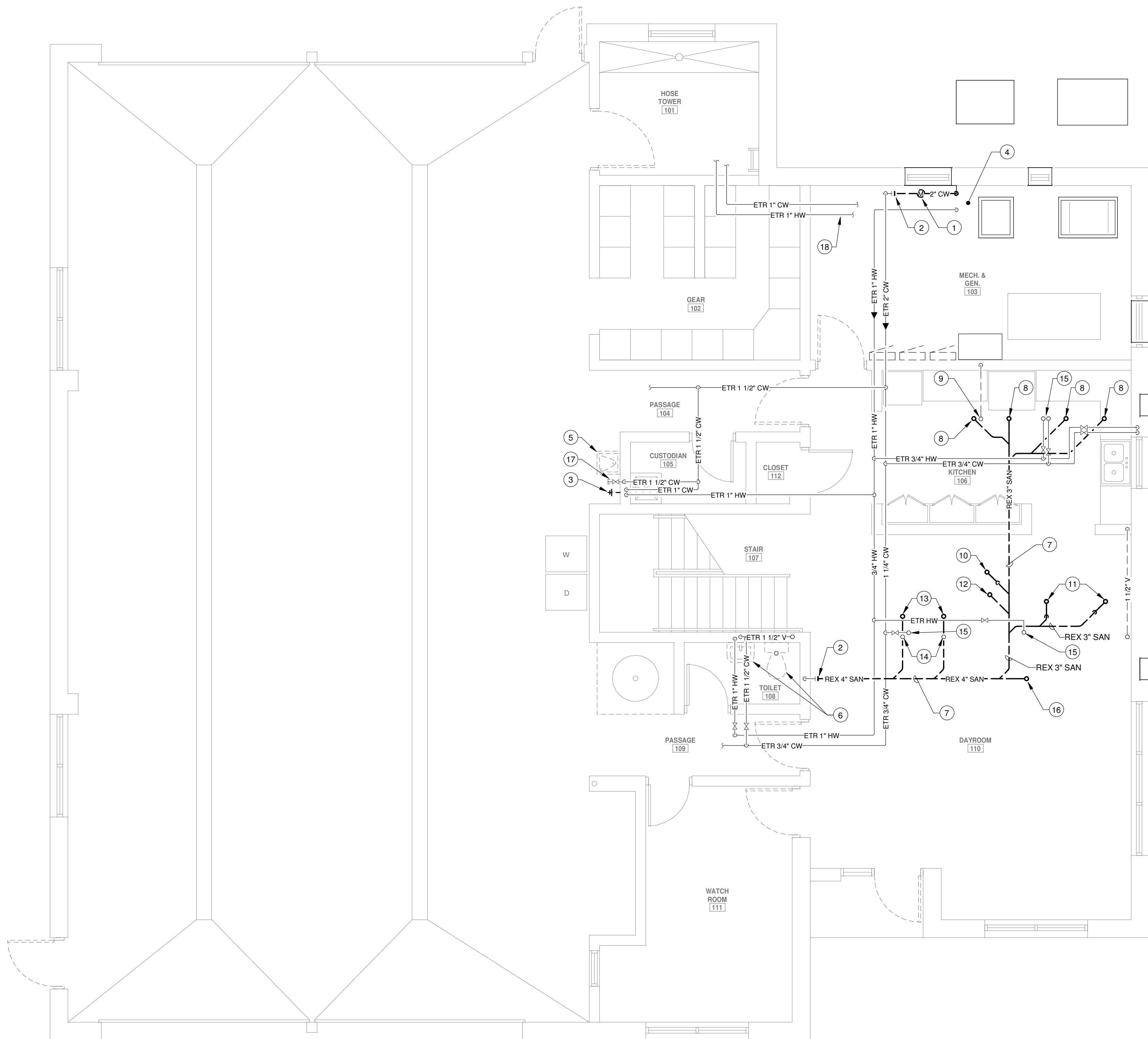
MOTTER & MEADOWS  
ARCHITECTS



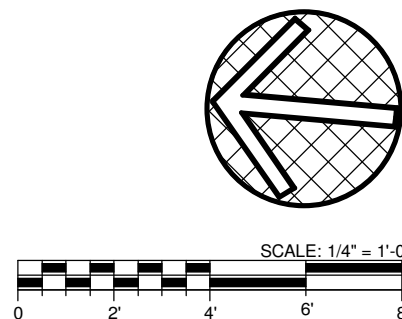
**THIS DWG :  
FIRST FLOOR  
PLUMBING  
DEMOLITION  
PLAN**

<b>COMM</b>	22155
<b>DATE</b>	07-17-23

DWG  
**PD-1**



- ## # PLAN NOTES
- 1 REMOVE EXISTING WATER METER AND ACCESSORIES. REFER TO WATER SERVICE ENTRY DIAGRAMS FOR ADDITIONAL INFORMATION.
  - 2 REMOVE PIPING TO POINT INDICATED AND PREPARE FOR RECONNECTION.
  - 3 REMOVE HOSE BIBB. PREPARE H+CW PIPING FOR RECONNECTION TO WASHING MACHINE.
  - 4 EXISTING DOMESTIC WATER HEATER TO REMAIN.
  - 5 REMOVE EXISTING EWC. REMOVE ASSOCIATED CW, SAN, & V PIPING AND CAP AT NEAREST ACTIVE MAIN.
  - 6 REMOVE PLUMBING FIXTURE. PREPARE PIPING FOR CONNECTION TO NEW.
  - 7 REMOVE ALL ACCESSIBLE OVERHEAD SANITARY PIPING AND PREPARE FOR REPLACEMENT WITH NEW. REFER TO NEW WORK PLANS FOR ADDITIONAL INFORMATION.
  - 8 REMOVE 1 1/2" SAN UP. PREPARE FOR RECONNECTION TO SAN SERVING URINAL ABOVE.
  - 9 ETR 2" V UP.
  - 10 REMOVE SAN UP TO FLOOR DRAIN.
  - 11 REMOVE SAN UP TO SHOWER DRAIN.
  - 12 REMOVE 3" SAN UP. PREPARE FOR RECONNECTION TO SAN SERVING URINAL ABOVE.
  - 13 REMOVE 4" SAN UP. REMOVE ASSOCIATED WATER CLOSET FLANGE.
  - 14 PREPARE 2" VENT UP FOR RECONNECTION TO NEW SANITARY.
  - 15 EXISTING DOMESTIC WATER PIPING SERVING FIXTURES ABOVE TO REMAIN.
  - 16 REMOVE SANITARY CONNECTION TO CLEANOUT ABOVE. EXISTING 1" VALVE.
  - 17 CLEANOUT 1 1/2" REMAIN WITH GAPPED CONNECTOR. REMOVE AND CAP PIPING AT NEAREST ACTIVE MAIN IF IN CONFLICT WITH NEW INSTALLATIONS, OR IF DEEMED UNNECESSARY UPON REVIEW WITH THE OWNER. REFER TO NEW WORK PLANS FOR ADDITIONAL INFORMATION.
  - 18 EXISTING H+CW SERVING WASHING MACHINE IN HOSE TOWER.



# CONSTRUCTION DRAWINGS

REVISIONS:



**Karpinski**  
ENGINEERING  
13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

CANTON OHIO 44702

600 MARKET AVENUE NORTH

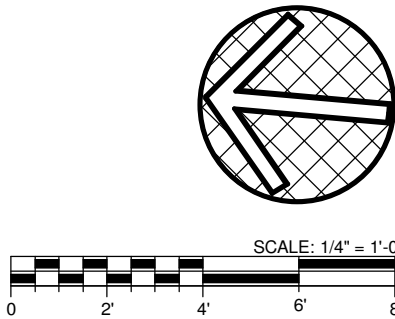
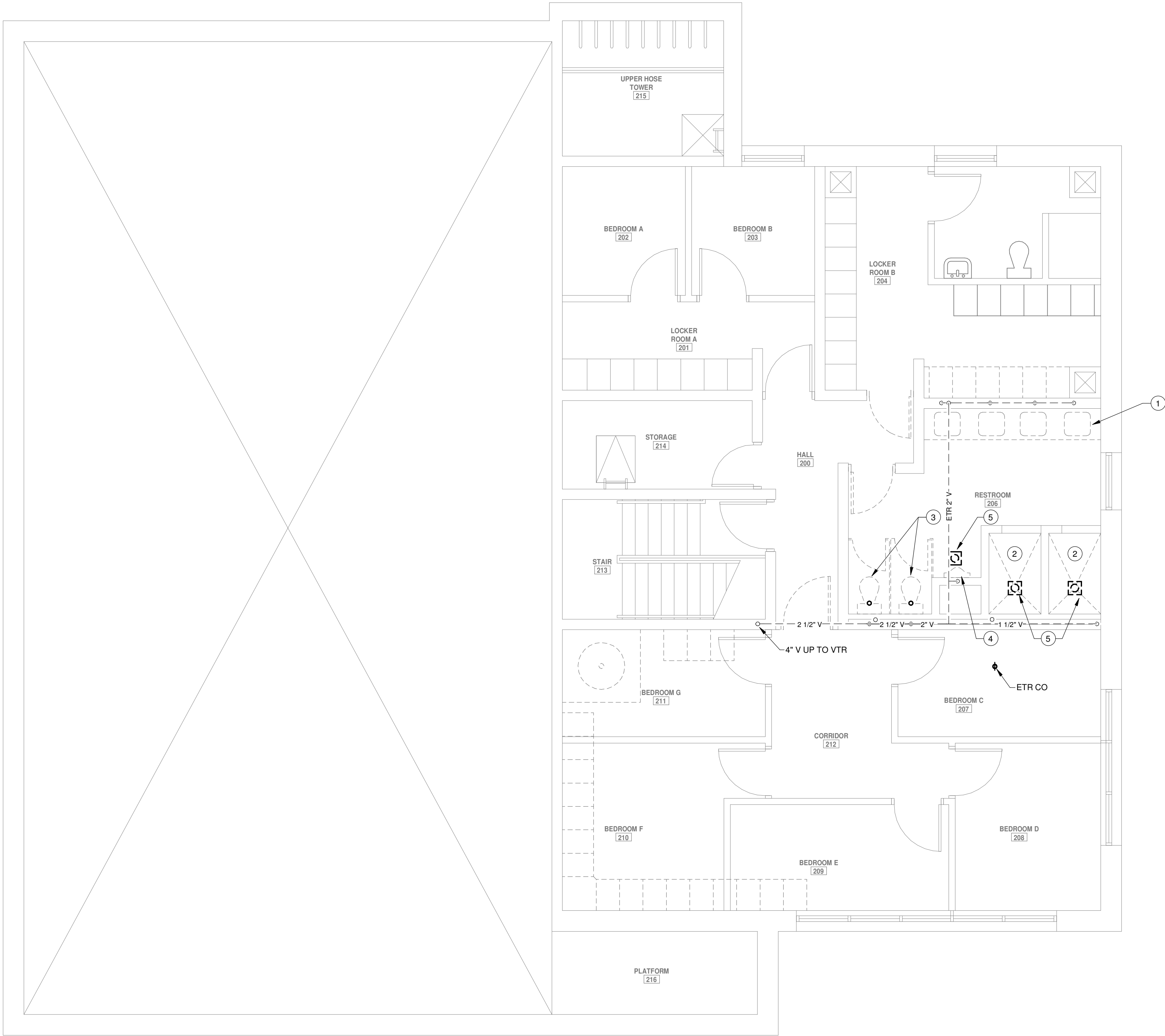
MOTTER & MEADOWS  
ARCHITECTS

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATION

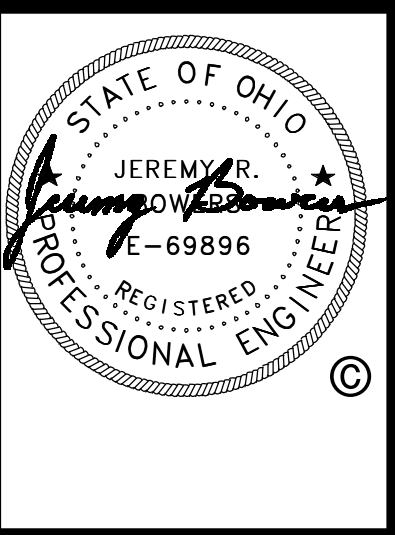
CANTON, OHIO

1330 DUEBER AVE SW

- # PLAN NOTES
- 1 REMOVE EXISTING LAVS AND ACCESSORIES. PREPARE H/CW, SAN, AND V FOR CONNECTION TO NEW.
  - 2 REMOVE SHOWER HEAD, CONTROLS, AND DRAIN. PREPARE H/CW AND SAN FOR CONNECTION TO NEW.
  - 3 REMOVE EXISTING WATER CLOSET AND PREPARE CW PIPING FOR CONNECTION TO NEW. REMOVE ASSOCIATED FLOOR FLANGE AND SANITARY PIPING DOWN.
  - 4 REMOVE EXISTING URINAL. PREPARE SAN, CW FOR CONNECTION TO NEW.
  - 5 REMOVE FLOOR/SHOWER DRAIN AND ASSOCIATED SANITARY PIPING DOWN.



CONSTRUCTION DRAWINGS



THIS DWG :  
SECOND FLOOR  
PLUMBING  
DEMOLITION  
PLAN

COMM 22155  
DATE 07-17-23

DWG  
PD-2

DRAWING LIST - PLUMBING	
NUMBER	NAME
P0-1	PLUMBING LEGEND, SCHEDULES, AND NOTES
P1-1	FIRST FLOOR PLUMBING PLAN
P1-2	SECOND FLOOR PLUMBING PLAN
P6-1	PLUMBING DETAILS AND DIAGRAMS
PD-1	FIRST FLOOR PLUMBING DEMOLITION PLAN
PD-2	SECOND FLOOR PLUMBING DEMOLITION PLAN

PLUMBING PIPE SYSTEM ABBREVIATIONS		
ABBREVIATION	LINE TYPE	DESCRIPTION
CW	_____	COLD WATER PIPING
HW	_____	HOT WATER PIPING
SAN	_____	SANITARY SEWER (ABOVE GROUND)
SAN	-----	SANITARY SEWER (UNDERGROUND/UNDERFLOOR)
V	-----	SANITARY VENT PIPING

PLUMBING FIXTURE CONNECTION SCHEDULE					
FIXTURE	WASTE	VENT	CW	HW	REMARKS
FD	3"	1 1/2"	1/2"	--	W/ TRAP PRIMER
L	1 1/2"	1 1/2"	1/2"	1/2"	
SH	3"	1 1/2"	1/2"	1/2"	
U	2"	1 1/2"	1"	--	BLOWOUT TYPE
U	2"	1 1/2"	1/2"	--	WASHOUT TYPE
WC	4"	2"	1/2"	--	W/ FLUSH TANK
DOMESTIC WATER BRANCH PIPE SCHEDULE					
2 TO 4 FLUSH TANK WC, L, S, EWC OR SH				- 3/4" HW, CW	
5 TO 6 FLUSH TANK WC, L, S, EWC OR SH				- 1" HW, CW	
OVER 6 FLUSH TANK WC, L, S, EWC OR SH				- REFER TO PLAN	

PLUMBING PIPE INSULATION SCHEDULE				
SERVICE		TYPE	THICKNESS TYPE	
COLD WATER		FIBERGLASS	A	
HOT WATER		FIBERGLASS	B	
RECIRCULATING HOT WATER		FIBERGLASS	B	
HORIZONTAL STORM		FIBERGLASS	A	
THICKNESS SCHEDULE TYPE	PIPE SIZES (INCHES)			
	3/4 AND BELOW	1 TO 1-1/4	1-1/2 TO 3	4 TO 6 & 8 AND ABOVE
A	1/2	1/2	1	1
B	1	1	1-1/2	1-1/2
C	1-1/2	1-1/2	2	2
D	1/2	1/2	1/2	1/2
E	1	1	1	1

PLUMBING EQUIPMENT INSULATION SCHEDULE		
EQUIPMENT	TYPE	THICKNESS
ROOF DRAIN SUMPS - NOT IN PLENUM	CLOSED-CELL	1"
ABOVE GROUND TRAPS OF FLOOR DRAINS OR WASTE RECEPTORS RECEIVING AC CONDENSATE OR ICE MACHINE DRAINAGE - NOT IN PLENUM	CLOSED-CELL	1"

PLUMBING FIXTURE SCHEDULE 'BATHING FIXTURES'							
FIXTURE TAG	DRAIN TYPE	SHOWER/BATH VALVE TYPE	NUMBER OF PORTS	SHOWER HEAD TYPE	GPM	SHOWER VALVE MANUFACTURER	SHOWER VALVE MODEL
SH-1	GRID	TEMPERATURE AND PRESSURE BALANCED	3	HANDHELD	1.5	POWERS	E420

NOTES:  
A. TILED ENCLOSURE BY ANOTHER DIVISION.  
B. HAND HELD SHOWER WITH 60" METAL CLAD HOSE, HOSE FITTING AND EXPOSED VACUUM BREAKER.  
C. 30" SLIDE BAR FOR HAND HELD SHOWER.

PLUMBING FIXTURE SCHEDULE 'FLUSHING FIXTURES'							
FIXTURE TAG	TYPE	ADA COMPLIANT	GALLONS PER FLUSH	FIXTURE MANUFACTURER	FIXTURE MODEL	FLUSH METHOD	REMARKS
U-1	WALL HUNG	YES	1.0	KOHLER	4991-ET-0	FLUSH VALVE, MANUAL	5.6
WC-1	FLOOR MOUNT, FLOOR DISCHARGE	YES	1.6	KOHLER	K-3493-0	TANK, MANUAL	1,2,3,4,7

REMARKS:  
1. FURNISH COMPLETE WITH OPEN FRONT SEAT WITH LIFT HINGES AND ANTI-MICROBIAL AGENT - CHURCH MODEL 2155CTJ.  
2. FOR REPLACEMENT FIXTURES, CONTRACTOR SHALL VERIFY FLOOR ROUGH DIMENSION PRIOR TO SUBMITTAL/ ORDERING.  
3. ELONGATED BOWL.  
4. LINED TANK FOR REDUCED CONDENSATION.  
5. VERIFY SUITABILITY OF EXISTING FIXTURE CARRIER FOR NEW FIXTURE. REPLACE CARRIER IF REQUIRED FOR ALIGNMENT TO NEW FIXTURE'S MOUNT.  
6. FLUSH VALVE: SLOAN REGAL 186-1XL.  
7. K-4304-0 TOILET WITH K645-0 TANK.

PLUMBING FIXTURE SCHEDULE 'BASIN FIXTURES'													
FIXTURE TAG	TYPE	FIXTURE OUTSIDE DIMENSIONS (IN.)	FIXTURE INSIDE DIMENSIONS (IN.)	ADA COMPLIANT	MANUFACTURER	MODEL	FAUCET OPERATION	FAUCET SPREAD (IN.)	SPOUT TYPE	SPOUT LENGTH (IN.)	HANDLE TYPE	OUTLET TYPE	GALLONS PER MINUTE
L-1	COUNTERTOP-DROP IN	20.25" X 17.5"	16" X 11"	YES	KOHLER	K2196-4-0	MANUAL	4"	FIXED	5"	SINGLE LEVER	AERATOR	1.5
L-2	WALL HUNG	21.25" X 18.125"	16" X 10"	YES	KOHLER	K2005-0	MANUAL	4"	FIXED	5"	SINGLE LEVER	AERATOR	1.5

REMARKS:  
1. ADA PROTECTIVE COVERS ON SUPPLIES AND WASTE.  
2. ADA OFFSET DRAIN WASTE.

PLUMBING SYMBOLS	
SYMBOL	DESCRIPTION
	BACKFLOW PREVENTER
	CHECK VALVE
	SHUT OFF VALVE
	STRAINER
	UNION
	EXISTING PIPING
	EXISTING PIPING TO BE REMOVED
	EXISTING FIXTURES & EQUIPMENT TO BE REMOVED
	REMOVE TO POINT AND CAP
	REMOVE TO POINT FOR RECONNECTION
	SHOWER HEAD
CO	CLEANOUT IN FLOOR OR AT GRADE
CO	CLEANOUT IN SUSPENDED PIPE
CO	CLEANOUT IN WALL
	FLOOR DRAIN / FLOOR SINK
	TRAP SERVING DRAIN ABOVE
	PIPE BRANCH TAKE-OFF FROM BOTTOM
	PIPE BRANCH TAKE-OFF FROM TOP
	PIPE DROP
	PIPE RISE
	ROOF DRAIN/SANITARY VENT
	ROOF DRAIN ABOVE
	VENT THRU ROOF
	HOSE BIB / FROSTPROOF HYDRANT
	PRESSURE GAUGE

GENERAL PLUMBING ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
CDV	COMBINATION DRAIN AND VENT
CTE	CONNECT TO EXISTING
DV	DRAIN VALVE
EC	ELECTRICAL CONTRACTOR
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
FPC	FIRE PROTECTION CONTRACTOR
GC	GENERAL CONTRACTOR
L	LAVATORY
MB	MOP BASIN
MC	MECHANICAL CONTRACTOR
PC	PLUMBING CONTRACTOR
REX	REMOVE EXISTING
RR	REMOVE AND RELOCATE
S	SINK
SH	SHOWER
TMV	THERMOSTATIC MIXING VALVE
TMV-E	EMERGENCY THERMOSTATIC MIXING VALVE
TYP	TYPICAL
U	URINAL
VS	VENT STACK
WC	WATER CLOSET
WS	WASTE STACK

PLUMBING ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
BFP	BACKFLOW PREVENTER
CO	CLEANOUT
FD	FLOOR DRAIN
HB	HOSE BIBB
SD	SHOWER DRAIN
VTR	VENT THRU ROOF
WB	WALL BOX

GENERAL PLUMBING NOTES:

- A. THE PLUMBING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS.
- B. DRAWINGS ARE DIAGRAMMATIC. INDICATED POSITIONS SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. EXISTING FIXTURE LOCATIONS AND PIPING ROUTING SHALL BE SUBJECT TO BUILDING CONSTRUCTION AND INTERFERENCES WITH OTHER TRADES. WHERE THE LOCATION OF A SPECIFIC PIPE OR DEVICE IS DIMENSIONED, ITS INSTALLED LOCATION SHALL BE AS DIMENSIONED UNLESS COORDINATED OTHERWISE WITH THE ARCHITECT OR ENGINEER.
- C. ALTHOUGH ATTEMPTS HAVE BEEN MADE TO IDENTIFY EXISTING EQUIPMENT LOCATIONS, PIPE ROUTING, AND SIZES WITH THE USE OF EXISTING DRAWINGS AND FIELD OBSERVATIONS, PC SHALL FIELD VERIFY EXISTING INFORMATION AND REPORT ANY DISCREPANCIES TO THE ARCHITECT OR ENGINEER. CONTRACTOR SHALL NOTE DISCREPANCIES ON THE RECORD DRAWINGS.
- D. UNLESS NOTED OTHERWISE, SERVICES INDICATED AS BEING REMOVED SHALL BE REMOVED TO THE POINT INDICATED FOR RECONNECTION OR BACK TO THE MAIN, CAPPED, AND IDENTIFIED. DEAD-END PIPING IS NOT PERMITTED. REMOVE PREVIOUSLY ABANDONED PIPING, SUPPORTS, ETC ENCOUNTERED ABOVE CEILINGS.
- E. THE OWNER SHALL HAVE THE OPTION OF RETAINING ANY OR ALL REMOVED FIXTURES OR EQUIPMENT FOR SALVAGE. PC SHALL DISPOSE OF FIXTURES AND EQUIPMENT NOT RETAINED BY THE OWNER.
- F. WHERE WORK OCCURS OUTSIDE THE PROJECT SCOPE BOUNDARY, THE CONTRACTOR PERFORMING THE WORK SHALL BE RESPONSIBLE FOR THE REMOVAL AND REINSTALLATION OF CEILINGS, GRIDS, AND LIGHTS AS REQUIRED TO PERFORM THE WORK.
- G. CUTTING AND PATCHING OF WALLS AND FLOORS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR PERFORMING THE WORK REQUIRING THE PENETRATION. IF THE PC DEFACTS OR DAMAGES WALLS, CEILINGS, FLOORS, OR FINISHES, THE PC SHALL BE RESPONSIBLE FOR PATCHING, REPAIRING, AND REFINISHING. PATCHING MATERIALS SHALL MATCH THE EXISTING OR NEW CONDITIONS AS APPLICABLE. FINISH PAINTING SHALL BE BY THE GENERAL CONTRACTOR.
- H. PROVIDE FIRESTOPPING AT PENETRATIONS OF FIRE-RATED ASSEMBLIES. REFER TO THE ARCHITECTURAL LIFE SAFETY PLANS FOR THE LOCATION OF FIRE-RATED ASSEMBLIES. FIRE-STOPPING SHALL BE PERFORMED BY THE CONTRACTOR PERFORMING THE WORK REQUIRING THE PENETRATION.
- I. EXCEPT FOR SLAB ON GRADE, PROVIDE FIRESTOPPING AT PENETRATIONS OF NON-FIRE-RATED FLOORS. FIRESTOPPING SHALL BE PERFORMED BY THE CONTRACTOR PERFORMING THE WORK REQUIRING THE PENETRATION.
- J. WHERE PIPES ARE REMOVED THROUGH FIRE-RATED FLOORS OR WALLS, THE CONTRACTOR REMOVING THE DEVICE/MATERIAL SHALL SEAL THE REMAINING OPENING TO MAINTAIN FIRE RATING.
- K. PROVIDE FILLING AND SEALING OF THE AREA AROUND PENETRATIONS OF SMOKE-RATED ASSEMBLIES. REFER TO THE ARCHITECTURAL LIFE SAFETY PLANS FOR THE LOCATION OF SMOKE-RATED ASSEMBLIES. MATERIALS USED SHALL BE COMPATIBLE WITH THE ASSEMBLY BEING PENETRATED.
- L. INSTALL EQUIPMENT REQUIRING AN ELECTRICAL CONNECTION IN SUCH A MANNER SO THAT PROPER CLEARANCE IS PROVIDED FOR SERVICING PER THE NATIONAL ELECTRIC CODE.
- M. EQUIPMENT LAYOUT IS BASED ON SCHEDULED EQUIPMENT. ACTUAL INSTALLED EQUIPMENT SIZE, CONFIGURATION, AND PIPING CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING AND PIPING LAYOUT.
- N. VALVES SHALL BE ACCESSIBLE. IF LOCATED ABOVE DRYWALL CEILING OR BEHIND FINISHED WALL, PROVIDE AN ACCESS DOOR. COORDINATE ACCESS DOOR LOCATIONS WITH ARCHITECT.
- O. DO NOT SUPPORT PIPING FROM ANOTHER PIPE, DUCT, OR CONDUIT. DO NOT SUPPORT ANY ITEM FROM METAL ROOF DECK.
- P. NO EXPOSED PIPING SHALL BE INSTALLED BELOW 7'-6" IN AN EGRESS CORRIDOR.
- Q. ATTENTION IS CALLED TO THE LIMITED CEILING SPACE. COORDINATE ALL WORK WITH CEILING HEIGHTS, SOFFITS, STRUCTURE, DUCTWORK, AND LIGHTS. HOLD SUSPENDED SANITARY AND STORM SEWER PIPING HIGH AS POSSIBLE, TO DECK BETWEEN BEAMS IF REQUIRED, AND TIGHT TO STRUCTURE. PROVIDE ANY AND ALL OFFSETS AND EFFORT REQUIRED TO FACILITATE DUCT ROUTING AND THE INSTALLATION OF OTHER EQUIPMENT AND SYSTEMS. COORDINATE CLOSELY WITH OTHER TRADES.
- R. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.
- S. ATTENTION IS CALLED TO ROUGH-IN REQUIREMENTS FOR FIXTURES INSTALLED IN CASEWORK, FURNISHED BY ANOTHER DIVISION. PROVIDE ROUGH-INS OUT OF WALL WITH ENOUGH LENGTH TO ALLOW FOR SUPPLY STOPS AND WASTES TO HAVE ESCUTCHEONS AT THE REAR BACKING OF THE CASEWORK AND NOT AT THE WALL ACCESSIBLE THROUGH FIELD CUT HOLES IN THE CASEWORK BACKING.
- T. COORDINATE SHOWER ROUGH-INS WITH ARCHITECTURAL ELEVATIONS FOR THE LOCATION OF THE MIXING VALVE, SHOWER HEAD/S, BENCH, AND ACCESSORIES PROVIDED, INCLUDING ACCESSORIES PROVIDED BY ANOTHER DIVISION.
- U. UNLESS NOTED OTHERWISE VERTICAL PIPING DROPS TO FIXTURES, HOSE BIBS, FAUCETS, ETC. SHALL BE CONCEALED IN THE WALL.
- V. INSTALLATION OF WATER AND/OR DRAIN PIPING IN EXTERIOR BUILDING WALLS SHOULD BE AVOIDED. HOWEVER, IF NECESSARY, INSTALL PIPING ON INTERIOR SIDE OF WALL INSULATION WITH CONTINUOUS FULL THICKNESS PIPE INSULATION APPLIED TO ALL PORTIONS OF WATER PIPING.
- W. DO NOT INSTALL WATER AND/OR DRAIN PIPING IN UNHEATED ATTICS, CRAWL SPACES, OVERHANGS, OR OTHER AREAS SUBJECT TO FREEZING UNLESS PIPING FREEZE PROTECTION CABLE SYSTEM IS SPECIFICALLY CALLED FOR ON THE DRAWINGS. CONTRACTOR SHALL CHECK FINAL INSTALLATION AND REPORT ANY SUSPECT CONDITIONS WHERE FREEZING MAY OCCUR TO CONSTRUCTION MANAGER AND/OR ARCHITECT/ENGINEER.
- X. NEW POTABLE WATER PIPING SHALL BE CLEANED AND DISINFECTED PER THE SPECIFICATIONS PRIOR TO TIE-IN TO EXISTING POTABLE WATER SYSTEM. INSTALL VALVES AND FITTINGS AS REQUIRED TO ACCOMPLISH THE PROCESS. CLEANING AND DISINFECTING SHALL BE DOCUMENTED AND SUBMITTED BY THE PLUMBING CONTRACTOR. DOCUMENTATION SHALL BE INCLUDED IN THE OPERATING AND MAINTENANCE MANUAL.
- Y. BULLHEAD PIPING CONFIGURATIONS IN WATER PIPING ARE PROHIBITED.
- Z. INSTALL BRANCH WATER PIPING HORIZONTALLY WITHIN WALL OR PIPE CHASE FOR FIXTURE GROUPINGS. REFER TO FIXTURE CONNECTION SCHEDULE FOR SIZING REQUIREMENTS.
- AA. SANITARY SEWERS AND DRAINS SHALL BE SLOPED PER THE PLUMBING CODE.
- BB. PROVIDE CLEAN-OUTS AT HORIZONTAL OFFSETS OF SANITARY STACKS.
- CC. REFER TO INDIVIDUAL STACK DIAGRAMS FOR WASTE AND VENT PIPING RUN WITHIN WALLS/CHASES, AND FOR ANY PIPE SIZING NOT INDICATED ON PLANS FOR DRAWING CLARITY. REFER TO THE PLUMBING FIXTURE CONNECTION SCHEDULE FOR TYPICAL FIXTURE WASTE AND VENT PIPE SIZING.
- DD. 2-1/2" VENT PIPING INDICATED COMPLIES WITH THE PLUMBING CODE, HOWEVER, 3" MAY BE SUBSTITUTED DUE TO NON-AVAILABILITY.
- EE. COVER FLOOR DRAINS, FLOOR SINKS, ROOF DRAINS, AND OVERFLOW ROOF DRAINS DURING CONSTRUCTION TO PREVENT DEBRIS FROM ENTERING PIPE AND TO PROTECT GRATES FROM DAMAGE.
- FF. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LOW VOLTAGE WIRING REQUIRED FOR PROPER OPERATION OF HARDWIRED PLUMBING FIXTURES. ALL WIRING SHALL BE INSTALLED IN CONDUIT PER DIVISION 26 REQUIREMENTS.

REVISIONS:



Karpinski  
ENGINEERING

13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

CANTON OHIO 44702

600 MARKET AVENUE NORTH

MOTTER & MEADOWS  
ARCHITECT &

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATION  
1330 DUEBER AVE SW

CANTON, OHIO



THIS DWG :  
PLUMBING  
LEGEND,  
SCHEDULES,  
AND NOTES

COMM 22155  
DATE 07-17-23

DWG  
P0-1

CONSTRUCTION DRAWINGS



REVISIONS:



**Karpinski**  
ENGINEERING  
13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

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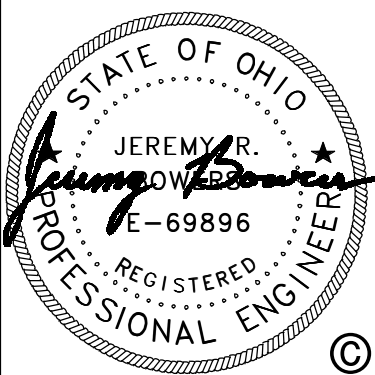
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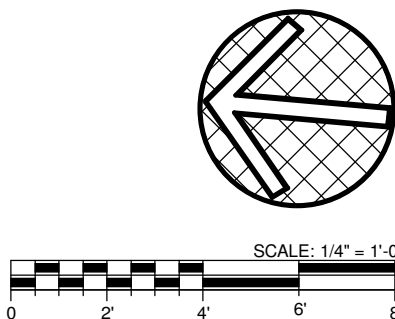
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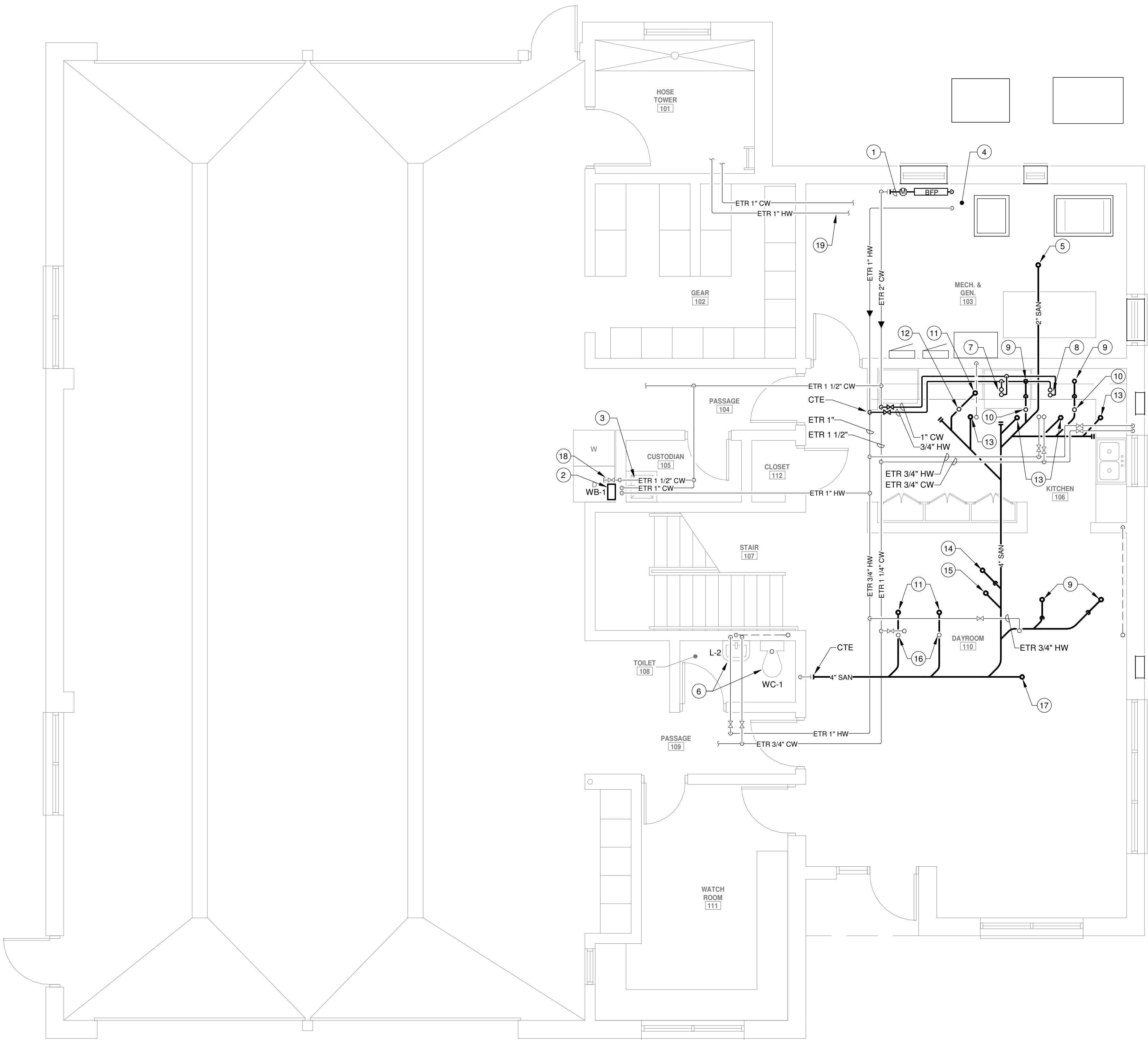
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FIRST FLOOR  
PLUMBING PLAN

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DATE 07-17-23

DWG  
P1-1



- # PLAN NOTES
- REWORK DOMESTIC WATER ENTRY. INSTALL METER, BACKFLOW PREVENTER AND ACCESSORIES. REFER TO WATER SERVICE ENTRY DIAGRAM FOR ADDITIONAL INFORMATION.
  - CONNECT EXISTING HOT/COLD WATER TO SUPPLY WALL BOX FOR WASHING MACHINE.
  - SLEEVE WASHING MACHINE DRAIN THROUGH WALL TO DISCHARGE OVER EXISTING MOP BASIN.
  - EXISTING DOMESTIC WATER HEATER TO REMAIN.
  - 2" SAN UP TO SERVE (2) LAVS. VERIFY EXACT LOCATION WITH EXISTING DUCTWORK AND STRUCTURE ABOVE MECH ROOM CEILING. COORDINATE WITH GC.
  - CONNECT TO EXISTING H/CW. SAN PIPING. PROVIDE NEW TRAP, STOPS, SUPPLY LINES, ESCUTCHEONS, ETC.
  - 3/4" H/CW UP.
  - 1/2" H/CW UP.
  - 3" SAN UP TO SHOWER DRAIN.
  - 1-1/2" V UP.
  - 4" UP TO WATER CLOSET FLANGE.
  - 2" V UP.
  - CONNECT TO 1-1/2" SAN SERVING LAV ABOVE.
  - 3" UP TO FLOOR DRAIN.
  - CONNECT TO 3" SAN SERVING URINAL ABOVE.
  - CONNECT TO EXISTING 2" V UP.
  - CONNECT TO EXISTING CLEANOUT ABOVE.
  - EXISTING 1 1/2" VALVE WITH CAPPED CONNECTOR. REFER TO DEMOLITION PLANS FOR ADDITIONAL INFORMATION.
  - EXISTING H/CW SERVING WASHING MACHINE IN HOSE TOWER.



REVISIONS:



**Karpinski**  
ENGINEERING  
13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

CANTON OHIO 44702

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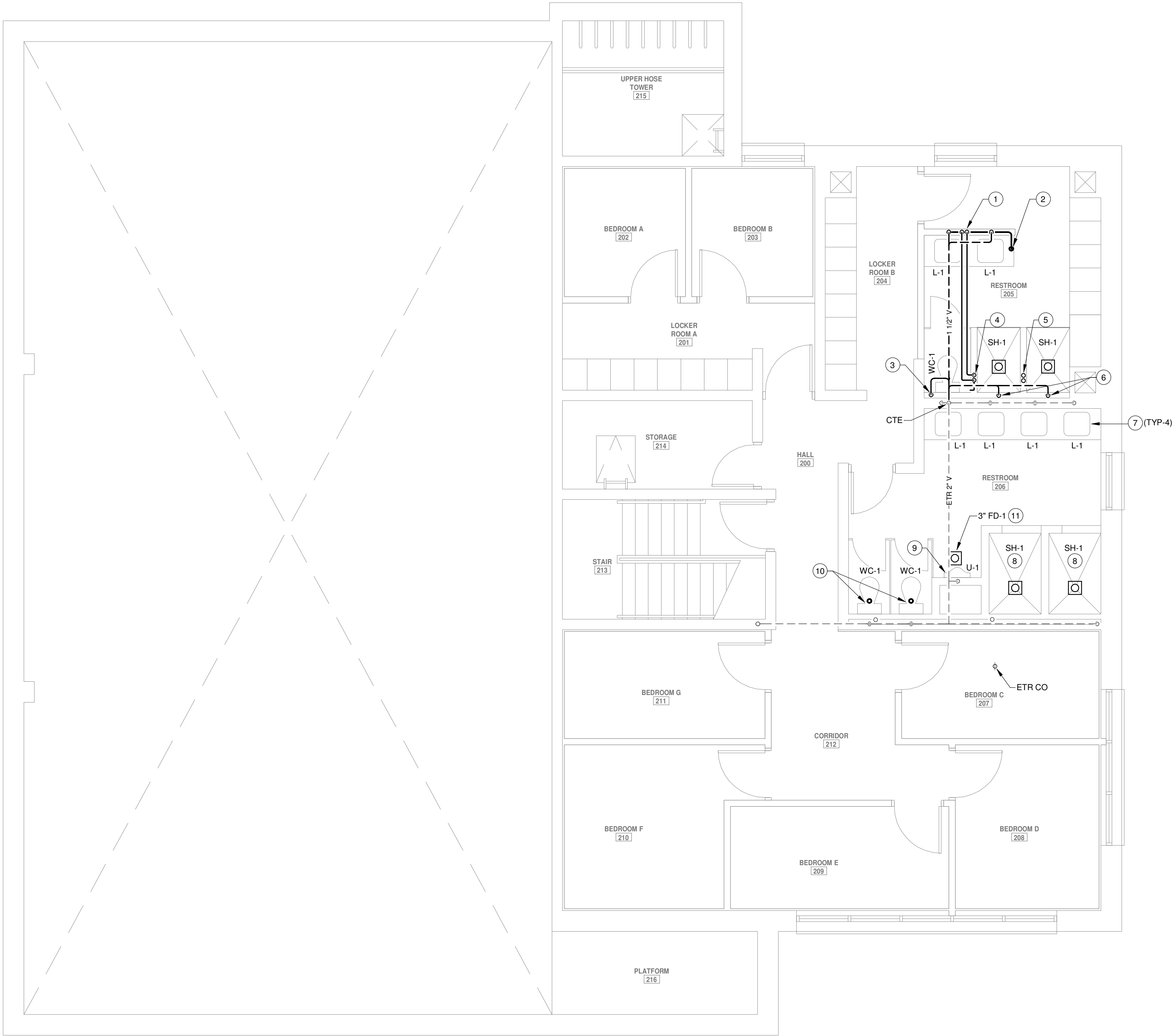
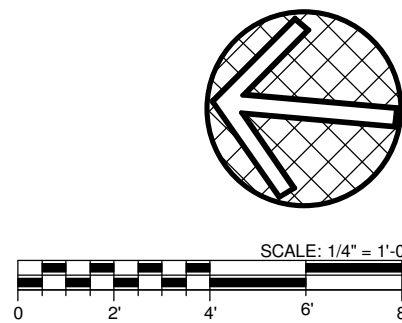
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SECOND FLOOR  
PLUMBING PLAN

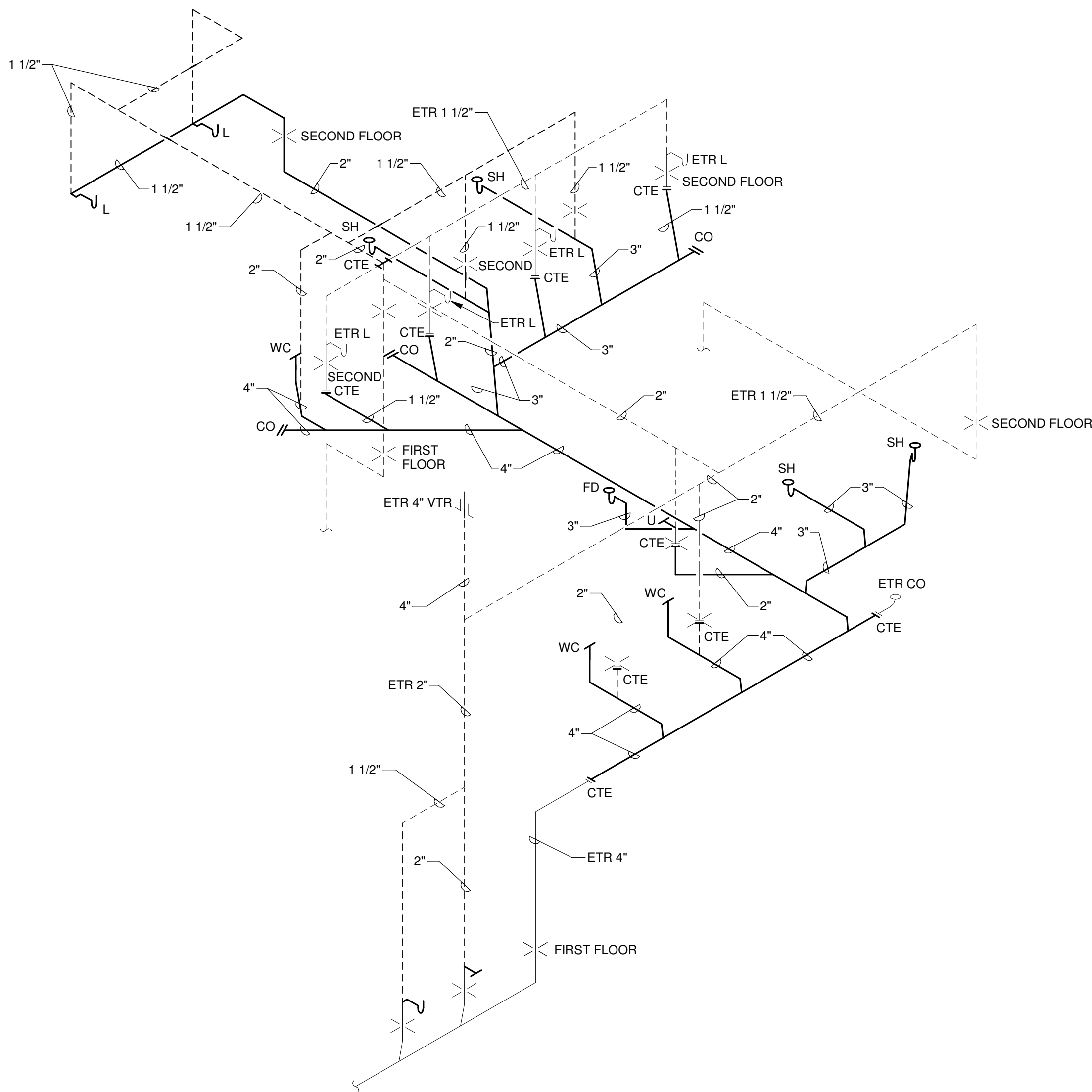
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P1-2

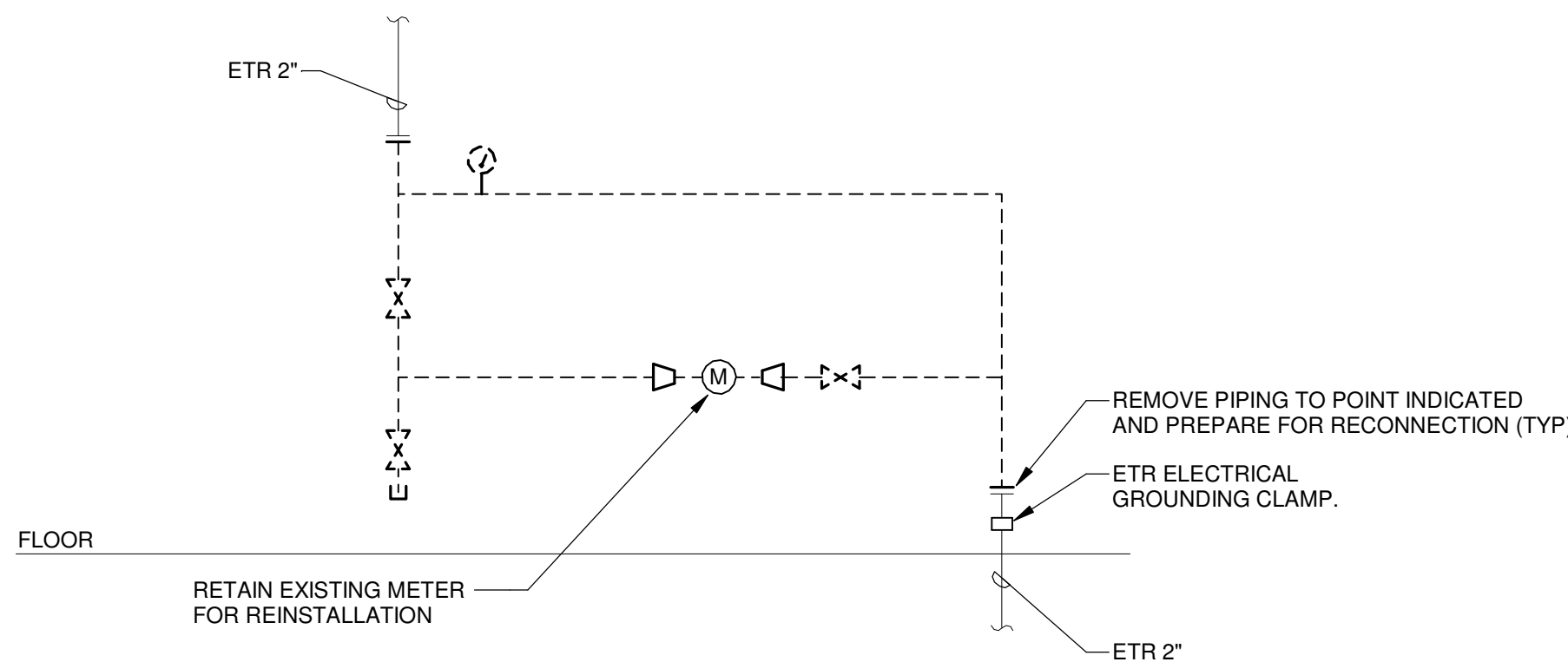
- # PLAN NOTES
- 3/4" H/CW DN IN WALL TO SERVE (2) LAVS.
  - 2" SAN DN.
  - 2" V DN.
  - 3/4" H/CW FROM BELOW TO SERVE (1) WC, (1) SH, AND (2) L.
  - 1/2" H/CW FROM BELOW TO SERVE (1) SH.
  - 1-1/2" V DN.
  - CONNECT TO EXISTING H/CW, SAN PIPING. PROVIDE NEW TRAP, STOPS, SUPPLY LINES, ESCUTCHEON, ETC.
  - PROVIDE NEW 3" SHOWER DRAIN. COORDINATE WITH GC. CONNECT NEW SHOWER VALVE TO EXISTING H/CW PIPING.
  - CONNECT TO EXISTING CW, SAN PIPING.
  - CONNECT TO EXISTING CW. PROVIDE NEW STOP, SUPPLY LINE AND ESCUTCHEON. PROVIDE NEW FLOOR FLANGE.
  - CONNECT TO EXISTING TRAP PRIMER FEED. VERIFY PROPER FUNCTION OF EXISTING TRAP PRIMER. REPLACE WITH NEW OF SAME TYPE IF NON-FUNCTIONAL.

- GENERAL NOTES
- INSULATE EXISTING HORIZONTAL STORM OFFSETS IN CEILING SPACE AS PER PIPE INSULATION SCHEDULE (APPROXIMATELY 10 FT OF 3" PIPE).
  - REFER TO PLUMBING FIXTURE CONNECTION SCHEDULE FOR ADDITIONAL INFORMATION.

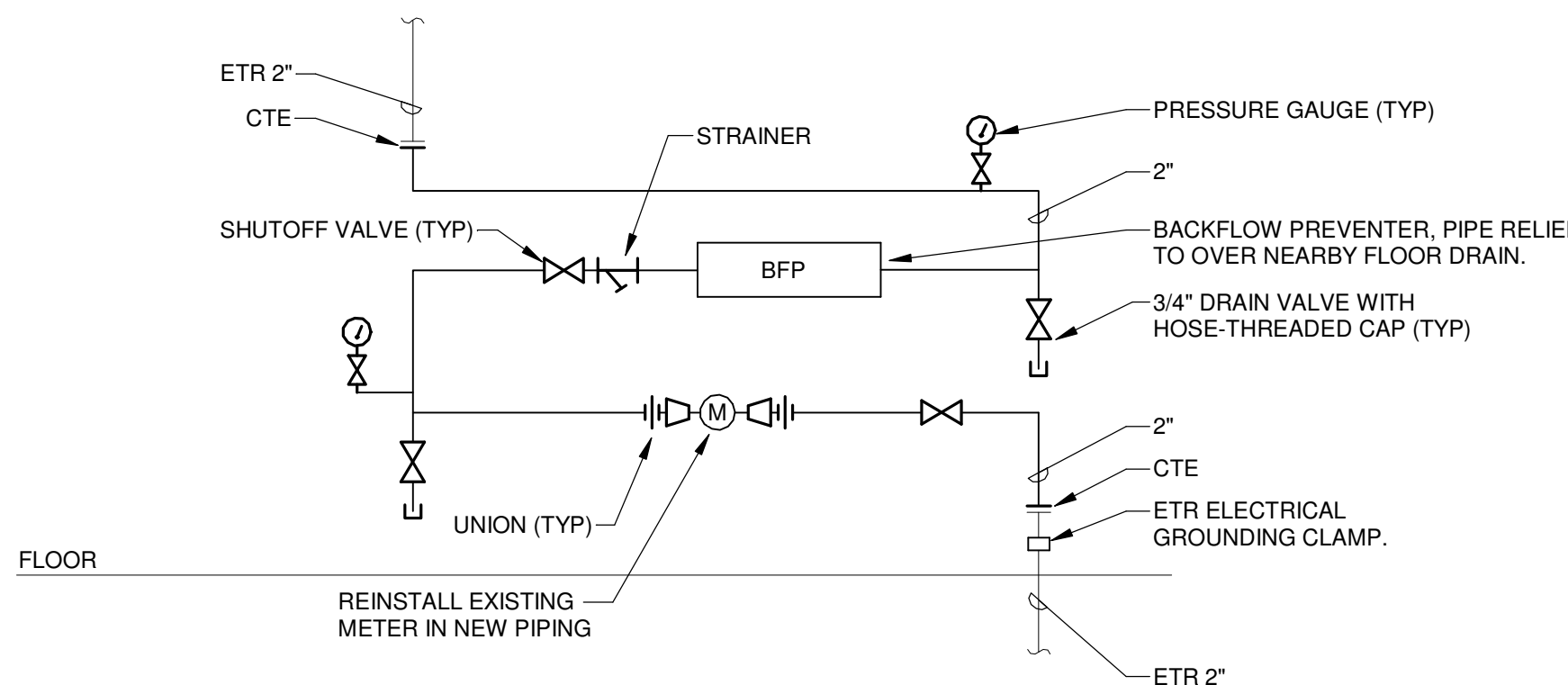




**SANITARY STACK DIAGRAM**  
SCALE: NONE

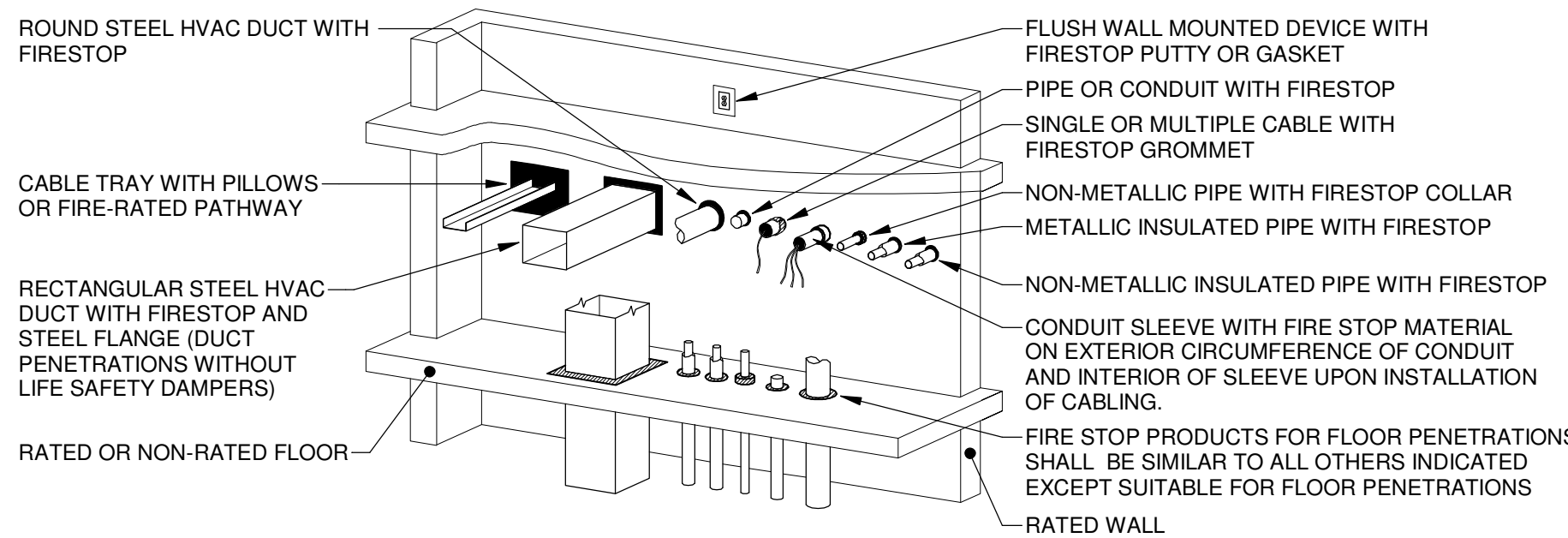


**DEMOLITION**



**NEW**

**WATER SERVICE ENTRY DIAGRAMS**  
SCALE: NONE



- NOTES:
1. REFER TO UL FIRE RESISTANCE DIRECTORY FOR COMPLETE INSTALLATION REQUIREMENTS.
  2. IN AN OCCUPIED BUILDING, PERMANENT FIRESTOPPING SHALL BE INSTALLED WITHIN 24 HOURS OF PENETRATING A FIRE-RATED ASSEMBLY. IF PERMANENT FIRESTOPPING CANNOT BE INSTALLED WITHIN THIS TIME PERIOD, TEMPORARY FIRESTOP PILLOWS/ BLOCKS ARE PERMITTED, WHERE INSTALLATION ALLOWS, UNTIL PERMANENT FIRESTOP MATERIALS CAN BE PROPERLY INSTALLED.
  3. THIS DETAIL IS A GENERAL DEPICTION OF FIRESTOPPING CONDITIONS. SOME CONDITIONS MAY NOT APPLY TO THE PROJECT SCOPE. REFER TO APPLICABLE SPECIFICATIONS AND LIFE SAFETY DRAWINGS AND REFERENCES FOR ADDITIONAL INFORMATION.

**FIRESTOPPING DETAIL**  
SCALE: NONE

REVISIONS:



**Karpinski**  
ENGINEERING

13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

CANTON OHIO 44702

600 MARKET AVENUE NORTH

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THIS DWG :  
PLUMBING  
DETAILS AND  
DIAGRAMS

COMM 22155  
DATE 07-17-23

DWG  
**P6-1**

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ENGINEERING  
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330-699-4077  
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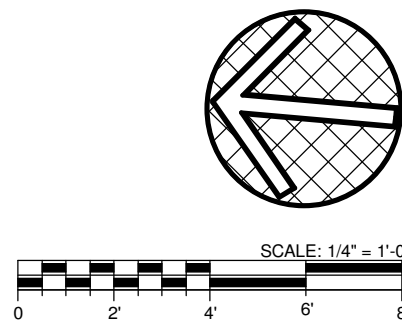


THIS DWG :  
FIRST FLOOR  
HVAC  
DEMOLITION  
PLAN

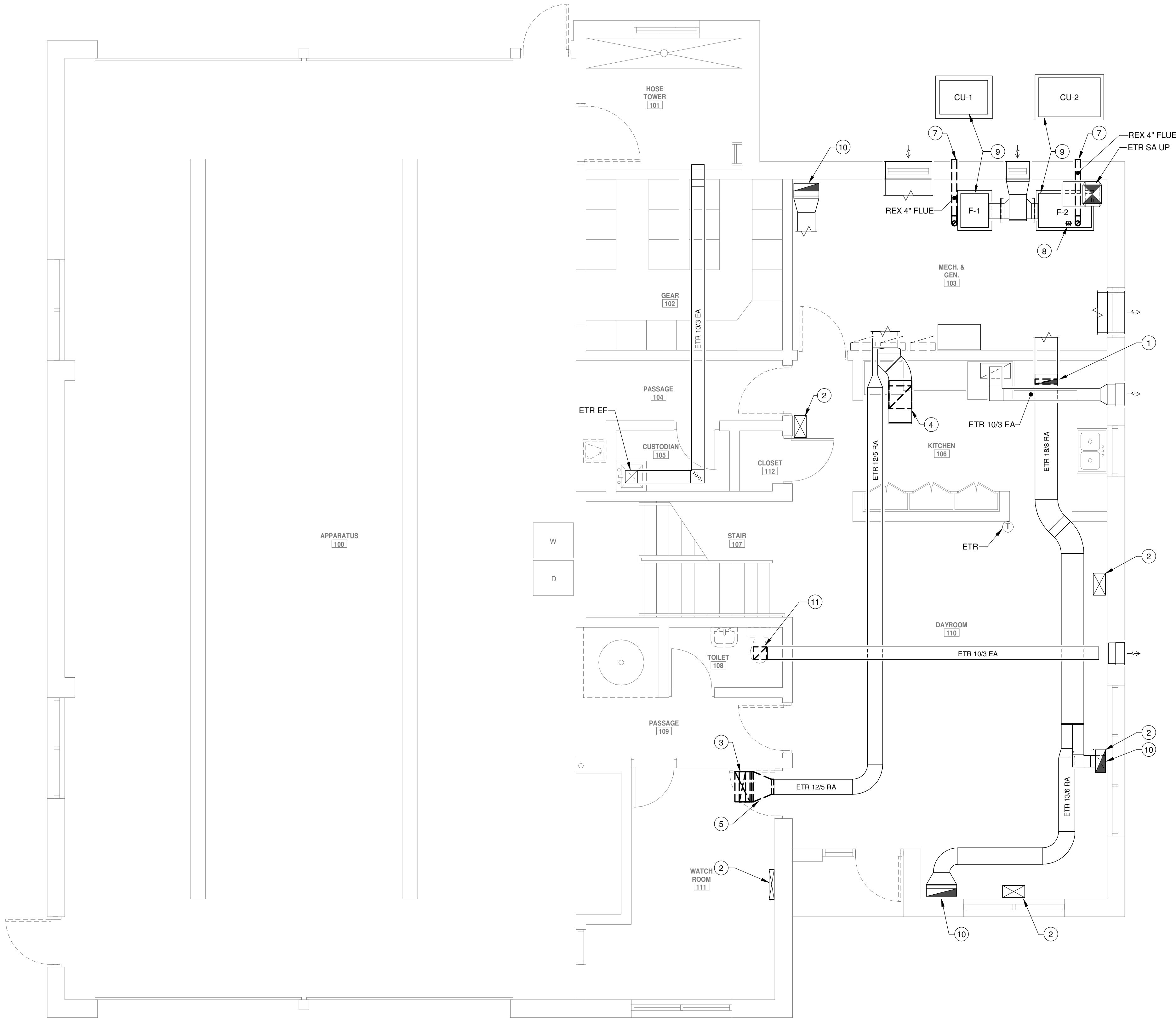
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HD-1

CONSTRUCTION DRAWINGS



- # PLAN NOTES
- 1 REMOVE DUCTWORK TO POINT INDICATED AND CAP AT MAIN.
  - 2 CLEAN EXISTING FLOOR GRILLE.
  - 3 REMOVE EXISTING GRILLE/ DIFFUSER AND ASSOCIATED DUCTWORK AS INDICATED.
  - 4 REMOVE EXISTING GRILLE/ DIFFUSER AND PREPARE DUCTWORK FOR CONNECTION TO NEW.
  - 5 REMOVE DUCTWORK TO POINT INDICATED AND PREPARE FOR RECONNECTION.
  - 7 REMOVE EXISTING FURNACE FLUE THROUGH EXTERIOR WALL. FLUE TO BE REWORKED TO DISCHARGE AWAY FROM INTAKE LOUVERS. WALL PENETRATIONS TO BE REUSED FOR COMBUSTION AIR INTAKE.
  - 8 REMOVE COMBUSTION AIR INTAKE TERMINATING WITHIN MECHANICAL ROOM.
  - 9 CLEAN CONDENSING UNIT FINS/COILS. VERIFY PROPER REFRIGERANT CHARGE. CLEAN THE ASSOCIATED COOLING COIL AT THE FURNACE. REPLACE FURNACE FILTERS AND VERIFY PROPER SYSTEM OPERATION IN COOLING AND HEATING MODES. LEAVE FAN OPERATION SET TO 'ON' (FOR VENTILATION AND AIR QUALITY PURPOSES), NOT IN 'AUTO'.
  - 10 EXISTING RA UP TO FLOOR GRILLE ABOVE TO REMAIN.
  - 11 REMOVE EXISTING CEILING-MOUNTED EXHAUST FAN. PREPARE ASSOCIATED EXHAUST DUCT FOR CONNECTION TO NEW.



REVISIONS:



**Karpinski**  
ENGINEERING  
13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
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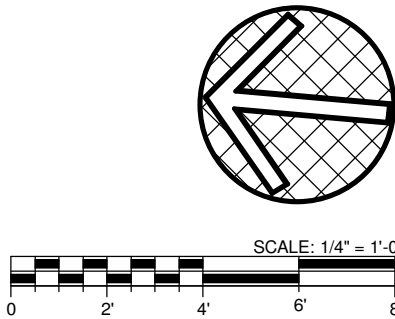
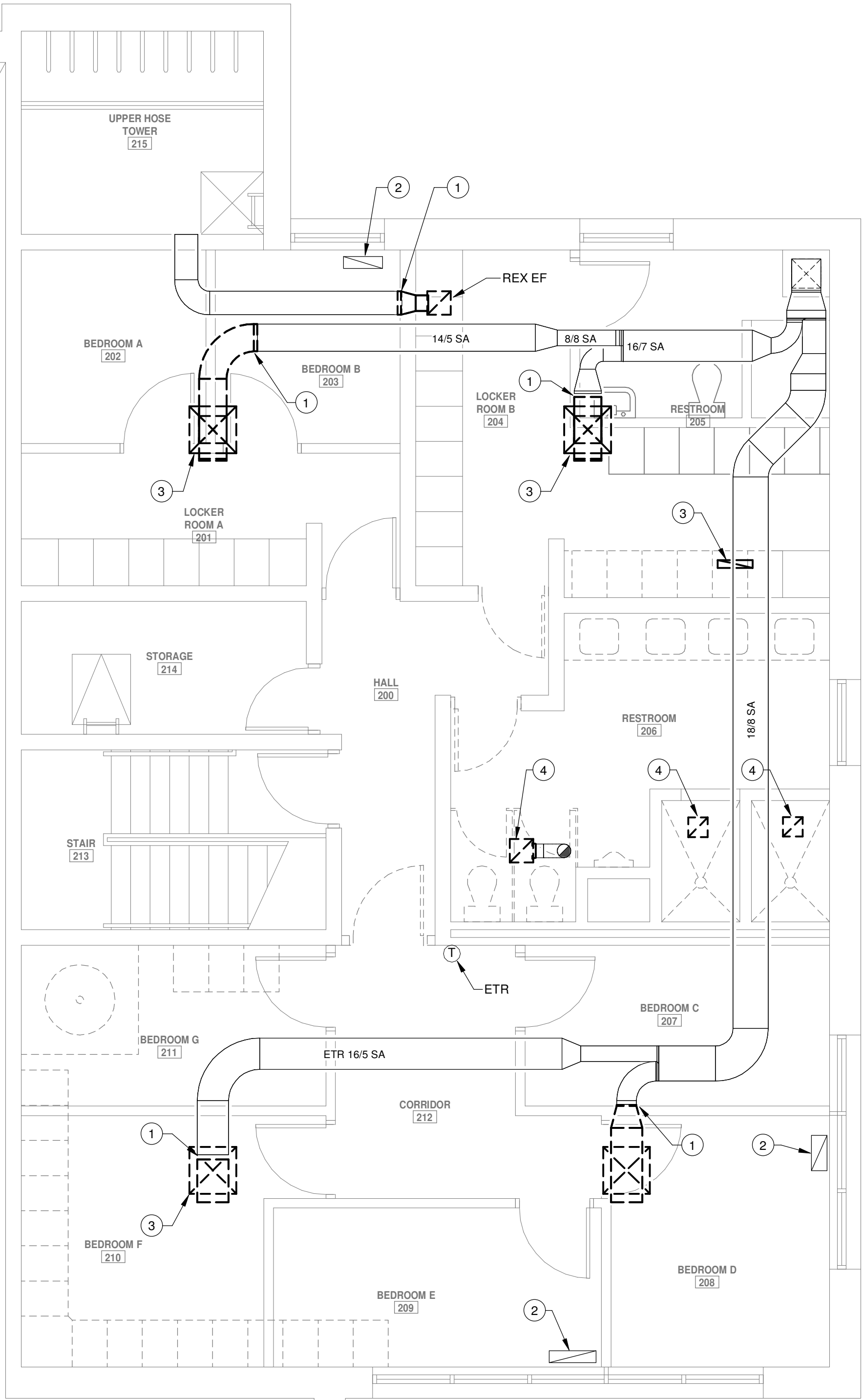


THIS DWG :  
SECOND FLOOR  
HVAC  
DEMOLITION  
PLAN

COMM 22155  
DATE 07-17-23

DWG  
HD-2

- # PLAN NOTES
- 1 REMOVE DUCTWORK TO POINT INDICATED AND PREPARE FOR RECONNECTION.
  - 2 CLEAN EXISTING FLOOR GRILLE.
  - 3 REMOVE EXISTING GRILLE/ DIFFUSER AND ASSOCIATED DUCTWORK AS INDICATED.
  - 4 REMOVE EXISTING CEILING MOUNTED EXHAUST FAN. PREPARE ASSOCIATED EXHAUST DUCT FOR CONNECTION TO NEW.



CONSTRUCTION DRAWINGS





REVISIONS:



**Karpinski**  
ENGINEERING

13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

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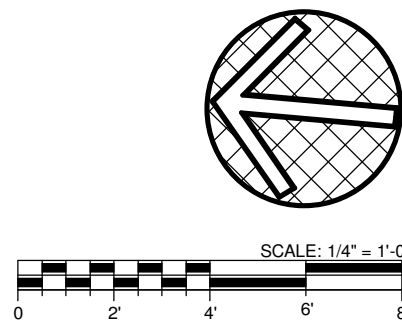


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FIRST FLOOR  
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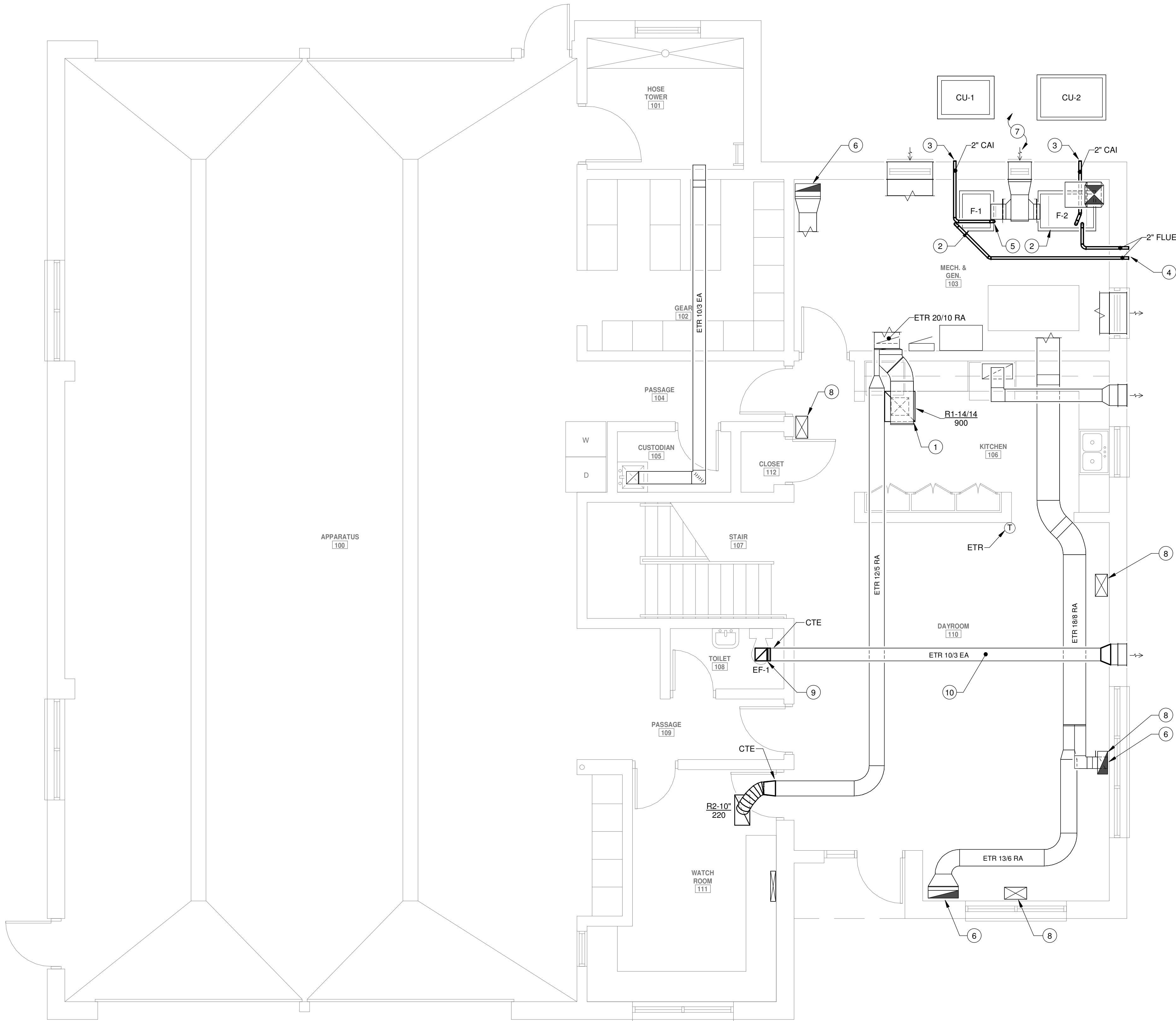
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DWG  
H1-1

CONSTRUCTION DRAWINGS



- # PLAN NOTES
- CONNECT TO EXISTING DUCT. MODIFY DUCTWORK AS NEEDED FOR ALIGNMENT WITH NEW CEILING GRID.
  - REMOVE EXISTING UV LIGHT ASSEMBLY IN RETURN PLENUM AT FURNACE. REINSTALL IN CORRECT ORIENTATION (AIRFLOW DIRECTION). REPAIR SHEET METAL AS REQUIRED. COORDINATE WITH EC.
  - EXTEND CAI OUT THRU WALL PENETRATION WHERE FLUE WAS REMOVED. TERMINATE PER MANUFACTURER'S REQUIREMENTS.
  - TERMINATE FURNACE FLUES THRU EXTERIOR WALL ADJACENT TO DISCHARGE LOUVER AND PER MANUFACTURER'S REQUIREMENTS.
  - PROVIDE CAI PIPING ADAPTER FLANGE FOR CONNECTION TO F-1.
  - EXISTING RA UP TO FLOOR GRILLE ABOVE TO REMAIN.
  - REFER TO DEMOLITION PLAN FOR ADDITIONAL SCOPE ASSOCIATED WITH EXISTING FURNACES AND CONDENSING UNITS.
  - EXISTING FLOOR SUPPLY GRILLE TO REMAIN.
  - CONNECT FAN TO EXISTING DUCTWORK. COORDINATE CEILING CUTTING/PATCHING WITH GC.
  - INSULATE EXISTING EXHAUST DUCT BETWEEN FAN'S DISCHARGE DAMPER AND EXTERIOR WALL. REFER TO INSULATION SCHEDULE.



REVISIONS:



**Karpinski**  
ENGINEERING  
13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

CANTON OHIO 44702

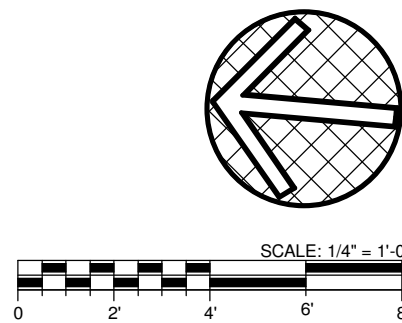
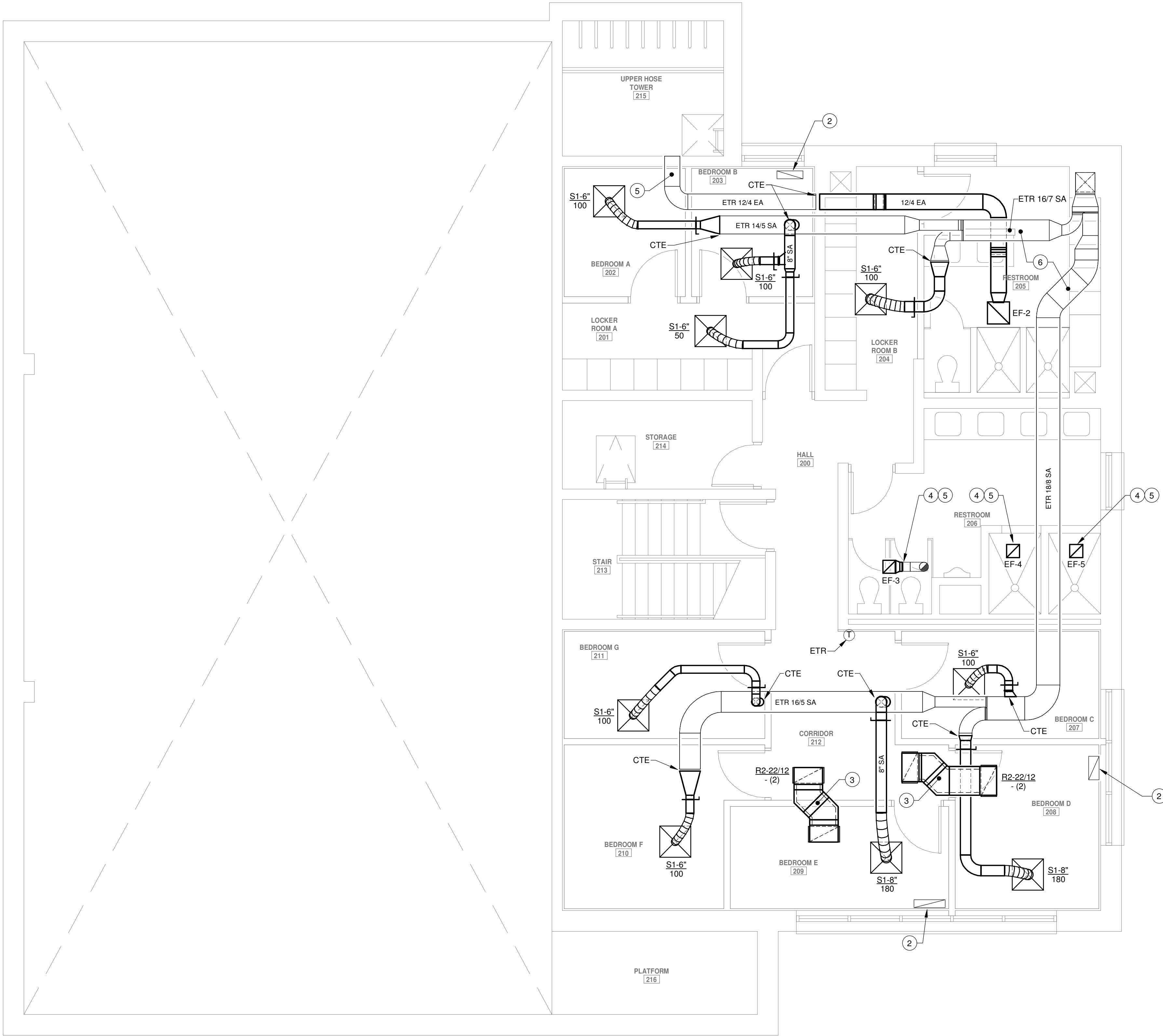
600 MARKET AVENUE NORTH

MOTTER & MEADOWS  
ARCHITECTS

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATION  
1330 DUEBER AVE SW

CANTON, OHIO

- # PLAN NOTES
- EXISTING FLOOR RETURN GRILLE TO REMAIN. ENSURE ASSOCIATED VOLUME DAMPER IS FULLY OPENED TO ALLOW UNINHIBITED FLOW TO THE ASSOCIATED FURNACE.
  - 22/8 RETURN AIR TRANSFER DUCT WITH ACOUSTICAL LINING. CONNECT FAN TO EXISTING DUCTWORK. COORDINATE CEILING CUTTING/PATCHING WITH GC.
  - INSULATE EXISTING EXHAUST DUCT BETWEEN FAN'S DISCHARGE DAMPER AND EXTERIOR WALL. REFER TO INSULATION SCHEDULE.
  - REPAIR DAMAGED INSULATION ON EXISTING SUPPLY DUCT AS REQUIRED.



CONSTRUCTION DRAWINGS

THIS DWG :  
SECOND FLOOR  
HVAC PLAN

COMM 22155  
DATE 07-17-23

DWG  
H1-2







REVISIONS:



**Karpinski**  
ENGINEERING  
13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

600 MARKET AVENUE NORTH CANTON OHIO 44702

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FIRE STATION NO. 8 - RENOVATION  
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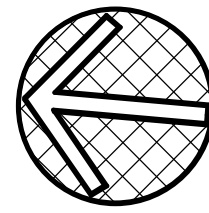
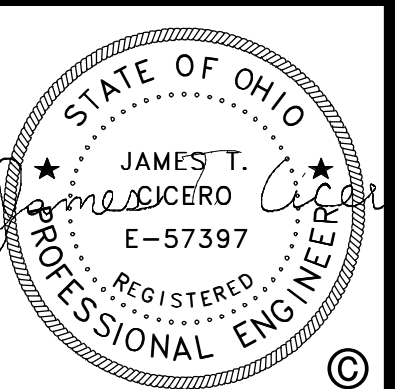
CANTON, OHIO

CONSTRUCTION DRAWINGS

THIS DWG :  
FIRST FLOOR  
ELECTRICAL  
DEMOLITION  
PLAN

COMM 22155  
DATE 07-17-23

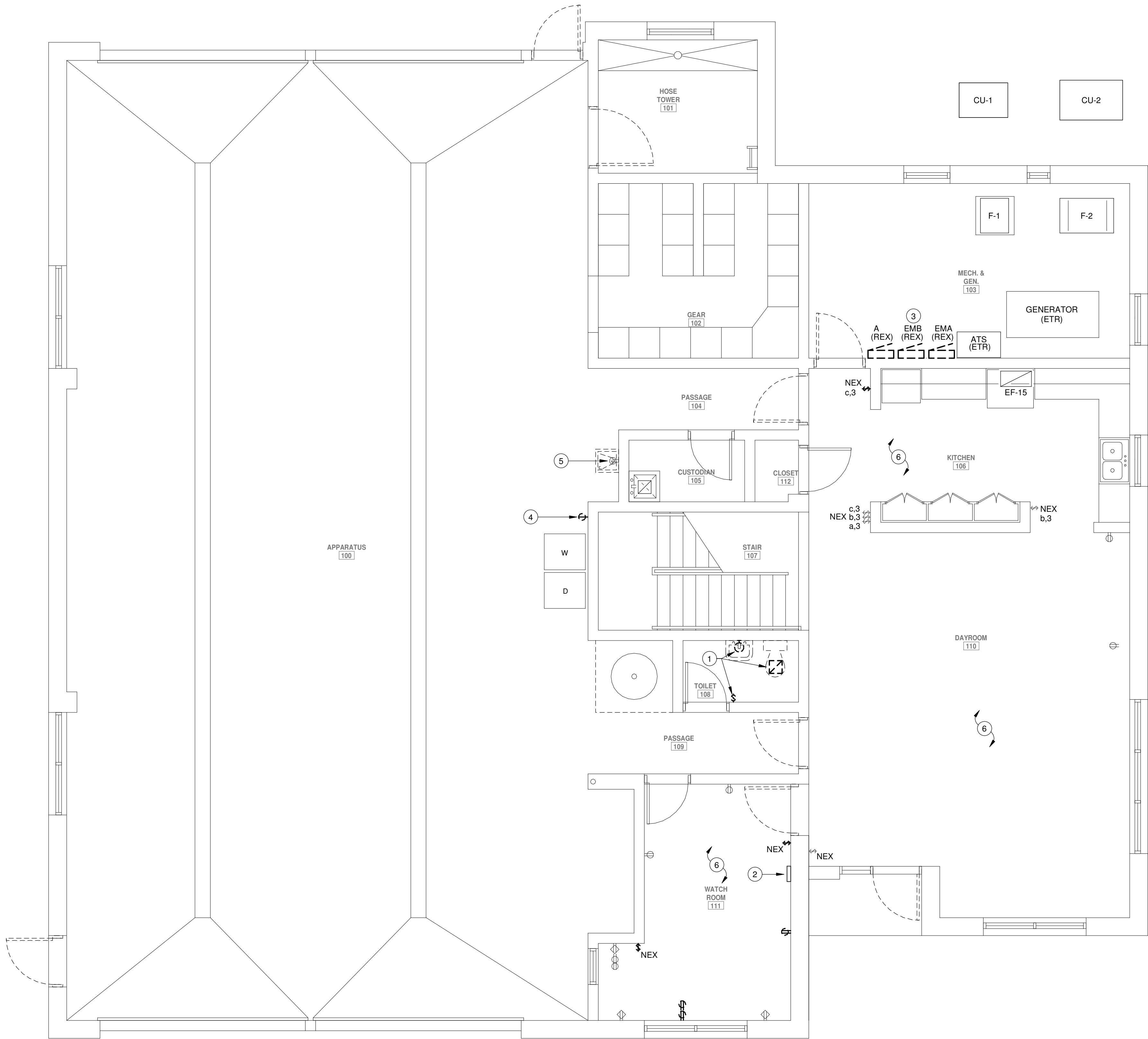
DWG  
ED-1



SCALE: 1/4" = 1'-0"  
0 2 4 6 8

# PLAN NOTES

- 1 REMOVE EXISTING WALL-MOUNTED LUMINAIRE, LIGHTING TOGGLE SWITCH AND EXHAUST FAN CONNECTION. MAINTAIN BACKBOXES AND BRANCH CIRCUIT WIRING FOR RECONNECTION TO NEW.
- 2 EXISTING ABANDONED TIME CLOCK TO BE DISCONNECTED AND REMOVED. UNIT IS HARDWIRED VIA SURFACE RACEWAY TO ADJACENT DUPLEX RECEPTACLE.
- 3 EXISTING PANELBOARDS TO BE REMOVED AND REPLACED. REFER TO ONE LINE DIAGRAM FOR SCOPE OF WORK. ALL EXISTING BRANCH CIRCUITS ARE TO BE MAINTAINED AND RECONNECTED TO NEW PANELBOARDS. PROVIDE NEW SURFACE-MOUNTED WIREWAYS BELOW PANELBOARDS FOR SPICING/EXTENSION OF EXISTING BRANCH CIRCUIT WIRING AS REQUIRED.
- 4 EXISTING DRYER RECEPTACLE: REMOVE DEVICE AND BRANCH CIRCUIT WIRING BACK TO SOURCE. PROVIDE BLANK COVERPLATE FOR EXISTING TO REMAIN RECESSED BACKBOX.
- 5 EXISTING WATER COOLER: PROVIDE NEW GFCI-TYPE RECEPTACLE IN EXISTING BACKBOX FOR WASHER APPLIANCE CONNECTION. MAINTAIN EXISTING BRANCH CIRCUIT FED FROM PANEL 'A', CIRCUIT #6.
- 6 ALL LUMINAIRES AND LOCAL LIGHTING CONTROL DEVICES IN THIS AREA SHALL BE REMOVED BY OWNER. MAINTAIN EXISTING BRANCH CIRCUIT WIRING FOR RECONNECTION TO NEW.



REVISIONS:



**Karpinski**  
ENGINEERING

13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

600 MARKET AVENUE NORTH CANTON OHIO 44702

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FIRE STATION NO. 8 - RENOVATION

CANTON, OHIO



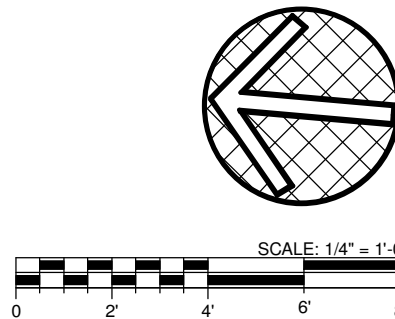
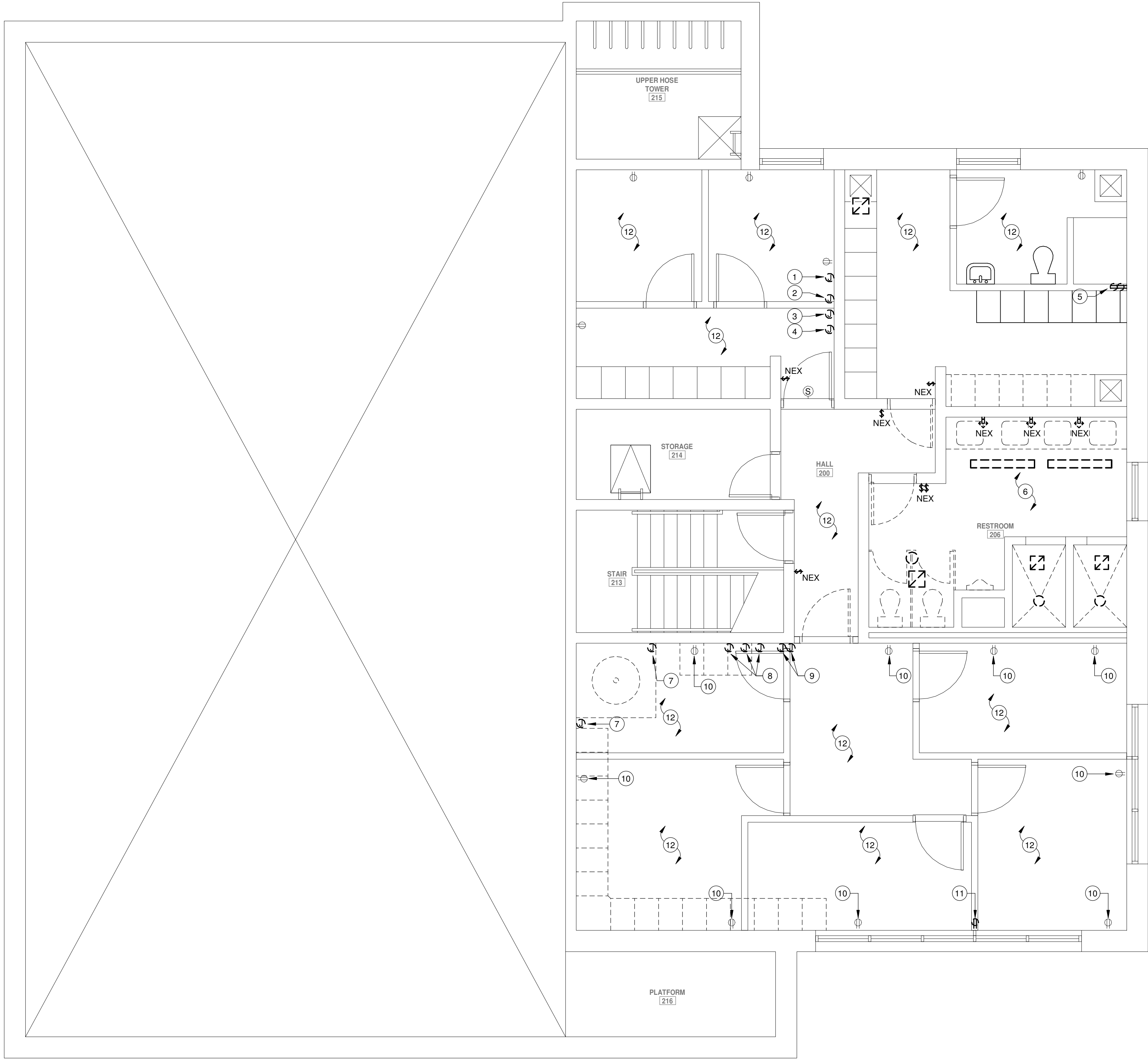
THIS DWG :  
SECOND FLOOR  
ELECTRICAL  
DEMOLITION  
PLAN

COMM 22155  
DATE 07-17-23

DWG  
ED-2

PLAN NOTES

- EXISTING NIGHTLIGHT FIXTURE.
- EXISTING 8"x10" RECESSED BACKBOX AT 72" AFF. REMOVE EXISTING, ABANDONED CONDUCTORS AND PROVIDE BLANK COVER.
- EXISTING 2-GANG, RECESSED BACKBOX AT 70" AFF. PROVIDE BLANK COVERPLATE.
- EXISTING 1-GANG, RECESSED BACKBOX AT 70" AFF. PROVIDE BLANK COVERPLATE.
- REMOVE EXISTING QUAD RECEPTACLE AND PORTION OF BRANCH CIRCUIT BACK TO NEXT UPSTREAM DEVICE.
- ALL LUMINAIRES, LOCAL LIGHTING CONTROL DEVICES AND EXHAUST FANS SHALL BE REMOVED IN THIS AREA. MAINTAIN EXISTING BRANCH CIRCUIT WIRING FOR RECONNECTION TO NEW.
- EXISTING NIGHT LIGHT RECESSED BACKBOX AT 18" AFF TO BE REMOVED. REMOVE ALL EXISTING, ABANDONED WIRING BACK TO SOURCE.
- EXISTING COMMUNICATIONS RECESSED BACKBOX AT 75" AFF TO BE REMOVED. REMOVE ALL EXISTING, ABANDONED WIRING BACK TO SOURCE.
- EXISTING RECESSED BACKBOX AT 50" AFF TO BE REMOVED. REMOVE ALL EXISTING, ABANDONED WIRING BACK TO SOURCE.
- EXISTING RECEPTACLE BACKBOX. PROVIDE BOX EXTENSION RING TO ACCOMMODATE NEW WALL CONSTRUCTION. PROVIDE NEW DUPLEX RECEPTACLE AND COVERPLATE.
- EXISTING RECEPTACLE BACKBOX. REMOVE DEVICE AND ASSOCIATED BRANCH CIRCUIT WIRING BACK TO NEAREST UPSTREAM DEVICE TO ACCOMMODATE NEW WALL CONSTRUCTION.
- ALL LUMINAIRES AND LOCAL LIGHTING CONTROL DEVICES IN THIS AREA SHALL BE REMOVED BY OWNER. MAINTAIN EXISTING BRANCH CIRCUIT WIRING FOR RECONNECTION TO NEW.



CONSTRUCTION DRAWINGS

GENERAL ELECTRICAL DEMOLITION NOTES:

- A. ALL LUMINAIRES, DEVICES, AND MISCELLANEOUS EXISTING CONDITIONS SHOWN ON THE DEMOLITION PLANS ARE THE RESULT OF FIELD INSPECTIONS AND ARE NOT INTENDED TO REPRESENT EXACT FIELD CONDITIONS, BUT RATHER THE EXTENT OF ELECTRICAL DEMOLITION. THE ELECTRICAL CONTRACTOR SHALL FIELD VERIFY THE EXTENT OF DEMOLITION PRIOR TO SUBMITTING BID.
- B. REMOVE AND/OR RELOCATE EXISTING ELECTRICAL DEVICES ON WALLS OR CEILINGS BEING REMOVED. COORDINATE SUCH CONDITIONS WITH ARCHITECTURAL DRAWINGS. SEE NEW FLOOR PLANS FOR NEW LOCATIONS OF EXISTING DEVICES BEING RELOCATED.
- C. EXISTING CONDUITS, CIRCUITS OR SYSTEMS IN WALLS OR CEILINGS BEING REMOVED WHICH SERVE SURROUNDING UNREMODELED AREAS SHALL BE REWORKED AND MAINTAINED.
- D. EXISTING CONDUITS, CIRCUITS OR SYSTEMS PASSING THROUGH THE REMODELED AREAS WHICH SERVE UNREMODELED AREAS SHALL REMAIN AND BE PROTECTED DURING DEMOLITION AND REMODELING. RELOCATE AND REROUTE IF REQUIRED.
- E. CONTINUITY OF CIRCUITS INTERRUPTED BY REMOVAL OF ELECTRICAL DEVICES SHALL BE MAINTAINED. PROVIDE JUNCTION BOXES, CONDUIT, AND WIRING EXTENSIONS FOR RELOCATION TO ABOVE ACCESSIBLE CEILINGS.
- F. RE-SUPPORT EXISTING CONDUIT AND CABLES WHICH REMAIN ABOVE CEILINGS PER NATIONAL, STATE, AND LOCAL CODES.
- G. MAINTAIN CONTINUITY OF BRANCH CIRCUITS AND COMMUNICATION CIRCUITS TO ALL DEVICES AND LUMINAIRES SHOWN TO REMAIN (ETR). EXTEND AND MODIFY AS REQUIRED.
- H. ALL NEW AND RELOCATED CONDUIT AND WIRING IN REMODELED AREAS SHALL BE CONCEALED UNLESS OTHERWISE NOTED. COORDINATE WITH ARCHITECT IN FIELD.
- I. FOR ALL DEVICES AND LUMINAIRES BEING REMOVED (REX), REMOVE RELATED CONDUIT AND WIRING TO SOURCE. RE-LABEL EXISTING CIRCUIT BREAKERS AS "SPARE" WHEN LOAD IS COMPLETELY REMOVED OR REVISE LABEL ON PANEL DIRECTORY APPROPRIATELY.
- J. WHERE ELECTRICAL DEVICES ARE DESIGNATED TO BE REMOVED, REMOVE DEVICES AND BACKBOXES AND PATCH/REPAIR WALLS, UNLESS OTHERWISE DIRECTED BY ARCHITECT.

GENERAL ELECTRICAL NOTES:

- A. ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS, OR SHAFTS SHALL BE SEALED IN ACCORDANCE WITH ELECTRICAL FIRESTOPPING SPECIFICATIONS.
- B. CONTRACTOR SHALL COORDINATE LOCATIONS OF ALL LUMINAIRES AND CEILING MOUNTED DEVICES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS, ELEVATIONS, SECTIONS AND DETAILS. CONTRACTOR SHALL ALSO COORDINATE LOCATIONS OF RECEPTACLES AND OTHER WALL MOUNTED DEVICES WITH THE ARCHITECTURAL WALL ELEVATIONS AND FINISHES.
- C. THE ROUTING OF ALL SURFACE MOUNTED/EXPOSED CONDUIT IN UNFINISHED AREAS (OR WHERE NOTED ON THE DRAWINGS) SHALL BE COORDINATED WITH, AND SHALL BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION.
- D. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF MECHANICAL EQUIPMENT WITH THE MECHANICAL CONTRACTOR. EXACT ELECTRICAL REQUIREMENTS SHALL BE VERIFIED IN THE FIELD WITH THE EQUIPMENT'S NAMEPLATE DATA. THE CONTRACTOR SHALL MAKE APPROPRIATE ADJUSTMENTS TO WIRE AND FUSE SIZES IN ACCORDANCE WITH THE NAMEPLATE DATA.
- E. THE ELECTRICAL WIRING, CONNECTION AND PROTECTION REQUIREMENTS FOR OWNER FURNISHED EQUIPMENT SHALL BE VERIFIED IN THE FIELD WITH THE OWNER'S EQUIPMENT SUPPLIER, AND WITH THE NAMEPLATE DATA. CONTRACTOR SHALL FURNISH THE PROPER NEMA RECEPTACLE CONFIGURATIONS, CONNECTIONS, CORDS AND PLUGS, AND CIRCUITS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- F. ALL BRANCH CIRCUITS AND FEEDERS SHALL CONTAIN AN INSULATED GROUNDING CONDUCTOR IN ACCORDANCE WITH ELECTRICAL SERVICE AND POWER DISTRIBUTION SPECIFICATIONS. NEUTRAL CONDUCTORS SHALL NOT BE SHARED IN ACCORDANCE WITH ELECTRICAL BASIC MATERIALS AND METHODS SPECIFICATIONS.
- G. THE DISCONNECTING MEANS FOR ALL MOTORS AND EQUIPMENT SHALL BE INSTALLED IN A "READILY ACCESSIBLE" LOCATION AND SHALL HAVE PROPER WORKING SPACE AS DEFINED IN NEC ARTICLE 100 AND 110.
- H. UTILIZATION OF THE PHRASE "PROVIDED BY" WITHIN THE CONTEXT OF THESE DOCUMENTS SHALL EXPLICITLY REPRESENT "FURNISHED AND NOT INSTALLED BY".
- I. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING NECESSARY FOR INSTALLATION OF NEW WORK. CUTTING OF A STRUCTURAL MEMBER IS PROHIBITED WITHOUT SPECIFIC WRITTEN PERMISSION FROM THE ARCHITECT.

DRAWING LIST - ELECTRICAL	
NUMBER	NAME
E0-1	ELECTRICAL SYMBOL LEGEND AND GENERAL NOTES
E0-2	ELECTRICAL SCHEDULES
ED-1	FIRST FLOOR ELECTRICAL DEMOLITION PLAN
ED-2	SECOND FLOOR ELECTRICAL DEMOLITION PLAN
E1-1	FIRST FLOOR LIGHTING PLAN
E1-2	SECOND FLOOR LIGHTING PLAN
E2-1	FIRST FLOOR POWER AND FIRE ALARM PLAN
E2-2	SECOND FLOOR POWER AND FIRE ALARM PLAN
E7-1	ONE LINE DIAGRAM
E8-1	PANEL SCHEDULES

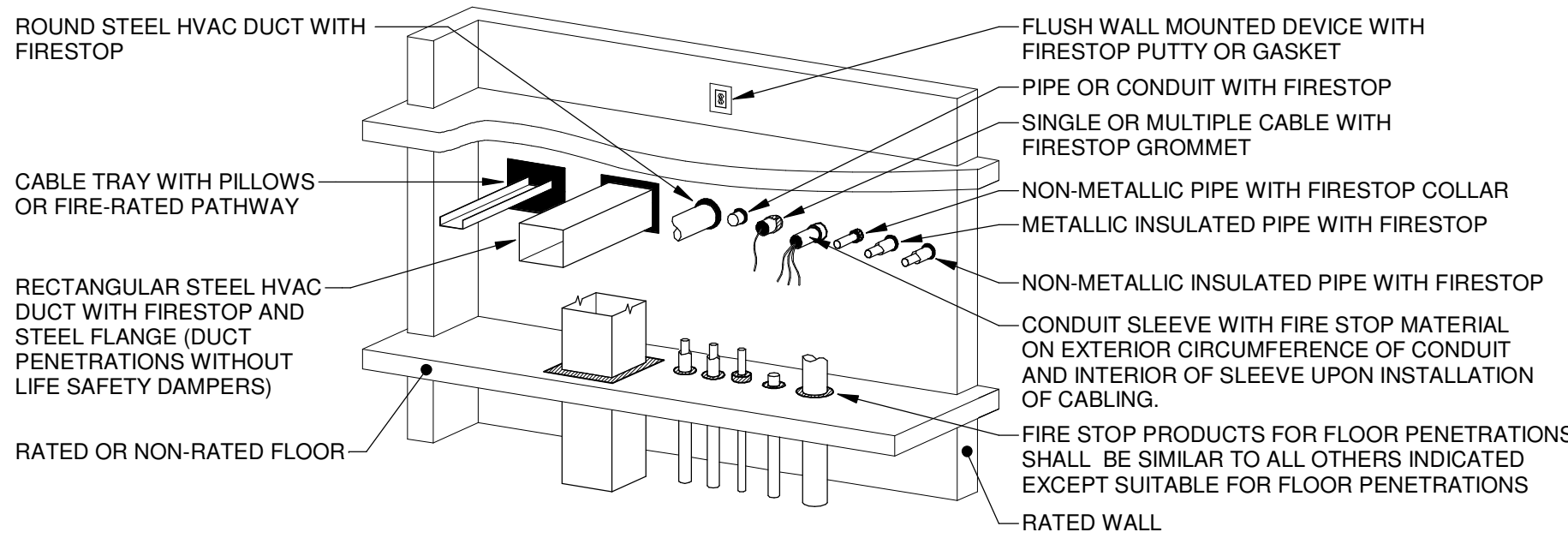
LEGEND - ELECTRICAL DEVICES	
SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE (20A, 125V) TAMPER-RESISTANT SAFETY TYPE AT 18" AFF, UON
	DOUBLE DUPLEX RECEPTACLE (20A, 125V) TAMPER-RESISTANT SAFETY TYPE AT 18" AFF, UON, TYPE AS INDICATED ON DRAWINGS
	DUPLEX RECEPTACLE (20A, 125V) TAMPER-RESISTANT SAFETY TYPE MOUNTED 8" ABOVE COUNTER, UON
	DUPLEX RECEPTACLE (20A, 125V) GROUND-FAULT CIRCUIT INTERRUPTER, TAMPER-RESISTANT SAFETY TYPE AT 18" AFF, UON
	DUPLEX RECEPTACLE (20A, 125V) GROUND-FAULT CIRCUIT INTERRUPTER, TAMPER-RESISTANT SAFETY TYPE MOUNTED 8" ABOVE COUNTER, UON
	SPECIAL PURPOSE SINGLE RECEPTACLE - NEMA CONFIGURATION AND HEIGHT AS INDICATED ON DRAWINGS
	SURFACE RACEWAY - REFER TO DRAWINGS FOR REQUIREMENTS
	JUNCTION BOX - MOUNTING HEIGHT AND SIZE AS REQUIRED BY CODE OR AS NOTED ON DRAWINGS

LEGEND - ELECTRICAL DISTRIBUTION	
SYMBOL	DESCRIPTION
	PANELBOARD (120/240V, 1Ø, 3 WIRE)
	AUTOMATIC TRANSFER SWITCH

LEGEND - FIRE ALARM DEVICES	
SYMBOL	DESCRIPTION
	FIRE ALARM SMOKE DETECTOR - WALL MOUNTED

LEGEND - LIGHTING DEVICES	
SYMBOL	DESCRIPTION
	SWITCH (20A, 120/277V, SINGLE POLE) AT 44" CL AFF, UON
	DIMMER, 0-10V UON AT 44" CL AFF, UON
	LIGHTING CONTROL VACANCY SENSOR - WALL MOUNTED AT 44" CL AFF, UON

VACANCY SENSOR TYPE SCHEDULE	
LABEL	DESCRIPTION
PS	PASSIVE INFRARED, SINGLE LEVEL SWITCHING, TWO LEVEL DETECTION, MOUNTED AT 44" AFF, UON



- NOTES:
- REFER TO UL FIRE RESISTANCE DIRECTORY FOR COMPLETE INSTALLATION REQUIREMENTS.
  - IN AN OCCUPIED BUILDING, PERMANENT FIRESTOPPING SHALL BE INSTALLED WITHIN 24 HOURS OF PENETRATING A FIRE-RATED ASSEMBLY. IF PERMANENT FIRESTOPPING CANNOT BE INSTALLED WITHIN THIS TIME PERIOD, TEMPORARY FIRESTOP (PILLOWS) BLOCKS ARE PERMITTED, WHERE INSTALLATION ALLOWS, UNTIL PERMANENT FIRESTOP MATERIALS CAN BE PROPERLY INSTALLED.
  - THIS DETAIL IS A GENERAL DEPICTION OF FIRESTOPPING CONDITIONS. SOME CONDITIONS MAY NOT APPLY TO THE PROJECT SCOPE. REFER TO APPLICABLE SPECIFICATIONS AND LIFE SAFETY DRAWINGS AND REFERENCES FOR ADDITIONAL INFORMATION.

FIRESTOPPING DETAIL  
SCALE: NONE

ONE LINE DIAGRAM LEGEND	
SYMBOL	DESCRIPTION
	BRANCH PANELBOARD
	GROUND
	FEEDER DESIGNATION, REFER TO FEEDER SCHEDULE ON DRAWINGS
	MOLDED CASE CIRCUIT BREAKER (NON-ADJUSTABLE)
	CIRCUIT BREAKER IN AN ENCLOSURE
	FUSED DISCONNECT SWITCH IN AN ENCLOSURE
	NON-FUSED DISCONNECT SWITCH IN AN ENCLOSURE
	COMBINATION MAGNETIC MOTOR STARTER/FUSED DISCONNECT SWITCH IN AN ENCLOSURE
	SURGE PROTECTIVE DEVICE
	UTILITY METER
	AVAILABLE SYMMETRICAL FAULT CURRENT
	TRANSFORMER (SECONDARY 600 VOLTS OR LESS)
	EMERGENCY/STANDBY GENERATOR WITH CIRCUIT BREAKER DISCONNECT SWITCH
	AUTOMATIC TRANSFER SWITCH

GENERAL ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
A	AMPERES
ADA	AMERICANS WITH DISABILITIES ACT
AF	AMP FUSED
AFCI	ARC-FAULT CIRCUIT INTERRUPTER
AFB	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AS	AMP SWITCH
ATS	AUTOMATIC TRANSFER SWITCH
BAS	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
C/B	CIRCUIT BREAKER
CATV	COMMUNITY ANTENNA TELEVISION (CABLE TELEVISION)
CCT	CORRELATED COLOR TEMPERATURE
CL	CENTER LINE
CM	CONSTRUCTION MANAGER
EC	ELECTRICAL CONTRACTOR
EMT	ELECTRICAL METALLIC TUBING
ETR	EXISTING ELECTRICAL DEVICE TO REMAIN
GC	GENERAL CONTRACTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER - PERSON PROTECTION
GFP	GROUND FAULT PROTECTION
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
KWC	KILOWATTS CONNECTED
KWD	KILOWATTS DEMAND
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MTS	MANUAL TRANSFER SWITCH
NEC	NATIONAL ELECTRICAL CODE
NEX	REMOVE EXISTING ELECTRICAL DEVICE AND INSTALL NEW ELECTRICAL DEVICE IN EXISTING OUTLET BOX. REFER TO NEW FLOOR PLANS FOR NEW DEVICE TYPE AND WIRING REQUIREMENTS. PROVIDE NEW COVERPLATE.
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
OBC	OHIO BUILDING CODE
OFE	OWNER FURNISHED EQUIPMENT
PC	PLUMBING CONTRACTOR
ø	PHASE
RD	NEW LOCATION OF RELOCATED ELECTRICAL DEVICE
REX	REMOVE EXISTING ELECTRICAL DEVICE ALONG WITH RELATED CONDUIT AND WIRING. UON
RR	REMOVE AND RELOCATE EXISTING ELECTRICAL DEVICE AS SHOWN OR AS NOTED ON DRAWINGS
TB	TELECOMMUNICATIONS BACKBOARD
TCC	TEMPERATURE CONTROL CONTRACTOR
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLTS
W	WIRE
WP	WEATHERPROOF

POWER CIRCUITING GUIDE	
SYMBOL	DESCRIPTION
	X:1 ← POWER CIRCUITING DESIGNATION X: PANEL NAME 1: CIRCUIT NUMBER
	DEVICE, JUNCTION BOX, FLOOR BOX, ETC.
	EQUIPMENT ABBREVIATION, REFER TO EQUIPMENT ABBREVIATION SCHEDULE FOR ADDITIONAL INFORMATION

LIGHTING CIRCUITING GUIDE	
SYMBOL	DESCRIPTION
	X:1 ← LIGHTING CIRCUITING DESIGNATION X: PANEL NAME 1: CIRCUIT NUMBER a,b: LIGHTING CONTROL ZONE - STAND ALONE LIGHTING CONTROL
	LIGHTING DESIGNATION REFER TO LUMINAIRE SCHEDULE
SYMBOL	DESCRIPTION
	LUMINAIRE DESIGNATED AS NIGHT LIGHT WITH NO LIGHTING CONTROL FOR EGRESS WIRED TO EMERGENCY CIRCUIT (NEC 700) - AT CEILING, RECESSED OR SURFACE MOUNTED
	LUMINAIRE WITH LIGHTING CONTROL FOR EGRESS WIRED TO EMERGENCY CIRCUIT (NEC 700) - AT CEILING, RECESSED OR SURFACE MOUNTED

REVISIONS:



Karpinski  
ENGINEERING

13714 Cleveland Ave. NW  
Uniontown, OH 44685

330-699-4077  
karpinskieng.com

44702

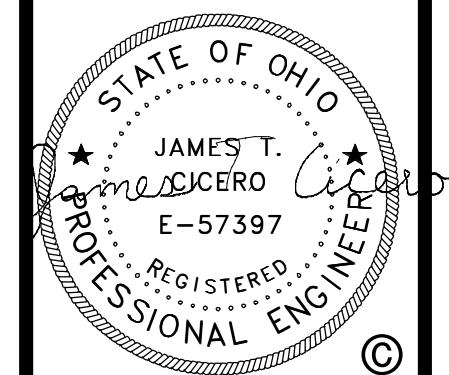
CANTON OHIO

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





THIS DWG :  
ELECTRICAL  
SYMBOL LEGEND  
AND GENERAL  
NOTES

COMM 22155  
DATE 07-17-23

DWG  
E0-1

CONSTRUCTION DRAWINGS

LUMINAIRE SCHEDULE - LED												
SYMBOL	TYPE	MOUNTING	LUMENS	CCT	CRI	DRIVER(S)		WATTAGE	VOLTAGE	LUMINAIRE DESCRIPTION	ACCEPTABLE MANUFACTURERS	NOTES
						TYPE	QTY					
	DL6M	RECESSED	1500	4000	80	0-10V	1	23 W	UNIV	6" DIAMETER, 9" DEEP DOWNLIGHT WITH SELF-FLANGED, SEMI-DIFFUSE (HAZE) CLEAR, LOW IRIDESCENT ALUMINUM REFLECTOR, MEDIUM BEAM DISTRIBUTION, AND WHITE PAINTED FLANGE.	GOTHAM ICO PORTFOLIO LD6B PRESCOLITE LTR-6RD.MFC LIGHTOLIER C6R HE WILLIAMS 6DR.TL	1
	DL6W	RECESSED	1500	4000	80	0-10V	1	23 W	UNIV	6" DIAMETER, 9" DEEP LENSED DOWNLIGHT WITH SELF-FLANGED, SEMI-DIFFUSE (HAZE) CLEAR, LOW IRIDESCENT ALUMINUM REFLECTOR, MEDIUM BEAM DISTRIBUTION, IP66 LISTED, AND WHITE PAINTED FLANGE.	GOTHAM ICO PORTFOLIO LD6B.LGSKT6IP66 PRESCOLITE LF6ML.X.X.X. 6LFML30L.XXK.VS.IP65 LIGHTOLIER C6R HE WILLIAMS 6DR.WET.TL	1
	R1	RECESSED	4451	4100	80	0-10V	1	38 W	UNIV	1'x4'x1-3/4" DEEP LUMINAIRE WITH ALUMINUM HOUSING, TRANSLUCENT WHITE FROST LENS, AND WHITE FINISH.	LITHONIA CPX 1X4 ALO7 SSWW7 M4	
	R2	RECESSED	3400	4100	80	0-10V	1	35 W	120 V	2'x2'x1-3/4" DEEP LUMINAIRE WITH ALUMINUM HOUSING, TRANSLUCENT WHITE FROST LENS, AND WHITE FINISH.	LITHONIA CPX 2X2 ALO7 SSWW7 M4	3
	R3	RECESSED	4990	4100	80	0-10V	1	40 W	UNIV	2'x4'x1-3/4" DEEP LUMINAIRE WITH ALUMINUM HOUSING, TRANSLUCENT WHITE FROST LENS, AND WHITE FINISH.	LITHONIA CPX 2X4 ALO8 SSWW7 M2	3
	WB2	SURFACE	2000	4000	85	0-10V	1	23 W	UNIV	4-3/4"W X 4-1/2"D X 2' LONG WALL BRACKET LUMINAIRE WITH STEEL HOUSING, ACRYLIC LENS, AND WHITE FINISH.	LITHONIA BLWP METALUX BC0ED COLUMBIA CWM CONTECH AW	2

LUMINAIRE SCHEDULE NOTES:

1. INSTALLED IN GYPSUM CEILING. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLANS AND PROVIDE PROPER MOUNTING ACCESSORIES.
2. LUMINAIRE TO BE INSTALLED AT HEIGHT OF EXISTING, REMOVED FIXTURE. CONFIRM MOUNTING HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION.
3. FIXTURES FURNISHED BY OWNER. REFER TO FLOOR PLANS FOR INSTALLATION RESPONSIBILITIES.

GENERAL LUMINAIRE NOTES

- A. FIRST MANUFACTURER'S NAME LISTED IN ACCEPTABLE MANUFACTURERS COLUMN IS BASIS OF THE DESIGN. ALTERNATE MANUFACTURERS LISTED SHALL HAVE SIMILAR LUMEN OUTPUT, DIMMING COMPATIBILITY, BEAM DISTRIBUTION, LED COLOR, ETC., AND IS THE RESPONSIBILITY OF THE EC TO SUBMIT EQUIVALENT PRODUCTS.
- B. ALTERNATES FOR LUMINAIRES WITHOUT EQUALS MUST BE PRE-APPROVED BY ENGINEER AND ARCHITECT PRIOR TO BID.
- C. CATALOG SERIES ONLY INDICATED IN ACCEPTABLE MANUFACTURERS COLUMN. SUBMITTAL SHALL INCLUDE FULL MODEL NUMBER INCLUSIVE OF OPTIONS SPECIFIED.
- D. REFER TO LIGHTING SPECIFICATION SECTION FOR ADDITIONAL DRIVER AND/OR LAMP REQUIREMENTS. LAMP MANUFACTURERS LISTED SHALL BE PROVIDED. PROVIDE SHOP DRAWINGS AS REQUIRED BY ELECTRICAL GENERAL PROVISIONS SPECIFICATION SECTION.
- E. ALL 0-10V DRIVERS SHALL BE 1% DIMMING TYPE, UON.

MECHANICAL EQUIPMENT SCHEDULE										
EQUIPMENT TAG		DESCRIPTION	VOLTAGE	PHASE	HP	FLA	KW	CONN.	WIRING	REMARKS
ABBREV.	MARK									
EF	1	EXHAUST FAN	120	1	37 W	0.4	0.1	DC	2#12, #12G IN 3/4" C.	1
EF	2	EXHAUST FAN	120	1	100 W	0.1	0.0	DC	2#12, #12G IN 3/4" C.	1
EF	3	EXHAUST FAN	120	1	37 W	0.4	0.1	DC	2#12, #12G IN 3/4" C.	1
EF	4	EXHAUST FAN	120	1	37 W	0.4	0.1	DC	2#12, #12G IN 3/4" C.	1
EF	5	EXHAUST FAN	120	1	37 W	0.4	0.1	DC	2#12, #12G IN 3/4" C.	1

MECHANICAL EQUIPMENT CONNECTION LEGEND	
MECH CONNECTION	MECHANICAL CONNECTION DESCRIPTION
DC	DIRECT CONNECTION. PROVIDE JUNCTION BOX AND SEALTITE CONNECTION. (MECHANICAL EQUIPMENT FURNISHED WITH INTEGRAL MEANS OF DISCONNECT)

MECHANICAL EQUIPMENT SCHEDULE NOTES:

1. EXHAUST FAN SHALL BE WIRED TO LOCAL LIGHTING BRANCH CIRCUIT AND CONTROLLED THROUGH THE LOCAL LIGHTING CONTROL DEVICE.

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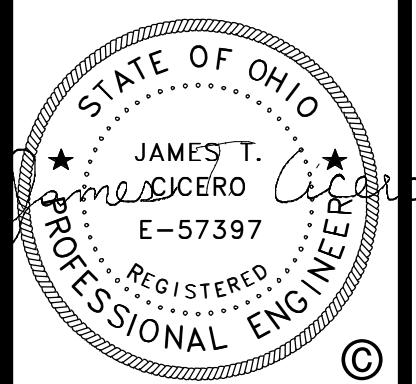
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MOTTER & MEADOWS  
ARCHITECTS

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATION

CANTON, OHIO

1330 DUEBER AVE SW



THIS DWG :  
ELECTRICAL  
SCHEDULES

COMM 22155  
DATE 07-17-23

DWG  
E0-2

CONSTRUCTION DRAWINGS



REVISIONS:



**Karpinski**  
ENGINEERING  
13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

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FIRE STATION NO. 8 - RENOVATION  
1330 DUEBER AVE SW

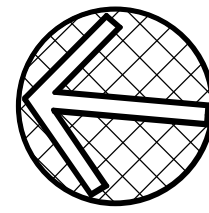
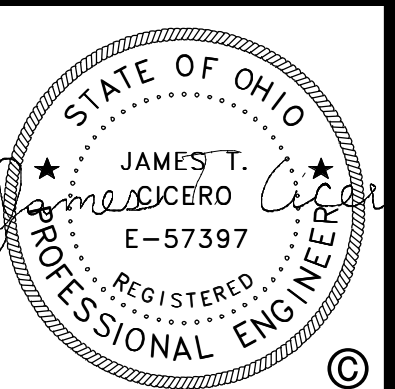
CANTON, OHIO

CONSTRUCTION DRAWINGS

THIS DWG :  
FIRST FLOOR  
LIGHTING PLAN

COMM 22155  
DATE 07-17-23

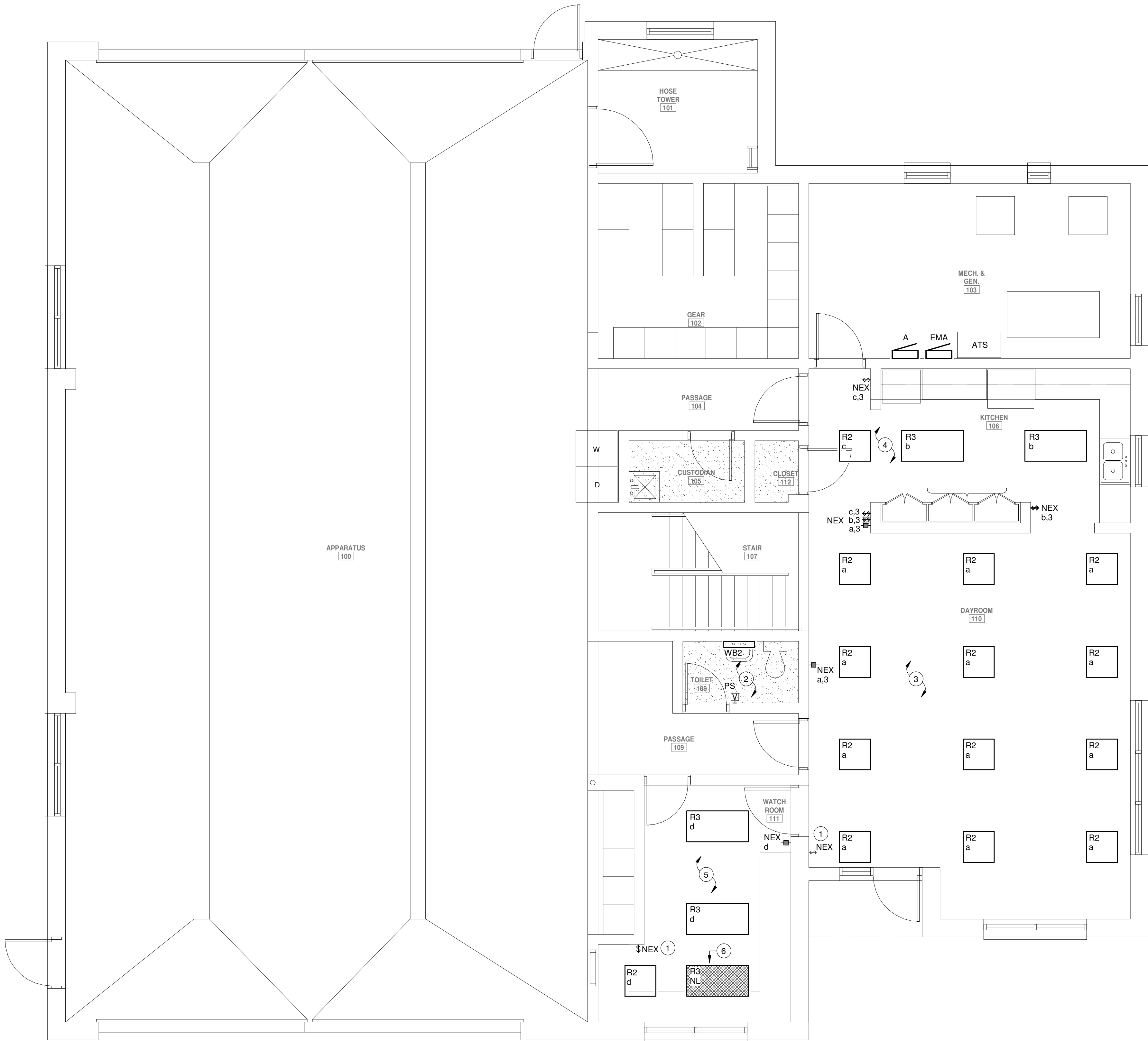
DWG  
E1-1



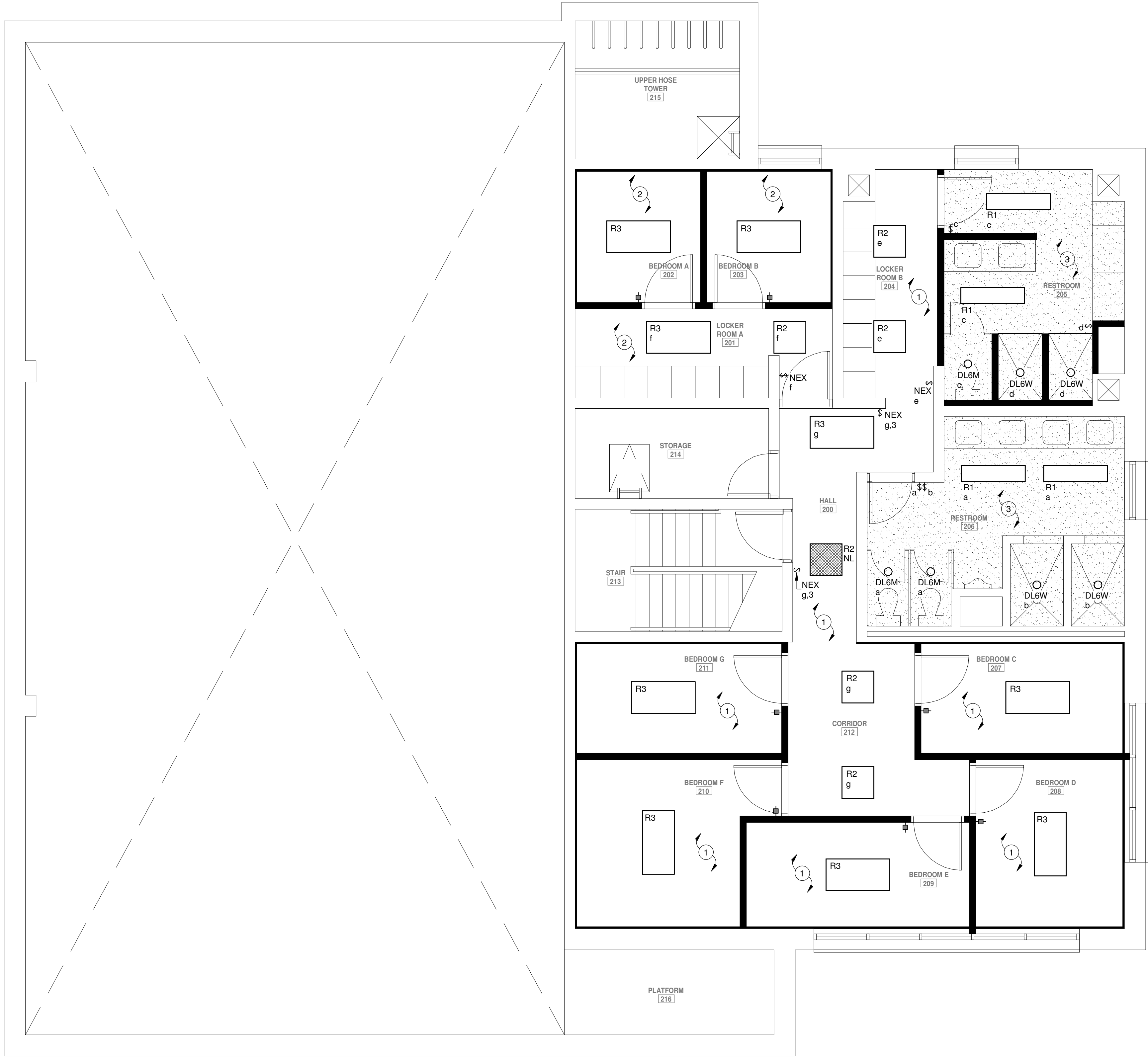
SCALE: 1/4" = 1'-0"  
0 2 4 6 8

# PLAN NOTES

- EXISTING LIGHTING TOGGLE SWITCH FOR EXTERIOR LIGHTING. SWITCH TO BE REPLACED WITH NEW.
- CONNECT NEW LOCAL VACANCY SENSOR AND LUMINAIRE TO EXISTING LOCAL LIGHTING BRANCH CIRCUIT MAINTAINED DURING DEMOLITION.
- LUMINAIRES IN THIS AREA SHALL BE FURNISHED AND INSTALLED BY OWNER. CONNECT NEW LUMINAIRES TO EXISTING LOCAL LIGHTING BRANCH CIRCUIT MAINTAINED DURING DEMOLITION, PANEL 'A', CIRCUIT #3.
- LUMINAIRES IN THIS AREA SHALL BE FURNISHED AND INSTALLED BY OWNER. CONNECT NEW LUMINAIRES TO EXISTING LOCAL LIGHTING BRANCH CIRCUIT MAINTAINED DURING DEMOLITION, PANEL 'A', CIRCUIT #1.
- LUMINAIRES IN THIS AREA SHALL BE FURNISHED AND INSTALLED BY OWNER. CONNECT NEW LUMINAIRES TO EXISTING LOCAL LIGHTING BRANCH CIRCUIT MAINTAINED DURING DEMOLITION, PANEL 'A', CIRCUIT #2.
- CONNECT NEW NIGHT LIGHT LUMINAIRE TO EXISTING LOCAL LIGHTING BRANCH CIRCUIT MAINTAINED DURING DEMOLITION, PANEL 'EMA', CIRCUIT #11.



\\harris-borg\view\harris\woodward\Documents\2014\_MJPT\_CENTRAL\_JimmyWoodward.dwg  
6/1/2023 10:01:12 AM  
Revit, Vector, 2023 REV/CAD



REVISIONS:



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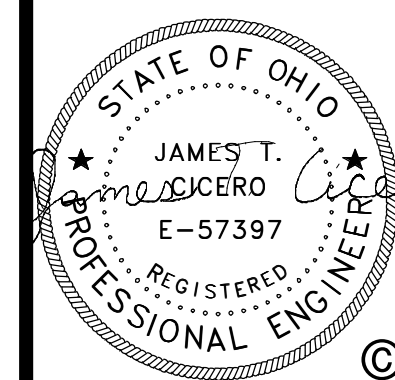
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Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

# PLAN NOTES

- 1 LUMINAIRES IN THIS AREA SHALL BE FURNISHED AND INSTALLED BY OWNER. NEW LUMINAIRES SHALL BE WIRED TO EXISTING, LOCAL LIGHTING BRANCH CIRCUIT. PANEL A, CIRCUIT 21.
- 2 LUMINAIRES IN THIS AREA SHALL BE FURNISHED AND INSTALLED BY OWNER. NEW LUMINAIRES SHALL BE WIRED TO EXISTING, LOCAL LIGHTING BRANCH CIRCUIT. PANEL A, CIRCUIT 19.
- 3 NEW LUMINAIRES SHALL BE WIRED TO EXISTING, LOCAL LIGHTING BRANCH CIRCUIT. PANEL A, CIRCUIT 21.

MOTTER & MEADOWS  
ARCHITECTS

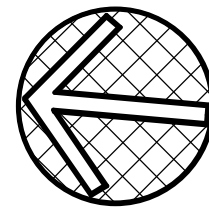
CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATION  
1330 DUEBER AVE SW  
CANTON, OHIO



THIS DWG :  
SECOND FLOOR  
LIGHTING PLAN

COMM 22155  
DATE 07-17-23

DWG  
E1-2



SCALE: 1/4" = 1'-0"  
0 2 4 6 8

CONSTRUCTION DRAWINGS

600 MARKET AVENUE NORTH CANTON OHIO 44702

REVISIONS:



**Karpinski**  
ENGINEERING  
13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

CANTON OHIO 44702

600 MARKET AVENUE NORTH

MOTTER & MEADOWS  
ARCHITECTS

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATION

CANTON, OHIO

1330 DUEBER AVE SW



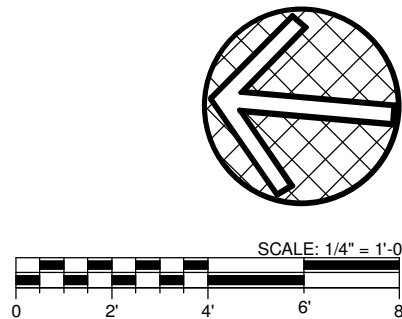
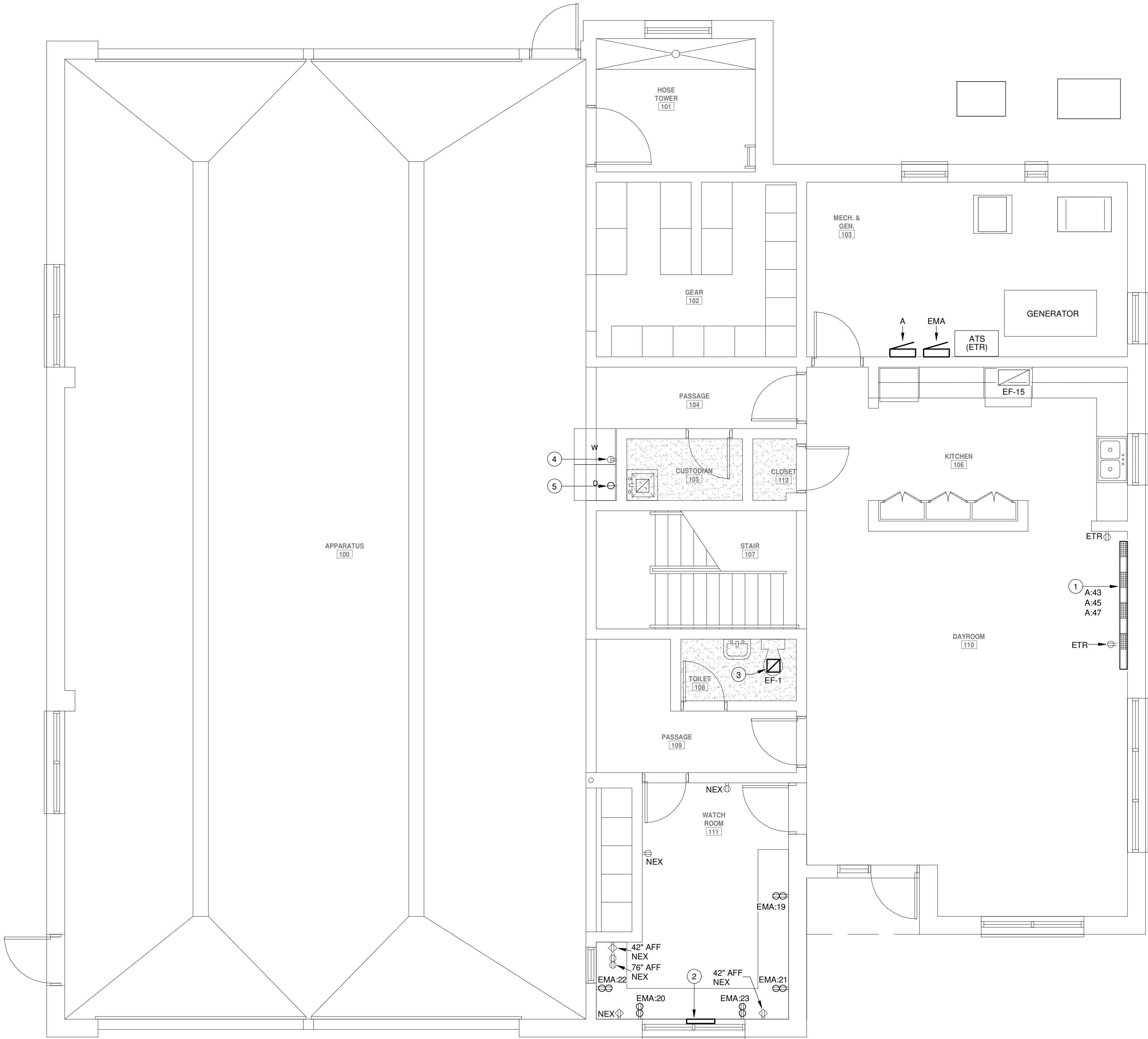
THIS DWG :  
FIRST FLOOR  
POWER AND  
FIRE ALARM  
PLAN

COMM 22155  
DATE 07-17-23

DWG  
E2-1

PLAN NOTES

- 1 PROVIDE 8' LENGTH SURFACE-MOUNTED RACEWAY AT 36" AFF, WIREMOLD SERIES 3000 OR EQUAL. PROVIDE 3 DUPLEX RECEPTACLES WITH DEDICATED BRANCH CIRCUITS SPACED 36" ON-CENTER.
- 2 EXISTING-TO-BE-REMOVED 22"WX12"H RECESSED JUNCTION BOX FOR COMMUNICATION WIRING PATHWAYS. REMOVE ALL CABLING TO ALLOW FOR INSTALLATION OF NEW CASEWORK IN THIS AREA.
- 3 EXHAUST FAN SHALL BE WIRED THROUGH LOCAL WALL-MOUNTED LIGHTING VACANCY SENSOR.
- 4 NEW WASHER APPLIANCE LOCATION: EC SHALL PROVIDE NEW GFCI-TYPE RECEPTACLE AND COVERPLATE IN EXISTING SINGLE-GANG BACKBOX. REUSE EXISTING 20A, 120V BRANCH CIRCUIT ORIGINATING FROM PANEL 'A', CIRCUIT #6.
- 5 NEW DRYER APPLIANCE LOCATION: EC SHALL PROVIDE NEW 30A, 240V RECEPTACLE, SURFACE MOUNTED BACKBOX AND COVERPLATE. PROVIDE NEW 30A, 240V BRANCH CIRCUIT ORIGINATING FROM PANEL 'A', CIRCUIT #49.51.



CONSTRUCTION DRAWINGS



REVISIONS:



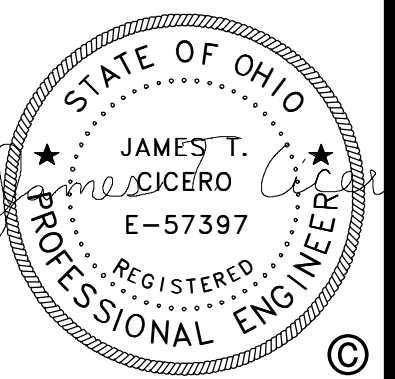
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FIRE STATION NO. 8 - RENOVATION  
1330 DUEBER AVE SW  
CANTON, OHIO

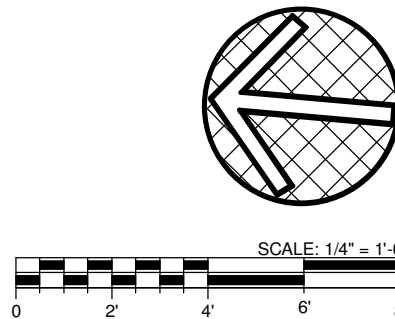
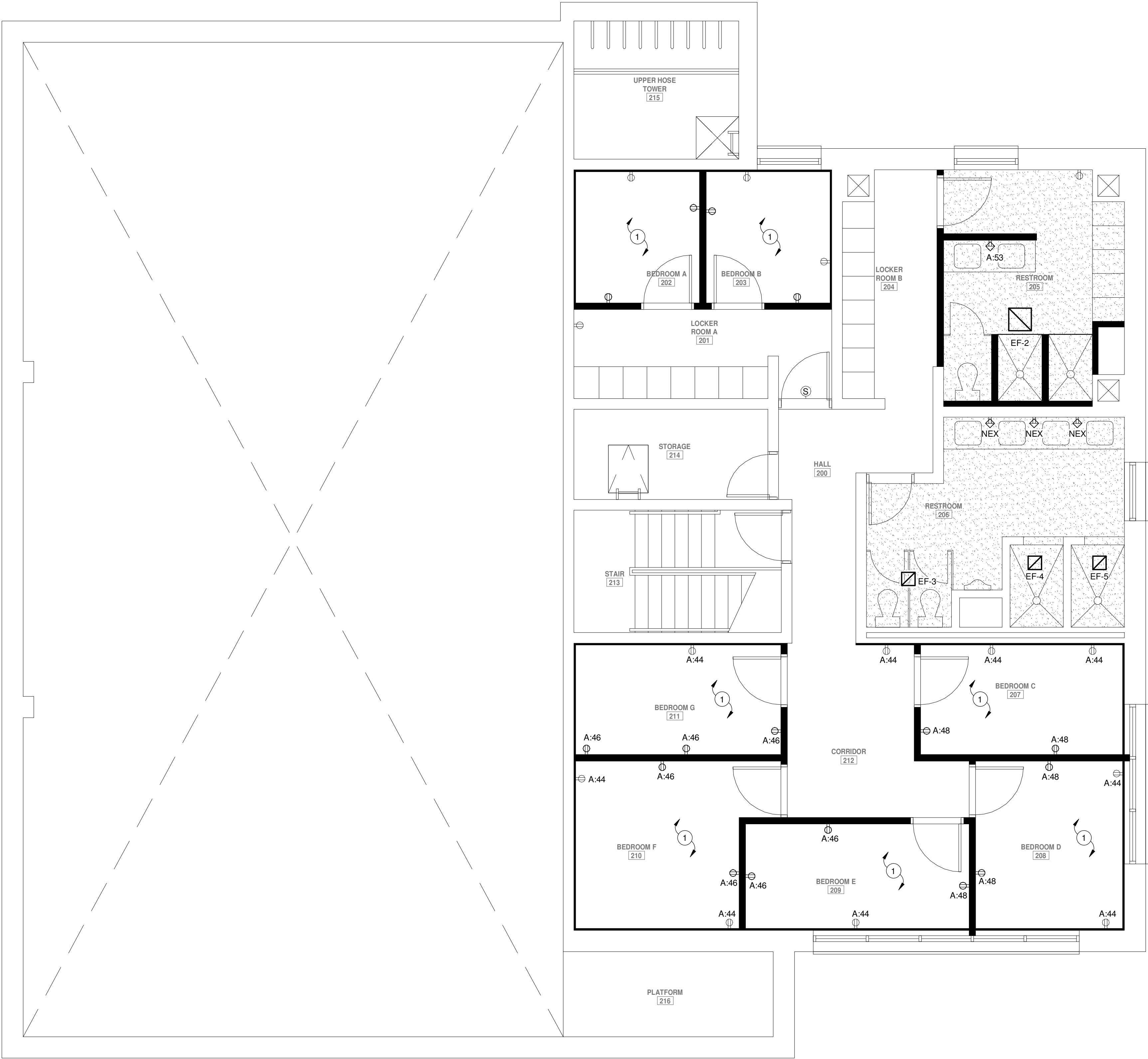


THIS DWG :  
SECOND FLOOR  
POWER AND  
FIRE ALARM  
PLAN

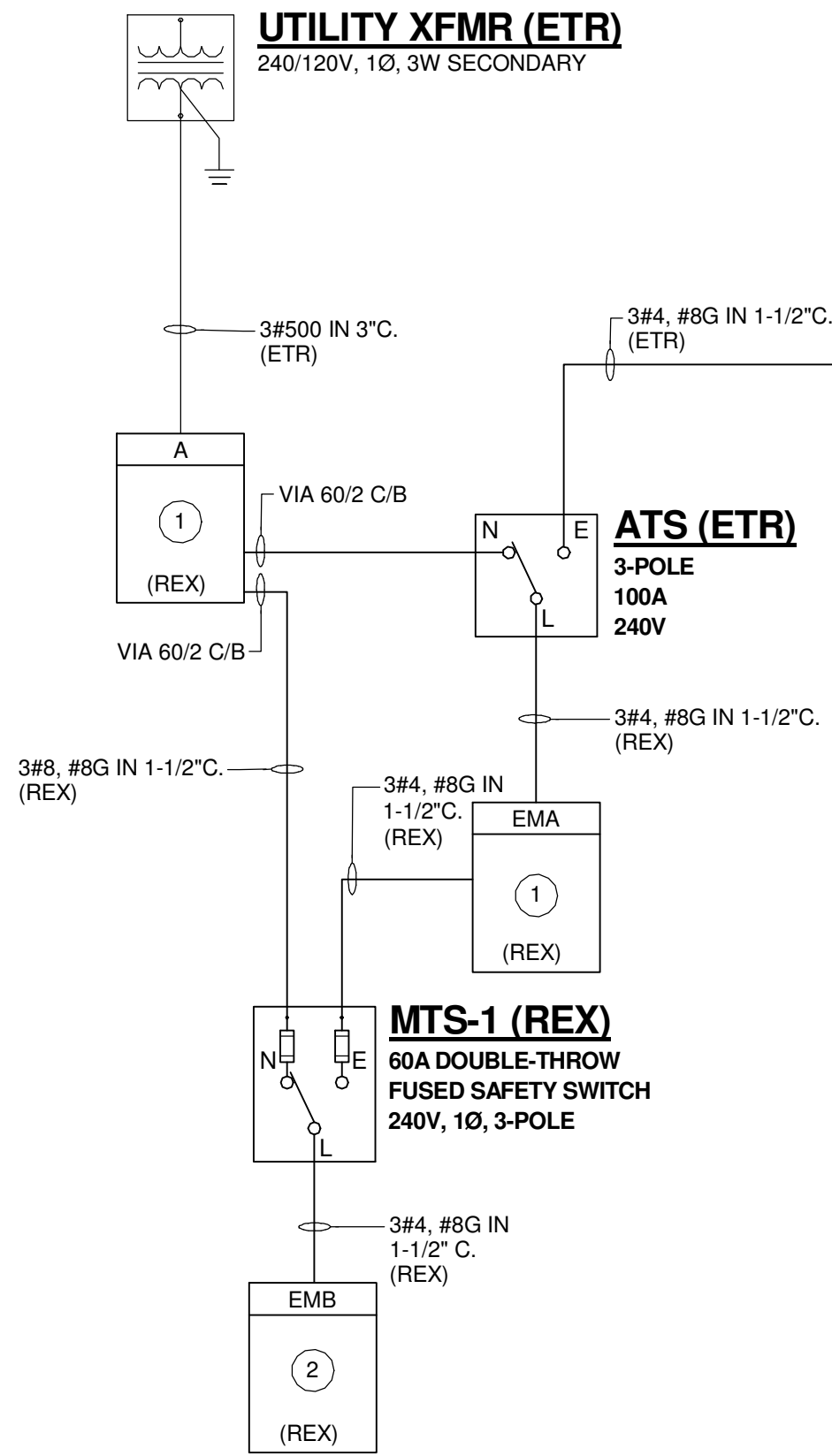
COMM 22155  
DATE 07-17-23

DWG  
E2-2

- # PLAN NOTES
- 1 RECEPTACLES LOCATED IN SLEEPING ROOMS SHALL BE SERVED BY AFCI-TYPE CIRCUIT BREAKERS.

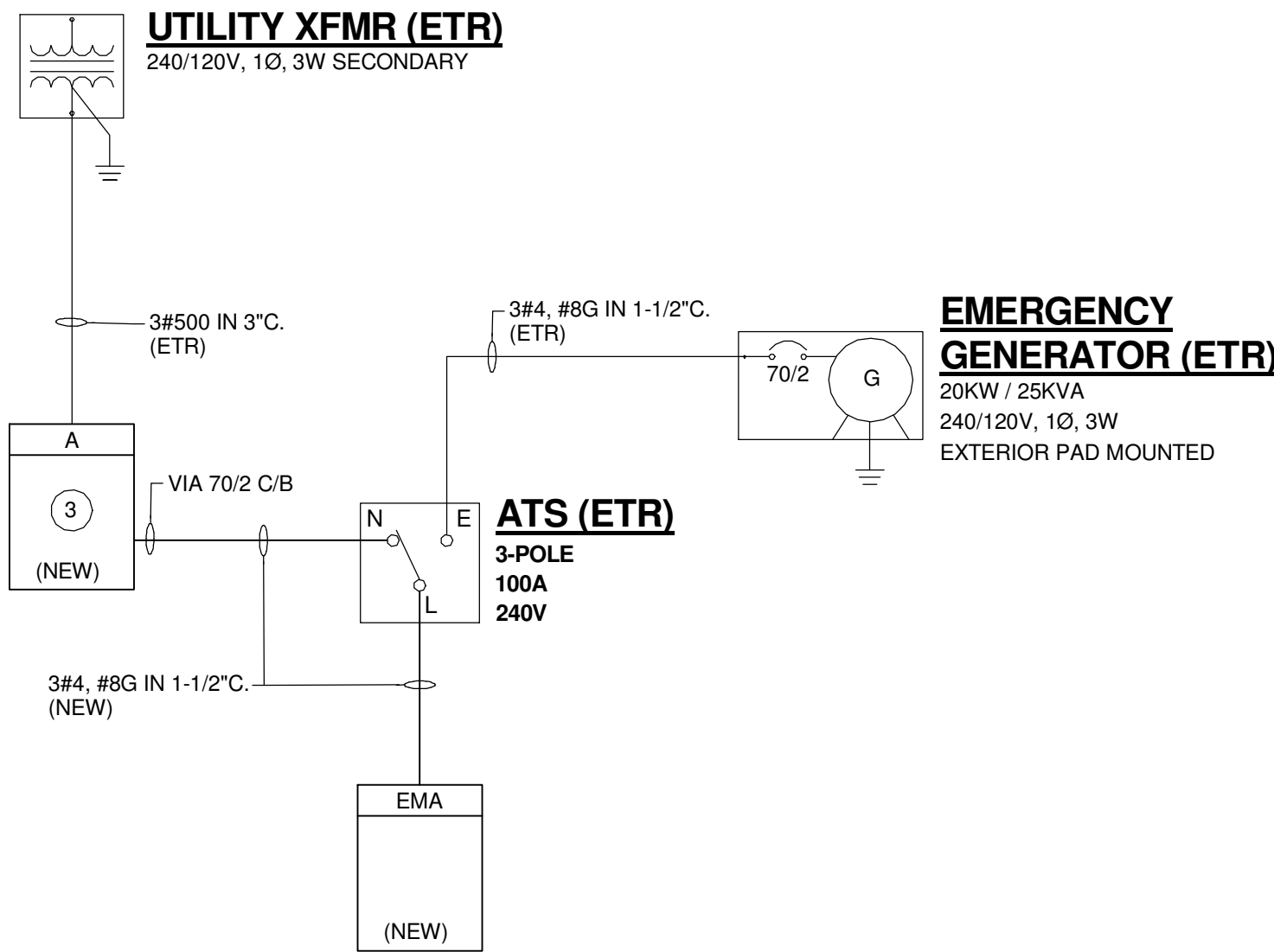


CONSTRUCTION DRAWINGS



DEMOLITION ONE LINE DIAGRAM

SCALE: NONE

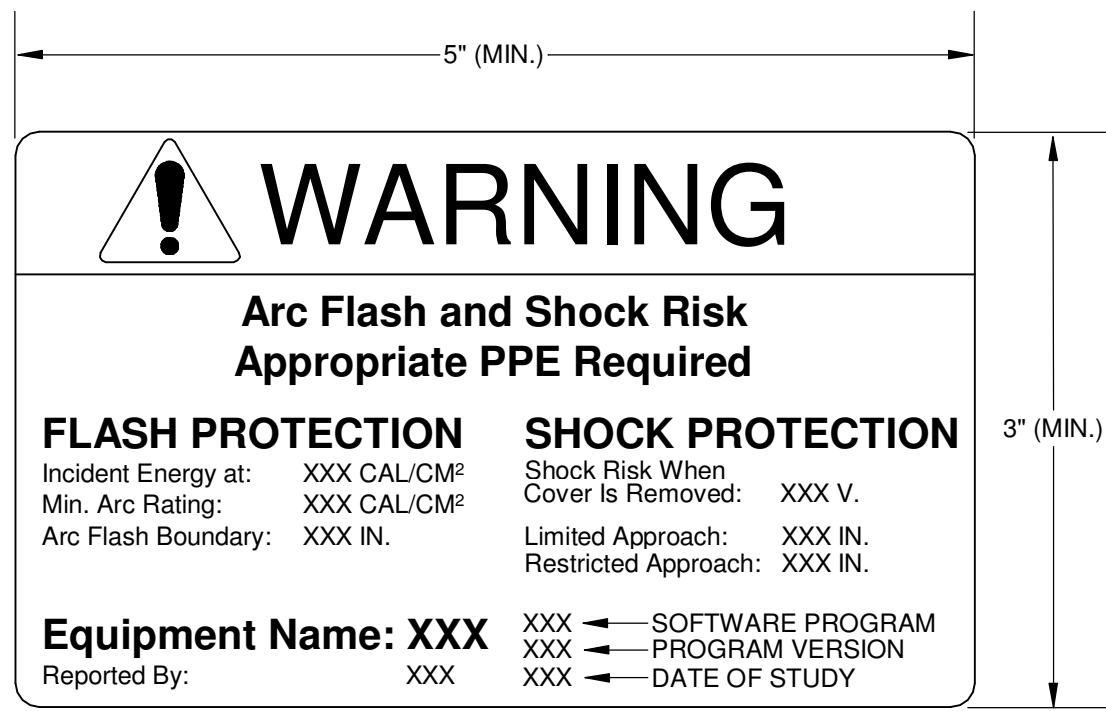


NEW ONE LINE DIAGRAM

SCALE: NONE

PLAN NOTES

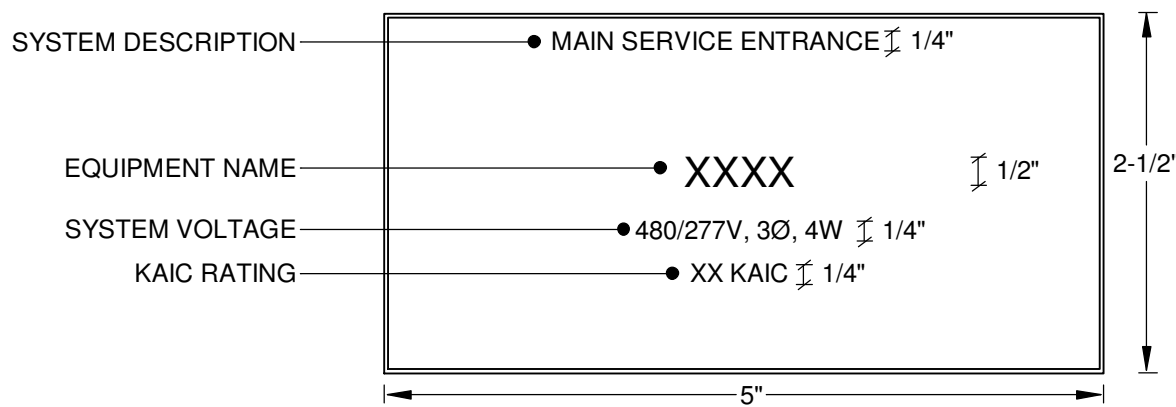
- EC SHALL REMOVE ALL EXISTING BRANCH CIRCUITS FROM THIS PANELBOARD TO ALLOW FOR REMOVAL/REPLACEMENT OF PANEL. RETERMINATE ALL EXISTING BRANCH CIRCUITS AT NEW PANELBOARD.
- EC SHALL REMOVE ALL EXISTING BRANCH CIRCUITS FROM THIS PANELBOARD, EXTEND AND TERMINATE AT NEW EMERGENCY PANELBOARD EMA. QUANTITY OF (4) 2Ø, 120V CIRCUITS.
- PANELBOARD SHALL BE SERVICE-ENTRANCE RATED. PROVIDE INTEGRAL SPD DEVICE. REFER TO SPECIFICATIONS FOR REQUIREMENTS.



- NOTES:
- PER NEC 110.16, ELECTRICAL CONTRACTOR SHALL PROVIDE FLASH PROTECTION MARKING ON ALL PANELS, SWITCHBOARDS, INDIVIDUAL CONTROL PANELS AND MOTOR CONTROL CENTERS.
  - WARNING LABEL SHALL BE PRE-ASSEMBLED BY A LABEL MANUFACTURER AND SHALL CONFORM TO ANSI STANDARDS.

ARC FLASH LABEL DETAIL

SCALE: NONE

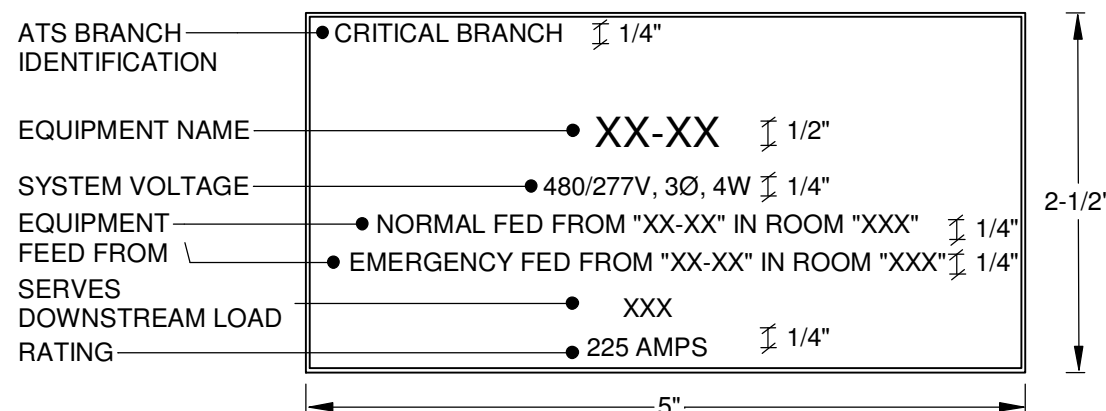


THIS NAMEPLATE SHALL BE USED FOR THE FOLLOWING:

- MAIN SERVICE ENTRANCE EQUIPMENT

EQUIPMENT NAMEPLATE

SCALE: NONE

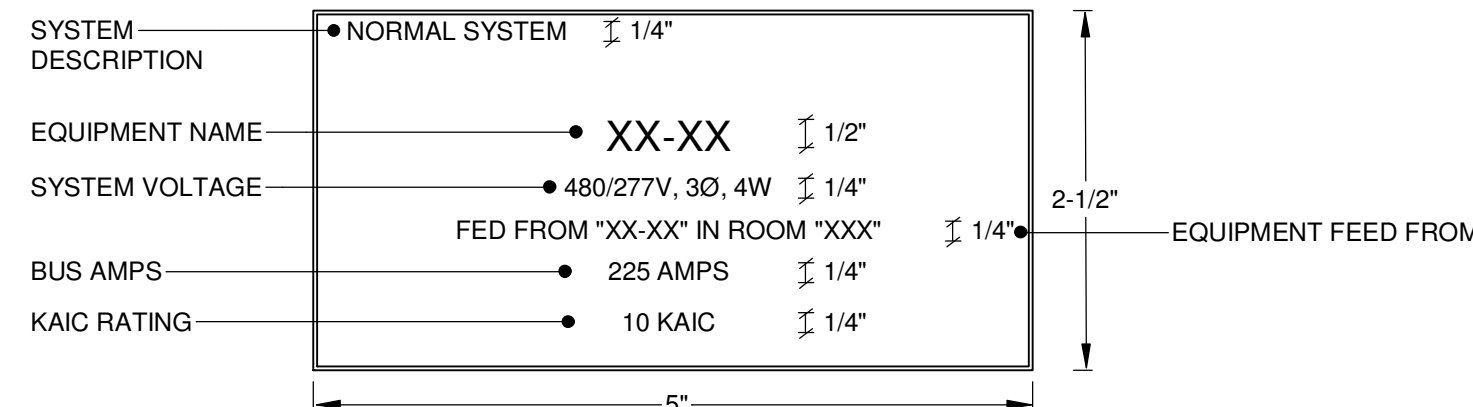


THIS NAMEPLATE SHALL BE USED FOR THE FOLLOWING:

- AUTOMATIC TRANSFER SWITCHES

EQUIPMENT NAMEPLATE

SCALE: NONE

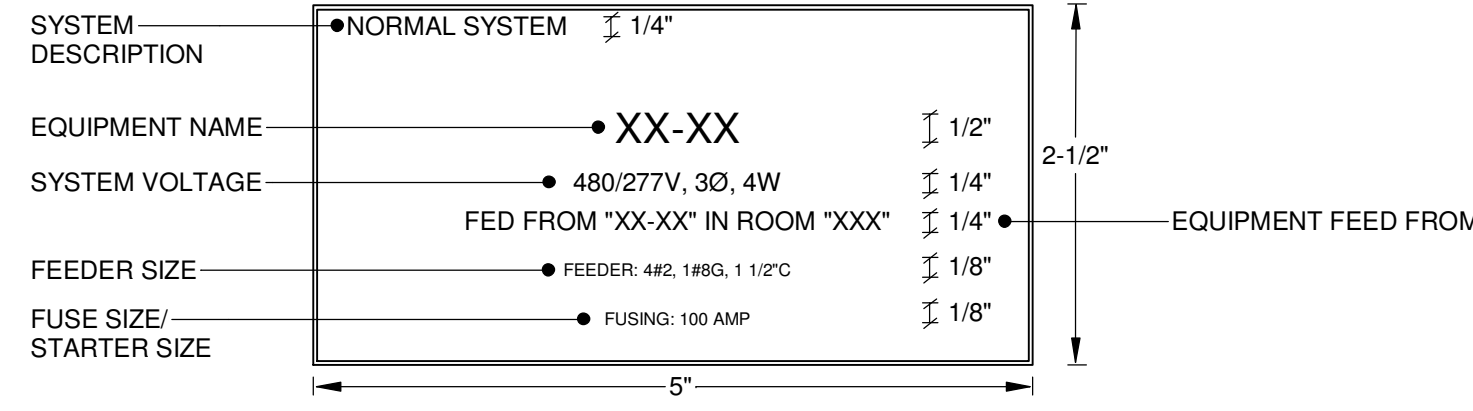


THIS NAMEPLATE SHALL BE USED FOR THE FOLLOWING:

- LIGHTING/APPLIANCE PANELBOARDS

EQUIPMENT NAMEPLATE

SCALE: NONE



THIS NAMEPLATE SHALL BE USED FOR THE FOLLOWING:

- NON-FUSED DISCONNECTS
- FUSED DISCONNECTS
- MOTOR STARTERS
- COMBINATION STARTERS/DISCONNECTS
- VARIABLE FREQUENCY DRIVES

EQUIPMENT NAMEPLATE

SCALE: NONE

REVISIONS:



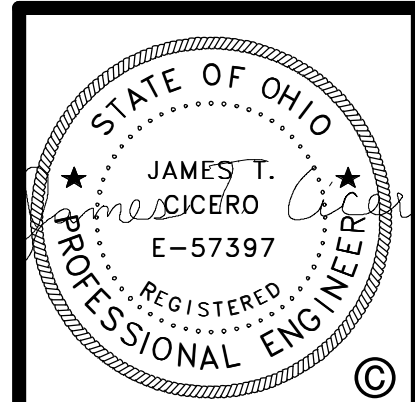
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13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
karpinskieng.com

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ARCHITECTS

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATION  
1330 DUEBER AVE SW  
CANTON, OHIO



THIS DWG :  
ONE LINE  
DIAGRAM

COMM 22155  
DATE 07-17-23

DWG  
E7-1

CONSTRUCTION DRAWINGS

Lighting and Appliance Panelboard: A													
Location: MECH. & GEN. 103				Volts: 120/240 Single				A.I.C. Rating:					
Supply From:				Phases: 1				Mains Type: MCB					
Mounting: Surface				Wires: 3				Bus Rating: 400 A					
								MCB Rating: 400A					
GENERAL NOTES:													
Notes	CKT	Circuit Description	Trip Amps	Poles	A		B		Poles	Trip Amps	Circuit Description	CKT	Notes
	1	RECONNECTED LOAD	20	1	0.0	0.0			1	20	RECONNECTED LOAD	2	
	3	RECONNECTED LOAD	20	1			0.0	0.0	1	20	RECONNECTED LOAD	4	
	5	RECONNECTED LOAD	20	1	0.0	0.0			1	20	RECONNECTED LOAD	6	
	7	RECONNECTED LOAD	20	1			0.0	0.0	1	20	RECONNECTED LOAD	8	
	9	RECONNECTED LOAD	20	1	0.0	0.0			1	20	RECONNECTED LOAD	10	
	11	RECONNECTED LOAD	20	1			0.0	0.0	1	20	RECONNECTED LOAD	12	
	13	RECONNECTED LOAD	20	1	0.0	0.0					RECONNECTED LOAD	14	
	15	RECONNECTED LOAD	20	1			0.0	0.0	2	70	RECONNECTED LOAD	16	
	17	RECONNECTED LOAD	20	1	0.0	0.0			1	20	RECONNECTED LOAD	18	
	19	RECONNECTED LOAD	20	1			0.0	0.0	1	20	RECONNECTED LOAD	20	
	21	RECONNECTED LOAD	20	1	0.0	0.0			1	20	EXIST. LOADRECONNECTED LOAD	22	
	23	RECONNECTED LOAD	15	2			0.0	0.0	1	20	RECONNECTED LOAD	24	
	25				0.0	0.0			1	20	RECONNECTED LOAD	26	
	27	RECONNECTED LOAD	20	1			0.0	0.0	1	20	RECONNECTED LOAD	28	
	29	RECONNECTED LOAD	20	1	0.0	0.0			1	20	RECONNECTED LOAD	30	
	31	RECONNECTED LOAD	20	2			0.0	0.0	2	40	RECONNECTED LOAD	32	
	33				0.0	0.0						34	
	35	RECONNECTED LOAD	50	2			0.0	0.0	2	50	RECONNECTED LOAD	36	
	37				0.0	0.0						38	
	39	RECONNECTED LOAD	50	2			0.0	0.0	2	60	RECONNECTED LOAD	40	
	41				0.0	0.0						42	
1	43	MISC DAYROOM 110	20	1			1.2	1.8	1	20	REC Room 207, 208, 209, 210, 211, 212	44	2
1	45	MISC DAYROOM 110	20	1	1.2	1.4			1	20	REC Room 209, 210	46	2
1	47	MISC DAYROOM 110	20	1			1.2	1.0	1	20	REC Room 207, 208	48	2
1	49	DRYER	30	2	1.5	0.0	1.5	0.0	1	20	Spare	50	
	51								1	20	Spare	52	
	53	REC RESTROOM 205	20	1	0.2	0.0			1	20	Spare	54	
					Total Load:		4.3 kW		6.7 kW				
					Total Amp:		36 A		56 A				
Load Classification			Connected Load	Demand Factor		Estimated Demand		Panel Totals					
MISC			6600 VA	70.00%		4620 VA							
REC			4400 VA	100.00%		4400 VA		Total Conn. Load: 11.0 kW					
								Total Est. Demand: 9.0 kW					
								Total Conn.: 46 A					
								Total Est. Demand: 38 A					
Panel Schedule Notes:													
1. PROVIDE GFCI TYPE CIRCUIT BREAKER.													
2. PROVIDE AFCI TYPE CIRCUIT BREAKER.													

Lighting and Appliance Panelboard: EMA													
Location: MECH. & GEN. 103				Volts: 120/240 Single				A.I.C. Rating:					
Supply From:				Phases: 1				Mains Type: MLO					
Mounting: Surface				Wires: 3				Bus Rating: 100 A					
								MCB Rating: 100A					
GENERAL NOTES:													
Notes	CKT	Circuit Description	Trip Amps	Poles	A		B		Poles	Trip Amps	Circuit Description	CKT	Notes
	1	Spare	20	1	0.0	0.0			1	20	Spare	2	
	3	Spare	20	1			0.0	0.0	1	20	Spare	4	
	5	Spare	20	1	0.0	0.0			1	20	Spare	6	
	7	Spare	20	1			0.0	0.0	1	20	Spare	8	
	9	Spare	20	1	0.0	0.0			1	20	Spare	10	
	11	Spare	20	1			0.0	0.0	1	20	Spare	12	
	13	Spare	20	1	0.0	0.0			1	20	Spare	14	
	15	Spare	20	1			0.0	0.0	1	20	Spare	16	
	17	Spare	20	1	0.0	0.0			1	20	Spare	18	
	19	WATCH ROOM REC - NEW	20	1			0.4	0.4	1	20	WATCH ROOM REC - NEW	20	
	21	WATCH ROOM REC - NEW	20	1	0.4	0.4			1	20	WATCH ROOM REC - NEW	22	
	23	WATCH ROOM REC - NEW	20	1			0.4	0.0	1	20	Spare	24	
	25	Spare	20	1	0.0	0.0			1	20	Spare	26	
	27	Spare	20	1			0.0	0.0	1	20	Spare	28	
	29	Spare	20	1	0.0	0.0			1	20	Spare	30	
	31	Space	--	1	--	--	--	--	1	--	Space	32	
	33	Space	--	1	--	--	--	--	1	--	Space	34	
	35	Space	--	1	--	--	--	--	1	--	Space	36	
	37	Space	--	1	--	--	--	--	1	--	Space	38	
	39	Space	--	1	--	--	--	--	1	--	Space	40	
	41	Space	--	1	--	--	--	--	1	--	Space	42	
					Total Load:		0.8 kW						
					Total Amp:		7 A		10 A				
Load Classification			Connected Load		Demand Factor		Estimated Demand		Panel Totals				
REC			2000 VA		100.00%		2000 VA						
									Total Conn. Load: 2.0 kW				
									Total Est. Demand: 2.0 kW				
									Total Conn.: 8 A				
									Total Est. Demand: 8 A				
Panel Schedule Notes:													

REVISIONS:

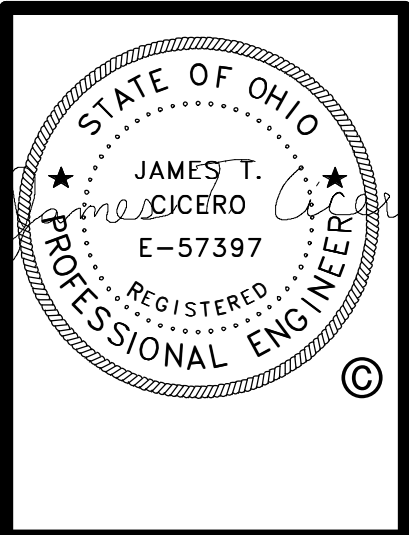


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ENGINEERING  
13714 Cleveland Ave. NW  
Uniontown, OH 44685  
330-699-4077  
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MOTTER & MEADOWS  
ARCHITECTS

CITY OF CANTON  
FIRE STATION NO. 8 - RENOVATION  
1330 DUEBER AVE SW  
CANTON, OHIO



THIS DWG :  
PANEL  
SCHEDULES

COMM 22155  
DATE 07-17-23

DWG  
E8-1

CONSTRUCTION DRAWINGS

## **Appendix D**

### **Title VI Requirements**

The City of Canton, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat.252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity, for which the Recipient receives Federal financial assistance from DOT, including the City of Canton.

Please also review Appendix A, Appendix C, Appendix D and Appendix E of the Standard Assurances which are included in the following pages.

## APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, *The City of Canton*, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21. *{Include City of Canton specific program requirements.}*
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin. *{Include City of Canton specific program requirements.}*
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or *The City of Canton* to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or *The City of Canton*, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non• discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or *The City of Canton* may determine to be appropriate, including, but not limited to:
  - a. withholding payments to the contractor under the contract until the contractor complies; and/or
  - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or *The City of Canton* may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

## APPENDIX C

### CLAUSES FOR TRANSFER OF REAL PROPERTY ACQUIRED OR IMPROVED UNDER THE ACTIVITY, FACILITY, OR PROGRAM

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the (Title of Recipient) pursuant to the provisions of Assurance 7(a):

- A. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that:
  - 1. In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
- B. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Non-discrimination covenants, (Title of Recipient) will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued.\*
- C. With respect to a deed, in the event of breach of any of the above Non-discrimination covenants, the (Title of Recipient) will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the (Title of Recipient) and its assigns.\*

(\*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

## APPENDIX D

### CLAUSES FOR CONSTRUCTION/USE/ACCESS TO REAL PROPERTY ACQUIRED UNDER THE ACTIVITY, FACILITY OR PROGRAM

The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by (Title of Recipient) pursuant to the provisions of Assurance 7(b):

- A. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.
- B. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non- discrimination covenants, (Title of Recipient) will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.\*
- C. With respect to deeds, in the event of breach of any of the above Non-discrimination covenants, (Title of Recipient) will there upon revert to and vest in and become the absolute property of (Title of Recipient) and its assigns.\*

(\*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

## APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

### **Pertinent Non-Discrimination Authorities:**

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 - 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq.*).



## **CANTON TITLE VI COMPLAINT PROCEDURE**

### **I. FILING A COMPLAINT**

**Complaint Procedure** - Any person who believes that he or she as a member of a protected class, has been discriminated against based on race, color, national origin, gender, age, disability, religion, low income status, or Limited English Proficiency (LEP) in violation of Title VI of the Civil Rights Act of 1964, as amended and its related statutes, regulations and directives, Section 504 of the Vocational Rehabilitation Act of 1973, Americans with Disabilities Act of 1990, as amended, the Civil Rights Restoration Act of 1987, as amended, and any other Federal nondiscrimination statute may submit a complaint. A complaint may also be submitted by a representative on behalf of such a person.

It is the policy of the City to conduct a prompt and impartial investigation of all allegations of discrimination and to take prompt effective corrective action when a claim of discrimination is substantiated.

No one may intimidate, threaten, coerce or engage in other discriminatory conduct against anyone because they have taken action or participated in an action to secure rights protected by the civil rights laws. Any individual alleging such harassment or intimidation may submit a complaint by following the procedure printed below.

Any individual who feels that he or she has been discriminated against may submit a written or verbal complaint to the designated Title VI Coordinator. A complaint must include the name, address and telephone number of the individual making the complaint (complainant) and a brief description of the alleged discriminatory conduct including the date of harm. An individual submitting a complaint alleging discrimination may include any relevant evidence, including the names of witnesses and supporting documentation.

Complaints should be directed to the Title VI Coordinator:

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Andrea Perry  
Director of Public Safety  
218 Cleveland Ave S.W., 8<sup>th</sup> floor  
Canton, Ohio 44702  
Phone - 330-438-4303  
Email – [andrea.perry@cantonohio.gov](mailto:andrea.perry@cantonohio.gov)

Within 60 days of the receipt of the complaint the City will conduct an investigation of the allegation based on the information provided and issue a written report of its findings to the complainant. The City will try to obtain an informal voluntary resolution to all complaints at the lowest level possible.

A complainant's identity shall be kept confidential except to the extent necessary to conduct an investigation. All complaints shall be kept confidential.

These procedures do not deny the right of any individual to file a formal complaint with any government agency or affect an individual's right to seek private counsel for any complaint alleging discrimination.

Complaints may also be filed with the following government agencies:

Ohio Department of Transportation  
Office of Equal Opportunity  
1980 West Broad Street  
MS: 3270  
Columbus, OH 43223

The U.S. Department of Transportation  
1200 New Jersey Avenue, SE  
Washington, DC 20590

Ohio Civil Rights Commission  
Central Office  
Rhodes State Office Tower  
30 East Broad Street, 5<sup>th</sup> floor  
Columbus, OH 43215  
614-466-2785

Ohio Civil Rights Commission  
Akron Regional Office  
Bradley S. S. Dunn, Regional Director  
Akron Government Bldg.  
161 S. High Street, Suite 205  
Akron, OH 44308  
(330) 643-3100

Link to filing a complaint online with the Ohio Civil Rights Commission:

<https://crc.ohio.gov/FilingaCharge/ChargeFilingProcedure.aspx>

## **II COMPLAINT PROCESSING**

The Title VI Coordinator will review the complaint upon receipt to ensure that all required information is provided, the complaint meets the filing deadline date which is 180 days from the date the alleged discriminatory act occurred, and falls within the jurisdiction of the City.

The Title VI Coordinator will then investigate the complaint. If the complaint is against the City then the Mayor's office or their designee will investigate the complaint. Additionally, a copy of the complaint will be forwarded to the City Law Director.

If the complaint warrants a full investigation, the Complainant will be notified in writing by certified mail. This notice will name the investigator and/or investigating agency.

The party alleged to have acted in a discriminatory manner will also be notified by certified mail as of the complaint. This letter will also include the investigator's name and will request that this party be available for an interview.

Any comments or recommendations from legal counsel will be reviewed by the Title VI Coordinator, Director of Public Service and Mayor's office.

Once the City has investigated the report findings, the City will adopt a final resolution. All parties associated with the complaint will be properly notified of the outcome of the City's investigative report.

If the complainant is not satisfied with the results of the investigation of the alleged discriminatory practice(s), she/he shall be advised of their right to appeal the City's decision.

Appeals must be filed within 180 days after the City's final resolution. Unless new facts not previously considered come to light, reconsideration of the City's determination will not be available.

The foregoing complaint resolution procedure will be implemented in accordance with the Department of Justice guidance manual entitled "Investigation Procedures Manual for the Investigation and Resolution of Complaints Alleging Violations of Title VI and Other Nondiscrimination Statutes," available online at:

<http://www.justice.gov/crt/about/cor/Pubs/manuals/complain.pdf>

## **Title VI Complaint Filing**

Complaints filed with the City of Canton, Ohio based on violations of Title VI of the Civil Rights Act of 1964, must include the following information:

- Name of Complainant
- Date of Complaint
- Address of Complainant
- Telephone Number of Complainant
- Name of Agency / Department  
Accused of Discriminatory Practices
- Name of Individual Accused of  
Discriminatory Practices
- Address of Agency
- Date of Alleged Discrimination
- Description of Alleged Discrimination  
(see below)

**11. Alleged Discrimination** - If your complaint is in regard to discrimination in the delivery of services or discrimination that involved the treatment of you by others by the agency or department indicated above, please indicate below the basis on which you believe these discriminatory actions were taken.

- Race / Color / Religion
- National Origin
- Age · Sex, Gender
- Disability    · Income Status
- Explanation of Alleged Discrimination - Please explain as clearly as possible what happened.

Provide the name(s) of witness(s) and others involved in the alleged discrimination. (Attach additional sheets if necessary and provide a copy of written material pertaining to your case.)

- Signature of Complainant    · Date of Complaint

## **III. ENVIRONMENTAL JUSTICE**

In accordance with Title VI of the Civil Rights Act of 1964, each Federal agency shall ensure that all programs or activities receiving Federal financial assistance that affect human health or the environment do not directly, or through other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin. Part of Title VI reads, “No person in the United States shall, on the ground of race, color, or national origin be excluded

from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving Federal financial assistance.”

The three fundamental environmental justice (EJ) principles are:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations;
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations.

The City of Canton is committed to these three environmental justice principles in all work that the City performs.

#### **IV. ADMINISTRATION – WORK PLAN**

Pursuant to 23 CFR 200, the City of Canton has designated a Title VI Coordinator who is responsible for initiating, monitoring, and ensuring the City’s compliance with Title VI requirements for the following work plan:

- Administer, coordinate and Implement the Title VI Program plan and distribute internally and externally via website and update annually as required.
- Ensure that Assurances are being used in contracts for federal projects.
- Attend Title VI training.
- Collect public involvement data.
- Review written Title VI complaints and ensure every effort is made to resolve complaints informally at the local or regional level and review and update the City’s Title VI plan and procedures as required.
- Implement a plan that provides training to City Staff on the basic requirements of the Title VI implementation plan.

Title VI Coordinator:

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Andrea Perry  
Director of Public Safety  
218 Cleveland Avenue, S.W., 8<sup>th</sup> floor  
Canton, Ohio 44702  
Phone – 330-438-4303  
Email - andrea.perry@cantonohio.gov

## V. LIMITED ENGLISH PROFICIENCY (LEP) POLICY

On August 11, 2000, the President signed an executive order, *Executive Order 13166: Improving Access to Service for Persons with Limited English Proficiency (LEP)*, to clarify Title VI of the Civil Rights Act of 1964. It has as its purpose, to ensure meaningful access to programs and services to otherwise eligible persons who are not proficient in the English language. In addition, The US Department of Transportation published *Policy Guidance Concerning Recipients' responsibilities to Limited English Proficient Person* in the December 14, 2005 Federal Register.

This guidance outlines the following four factors that the City uses to access the LEP populations in Canton.

1. The number and proportion of LEP persons eligible to be served or likely to be encountered by the City.
2. The frequency with which LEP individuals come into contact with the program, activity or service.
3. The nature and importance of the program, activity, or service provided by the program.
4. The resources available to the City and costs.

### Summary of the four factor analysis

Factor 1- The number and proportion of LEP persons eligible to be served or likely to be encountered by the City can only be estimated until the actual number of persons who can speak English less than “very well” are documented as needing assistance by City Staff . With this Title VI Plan being in early development stages and considered a document that may need regular updates, US Census Bureau information is being used at this time. The total population is provided below to shown general distribution of race and ethnicity in the community. The estimated number of persons that may not speak English “very well” is following in the US Census Bureau 2006-2010 American Community Survey.

The U.S. Census Bureau provides statistics from 2010 for the City of Canton as follows:

Total population = 74,451

Population by Ethnicity:

Hispanic or Latino = 1,805 Non Hispanic or Latino = 72,646

Population by Race:

White = 53,150 African American = 16,854, Asian = 193, American Indian or Alaska Native = 372,

Native Hawaiian and Pacific Islander = 0, Other = 431, Identified by two or more = 3,451.

The US Census Bureau 2006-2010 American Community Survey 5-Year Estimates under SELECTED SOCIAL CHARACTERISTICS estimates the number of people in Canton who speak a language other than English to be 2,945 with those speaking English less than “very well” estimated at 1.0% or approximately 983 individuals who may be considered limited in English proficiency.

Factor 1(continued)-

According to the census numbers above there may be up to 983 individuals who live in the City of Canton that *may* be considered as LEP. Based on actual contact between City Staff and the community there have been very few requests from anyone in the service area asking the City to provide language translation services. Therefore, the LEP population is probably even less than the estimate shown above.

Factor 2- The frequency with which LEP individuals come into contact with the program, activity or service:

Due to the infrequent requests for translation services, there appears to be a minimal need for translation services from the City. This may be attributed to the high percentage of younger people (87.6% for ages up to 17) who are available as family members for translation services.

Factor 3. The nature and importance of the program, activity, or service provided by the program:

If at any time a LEP individual requests translation services that are considered important such that denial or delay of access or services or information could have serious or even life-threatening implications, the City will provide, upon request, services to assist the LEP population including translation of vital City documents and interpretation services.

Factor 4. The resources available to the City and costs:

The City of Canton currently has several staff members who are bilingual in English and Spanish and are available to translate requests from the Hispanic population on a day to day basis. The City also provides many of their outreach services in the predominate languages of the community, English and Spanish. In addition, certified translation services are available through LanguageLine Solutions, a telephone translation service that is accessible for phone line translations services 24 hours a day. These are services the City provides upon request as discussed in factor 3 above. Page | 12

**Summary of LEP Accommodation Plan**

- The City of Canton strives to serve its population to the best of its ability and will provide upon request, services to assist the LEP population including translation of vital documents and interpretation services deemed necessary to provide meaningful access to City services.
- A U.S. Census Bureau ISpeak card is available as part of this document and on the City's webpage and is also available at City Hall located at 414 Main Street. This card allows LEP individuals to communicate their preferred language to City Staff whereas City Staff may then access a translation service called LanguageLine, phone number 1-800-752-6096 is available to City Staff or other translation services may be used as determined by the City.
- For language translation requests from the Hispanic or Latino community the City has several staff member who are bilingual and are available to provide translation services on a day to day basis.
- The City of Canton utilizes a voluntary public involvement survey to collect information regarding persons affected by proposed projects. The survey permits respondents to remain

anonymous, while voluntarily answering questions regarding their gender, ethnicity, race, age, sex, disability status, and household income. This voluntary public involvement survey is available at all public hearings and meetings. Once the survey data has been collected, it will be reviewed and then the survey will be placed in a file for future reference. In the case enough surveys are collected over time to show a significant increase in LEP populations, the City may consider changes to their LEP policy. Completed surveys shall be retained for a period of three years from the date of the meeting and/or completion of the related project, if applicable. See Appendix G for a sample of this Survey.

- The City reviews written Title VI complaints and ensures every effort is made to resolve complaints informally at the local or regional level and review and update the City's Title VI plan and procedures as required.
- Staff for the City will be provided training on the requirements for providing meaningful access to services for LEP persons. Considering the relatively small size of the City of Canton and limited financial resources, current training may be limited to web access to this document and its attachments by all City Staff, a log showing the names of all Staff that have been made aware of this document (sign off that they have read the document) and require that all new employees receive the same training.



## **Appendix D**

### **Infrastructure Investment and Jobs Act, which includes the Build America, Buy America Act (BABAA) – (Infrastructure contracts that are paid for with federal financial assistance)**

Pursuant to the Infrastructure Investment and Jobs Act, which includes the Build America, Buy America Act (BABAA):

Recipients of an award of Federal financial assistance from a program for infrastructure are hereby notified that none of the funds provided under this award may be used for a project for infrastructure unless:

- (1) all iron and steel used in the project are produced in the United States--this means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States;
- (2) all manufactured products used in the project are produced in the United States—this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation; and
- (3) all construction materials are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States.

The Buy America preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does a Buy America preference apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project, but are not an integral part of the structure or permanently affixed to the infrastructure project.

## *Waivers*

When necessary, recipients may apply for, and the agency may grant, a waiver from these requirements. The agency should notify the recipient for information on the process for requesting a waiver from these requirements.

(a) When the Federal agency has made a determination that one of the following exceptions applies, the awarding official may waive the application of the domestic content procurement preference in any case in which the agency determines that:

- (1) applying the domestic content procurement preference would be inconsistent with the public interest;
- (2) the types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality; or
- (3) the inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent.

A request to waive the application of the domestic content procurement preference must be in writing. The agency will provide instructions on the format, contents, and supporting materials required for any waiver request. Waiver requests are subject to public comment periods of no less than 15 days and must be reviewed by the Made in America Office.

There may be instances where an award qualifies, in whole or in part, for an existing waiver described at [\[link to awarding agency web site with information on currently applicable general applicability waivers\]](#).

## *Definitions*

“Construction materials” includes an article, material, or supply—other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives—that is or consists primarily of:

- non-ferrous metals;
- plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- glass (including optic glass);
- lumber; or
- • drywall.

“Domestic content procurement preference” means all iron and steel used in the project are produced in the United States; the manufactured products used in the project are produced in the United States; or the construction materials used in the project are produced in the United States.

“Infrastructure” includes, at a minimum, the structures, facilities, and equipment for, in the United States, roads, highways, and bridges; public transportation; dams, ports, harbors, and other maritime facilities; intercity passenger and freight railroads; freight and intermodal facilities; airports; water systems, including drinking water and wastewater systems; electrical transmission facilities and systems; utilities; broadband infrastructure; and buildings and real property. Infrastructure includes facilities that generate, transport, and distribute energy.

“Project” means the construction, alteration, maintenance, or repair of infrastructure in the United States.

**Code of Federal Regulations**

**Title 45 - Public Welfare**

Volume: 4

Date: 2010-10-01

Original Date: 2010-10-01

Title: Section 2543.87 - Byrd anti-lobbying amendment.

Context: Title 45 - Public Welfare. Subtitle B - Regulations Relating to Public Welfare (Continued).

CHAPTER XXV - CORPORATION FOR NATIONAL AND COMMUNITY SERVICE. PART 2543 - GRANTS AND AGREEMENTS WITH INSTITUTIONS OF HIGHER EDUCATION, HOSPITALS, AND OTHER NON-PROFIT ORGANIZATIONS. Subpart E - Statutory Compliance.

**§ 2543.87**

**Byrd anti-lobbying amendment.**

Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient.

## Appendix D

### **ODOT Office of Local Programs Notice to the Industry**

In December 2014, a compliance review of ODOT's Disadvantaged Business Enterprise (DBE) Program was conducted by the Federal Highway Administration's (FHWA's) Office of Civil Rights. A subsequent review was conducted in June 2015. The purpose of the reviews was to determine ODOT's compliance with the DBE program regulations found in 49 CFR Part 26.

In the end, it was determined that the ODOT DBE Program was noncompliant with Federal regulations. A total of 32 areas were identified in which the Department was deficient in implementing the Federal requirements; 7 of these were directly related to the Local Let program.

As a result of those findings, ODOT and FHWA entered into a Conciliation Agreement in September 2015 to address those areas of noncompliance in ODOT's DBE program. Since the inception of this agreement, the Office of Local Programs has played an integral part in addressing specific deficiencies related to the Local Let program and has worked to develop solutions to ensure compliance.

Following, are the programmatic and process changes that have been or will be implemented by ODOT's Office of Local Programs to address these seven areas.

#### **PN007**

This Note is a Local-let specific version of the ODOT-let PN 007 that was drafted in December of 2019. Requirements to monitor DBE Trucking have been updated to a monthly process that will be completed as part of the Trucking Affidavit Section on the new Prompt Payment Spreadsheet (see *PN31 Prompt Payment guidance below*). The Prime Contractor will be required to monitor trucking firms being used on the project and make appropriate selections on the Affidavit section of the Prompt Payment Spreadsheet.

Training and Guidance for this process can be located at:

<https://www.transportation.ohio.gov/wps/portal/gov/odot/programs/local-programs/resources/prompt-pay>

#### **PN13**

A Local-let specific version of PN 13 was finalized and added to the Bid Doc Template in March of 2019. This proposal note outlines the requirements for identifying DBEs pre-award who will be utilized to meet the established project goals through the Utilization and Affirmation processes. This Proposal Note also provides defining criteria for Good Faith Efforts, termination, and the replacement of DBE firms.

Good Faith Efforts, termination, and replacement guidance may be located at:

<https://www.transportation.ohio.gov/wps/portal/gov/odot/programs/business-economic-opportunity/dbe/dbe-resources>

For reference purposes, the Local-let Bid Doc Template may be found in the Forms/Bid Preparation Section at the following web page address:

<https://www.transportation.ohio.gov/wps/portal/gov/odot/working/publications/local-let-manual>

## PN31

This Proposal Note was developed to outline the new comprehensive Prompt Payment and Commercially Useful Function (CUF) Procedures via the GoFormz platform. A template for this form may be found and submitted via the GoFormz website located at [www.goformz.com](http://www.goformz.com) (see *detailed directions for creating an account below*).

The Code of Federal Regulations (CFR), 49 CFR Part 26. Within 49 CFR Part 26, 49 CFR 26.29 define the prompt payment requirements that apply to ODOT (the Department), its subrecipients (LPA's), and, by extension, both Prime Contractors and Subcontractors (including non-DBEs). The Prime Contractor must comply with this Proposal Note and the Department's prompt payment requirements as published in Section 107.21 of the Construction and Materials Specifications (C&MS).

Additionally, ODOT will monitor payments made by Prime Contractors and Subcontractors for compliance with this Proposal Note, C&MS 107.21 and, where applicable, 49 CFR 26.29. To facilitate this monitoring, the Department requires prime contractors to report their payments to all subcontractors with the submission of each invoice. The payment data reported must include any retainage withheld and any previously withheld retainage released. All such reporting will take place through a web-based submission on a customized version of ODOT's GoForms, which will be directly routed to a project specific folder on a SharePoint site created by each district.

Invoices will not be approved and processed for payment unless this reporting form has been submitted and received by the Department.

To obtain a GoFormz account, you must first register and obtain a MyODOT account. To do this, please click [Link](#) and follow directions outlined on the website. Two process flowcharts linked below have also been provided to assist in better understanding this process.

<https://www.transportation.ohio.gov/static/Working/data-tools/PromptPay/Visio-LPA-LocalPublicAgency-access-GoFormz-SharePoint.pdf>

<https://www.transportation.ohio.gov/static/Working/data-tools/PromptPay/Visio-LPA-PrimeContractoraccess-GoFormz.pdf>

Once a MyODOT account has been set up, the account holder will need to email: [GoFormz.Help@dot.ohio.gov](mailto:GoFormz.Help@dot.ohio.gov)

- In the Subject Line type Create GoFormz Account;
- After, a Login for Goformz will be emailed back to the sender, then
- Click [www.goformz.com](http://www.goformz.com) to access GoFormz and set up your account

You may access online training for Prompt Payment and CUF on the Local Programs LTAP page at the following web address:

[http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/LTAP/Pages/Ohio\\_LTAP\\_eLearning.aspx](http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/LTAP/Pages/Ohio_LTAP_eLearning.aspx)

Additionally, a very beneficial GoFormz training/ YouTube webinar recording can be found at:

[https://youtu.be/hes\\_7zi2n2U](https://youtu.be/hes_7zi2n2U)

## **PN32**

To ensure compliance with State and Federal laws which require all contractors and subcontractors to be documented in writing and in conformity with all applicable laws and regulations, the Department will require that a C92 form be completed for each subcontractor and material supplier working on the project prior to their starting work via electronic C92 GoFormz (*process to access GoFormz described above*) which will automatically be uploaded to the respective District SharePoint site. This requirement will go into effect immediately for all Local-let projects advertising after 1/31/2021.

Additionally, this requirement allows the Department to accurately and fully track DBE participation, both race-neutral and race-conscious. This is necessary for semi-annual reporting to FHWA.

District LPA staff will grant SharePoint access to the appropriate LPA personnel enabling them to view and monitor project documentation. The Project Engineer or LPA Designee will be required to verify that a C92 GoFormz has been submitted for each subcontractor working on the project, and this requirement will also be routinely monitored by the District Construction Monitor to ensure compliance.

## **PN126**

This Proposal Note must be used on all Local-let Design Build projects using the 2019 C&MS. The note revises Section 100 – General Provisions of the ODOT 2019 C&MS to be specific for LPAs. PN126 closely resembles the same note used on ODOT-let Design Build projects. The major update is the Prime Contractor's contractual obligation to make payment to each consultant, subcontractor, and supplier within 10 Calendar Days after receipt of payment from either the Department or LPA. Also, the Prime Contractor shall ensure this contractual obligation is placed in all consultants, subconsultants, subcontractor and supplier contracts that it enters into and further require that all consultants, subconsultants subcontractor and suppliers place the same payment obligation in each of their lower tier contracts.

For reference purposes, the Local-let Design Build Bid Doc Template may be found in the Forms/Bid Preparation Section at the following web page address:

<https://www.transportation.ohio.gov/wps/portal/gov/odot/working/publications/local-let-manual>

## **Commercially Useful Function (CUF) Training**

Training for CUF and Prompt Payment is located at the following web address:

[http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/LTAP/Pages/Ohio\\_LTAP\\_eLearning.aspx](http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/LTAP/Pages/Ohio_LTAP_eLearning.aspx)

## **Additional Updates to the LTP Manual of Procedures – Construction Chapter**

### **Clarification on Retainage Requirements**

In accordance with Article XVIII, Section 3 of the Ohio Constitution, and Ohio's home rule law, the Department allows LPA program recipients the full flexibility to withhold retainage from the prime in strict accordance with sections 153.12 and 153.14 of the Revised Code, and pursuant to 49 CFR 26.29(b)(3).

Should an LPA exercise its option to retain funds, it must be done so in strict accordance with the rules outlined above. Additionally, LPAs who choose to do so, shall monitor the return of retainage and may withhold retainage by selecting one of three specified methods outlined in 49 CFR 26.29(b)(3):

(1) LPA may decline to hold retainage from prime contractors and prohibit prime contractors from holding retainage from sub-contractors.

(2) LPA may decline to hold retainage from prime contractors and require a contract clause obligating prime contractors to make prompt and full payment of any retainage kept by prime contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed.

(3) LPA may hold retainage from prime contractors and provide for prompt and regular incremental acceptances of portions of the prime contract, pay retainage to prime contractors based on these acceptances, and require a contract clause obligating the prime contractor to pay all retainage owed to the subcontractor for satisfactory completion of the accepted work within 30 days after your payment to the prime contractor.

### **FHWA Form 1273**

A process has been outlined in the Construction Chapter of the LPA Manual of Procedures to ensure that the FHWA Form 1273 is physically incorporated into all Local-let construction contract and subcontract agreements (excluding purchase orders, rental agreements and other agreements for supplies or services). The LPA will be required to collect all contracts, subcontracts, and lower-tier contracts on the project from the Prime Contractor to verify Form FHWA-1273 has been physically incorporated. The LPA must then affirm the physical incorporation of Form FHWA-1273 by completing Appendix M – Form FHWA-1273 Subcontract Agreement Check.

The Construction Chapter of the LPA Manual of Procedures may be found at the following web page address: <https://www.transportation.ohio.gov/wps/portal/gov/odot/working/publications/local-let-manual>

### **Ensuring Continued Compliance**

Moving forward, ODOT has committed to meet required corrective actions outlined in the Conciliation Agreement and ensuring that the Local-let Program is compliant with the DBE program requirements and regulations.

If there are any additional questions or comments, please do not hesitate to contact any of the individuals listed below.



**Contact Information:**

Any questions regarding the update outlined above should be directed to the following:

**Office of Local Programs:**

Jeff Peyton: 614-466-2032

Jeff Shaner: 614-644-6394

All questions regarding the **GoFormz** application can be directed to the following email address [GoFormz.Help@dot.ohio.gov](mailto:GoFormz.Help@dot.ohio.gov) or the Admin Owners below.

**GoFormz Admin Owners:**

Janet Treadway: 614-466-7514

Tia Williams-Hayes: 614-644-6463

## **Appendix D**

### **Code of Federal Regulations**

Title 2 - Grants and Agreements

Volume: 1

Date: 2015-01-01

Original Date: 2015-01-01

Title: Section Â§ 200.322 - Procurement of recovered materials.

Context: Title 2 - Grants and Agreements. Subtitle A - Office of Management and Budget Guidance for Grants and Agreements. CHAPTER II - OFFICE OF MANAGEMENT AND BUDGET GUIDANCE. - Reserved. PART 200 - UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS FOR FEDERAL AWARDS. Subpart D - Post Federal Award Requirements. - Procurement Standards.

#### **§ 200.322**

#### **Procurement of recovered materials.**

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

[78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75885, Dec. 19, 2014]

# Prohibition on Covered Telecommunications and Video Surveillance Services or Equipment

## Grants and Loans

This document is designed to address common questions regarding the Office of Management and Budget's (OMB) implementation of section 889(b) of the National Defense Authorization Act (NDAA) of Fiscal Year 2019, Pub. L. No. 115—232, for grants and loans through the updates to section 200.216 of Title 2 of the Code of Federal Regulations (2 CFR).

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Q-1. What are “covered telecommunications equipment or services”?

Section 889 of the NDAA of 2019 defines “covered telecommunications equipment or services” to mean telecommunications and video surveillance equipment or services produced by Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

“Covered telecommunications equipment or services” also includes telecommunications or video surveillance equipment or services provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity that is owned or controlled by the government of a covered foreign country. Additional entities identified as covered entities will be identified as described in Q-2.

Q-2. How do you know if an entity has been added to the list of covered entities?

Entities added to this list will be incorporated into the excluded parties list in the System for Award Management (SAM) ([www.sam.gov](http://www.sam.gov)). When a user conducts a search of the excluded parties list, a record will appear describing the nature of the exclusion for any entity identified as covered by this prohibition.

Q-3. What is the covered foreign country?

The People’s Republic of China.

Q-4. Can this prohibition be waived for grants and loans?

Unlike Federal procurement, the prohibition cannot be waived for Federal assistance such as grants and loans.

Q-5. Is it mandatory to include a specific provision in Federal awards and notices of funding opportunity issued on or after August 13, 2020?

The Federal awarding agency must take positive steps to ensure that recipients are aware of the requirements associated with this provision as of August 13, 2020. While referencing 2 CFR Part 200 may likely suffice, including a specific provision may be a best practice in order to ensure clarity, especially because this is a new requirement.

Q-6. Does the Section 889 prohibition apply to existing Federal awards as of August 13, 2020?

Yes. The section 889 prohibition on covered telecommunications and video surveillance services or equipment is effective on all expenditures charged to Federal awards as of August 13, 2020.

Q-7. Will this prohibition impact fixed amount awards where payment is based upon the achievement of milestones and not based on actual costs?

Yes, the prohibition on covered telecommunications and video surveillance services or equipment applies and the recipient’s budget must not include the cost of covered telecommunications and video surveillance services or equipment in their fixed amount award.

Q-8. Can a Federal award be provided to a recipient when they use covered telecommunications equipment or services?

Yes, as long as the Federal award does not pay for the covered telecommunications and video surveillance services or equipment that the recipient uses. If the Federal agency suspects that the goods and services being procured under the award may in fact be prohibited, it must take appropriate action, consistent with its policies and procedures, and in accordance with the guidance in 2 CFR Part 200.

Q-9. Do existing Federal awards need to be amended to include the provision after August 13, 2020?

This prohibition applies to existing Federal awards. Federal awarding agencies must ensure that recipients are aware of this prohibition and determine if an amendment is needed on a case by case basis.

Q-10. If a Federal award issued prior to August 13, 2020 is amended for non-financial purposes (i.e., no cost extension or scope), does the amendment need to include this prohibition?

This prohibition applies to existing Federal awards. Federal awarding agencies must ensure that recipients are aware of this prohibition and determine if an amendment is needed on a case by case basis.

Q-11. If a Federal award issued prior to August 13, 2020 is amended for the purposes of adding supplemental funds, does the amendment need to include this prohibition?

This prohibition applies to existing Federal awards. Federal awarding agencies must ensure that recipients are aware of this prohibition and determine if an amendment is needed on a case by case basis.

Q-12. Can a Federal award be used to procure goods or services, unrelated to prohibited services or equipment, from an entity that uses such equipment and services?

Yes.

Q-13. Do recipients need to certify that goods or services procured under a Federal award are not for covered telecommunications equipment or services?

Yes, when the recipient signs an award agreement they are certifying that they will comply with all applicable laws, rules, and regulations, including the prohibition on covered telecommunications equipment and services. If the Federal agency suspects that the goods and services being procured under the award may in fact be prohibited, it must follow its own policies and procedures to take appropriate action that aligns with the guidance in 2 CFR Part 200. OMB is separately evaluating the certifications and representations statement in SAM and will make any necessary updates.

Q-14. Can recipients use the costs associated with covered telecommunications equipment or services or equipment to meet their cost sharing or match requirements?

No, such costs are unallowable costs.

Q-15. Can recipients use program income generated by a Federal award to cover the costs associated with covered telecommunications equipment or equipment?

No. Program income must be used for allowable costs in accordance with 2 CFR §200.307.

Q-16. Will this prohibition impact awards that use the de minimis indirect cost rate, as the 10% is based on modified total direct costs (MTDC) and not specific indirect costs elements?

No, the prohibition on covered telecommunications and video surveillance services or equipment does not affect a non-Federal entity's use of the de minimis indirect cost rate; however, the non-Federal entity must review its costs used to determine its de minimis indirect cost rate to ensure that unallowable costs are not included in the calculation. The MTDC cannot include unallowable costs in its calculation of the de minimis indirect cost rate.

Q-17. When a recipient normally charges prohibited services or equipment through their indirect cost pool, can a Federal award cover the same recipient's indirect costs?

No, like other unallowable costs, covered telecommunications and video surveillance services or equipment costs must not be charged either directly or indirectly to Federal awards. The recipient must separately negotiate an indirect cost rate for their Federal awards that excludes these costs from the indirect cost pool and base amount chargeable to its Federal award(s).

Q-18. How will covered telecommunications equipment or services as a new unallowable expense be implemented for indirect cost rates?

Federally approved indirect cost rate agreements generally do not need to be reopened or amended, but may need to be adjusted in accordance with 2 CFR § 200.411. The non-Federal entity must review its current indirect cost rate proposal or previously negotiated rate to ensure that it does not include expenses associated with covered telecommunications equipment or services because the non-Federal entity must certify that the costs included in its proposal are allowable.<sup>1</sup>

- If a non-Federal entity has not included the covered telecommunications equipment or services, then it should include a statement with each indirect cost proposal affirming that it has not included any costs described in 2 CFR §200.216.
- If a non-Federal entity finds that it has included the covered telecommunications equipment or services in an indirect cost proposal currently under review or a previously negotiated rate, then it should immediately contact the cognizant agency for indirect costs to revise the indirect cost proposal or negotiated rate.

Q-19. How will Federal agencies identify covered telecommunications and video surveillance services or equipment as unallowable costs in the negotiation and random audit selection of indirect costs?

Federal agencies must adapt their policies and procedures to review the costs associated with the prohibited telecommunications and video surveillance services or equipment. 2 CFR Part 200 requires the recipient to certify that all costs within the negotiated indirect cost rate are allowable in accordance with 2 CFR Part 200, Subpart E (Cost Principles). The covered telecommunications and video surveillance services or equipment mentioned in Sec. 889 of the NDAA of 2019 are considered unallowable under 2 CFR Part 200, Subpart E (Cost Principles).

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<sup>1</sup> 2 C.F.R. Part 200, Appendix III (F), Certification; Appendix IV (D), Certification of Indirect (F&A) Costs; Appendix VII (D.3), Required Certification.

Q-20. What are the Federal awarding agencies' responsibilities to monitor adherence to this provision?

Federal awarding agencies are responsible for the implementation of this provision, as they are for the other compliance requirements in 2 CFR Part 200, and must incorporate oversight of this provision into their existing the monitoring and compliance oversight of Federal awards. Adherence to these new requirements will also be reviewed for costs incurred on or after August 13, 2020 in future Single Audits and other audits of recipient spending.

Q-21. How should a Federal awarding agency handle a recipient that procured covered telecommunications equipment or services or equipment under a Federal award?

If a recipient procures covered technology under a Federal award, the Federal awarding agency must follow its policies and procedures associated with monitoring Federal awards and, when appropriate, pursue remedies for noncompliance, which must align with the guidance provided in 2 CFR Part 200.

## Exclusion Search Results 17 Total Results

### Filtered by:

<b>Keyword</b>	<b>Status</b>
Hangzhou Hytera Huawei Zhejiang ZTE dahua	Active
	Inactive

### Dr. Zhiwei Wang ● Active

<b>DUNS</b> Unique Entity ID:	<b>Excluding Agency:</b>	<b>Activation Date:</b>
<b>SAM</b> Unique Entity ID:	HEALTH AND HUMAN SERVICES, DEPARTMENT OF	Jul 21, 2020
	<b>Classification:</b>	<b>Termination Date:</b>
	Individual	Jul 20, 2030

### HANGZHOU HONGYAN TRADING CO., LTD ● Active

<b>DUNS</b> Unique Entity ID:	<b>Excluding Agency:</b>	<b>Activation Date:</b>
<b>SAM</b> Unique Entity ID:	OFFICE OF FOREIGN ASSETS CONTROL	
	<b>Classification:</b>	<b>Termination Date:</b>
	Special Entity Designation	Indefinite

### ZTE Corporation ● Active

<b>DUNS</b> Unique Entity ID: 654608660	<b>Excluding Agency:</b>	<b>Activation Date:</b>
<b>SAM</b> Unique Entity ID: HWEKRJ3F3N29	GENERAL SERVICES ADMINISTRATION	Dec 13, 2019
	<b>Classification:</b>	<b>Termination Date:</b>
	Firm	Indefinite

### Huawei Investment & Holding Co., Ltd. ● Active

<b>DUNS</b> Unique Entity ID: 544957314	<b>Excluding Agency:</b>	<b>Activation Date:</b>
<b>SAM</b> Unique Entity ID: Y3NYMV2P5446	GENERAL SERVICES ADMINISTRATION	Dec 13, 2019
	<b>Classification:</b>	<b>Termination Date:</b>
	Firm	Indefinite

### Hangzhou Hikvision Digital Technology Co., Ltd. ● Active

<b>DUNS</b> Unique Entity ID: 545259848	<b>Excluding Agency:</b>	<b>Activation Date:</b>
<b>SAM</b> Unique Entity ID: L78SCHFL4JN8	GENERAL SERVICES ADMINISTRATION	Dec 13, 2019
	<b>Classification:</b>	<b>Termination Date:</b>
	Firm	Indefinite

### Hytera Communications Corporation Limited ● Active

<b>DUNS</b> Unique Entity ID: 654702463	<b>Excluding Agency:</b>	<b>Activation Date:</b>
<b>SAM</b> Unique Entity ID: DUKCMD4EJJG8	GENERAL SERVICES ADMINISTRATION	Dec 13, 2019
	<b>Classification:</b>	<b>Termination Date:</b>
	Firm	Indefinite

### Zhejiang Dahua Technology Co., Ltd. ● Active

<b>DUNS</b> Unique Entity ID: 545242687	<b>Excluding Agency:</b>	<b>Activation Date:</b>
<b>SAM</b> Unique Entity ID: ED47N4Z1K8S9	GENERAL SERVICES ADMINISTRATION	Dec 13, 2019
	<b>Classification:</b>	<b>Termination Date:</b>





Indefinite

**HONGYUAN MARINE CO LTD** ● Active

DUNS

Unique Entity ID:

Excluding Agency:

OFFICE OF FOREIGN ASSETS CONTROL

Activation Date:

Jan 10, 2020

SAM

Unique Entity ID:

Classification:

🔑 Special Entity Designation

Termination Date:

Indefinite

**Zhongli DING** ● Active

DUNS

Unique Entity ID:

Excluding Agency:

OFFICE OF FOREIGN ASSETS CONTROL

Activation Date:

Dec 07, 2020

SAM

Unique Entity ID:

Classification:

👤 Individual

Termination Date:

Indefinite

**SHANGHAI GANG QUAN TRADE CO.** ● Active

DUNS

Unique Entity ID:

Excluding Agency:

OFFICE OF FOREIGN ASSETS CONTROL

Activation Date:

May 17, 2017

SAM

Unique Entity ID:

Classification:

🔑 Special Entity Designation

Termination Date:

Indefinite

**SHANGHAI NORTH TRANSWAY INTERNATIONAL TRADING CO.** ● Active

DUNS

Unique Entity ID:

Excluding Agency:

OFFICE OF FOREIGN ASSETS CONTROL

Activation Date:

May 17, 2017

SAM

Unique Entity ID:

Classification:

🔑 Special Entity Designation

Termination Date:

Indefinite

**Yueyue SHEN** ● Active

DUNS

Unique Entity ID:

Excluding Agency:

OFFICE OF FOREIGN ASSETS CONTROL

Activation Date:

Dec 07, 2020

SAM

Unique Entity ID:

Classification:

👤 Individual

Termination Date:

Indefinite

**Huawei Technologies Co., Ltd.** ● Active

DUNS

Unique Entity ID: 654292358

Excluding Agency:

DEPT OF THE AIR FORCE

Activation Date:

Feb 21, 2019

SAM

Unique Entity ID: DCAMUHE5N6W1

Classification:

🏢 Firm

Termination Date:

Indefinite

**Huawei Device Co., Ltd.** ● Active

DUNS

Unique Entity ID: 421306185

Excluding Agency:

DEPT OF THE AIR FORCE

Activation Date:

Feb 21, 2019

SAM

Unique Entity ID: JKTPF89M9P73

Classification:

🏢 Firm

Termination Date:

Indefinite

**HUAWEI DEVICE USA INC.** ● Active

DUNS

Unique Entity ID: 078284967

Excluding Agency:

DEPT OF THE AIR FORCE

Activation Date:

Feb 21, 2019

SAM

Unique Entity ID: LCF7TMLFD2J2

Classification:

🏢 Firm

Termination Date:

Indefinite

**Zuoyou LIN** ● Active

**DUNS** Unique Entity ID:

**SAM** Unique Entity ID:

**Excluding Agency:**

OFFICE OF FOREIGN ASSETS CONTROL

**Classification:**

👤 Individual

**Activation Date:**

Sep 03, 2020

**Termination Date:**

Indefinite

**Daniel Y. HE** ● Active

**DUNS** Unique Entity ID:

**SAM** Unique Entity ID:

**Excluding Agency:**

OFFICE OF FOREIGN ASSETS CONTROL

**Classification:**

👤 Individual

**Activation Date:**

Oct 19, 2020

**Termination Date:**

Indefinite

**(SAMPLE COPY)**  
**Waste Disposal Agreement for Projects in the City of Canton**

*Items 1, 3 - 9 are optional and discretionary to the undersigned*

THIS WASTE AGREEMENT, made this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, by and between \_\_\_\_\_ (called "Contractor"), and \_\_\_\_\_ of \_\_\_\_\_ (called "Land Owner"), concerning a certain construction contract between the Contractor and \_\_\_\_\_ in the City of Canton, OH for the \_\_\_\_\_ (project), as follows:

1. **MANNER OF WASTING:** Land Owner grants to Contractor the exclusive right to place dirt, earth, rock, topsoil, subsurface, unsuitable and/or other excess material (called "waste material") upon the area described in the following paragraph without requirement, limit, or restriction as to depth, amount, manner, or time.
2. **WASTE AREA:** The property upon which Contractor is permitted to place material is commonly known as \_\_\_\_\_ (address).
3. **TITLE TO WASTE AREA:** The Land Owner warrants that it has title to and the right to contract for placement of waste material in said area and agrees to defend and indemnify Contractor against any claim, suit, or damage arising out of such title or right to contract.
4. **ACCESS AND USE:** Land Owner hereby grants Contractor the right of ingress and egress to the waste area in locations to be selected by Contractor for all purposes necessary to the complete fulfillment of this agreement, and the right of quiet enjoyment in the intended use of such area.
5. **PAYMENT:** Contractor agrees to pay and Land Owner agrees to accept as full and final compensation for all rights granted and covenants contained herein and all claims of every nature the sum of \_\_\_\_\_ payable \_\_\_\_\_.
6. **BASIS OF MEASUREMENTS:** It is mutually agreed that measurement of the amount of materials wasted, where required, shall be made on the following basis: \_\_\_\_\_ and said measurement shall be binding upon the parties hereto for all purposes.
7. **DAMAGES:** Land Owner hereby waives any and all claims for damage to the waste area and to the area of ingress and egress except as specifically noted herein.
8. **RELEASE:** Upon receipt of final payment hereunder, and provided all terms of this agreement have been fulfilled, Land Owner hereby releases Contractor from further liability of any kind or nature hereunder.

WITNESSES:

CONTRACTOR:

\_\_\_\_\_

\_\_\_\_\_  
Authorized Signature & Title

\_\_\_\_\_

LANDOWNER:

\_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_

9. **ENTIRE AGREEMENT:** It is agreed that the terms and conditions of this agreement are fully covered in the foregoing, and that any oral or written statements made by either party, or agents claiming to represent either party, not set forth herein, are not binding on the parties and are not considered as part of this Agreement.
10. **DISCLAIMER:** The City of Canton is not a party to the here above agreement. The Contractor and Landowner shall indemnify and save harmless the City of Canton from any claim that may arise from the here above agreement. The waste material is the property of the Contractor, not the City of Canton.

## Signature and Proposal Pages

### Signature Page Fire Station #8 Renovation Project

To the Director of Public Service of the City of Canton:

The undersigned, having carefully examined the complete invitation to bid, herewith proposes to furnish all the labor and materials required to complete the **Fire Station #8 Renovation Project** in accordance with the specifications on file, including any and all work and materials that may be necessary to complete the project in a proper and workmanlike manner, and in accordance with the instructions in the bid packet and under the direction of and to the satisfaction of the Director of Public Service of said City.

The bidder hereby agrees that the Director of Public Service has the right to reject any and all bids and to accept the bid(s) deemed most beneficial to the City of Canton.

The bidder hereby certifies that the undersigned \_\_\_\_\_ is the only person interested in the bid and the bidder herewith certifies that no officer or employee of the City of Canton is in any manner interested therein.

The bidder herewith encloses a \_\_\_\_\_ **(BID BOND, CERTIFIED/CASHIER'S CHECK)** in the sum of \$ \_\_\_\_\_ dollars made payable to the CITY OF CANTON as a guaranty that if awarded the contract for the work included in the proposal, \_\_\_\_\_ will enter into contract therefore, with sureties satisfactory to the Director of Public Service, within the prescribed time of ten (10) days from the date of service of notice of award, otherwise such bond or checks shall become the property of said City, as liquidated damages of the failure on the bidder's part to do said contract within the specified time.

The bidder acknowledges receipt of Addenda Numbers: \_\_\_\_\_.

SIGNATURE OF BIDDER: \_\_\_\_\_.

**NOTE:** If bidder is a corporation, set forth the legal name of the corporation, together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If bidder is a partnership, set forth the name of the firm, together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership.

### Proposal Page

We (I), the above signed hereby propose to furnish the following article(s) and/or service(s) at the price(s) and terms stated subject to all instructions, conditions, specifications, and all attachments hereto. We (I) have read all attachments including the specifications and fully understand what is required.

BID ITEM	SPEC ITEM	DESCRIPTION	QTY	UNIT	PRICE LABOR	PRICE MATERIAL		TOTAL
<b>CITY OF CANTON FIRE STATION NO. 8 RENOVATIONS</b>								
Base Bid	ALL	Perform all General Contract work as outlined in Project Manual and as shown on Drawings	1	Lump				
Allowance		General Contractor to include General Purpose Construction Allowance.	1	Lump				\$20,000
		<b>PROJECT TOTAL</b>						

**Bid Price in Figures** \_\_\_\_\_ **FROM:** \_\_\_\_\_

**Bid Price in Words** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Base Bid Prices are for Informational Purposes Only. Total Unit Prices will govern.