

**PROJECT MANUAL**

**Town Hall Addition  
NAUGATUCK, CONNECTICUT**

**Contract No. FY23-B032**

December 5, 2022

Borough of Naugatuck



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**Borough of Naugatuck**

**LEGAL NOTICE**

**Town Hall Addition  
NAUGATUCK, CONNECTICUT  
Contract No. FY23-B032**

Sealed bids will be received and opened at the Borough of Naugatuck, Town Hall, Purchasing Office, 229 Church Street, Naugatuck, CT 06770, on **Thursday, January 5, 2023, at 11:00 A.M.**, at which time and place all bids will be publicly opened via ZOOM due to COVID -19 and read aloud. Please follow link below at scheduled bid opening.

Join Zoom Meeting

<https://us06web.zoom.us/j/6782404415?pwd=eUZjRW5FdW5RT0lmQWk5anNsTkV3UT09&from=addon>

Meeting ID: 678 240 4415

Passcode: 5fY9TT

One tap mobile

+19292056099,,6782404415#,,,,\*486183# US (New York)

+16465189805,,6782404415#,,,,\*486183# US (New York)

Dial by your location

+1 929 205 6099 US (New York)

+1 646 518 9805 US (New York)

Meeting ID: 678 240 4415

Passcode: 486183

Find your local number: <https://us06web.zoom.us/u/kk7tTjzff>

The Contract Documents may be examined at the Office of the Purchasing Agent, Town Hall, 229 Church Street, Naugatuck, CT 06770.

Contract Documents can be obtained at no cost from the Borough of Naugatuck web site <http://www.naugatuck-ct.gov>. All bidders must check the Naugatuck web site no more than three days prior to the bid opening to check for addendums.

Bids must be accompanied by a certified check or Bid Bond in writing on forms provided by the Borough of Naugatuck in the amount of at least 5% of the amount of the Bid and payable to the order of the Borough of Naugatuck. The successful Bidder will be required to furnish and pay for a Performance Bond and a Payment Bond in the amount of one hundred percent (100%) of the Contract price.

The right is reserved by the Borough of Naugatuck to reject any or all Bids, to waive any informalities or defects in Bids, and to make such time extensions as may be necessary in order to review and compare Bids, to obtain such supplemental information as may be necessary to review Bids and to accept Bid(s) that, in the judgment of the Borough of Naugatuck, will be in the Borough's best interest.

No Bidder may withdraw his bid within (90) days after the actual date of the opening thereof.

“An Affirmative Action/Equal Opportunity Employer. Minority/Women's Business Enterprises are encouraged to apply.”

**INFORMATION FOR BIDDERS**

**Town Hall Addition  
NAUGATUCK, CONNECTICUT  
Contract No. FY23-B032**

1. Proposals Received

Sealed bids for the construction of the following project will be received by the Purchasing Agent for the Borough of Naugatuck, Accounting Dept. Basement, Town Hall, 229 Church Street, Connecticut, 06770 until Thursday January 5, 2023 at 11:00 AM local time after which no additional bids will be accepted.

Immediately following the above time and date sealed bids will be publicly opened and read at the Town Hall at the Borough of Naugatuck, Accounting Dept, 229 Church Street, Naugatuck, CT 06770 and read aloud via Zoom due to COVID-19.

Please follow link below to access scheduled bid opening.

Join Zoom Meeting

<https://us06web.zoom.us/j/6782404415?pwd=eUZjRW5FdW5RT0lmQWk5anNsTkV3UT09&from=addon>

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2. Location and Description of Work

These specifications will provide a basis for construction of a new Tax Collections office at the Naugatuck Town Hall, 229 Church Street, Naugatuck, CT

### 3. Schedule of Construction and Time of Completion

The attention of the Bidder is called to the provisions of the General Requirements, Section 6 of the General Conditions, and requiring submittal of a schedule of operations.

The attention of the Bidder is called to the requirements of Time for Completion, Section 3 of the Supplemental Conditions for initiation and completion of the work.

The Bidder's attention is especially directed to Liquidated Damages, Section 4 of the Supplement Conditions for information about failure to complete the project on time.

### 4. Plans and Project Manuals

The bid document may be examined and obtained at no cost from the Borough of Naugatuck web site <http://www.naugatuck-ct.gov>. All bidders must check the Borough web site within four (4) days of the scheduled bid opening to check for addenda.

The construction contract for the construction of the Tax Collection Office, NAUGATUCK, CONNECTICUT Contract No. FY23-B032, will be entered into by the successful bidder and the Borough of Naugatuck. The State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 817, along with the contract drawings, supplemental specifications and special provisions contained herein will detail the general requirements for materials, methods of installation, measurement and basis of payment to be required in this project. Any references to the State of Connecticut, the Department, the commissioner, Engineer, or other terms indicating the State of Connecticut and her agents as party to the contract shall for this project mean the Borough of Naugatuck and her designated agents or employees.

Where insurance is required to be carried in the name of the State of Connecticut and the State of Connecticut is to be held harmless, this shall be done in the name of the Borough of Naugatuck and the Borough of Naugatuck shall be held harmless.

All requirements for material testing, certificates of the compliance or material certifications shall be done as if this were a contract being entered into with the State of Connecticut, shall be in accordance with Form 817.

It is the intent of this contract to maintain all standard requirements of Form 817 without attempting to redefine every term within the 817 to the "Borough of Naugatuck".

The bidder shall, therefore, be aware that the Borough of Naugatuck and its agents shall inspect and administrate this contract, make contract interpretations, determine the acceptability of the work and approve requests for payments. The Contractor shall be responsible for the requirements stated in Form 817, supplemental specifications, special provisions and in the construction drawings.

## 5. Addenda and Interpretations

No interpretations of the meaning of the contract documents will be made to any Bidder orally.

Every request for such interpretation shall be in writing, addressed to James Stewart, Borough of Naugatuck Department of Public Works, 246 Rubber Avenue, Naugatuck, CT 06770 or emailed to [JStewart@naugatuck-ct.gov](mailto:JStewart@naugatuck-ct.gov). To be given consideration, such requests must be received at least seven (7) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the contract documents, which, if issued, will be posted to the Borough's internet page for all prospective Bidders, no later than four (4) days prior to the date fixed for the opening of bids. Failure of any Bidder to receive any such addendum or interpretations shall not relieve such Bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

## 6. Familiarity of the Work

Each Bidder shall fully inform himself prior to bidding as to existing conditions and limitations under which the work is to be performed, and shall include in his bid a sum to cover the cost of items necessary to perform the work as set forth in the Contract Documents. No allowance will be made to a Bidder because of lack of such examination or knowledge. The submission of a bid will be considered as conclusive evidence that the Bidder has made such examination.

Where borings or other exploration data are shown on the Plans or made available to the Bidder, it is understood that such data were obtained in the usual manner, and with reasonable care, and are to be interpreted and used as the Bidder sees fit. There is no expressed or implied agreement that the depths or the character of the material and water levels have been correctly indicated, and the Bidder is cautioned to take into account that condition affecting the work may differ from those indicated.

The Owner assumes no responsibility whatsoever with respect to ascertaining for the Contractor such facts concerning physical characteristics at the site of the project.

The Contractor agrees that he shall make no claim for and has no right to additional payment or extension of time for completion of the work, or any other concessions, because of any interpretations or misunderstanding on his part of this Contract, or because of any failure on his part to fully acquaint himself with all conditions relating to the work. Permission for making borings, test pits, or other investigations of subsurface conditions will be arranged for by the Owner upon receipt of a written request thereof.

## 7. Existing Conditions

In bidding on this Contract, each Bidder acknowledges that he has made whatever investigation of the project site he has deemed necessary for the purpose of bidding

## 8. Estimate of Work

For bidding purposes, the work has been subdivided into unit price items. The quantities shown below are to be considered as approximate only. The Inspector does not

expressly or by implication agree that the actual quantity(ies) will correspond therewith, but reserves the right to increase or decrease the amount of any Item or portion of the work as may be deemed necessary.

#### 9. Qualification of Bidders

A Bidder shall be a contractor who is experienced in the construction of the projects of this type. The Proposal shall contain adequate proof of the qualifications of the Bidder to perform, in a satisfactory manner and within the time specified, all the work covered by the Plans and Project Manual. This proof shall be fully recorded on the pages titled "References", which shall become part of the Proposal.

Lowest Responsible and Qualified Bidder: As used in this section, "lowest responsible and qualified bidder" means the bidder whose bid is the lowest of those bidders possessing the skill, ability and integrity necessary to faithfully perform the work.

#### 10. Disqualification of Bidders

More than one proposal from an individual, firm, partnership, corporation, or an association under the same, or different, names will not be considered. Reasonable grounds for believing that any Bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such Bidder is interested. Any or all proposals in which such Bidder is interested will be rejected if there is reason for believing that collusion exists among the Bidders; and all participants in such collusion will not be considered in future proposals for the same work. Proposals in which the prices are obviously unbalanced may be rejected. No Contract will be awarded except to competent Bidders capable of performing the class or work contemplated.

#### 11. Preparation of Proposals

The Proposal must be made upon the forms contained herein. The blank spaces in the Proposals must be filled in correctly where indicated. The Bidder must state, both in words and in numerals, written or printed in ink, the prices for which he proposes to do each Item of the work contemplated. In case of discrepancy between the words and the numerals, the words shall govern. Ditto marks are not considered writing, or printing, and shall not be used. The Bidder shall sign his Proposal correctly. If an individual makes the Proposal, his name and post office address must be shown. If made by a firm, partnership, or corporation, the Proposal must be signed by an official of the firm, partnership, or corporation authorized to sign contracts, and must show the post office address of the firm, partnership, or corporation.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the Bidder, this address, and name of the project for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed to: Purchasing Office, Borough of Naugatuck, City Hall, 229 Church Street, Naugatuck, CT 06770.

#### 12. Irregular Proposals

The Borough of Naugatuck reserves the right to reject any proposals if they show any



omission, alteration of form, additions not called for, conditional bids, or irregularities of any kind.

### 13. Proposal Guarantee

No proposal will be considered unless accompanied by a certified check in U.S. dollars, or bid bond using an insurance company licensed to do business in the State of Connecticut in an amount equal to at least 5% of the amount of the bid and payable to the order of the Borough of Naugatuck, said check or bid bond to be returned to the Bidder unless forfeited as hereinafter stipulated. Such checks or bid bonds will be returned to all bidders within five (5) days after the execution of the Contract and the furnishing of the required security by the successful Bidder.

### 14. Withdrawal of Proposals

If a Bidder wishes to withdraw his Proposal, he may do so before the time fixed for the opening of bids by communicating his purpose to the office of the Mayor. Upon such notice, the Proposal will be handed to him unopened.

### 15. Execution of Contract

The party to whom the Contract is awarded, or his authorized representative, will be required to attend at the office of the Mayor, Borough of Naugatuck, with the sureties offered by him, or them, and a current certificate of Corporate good standing issued by the Office of the Secretary of State in which the corporation is incorporated, and execute the Contract within five (5) days from the date of the award. If the party entering into this contract is a corporation, a Corporate Resolution duly executed by the president and Secretary of the Corporation authorizing the Corporation to enter into this Contract shall be provided. In case of his failure or neglect to do so, the Owner may, at its opinion, determine that the Bidder has abandoned the Contract and thereupon the Proposal and acceptance shall be null and void, and bid security accompanying the Proposal shall be forfeited as liquidated damages to the Owner. If the party entering into this contract is a partnership, a partnership resolution duly executed by a majority of the general partners authorizing the partnership to enter into this contract shall be provided.

### 16. Bonds

The successful Bidder, at the time of the execution of the Contract, shall furnish a Performance Bond in an amount at least equal to one hundred percent (100%) of the Contract prices as security for the faithful performance of this Contract and also a Payment bond in an amount not less than one hundred percent (100%) for the Contract prices as security for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract. All Bonds shall be in the forms prescribed by Law or Regulation and be acceptable to the Owner. Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Connecticut. Bidder shall provide evidence that Surety Company is licensed to conduct business in the State of Connecticut. All sureties shall be in full force throughout the guarantee period and until the retainage is released.

## 17. Responsibility of the Contractor

Attention is hereby particularly directed to the provisions of the Contract and Specifications whereby the Contractor shall be responsible for any loss or damage that may happen in the work, or any part thereof, during its progress and also whereby the Contractor shall make good any defects for faults that may occur within one (1) year after date of final estimate. He shall indemnify and save harmless the Owner and Engineer from any damages or costs to which they may be put by reason of injury to the person or property of another resulting from negligence or carelessness in the performance of the work under this Contract.

## 18. Insurance

Before execution of the Contract, the Bidder will be required to file with the Borough of Naugatuck a certificate of insurance. The certificate, executed by an insurance company satisfactory to the Borough of Naugatuck shall name the Borough of Naugatuck and the State as additional insured parties on the form furnished with these Contract Documents. The ACORD Certificate of Liability Insurance form is the industry accepted evidence of insurance and shall state that at a minimum, with respect to the contract, the bidder carries insurance in accordance with the requirements and stipulations listed below.

'The Contractor' shall indemnify, defend and hold harmless the Borough of Naugatuck, its officials, officers, employees and designees caused in whole or in part to the fullest extent permitted by law from and against any and all claims, suits, actions, obligations, liabilities, damages, losses or injury (including the resulting death of a person), penalties, and expenses (including reasonable attorneys' fees) to the extent arising out of the performance of this Agreement or due to the Contractor's negligence or willful misconduct or omissions of the Contractor or its employees, agents, subcontractors or representatives.

Prior to the commencement of the work, and until final completion and acceptance of the work, the Contractor shall procure and maintain the following types of insurance and maintain all insurance coverage for the life of the contract, from an insurance company or companies with an A.M. Best Rating of A- (IX) or better. Such insurance will protect and indemnify the Borough of Naugatuck from all claims which may arise out of or result from the Contractor's obligations under this agreement, whether caused by the contractor or by a subcontractor or any person or entity directly or indirectly employed by the Contractor or by anyone for whose acts said Contractor may be liable.

- A. *Workers Compensation:* The Contractor shall provide workers compensation and employer's liability insurance that complies with the regulations of the State of Connecticut with limits no less than \$100,000 each accident by bodily injury; \$100,000 each accident by disease and a policy limit of \$500,000. Such policy shall contain a 'waiver of our right to recover from other endorsement' in favor of the Borough of Naugatuck.

- B. *Commercial General Liability Insurance*: The Contractor shall provide commercial general liability insurance policy that includes products, operations and completed operations as follows: Bodily injury & property damage with an occurrence limit of \$1,000,000: Personal & advertising injury limit of \$1,000,000 per occurrence: General aggregate limit of \$2,000,000 (other than products and completed operations): Products and completed operations aggregate limit of \$2,000,000. The policy shall name the Borough of Naugatuck as an additional insured on an ongoing basis.
- In addition,
- Such policy will be provided on an occurrence basis and will be primary and shall not contribute in any way to any insurance or self-insured retention carried by the additional insured.
  - Such policy shall contain a broad form contractual liability endorsement or similar wording within the policy form.
  - Such policy shall contain a waiver of subrogation in favor to the Borough of Naugatuck.
  - Such policy shall include coverage for the Contractor's sub-contractors, or any person or entity directly or indirectly employed by said Contractor or by anyone for whose acts said Contractor may be liable.
- C. *Commercial Automobile Insurance*: The Contractor shall provide commercial automobile insurance for any owned autos (symbol 1 or equivalent) in the amount of \$1,000,000 each accident covering bodily injury and property damage on a combined single limit. Such coverage shall also include hired and non- owned automobile coverage.
- D. *Umbrella Liability Insurance*: The Contractor shall provide commercial umbrella liability with limits no less than \$5,000,000 each occurrence and \$5,000,000 in the aggregate which shall be following form, without restriction or limitation, providing coverage over items (A), (B), (C), as noted above on a primary and non- contributory basis.
- E. *Pollution/Environmental Liability Insurance*: The Contractor shall provide pollution liability insurance with limits no less than \$1,000,000 each occurrence, and \$1,000,000 in the aggregate, that will cover clean remediation costs, as well as bodily injury. This can be covered under the general liability policy, or a standalone policy.
- F. *Commercial Automobile Insurance*: The Contractor shall provide commercial automobile insurance for any owned autos (symbol 1 or equivalent) in the amount of \$1,000,000 each accident covering bodily injury and property damage on a combined single limit. Such coverage shall also include hired and non-owned automobile coverage.
- G. *Umbrella Liability Insurance*: The Contractor shall provide commercial umbrella liability with limits no less than \$5,000,000 each occurrence and \$5,000,000 in the aggregate which shall be following form, without restriction or limitation, providing coverage over items (A), (B), (C), as noted above on a primary and non-contributory basis.

Prior to the issuing of any notice to proceed by the Borough of Naugatuck, the Contractor shall furnish the Borough of Naugatuck with Certificates of Insurance evidencing such insurance as set forth above. Said policies shall not be cancelled or permitted to lapse until final completion and approval of the performance of the work

until ten (10) days after the Borough of Naugatuck has received written notice, by certified or registered mail, that the cancellation or change of such policy is contemplated.

The Contractor shall advise their insurers or agent of the contract provisions regarding insurance. The failure of the Contractor to notify insurers or agent of the contract provision shall not relieve the Contractor from its insurance obligations under the Agreement. Non-fulfillment of the insurance provisions shall constitute a breach of this agreement and the Borough of Naugatuck retains the right to stop work until proper evidence of insurance is provided.

#### 19. Care and Protection of Property

The Contractor shall take particular care to avoid damages to all private property and to private improvements within the Boroughs' right of way. He shall make good any damages to the satisfaction of the Inspector. There shall be no additional compensation for the repair or restoration of private property, or private improvements within the Boroughs' right of way. **See Special Provisions and Notices to Contractor for more specific requirements for Care and Protection of Property.**

#### 20. Sales Tax

Certain materials and supplies incorporated in the work of this project are exempt from Connecticut Sales Tax. The Bidder shall familiarize himself with current regulations of the State Tax Department. The tax on materials or supplies exempted by such regulations shall not be included as part of the bid. The Owner will furnish the successful Bidder a sales tax exemption number.

#### 21. Compliance with Federal and State Regulations

The Contractor shall be responsible for full compliance with any Federal and/or State laws, regulations and standards, as applicable to any project fully or partially funded by State and/or Federal funding agency. This project is funded, in part, by the State and Federal government.

#### 22. Permits

All licenses and permits for complying with any applicable Federal, State, and Municipal laws, codes and regulations in connection with the prosecution of the work shall be obtained by the Contractor, at no additional cost to the Owner. The Naugatuck Building department fees shall be waived for this project.

#### 23. None

#### 24. Work Plan

The Contractor shall prepare a Work Plan to describe the means and methods for: coordination with the Owner, regulated material handling, transportation, disposal, decontamination, and project close-out. The plan must include a sedimentation and erosion control plan and stockpile management plan.

#### 25. Contractor's Right to Terminate Work

If the work should be stopped under an order of any court or other public authority, for a consecutive period of not less than thirty (30) days, through no act or fault of the Contractor or of anyone employed by him, then the Contractor may terminate this Contract and recover from the Owner payment for all work executed.

#### 26. None.

#### 27. Power of Attorney

Attorneys-in-fact who sign contract bonds must file, with each bond, a certified and effectively dated copy of their power of attorney.

#### 28. Right to Reject

The Owner reserves the right to reject any or all proposals or to accept any bid, should it deem it to be in the best interest of the Owner.

#### 29. Purchasing & Invoicing

All goods and services pertaining to work in this bid document shall commence with the vendors receipt of a Purchase Order from the Borough of Naugatuck.

Invoices must include the purchase order number and the charges listed in accordance with the purchase order. Invoices are to be delivered via email to [accountspayable@naugatuck-ct.gov](mailto:accountspayable@naugatuck-ct.gov) or as follows:

Borough of Naugatuck, Accounts Payable, 229 Church Street, Naugatuck, CT 06770

#### 30. Equal Opportunity Clause

(a) Government contracts. Except as otherwise provided, each contracting agency shall include the following equal opportunity clause contained in section 202 of the order in each of its Government contracts (and modifications thereof if not included in the original contract): During the performance of this contract, the contractor agrees as follows: (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The 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, 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. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

(2) The contractor will, 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, color, religion, sex, or national origin.

(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The 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.

(5) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the contractor's non-compliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and 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.

(7) the contractor will include the provisions of paragraphs (1) through (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. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

31. None

32. None

### 33. Forms Requirements

All forms in this document must be filled, signed and returned with the bid. Missing or not signed forms may disqualify bid submission package. In addition, the following forms should also be included:

- Bid Proposal
- References/Qualifications
- Bid Bond
- Non-Collusion Affidavit of Prime Bidder
- Non-Collusion Affidavit of Subcontractor
- State of Connecticut Certificate of Compliance with Connecticut General Statute Section 31-57b
- Certificate of Insurance listing Borough of Naugatuck as Certificate Holder
- Completed Insurance Agreement Appendix 2
- Completed Vendor Form Appendix 3
- Completed IRS Form-W9 Appendix 3

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**PROPOSAL FORMS/BID FORMS**

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**PROPOSAL/BID FORM**

**Town Hall Addition  
NAUGATUCK, CONNECTICUT  
Contract No. FY23-B032**

The undersigned, as Bidder, declares that no person or persons, other than those named herein, are interested in this Proposal; that this Proposal is made without collusion with any person, firm or corporation; that he has carefully examined the location of the proposed work, the proposed Form of Contract, and the Contract Drawings therein referred to; that no person or persons acting in any official capacity for the Owner is directly or indirectly interested therein or in any portion of the profit thereof; and that he proposes and agrees, if this Proposal is accepted, to execute the Form of Contract with the Owner; to provide all necessary equipment, tools, and other means of construction, and to do all work and furnish all materials specified in the Contract, in the manner and time therein prescribed, and according to the requirements of the Borough of Naugatuck Inspector as therein set forth, and that he will take in full payment therefore, the following unit prices and lump sums, to wit:

The Bidder acknowledges receipt of the following addenda:

Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_  
Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_  
Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_

The undersigned agrees that he shall execute the Contract within the ten (10) days after the date of award, and shall commence work within the ten (10) days after date of the Notice to Proceed and shall progress therewith to its entire completion within the time stipulated in the Contract.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of ninety (90) days after the scheduled closing time for receiving bids.

If this Proposal shall be accepted by the Owner and the undersigned shall fail to contract as aforesaid, and to give bonds in a sum equal to one hundred percent (100%) of the Contract price, as determined by the canvass of bids, and with surety or sureties satisfactory to the Owner within ten (10) days from the date of the award, then the Owner may, at its option, determine that the Bidder has abandoned the Contract: thereupon, the Proposal and acceptance shall be null and void, and the bid security, for not less than one-tenth (10%) of the amount of the bid, accompanying this Proposal, shall become the property of the said Owner as liquidated damages for the delay and additional expense to the Owner caused thereby if said Proposal shall be rejected, or if said Proposal shall be accepted and the Bidder shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Proposal) and shall furnish a Bond for his faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Proposal, the accompanying bid security shall be returned to the undersigned making bid.

PROPOSAL/BID FORM

Town Hall Addition  
NAUGATUCK, CONNECTICUT  
Contract No. FY23-B032

Forms Requirements

All forms in this document must be filled, signed and returned with the bid. Missing or not signed forms may disqualify bid submission package. In addition, the following forms should also be included:

- Bid Proposal
- References/Qualifications
- Bid Bond
- Non-Collusion Affidavit of Prime Bidder
- Non-Collusion Affidavit of Subcontractor
- State of Connecticut Certificate of Compliance with Connecticut General Statute Section 31-57b
- Certificate of Insurance listing Borough of Naugatuck as Certificate Holder
- Completed Insurance Agreement Appendix 2
- Completed Vendor Form Appendix 3
- Completed IRS Form-W9 Appendix 3

Seal  
(if bid is by a Corporation)

\_\_\_\_\_

Firm or Corporation\_\_\_\_\_

By: \_\_\_\_\_  
(Duly Authorized)

Street Address\_\_\_\_\_

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

Telephone \_\_\_\_\_

Email \_\_\_\_\_

\_\_\_\_\_ Date

Fax \_\_\_\_\_

**Town Hall Addition  
NAUGATUCK, CONNECTICUT  
Contract No. FY23-B032**

BIDDER'S NAME:

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**Item 1 Mobilization and Demobilization**

Work in this item shall include all work necessary for moving project personnel and equipment to the Project Site; all work necessary for the establishment of the Contractors' field offices, buildings and other facilities necessary for Contract performance; the preparation of work plans and other documents including submittals, Project schedules, Project management plans, staging and storage areas, safety plans, quality control plans, and other documents addressing general Project sequencing or management; demobilization of plant and equipment; completion of administrative closeout items as required by the Contract including Bonding; insurance; permitting

\$ \_\_\_\_\_ **Lump Sum**

**Item 2 Construction of Town Hall Addition**

Work in this item shall include demolition, demolition of deenergized electrical equipment, framing, carpentry, insulation, windows doors, store front, exterior, ceiling, drywall, caulking, fire shutters, countertops, concrete curb, fire stops required for all trades, coordination between trades, site clean-up, final project cleanup, Waste disposal for all trades, and any other projects cost not included in other Items required to have a complete and functioning project.

\$ \_\_\_\_\_ **Lump Sum**

**Item 3 HVAC**

Work in this item shall include purchase and installation of split system type HVAC unit as detailed and specified. Including control wiring and conduits, testing and balancing.

\$ \_\_\_\_\_ **Lump Sum**

**Item 4 Electrical**

Work in this item shall include, deenergize electrical prior to demolition, conduits, wiring, pull boxes, panel boxes, and outlet boxes, wiring devices, lighting, alarms, switches, occupancy sensors, communication drops, Wiring and conduits to HVAC system as well as any other work normally completed by an electrician.

\$ \_\_\_\_\_ **Lump Sum**

**Town Hall Addition  
NAUGATUCK, CONNECTICUT  
Contract No. FY23-B032**

**Item 5 Painting**

Work in this item shall include final wall prep, priming and painting of all surfaces, protection of all none painted surfaces.

\$ \_\_\_\_\_ **Lump Sum**

**Item 6 Flooring**

Work in this item shall include carpet tile installation including any other related work.

\$ \_\_\_\_\_ **Lump Sum**

**Item 7 Concrete Sidewalk**

Work in this item shall include all costs to install the concrete sidewalk; excavation, base, formwork, reinforcement, concrete, turf establishment.

\$ \_\_\_\_\_ **Lump Sum**

**TOTAL BID AMOUNT**      \$ \_\_\_\_\_

**Item 8 Add/Deduct- Alternate Fire Rated Horizontal Slider Transaction Windows**

Work in this item shall include all costs to install a fire rated horizontal slider transaction windows- Frye Tec or equal in Lieu of Fire Shutters.

\$ \_\_\_\_\_ **Lump Sum**

The award of the Contract will be made to the lowest responsible bidder. By submission of the Bid, each bidder certifies that his bid has been arrived at independently, without consultation, communication, or agreement as to any matter related to this Bid and with any other Bidder or competitor.

REFERENCES/QUALIFICATIONS

The Bidder is required to fill out the following form to enable the Owner to make inquiries and judge as to the Bidder's experience, skill, available financial resources, credit, and business standing.

1. Number of years the bidder has been in business as a General Contractor:  
\_\_\_\_\_

2. List three (3) projects of similar nature to the project described herein that the Bidder has completed, with name, address, and telephone number of a reference for each project. Include approximate construction cost:

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3. List projects presently under construction by the Bidder, dollar amount of the contract, and percent completed:

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4. Has the Bidder ever failed to complete work awarded; and if so, state where and why:

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5. Does the Bidder plan to sublet any part of this work; and if so, give details:

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6. List equipment Bidder owns that is available for this project:

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7. List equipment the Bidder plans to rent or purchase for this project:

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8. If the Bidder has worked under the direction of a Borough of Naugatuck Inspector, list recent projects with the name, address, and telephone number of the Consultant:

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9. List name, address, and telephone number for the following:

Surety: \_\_\_\_\_

Bank: \_\_\_\_\_

Major Material Supplier: \_\_\_\_\_

Subcontractors: \_\_\_\_\_

\_\_\_\_\_  
Bidder

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, as Principal, and \_\_\_\_\_  
\_\_\_\_\_ as Surety, are

hereby held and firmly bound unto \_\_\_\_\_ as OWNER in the penal sum  
of \_\_\_\_\_

for the payment of which, well and truly to be made, we hereby jointly and severally bind  
ourselves, successors and assigns.

Signed, this \_\_\_\_\_ day of \_\_\_\_\_, 2022.

The Condition of the above obligation is such that whereas the Principal has submitted to  
\_\_\_\_\_ a certain BID, attached hereto and hereby made a part hereof to enter  
into a contract in writing, for the Town Hall Addition NAUGATUCK, CONNECTICUT  
Contract No. FY23-B032

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in  
the Form of Contract attached hereto (properly completed in accordance with said BID)  
and shall furnish a BOND for his faithful performance of said contract, and for the  
payment of all persons performing labor or furnishing materials in connection therewith,  
and shall in all other respects perform the agreement created by the acceptance of said  
BID,

then this obligation shall be void, otherwise the same shall remain in 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 Surety, for value received, hereby stipulates and agrees that the obligations of said Surety  
and its BOND shall be in no way impaired or affected by any extension of the time within which  
the OWNER may accept such BID; and said Surety does hereby waive notice of any such  
extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals,  
and such of them as are corporations have caused their corporate seals to be hereto affixed  
and these presents to be signed by their proper officers, the day and year first set forth above.

\_\_\_\_\_  
Principal (L.S.)

\_\_\_\_\_  
Surety

By: \_\_\_\_\_  
IMPORTANT - Surety companies executing BONDS must appear on the Treasury Department's  
most current list (Circular 570 as amended) and be authorized to transact business in the state  
where the project is located.



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## **CONTRACT FORMS**

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## CONTRACT AND AGREEMENT

THIS AGREEMENT, for, for the Town Hall Addition NAUGATUCK, CONNECTICUT Contract No. FY23-B032 made this \_\_\_\_\_ day of \_\_\_\_\_ in the year 20\_\_\_\_, Between the Borough of Naugatuck, with its principal office and place of business at 229 Church Street, Connecticut 06770, acting herein through it's Mayor and \_\_\_\_\_, a \_\_\_\_\_, with an office and place of business at \_\_\_\_\_, hereinafter called the contractor.

WITNESSETH: That the parties to this agreement in consideration of the undertakings, promises, and agreements on the part of the other herein contained, hereby undertake, promise, and agree as follows:

### I Definitions

The word "Owner" as used herein shall mean the Borough of Naugatuck, acting through its properly authorized representatives.

The words "as directed", "as required", "as permitted", "as allowed", or phrases of like effect or import, used herein shall mean that the direction, requirement, permission, or allowance of the Borough of Naugatuck Inspector is intended and similarly the words "approved", "reasonable", "suitable", "proper", "satisfactory", or words of like effect or import, unless otherwise particular specified herein, shall mean approved, reasonable, suitable, proper, or satisfactory in the judgment of the Borough of Naugatuck Inspector.

The word "Contractor" shall mean \_\_\_\_\_ or it's duly authorized agents.

### II Contract Includes

The indices, headings and subheadings are for convenience only and do not form a part of the Contract Documents.

The Contractor shall, at his own sole cost and expense, furnish all labor, materials, and other services necessary for the completion of this Contract and shall complete and finish the same in the most thorough, workmanlike, and substantial manner, in every respect, to the satisfaction and approval of the Borough of Naugatuck Inspector, in the manner and within the time hereinafter limited, and in strict accordance with the Advertisement, Information for Bidders, Proposal, Contract Forms, General Requirements, Supplemental Specifications, Standard Specifications, Special Provisions and Addenda hereto attached, and the Contract Drawings herein referred to, (collectively the "contract documents"), which contract documents are hereby made a part of this Contract as fully as if the same were repeated at length herein.

Addendum No. \_\_\_\_ Dated: \_\_\_\_\_ Addendum No. \_\_\_\_ Dated: \_\_\_\_\_  
Addendum No. \_\_\_\_ Dated: \_\_\_\_\_ Addendum No. \_\_\_\_ Dated: \_\_\_\_\_  
Addendum No. \_\_\_\_ Dated: \_\_\_\_\_ Addendum No. \_\_\_\_ Dated: \_\_\_\_\_

### III Specifications and Contract Drawings Supplementary

The said standard and supplemental specifications, special provisions and Contract Drawings are intended to supplement each other, and together constitute one complete set of Contract Documents, so that any work exhibited in the one and not in the other shall be executed just as if it had been set forth in both, in order that the work shall be completed in every respect according to the complete design or designs as decided and determined by the Borough of Naugatuck Inspector. Should anything be omitted from the Specifications and Contract Drawings, the Contractor shall promptly notify the Borough of Naugatuck Inspector. From time to time during the progress of the work, the Borough of Naugatuck Inspector will furnish such supplementary or working drawings as are necessary to show changes or define the work in more detail, and these also shall be considered as Contract Drawings.

### IV Modifications

The Contractor, in entering into this Contract, understands that the Owner reserves the right to modify, to the extent herein provided, the arrangement, character, grade, or size of the work or appurtenances whenever, in the Owner's opinion, it shall be deemed necessary or advisable to do so. Minor changes in the work, not involving extra cost and consistent with the purposes of the work, may be made by verbal order, but no modifications involving extra work or material changes shall be made unless ordered in writing by the Borough of Naugatuck Inspector; and if the modification requires additional cost, a purchase order must be issued prior to work commencing. The Contractor shall and will accept such modifications when ordered in writing by the Owner through the Borough of Naugatuck Inspector, and the same shall not vitiate or void this Contract.

Any such modifications so made shall not, however, subject the Contractor to increased expense without equitable compensation, which shall be determined by the Borough of Naugatuck Inspector. If such modifications result in a decrease in the cost of work involved, and equitable deduction from the Contract price, to be determined by the Borough of Naugatuck Inspector, shall be made. The Borough of Naugatuck Inspector's determination of such additional compensation, or of any such deduction, shall be based upon the unit prices in the Contractor's bid, unless the modification involves work not included in such bids and then in the event, the modification shall be as set forth in Section XXVIII prior to the commencement of additional work. In no event shall any modification in the work shown on the Plans and Specifications be made unless the nature and extent thereof has first been certified by the Borough of Naugatuck Inspector in writing and sent to the Contractor.

### V Correction of Errors and Omissions

The Plans, Standards and Specifications and Special Provisions forming part of this Contract are intended to be explanatory of each other, but should any discrepancy appear, or misunderstanding arise, as to the import of anything contained in either, the explanation and

decision of the Borough of Naugatuck Inspector shall be final and binding on the Contractor; and all directions and explanations required, to complete and make effective any of the provisions of the Contract and Specifications, shall be given by the Borough of Naugatuck Inspector. Corrections of errors and omissions in the Drawings, Standard or Special Provisions may be made by the Borough of Naugatuck Inspector when such corrections are necessary for the proper fulfillment of the Contract Documents as construed by the Borough of Naugatuck Inspector. The effect of such corrections shall date from the time that the Borough of Naugatuck Inspector gives due notice thereof to the Contractor.

#### VI Borough of Naugatuck Inspector's Decision

All work under this Contract shall be done to the satisfaction of the Borough of Naugatuck Inspector, who shall determine the amount, quality, acceptability, and fitness of the several items of work and materials which are to be paid for hereunder. He also shall decide all questions which may arise as to the fulfillment of the terms of the Contract Documents. The determination of the Borough of Naugatuck Inspector in all such matters shall be final and binding upon the parties thereto.

#### VII Inspection of Work

It is agreed that the Owner may, at its pleasure, appoint and employ, at its own expense, such persons as may be necessary, who are to act as Borough of Naugatuck Inspectors, inspections, or agents, for the purpose of determining, in the Borough's interest, that the materials furnished and the work done, as the work progresses, conforms to the requirements of the Contract Documents. Such persons shall have unrestricted access to all parts of the work and to other places at and where the preparation of the materials and other parts of the work to be done under this Contract are carried on and conducted. They shall be given, by the Contractor, all facilities and assistance required to carry out their work of inspection.

It is not the function of the Borough of Naugatuck Inspector to supervise or direct the manner in which the work to be done under this Contract is carried on or conducted. The Borough of Naugatuck Inspector is not responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the work, and he will not be responsible for the Contractor's failure to carry out the work in accordance with the Contract Documents.

The Borough of Naugatuck Inspector shall have authority to reject and shall reject any work or material, or any part thereof, which does not, in his opinion, conform to the Contract Drawings, working drawings, Standard Specifications, Special Provisions and Contract, and it shall be permissible for him to do so at any time during the progress of the work.

No work shall be done except in the presence of the Borough of Naugatuck Inspector or his assistants. No material of any kind shall be used upon the work until it has been inspected and accepted by the Borough of Naugatuck Inspector. Any materials or workmanship found at any time to be defective, or not of the quality or character required by the Contract Drawings, Standard Specifications and Special Provisions shall be remedied at once regardless of previous inspection.

Such inspection shall not relieve the Contractor from any obligation to perform said work strictly in accordance with the Contract Drawings and Project Manual and work not so constructed shall be removed and made good by the Contractor at this own expense and free of

all expense to the Owner, whenever so ordered by the Owner, without reference to any previous oversight or error in inspection.

#### VIII Address of Contractor

The address in the Proposal, upon which this Contract is based, shall be the Contractor's place of business as set forth in this agreement. The delivering at the above-named place any such notice, letter, or other communication to the Contractor shall be deemed proper service to the Contractor. The notice letter or other communication may be mailed or delivered, from the Borough to the Contractor. The date of said service shall be the date of such delivery. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon the Contractor or his representative personally.

#### IX Obligation of the Contractor

The Contractor shall, at his own expense, provide any and all manner of supervisor, insurance, taxes, labor, materials, apparatus, scaffolding, appliances, tools, machinery, power, transportation, and whatever else may be required of every description necessary to do and complete the work and shall be solely answerable for the same and for the safe, proper, and lawful construction, maintenance, and use thereof. The Contractor shall cover and protect the work from damage and shall make good all injury to the same occurring before completion of this Contract. The Contractor shall employ only competent workmen and shall provide experienced superintendents and foremen on each part of the work.

The Contractor shall, at their own expense, wherever necessary or required, maintain fences, provide watchmen, maintain lights, place additional timber and braces, and take such other precautions as may be necessary to protect life, property, and structures, vehicles and pedestrians and shall be liable for all damages, occasioned in any way by his act or neglect or that of this agent, employees, or workmen. He shall provide access at all times to private property.

#### X Occupational Safety and Health Act

The applicable sections of the Occupational Safety and Health Act of 1970 (Williams-Steiger Act) shall apply and be made a part of this Contract. The Contractor's attention is particularly directed to the record keeping requirements of this Act.

#### XI Nondiscrimination in Employment

The Contractor agrees and warrants that, in the performance of this Contract, he will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, sex, religion, or national origin in any manner prohibited by State, Federal, County or Municipal law.

#### XII Personal Attention and Competent Workmen

The Contractor shall give his personal attention constantly to the faithful prosecution of the work and shall be present, either in person or by a duly authorized representative, on the site of the work continually during its progress to receive directions or instructions from the Borough of Naugatuck Inspector. The Contractor shall employ at the site, during the

performance of the work, a competent superintendent or foreman who shall be satisfactory to the Borough of Naugatuck Inspector and who shall not be changed, except with the consent of the Borough of Naugatuck Inspector, unless he shall cease to be an employee of the Contractor. Such superintendent or foreman shall represent and have full authority to act for the Contractor in his absence, and all directions and instructions given such superintendent or foreman shall be as binding as if given to the Contractor.

The Contractor shall employ only competent, skillful men to do the work, and whenever the Borough of Naugatuck Inspector shall notify the Contractor in writing that any man on the work is, in his opinion, incompetent, unfaithful, disorderly, or otherwise unsatisfactory, such man shall be discharged from the work and shall not again be employed on it, except with the consent of the Borough of Naugatuck Inspector.

### XIII Public Safeguards

The Contractor agrees to conduct the work at all times in such a manner that public travel shall not be inconvenienced needlessly nor shall it be wholly obstructed at any point.

### XIV Materials and Workmanship

It is the intent of the Specifications to describe fully and definitely the character of materials and workmanship furnished regarding all ordinary features and to require first-class work and materials in all particulars. For any unexpected features arising during the progress of the work and not fully covered herein, the Specifications shall be interpreted by the Borough of Naugatuck Inspector to require first class work and materials in all respects, and such interpretation shall be accepted by the Contractor.

### XV Materials and Manufactured Articles

All materials and workmanship shall be subject to the approval of the Borough of Naugatuck Inspector and shall be in conformity with approved modern practice.

Unless otherwise specifically provided for in the Project Manual, all materials incorporated in the work shall be new, of standard and first-class quality, and of the best workmanship and design. No inferior or low grade, material will be either approved or accepted, and all work of assembly and construction must be done in a neat, first-class, and workmanlike manner.

### XVI Unnoticed Defects

The inspection of the work and materials by the Borough of Naugatuck Inspector shall not relieve the Contractor of any of his obligations to fulfill this Contract, as herein described, and defective work shall be made good and unsuitable materials shall be rejected, notwithstanding that such work and materials had been previously overlooked by the Borough of Naugatuck Inspector and accepted or estimated for payment. If the work, or any part thereof, shall be found defective at any time before final acceptance of the whole work, the Contractor shall forthwith make good such defects, in a manner satisfactory to the Borough of Naugatuck Inspector.

## XVII Care and Protection of Work

From the commencement of the work until the completion of the same, the Contractor shall be solely responsible for the care of the work covered by the Contract and for the materials delivered at the site intended to be used in the work; and all injury, damage, or loss of the same, from whatever cause, shall be made good at his expense before the final estimate is made. He shall provide suitable means of protection for all materials intended to be used in the work and for all work in progress as well as for completed work. He shall take all necessary precautions to prevent injury or damage to the work under construction by flood, freezing or inclement weather at any and all times. The methods used for this purpose shall be subject to the approval of the Borough of Naugatuck Inspector, but shall not relieve the Contractor from liability for inadequate protection of the work or materials.

## XVIII Assignment of Contract

The Contractor shall have no right or power to assign this Contract, in whole or in part, nor to assign any right arising, or moneys due or to grow due thereunder, without prior written approval of the Owner.

## XIX Subcontracting

The Contractor may utilize the services of specialty subcontractors on those parts of the work which, under normal contracting practices, are performed by specialty subcontractors. The Contractor shall not award the work to a subcontractor(s) without prior written approval of the Owner. The Contractor shall be fully responsible to the Owner for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of these Contract Documents, insofar as applicable to the work of subcontractors, and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provisions of these Contract Documents.

Nothing contained in this contract shall create any contractual relation between any subcontractor and the Owner.

## XX Liability of Contractor for Employees

Each and every employee of the Contractor and each and every of his subcontractors engaged in the said work shall, for all purposes, be deemed and taken to be the exclusive servants of the Contractor and not for any purpose or in any manner in the employment of the Owner. The Contractor shall, in no manner, be relieved from responsibility or liability on account of any fault or delay in the execution of the said work, or any part thereof, by any such employee, or any such subcontractor, or any material men, whatsoever.

## XXI Coordination With Other Contractors and Utilities

During the progress of the work, existing utilities may be found to be in close proximity to

or in conflict with the work being installed. The Contractor shall make every effort to identify and locate these utilities before working in the area. If it is known or found that these utilities exist the Contractor shall contact the appropriate utility and alert them to the situation. Should an existing utility be found to be in close proximity to the work the Contractor shall take all the necessary precautions to protect the utilities and his work. Should existing utilities be found to conflict with the work the Contractor shall arrange with the utility company for their adjustment. No additional compensation will be made for delays, inconvenience or damage sustained by the Contractor due to interference from the above-noted utility appurtenances or the operation of locating, installing or moving them or the inability of others to perform their work in a timely manner.

#### XXII Permits, Laws, Codes, Ordinances and Insurance

The Contractor shall keep himself fully informed of all existing and current codes, ordinances, and regulations and Municipal, County, State or National laws in any way limiting or controlling the actions or operations of those engaged upon the work or affecting the materials supplied to or by them. He shall, at all times, observe and comply with all such valid and legally binding ordinances, laws, and regulations and shall protect and indemnify the Owner and its representatives and agents against any claim or liability arising from, or based on, any violation of the same. He shall obtain and pay for all necessary permits and pay all fees required in connection with the Contract. Contractor shall provide the types and amounts of insurance as set forth in Section 18, Information of Bidders and maintain in effect. He shall take out and carry appropriate employer's liability insurance and public liability insurance.

#### XXIII Patent Rights

The Contractor shall indemnify and save harmless the Owner and its officers, agents, and representatives from all claims for damages arising from the infringements, or alleged infringements, of any Letters Patent or patent rights covering any material, appliance, or device used in or upon the work or any part thereof.

All royalties for patents or patent infringement claims, that might be involved in the construction or use of the work, shall be included in the Contract amount; and the Contractor shall satisfy all demands that may be made at any time for such and shall be liable for any damage or claims for patent infringements; and the Contractor shall, at his own expense, defend any and all suits or proceedings that may be instituted against the Owner for infringement, or alleged infringement, of any patent or patents involved, or alleged to be involved, in the work; and in case of any award for damages, the said Contractor shall pay such award.

#### XXIV Defense of Suits

The Contractor shall indemnify and hold harmless the Owner and its consultants, agents and employees from and against all claims, damages, losses, and expenses, including, but not limited to, attorney fees, ("indemnification expense") arising out of or resulting from the performance of the work or arising out of or resulting from the Contract Documents, including, without limitation, all indemnification expense regarding personal injury or death and/or damage to real or personal property or motor vehicles.

In claims against any person or entity indemnified under this section by an employee or the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for



whose acts they may be liable, the indemnification obligation under this Section shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under worker's or workmen's compensation acts, disability benefit acts or other employee benefit acts.

#### XXV Claims for Labor and Materials

The Contractor shall indemnify and save harmless the Owner from all claims expenses and for judgments regarding labor done or materials furnished under this Contract, or any alterations or modifications thereof, including without limitation, reasonable Attorney's fees. Contractor shall furnish the Owner with a Mechanic's Lien Waiver from all persons who have done work, or furnished materials under this Contract. In case such waiver is not furnished, an amount necessary or sufficient, within the discretion of the Owner, to meet the claims of the persons aforesaid, shall be retained, as herein specified, from the money due the Contractor under this Contract until the liabilities aforesaid shall be fully discharged or satisfactorily secured.

#### XXVI Completion of Work by Owner

If the work to be done under this Contract shall be abandoned by the Contractor; or if this Contract shall be assigned, or the work sublet by him, otherwise than as herein specified; or if at any time the Owner shall be of the opinion that the performance of the Contract is unnecessarily or unreasonably delayed; or if the Contractor is willfully violating any of the conditions or covenants of this Contract, or of the Specifications, or is executing the same in bad faith or not in accordance with the terms thereof; or if the work be not fully completed within the time named in this Contract for its completion, or within the time to which the completion of the Contract may be extended by the Owner, the Owner may notify the Contractor to discontinue all work, or any part thereof under his Contract, by a written notice to be served upon the Contractor as herein provided.

The Contractor shall, within five (5) days of the service of said written notice, discontinue the work, or such part thereof, and the Owner shall thereupon have the power to contract for the completion of the Contract, in the manner prescribed by law; or to place such and so many persons as it may be deemed advisable, by contract or otherwise, to work, and complete the work herein described, or such part thereof; or to take possession of and use any of the materials, plant, tools, equipment, supplies, and property of every kind provided by the Contractor for the purpose of his work; and to procure other materials and equipment for the completion of the same; and to charge the expense of said labor, materials and equipment to the Contractor.

The expense so charged shall be deducted and paid by the Owner out of such moneys as may be due, or may at any time thereafter grow due to the Contractor under and by virtue of this Contract, or any part thereof; and in case such expense shall exceed the amount which would have been payable under the Contract, if the same had been completed by the Contractor, the Contractor or his surety shall pay the amount of such excess to the Owner within five (5) days of written demand therefore; and in case such expense shall be less than the amount which would have been payable under this Contract, if the same had been completed by the Contractor, the owner shall pay such difference to the Contractor within five (5) days of written demand.

## XXVII Partial and Final Estimates

On, or about, the last day of the month, the Borough of Naugatuck Inspector shall make an approximate estimate of the value of the work done and of the materials incorporated into the work.

The Owner will pay the Contractor, within 30 days of receipt of an estimate, ninety-five percent (95%) of the total estimated value of the work done, as estimated by the Borough of Naugatuck Inspector less previous payments. Partial payments will not be made whenever the amounts of the estimate or estimates of work done since the last previous estimate are less than \$2,000.00.

The Borough of Naugatuck Inspector shall, as soon as practicable after the completion of work, make a final certificate of the entire amount of the work done under this Contract, and the value thereof, and the Owner shall, within thirty (30) days after such final estimate is approved, pay the entire sum so found to be due hereunder, after deducting there from all previous payments and also all percentages and deductions to be retained under any of the provisions of this Contract.

Before payment of each estimate, the Contractor shall provide the Owner with a mechanic's lien waiver from the Contractor and all persons who have done work or furnished materials under this Contract.

## XXVIII Payment

The Owner, in consideration of the faithful performance by the Contractor of all and singular his covenants, promises, and agreements contained herein, agrees to pay the Contractor for the full completion by him of the work embraced in this Contract, in the manner and within the time herein specified and limited, and to the satisfaction and approval of the Borough of Naugatuck Inspector, the prices stipulated in the said Proposal hereto attached, such payment to be made at the times and in the manner and upon the conditions herein expressly provided. The Owner also agrees to pay in addition such amounts as may be agreed upon for modifications and for extra work.

## XXIX Guarantee

The Contractor guarantees that the work done under this Contract and the materials furnished by him and used in the construction of the same are free from defects or flaws. The guarantee is for a term of one (1) year from, and after, the date upon which the final estimate of the Borough of Naugatuck Inspector is formally approved by the Owner. It is hereby agreed and understood that this guarantee shall not include making any repairs made necessary by any cause or causes other than defective materials furnished by, or defective work done by, the Contractor.

## XXX Rate of Progress and Time of Completion

The Contractor shall commence work within ten (10) calendar days of the date of the Notice to Proceed. The rate of progress shall be such that the whole work, inclusive of any add alternates, shall be performed and the grounds cleaned-up in accordance with Time for Completion, Section 3 of the supplemental conditions, unless extensions of time shall be made for the reasons, and in the manner, stated under Article XXXIII, "Extension of Time".

The allotted calendar days includes time for the Contractor to obtain approval of an Erosion and Sediment Control Plan, as applicable.

#### XXXI Extension of Time

The Contractor expressly covenants and agrees that, in undertaking to complete the work within the time mentioned, he has taken into consideration, and made allowance for, all of the ordinary delays and hindrances incidental to such work, whether growing out of delays in securing materials or workmen or otherwise. Should the Contractor, however, be substantially delayed in the prosecution and completion of the work by any changes, additions, or omissions therein ordered in writing by the Borough of Naugatuck Inspector, or by fire, lightning, earthquake, tornado, cyclone, riot, insurrection, or war, or by the abandonment of the work by the workman engaged therein through no fault of the Contractor, or by the discharge of all or any material number of workmen in consequence of difficulties arising between the Contractor and such workmen, or by the neglect, delay, or default of any other contractor of the Owner, then the Contractor may, within five (5) days after the occurrence of the delay for which he claims allowance, notify the Borough of Naugatuck Inspector thereof in writing, and thereupon, and not otherwise, the Contractor shall be allowed such additional time for the completion of the work as the Borough of Naugatuck Inspector, in his discretion, shall award in writing, and his decision shall be final and conclusive upon the parties.

#### XXXII Damages for Failure to Complete on Time

The Contractor shall pay to the Owner for each and every calendar day (including Saturdays, Sundays, and holidays) that he shall be in default in completing the entire work in the time stipulated in Article XXX, or within the extension of time he may be granted as provided in Article XXXIII, the sum of Five Hundred Dollars (\$500) per day. This sum is hereby agreed upon not as a penalty but as liquidated damages which Owner will suffer by reason of such default, time being of the essence of the Contract and a material consideration thereof. The Owner shall have the right to deduct the amount of any such damages from any monies due the Contractor under this Contract.

#### XXXIII No Waiver of Rights

No certificate given or payment made under this Contract, except the final certificate or final payment, shall be evidence of the performance of the Contract either wholly or in part, and no payment shall be construed to be an acceptance of defective work or improper materials. No act of the Owner or of the Borough of Naugatuck Inspector, or of any representatives of either of them in inspecting the work, nor any extension of time for the completion of the work, shall be regarded or taken as an acceptance of such work, or any part thereof, or materials used therein or thereof, either wholly or in part; but such acceptance shall be evidenced only by the final certificate of the Borough of Naugatuck Inspector.

Before any final certification shall be allowed, the Contractor shall be required, and he hereby agrees, to sign and attest on said certificate a statement that he accepts the same in full payment and settlement of all claims on account of work done and material furnished under this Contract, and furthermore, that all claims for materials provided or labor performed have been paid and satisfied in full. No waiver of any breach of this Contract by the Owner or anyone acting for it, or on its behalf, shall be held as a waiver of any other or subsequent breach thereof.

#### XXXIV Mandatory Negotiation

Contractor and the Owner agree that they will attempt to negotiate in good faith any dispute of any nature arising under this contract. The parties shall negotiate in good faith at not less than two negotiation sessions prior to seeking any resolution of any dispute under the provisions of arbitration paragraph of this contract. Each party shall have the right to legal representation at any such negotiation session.

#### XXXV Arbitration

Any dispute or question arising under the provisions of this contract which has not been resolved under the mandatory negotiation paragraph of this contract shall be determined by arbitration. Arbitration proceedings shall occur at a neutral location in Waterbury, Connecticut, and shall be conducted in accordance with the rules then applicable of the American Arbitration Association. Arbitration shall proceed before a pane of one arbitrator to be selected by American Arbitration Association. The decision of the Arbitrator shall be final and may be entered in any court having jurisdiction thereof. Each party shall pay one-half of all costs and expenses of such arbitration.

#### XXXVI Owner's Right to Use

The Owner reserves the right to use or occupy any portion of the work considered by the Borough of Naugatuck Inspector as ready for use or occupancy. Such use or occupancy shall not be held, in any way, as final acceptance of the work or any portion thereof, or as a waiver of any portion of this Contract.

#### XXXVII Verification of Data

The quantities of work to be done and the materials to be furnished under this Contract, as given in the accompanying "Information for Bidders" and on the Proposal form, are approximate estimates for the purpose of comparing bids on a uniform basis. Neither the Owner nor the Borough of Naugatuck Inspector are to be held responsible for the data or information given relative to said quantities or that given on the Plans relative to existing conditions. The Contractor has judged for himself as to such quantities and as to other circumstances affecting the cost of the performance of this Contract, and he shall not at any time assert that there was any misunderstanding in regard to the character or amount of work to be done and materials and labor to be furnished.

#### XXXVIII Contractor's Wage Certification Form

If applicable the Contractor or his authorized agent will be required to sign the Contractor's Wage Certification Form at the time of Contract execution.

#### XXXIX Verbal Statements Not Binding

It is understood and agreed that the written terms and provisions of this Agreement shall supersede all prior verbal statements of the Borough of Naugatuck Inspector or other representatives of the Owner, and such statements shall not be effective or be construed as entering into or forming a part of, or altering in anyway whatsoever, the written Agreement.

XXXX Final Estimate Constitutes Release

It is agreed that acceptance by the Contractor of the last payment made, under the provisions of Article XXVII, shall operate as and shall be a release to the Owner, and every agent thereof, from all claims and liability to Contractor for anything done or furnished for, or relating to, the work or for any act or neglect of the Owner or any agent thereof.,

No payment, however, final or otherwise, shall operate to release the Contractor or his sureties from any obligations under this Contract.

XXXXI Delays or Termination by Governmental Authorities

Notwithstanding any other provision(s) of this contract, the parties agree that in the event of a stop work order from the State Department of Transportation, Department of Environmental Protection, or any other State or Federal agency, no additional compensation will be made by Owner to Contractor for delays, inconvenience or damage sustained by Contractor due to such order, including, without limitation, damages for loss of use of equipment or idle equipment. Similarly, in the event of a termination of the project by the State DOT, DEP or any other State or Federal agency, no additional compensation will be made by Owner to Contractor for the termination, or for any delay, inconvenience or damage sustained by Contractor due to such termination, including, without limitation, damages for loss of use of equipment or idle equipment. In the event of such termination, the Borough of Naugatuck Inspector shall prepare a final certificate for the entire amount of work done up to the effective date of termination. The provisions of Sections XXIX (Guarantee) shall apply to all work completed as of the effective date of any stop Work order, as if the effective date was the date upon which the final estimate of the Borough of Naugatuck Inspector is formally approved by the Borough.

XXXXII Validity of Agreement

The provision of this Agreement shall be binding upon the Parties and their respective successor or assigns.

IN WITNESS WHEREOF, the said parties hereto have caused this instrument to be signed by their respective duly constituted officers, attested, and sealed pursuant to proper resolutions.

Signed and sealed  
in the presence of

\_\_\_\_\_  
  
\_\_\_\_\_  
  
\_\_\_\_\_  
  
\_\_\_\_\_

\_\_\_\_\_  
Borough of Naugatuck  
Mayor

\_\_\_\_\_  
(Duly Authorized)  
Contractor

**PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS: that

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

\_\_\_\_\_  
(Address of Contractor)

a \_\_\_\_\_, hereinafter called Principal and  
(Corporation, Partnership, or Individual)

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

\_\_\_\_\_  
(Name of Owner)

\_\_\_\_\_  
(Address of Owner)

hereinafter called OWNER, in the penal sum of \_\_\_\_\_ Dollars,  
\$(\_\_\_\_\_) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, a copy of which is hereto attached and made a part hereof for the, for the Town Hall Addition NAUGATUCK, CONNECTICUT Contract No. FY23-B032.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, an any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in anyway affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts each one of Which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

ATTEST:

_____	By _____(s)
(Principal) Secretary	Principal
(SEAL)	
_____	_____
(Witness as to Principal)	(Address)
_____	_____
(Address)	
_____	_____
	Surety

ATTEST:

_____	
(Surety) Secretary	
(SEAL)	
_____	By _____
Witness as to Surety	Attorney-in-Fact
_____	_____
(Address)	(Address)
_____	_____

NOTES: Date of BOND must not be prior to date of Contract.  
If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

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

\_\_\_\_\_  
(Address of Contractor)

a \_\_\_\_\_, hereinafter called Principal  
and \_\_\_\_\_  
(Corporation, Partnership, or Individual)

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

\_\_\_\_\_  
(Name of Owner)

\_\_\_\_\_  
(Address of Owner)

hereinafter called OWNER, in the penal sum of

\_\_\_\_\_ Dollars, \$(\_\_\_\_\_)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, a copy of which is hereto attached and made a part hereof for \_\_\_\_\_, for the Town Hall Addition NAUGATUCK, CONNECTICUT Contract No. FY23-B032.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.



PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in anyway affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

ATTEST:

\_\_\_\_\_  
(Principal) Secretary

By \_\_\_\_\_ Principal \_\_\_\_\_(s)

(SEAL)

\_\_\_\_\_  
(Witness as to Principal)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

\_\_\_\_\_

\_\_\_\_\_  
ATTEST:

\_\_\_\_\_  
Surety

\_\_\_\_\_  
(Surety) Secretary

(SEAL)

\_\_\_\_\_  
Witness as to Surety

By \_\_\_\_\_ Attorney-in-Fact

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

NOTES: Date of BOND must not be prior to date of Contract.  
If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.





(d) Nothing contained in this Contract shall create any contractual relationship between any subcontractor and the Borough of Naugatuck.

(Signed) \_\_\_\_\_

\_\_\_\_\_  
Title

Subscribed and sworn before me

This \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

\_\_\_\_\_

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

My commission expires \_\_\_\_\_

(e) No proposed subcontractor shall be disapproved by the Borough of Naugatuck except for cause.

(f) The Contractor shall be fully responsible to the Borough of Naugatuck for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to require compliance by each subcontractor with the applicable provisions of this Contract for: Excavation and Disposal of Controlled Materials Parcel B – Area 5, NAUGATUCK, CONNECTICUT Contract No. FY23-B030

(a) Nothing contained in this Contract shall create any contractual relationship between any subcontractor and the Borough of Naugatuck.

**OTHER CONTRACTS**

The Borough of Naugatuck may award, or may have awarded, other Contracts for additional work, and the Contractor shall cooperate fully with such other Contractors, by scheduling his own work with that to be performed under other Contracts as may be directed by the Borough of Naugatuck. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other Contractor as scheduled.

**STATE OF CONNECTICUT**  
**Certificate of Compliance with**  
**Connecticut General Statute Section 31 - 57b**

I hereby certify that all of the statements herein contained below have been examined by me, and to the best of my knowledge and belief are true and correct.

The \_\_\_\_\_ **HAS / HAS NOT**  
*Company Name* (Cross out Non-applicable)

been cited for three (3) or more willful or serious or serious violations of any Occupational Safety and Health Act (OSHA) or of any standard, order or regulation promulgated pursuant to such act, during the three year period preceding the bid, provided such violations were cited in accordance with the provisions of any State Occupational Safety and Health Act of 1970, and not abated within the time fixed by the citation and such citation has not been set aside following appeal to the appropriate agency of court having jurisdiction or **HAS / HAS NOT** (Cross out Non-applicable) received one or more criminal convictions related to the injury or death of any employee in the three-year period preceding the bid.

The list of violations (if applicable) is attached.

\_\_\_\_\_  
*(Name of Firm, Organization or Corporation)*

**Signed:**

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

\_\_\_\_\_  
*Name Typed: (Corporation Seal)*

**Title:**

\_\_\_\_\_  
*(Title of Above Person, typed)*

**Dated:**

*State of* \_\_\_\_\_ )  
*County of* \_\_\_\_\_ ) *ss: A.D., 20* \_\_\_\_\_  
\_\_\_\_\_ )

Sworn to and personally appeared before me for the above, \_\_\_\_\_  
*(Name of Firm, Organization, Corporation)*

Signer and Sealer of the foregoing instrument of and acknowledged the same to be the free act and deed of

\_\_\_\_\_, and his/her free act and deed as  
*(Name of Person appearing in front of Notary or Clerk)*

\_\_\_\_\_  
*(Title of Person appearing in front of Notary or Clerk)*

My Commission Expires:

\_\_\_\_\_  
*(Notary Public) (Seal)*

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## **GENERAL REQUIREMENTS**

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**GENERAL REQUIREMENTS**

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Excavation and Disposal of Controlled Materials Parcel B  
NAUGATUCK, CONNECTICUT  
Contract No. FY23-B030

**GENERAL REQUIREMENTS**

1. Scope of Work

The project consists of:

1. The construction of an addition to the Naugatuck Town Hall located at 229 Church street Naugatuck, CT 06770. The project shall include all work as specified herein including; demolition, framing, windows, doors, store front, insulation, painting, flooring, concrete, HVAC, Electrical, data lines, ceilings, etc.

The Borough reserves the right to decrease the Scope of Work to be done under this Contract, select bid or alternate items in its best interest, or to omit any work in order to bring the cost within available funds. Exercise by the Borough of the above rights shall not constitute any grounds or basis of claim for damages or for anticipated profits on work omitted.

2. Standards

Wherever reference is made in this Contract to the Standard of any technical society or other recognized organization, these shall be construed to mean the latest standard adopted and published at the date of advertisement for bids.

Abbreviations are defined as follows:

ASTM -- American Society of Testing and Materials.  
ANSI -- American National Standards Institute  
ASA -- American Standards Association  
ACI -- American Concrete Institute  
ASME -- American Society of Mechanical engineers  
IEEE -- Institute of Electrical and Electronics Engineers

3. Contract Drawings and Working Drawings

The work is shown on the accompanying Contract Drawings. Such additional working drawings, as required because of changes or to provide greater detail, will be provided by the Engineer.

4. Alterations

The Engineer may make alterations to the line, grade, plan, form, dimensions, or materials of the work, or any part thereof, either before or after the commencement of the work. If such alterations increase the quantity of work, such increase will be paid for according to the quantity of such extra work actually done and at the prices stipulated for such work under unit price Items of the Contract. In case no unit price is applicable, the alterations will be paid for as extra work defined in Article XXVIII of the Contract.



5. Planimeter

The use of the planimeter shall be considered satisfactory for estimating quantities where geometric and analytic methods would be comparatively laborious.

6. Contractor's Schedule of Operations

The Contractor shall submit, within ten (10) days of the date of the Notice to Proceed, a preliminary schedule of operations for the project to the Inspector for approval. The approved preliminary schedule shall be used to prepare a detailed schedule of the principal construction events including all proposed purchase and delivery dates for items with critical delivery times. A supplemental bar graph shall also be prepared based on this construction schedule. The detailed schedule and supplemental bar graph shall be submitted within ten (10) days of the date of the Notice to Proceed.

The status of the project shall be evaluated monthly by the Contractor and shall be compared to the original schedule which shall be revised, if necessary, and reissued.

7. Coordination with Other Contractors and Utilities

During the progress of the work, other contractors and/or utilities may be engaged in performing work in the area. The Contractor shall coordinate the work to be done under this Contract with the work of others.

8. Cost Breakdown

Prior to the first estimate for payment to the Contractor, the Contractor shall submit to the Engineer for approval a detailed cost breakdown of the various amounts to be paid for within each Lump Sum Item, as applicable. It shall also include, but not necessarily be limited to, proportional amounts for bonds, insurance and miscellaneous works which are to be paid for throughout the life of the Contract, and which are not specifically included for payment under other Items and/or Division of the Contract.

9. Estimated Quantities

To aid the Inspector in determining quantities to be paid for, the Contractor shall, whenever requested, give the Inspector access to the proper invoices, bills of lading, or other pertinent documents and shall provide methods and assistance necessary for weighing or measuring materials.

10. Payment for Miscellaneous Work

No direct payment will be made to the Contractor for furnishing and providing miscellaneous temporary works, plants, and services, including Contractor's office, sanitary requirements, water supply, power, tools, equipment, lighting, telephone systems, store houses, store yards, safety devices, permits, insurances, bonds, watchmen, cleanup and the like, or other items specified under these General Requirements, unless payment therefore has been specifically provided. Compensation for the same is understood to be included in the scheduled prices hereinbefore given for the various kinds of work contemplated.

11. Drawings and Information to be furnished by the Contractor

For materials and equipment not supplied by the Owner, the Contractor shall promptly furnish to the Engineer, for his information, three (3) copies of drawings in detail of the materials, equipment, piping, and structural details for any part of the work for which Drawings are not to be issued by the Inspector. Before placing orders for any manufactured item or part of structure, he shall also submit three (3) copies, for approval, of detailed lists and descriptions of the various materials, fixtures, fittings and supplies which he proposes to use in the work, and also the names of individuals or companies who propose to furnish or manufacture the same. Copies of the results of all tests of materials and equipment shall be furnished by the Contractor immediately following the performance of required tests.

Prior to the submittal of shop drawings, the Contractor shall check, approve, initial and date the drawings and shall also indicate by reference the Standard Specification, Special Provision and/or Plan which covers the item. Submittals will be returned to the Contractor if they have not been properly processed by him.

Approval by the Inspector of shop drawings for any material, apparatus, device and layout shall not relieve the Contractor from the responsibility of furnishing same of proper dimension, size, quality, quantity and all performance characteristics to efficiently perform the requirements and intent of the Contract Documents. Approval shall not relieve the Contractor from the responsibility for errors of any sort on the shop drawings. If the shop drawings deviate from the Contract Documents, the Contractor shall advise the Inspector of the deviations in writing, including the reasons for the deviation.

In the event the Contractor obtains the Engineer's approval for the material, manufactured items, or equipment, other than that which is shown on the Plans or specified herein, the Contractor shall, at his own expense, make any changes as required in the structures, buildings, piping, or any other portion of the work necessary to accommodate the approved material, manufactured item, or equipment.

## 12. Substitution Clause

Whenever in the Contract Documents any item of equipment or material is designated by reference to a particular brand, manufacturer or trade name, it is understood that an approved equal product, acceptable to the Inspector, may be substituted by the Contractor, except where expressly noted as "no substitutions."

## 13. Contract Limits

The Contractor shall confine his activities to within street lines, easements, and right-of-way.

The Contractor shall take particular care to existing walls, protect trees and shrubs and private personal property. He shall make good any damage to the satisfaction of the Inspector.

The Contractor shall not enter upon or make use of any private property along the line of work, outside the limits of the rights-of -way, except when written permission is secured from the owner of said property and a copy delivered to the Inspector. The Contractor shall be held responsible for all damages or injury, done by himself or those in his employ, to any private or public property of any character during the prosecution of the work. The Contractor shall restore or repair at his own expense, in a manner satisfactory to the Inspector, such property as may be damaged by his operations during the prosecution of the work.

In case of failure on the part of the Contractor to restore or repair such property in a manner satisfactory to the Owner, the Owner may, upon 48 hour notice to the Contractor, proceed with such restoration or repair. The expense of such restoration or repair shall be deducted from any monies which are due or may become due the Contractor under this Contract.

14. Work in Easements

Not applicable in this Contract.

15. Cleaning up the Site

During the progress of the work, the Contractor shall keep the construction areas in a neat condition, free from accumulations of waste materials and rubbish. Lunch papers, bottles, lumber cut-offs, drinking cups and like rubbish shall be removed from the site daily. No alcoholic beverages will be permitted at the construction site(s).

On, or before the completion of the work, and before acceptance and final payment shall be made, the Contractor shall clean and remove, from the site and adjacent property all surplus and discarded materials, rubbish, and temporary structures and restore, in an acceptable manner, all property and leave the whole area in a neat and presentable condition.

16. Storage of Materials

Materials shall be stored so as to insure the preservation of their quality and fitness for the work. When considered necessary, they shall be placed on wooden platforms and covered or stored in a suitable building, as directed by the Inspector. Stored materials shall be located so as to facilitate prompt inspections.

Materials and equipment supplied by the Owner shall be jointly inspected by the Owner and the Contractor and shall, upon acceptance by the Contractor, become the Contractor's responsibility to make good any damage to the materials and equipment until they have been incorporated and accepted in the work.

17. Removal of Condemned Materials

The Contractor shall remove from the site of the work, without delay, all rejected and condemned materials of any kind brought to or incorporated in the work. No such rejected or condemned materials shall again be offered for use by the Contractor.

18. Hauling Materials

Before starting any work, the Contractor shall arrange, with the Municipal or State officials having jurisdiction, for the use of routes of travel for hauling materials, including surplus earth and rock, that will result in minimum inconvenience to the traveling public. Routes of travel so scheduled shall be adhered to throughout the course of the work, unless otherwise approved.

19. Accommodation of Traffic

During the progress of the work, all streets shall be kept open for the passage of traffic and pedestrians and shall not be obstructed unless authorized by the authority having jurisdiction

over same. Driveways, sidewalks, and areas of roadway shall be closed as short a time as possible while work is in progress and passage shall be restored by the close of work every day, by properly placed backfill or approved bridging. The Contractor shall notify residents prior to working in front of their home or business. The Contractor shall take such measures at his own expense as may be necessary to keep the street open for traffic and shall give advance notice to the Fire and Police Departments, and the Board of Education of his proposed street operations. He further agrees to be responsible for all legal notices to the public concerning the state of the roads while the work is in progress.

Warning signs shall be provided along all streets while work is in progress and, where traffic direction is required, flag men shall be designated by the Contractor to direct traffic past the equipment, machinery or construction operations. Barricades and lights shall be provided as required to protect life and property. Where trenches have been cut in streets on which traffic may pass at times, warning signs shall be placed at frequent intervals and maintained until the street is safe for travel. All such work and operations shall be in accordance with requirements of the Owner, Standard Specifications and Special Provisions herein. The use of unauthorized or unapproved signs, barricades, or traffic delineators will not be permitted.

The Contractor shall construct, maintain, without extra compensation, such adequate and proper bridges over excavations as may be necessary or directed for the purpose of accommodating pedestrians and vehicles. Ingress and egress to private property, satisfactory to the Inspector, shall be continuously provided.

Should the Contractor or his employees neglect to set out and maintain barricades or lights, as required in the Specifications, the Inspector may immediately and without notice arrange for furnishing, installing and maintaining barricades or lights and any other precaution deemed necessary. The cost thereof shall be borne by the Contractor and may be deducted from any amount due or to become due to the Contractor under this Contract.

The Contractor shall be held responsible for any damages that may have to be paid as a consequence of the Contractor's failure to protect the public.

#### 20. Temporary Roads and Driveways

The Contractor shall be responsible for providing and maintaining such temporary access roads, to and along right-of-way. Where temporary roads, necessary for the transportation of materials and equipment are on private property, the Contractor shall obtain permission from the property owners and the Borough for their construction and use and pay all costs pertaining thereto.

#### 21. Dust Control

The Contractor shall take all necessary precautions to prevent and abate nuisance caused by dust arising from his operations. Approved methods applicable to various parts of the work, such as sweeping application of water spray or calcium chloride, shall be employed. This also applies to maintaining temporary paving nuisance-free until permanent paving is placed. The area of construction along roadways shall be broom swept each day after completion of the day's work and the application of water as necessary, all at no additional cost to the owner.

#### 22. Working Conditions

In prosecuting the work of this Contract, the Contractor shall provide working conditions on each

operation that shall be as safe and healthful as the nature of the operation permits. He shall comply with all safety and sanitary rules, laws and regulations.

23. Work in Inclement Weather

During freezing, storm or inclement weather, no work shall be performed except such as can be done satisfactorily and in such manner as to secure first-class construction throughout.

24. Working Hours

The Contractor's working schedule shall be confined to a five (5) day week, Monday through Friday, and the working day shall be confined between the hours of 7:00 a.m. and 5:00 p.m. current local time, unless otherwise approved by the Engineer.

Unless otherwise permitted by the inspector, no work shall be done between the hours of 5:00 p.m. and 7:00 a.m. except as necessary for the proper care and protection of the work already performed. If it shall become absolutely necessary to perform work at night, this shall be approved by the Inspector at least 24 hours in advance, of the beginning of the performance of such work. Only such work shall be done at night as can be done satisfactorily and in a first-class manner. Good lighting and all other necessary facilities for carrying out and inspecting the work shall be provided and maintained at all points where such work is being done.

25. Emergency Work

The Contractor shall file, with the Borough of Naugatuck Engineer, the name and telephone number of a person authorized by him who may be contacted regarding emergency works at the job site that may be required during non-working hours for reasons of public safety.

This person shall be readily available and full Authority to deal with any emergency that may occur.

26. Sedimentation and Erosion Control

The Contractor shall prepare and submit for approval a sedimentation and erosion control plan for the work, prior to the start of construction.

27. Work Near Brook(s) and Stream(s)

Care shall be taken to prevent, or reduce to a minimum, any damage to any water body from pollution by debris, sedimentation, or other material, or from manipulations of equipment and/or materials near such water bodies and on abutting property. Particular care shall be taken to prevent gasoline, diesel fuel, and other oils from entering any water body.

28. Work Within or Near Areas Designated as Inland Wetlands

Care shall be taken to prevent, or reduce to a minimum, any damage to any inland wetland from pollution by debris, sedimentation, or other material, or from manipulations of equipment and/or materials near such water bodies and on abutting property. Particular care shall be taken to prevent gasoline, diesel fuel, and other oils from entering any inland wetland.

29. Soil and Groundwater Conditions

The Owner assumes no responsibility whatsoever with respect to ascertaining for the Contractor such facts concerning physical characteristics at the site of the project. The Contractor agrees that he will make no claim for and has no right to additional payment for extension of time for completion of the work, or any other concession because of any interpretations or misunderstanding on his part of this Contract, or because of any failure on his part to fully acquaint himself with all conditions relating to the work.

30. General Sanitary Requirements

Replacement and Resetting of Sanitary Manhole Frames and covers must be in accordance with the Special Provisions and Borough of Naugatuck Standards.

31. Water Supply and Electrical Energy

Not applicable for this Contract.

32. Contractor's Office

Not applicable for this Contract

33. Resident Engineer's Office

Not applicable for this Contract.

34. Explosives and Blasting

Not applicable for this Contract.

35. Sheeting, Shoring, and Bracing

Where necessary, the sides of trenches and excavations shall be supported by adequate sheeting, shoring and bracing. The Contractor shall be held accountable and responsible for the sufficiency of all sheeting, shoring and bracing used and for all damage to persons or property resulting from the improper quality, strength, placing maintaining or removing of the same. Where sheeting is removed, care shall be taken not to disturb the new work or existing utilities and structures.

No sheeting is to be left in place unless expressly permitted by the Engineer. No direct payment will be made for sheeting, shoring, and bracing and compensation for such work and all expenses incidental thereto shall be considered as included in the unit prices bid for the various Items of this Contract.

36. Existing Structures

All known surface and underground structures, except electric and telephone service connections, and water, gas and sewer service pipes, on or immediately adjacent to the work, are shown on the Plans. Sewer, drainage, water and gas mains, manholes and similar structures located in or adjacent to the location of the structures included in this Contract, are shown on the Contract Drawings, which locations should be considered approximate. This information is shown for the convenience of the Contractor in accordance with the best

information available, but is not guaranteed to be correct or complete. The Contractor shall explore the route ahead of trenching and shall uncover all known obstructing pipes sufficiently to determine their location. Necessary changes in location may be made by the Engineer to avoid unanticipated obstructions.

Wherever water or gas mains, electric or telephone ducts, or electric or telephone poles are encountered and may be in any way interfered with, the Contractor shall keep the utility company involved fully informed in advance. The Contractor shall cooperate with the utility company in the protection, removal, relocation and replacement of such structures.

The Contractor shall, at his own expense, sustain in their places and protect from direct or indirect injury all utilities, pipes, poles, conduit, walls, buildings and other structures and property in the vicinity of his work, and he shall be responsible for all damage and assume all expense for direct or indirect injury caused by his work to any of them or to any person or property by reason of injury to them.

Guard rails, posts, guard cables, signs, poles, markers, mailboxes, fences, walls and stone walls, and other private improvements, which are temporarily removed, damaged or destroyed during construction, shall be replaced and restored to a condition as good as or better than existed and to the satisfaction of the Owner or Inspector.

The Contractor shall, at his own expense, retain the services of a licensed surveyor to replace property markers, on or adjacent to privately owned property, which have been disturbed during the course of construction.

#### 37. Marking New Underground Plant

All new underground plant shall be marked with warning tape in accordance with State of Connecticut Public Act 16-345 and DPUC Regulations.

#### 38. Operation of Water Valves

Unless otherwise permitted, existing water valves shall not be operated by the Contractor. Whenever the operation of a water valve is necessary, the Contractor shall make arrangements, at least 24 hours in advance of the need, to have the Owner's forces perform the required operations. Contractor must prepare and distribute customer notices to all affected customers at least 24 hours prior to any shutdown of service.

#### 39. None

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**SUPPLEMENTAL CONDITIONS**

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## SUPPLEMENTAL CONDITIONS

These Supplemental Conditions amend or supplement the General Conditions of the Construction Contract and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

### 1. DEFINITIONS

- A. The Terms used in these Supplemental Conditions which are defined in the General Conditions of the Construction Contract have the meanings assigned to them in the General Conditions.
- B. Wherever used in the Contract Documents, the following words have the meanings indicated, which are applied to both the singular and the plural thereof:

"Plans" –See section 8 of supplemental conditions.

"Project Manual" - shall mean the bound volume containing the following Contract Documents:

- Legal Notice
- Information for Bidders
- Signed copy of the Bid Proposal Forms, with all attachments required for bidding
- Contract Forms
- General Requirements
- Supplemental Conditions
- Special Provisions
- Performance Bond and Payment Bond
- Certificate of Insurance
- Addenda
- Contract Drawings
- Insurance Agreement

The word "Remove," where it applies to existing materials, shall mean remove entirely from the site unless material is approved by the Engineer for re-use. In addition, the word "remove" shall imply the permanent patching of all remaining work affected by removal. All existing materials which have been removed shall become the Contractor's property unless otherwise specified.

"As Necessary" or "As Required" - Work referred to as "As Necessary" shall be that work which is required for completed construction, but is not necessarily shown or described in the Contract Documents.

The word "Furnish" or the word "Supply" - shall mean purchase, delivery, and off-loading at the job site including all documentation, storage, and protection.

The word "Install" or the word "Apply" - shall mean set in place complete for normal use or service, all in accordance with the Contract Documents.

The word "Provide" - shall mean furnish (or supply) and install (or apply).

The words "Approved Equal" - shall mean any product which in the opinion of the Engineer is comparable in quality, durability, appearance, strength, performance, design, physical dimension, and arrangement to the product specified, and will function properly in accordance with the design intent.

The word "Product" - shall mean any item of equipment or material provided under the Contract Documents.

2. None

3. TIME FOR COMPLETION

The Contractor shall commence work within ten (10) calendar days of the date of the written "Notice to Proceed" from the Owner and the Contractor shall fully complete this Contract within One hundred and Sixty (180 days) days from the date of the written "Notice to Proceed."

4. LIQUIDATED DAMAGES

The Contractor shall proceed with the work at such rate of progress to ensure full completion within the time requirements stated above. It is expressly understood and agreed by and between the Contractor and the Borough that the Contract time for the completion of the work described herein shall be reasonable, taking into consideration the climatic and economic conditions and other factors prevailing in the locality of the work.

If the Contractor shall fail to complete the work within the Contract times, or extension of time granted by the Borough, then the Contractor and his sureties shall be liable for and shall pay to the Borough for each and every calendar day that he shall be in default in completing any given assignment in the time stipulated above, the sum of \$500. This sum is hereby agreed upon, not as a penalty, but as fixed liquidated damages which the Owner will suffer by reason of such default, time being of the essence of the Contract and a material consideration thereof. The Owner shall have the right to deduct the amount of any such damages from any monies due the Contractor under this Contract.

5. PAYMENTS AND RETAINAGE

Monthly applications for payment shall be submitted to the Borough Engineer for consideration. Payment shall be made within thirty days after approval of the application for payment by the Borough.

An amount of 95 percent (95%) of the estimated amount due, less any payments previously made and/or any moneys to be held will be paid to the Contractor monthly. The balance will be retained by the Borough until final completion of the work. Final payment will not be made until final completion and acceptance by the Borough of all work covered

by the Contract. The Contractor agrees that he will indemnify and save the Borough harmless for all claims growing out of the lawful demands of subcontractors, laborers, suppliers, and assignees.

6. None

7. FAIR EMPLOYMENT PRACTICES

The successful Contractor shall agree that neither he nor his subcontractors will refuse to hire or employ or to bar or to discharge from employment an individual, or to discriminate against him in compensation or ill terms, conditions, or privileges of employment because of race, color, religious creed, age, sex, national origin, or ancestry, except in the case of a bona fide occupational qualification or need.

The terms stated above are taken from Section 31-126 of the Connecticut General Statutes "Unfair Employment Practices."

8. CONTRACT DRAWINGS

The Contract Drawings for this project are as follows:

Proposed Town Hall Addition 229 Church Street  
Naugatuck, Connecticut By

Pustola & Associates Consulting Engineers, LLC

Dated :

9. SAFETY

The Contractor shall perform all work in accordance with the latest local, state, and federal governmental laws and regulations including, but not limited to, the governmental safety regulations of the Department of Labor and Office of Safety and Health Administration suggested practices.

10. LINES, GRADES, AND MEASUREMENTS

The controlling lines and grades shall be as shown on the Contract Drawings. Additional batter boards, lines, grades and forms shall be furnished and set by the Contractor if he through willfulness or carelessness removes, or permits to be removed, any reference marks establishing said controlling lines and grades, before the performance of the work requires such removal. The replacement of such reference marks shall be at the Contractor's expense.

The Contractor shall make all measurements and check all dimensions necessary for the proper construction of the work as directed or as called for in the Standard Specifications and Special Provisions.

During the performance of the work, he shall make all necessary measurements to prevent misfitting in said work and be responsible therefore for the accurate construction of the entire work.

11. BLASTING AND EXPLOSIVES

Not applicable for this Contract.

12. PUBLIC ACCESS

Roads, including driveways, sidewalks, crossings and local businesses shall be diverted from the Work Area by means of temporary fencing or other traffic and pedestrian control measures acceptable to the Borough of Naugatuck.

13. UTILITIES

Utilities may be located within the area and may be adjacent to the construction work.

The Contractor shall make all the necessary arrangements with any utility that must be protected or relocated in order to accomplish the work. The Contractor shall be solely responsible for the protection of the operating condition of all active utilities within the areas of construction and he shall take all necessary precautions to avoid damage to existing utilities. Any cost of temporary relocations for the Contractor's convenience shall be paid for by the Contractor.

The Contractor shall avail himself of the Connecticut Underground Utility Protection Plan. The Contractor shall notify "Call Before You Dig" at 811 or visit CBYD.com at least 72 hours prior to the start of any excavation work to request the mark-out of existing utilities. The Contractor shall coordinate the construction activities with all utility companies with facilities in the project, including the Borough.

14. TEMPORARY UTILITIES

Unless otherwise provided for in the Standard Specifications or the Special Provisions, the Contractor shall pay the cost of all temporary light, heat, electric power and water required for completion of the Contract. The necessary temporary utilities shall be installed at the start of the project.

15. TOILET ACCOMMODATIONS AND DRINKING WATER

The Contractor shall provide necessary sanitary toilet accommodations and drinking water for the workers. Separate facilities shall be provided for female workers.

16. SEQUENCE OF CONSTRUCTION

Prior to the start of construction, the Contractor shall prepare and submit a sequence of construction for approval by the Engineer. Such Sequence of Construction shall be identified in the Work Plan.

17. BEST MANAGEMENT PRACTICES FOR PROTECTION OF THE ENVIRONMENT

- a. No construction shall proceed until proper sedimentation and erosion control methods have been installed as the sequence of construction necessitates.
- b. No equipment, materials, or machinery shall be stored, cleaned, or repaired within 25 feet of any wetland or watercourse.
- c. No construction shall proceed until a method to prevent construction debris, paint, spent blast materials, or other materials from entering the wetland or watercourse has been implemented as the sequence of construction necessitates. These materials shall be collected and disposed of in an environmentally safe manner as determined by Federal, State, and local laws. The applicant shall monitor wind velocities and storm events during the conduct of such work, and shall cause such activity to cease if storm or wind conditions threaten to cause deposits of materials in the waterway.
- d. No objectionable materials resulting from any clearing activity shall be disposed of in any wetland or watercourse. This includes but is not limited to: stumps, tree roots, matted roots, wood chips, and other debris.
- e. No fill or materials shall be deposited in surrounding wetlands or watercourses.
- f. Dumping of oil or other deleterious materials on the ground is forbidden. The applicant shall provide a means of catching, retaining, and properly disposing of drained oil, removed oil filters, or other deleterious material. All oil spills shall be reported immediately to the DEEP/Hazardous Materials office at (860) 424-3338. Failure to do so may result in the imposition of a fine under Section 22a-450 of the Connecticut General Statutes.

18. CALL-BEFORE-YOU-DIG

The Contractor's attention is called to the fact that they are obligated, by State Law, to notify the Public Utilities Control Authority. The Contractor shall avail himself of the Connecticut Underground Utility Protection Plan. The Contractor shall notify "Call Before You Dig" at 811 or visit CBYD.com at least two full working days prior to the start of any excavation work to request the mark-out of existing utilities. The Contractor shall coordinate the construction activities with all utility companies with facilities in the project, including the Borough. The Contractor assumes all responsibilities for any damage to the various utility services, and all liabilities arising therefrom.

The Contractor shall make the necessary arrangements with the respective utility companies and provide grades for the resetting and adjusting of private utility company manhole and grade boxes, and the relocation of poles and hydrants; all at no additional costs to the Borough. Any delays, which are caused by conflicts with utility lines, shall not be considered as a basis of extending the time for completion.

19. DUST CONTROL

The contractor shall be responsible for controlling dust from its operations, and when ordered by the Engineer shall use whatever methods necessary for dust control, in a

manner satisfactory to the Engineer. This work shall be paid for under the appropriate dust control item in the contract.

20. DESCRIPTION OF WORK

All materials furnished and used in the completed work shall be new, of best quality, and recognized as standard in construction practices. Whenever a specification number of reference is given, the subsequent amendments (if any) shall be included. The standards set forth in the selection of materials and supplies are intended to conform to those standards adopted by the Owner. Preference in manufacture shall be given to adopted standards, and the Contractor shall further familiarize themselves with the requirements of the Owner when the occasion or choice of materials or supplies so demands.

21. METHODS OF CONSTRUCTION

No materials shall be used which are known or found to be defective in any way. Notice shall be given to the Owner of any defective or imperfect material. Defective or unfit material, found to have been used, shall be removed and replaced by the Contractor with sound and unobjectionable material without additional expense to the Owner. All materials furnished by the Contractor are subject to thorough inspections and tests by the Owner. The Contractor shall submit samples as stated in the Standard Specifications and Special Provisions or as required by the Owner, of the various materials used on the contract for testing purposes. All ordering lists shall be submitted for approval to the Owner by the Contractor.

22. MOBILIZATION

This item shall consist of all the work necessary for the movement of personnel and equipment to and from the project site, including obtaining necessary permits from CTDOT District IV office.

23. EXISTING CONDITIONS

Before submitting the bid, the Contractor shall examine the site, become familiar with the conditions, and verify the information in the Contract Drawings. Any discrepancy between the information provided in the Contract Documents and actual field conditions, the Contractor shall make a note of it and bring it to the attention of the Engineer prior to bid. No claims for extras will be allowed based upon differences that could have been discovered by the Contractor prior to bid.

24. EXISTING STORM AND SEWER LINES

The Contractor shall be responsible for maintaining and protecting all existing storm drainage and sewer lines encountered in the work under this contract. Hand excavation and adequate bracing and shoring shall be employed where required to insure the structural integrity of said existing structures. The Contractor shall hold the Borough of Naugatuck harmless and shall be solely responsible for any liabilities or damages arising from their work near, under, or through existing sewers and culverts. The Contractor shall repair and replace, as required by the Borough, any existing sewers or culverts



damaged as a result of their work. No payment by the Borough for work covered in this section, unless authorized in writing by the Borough of Naugatuck.

25. SURPLUS EXCAVATED MATERIAL

The Contractor shall take ownership of all excavated material and is responsible for the proper removal and off-site disposal of all excavated material from the project site.

26. DAILY CLEANUP

The Contractor shall at the end of each workday, keep the project area clean, and free from debris, excavation materials, or any other items considered as trash. These items shall be disposed of daily in a legal manner at an approved dumping site. No extra payment shall be made for any work involved in this section.

27. CONSTRUCTION SCHEDULE

At the preconstruction meeting held by the Borough, the Contractor shall furnish a detailed anticipated construction schedule for review and approval by the Borough prior to monthly payments to the Contractor. This construction schedule shall be revised to show progress to date and anticipated future progress and submitted to the Borough.

28. PROJECT MEETINGS

The Borough or its designated agent shall inspect all work performed by the Contractor and regularly scheduled project meetings with Borough staff, the Contractor, and the Engineer will be required on a bi-weekly basis to review progress of the work. Meetings are to be held at a site adjacent to or on the work site as determined by the Borough of Naugatuck. The meetings are to be chaired by a designated representative of the Borough of Naugatuck.

29. UTILITY COORDINATION

The Contractor shall coordinate the construction activities with all utility companies with facilities in the project area, including the Borough's. See Section 13 and 18 of the Supplemental Conditions.

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**SPECIAL PROVISIONS**

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**SPECIFICATIONS:  
PROPOSED TOWN HALL ADDITION**

**Prepared For**

**Borough of Naugatuck  
229 Church Street  
Naugatuck, CT, 06770**

**Initial Submission: December 2<sup>nd</sup>, 2022**

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**Pustola & Associates**  
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Naugatuck, Connecticut 06770

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**SECTION 03300**  
**CAST-IN-PLACE CONCRETE**

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**SECTION 03300**

**CAST-IN-PLACE CONCRETE**

**PART 1.00 - GENERAL**

**1.01 SECTION INCLUDES**

- A. Footings.
- B. Slabs-on-grade.
- C. Metal Pan Stair

**1.02 DEFINITIONS**

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

**1.03 SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: Provide concrete mixes for concrete redi mix supplier as per section 2.10.A. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
  - 1. Indicate amounts of mixing water to be withheld for later addition at Project site.
- C. Floor surface flatness and levelness measurements to determine compliance with specified tolerances.
- D. Field quality-control test and inspection reports.

**1.04 QUALITY ASSURANCE**

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
  - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

- C. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.
  - 1. Personnel conducting field tests shall be qualified as ACI Concrete Field-Testing Technician, Grade 1, according to ACI CP-01 or an equivalent certification program.
  - 2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.
- D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.
- E. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
  - 1. ACI 301, "Specification for Structural Concrete," Sections 1 through 5.
  - 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- F. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures. Contractor to coordinate and schedule testing service. Contractor to provide space for samples to be placed on site and coordinate with testing agency.

#### **1.05 DELIVERY, STORAGE, AND HANDLING**

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.
- B. Bagged Concrete Mix – provide unopened bagged concrete mix. Cover bagged concrete mix to protect from weather.

### **PART 2.00 - PRODUCTS AND ALTERNATES**

#### **2.01 MANUFACTURERS**

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
  - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
  - 2. Products: Subject to compliance with requirements, provide one of the products specified.
  - 3. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
  - 4. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

**2.02 FORM-FACING MATERIALS**

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
  - 1. Plywood, metal, or other approved panel materials.
  - 2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
    - a. High-density overlay, Class 1 or better.
    - b. Medium-density overlay, Class 1 or better; mill-release agent treated, and edge sealed.
    - c. Structural 1, B-B or better; mill oiled, and edge sealed.
    - d. B-B (Concrete Form), Class 1 or better; mill oiled, and edge sealed.
- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- C. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch (19 by 19 mm), minimum.
- D. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
  - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- E. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
  - 1. Furnish units that will leave no corrodible metal closer than 1 inch (25 mm) to the plane of exposed concrete surface.
  - 2. Furnish ties that, when removed, will leave holes no larger than 1 inch (25 mm) in diameter in concrete surface.

**2.03 STEEL REINFORCEMENT**

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
- B. Plain-Steel Welded Wire Reinforcement: ASTM A 185, plain, fabricated from as-drawn steel wire into flat sheets.

**2.04 REINFORCEMENT ACCESSORIES**

- A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), plain-steel bars, cut bars true to length with ends square and free of burrs.
- B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.
2. For zinc-coated reinforcement, use galvanized wire or dielectric-polymer-coated wire bar supports.

## **2.05 CONCRETE MATERIALS**

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
  1. Portland Cement: ASTM C 150, Type I, II
- B. Silica Fume: ASTM C 1240, amorphous silica.
- C. Normal-Weight Aggregates: ASTM C 33, Class 3S, 3M coarse aggregate or better, graded. Provide aggregates from a single source with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.
  1. Maximum Coarse-Aggregate Size: 1 inch (25 mm) nominal.
  2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- D. Water: ASTM C 94/C 94M
- E. Bagged Concrete Mix – 3000
  1. Material – Sand, Coarse Aggregate and Cementitious Material.
  2. Manufacture:
    - a. Quikrete
    - b. Sakrete
    - c. Or approved equal.

## **2.06 ADMIXTURES**

- A. Air-Entraining Admixture: ASTM C 260.
- B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
  1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
  2. Retarding Admixture: ASTM C 494/C 494M, Type B.
  3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
  4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
  5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
  6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

## **2.07 RELATED MATERIALS**

- A. Expansion and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.



- B. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Type A shore durometer hardness of 80 per ASTM D 2240.
- C. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- D. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:
  - 1. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

## **2.08 CONCRETE MIXTURES FOR BUILDING ELEMENTS**

- A. Foundation Walls: Proportion normal-weight concrete mixture as follows:
  - 1. Minimum Compressive Strength: 3000 psi (24.1 MPa) at 28 days.
  - 2. Maximum Water-Cementitious Materials Ratio: 0.50.
  - 3. Slump Limit: 5 inches (125 mm), plus or minus 1 inch (25 mm).
  - 4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-inch (25-mm) nominal maximum aggregate size.
- B. Slabs-on-Grade: Proportion normal-weight concrete mixture as follows:
  - 1. Minimum Compressive Strength: 3000 psi (24.1 MPa) at 28 days.
  - 2. Maximum Water-Cementitious Materials Ratio: 0.50.
  - 3. Slump Limit: 5 inches (125 mm), plus or minus 1 inch (25 mm).
  - 4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-inch (25-mm) nominal maximum aggregate size.

## **2.09 FABRICATING REINFORCEMENT**

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

## **2.010 CONCRETE MIXING**

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.
  - 1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.
  - 1. For mixer capacity of 1 cu. yd. (0.76 cu. m) or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.

2. For mixer capacity larger than 1 cu. yd. (0.76 cu. m), increase mixing time by 15 seconds for each additional 1 cu. yd. (0.76 cu. m).
3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

## **PART 3.00 - EXECUTION**

### **3.01 FORMWORK**

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows:
  1. Class B, 1/4 inch for rough-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
  1. Install keyways, reglets, recesses, and the like, for easy removal.
  2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- H. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- I. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

### **3.02 EMBEDDED ITEMS**

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."

### **3.03 REMOVING AND REUSING FORMS**

- A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete, if concrete is hard enough to not be damaged by form-removal operations and curing and protection operations are maintained.
- B. Clean and repair surfaces of forms to be reused in the work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

### **3.04 STEEL REINFORCEMENT**

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
  1. Weld reinforcing bars according to AWS D1.4, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.
- F. Epoxy-Coated Reinforcement: Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963/D 3963M. Use epoxy-coated steel wire ties to fasten epoxy-coated steel reinforcement.
- G. Zinc-Coated Reinforcement: Repair cut and damaged zinc coatings with zinc repair material according to ASTM A 780. Use galvanized steel wire ties to fasten zinc-coated steel reinforcement.

### **3.05 JOINTS**

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
  2. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
  3. Space vertical joints in walls as indicated. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
  4. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
  5. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch (3.2 mm). Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
  2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3.2-mm-) wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.
  2. Terminate full-width joint-filler strips not less than 1/2 inch (13 mm) or more than 1 inch (25 mm) below finished concrete surface where joint sealants, specified in Division 7 Section "Joint Sealants," are indicated.
  3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

### **3.06 CONCRETE PLACEMENT**

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.
- C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.

1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
  2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
  3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  2. Maintain reinforcement in position on chairs during concrete placement.
  3. Screed slab surfaces with a straightedge and strike off to correct elevations.
  4. Slope surfaces uniformly to drains where required.
  5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- F. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
1. When average high and low temperature is expected to fall below 40 deg F (4.4 deg C) for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
  2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
  3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- G. Hot-Weather Placement: Comply with ACI 301 and as follows:
1. Maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

**3.07 FINISHING FORMED SURFACES**

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
- B. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

**3.08 FINISHING FLOORS AND SLABS**

- A. General: Comply with ACI 302.1R recommendations for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch (6 mm) in 1 direction.
  - 1. Apply scratch finish to surfaces to receive concrete floor toppings, to receive mortar setting beds for bonded cementitious floor finishes
- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture.
  - 1. Apply float finish to surfaces to receive trowel finish and to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.
- D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
  - 1. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
  - 2. Finish surfaces to the following tolerances, according to ASTM E 1155 (ASTM E 1155M), for a randomly trafficked floor surface:
    - a. Specified overall values of flatness, F(F) 25; and of levelness, F(L) 20; with minimum local values of flatness, F(F) 17; and of levelness, F(L) 15.
    - b. Specified overall values of flatness, F(F) 35; and of levelness, F(L) 25; with minimum local values of flatness, F(F) 24; and of levelness, F(L) 17; for slabs-on-grade.
    - c. Specified overall values of flatness, F(F) 30; and of levelness, F(L) 20; with minimum local values of flatness, F(F) 24; and of levelness, F(L) 15; for suspended slabs.
    - d. Specified overall values of flatness, F(F) 45; and of levelness, F(L) 35; with minimum local values of flatness, F(F) 30; and of levelness, F(L) 24.

3. Finish and measure surface so gap at any point between concrete surface and an unlevelled, freestanding, 10-foot- (3.05-m-) long straightedge resting on 2 high spots and placed anywhere on the surface does not exceed [1/4 inch (6 mm)] [3/16 inch (4.8 mm)] [1/8 inch (3.2 mm)]

### **3.09 MISCELLANEOUS CONCRETE ITEMS**

- A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on Drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates from manufacturer furnishing machines and equipment.
- D. Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items. Cast-in inserts and accessories as shown on Drawings. Screed, tamp, and trowel-finish concrete surfaces.

### **3.010 CONCRETE PROTECTING AND CURING**

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
- E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
  1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.
    - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.

2. **Moisture-Retaining-Cover Curing:** Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
  - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
  - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
  - c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.
3. **Curing Compound:** Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
  - a. After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on Project.
4. **Curing and Sealing Compound:** Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

### **3.011 JOINT FILLING**

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
  1. Defer joint filling until concrete has aged at least **one** month(s). Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches (50 mm) deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

### **3.012 CONCRETE SURFACE REPAIRS**

- A. **Defective Concrete:** Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. **Patching Mortar:** Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 (1.18-mm) sieve, using only enough water for handling and placing.



- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch (13 mm) in any dimension in solid concrete, but not less than 1 inch (25 mm) in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
  2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
  3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch (0.25 mm) wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
  2. After concrete has cured at least 14 days, correct high areas by grinding.
  3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
  4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
  5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch (6 mm) to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
  6. Repair defective areas, except random cracks and single holes 1 inch (25 mm) or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch (19-mm) clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
  7. Repair random cracks and single holes 1 inch (25 mm) or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

**3.013 FIELD QUALITY CONTROL**

- A. Testing and Inspecting: Owner will engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Testing and Inspecting: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
- C. Inspections:
  - 1. Steel reinforcement placement.
  - 2. Steel reinforcement welding.
  - 3. Headed bolts and studs.
  - 4. Verification of use of required design mixture.
  - 5. Concrete placement, including conveying and depositing.
  - 6. Curing procedures and maintenance of curing temperature.
  - 7. Verification of concrete strength before removal of shores and forms from beams and slabs.
- D. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
  - 1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
  - 2. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. (76 cu. m) or fraction thereof of each concrete mixture placed each day.
    - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
  - 3. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
  - 4. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
  - 5. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each composite sample.
  - 6. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
  - 7. Compression Test Specimens: ASTM C 31/C 31M.
    - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
    - b. Cast and field cure two sets of two standard cylinder specimens for each composite sample.

8. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
    - a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
    - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
  9. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
  10. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
  11. Test results shall be reported in writing to Engineer and Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
  12. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
  13. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
  14. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
  15. Correct deficiencies in the Work that test reports and inspections indicate does not comply with the Contract Documents.
- E. Measure floor and slab flatness and levelness according to ASTM E 1155 (ASTM E 1155M) within 48 hours of finishing.

**END OF SECTION 03300**

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**SECTION 05400**  
**LIGHT GAGE METAL FRAMING**

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**SECTION 05400**

**LIGHT GAGE METAL FRAMING**

**PART – 1 GENERAL**

**1.01 Summary**

A. References

1. American Society for Testing and Materials (ASTM) latest addition.
2. A653/A653M – Standard Specifications for Sheet Steel-Zinc-Coated (Galvanized) or Zinc-Iron Alloy – Coated (Galvannealed) by Hot -Dip Process.

**1.02 SUBMITTALS**

- A. Submit product data for each type of product identified manufacture's literature and technical data including specifications.

**1.03 DELIVERY, STORAGE, AND PROTECTION**

- A. Deliver products to site and inspect to verify the material is of gage and sized as required by existing conditions of the job.
- B. Material shall be stored in an enclosed and dry area protected from damage.

**PART 2 – PRODUCTS**

**2.01 MANUFACTURERS**

- A. Light Gage Metal Framing:
1. Marino/WARE
  2. Dale Industries (Dale Inc.)
  3. Clark Dietrich Building Systems
  4. Other approved Manufactures.

**2.02 ACCESSORY AND MATERIALS**

- A. 3 5/8" 22-gage minimum
- B. 4" 20 -gage minimum
- C. 6" 20 -gage
- D. Furring Chanel.
- E. Steel Runner for 3 5/8" stud 22 gage.
- F. Steel Runner for 4" stud 20 gage
- G. Steel runner for 6" stud 18 gage
- H. Steel Hat Channel 7/8 inches

- I. Z Furring.
- J. Wire Hangers

**PART 3 – EXECUTION**

**3.01 EXAMINATION**

- A. Do not proceed with the work of this section if existing conditions are detrimental to the proper and timely completion of the work. Correction are to take place in a timely a manor.
- B. Provide and install screws with accordance to the steel stud manufacture's recommendations for Steel and Wood applications.

**3.02 PREPARATION**

- A. If necessary, remove all materials that will be detrimental to the installation of the of the framing Removal any nails or other items that are detrimental to the completion of the WORK.

**3.03 APPLICATION**

- A. Apply products in accordance with manufacturer's instructions.
- B. The termination of the metal framing work at the ceiling shall start and finish at an existing framing member.

**05400 - LIGHT GAGE METAL FRAMING**

**END OF SECTION**

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**SECTION 06600**  
**CASEWORK**

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## **SECTION 06600**

### **CASEWORK**

#### **PART 1 - GENERAL**

##### **1.1 DESCRIPTION**

- A. This section specifies plastic laminate casework as detailed on the construction documents, including related components and accessories required to form integral units. Wood casework items shown on the construction documents, but not specified below are to be included as part of the work under this section, and applicable portions of the specification are to apply to these items. As an alternate at the windowsills and countertop provide solid surface material.

##### **1.2 RELATED WORK**

- A. Sealants.
- B. Countertop Construction and Materials.

##### **1.3 SUBMITTALS**

- A. Submit SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES. (PDF)
- B. Manufacturer's Literature and Data:
  - 1. Adhesive cements.
  - 2. Casework hardware.
- C. Plastic Laminate – Standard Colors selected by owner.
  - 1. Wilsonart.
  - 2. Formica
  - 3. Nevamar
  - 4. Pionite
- D. Samples:
  - 1. Each casework type, showing details of construction, including materials, hardware, and accessories.
  - 2. Fastenings and method of installation.
  - 3. Installer's qualifications specified.

##### **1.4 QUALITY ASSURANCE**

- A. Installer Qualifications submit installer qualifications.

##### **1.5 WARRANTY**

- A. Manufacturer shall warranty for a minimum of five (5) years.
- B. Submit manufacturer warranty.

##### **1.6 APPLICABLE PUBLICATIONS**

- A. Builders Hardware Manufacturers Association (BHMA):



- B. Composite Panel Association (CPA):
- C. A208.1-09 Particleboard
- D. A208.2-09 Medium Density Fiberboard (MDF) for Interior Applications
- E. Architectural Woodwork Institute (AWI):
- F. Architectural Woodwork Standards, Latest Addition.

## **PART 2 - PRODUCTS**

### **2.1 PLASTIC LAMINATE**

- A. Exposed decorative surfaces, both sides of cabinet doors, and for items having plastic laminate finish, general purpose.
- B. Shelving: Shall follow options to comply with NEMA LD 3 as a minimum.
- C. Plastic laminate clad plywood or particleboard, MDF.
  - 1. Low pressure laminate (LPL).
  - 2. Backing sheet on bottom of plastic laminate covered wood tops. Backer Type BKL.
- D. Post Forming Fabrication, Decorative Surface: Post forming Type HGP.

### **2.2 PLYWOOD, SOFTWOOD**

- A. Prod. Std. PS1, five 5 ply construction from 13 mm to 28 mm, 1/2 inch to 1-1/8 inch thickness, and seven (7) ply for 31 mm 1 1/4 inch thickness.

### **2.3 PARTICLEBOARD**

- A. CPA A208.1, Type 1, Grade M or medium density.

### **2.4 MEDIUM DENSITY FIBERBOARD (MDF)**

- A. Fully waterproof bond conforming to CPA A208.1 and CPA A208.2.

### **2.5 MANUFACTURED PRODUCTS**

- A. Fabricate casework of plastic laminated covered plywood or particleboard as follows:
  - 1. Where shown, surfaces to be plastic laminated.
  - 2. Construct as detailed on construction documents.
  - 3. Provide miscellaneous steel members as shown on construction drawings or as shown on shop drawings.

### **2.6 PRODUCTS OF OTHER COMPONENTS DIRECTLY RELATED TO CASEWORK**

- A. Refer to Section JOINT SEALANTS for work related to sealants used in conjunction with joints of countertops, casework systems, and adjacent materials.
- B. Refer to Section RESILIENT BASE AND ACCESSORIES for work related to vinyl base adhered to casework systems.
- C. Backing plates used in conjunction with wall assemblies for the attachment of casework systems.

### **PART 3 - EXECUTION AND COORDINATION**

- A. Begin only after work of other trades is complete, including wall and floor finish completed, ceilings installed and area free of trash and debris.
- B. Verify reinforcement of walls and partitions for support and anchorage of casework.
- C. Coordinate with other Divisions and Sections of the specification for work related to installation of casework systems to avoid interference and completion of service connections.

#### **3.2 INSTALLATION**

- A. Install casework in accordance with manufacturer's written instructions and per SEFA 2.3 recommendations.
  - 1. Install in available space; arranged for safe and convenient operation and maintenance.
  - 2. Install transaction counter and finish all exposed surfaces.
  - 3. Install true to horizontal at heights shown on construction documents; maximum tolerance for uneven floors is plus or minus 1/2 inch.
  - 4. Shim as necessary to accommodate variations in wall surface not exceeding 3/16 inch at fastener.

#### **3.3 . CLOSURES AND FILLER PLATES**

- A. Install closure strips at exposed ends of pipe space and offset opening into concealed space.
- B. Finish closure strips and fillers with same finishes as cabinets.

#### **3.4 FASTENINGS AND ANCHORAGE**

- A. Anchorage to wood blocking for concealed fasteners.
- B. Use not less than No. 12 or 14 wood screws with not less than 1-1/2 inches penetration into wood blocking.
- C. Space fastening devices 12 inches on center with minimum of three (3) fasteners in unit width.
- D. Secure cabinets in alignment with fastener devices removable from interior of cabinets without special tools. Do not use fastener devices which require removal of tops for access.
- E. Where units abut end to end, anchor together at top and bottom of sides at front and back
- F. Where type, size, or spacing of fastenings is not shown on construction documents or specified, show on shop drawings proposed fastenings and method of installation.

**3.5 CLEANING**

- A. Immediately following installation, clean each item, removing finger marks, soil and foreign matter.
- B. Remove from job site trash, debris and packing materials.
- C. Leave installed areas clean of dust and debris.

**3.6 INSTRUCTIONS**

- A. Provide cleaning manuals.

**CASEWORK 06600**

**END OF SECTION**

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**SECTION 08900**  
**AUTOMATIC FIRE SHUTTER**

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**Automatic Fire Shutter**  
**Section 08900**

**GENERAL**

1.01 SUMMARY

- A. This section includes manual operated, automatic closing Counter-Shutter.
  - 1. Provide doors with Underwriter's Laboratories, Inc. (UL) and Underwriter's Laboratories of USA label for the fire rating classification. 3/4 hr. approved.
  - 2. Cycle life: Design doors of standard construction for normal use of 10,000 cycles standard.
  - 3. Manually resettable drop out mechanism with optional release devices.

1.02 SUBMITTALS

- A. Product Data: Provide manufacturer's standard details and catalog data. Provide installation instructions.
- B. Shop Drawings: Furnish shop drawings for architect's approval. Include elevation, sections, and details indicating dimensions, materials, finishes, conditions for anchorage and support of each door.
- C. Submit manufacturer's recommended operation, troubleshooting, and maintenance instructions.

1.03 QUALITY ASSURANCE

- A. Manufacturer: Rolling doors shall be manufactured by a firm with a minimum of five years experience.
- B. Provide all doors with fire resistance rating required to comply with governing regulations which are inspected, tested, listed, and labeled by UL, complying with NFPA 80 for class of opening. Provide UL label permanently fasted to each fire door assembly. Door shall be tested under UL10B and ULC10B and provided with a 3/4 hr.] rating.
- C. Single-Source Responsibility: Manufacturer shall provide doors, tracks, motors, and accessories for each type of door. Secondary components shall come from a source acceptable to the manufacturer of the primary components.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packaging supplied by manufacturer with intact labels. Store materials away from harmful environmental conditions and construction.

1.05 WARRANTY

- A. Door Warranty: Provide two year written warranty from date of installation against deficiencies due to defects in materials or workmanship. Installer agrees to repair or replace any defects in materials or workmanship.
- B. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

**PART 2 - PRODUCTS**

2.01 MANUFACTURER

- A. Provide Model: FIRE-SHUT® Rolling Counter Fire Door or approved equal.

2.02 MATERIALS

- A. Curtain:
  - 1. Slats: Constructed of interlocking, roll-formed flat slats.
    - a) Material:

- i) Galvanized steel.  
Finish: Galvanized Powder coated
    - b) Gauge: Per manufacturer's standard Minimum.
  2. Bottom Bar: Two roll formed steel angles of minimum 1"x 3/4"x 1/8", designed to reinforce curtain bottom.
    - a) Material:
      - i) Galvanized Steel as per ASTM A 653/ A 653 M  
Finish: Powder Coated Baked Enamel
      - b) Neoprene strip bolted between bottom angles.
- B. Guides:
  1. Laser cut 12-gauge steel, formed into box shape, and fitted with removable bellmouth curtain stops to allow for curtain maintenance without removal of guides. Bellmouth stops shall be flush with guide groove. Bolt at 12" 12 o.c.
- C. Door Support Brackets and Mounting Plates:
  1. Steel plate not less than 3/16" thick. Provide ball bearings at rotating support points. Bolt plates to wall mounting angles with minimum 3/8" fasteners. Plate supports counterbalance assembly and forms end enclosures.
    - a) Material:
      - i) ASTM A 36 Carbon Steel:
      - ii) Finish: Powder coated.
- D. Counterbalance Assembly: Torsion
  1. Counterbalance assembly: Steel pipe barrel of a size capable of carrying a curtain load with a maximum deflection of 0.03" per foot of door width. Heat-treated helical torsion springs encased in a steel pipe and designed to include an overload factor of 25% to ensure minimum effort to operate. Sealed and prelubricated high speed ball bearing at rotating support points. Torsion spring charge wheel for applying spring torque and for future adjustments.
    - a) Material:
      - i) ASTM A 36 Carbon Structural Steel  
Finish: Mill finish
      - b) Life Cycle: High Cycle springs designed to satisfy 10m through 400m life cycles. Consult engineering if height exceeds width for any cycle above 20m. (Cycle defined as one time opening and closing of door)
- E. Hood:
  1. 22-gauge steel. Formed to fit the contour of the end brackets with reinforced top and bottom edges. Fasten with minimum 1/4" bolts at 10" o.c.
  2. Shape: Square
  3. Material:
    - a) Galvanized Steel as per ASTM A 653/ A 653 M  
Finish: Powder coated
  4. Where areas behind door hood are open. Materials and finish same as hood.

F. Locking:

1. Provide padlockable slide locks for latching and locking door on coil side bottom bar at each jamb extending into slots in guides.
2. Manual chain hoist: Provide chain keeper on guide.
3. Cylinder Locks: Only available on tubular bottom bars.

2.03 OPERATION:

- A. Opening Closing Options: Manual push-up Manual hand chain Operator. Automatic closure is activated by fusible link Fire Door Release Device.
- B. Manual hand crank

Release Devices:

1. Fusible link with chain system:
  - a) Activation: Melting of fusible link at 165° Fahrenheit. When automatic closing is activated, chain shall disengage causing door to close.
  - b) Closing speed controlled by Integral Oscillating governor [Viscous governor].
  - c) Average closing speed: No less than 6" per second and not more than 24" per second as per NFPA 80 Section 6, paragraph 4.1.5.

2.04 Mounting:

1. Interior face mounted on prepared opening.
2. Interior mounted between jambs and under lintel in a prepared opening.
3. Exterior face mounted on prepared opening.

2.05 Fire Ratings:

1. Underwriter's Laboratories: Doors are constructed to conform within requirements specified by Underwriters Laboratories, Inc. (UL) and Underwriter's Laboratories of Canada (ULC). Doors are automatic and self-closing.

Class (C) – ¾ hour approved for doors in corridor or room-partition opening not exceeding 120 sq. ft. in area.

**PART 3 - EXECUTION**

3.01 EXAMINATION

- A. Verify that dimensions are correct and project conditions are in accordance with manufacturer's installation instructions; do not proceed with installation until unacceptable conditions have been corrected.

3.02 INSTALLATION

- A. Install units in accordance with manufacturer's instructions.
- B. Ensure that units are installed plumb and true, free of warp or twist, and within tolerances specified by manufacturer for smooth operation.
- C. Preparation for opening and installation of fire door to be in strict compliance with NFPA-80.

3.03 FIELD TESTING

- A. Test doors for regular operation and automatic closing. Proper authorities having jurisdiction must witness test and sign Drop Test Form.

3.04 DEMONSTRATION

- A. Instruct the Owner's personnel in correct operation and maintenance of units.

3.05 ADJUST AND CLEAN

- A. Clean units in accordance with manufacturer's instructions.
- B. Restore slight blemishes in finishes in accordance with manufacturer's instructions to match original finish. Remove and provide new units where repairs are not acceptable to the Architect.



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**SECTION 09510**  
**ACOUSTICAL CEILING**

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**SECTION 09510  
ACOUSTICAL CEILING**

**1.01 GENERAL**

- A. Acoustical ceiling tiles
- B. Ceiling grid assembly
- C. Owner to provide samples to be matched from the owner's attic stock.
- D. Accessories
  - 1. Trim metal moldings

**1.02 SUBMITTALS**

- A. Submit product data for each type of product.
  - 1. Samples shall be of material proposed for use.
  - 2. Preparation's instructions and recommendations.
  - 3. Storage and Handling requirements.
  - 4. Installation methods.
- B. Selection Samples: Product specified to match existing manufacture.
- C. Verification Samples Product to match existing provided by the owner to provide a sample representing existing.
- D. Fire rating; smoke and flame; data sheets

**1.03 DELIVERY, STORAGE, AND PROTECTION**

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Material shall be stored in an enclosed and dry area protected from damage and soiling.

**1.04 ENVIRONMENTAL REQUIREMENTS**

- A. Do not install materials when surface and ambient temperatures are outside the temperature ranges required by the product manufacturer.

**PART 2 – PRODUCTS**

**2.01 MANUFACTURERS**

- A. Provide a product that matches existing attic stock, provided by OWNER.
- B. Panel sizes: 24"x24" x 7/8", 24" x 48" x 7/8"
- C. Grid: DONN"DX" OR EQUAL.
- D. Edge moldings and trim.

### **PART 3 – EXECUTION**

#### **3.01 EXAMINATION**

- A. Verify that the gypsum board above the ceiling plane is complete and taped.
- B. Prior to commencement of work verify that all trades are finished for this phase.
- C. Suspension cables should be securely anchored to resilient metal channel and or wood ceiling joist as necessary.
- D. Sprinkler piping shall be installed and attached to a piece of Unistrut or the ceiling joist above. This work shall be signed off by the Engineer, Building Official, and Fire Marshal before the ceiling grid is installed.
- E. All rough MEP work between the gypsum board and ceiling grid is to be completed before the start of the new work.

#### **3.02 PREPARATION**

- A. Measure each ceiling area and established layout of acoustical tiles to balance boarder widths at opposite edge of each ceiling. Avoid using less than half width tiles at borders and comply with layout shown on reflected ceiling plans. If there is a conflict, contact Architect before starting the work in that space.

#### **3.03 APPLICATION**

- A. Install acoustical tile ceilings to comply with ASTM C636 and seismic requirements indicated, per manufacture's written instructions and CISCA's "Ceiling Systems Handbook."
- B. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns.
- C. Screw attach moldings to substrate at intervals not more than 16" o. c. and not more than 3 inches from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet. Miter corners accurately and connect securely.

### **ACOUSTICAL CEILING – SECTION 09510**

**END OF SECTION**

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**SECTION 09653**  
**RESILIENT BASE AND ACCESSORIES**

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**SECTION 09653**

**RESILENT BASE AND ACCESSORIES**

**1.01 GENERAL**

- A. Existing wall base.
- B. Materials; including adhesives.
- C. Removal of existing base and adhesives preparing surface for new installation.
- D. Accessories
  - 1. Vinyl Base
  - 2. Trim moldings
  - 3. Transition strips

**1.02 SUBMITTALS**

- A. Submit product data for each produce to be supplied.
  - 1. Samples shall be of material and color to match existing.
  - 2. Manufacture's data sheets on each product to be used including:
    - a. Preparation instructions and recommendations.
    - b. Installations & methods.

**1.03 DELIVERY, STORAGE, AND PROTECTION**

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Material shall be stored in an enclosed and dry area protected from damage and soiling.

**1.04 ENVIRONMENTAL REQUIREMENTS**

- A. Do not install materials when surface and ambient temperatures are outside the temperature ranges required by the product manufacturer.

**PART 2 – PRODUCTS**

**2.01 MANUFACTURERS**

- A. Provide a product that matches existing in kind.

**2.02 ACCESSORY MATERIALS**

- A. Vinyl Base
- B. Adhesive for vinyl base

**PART 3 – EXECUTION**

**3.01 EXAMINATION**

- A. Verify that surfaces are ready to receive Work as instructed by the product manufacturer.
  - 1. Existing base surface shall be clean from all adhesives and residue.
  - 2. The existing surface shall be smooth and ready for installation.
- B. Examine surfaces scheduled to be finished prior to commencement of work.

**3.02 PREPARATION**

- A. If necessary, remove all materials that will be detrimental to the installation of the vinyl base. Removal of old adhesive and other material shall be removed by mechanical method.
- B. Clean surface thoroughly prior to installation.

**3.03 APPLICATION**

- A. Apply products in accordance with manufacturer's instructions.
- B. Prepare the existing surface as required to achieve.
- C. Install the vinyl base using manufactures standard installation methods.

**09653 - RESILENT BASE AND ACCESSORIES**

**END OF SECTION**

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**SECTION 09680**  
**CARPET TILE**

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**SECTION 09680**

**CARPET TILE**

**1.01 GENERAL**

- A. Floor preparation and site conditions
- B. Materials; including carpet tile, adhesives.
- C. Owner to select provide samples to be matched from the owner's attic stock
- D. Accessories
  - 1. Vinyl Base
  - 2. Trim metal moldings
  - 3. Transition strips

**1.02 SUBMITTALS**

- A. Submit product data for each type of product.
  - 1. Samples shall be of material proposed for use.
  - 2. Carpet tile sample; provide 2 tiles.
- B. Selection Samples.
- C. Verification Samples Product to match existing.
- D. Fire rrating; smoke and flame; data sheets

**1.03 DELIVERY, STORAGE, AND PROTECTION**

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Material shall be stored in an enclosed and dry area protected from damage and soiling.

**1.04 ENVIRONMENTAL REQUIREMENTS**

- A. Do not install materials when surface and ambient temperatures are outside the temperature ranges required by the product manufacturer.

**PART 2 – PRODUCTS**

**2.01 MANUFACTURERS**

- A. Provide a product

**2.02 ACCESSORY MATERIALS**

- A. Vinyl Base
- B. Trim metal moldings



- C. Transition strips
- D. Adhesive for carpet tile and vinyl base
- E. Leveling compound

**PART 3 – EXECUTION**

**3.01 EXAMINATION**

- A. Verify that surfaces are ready to receive Work as instructed by the product manufacturer.
  - 1. Existing floor surface shall be clean from all adhesives and residue.
  - 2. The floor surface shall be level.
- B. Examine surfaces scheduled to be finished prior to commencement of work.

**3.02 PREPARATION**

- A. If necessary, remove all materials that will be detrimental to the installation of the carpet. Removal of old adhesive and other material shall be removed by mechanical method.
- B. Clean surface thoroughly prior to installation.

**3.03 APPLICATION**

- A. Apply products in accordance with manufacturer's instructions.
- B. Level the existing surface as required to achieve a level surface.
- C. Install the carpet tile using manufactures standards.

**09680 CARPET TILE**

**END OF SECTION**

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**SECTION 09900**  
**PAINTING**

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**SECTION 09900**

**PAINTING**

**1.01 RELATED WORK**

- A. Interior walls

**1.02 REGULATORY REQUIREMENTS**

- A. Comply with State of Connecticut regulations relating to volatile organic compounds (VOC's).
- B. Conform to applicable code for flame and smoke rating requirements for products and finishes.

**1.03 DELIVERY, STORAGE, AND PROTECTION**

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

**1.04 ENVIRONMENTAL REQUIREMENTS**

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

**1.05 EXTRA MATERIALS**

- A. Supply 1 gallons of each color; store where directed.
- B. Label each container with color in addition to the manufacturer's label.

**PART 2 – PRODUCTS**

**2.01 MANUFACTURERS**

- A. Paints, Transparent Finishes, Stains, Primer/Sealers and Block Fillers:
  - 1. Benjamin Moore & Co. (800-672-4686).
  - 2. Sherwin Williams (1 800 4SHERWIN)
  - 3. Pittsburgh Paints (1-800 441 9695)

**2.02 PAINTS AND COATINGS – GENERAL**

- A. Paints and Coatings: Ready mixed, except field-catalyzed coatings. Prepare pigments:
  - 1. To a soft past consistency, capable of being readily and uniformly dispersed to a homogenous coating.
  - 2. For good flow and brushing properties.
  - 3. Do not dilute or thin coatings, except as instructed or recommended by coating manufacturer.
  - 4. Do not add additives, except as instructed or recommended by coating manufacturer.
  - 5. Capable of drying or curing free of streaks or sags.

6. Supply each coating material in quantity required for this Section from a single production run.

**2.03 ACCESSORY MATERIALS**

- A. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners, and other materials not specifically indicated but required to achieve the finishes specified; commercial quality.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

**PART 3 – EXECUTION**

**3.01 EXAMINATION**

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
  1. Plaster and Gypsum Wallboard: 12 percent.
  2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
  3. Interior Wood: 15 percent, measured in accordance with ASTM D 4442.

**3.02 PREPARATION**

- A. Mask adjacent surfaces. Protect floors and other surfaces with drop cloths.
- B. Remove items that are not to be painted from surfaces that are to be painted. Tag and protect removed items and store until re-installation. Re-install items after completion of painting operations.
  1. Items that are not to be painted include:
    - a. Door hardware.
    - b. Electrical devices and cover plates.
    - c. HVAC registers and grilles.
    - d. Thermostats.
    - e. Factory finished items.
- C. Do not start work until surfaces to be finished are in proper condition to produce finished surfaces of uniform, satisfactory appearance.
- D. Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.
- D. Surfaces: Correct defects and clean surfaces that affect work of this section. Remove or repair existing coatings that exhibit surface defects.

- E. Impervious Surfaces: Remove mildew by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- F. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.
- G. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
- H. Interior Wood Items to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried, sand between coats. Back prime concealed surfaces before installation.
- I. Interior Wood Items to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.
- J. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

### **3.03 APPLICATION**

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.
- D. Sand wood surfaces lightly between coats to achieve required finish.
- E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

### **3.04 SCHEDULE – SURFACES TO BE FINISHED**

- A. Do Not Paint or Finish the Following Items:
  - 1. Items fully factory-finished unless specifically noted.
  - 2. Fire rating labels, equipment serial number and capacity labels.
  - 3. Laminated plastic or Solid surface materials.
  - 4. Aluminum.
  - 5. Glass.
  - 6. Stainless steel items.
- B. Mechanical and Electrical: Use paint systems defined for the substrates to be finished.
  - 1. Paint all insulated and exposed pipes occurring in finished areas to match background surfaces, unless otherwise indicated.
  - 2. Paint shop-primed items occurring in finished areas.
  - 3. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.

**3.05 SCHEDULE – EXTERIOR PAINT SYSTEMS**

- A. Steel Doors and Frames: Finish all surfaces exposed to view.
  - 1. Semi-Gloss – 2 coats

**3.06 SCHEDULE – INTERIOR PAINT SYSTEMS**

- A. Gypsum Board: Finish all surfaces exposed to view.
  - 1. Ceilings and Bulkheads-Flat:
    - a. Primer:
      - 1) Interior Drywall Sealer
    - b. Finish Coats (2):
      - 1) Acrylic Interior Latex Flat.
  - 2. Walls & Partitions, Eggshell Finish:
    - a. Primer:
      - 1) Interior Primer-Sealer
    - b. Finish Coats (2):
      - 1) Acrylic Interior Latex Eggshell
  - 3. Walls & Partitions, Flat:
    - a. Primer:
      - 1) Interior Primer-Sealer
      - 2) Acrylic Interior Latex Primer Sealer
    - b. Finish Coats (2):
  - 4. Acrylic Interior Latex Flat
- B. Wood: Finish all surfaces exposed to view.
  - 1. Woodwork, Transparent Finish:
    - a. Satin Finish, Varnish:
      - 1) Initial Coat:
      - 2) Topcoats (2):
- C. Steel Doors & Frames: Finish all surfaces exposed to view.
  - 1. Satin/Eggshell Finish:
    - a. Primer:
    - b. Finish Coats (2):
      - 1) See finish schedule.
- D. Steel Fabrications: Finish all surfaces exposed to view.
  - 1. Standard Semi-Gloss Finish:
    - a. Shop Applied Primer:
    - b. Two coats Alkyd Semi-Gloss Metal

**END OF SECTION**

**09900 PAINTING**

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**SECTION 06200**  
**INTERIOR FINISH CARPENTRY**

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**SECTION 06200**

**INTERIOR FINISH CARPENTRY**

**PART I. GENERAL**

**1.01 SCOPE**

- A. Finish carpentry items, architraves, soffits, fascias
- B. Wood door frames set into partition.
- C. Wood casings and mouldings.
- D. Hardware and attachment accessories

**1.02 SUBMITTALS**

- A. See section – Administrative requirements for submittal procedures

**PART II. PRODUCTS**

**2.01 GENERAL**

- A. Trim and molding shall be of size and shape as shown on the Drawings and/ or Finish Schedule.
- B. Lengths shall be maximum lengths available.
- C. Mouldings to be used in one space must be from the same mill run to ensure uniformity of size and shape.

**2.02 PROJECT CONDITIONS**

- A. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.
- B. Coordinate the work with installation of associated and adjacent components.

**2.03 WOOD-BASED COMPONENTS**

- A. Wood fabricated from old growth timber is not permitted.

**2.04. LUMBER MATERIALS**

- A. Softwood Lumber: sawn, maximum moisture content of 6 percent; with vertical grain.
- B. Hardwood Lumber: sawn, maximum moisture content of 6 percent; with vertical grain, of quality suitable for transparent finish.

**2.05 ADHESIVE**

- A. Adhesive: Type recommended by laminate manufacturer to suit application.

**2.06 FASTENERS**

- A. Fasteners: Of size and type to suit application
- B. Concealed Joint Fasteners: Threaded steel.

**2.07 ACCESSORIES**

- A. Primer: Alkyd primer sealer type.
- B. Wood Filler: Solvent base, tinted to match surface finish colour.



2.08 FABRICATION

- A. Shops assemble work for delivery to site, permitting passage through building openings.
- B. When necessary, to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

**PART 3 EXECUTION**

3.01 INSTALLATION

- A. All trim shall be installed with nails of appropriate size to penetrate substrate 3/4". Nails shall be set, and all bolts and screws countersunk. Spacing of nails shall be as required to hold trim tight and flat to surface.
- B. Special nailing patterns shall be as noted on the Drawings or as per approved samples and mock-ups.
- C. All miters and joints are to be biscuit installed and glued.
- D. All finish nails shall be countersunk.
- E. Trim shall be installed with the longest possible lengths:
  - 1 Stagger splice joints in long runs where trim is built up of multiple pieces. Stagger joints.
  - 2 Carefully lay out splice joints equally at long runs. Joints shall be a center of run or equidistant from ends.
  - 4. All base, crown molding and other linear trim shall be mitered at outside corners.
  - 5. All base, crown molding and other linear trim shall be coped and fit at inside corners.
  - 6. Millwork and cabinets shall be installed per the requirement.

3.02 PREPARATION FOR SITE FINISHING

- A. Prior to shop or field priming, all trim shall be sanded free of all planners marks where smooth finish is called for.
- B. Set all nails and fasteners and fill holes after sealing.
- C. Clean all glue from joints as work is being done.

3.03 ERECTION TOLERANCES

- A. Maximum Variation from True Position: 1/16 inch (1.5mm)

END OF SECTION  
06200

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**SECTION 08100**  
**HOLLOW METAL DOORS AND FRAMES**

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**SECTION 08100**

**Hollow Metal Doors and Frames**

**PART – 1 GENERAL**

**1.01 SUMMARY**

- A. Fire rated Hollow Metal Door and Frame
- B. Commercial security hollow metal doors and frames.
- C. ADA Standards I American with Disabilities Act (ADA) standards for design 2010.

**1.02 SUBMITTALS**

- A. Submit product data for each type of product identified manufacture's literature and technical data including specifications.

**1.03 DELIVERY, STORAGE, AND PROTECTION**

- A. Deliver products to site and inspect to verify the material is of gage and sized as required by existing conditions of the job.
- B. Material shall be stored in an enclosed and dry area protected from damage.
- C. Provide all Standard Door Hardware compliant to ADA with leaver handles.
- D. Provide locking hardware matching existing building standards.

**PART 2 – PRODUCTS**

**2.01 MANUFACTURER REQUIREMENTS**

- A. Requirements for Hollow metal Doors and Frames:
  - 1. Door Finish: Factory primed, and field finished.
  - 2. Door Thickness 1 ¾ inch, nominal.
  - 3. Door Face Flush
  - 4. Fire rating: as indicated on construction drawings.
  - 5. Fire rated doors and frame tested in accordance with UL, and NFPA.
    - a. Attached fire rating label to each door and frame.

**PART 3 – EXECUTION**

**3.01 INSTALLATION**

- A. Install Doors and Frames in accordance with Manufacture's instructions and related requirements
- B. Install fire rated units in accordance with NFPA 80.
- C. Coordinate frame anchor placement with wall construction.

**3.02 TOLERANCES**

- A. Maximum Diagonal Distortion: 1/16 inch measured with a straight edge, corner to corner.

**3.03 ADJUSTING**

- A. Adjust for smooth and balanced door movement.

**SECTION 08100 - Hollow Metal Doors and Frames**

**END OF SECTION**

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**SECTION 084113**  
**ALUMINUM-FRAMED ENTRANCES AND**  
**STOREFRONT**

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**ALUMINUM-FRAMED ENTRANCES AND STOREFRONT**

**SECTION 084113**

**PART 1 GENERAL**

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections.

1.2 SUMMARY

- A. This Section covers Architectural Aluminum Storefront Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter sealing of storefront units.
- B. Aluminum Storefront Systems include:
  - 1. Framing System.
    - a. 1-3/4" x 4-1/2" (44.5 mm x 114.3 mm) nominal dimension
    - b. Non-thermal
    - c. Glass: front, center, back, multi-plane, structural silicone or weatherseal (type B) glazed
    - d. Screw spline, shear block, stick, or punched opening fabrication

1.3 PERFORMANCE REQUIREMENTS

- A. General Performance:
  - 1. Product to comply with the specified performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction, as determined by testing of aluminum storefront systems representing those indicated for this project.
  - 2. Aluminum storefront systems shall withstand movements of supporting structure including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
  - 3. Failure includes any of these events:
    - a. Thermal stresses transferring to building structure
    - b. Glass breakage
- B. Delegated Design:
  - 1. Design aluminum storefront systems, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- C. Water Resistance:
  - 1. There shall be no leakage at a minimum static air pressure differential of 8 psf (383 Pa) as defined in AAMA 501.
- D. Uniform Load:

1. A static air design load of 20 psf (958 Pa) shall be applied in the positive and negative direction in accordance with ASTM E 330.
  2. There shall be no deflection in excess of L/175 of the span of any framing member.
  3. At a structural test load equal to 1.5 times the specified design load, no glass breakage or permanent set in the framing members in excess of 0.2% of their clear spans shall occur.
- E. Environmental Product Declaration (EPD): Shall have a Type III Product-Specific EPD created from a Product Category Rule.

#### 1.4 SUBMITTALS

- A. Product Data:
1. For aluminum-framed storefront system indicated, include:
    - a. Construction details
    - b. Material descriptions
    - c. Dimensions of individual components and profiles.
    - d. Provide details of existing components to remain and interphase with new.
    - e. Insulated metal panels
    - f. Hardware
    - g. Finishes
    - h. Installation instructions. Insulated metal panels
- B. Shop Drawings:
1. Plans
  2. Elevations
  3. Sections
  4. Details
  5. Hardware
  6. Installation details
- C. Samples for Initial Selection:
1. Provide samples for units with factory-applied color finishes.
  2. Provide samples of hardware and accessories involving color selection.
- D. Samples for Verification:
1. Provide a verification sample for aluminum-framed storefront system and required components.
- E. Warranty: Standard warranty specified the manufacture.
- F. Fabrication Sample:
1. Provide a fabrication sample of a vertical-to-horizontal intersection of aluminum-framed systems, made of full-size components.
- G. Entrance Door Hardware Schedule:

1. Schedule shall be prepared by or under the supervision of supplier.
2. Schedule shall detail fabrication and assembly of entrance door hardware, including procedures and diagrams.
3. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

#### 1.5 QUALITY ASSURANCE

##### A. Installer Qualifications:

1. Installer must have successfully installed the same or similar units required for the project and other projects of similar size and scope.

##### B. Manufacturer Qualifications:

1. Manufacturer must be capable of providing aluminum-framed storefront systems that meet or exceed performance the stated performance requirements.
2. Manufacturer must document this performance by the inclusion of test reports and calculations.

##### C. Source Limitations:

1. Obtain aluminum-framed storefront system through one source from a single manufacturer.

##### D. Product Options:

1. Drawings indicate size, profiles, and dimensional requirements of aluminum-framed storefront system and are based on the specific system indicated. Refer to Division 01 Product Requirements Section. Do not modify size and dimensional requirements.
2. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

##### E. Structural-Sealant Glazing must comply with ASTM C 1401, "Guide for Structural Sealant Glazing" for design and installation of structural-sealant-glazed systems.

##### F. Structural-Sealant Joints: Design reviewed and approved by structural-sealant manufacturer.

#### 1.6 PROJECT CONDITIONS

##### A. Field Measurements:

1. Verify actual dimensions of aluminum-framed storefront openings by field measurements before fabrication.
2. Indicate measurements on shop drawings.

#### 1.7 WARRANTY

##### A. Submit manufacturer's standard warranty for owner's acceptance.

##### B. Warranty Period:



1. Two years from Date of Substantial Completion of the project provided however that in no event shall the Limited Warranty begin later than six months from date of shipment by manufacturer.

## **PART 2 PRODUCTS**

### **2.1 MANUFACTURERS**

#### **A. Basis-of-Design Product:**

1. Kawneer Company, Inc.
2. Framing System
  - a. 1-3/4" x 4-1/2" (44.5 mm x 114.3 mm) nominal dimension
  - b. Non-thermal
  - c. Glass: front, center, back, multi-plane, structural silicone, or weather seal for the appropriate glazing.
  - d. Screw spline, shear block, stick, or punched opening fabrication. Subject to compliance with requirements, provide a comparable product.

#### **B. Manufacturer.**

1. Product Literature and Drawings:
  - a. Submit product literature and drawings modified to suit specific project requirements and job conditions.
2. Certificates:
  - a. Submit certificate(s) certifying that the substitute manufacturer (1) attests to adherence to specification requirements for storefront system performance criteria, and (2) has been engaged in the design, manufacture, and fabrication of aluminum storefronts for a period of not less than ten (10) years. (*Company Name*)
3. Samples:
  - a. Provide samples of typical product sections and finish samples in manufacturer's standard sizes.
  - b. Materials

#### **C. Aluminum Extrusions:**

1. Alloy and temper recommended by aluminum storefront manufacturer for strength, corrosion resistance, and application of required finish.

#### **D. Fasteners:**

1. Aluminum, nonmagnetic stainless steel or other materials must be non-corrosive and compatible with aluminum members, trim hardware, anchors, and other components.

#### **E. 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.

F. Reinforcing Members:

1. Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating.
2. Reinforcing members must provide sufficient strength to withstand the design pressure indicated.

G. 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.

H. 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.

2.2 STOREFRONT FRAMING SYSTEM

A. Brackets and Reinforcements:

1. Manufacturer's standard high-strength aluminum with non-staining, non-ferrous shims for aligning system components.

B. 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.

C. Perimeter Anchors:

1. When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.

D. Packing, Shipping, Handling, and Unloading:

1. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

E. Storage and Protection:

1. Protect material against damage from elements, construction activities, and other hazards before, during, and after installation.

2.3 GLAZING SYSTEMS

A. Glazing to meet requirements in Division 08 Glazing Section.

B. Glazing Gaskets:

1. Manufacturer's standard compression types.
2. Replaceable, extruded EPDM rubber.

C. Spacers and Setting Blocks:

1. Manufacturer's standard elastomeric type.
- D. Bond-Breaker Tape:
  1. Manufacturer's standard TFE-fluorocarbon or polyethylene material to which sealants will not develop adhesion.
- E. Glazing Sealants for structural-sealant-glazed systems as recommended by manufacturer for joint type, and as follows:
  1. Structural Sealant:
    - a. ASTM C 1184
    - b. Single-component neutral-curing silicone formulation that is compatible with the system components with which it comes in contact
    - c. Specifically formulated and tested for use as structural sealant and approved by a structural-sealant manufacturer for use in the aluminum-framed systems indicated
    - d. Color: Black
  2. Weatherseal sealant:
    - a. ASTM C 920 for Type S, Grade NS, Class 25, Uses NT, G, A, and O
    - b. Single-component neutral-curing formulation that is compatible with the structural sealant and other system components with which it comes in contact
    - c. Recommended by structural-sealant, weatherseal-sealant, and aluminum-framed-system manufacturers for this use
    - d. Color: Matching structural sealant

## 2.4 ACCESSORY MATERIALS

- A. Joint Sealants:
  1. For installation at perimeter of aluminum-framed systems, as specified use specified Joint Sealants as recommended by Store Front manufacture.
- B. Fabricate framing member components that, when assembled, have the following characteristics:
  1. Profiles that are sharp, straight, and free of defects or deformations
  2. Means to drain water passing joints, condensation within framing members, and moisture migrating within the system to exterior
  3. Physical and thermal isolation of glazing from framing members
  4. Accommodations for thermal and mechanical movements of glazing and framing that maintain required glazing edge clearances
  5. Provisions for field replacement of glazing
  6. Fasteners, anchors, and connection devices that are concealed from view to the greatest extent possible
- C. Mechanically Glazed Framing Members:
  1. Fabricate for flush glazing without projecting stops.
- D. Structural-Sealant-Glazed Framing Members:

1. Include accommodations for using temporary support device to retain glazing in place while structural sealant cures.

E. Storefront Framing:

1. Fabricate components for assembly using manufacturer's standard installation instructions.

- F. After fabrication, clearly mark components to identify their locations in project according to shop drawings.

2.5 ALUMINUM FINISHES

- A. Finish designations are to be similar as to match existing Aluminum Finishes possible.

**PART 3 EXECUTION**

3.1 EXAMINATION

- A. With installer present, examine openings, substrates, structural support, anchorage, and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of work:

1. Verify rough opening dimensions.
2. Verify levelness of sill plate.
3. Verify operational clearances.
4. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components for proper water management.
5. Masonry Surfaces:
  - a. Masonry surfaces must be visibly dry and free of excess mortar, sand, and other construction debris.
6. Metal Surfaces:
  - a. Metal surfaces must be dry and clean (free of grease, oil, dirt, rust, corrosion, and welding slag).
  - b. Ensure that metal surfaces are without sharp edges or offsets at joints.

- B. Proceed with installation only after correcting unsatisfactory conditions.

3.2 INSTALLATION

- A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing aluminum-framed storefront system, accessories, and other components.

- B. Install aluminum-framed storefront system so that components:

1. Are level, plumb, square, and true to line
2. Are without distortion and do not impede thermal movement
3. Are anchored securely in place to structural support
4. Are in proper relation to wall flashing and other adjacent construction

- C. Set sill members in bed of sealant or with gaskets, as indicated, for weather-tight construction.

- D. Install aluminum-framed storefront system and components to drain condensation, water penetrating joints, and moisture migrating within aluminum-framed storefront system to the exterior.

**3.3 CLEANING, AND PROTECTION**

**A. Protection:**

- 1. Protect installed product's finish surfaces from damage during construction.

**B. Cleaning:**

- 1. Clean glass immediately after installation.
  - a. Comply with glass manufacturer's written recommendations for final cleaning and maintenance.
  - b. Remove non-permanent labels and clean surfaces.
- 2. Clean aluminum surfaces.
- 3. Avoid damaging protective coatings and finishes.
- 4. Remove excess sealants, glazing materials, dirt, and other substances.
- 5. Remove construction debris from project site and legally dispose of debris.

**END OF SECTION 084113**

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**SECTION 092900**  
**GYPSUM BOARD**

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**SECTION 092900**

**GYPSUM BOARD**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This Section includes the following:

1. Interior gypsum board.

**1.2 SUBMITTALS**

- A. Product Data: For each type of product indicated.

**1.3 QUALITY ASSURANCE**

- A. Fire-Resistance-Rated Assemblies: For fire-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

**1.4 STORAGE AND HANDLING**

- A. Store materials inside under cover and keep them dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes. Stack panels flat to prevent sagging. In addition, follow the guidelines found in GA-801.

**1.5 PROJECT CONDITIONS**

- A. Environmental Limitations: Comply with ASTM C 840 or GA-216 requirements, whichever are more stringent.
- B. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
1. Indications that panels are wet, or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

**PART 2 - PRODUCTS**

**2.1 PANELS, GENERAL**

- A. Size: Provide in maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

**2.2 INTERIOR GYPSUM BOARD**

- A. General: Complying with ASTM C 1396/C1396M as applicable to type of gypsum board indicated.
- B. Regular Type:
1. Thickness: 5/8 inch (15.9 mm).

2. Long Edges: Tapered.

C. Laminating Base Gypsum Board. Complying with ASTM C 1396/C 1396M as applicable to type of gypsum board indicated

1. Application: Substrate to which a wide variety of decorative laminates can be applied.
2. Thickness: 5/8 inch 15.9 mm – type X.

### 2.3 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.
2. Shapes:
  - a. Cornerbead.
  - b. Bullnose bead.
  - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
  - d. L-Bead: L-shaped; exposed long flange receives joint compound.
  - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
  - f. Expansion (control) joint.
  - g. Curved-Edge Cornerbead: With notched or flexible flanges.

### 2.4 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

1. Interior Gypsum Wallboard: Paper.

### 2.5 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

1. Use adhesives that have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

C. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.

D. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.

E. Acoustical Sealant: As specified in Joint Sealants.

1. Provide sealants that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).



### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames and framing, for compliance with requirements and other conditions affecting performance.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

#### **3.2 APPLYING AND FINISHING PANELS, GENERAL**

- A. Comply with ASTM C 840, GA-216 or GA-214.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
  - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
  - 2. Fit gypsum panels around ducts, pipes, and conduits.
  - 3. Where partitions intersect structural members projecting below underside of floor roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4 to 3/8 inch (6 to 9 mm) wide joints to install sealant.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4 to 1/2 inch (6 to 12 mm) wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.
- J. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

### **3.3 APPLYING INTERIOR GYPSUM BOARD**

- A. Install interior gypsum board in the following locations:
  - 1. Regular Type: Vertical or horizontal surfaces, unless otherwise indicated.
  - 2. Type X: Where required for fire-resistance-rated assembly.
  - 3. Ceiling Type: Ceiling surfaces.
  - 4. Moisture- and Mold-Resistant Type: As indicated on Drawings.
  
- B. Single-Layer Application:
  - 1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing, unless otherwise indicated.
  - 2. On partitions/walls, apply gypsum panels vertically (parallel to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
    - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
    - b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
  - 3. On furring members, apply gypsum panels vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
  - 4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

### **3.4 INSTALLING TRIM ACCESSORIES**

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
  
- B. Control Joints: Install control joints at locations indicated on Drawings and if not shown, according to ASTM C 840 or GA-216 and in specific locations approved by Architect for visual effect.
  
- C. Interior Trim: Install in the following locations:
  - 1. Cornerbead: Use at outside corners, unless otherwise indicated.
  - 2. LC-Bead: Use at exposed panel edges.

### **3.5 FINISHING GYPSUM BOARD**

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
  
- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
  
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
  
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840, GA-216 or GA-214:
  - 1. Locations to receive Level 0 finish (no taping, finishing, or accessories required): Non-fire-rated, non-sound-rated, and non-smoke-rated assemblies in ceiling plenums and concealed areas, and in temporary construction.

2. Locations to receive Level 1 finish (all joints and interior angles shall have tape set in joint compound. Surface shall be free of excess joint compound. Tool marks and ridges are acceptable): Fire rated, sound rated, and smoke rated assemblies in plenum areas above ceilings, in attics, and in areas where the assembly would generally be concealed.
3. Locations to receive Level 2 finish (all joints and interior angles shall have tape embedded in joint compound and wiped with a joint knife leaving a thin coating of joint compound over all joints and interior angles. Fastener heads and accessories shall be covered with a coat of joint compound): Surfaces to receive moisture resistant gypsum board as a surfacing.
4. Locations to receive Level 3 finish (all joints and interior angles shall have tape embedded in joint compound and one additional coat of joint compound applied over all joints and interior angles. Fastener heads and accessories shall be covered with two separate coats of joint compound): Areas which are to receive heavy or medium-texture (spray or hand applied) before final painting, or where heavy-grade wall coverings are to be applied as the final decoration. This level of finish is not recommended where smooth painted surfaces or light to medium wall coverings are specified.
5. Locations to receive Level 4 finish (all joints and interior angles shall have tape embedded in joint compound and two separate coats of joint compound applied over all flat joints): All flat and eggshell paints, light textures, or wall coverings.
6. Locations to receive Level 5 finish (all joints and interior angles shall have tape embedded in joint compound and two separate coats of joint compound applied over all flat joints. A thin skim coat of joint compound trowel applied, or a material manufactured especially for this purpose and applied in accordance with manufacturer's recommendations, shall be applied to the entire surface. The surface shall be smooth and free of tool marks and ridges): Gloss or semi-gloss paints, and areas where severe lighting conditions occur.

### **3.6 PROTECTION**

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, and mold damaged.
  1. Indications that panels are wet, or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.  
Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

**END OF SECTION**

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New York & Connecticut

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Naugatuck, Connecticut 06770

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**SECTION 08800**  
**GLASS AND GLAZING**

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**SECTION 08800**  
**GLASS and GLAZING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section includes insulated glass units and installs within Store Front assembly.

**1.2 REFERENCES**

- A. ASTM C 1036 - Standard Specification for Flat Glass.
- B. ASTM C 1048 - Standard Specification for Heat-Treated Flat Glass--Kind HS, Kind FT Coated and Uncoated Glass.
- C. ASTM C 1172 – Standard Specification for Laminated Architectural Flat Glass.
- D. ASTM C 1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Glass.
- E. ASTM E 1886 - Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
- F. ASTM E 1996 - Standard Specification for Performance of Exterior Windows, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
- G. CPSC 16CFR-1201 - Safety Standard for Architectural Glazing Materials.
- H. GANA Glazing Manual.
- I. GANA Laminated Glazing Reference Manual

**1.3 SUBMITTALS**

- A. Product Data: Submit manufacturer's product data, including performance characteristics and installation instructions.
  - B. Shop Drawings: Submit manufacturer's or fabricator's shop drawings, including plans, elevations, sections, and details, indicating glass dimensions, tolerances, types, thicknesses, and coatings.
  - C. Samples: Submit manufacturer's samples of each type, thickness, and coating.
  - D. Fabricator's Certification: Submit fabricator's certification by manufacturer.
-

- E. Cleaning Instructions: Submit manufacturer's cleaning instructions.
- F. Warranty: Submit manufacturer's standard warranty for sealed insulating glass units.

#### 1.4 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Minimum of 5 years experience manufacturing solar control coated glass.
- B. Fabricator's Qualifications:
  - 1. Minimum of 5 years experience manufacturing Laminated glass units meeting ASTM C 1172 and CPSC 16CFR-1201.
  - 2. Certified by manufacturer.
- C. Windborne-Debris-Impact Resistance: Provide exterior glazing that passes protection testing requirements in ASTM E 1996 for appropriate **Wind Zone** when tested according to ASTM E 1886. Test specimens shall be no smaller in width and length than glazing indicated for use on the Project and shall be installed in same manner as glazing indicated for use on the Project.
  - 1. Large-Missile Test: For glazing located within 30 feet of grade.
  - 2. Small-Missile Test: For glazing located more than 30 feet above grade.

#### 1.5 ELIVERY, STORAGE, AND HANDLING

- A. Delivery:
  - 1. Deliver glass to site in accordance with manufacturer's instructions.
  - 2. Deliver glass in manufacturer's or fabricator's original containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage:
  - 1. Store glass in accordance with manufacturer's instructions.
  - 2. Store glass in clean, dry area indoors.
  - 3. Apply temporary coverings loosely to allow adequate ventilation.
  - 4. Avoid placement of glass edge on concrete, metal, and other hard objects.
  - 5. Rest glass on clean, cushioned pads at 1/4-points.
- C. Handling:
  - 1. Handle glass in accordance with manufacturer's instructions.
  - 2. Protect glass from damage during handling and installation.
  - 3. Do not slide one lite of glass against another.
  - 4. Do not use sharp objects near unprotected glass.

#### 1.6 WARRANTY

- A. Manufacturer's standard form in which glass manufacturer agrees to replace glass units that deteriorate within specified warranty period. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.
    - 1. Warranty Period: **Five** years from date of certificate of occupancy.
-

## PART 2 - PRODUCTS

### 2.1 FABRICATION OF GLAZING UNITS

- B. Fabricate glazing units in sizes required to fit openings indicated for the Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.
- C. Fabricate laminated glass to produce glass free of foreign substances and air or glass pockets.

## PART 3 - EXECUTION

### 1.7 EXAMINATION

- A. Examine areas to receive glass. Notify Architect of conditions that would adversely affect installation. Do not proceed with installation until unsatisfactory conditions are corrected.

### 1.8 PREPARATION

- A. Verify glazing openings are correct size and within tolerance.
- B. Verify glazing channels, recesses, and weeps are clean and free of obstructions.

### 1.9 GLAZING

- A. Install glass in accordance with manufacturer's instructions, or GANA Glazing Manual indicate more stringent requirements.

### 1.10 FIELD QUALITY CONTROL

- A. 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.
- B. Verify glass is free of chips, cracks, and other inclusions that could inhibit structural or aesthetic integrity.

### 1.11 CLEANING

- A. Clean glass promptly after installation in accordance with manufacturer's instructions and remove labels from glass surface.
  - B. Do not use harsh cleaning materials or methods that would damage glass.
-

- A. Protect installed glass from damage during construction.
- B. Protect installed glass from contact with contaminating substances resulting from construction operations.
- C. 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**

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**ALTERNATE TO SECTION 08900  
FYRE TEC TRANSACTION WINDOW**

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**SECTION 08510  
STEEL WINDOWS**

**UL Labeled Fire-Rated Horizontal Slider (900)**

**TO BE PROVIDED AS AN ALTERNATE TO THE PROPOSED FIRE SHUTTER**

**PART 1 GENERAL**

1.1 SECTION INCLUDES

- A. Fire Rated Steel Windows (Horizontal Slider) – 45-Minute UL Labeled
- B. Fire Rated Steel Windows (Horizontal Slider) – 60-Minute UL Labeled

1.2 RELATED SECTIONS

- A. Section 08800 – Glass, Glazing, and Glazing Materials

1.3 REFERENCES

- A. ASTM A 569-(1991a; R 1993) Steel, Carbon (0.15 Maximum, Percent), Hot-Rolled Sheet and Strip Commercial Quality
- B. ASTM A 653-(1994) Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- C. ASTM B 633-(1985; R 1994) Electrodeposited Coatings of Zinc on Iron and Steel
- D. ASTM B 766-(1986; R 1993) Electrodeposited Coatings of Cadmium
- E. ASTM E 283-(1991) Determining the Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors Under Specific Pressure Differences Across the Specimen
- F. ASTM E 330-(1990) Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
- G. ASTM E 547-(1993) Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential
- H. ASME B18.6.3- (1972; R 1991) Machine Screws and Machine Screw Nuts
- I. ASME B18.6.4- (1981; R 1991) Thread Forming and Thread Cutting Tapping Screws and Metallic Drive Screws (Inch Series)
- J. NFPA 80-(2007) Fire Doors and Windows
- K. NFPA 101-(2006) Safety to Life from Fire in Buildings and Structures
- L. UL9-Fire Tests of Window Assemblies
- M. File No. R13157-D.V. Fyre-Tec Classification

1.4 PERFORMANCE REQUIREMENTS

- A. Horizontal sliding steel windows shall conform to the HS-C30 voluntary specifications in AAMA/NWWDA 101/I.S.2-97 and be designed to meet the following performance requirements. Fire-rated windows shall bear the Underwriters Laboratories, Inc. label including the manufacturer's file number for the indicated rating.
  - 1. Structural Performance: Structural test pressures on window units shall be for positive load (inward) and negative load (outward) in accordance with ASTM E 330 at a static pressure of 45 PSF. After testing, there shall be no glass breakage, permanent damage to fasteners, hardware parts, support arms or actuating mechanisms or any other damage which could cause window to be inoperable. There shall be no permanent deformation of any main frame, sash or ventilator member in excess of the requirements established by AAMA/NWWDA 101/I.S.2-97 for the window types specified in this section.
  - 2. Air Infiltration: Air infiltration shall not exceed .3 SCFM per square foot of window area at a static air pressure difference of 1.57 PSF as established by AAMA/NWWDA 101/I.S.2-97 when tested in accordance with ASTM E 283.
  - 3. Water Resistance: When tested in accordance with ASTM E 547, there shall be no water leakage at a static air pressure difference of 4.5 PSF.
- B. Fire Protective: Fire protective rating shall meet requirements as tested and classified by Underwriters Laboratories Inc, in accordance with UL-9. Products shall meet the requirements of Underwriters Laboratories Inc. The Listing Mark of UL on the product will be accepted as evidence of compliance.
- C. Life Safety Criteria: Windows shall conform to NFPA 101 Life Safety Code when rescue and/or second means of escape are indicated.

#### 1.5 SUBMITALS

- A. Manufacturer's descriptive data and catalog cut sheets.
- B. Drawings indicating elevations of windows, rough-opening dimensions for each type and size of windows, section details, fastenings, generic method of installation and anchorage, glazing details, method of glazing, muntin divider details, mullion details, weather-stripping details, types and locations of operating hardware, window type and indicating compliance with fire safety code, where required. Refer to Authority Having Jurisdiction for specific installation, wall detail, and anchorage requirements.
- C. Manufacturer's preprinted installation instructions and cleaning instructions.
- D. Manufacturer's standard color samples of painted finishes.

#### 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
- B. Manufacturer's Qualifications: A firm with not less than 10 years experience in manufacture of similar type steel windows.

#### 1.7 DELIVERY, STORAGE AND HANDLING

- A. Delivery:

1. Manufacturer's original, unopened, undamaged containers, identification labels intact. Inspect for damage upon delivery.
  2. Handle and store products according to manufacturer's recommendations.
- B. Storage and Protection:
1. Store materials protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer.
  2. Store windows to prevent damage or marring of finish. Store in shipping containers under cover on building site.

## 1.8 PROJECT CONDITIONS

- A. Verify actual openings by field measurements before fabrication, show recorded measurements on shop drawings.
- B. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

## 1.9 WARRANTY

- A. Manufacturer's standard warranty to be 3 years from the date of shipping.

## **PART 2 PRODUCTS**

### 2.1 MANUFACTURERS

- A. Series 900 Horizontal Sliding Windows as manufactured by Fyre-Tec; 701 Centennial Road; Wayne, NE 68787; Tel: 1-800-377-3261; Fax; 1-402-375-4261; Web: [www.fyre-tec.com](http://www.fyre-tec.com); Email; [info@fyre-tec.com](mailto:info@fyre-tec.com).
- B. Architect approved equal.

### 2.2 STEEL WINDOW TYPES

- A. Horizontal sliding steel windows shall be designed for inside field glazing, and for glass types scheduled on drawings or otherwise specified. Units shall be complete with glass and glazing provisions to meet requirements of paragraph WINDOW PERFORMANCE. Glazing material shall be compatible with steel, and shall not require painting.
- B. Fire-rated windows shall conform to UL-9 and shall be labeled with a 3/4 - hour fire-test rating as specified in the window schedule. Units shall be designed and fabricated to meet glass sizes, window sizes, and opening dimensions established by NFPA 80. Hardware shall conform to NFPA 80 requirements. All operable fire-rated windows are to be self-closing and latching by means of a heat activated fusible link operator.
- C. Fire-rated windows shall conform to UL-9 and shall be labeled with a 1- hour fire-test rating as specified in the window schedule. Units shall be designed and fabricated to meet glass sizes, window sizes, and opening dimensions established by NFPA 80. Hardware shall conform to NFPA 80 requirements. All operable fire-rated windows are to be self-closing and latching by means of a heat activated fusible link operator.
- D. Optional automatic closure device to be activated by heat rise, or by a fire or smoke alarm, computer or other electrical signal. 24 or 110 volt actuation signal required.

### 2.3 MATERIALS

- A. Steel Frames and Inserts
1. Steel frames and inserts shall be fabricated from roll-formed galvanized lock-forming quality steel per ASTM A 653.
  2. Frame and insert corners shall mitered and welded. Integral muntins where required shall be galvanized roll-formed material fitted and welded.
  3. Operable insert/sash shall be supported on two field adjustable roller trucks consisting of corrosion resisting steel with integral ball bearing rollers. Rollers are to supported and operate on a stainless steel track.
- B. Installation Kits
1. Provide attachable fin installation kits for all windows.
  2. Provide subframe installation kits for all windows.
- C. Weather Stripping
1. Weather-stripping for the inserts shall be designed to meet water penetration and air infiltration requirements specified under paragraph WINDOW PERFORMANCE, and shall be manufactured of material compatible with steel and resistant to weather. Weather-strips shall be factory applied and easily replaced in the field.
- D. Screens
1. Insect screens, if required, shall be steel window manufacturer's standard design, and shall be provided where scheduled on drawings. Insect screens shall be fabricated of roll formed galvanized steel frames and (18x16) plastic coated glass conforming fiber mesh screening conforming to ASTM D 3656.
- E. Formed Component Parts
1. Formed component parts shall be hot-rolled sheet steel conforming to ASTM A 569, commercial quality with a minimum of 0.15 percent carbon.
  2. Sheet steel shall be zinc coated (galvanized) by the hot-dip process in accordance with ASTM A 653 or ASTM A 924.
- F. Screws and Bolts
1. Screws and bolts shall conform to ASTM B 766, ASME B18.6.3 and ASME B18.6.4.
- G. Fasteners
1. Fastening devices shall be window manufacturer's design made from cadmium-plated steel, zinc-plated steel, nickel/chrome-plated steel or magnetic stainless steel.
- H. Window Anchors
1. Anchors for installing windows shall be stainless steel or hot-dip zinc coated steel conforming to ASTM A 123.
- I. Glass and Glazing
1. As specified in Section 08800.

2. Traditional wire glass – Misco or Baroque (3/4 hour rated)
3. Standard clear ceramic glass (1 hour rated)
4. Premium clear ceramic glass (1 hour rated)
5. Safety laminated premium clear ceramic glass CPSC16CFR1201 Cat I & II (1- hour rated)
6. Insulated glass units.

## 2.4 FABRICATION

- A. Fabricate windows in accordance with approved shop drawings.
- B. Frame sections shall be one piece sections with corners mitered, welded and dressed smooth.
- C. Required muntins shall be securely welded to the frame members and at all intersections.
- D. All windows shall be designed for inside glazing.
- E. All windows shall be factory glazed with UL labeled glass meeting or exceeding the hourly rating required for the frame label. Individual lites shall display a UL label permanently affixed and in accordance with the requirements of the International Building Code and NFPA 80.

## 2.5 FINISHES – All products will be provided with a paint coating.

- A. Prime Coat – Intended to be field painted with a Finish Coat.
  1. Steel windows, fins, mullions, cover plates and associated parts shall be cleaned, pre-treated with iron phosphate and factory painted manufacturer's standard primer powder coat and cured in a dry film thickness of not less than 0.025 mm (1.0 mil).
- B. Finish Coat – Manufacturer's Standard Color
  1. Steel windows, fins, mullions, cover plates and associated parts shall be cleaned, pre-treated with iron phosphate and factory powder coated and cured with a manufacturer's standard color in a dry film thickness of not less than 0.050 mm (2.0 mil).
- C. Finish Coat – Specified Color Match
  1. Steel windows, fins, mullions, cover plates and associated parts shall be cleaned, pre-treated with iron phosphate and factory powder coated and cured with a manufacturer's standard color in a dry film thickness of not less than 0.050 mm (2.0 mil).

## **PART 3 EXECUTION**

### 3.1 EXAMINATION

- A. Window openings shall conform to details and dimensions shown on the approved shop drawings.
- B. Notify the Architect immediately of conditions that may adversely affect the window installation. Correct conditions prior to installing windows

### 3.2 INSTALLATION

- A. Steel windows shall be installed in accordance with approved shop drawings and manufacturer's approved recommendations.
- B. Fire-rated windows shall be installed in compliance with NFPA 80 and NFPA 101.
- C. Steel surfaces in close proximity with masonry, concrete, wood, and dissimilar metals other than stainless steel, zinc, cadmium, or small areas of white bronze shall be protected from direct contact.
- D. Verify that weep features at the bottom of the sills are opened at least 1/8" x 1". Failure to do so may lead to premature finish failures and void warranty.
- E. The completed window installation shall be watertight.

### 3.3 ADJUSTING AND CLEANING

- A. Steel window finish and glass shall be cleaned on interior and exterior sides in accordance with window manufacturer's recommendation. Alkaline, abrasive or brick wash agents shall not be used.
- B. Operable sash shall be adjusted per manufacturer's instruction to provide minimal operating force.

### 3.4 PROTECTION

- A. Protect installed products and finished surfaces from damage during construction.
- B. Touch-up any abraded surface of the window finish with air dry paint furnished by the window manufacturer.

-- END OF SECTION --  
SPEC\_900 1-2020

# APPENDIX 1

## CONTRACT DRAWINGS













REVISIONS

REV	DESCRIPTION	DATE
A	ISSUED FOR BID	12/2/2022

CONSULTANTS

Seal is affixed hereto.  
 Not valid unless embossed.  
 Pustola & Associates  
 Consulting Engineers, LLC

**Pustola & Associates**  
 CONSULTING ENGINEERS, LLC

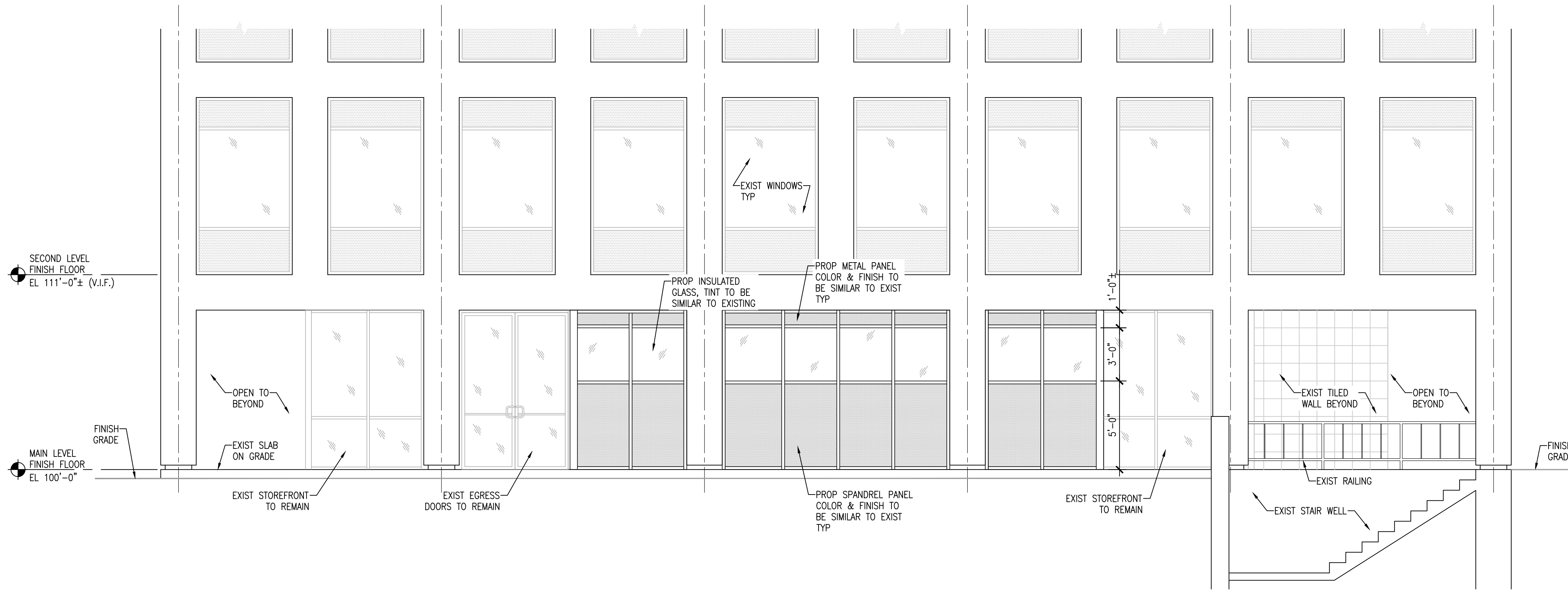
Design and Construction Services  
 Naugatuck, Connecticut 06770  
 185 Meadow Street  
 (203) 729-6675  
 Fax (203) 720-2816  
 www.pustola.com

**PROPOSED TOWN HALL ADDITION**  
 229 CHURCH STREET  
 NAUGATUCK, CONNECTICUT  
 PREPARED FOR  
**BOROUGH OF NAUGATUCK**  
 229 CHURCH STREET  
 NAUGATUCK, CONNECTICUT 06770

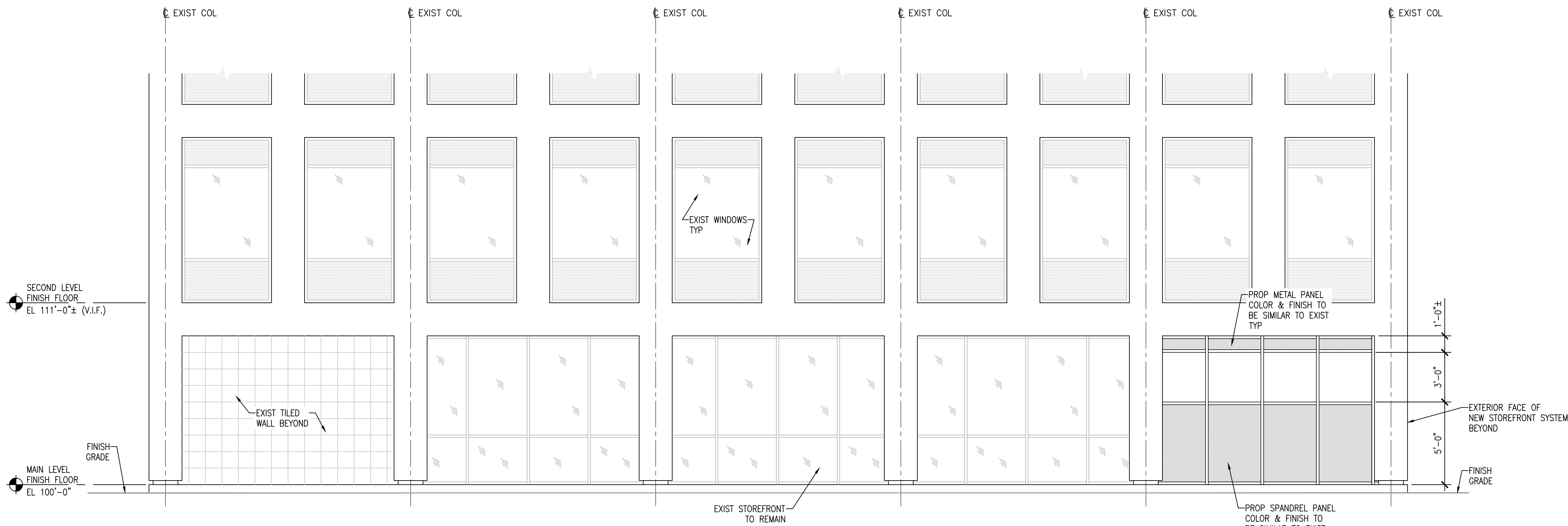
**PROPOSED SOUTH & WEST EXTERIOR ELEVATIONS**

DATE: 9/7/2022  
 SCALE: AS NOTED  
 PROJECT NO.: 22208.00  
 CHECKED BY: KP

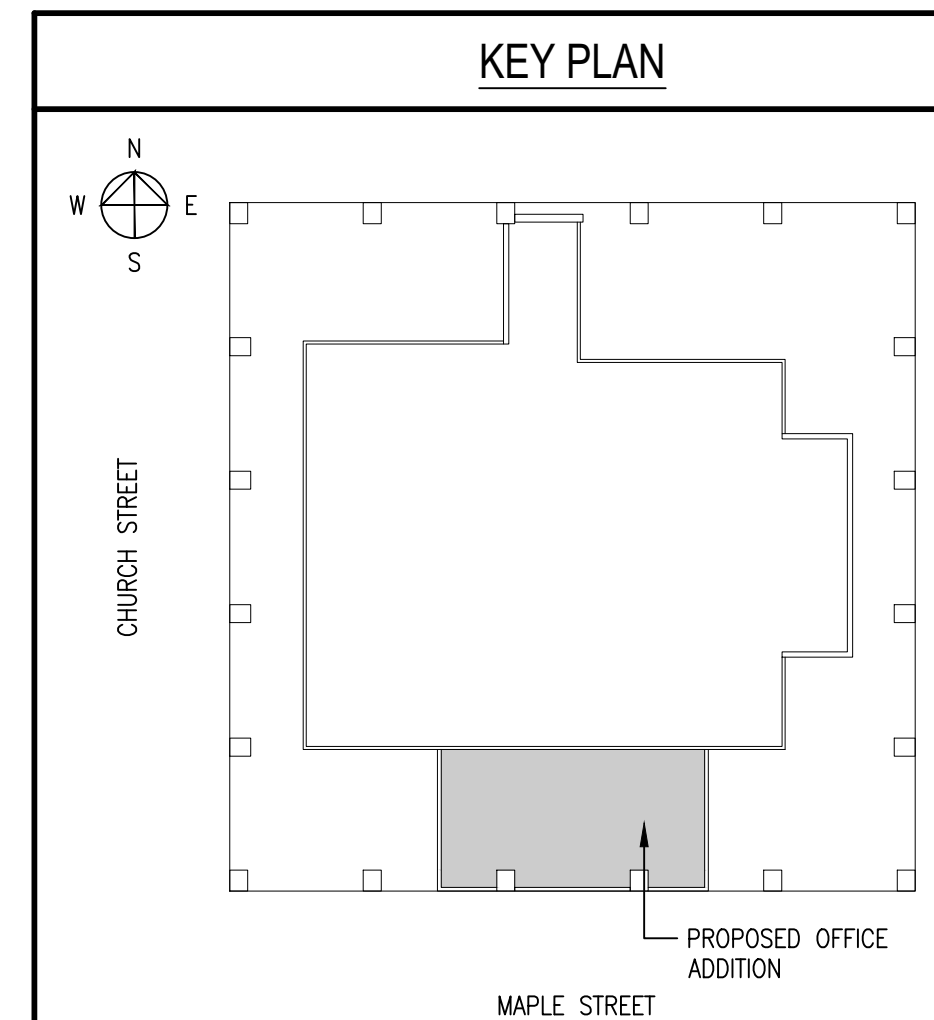
**A2.00**



1 SOUTH ELEVATION LOOKING NORTH  
 A2.00 1/4" = 1'-0"



2 WEST ELEVATION LOOKING EAST  
 A2.00 1/4" = 1'-0"



KEY PLAN









REVISIONS

REV	DESCRIPTION	DATE
A	ISSUED FOR BID	12/2/2022

CONSULTANTS

**LONG CONSULTING**  
 67 Federal Rd., 5th Fl., Ste. 208  
 Groton, CT 06340  
 www.longconsulting.com  
 TEL: (860) 883-3703

Seal of the State of Connecticut  
 No. 10578  
 Mechanical Engineer  
 Seal is affixed hereto.

**Pustola & Associates CONSULTING ENGINEERS, LLC**  
 Licensed Professionals  
 185 Meadow Street  
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Design and Construction Services  
 Naugatuck, Connecticut 06770  
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**PROPOSED TOWN HALL ADDITION**  
 229 CHURCH ST.  
 NAUGATUCK, CONNECTICUT

**BOROUGH OF NAUGATUCK**  
 229 CHURCH ST.  
 NAUGATUCK, CONNECTICUT 06770

**MECHANICAL FLOOR PLAN**

DATE: 09/27/2022  
 SCALE: AS NOTED  
 PROJECT NO.: 22208.00  
 CHECKED BY: TL

**M.001**

**MECHANICAL DUCTWORK SYMBOL LIST**

	NEW SUPPLY DUCT
	NEW RETURN DUCT
	ACOUSTICALLY LINED DUCT
	NEW EQUIPMENT
18X12	DUCT SIZE (FIRST FIGURE INDICATES HORIZONTAL SIZE)
18ø	ROUND DUCT DIAMETER
	TRANSITION FROM RECTANGULAR TO ROUND OR OVAL DUCT
	FLEXIBLE CONNECTION
	VOLUME DAMPER
	SUPPLY CEILING DIFFUSER
	RETURN CEILING GRILLE OR REGISTER
	SUPPLY DUCT UP
	SUPPLY DUCT DOWN
	RETURN OR EXHAUST DUCT UP
	RETURN OR EXHAUST DUCT DOWN
	ELBOW WITH TURNING VANES
	RADIUS ELBOW
	DUCT SPLIT OR BRANCH TAKEOFF
	THERMOSTAT - WALL OR DUCT MOUNTED
	MECHANICAL PLAN NOTE TAG
	REVISION SYMBOL

**MECHANICAL ABBREVIATIONS**

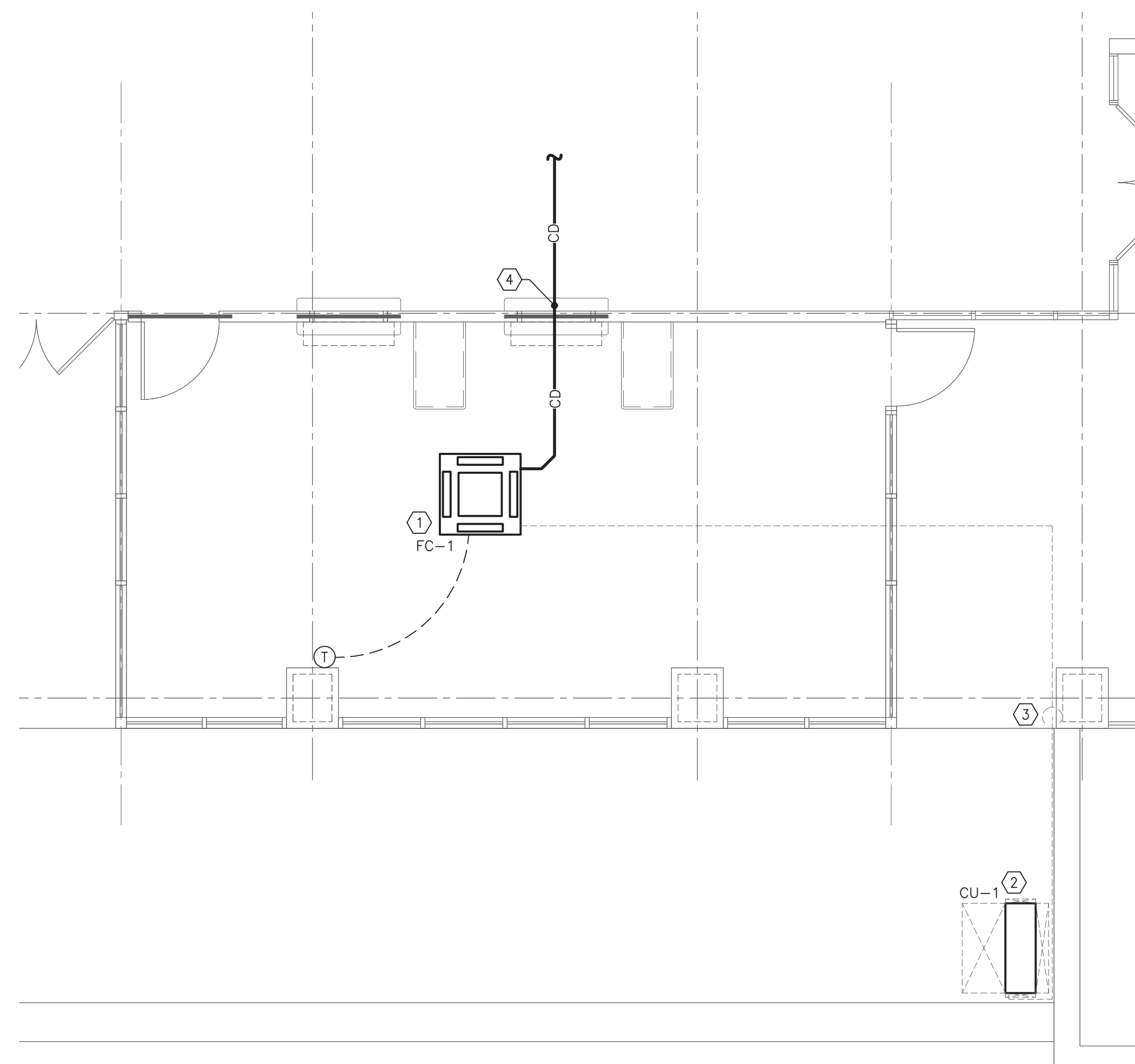
ATC	AUTOMATIC TEMPERATURE CONTROL
CD-A	DIFFUSER TYPE - REFER TO SCHEDULE
BMS	BUILDING MANAGEMENT SYSTEM
BTU	BRITISH THERMAL UNITS
CC	COOLING COIL
CFM	CUBIC FEET PER MINUTE
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
FC	FAN COIL
FLA	FULL LOAD AMPS
HZ	HERTZ
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPS
NIC	NOT IN CONTRACT
PH	PHASE
PSI	POUNDS PER SQUARE INCH
SHC	SENSIBLE COOLING (IN MBH)
TC	TOTAL COOLING (IN MBH)
TYP	TYPICAL
V	VOLTS
VD	VOLUME DAMPER
WMS	WIRE MESH SCREEN

**GENERAL NOTES**

- THESE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF WORK AS WELL AS INDICATE GENERAL ARRANGEMENT OF EQUIPMENT, DUCTWORK AND PIPING. THE CONTRACTOR SHALL ADHERE TO THESE DRAWINGS AS CLOSELY AS POSSIBLE. HOWEVER, THE RIGHT IS RESERVED TO VARY THE RUNS OF DUCTWORK AND PIPING AND TO MAKE OFFSETS, WHERE NECESSARY, TO ACCOMMODATE CONDITIONS ARISING AT THE JOB SITE. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO WORK SHALL BE PERFORMED PRIOR TO RECEIPT OF EQUIPMENT, DUCTWORK AND PIPING FABRICATION DRAWING APPROVAL.
- ANY MATERIAL, WORK OR INCIDENTAL ACCESSORIES OR MINOR DETAILS NOT SHOWN BUT NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SHOWN ON THE DRAWINGS, SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
- DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS, WHERE ACOUSTICALLY LINED DUCT IS SPECIFIED. DUCT DIMENSIONS SHALL BE INCREASED TO ACCOMMODATE LINING.
- ALL LOW PRESSURE TERMINAL BRANCH DUCTWORK (SUPPLY AND RETURN) SHALL BE PROVIDED WITH VOLUME CONTROL DAMPERS. ALL BRANCH DUCT VOLUME DAMPERS SERVING DIFFUSERS IN GYPSUM BOARD CEILINGS (OTHERWISE INACCESSIBLE) SHALL BE REMOTELY (CORD OR CABLE) OPERABLE THROUGH THE FACE OF THE DIFFUSER.
- THERMOSTAT LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS, FINISHED PAINT COLOR TO BE SELECTED BY THE ARCHITECT. 48" ABOVE FINISHED FLOOR.
- WHERE PIPING CONNECTIONS FOR EQUIPMENT SUCH AS PUMPS, AC UNITS, COIL, ECT. DIFFER FROM THE LINE SIZE PIPING. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO FURNISH AND INSTALL THE NECESSARY REDUCER/EXPANDER FITTINGS TO ENABLE CONNECTION BETWEEN THE PIPING SYSTEM AND THE EQUIPMENT.
- PROVIDE ONE THERMOSTAT FOR EACH FAN COIL UNIT, ATTIC VENT AIR FAN UNIT, VAV, FPB, CABINET UNIT HEATER AND ELECTRIC BASEBOARD RADIATION. THERMOSTAT LOCATIONS SHALL BE AS SHOWN ON PLANS AND/OR WHERE DIRECTED AND APPROVED BY THE ARCHITECTS AND ENGINEERS.
- BORDER TYPES AND METHOD OF ATTACHMENT FOR ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE COORDINATED WITH THE ARCHITECTURAL CEILING DETAILS AND SPECIFICATIONS.
- REFER TO SPECIFICATIONS FOR ACOUSTIC LINING REQUIREMENTS NOT SHOWN ON THE DRAWINGS.
- ALL PIPING SHALL BE INSTALLED TIGHT TO THE BOTTOM OF STEEL AT ALL TIMES UNLESS OTHERWISE INDICATED OR REQUIRED BY FIELD CONDITIONS.
- ALL PIPING OF DISSIMILAR MATERIALS SHALL HAVE DIELECTRIC FITTINGS.
- ALL HVAC EQUIPMENT THAT CONTAINS A COILING COIL OR FUEL FIRED APPLIANCE WILL BE PROVIDED WITH A SECONDARY DRAIN PAN AND A MOISTURE SENSOR THAT WILL AUTOMATICALLY SHUT THE UNIT DOWN WHEN MOISTURE IS DETECTED.

**MECHANICAL PLAN NOTES**

- PROVIDE NEW CEILING CASSETTE FAN COIL FC-1. PROVIDE WITH MANUFACTURER SIMPLE WALL MOUNTED THERMOSTAT. ASSOCIATED CONDENSER CU-1 LOCATED OUTSIDE AT GRADE. SIZE AND INSTALL REFRIGERANT PIPING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- PROVIDE NEW CONDENSER CU-1 TO SERVE FAN COIL FC-1. MOUNT UNIT ON 24" STAND FOR WINTER OPERATION. SIZE AND INSTALL REFRIGERANT PIPING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- PROPOSED REFRIGERANT PIPE ROUTING SHOWN. ROUTE PIPING UP ALONG COLUMN TO AVOID ROUTING PIPING ACROSS WALKING PATH.
- ROUTE 1-1/4" CONDENSATE DRAIN (CD) FROM CEILING MOUNTED FAN COIL UNIT TO EXISTING JAN CLOSET AND DISCHARGE TO EXISTING MOP SINK INDIRECTLY. COORDINATE EXACT ROUTING IN FIELD.



**1 MECHANICAL FLOOR PLAN**  
 SCALE: 1/4" = 1'-0"

**CONDENSING UNIT SCHEDULE**

UNIT TAG	SERVICE LOCATION	QTY.	TOTAL COOLING	HEATING	OPERATING TEMP RANGE		#FANS #COMP	REFRIG	SEER	WEIGHT	ELECTRICAL DATA			MANUFACTURER MODEL	REMARKS
					COOLING	HEATING					MCA	VOLTS	PHASE		
CU-1	FC-1 GRADE	1	30 MBH	32 MBH	0°F - 115°F	-13°F - 70°F	2 1	R-410A	18.1	261 LBS	24.0	208	1	MITSUBISHI PUZ-HA30NKA	NOTES 1-3

NOTES:

- PROVIDE WITH FACTORY WIRED NEMA 3R DISCONNECT SWITCH.
- SIZE AND INSTALL REFRIGERANT PIPING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- MOUNT UNIT ON 24" STAND AT GRADE.

**FAN COIL UNITS**

UNIT TAG	SERVICE LOCATION	NOM TONS	TOTAL COOLING	HEATING	CFM	OA	SP	REFRIG	ELECTRICAL DATA			MANUFACTURER MODEL	QTY	REMARKS
									MCA	VOLTS	PHASE			
FC-1	CEILING OFFICE	2.5	30 MBH	32 MBH	880	0	-	R-410A	POWERED BY OUTDOOR UNIT		MITSUBISHI PLA-A30EA7	1	NOTE 1	

NOTES:

- PROVIDE MANUFACTURER SIMPLE WALL MOUNTED THERMOSTAT.

**DIFFUSERS, REGISTERS, GRILLES**

UNIT TAG	SERVICE	MATERIAL FINISH	MANUFACTURER MODEL	REMARKS	UNIT TAG	SERVICE	MATERIAL FINISH	MANUFACTURER MODEL	REMARKS

NOTES:

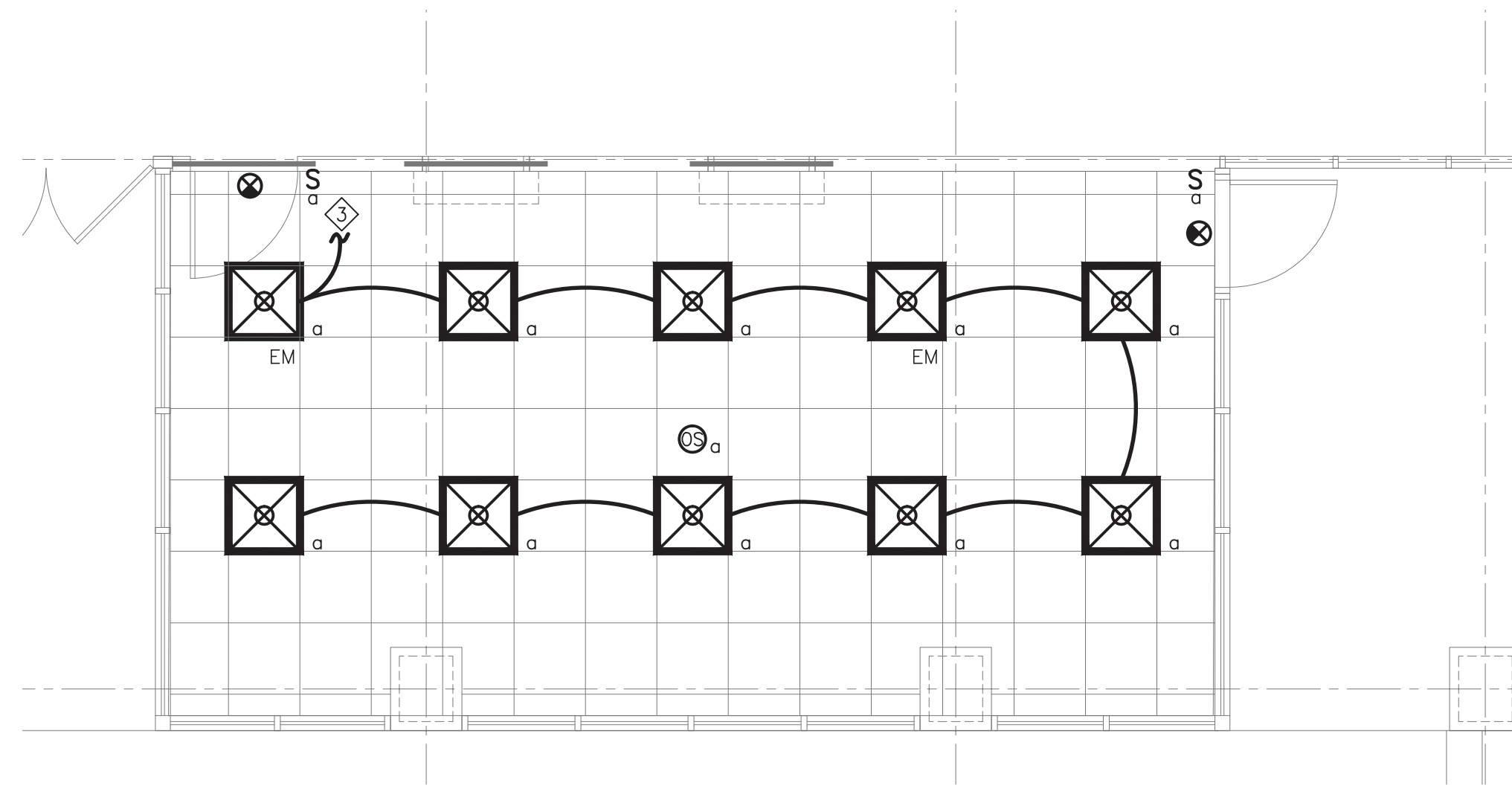
- PROVIDE SIZE INDICATED IN DRAWINGS.

**MECHANICAL DRAWING INDEX**

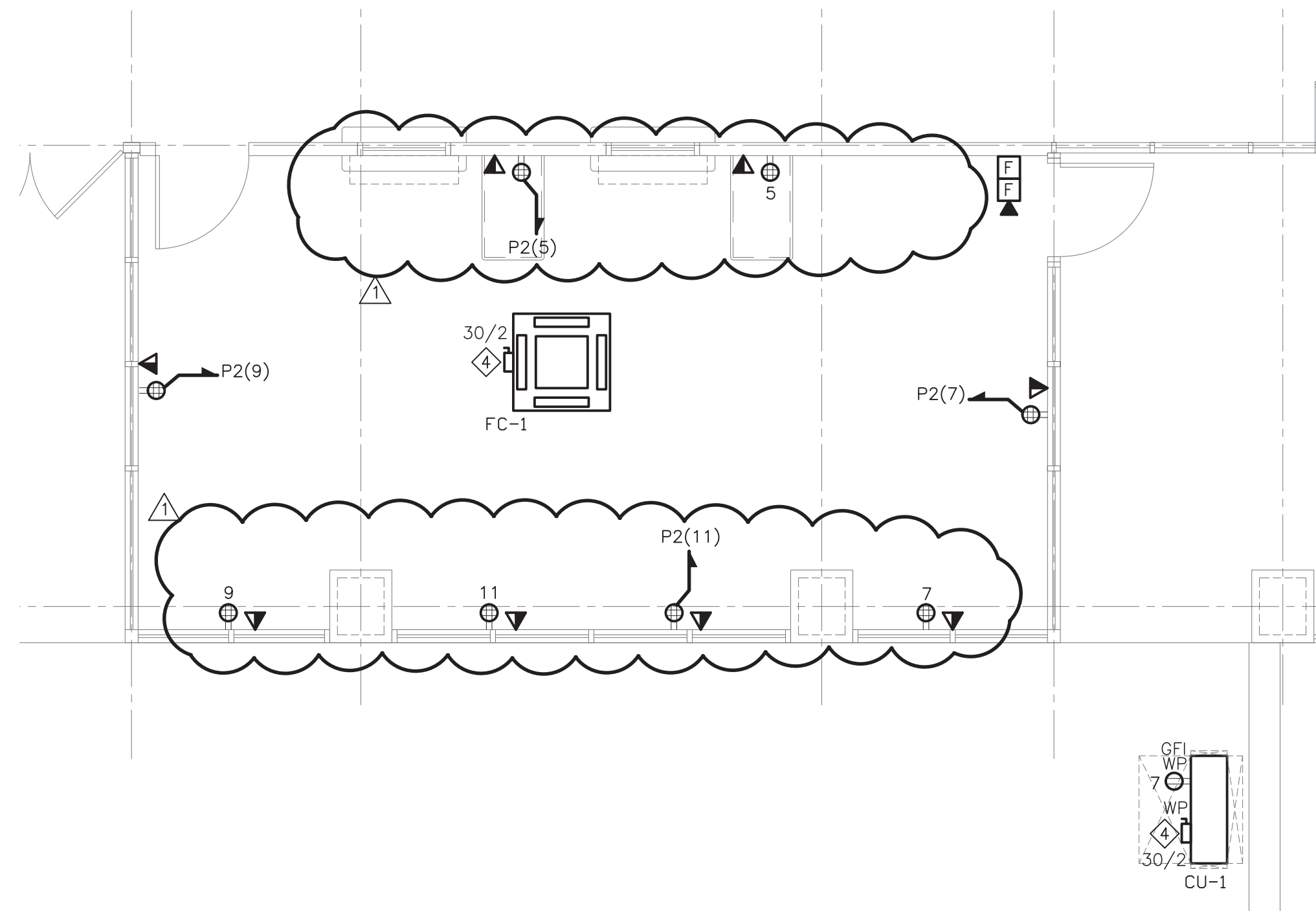
DRAWING NO.	DRAWING TITLE
M.001	MECHANICAL NOTES, LEGEND, AND FLOOR PLAN
M.100	MECHANICAL SPECIFICATIONS



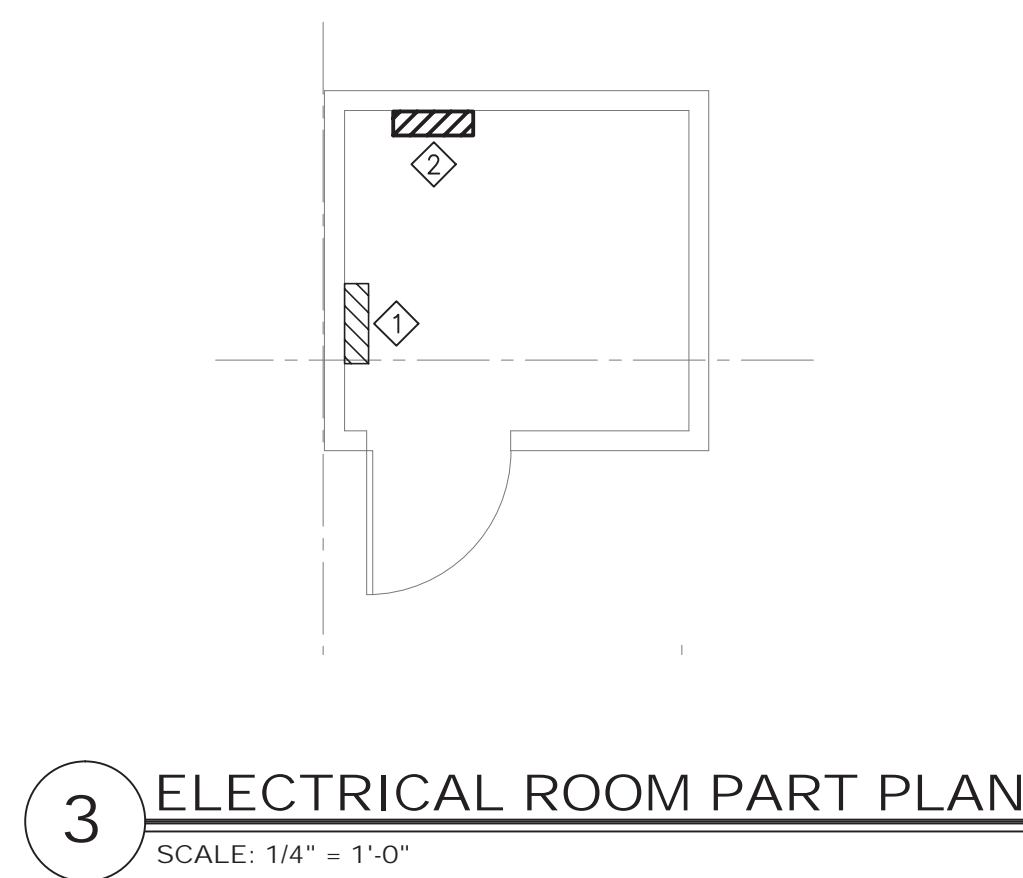




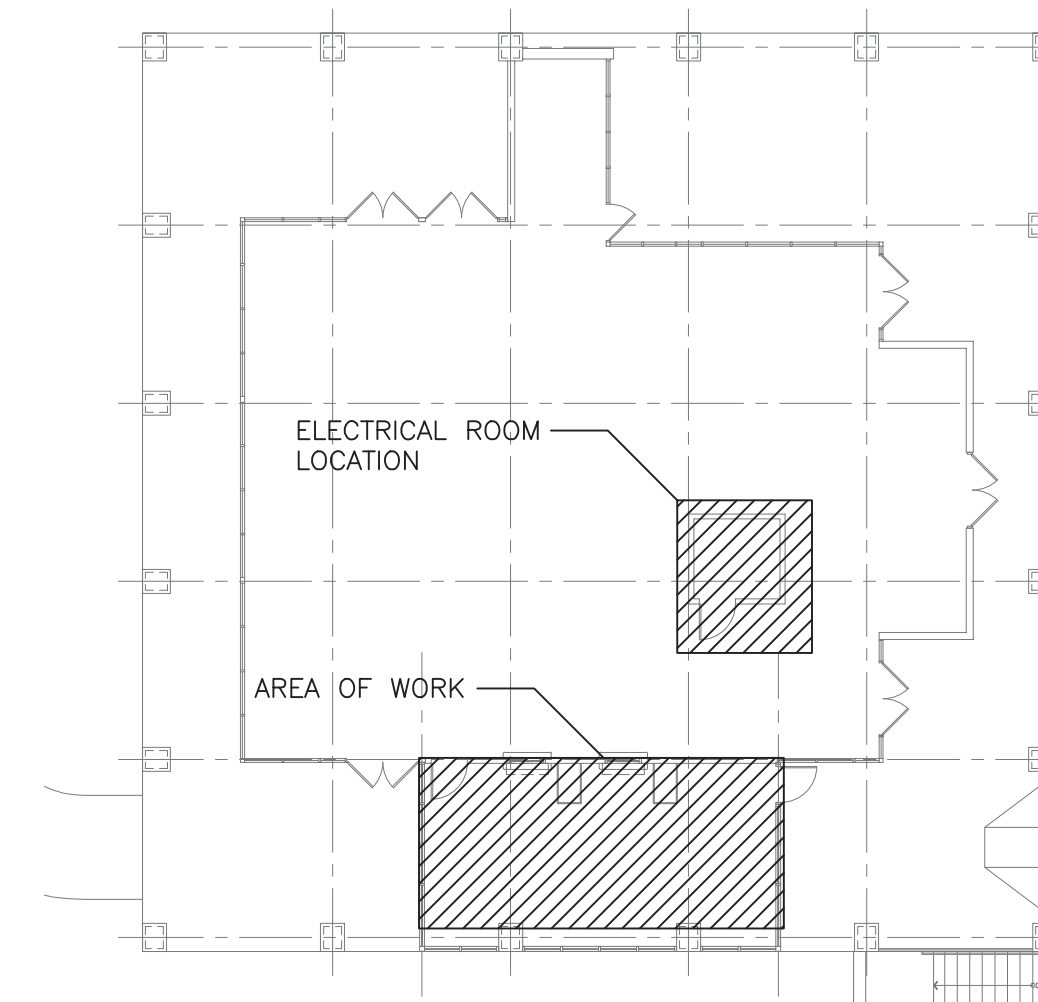
**1 ELECTRICAL LIGHTING PLAN**  
SCALE: 1/4" = 1'-0"



**2 ELECTRICAL POWER PLAN**  
SCALE: 1/4" = 1'-0"



**3 ELECTRICAL ROOM PART PLAN**  
SCALE: 1/4" = 1'-0"



**4 KEY PLAN**  
N.T.S.

**ELECTRICAL NOTES**

- CONTRACTOR SHALL REFER TO DRAWING E001 FOR DEMOLITION WORK AND NOTES. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH ARCHITECTURAL DRAWINGS.
- CIRCUIT NUMBERS SHOWN ARE FOR REFERENCE ONLY.
- CONTRACTOR SHALL CIRCUIT (2)#12+#12 GRD. IN 3/4"C. TO PANEL AND CIRCUIT INDICATED, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL REUSE EXISTING 20A, 1 POLE CIRCUIT BREAKERS FREED BY DEMOLITION IN EXISTING PANELS. PROVIDE NEW CIRCUIT BREAKERS AS REQUIRED. NEW CIRCUIT BREAKERS TO BE BOLT-ON TYPE MATCHING EXISTING TYPE & KAIC RATING.
- ELECTRICAL CONTRACTOR SHALL MAINTAIN CONTINUITY OF ALL BRANCH CIRCUITING TO ELECTRICAL DEVICES TO REMAIN. ELECTRICAL CONTRACTOR SHALL EXTEND AND RECONNECT ANY BRANCH CIRCUITING THAT BECOME DISCONNECTED DUE TO DEMOLITION.
- ALL LIGHTING FIXTURES OUTSIDE THE AREA OF WORK SHALL REMAIN AS IS, MAINTAIN CIRCUITS CONTINUITY AND FUNCTIONALITY.
- PROVIDE ADDITIONAL UNSWITCHED BATTERY PACK POWER SENSING LEG(S) FOR ALL SWITCHED FIXTURES CONTAINING STANDBY EMERGENCY BATTERY BALLAST (EM).
- ALL NEW WALL MOUNTED EMERGENCY LIGHTING UNITS, EXIT SIGNS AND COMBINATION EXIT/EM FIXTURES, SHALL BE CONNECTED TO THE "HOT" UNSWITCHED SIDE OF THE LIGHTING CIRCUIT IN THE AREA THE FIXTURE IS COVERING.
- CONTRACTOR SHALL COORDINATE EXACT LOCATION AND FREQUENCY OF ALL CEILING MOUNTED AND WALL MOUNTED VACANCY / OCCUPANCY SENSORS WITH MANUFACTURER PRIOR TO INSTALLATION. LOCATION OF SENSORS ARE DIAGRAMMATIC. CONTRACTOR SHALL LOCATE AND AIM SENSOR IN LOCATION REQUIRED FOR COMPLETE AND PROPERLY FUNCTIONING COVERAGE WITHIN RANGE OF SENSOR. PROVIDE ALL POWER RACKS, WIRE CONTROL HARDWARE AND EQUIPMENT TO PROVIDE OCCUPANCY SENSOR LIGHTING CONTROL SYSTEM. TYPICAL FOR ALL SENSORS INDICATED.
- CEILING MOUNTED OR WALL MOUNTED VACANCY / OCCUPANCY SENSORS SHALL CONTROL LIGHTING IN THE ENTIRE ROOM, UNLESS OTHERWISE NOTED. LIGHTING CONTROLS IN COMMON AREAS AND COMMON CORRIDORS SHALL BE OCCUPANCY SENSORS. LIGHTING CONTROLS IN INDIVIDUAL ROOMS AND OFFICES SHALL BE VACANCY SENSORS.
- ALL ELECTRICAL DEVICES SHALL BE MOUNTED 18" AFF, U.O.N.
- CONTRACTOR SHALL RUN 1" EMPTY CONDUIT TO NEAREST ACCESSIBLE HUNG CEILING WITH GROMMETED END FITTING FOR TELEPHONE/DATA DEVICE LOCATION. PROVIDE DRAG LINES FOR EMPTY CONDUIT.
- CONTRACTOR TO REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR LOCATION AND EXACT REQUIREMENTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT. CONTRACTOR TO COORDINATE ALL WORK WITH MECHANICAL AND PLUMBING CONTRACTORS AND WITH EQUIPMENT SPECIFICATIONS.

**ELECTRICAL KEYNOTES**

- ◊ EXISTING PANEL 'P1' 225A, 208V, 3ø, 4W., 42-POLE TO REMAIN.
- ◊ NEW PANEL 'P2' 100A, 208V, 3ø, 4W., 42-POLE.
- ◊ CONTRACTOR SHALL CONNECT NEW LIGHTING AND SWITCHING TO THE EXISTING LIGHTING CIRCUIT IN THIS AREA.
- ◊ CONTRACTOR SHALL PROVIDE POWER TO NEW 'FC-1/CU-1' FROM CIRCUIT P2(1,3) BY (3)#10+#10 GRD. IN 3/4"C. PROVIDE A SEPARATE 3/4"C. BETWEEN FAN COIL UNIT 'FC-1' AND CONDENSING UNIT 'CU-1' FOR CONTROL WIRING. REFER TO DRAWING E200 FOR "SPLIT SYSTEM TYPE HVAC UNIT DETAIL". COORDINATE ALL WORK AND REQUIREMENTS WITH MANUFACTURER'S SPECIFICATIONS.

**FIRE ALARM NOTES**

- PROVIDE NEW FIRE ALARM DEVICES AND WIRING AS INDICATED ON FLOOR PLANS AND RISER. ALL FIRE ALARM WIRING SHALL BE #14 TWISTED FOR STROBES PANEL #16 TWISTED/SHEILED FOR SPEAKERS. (PLENUM RATED.)
- CONTRACTOR SHALL EXTEND FIRE ALARM WIRING AND CONDUIT TO NEW FIRE ALARM DEVICES. ALL NEW FIRE ALARM DEVICES SHALL BE ADA COMPLIANT. ALL FIRE ALARM DEVICES IN THE AREA OF WORK SHALL BE SYNCHRONIZED. WHERE EXISTING FIRE ALARM DEVICES DO NOT HAVE SYNCHRONIZING ABILITY THE FIRE ALARM DEVICE SHALL BE REPLACED WITH NEW.
- THE NEW FIRE ALARM SYSTEMS SHALL BE AN EXTENSION OF THE EXISTING BASE BUILDING FIRE ALARM SYSTEM. ALL NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH THE BASE BUILDING FIRE ALARM SYSTEM. COORDINATE ALL WORK WITH THE BASE BUILDING FIRE ALARM VENDOR. ALL FIRE ALARM WIRING SHALL BE CONFIRMED WITH FIRE ALARM VENDOR PRIOR TO INSTALLATION.
- CONTRACTOR IS RESPONSIBLE FOR PROGRAMING/MODIFYING, UPGRADING, CONTROL MODULES, ETC. AS REQUIRED TO PROVIDE A COMPLETE AND CODE COMPLIANT SYSTEM. ELECTRICAL CONTRACTOR SHALL HIRE BUILDING FIRE ALARM VENDOR TO DO FINAL FIRE ALARM CONNECTIONS. CONTRACTOR RESPONSIBLE TO INSTALL END OF LINE RESISTOR FOR NEW DEVICES. PROVIDE CONTROL PANEL PARTS AS REQUIRED.
- CONTRACTOR IS RESPONSIBLE FOR ALL FIRE ALARM PERMIT AND INSPECTION COST.
- CONTRACTOR TO CONFIRM THAT EXISTING FIRE ALARM PANEL IS ADEQUATE TO HANDLE NEW FIRE ALARM STROBES. IF INADEQUATE, CONTRACTOR SHALL PROVIDE AND INSTALL A NEW STROBE INTERFACE PANEL WITH (2) STROBE CIRCUITS TO ACCOMMODATE NEW FIRE ALARM STROBES.
- BUILDING FIRE ALARM SYSTEM TO REMAIN ACTIVE DURING CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL NOTIFY BUILDING OWNER IF CONSTRUCTION FLOORS ARE TAKEN OFF SYSTEM. ELECTRICAL CONTRACTOR TO PAY ANY COST ASSOCIATED WITH ANY FIRE WATCH REQUIRED BY LOCAL OFFICIALS DURING THE TIME THAT SYSTEM IS OFF LINE.

**REVISIONS**

REV	DESCRIPTION	DATE
A	ISSUED FOR BID	12/2/2022

**CONSULTANTS**

**LONG CONSULTING**  
67 Federal Rd., Ste. 201  
Branford, CT 06404  
www.longconsulting.com  
TEL: (830) 663-9903

Seal of the State of Connecticut  
Not valid unless accompanied by Seal in office hereof.

**Pustola & Associates CONSULTING ENGINEERS, LLC**  
Design and Construction Services  
185 Meadow Street  
Naugatuck, Connecticut 06770  
(203) 729-6675  
Fax (203) 720-2816  
www.pustola.com

**PROPOSED TOWN HALL ADDITION**  
229 CHURCH ST.  
NAUGATUCK, CONNECTICUT

**BOROUGH OF NAUGATUCK**  
229 CHURCH ST.  
NAUGATUCK, CONNECTICUT 06770

**ELECTRICAL PLAN**

DATE: 09/27/2022  
SCALE: AS NOTED  
PROJECT NO.: 22208.00  
CHECKED BY: TL



ELECTRICAL SPECIFICATIONS

PART 1- GENERAL

1. GENERAL REQUIREMENTS:

- A. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENT A201, LATEST EDITION, AND THESE SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.
B. ALL APPLICABLE CODES, LAWS, AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIAL WHICH VIOLATES ANY OF THE ABOVE LAWS AND REGULATIONS.
C. ITEMS AND SERVICES NOT SHOWN ON DRAWINGS BUT MENTIONED IN SPECIFICATIONS, OR VISE VERSA, OR ITEMS AND SERVICES NECESSARY TO RENDER THE WORK COMPLETE AND READY FOR OPERATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST.
D. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE EXISTING BASE BUILDING CONSTRUCTION STANDARDS.
E. PRIOR TO SUBMISSION OF BID THE CONTRACTOR SHALL VISIT THE JOB SITE AND ASCERTAIN THE ACTUAL FIELD CONDITIONS AS THEY RELATE TO THE WORK AS INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN.
F. SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTIONS OF THE EXISTING BUILDING, EQUIPMENT, ETC., WHICH AFFECT THIS WORK, AND THE ACCESS TO SUCH SPACES, HAS BEEN MADE AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK.

- G. INVESTIGATE EACH SPACE THOROUGHLY TO DETERMINE WHICH EQUIPMENT MUST BE MOVED, WHERE NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM THE MANUFACTURER IN SECTIONS IN SIZES SUITABLE FOR MOVING THROUGH AVAILABLE RESTRICTIVE SPACES.
H. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS.
I. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR.
J. REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK MAY BE NECESSARY FOR THE PERFORMANCE OF THE GENERAL WORK.

- K. CONNECTIONS TO EXISTING WORK: INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES.
L. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND OTHER ORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW WORK.
M. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK.

- N. PROVIDE ALL NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THE BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF CONDUIT AND EQUIPMENT.
O. ALL EXISTING MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT AND APPARATUS REQUESTED BY THE BUILDING REPRESENTATIVE, ARCHITECT OR AS NOTED TO BE RELOCATED ON THE DRAWINGS.
P. THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS.

- Q. UNLESS OTHERWISE SPECIFICALLY NOTED OR SPECIFIED, INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING.
R. ALL MATERIAL AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
S. INSURANCE: IN ACCORDANCE WITH BUILDING REQUIREMENTS AND SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.

- T. THE FINAL ACCEPTANCE SHALL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, TESTED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVAL.
U. FINAL LOCATIONS AND MOUNTING ORIENTATIONS OF ALL SWITCHES, RECEPTACLES AND LIGHT FIXTURES SHALL BE VERIFIED WITH ARCHITECT.
V. ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.

2. SCOPE OF WORK:

- A. SCOPE OF WORK SHALL CONSIST OF PROVIDING LABOR, MATERIALS, EQUIPMENT, SERVICES AND FEES NECESSARY FOR COMPLETE AND SAFE INSTALLATION IN CONFORMITY WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL OTHER APPLICABLE INDUSTRY, NATIONAL AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION, AS INDICATED ON DRAWINGS AND HEREIN SPECIFIED.
B. THE SCOPE OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
1) DISCONNECTION AND REMOVAL OF ELECTRICAL EQUIPMENT AS REQUIRED FOR NEW INSTALLATION, INCLUDING ALL CONDUCTORS AND CONDUIT BACK TO THEIR SOURCE.
2) PROVIDING OF LIGHT FIXTURES AND LAMPS INCLUDING EXIT AND EMERGENCY LIGHTING AND ALL ASSOCIATED COMPONENTS AND BRANCH CIRCUITING.
3) PROVIDING FOR NEW RACEWAYS AND CONDUCTORS FOR LIGHTING AND POWER.
4) CUTTING, CHANNELING, AND CHASING REQUIRED TO ACCOMMODATE THE ELECTRICAL INSTALLATION AND ROUGH PATCHING.
5) ADDITIONS AND MODIFICATIONS TO EXISTING POWER DISTRIBUTION EQUIPMENT AND RELATED FEEDERS.
6) PROVIDING OF HVAC POWER AND WIRING AND FINAL CONNECTIONS TO HVAC EQUIPMENT.
7) PROVIDING OF ELECTRICAL CONDUIT, JUNCTION BOXES, PULL BOXES, ETC., REQUIRED FOR ALL ELECTRICAL AND MECHANICAL EQUIPMENT.

- 8) GROUNDING OF ALL EQUIPMENT AS REQUIRED BY THE NATIONAL ELECTRICAL CODE (NEC) AND AS SHOWN ON THE DRAWINGS.
9) MAINTAIN CONTINUITY OF EXISTING CIRCUITING TO ADJACENT AREAS NOT AFFECTED BY THE NEW WORK.
10) PROVIDING TELEPHONE/DATA AND SIGNAL EMPTY CONDUIT, JUNCTION BOXES, PULLBOXES, SLEEVES, AND FISHWIRES.
11) PROVIDING ALL REQUIRED ADDITIONS AND MODIFICATIONS TO THE NEW/EXISTING BUILDING FIRE ALARM SYSTEM.
12) PROVIDING RECEPTACLES, LIGHT SWITCHES, DISCONNECT SWITCHES, FUSES, DIMMERS, OUTLET BOXES, CONTACTORS AND OTHER WIRING DEVICES INCLUDING RELATED BRANCH CIRCUIT WIRING.
13) PROVIDING TEMPORARY LIGHT AND POWER DURING CONSTRUCTION.

- C. ALL DRAWINGS, PLANS, DETAILS, SPECIFICATIONS AND SPECIFICATION ADDENDA ARE MADE PART OF THIS CONTRACT AND SHALL APPLY TO ALL WORK UNDER THE CONTRACT UNLESS OTHERWISE AMENDED, MODIFIED, SUPPLEMENTED OR SPECIFIED HEREIN.

- D. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OR ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES BY OWNER INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER DATE IS EARLIER.
E. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH ALL DEPARTMENTS HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFORE.

- F. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH ALL DEPARTMENTS HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFORE.
G. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH ALL DEPARTMENTS HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFORE.

3. SHOP DRAWINGS:

- A. PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT OF EQUIPMENT, CONTRACTOR SHALL PROVIDE COMPLETE SETS OF COORDINATED SHOP DRAWINGS OF ALL NEW AND EXISTING EQUIPMENT, INDICATING CAPACITY, DIMENSIONS AND SEQUENCE OF OPERATION FOR WRITTEN APPROVAL BY THE ARCHITECT AND ENGINEER.
B. INDICATE ON EACH SHOP DRAWINGS SUBMITTED:

- 1) PROJECT NAME AND LOCATION
2) NAME OF ARCHITECT AND ENGINEER
3) ITEM IDENTIFICATION
4) APPROVAL STAMP OF PRIME CONTRACTOR
C. SUBMISSIONS:

- 1) SUBMISSIONS 11 IN. X 17 IN. OR SMALLER: IF THE SUBMISSION IS A CATALOG CUT, THEN THE CONTRACTOR SHALL SUBMIT ONE ORIGINAL AND TWO COPIES.
2) SUBMISSIONS LARGER THAN 11 IN. X 17 IN.: SUBMIT TWO PRINTS TO THE ARCHITECT.
3) SUBMISSIONS MAY BE SUBMITTED ELECTRONICALLY IN PDF FORMAT.

- D. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING ITEMS AND ASSOCIATED COMPONENTS:
1) PANELBOARDS (INCLUDING DIMENSIONS, SCHEDULES, AND CATALOG CUTS).
2) CIRCUIT BREAKERS
3) FIRE ALARM DEVICES
4) LIGHTING FIXTURES AND LAMPS
5) DISCONNECT SWITCHES AND FUSES
6) WALL SWITCHES
7) WIRING DEVICES

4. AS-BUILT DRAWINGS AND EQUIPMENT OPERATIONAL INSTRUCTIONS:

- A. UPON COMPLETION AND ACCEPTANCE OF WORK, CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.
B. THESE INSTRUCTIONS SHALL BE TYPED ON 8-1/2 IN. X 11 IN. PAPER AND BOUND IN THREE RING BINDERS WITH CLEAR ACETATE COVERS.
C. THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE PROJECT, ARCHITECT AND ENGINEER.
D. REPRODUCIBLE "AS-BUILT" DRAWINGS SHALL BE PROVIDED INDICATING THE AS INSTALLED CONDITIONS OF THE WORK.
E. THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE PROJECT, ARCHITECT AND ENGINEER.

5. GENERAL PROVISIONS FOR ELECTRICAL WORK:

- A. SPECIFICATIONS ARE OF SIMPLIFIED FORM AND INCLUDE INCOMPLETE SENTENCES. WORDS OR PHRASES SUCH AS "THE CONTRACTOR SHALL," "SHALL BE," "FURNISH," "PROVIDE," "A," "THE," AND "ALL" HAVE BEEN OMITTED FOR BREVITY.
B. DEFINITIONS:

- 1) "ELECTRICAL CONTRACTOR", "THE CONTRACTOR": THE PARTY OR PARTIES THAT HAVE BEEN DULY AWARDED THE CONTRACT FOR AND ARE THEREBY MADE RESPONSIBLE FOR THE ELECTRICAL WORK AS DESCRIBED HEREIN.
2) "ARCHITECT", "ENGINEER", "OWNERS REPRESENTATIVE": THE PARTY OR PARTIES RESPONSIBLE FOR INTERPRETING, ACCEPTING, AND OTHERWISE RULING ON THE PERFORMANCE UNDER THIS CONTRACT.
3) "PROVIDE": TO SUPPLY, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.
4) "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.
5) "FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE AND DELIVER COMPLETE WITH RELATED ACCESSORIES.
6) "WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.
7) "WIRING": RACEWAY, FITTINGS, WIRE, BOXES AND RELATED ITEMS.
8) "CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES, OR IN ENCLOSURES.
9) "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.
10) "SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.

- C. TEMPORARY LIGHT AND POWER: PROVIDE TEMPORARY LIGHT AND POWER SYSTEMS AT EARLIEST POSSIBLE DATE WITHIN THE CONSTRUCTION AREAS FOR THE REQUIREMENTS OF ALL TRADES AS HEREIN DESCRIBED.
D. QUALITY ASSURANCE:

- 1) QUALITY AND GAUGE OF MATERIALS: NEW, BEST OF THEIR RESPECTIVE KINDS, FREE FROM DEFECTS AND LISTED BY UNDERWRITERS LABORATORIES, INC., OR OTHER NATIONALLY APPROVED TESTING AGENCY AND BEARING THEIR LABEL.
2) GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED AS DEFINED IN PART 1 PARAGRAPH 2.D.
3) HEIGHTS OF OUTLETS:

- a) FROM FINISHED FLOOR TO CENTER LINE OF OUTLETS FOR:
RECEPTACLES AND TELEPHONES: 1 FT.-6 IN. (U.O.N.)
WALL SWITCHES: 4 FT.-0 IN.
WALL FIXTURES: 7 FT.-0 IN.
MOTOR CONTROLS: 5 FT.-0 IN.
FIRE ALARM STROBE LIGHTS: 6 FT.-8 IN. OR 6 IN. BELOW CEILING (WHICHEVER IS LOWER)
GONGS AND HORNS: 7 FT.-6 IN.
FIRE ALARM PULL STATIONS: 4 FT.-0 IN.
b) EXCEPTIONS: AT JUNCTION OF DIFFERENT WALL FINISH MATERIALS, ON MOLDING OR BREAK IN WALL SURFACE, IN VIOLATION OF CODE, OR AS NOTED OR DIRECTED.

- 4) FROM FINISHED FLOOR TO CENTER LINE OF OUTLETS FOR:
RECEPTACLES AND TELEPHONES: 1 FT.-6 IN. (U.O.N.)
WALL SWITCHES: 4 FT.-0 IN.
WALL FIXTURES: 7 FT.-0 IN.
MOTOR CONTROLS: 5 FT.-0 IN.
FIRE ALARM STROBE LIGHTS: 6 FT.-8 IN. OR 6 IN. BELOW CEILING (WHICHEVER IS LOWER)
GONGS AND HORNS: 7 FT.-6 IN.
FIRE ALARM PULL STATIONS: 4 FT.-0 IN.
b) EXCEPTIONS: AT JUNCTION OF DIFFERENT WALL FINISH MATERIALS, ON MOLDING OR BREAK IN WALL SURFACE, IN VIOLATION OF CODE, OR AS NOTED OR DIRECTED.

PART 2- PRODUCTS/APPLICATION

1. LOW-VOLTAGE DISTRIBUTION EQUIPMENT:

- A. PROVIDE COMPLETE EQUIPMENT INCLUDING: SWITCHES, FUSES, CIRCUIT BREAKERS, PANELS AND TRANSFORMERS.
B. ALL EQUIPMENT SHALL CONFORM TO NEMA, ANSI AND IEEE STANDARDS.

2. APPROVED MANUFACTURERS:

- A. DISCONNECT SWITCHES: SQUARE D, GE, EATON, SIEMENS
B. CIRCUIT BREAKERS: SQUARE D, GE, EATON, SIEMENS (MATCH BUILDING STANDARD)
C. RACEWAYS: NATIONAL WIRE PRODUCTS, WHEATLAND, REPUBLIC
D. WIRE/CABLE: ROME PHELPS DODGE, GENERAL CABLE, SIMPLEX, SOUTHWIRE
E. RECEPTACLES: HUBBELL, LEVITON
F. LIGHT SWITCHES: HUBBELL, LEVITON
G. OCCUPANCY SENSORS: HUBBELL, LUTRON
H. EXIT SIGNS: DUAL-LITE, ATLITE, LIGHT ALARM (MATCH BUILDING STANDARD)

3. WIRING DEVICES:

- A. PROVIDE COMPLETE MATERIAL AND ACCESSORIES AS NOTED.
B. LOCAL WALL SWITCHES SHALL BE SPECIFICATION GRADE, TOGGLE, QUIET TYPE, RATED 20 AMP, 120/277 VOLT, AC.
C. DIMMERS SHALL BE RATED AT VOLTAGE COMPATIBLE WITH FIXTURE, WATTAGE SIZE AS REQUIRED.

- D. INSERTION RECEPTACLES SHALL BE SPECIFICATION GRADE DUPLEX CONVENIENCE 125 VOLTS, 2 POLE, 3 WIRE, U GROUND SLOT.
E. DEVICE PLATES: SEE ARCHITECT FOR TYPE.
F. ALL SWITCHES AND RECEPTACLES TO BE WHITE UNLESS OTHERWISE SPECIFIED BY ARCHITECT.

- G. MOUNTING ORIENTATION OF DEVICES (HORIZONTAL OR VERTICAL) TO BE COORDINATED WITH ARCHITECT.
H. MULTIPLE DEVICES AT A COMMON LOCATION SHALL BE INSTALLED IN A COMMON MULTI-GANG BOX WITH A SINGLE COMMON FACEPLATE.
I. SINGLE, EXCEPT AS NOTED: 20 AMP STRAIGHT BLADE, SIMILAR TO HUBBELL NO. 5361, 125 VOLT, 2 POLE, 3 WIRE, GROUNDED.
J. SPECIAL USE: NONINTERCHANGEABLE TYPES AND RATINGS.

- K. GROUND FAULT INTERRUPTER (RECEPTACLES): FEED-THRU TYPE.
L. CLOCKS: SINGLE REGRESSED RECEPTACLE, 5 WIRE, SIMILAR TO HUBBELL NO. 5708.

- M. DEVICE PLATES: SEE ARCHITECT FOR TYPE.
N. ALL SWITCHES AND RECEPTACLES TO BE WHITE UNLESS OTHERWISE SPECIFIED BY ARCHITECT.
O. MOUNTING ORIENTATION OF DEVICES (HORIZONTAL OR VERTICAL) TO BE COORDINATED WITH ARCHITECT.

- P. MULTIPLE DEVICES AT A COMMON LOCATION SHALL BE INSTALLED IN A COMMON MULTI-GANG BOX WITH A SINGLE COMMON FACEPLATE.
Q. SINGLE, EXCEPT AS NOTED: 20 AMP STRAIGHT BLADE, SIMILAR TO HUBBELL NO. 5361, 125 VOLT, 2 POLE, 3 WIRE, GROUNDED.
R. SPECIAL USE: NONINTERCHANGEABLE TYPES AND RATINGS.

- S. GROUND FAULT INTERRUPTER (RECEPTACLES): FEED-THRU TYPE.
T. CLOCKS: SINGLE REGRESSED RECEPTACLE, 5 WIRE, SIMILAR TO HUBBELL NO. 5708.

- U. DEVICE PLATES: SEE ARCHITECT FOR TYPE.
V. ALL SWITCHES AND RECEPTACLES TO BE WHITE UNLESS OTHERWISE SPECIFIED BY ARCHITECT.
W. MOUNTING ORIENTATION OF DEVICES (HORIZONTAL OR VERTICAL) TO BE COORDINATED WITH ARCHITECT.

- X. MULTIPLE DEVICES AT A COMMON LOCATION SHALL BE INSTALLED IN A COMMON MULTI-GANG BOX WITH A SINGLE COMMON FACEPLATE.
Y. SINGLE, EXCEPT AS NOTED: 20 AMP STRAIGHT BLADE, SIMILAR TO HUBBELL NO. 5361, 125 VOLT, 2 POLE, 3 WIRE, GROUNDED.
Z. SPECIAL USE: NONINTERCHANGEABLE TYPES AND RATINGS.

- AA. GROUND FAULT INTERRUPTER (RECEPTACLES): FEED-THRU TYPE.
AB. CLOCKS: SINGLE REGRESSED RECEPTACLE, 5 WIRE, SIMILAR TO HUBBELL NO. 5708.

- AC. DEVICE PLATES: SEE ARCHITECT FOR TYPE.
AD. ALL SWITCHES AND RECEPTACLES TO BE WHITE UNLESS OTHERWISE SPECIFIED BY ARCHITECT.
AE. MOUNTING ORIENTATION OF DEVICES (HORIZONTAL OR VERTICAL) TO BE COORDINATED WITH ARCHITECT.

- AF. MULTIPLE DEVICES AT A COMMON LOCATION SHALL BE INSTALLED IN A COMMON MULTI-GANG BOX WITH A SINGLE COMMON FACEPLATE.
AG. SINGLE, EXCEPT AS NOTED: 20 AMP STRAIGHT BLADE, SIMILAR TO HUBBELL NO. 5361, 125 VOLT, 2 POLE, 3 WIRE, GROUNDED.
AH. SPECIAL USE: NONINTERCHANGEABLE TYPES AND RATINGS.

- AI. GROUND FAULT INTERRUPTER (RECEPTACLES): FEED-THRU TYPE.
AJ. CLOCKS: SINGLE REGRESSED RECEPTACLE, 5 WIRE, SIMILAR TO HUBBELL NO. 5708.

- H. ALL WIRES TO BE RUN IN CONDUIT. METAL CLAD (TYPE MC) MAY BE USED FOR CONCEALED BRANCH CIRCUITRY IN TENANTS SPACE ONLY WHEN APPROVED BY BUILDING MANAGER AND WHERE PERMITTED BY CODE.
I. RIGID STEEL CONDUIT SHALL BE PERMITTED FOR FEEDERS AND BRANCH CIRCUITS.
J. ELECTROMETALLIC TUBING (EMT) SHALL BE PERMITTED FOR BRANCH CIRCUITS ONLY IN DRY LOCATIONS.

- K. PERMITTED ENDS SQUARE. REAM SMOOTH. PAINT MALE THREADS OF FIELD THREADED RACEWAYS WITH GRAPHITE BASE PIPE COMPOUND.
L. CONDUIT FOR INTERIOR BRANCH CIRCUITS SHALL BE THIN WALL TUBING (EMT), SIZED PER DRAWING, 3/4" MINIMUM.
M. ELECTROMETALLIC TUBING (EMT): THIN WALL PIPE, GALVANIZED, THREADLESS.
N. RIGID METAL CONDUIT: INDUSTRY STANDARD STEEL CONDUIT (3/4" MIN., 4" MAX.)

- O. THREADED FITTINGS SHALL BE USED WITH RIGID CONDUIT.
P. FLEXIBLE STEEL CONDUIT: CONTINUOUS SINGLE STRIP, GALVANIZED, GROUNDING TYPE.
Q. FLEXIBLE STEEL CONDUIT MAY BE USED ONLY FOR:

- 1) SHORT CONNECTIONS WHERE RIGID CONDUIT IS IMPRACTICABLE.
2) FROM OUTLET BOX TO RECESSED LIGHTING FIXTURE: MINIMUM 4 FT LENGTHS, MAXIMUM 6 FT. LENGTHS.
3) FOR FINAL CONNECTION TO MOTOR TERMINAL BOX, TRANSFORMERS AND OTHER VIBRATING EQUIPMENT: WITH POLYVINYL SHEATHING AND GROUND CONDUCTOR.

- 4) FOR EXPANSION JOINT CROSSINGS.
R. EXPANSION FITTINGS: INSTALL AT RIGHT ANGLES WITH CLIP CENTERED IN EXPANSION JOINT.
S. FLEXIBLE METALLIC CONDUIT: ANGLE WEDGE TYPE WITH INSULATED THROAT.
T. BUSHINGS: METALLIC INSULATED TYPE.

- U. WIRWAYS: WIRE SHALL BE AS NOTED, MINIMUM NO. 16 GAUGE STEEL WITH GROUND CONTINUITY.
V. SURFACE METAL RACEWAY: SIZE AS NOTED.
W. RACEWAYS PASSING THROUGH FIRE-RATED CONSTRUCTION, ALL OPENINGS TO BE SEALED WITH FIRE SEALANT AS REQUIRED TO MAINTAIN THE EXISTING FIRE RATING.

- X. INSTALL ACCESSIBLE JUNCTION AND PULLBOXES CLEAR OF OTHER TRADES AND SUPPORTED FROM BUILDING STRUCTURE INDEPENDENT OF CONDUIT.
Y. PERFORM CONTINUITY TESTS OF RESISTANCE OF FEEDER CONDUITS FROM SERVICE TO POINT OF FINAL DISTRIBUTION USING ONE CONDUCTOR RETURN.
Z. PULL BOXES, PANEL BOXES, AND OUTLET BOXES:

- A. OUTLET BOXES: EXCEPT AS OTHERWISE REQUIRED BY CONSTRUCTION, DEVICES OR WIRING, BOXES SHALL BE 1-1/2 IN. DEEP, BOXES IN CEILING OR SLAB SHALL BE 3 IN. DEEP.
B. JUNCTION AND PULL BOXES: GALVANIZED STEEL SHEET WITH SCREW-ON COVERS, EXCEPT AS NOTED.

- C. ERECT WALL AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING.
D. PANEL, JUNCTION AND PULL BOXES SHALL BE LOCATED CLEAR OF OTHER TRADES.
E. PROVIDE PULL BOXES AND JUNCTION BOXES IN LONG STRAIGHT RUNS OF RACEWAY TO ASSURE THAT CABLES ARE NOT DAMAGED WHEN THEY ARE PULLED.

- F. PULLBOXES AND JUNCTION BOXES SHALL BE SIZED SO THAT THE MINIMUM BENDING RADIUS CRITERIA SPECIFIED FOR THE WIRES AND CABLE ARE MAINTAINED.
G. USE WEATHERPROOF BOXES, JUNCTION BOXES AND DEVICES FOR ALL REQUIRED WEATHERPROOF INSTALLATION.
H. OUTLET BOXES SHALL BE PROVIDED FOR ALL LOW VOLTAGE DEVICES (I.E. TELEPHONE/DATA, SECURITY, FIRE ALARM, ETC.)

- I. COORDINATE BOX SIZE AND DEPTH WITH RESPECTIVE VENDOR.
J. PROVIDE WIRE AND CABLE COMPLETE WITH ACCESSORIES.
K. CONDUCTORS SHALL BE COPPER, ASTM STANDARD SOLID (NO. 10 AND SMALLER) OR STRANDED (NO. 8 AND LARGER).

- L. CONTROL AND ALARM CABLING, EXCEPT AS NOTED, SHALL BE NO. 14 MINIMUM.
M. OTHER VOLTAGES AND PHASES: ADJUST CABLE SIZING AS REQUIRED TO MAINTAIN VOLTAGE DROP.
N. INSULATION SHALL BE RUBBER AND THERMOPLASTIC MEETING ASTM AND IPCEA STANDARDS.

- O. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
P. INSULATION SHALL BE RUBBER AND THERMOPLASTIC MEETING ASTM AND IPCEA STANDARDS.
Q. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.

- R. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
S. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
T. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.

- U. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
V. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
W. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.

- X. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
Y. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
Z. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.

- AA. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
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AC. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.

- AD. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
AE. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
AF. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.

- AG. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
AH. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
AI. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.

- AJ. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
AK. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
AL. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.

- AM. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
AN. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
AO. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.

- AP. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
AQ. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
AR. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.

- AS. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
AT. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
AU. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.

Table with 2 columns: REV, DESCRIPTION, DATE. Includes fields for ISSUED FOR BID, REVISION, and DATE.

CONSULTANTS

LONG CONSULTING logo and contact information: 67 Federal Rd., Ste. 208, Brookfield, CT 06804.

LONG CONSULTING logo and contact information: 67 Federal Rd., Ste. 208, Brookfield, CT 06804.

Pustola & Associates CONSULTING ENGINEERS, LLC logo and contact information: Design and Construction Services, Naugatuck, Connecticut 06770.

PROPOSED TOWN HALL ADDITION 229 CHURCH ST. NAUGATUCK, CONNECTICUT

BOROUGH OF NAUGATUCK 229 CHURCH ST. NAUGATUCK, CONNECTICUT 06770

ELECTRICAL SPECIFICATIONS (1 OF 2)

Table with 2 columns: DATE, SCALE, PROJECT NO., CHECKED BY. Includes dates and project numbers.

E.300





## APPENDIX 2

### Insurance Agreement

## BOROUGH OF NAUGATUCK: INSURANCE AGREEMENT

### 1. Indemnification and Insurance

\_\_\_\_\_ ('The Contractor') shall indemnify, defend and hold harmless the Borough of Naugatuck, its officials, officers, employees and designees caused in whole or in part to the fullest extent permitted by law from and against any and all claims, suits, actions, obligations, liabilities, damages, losses or injury (including the resulting death of a person), penalties, and expenses (including reasonable attorneys' fees) to the extent arising out of the performance of this Agreement or due to the Contractor's negligence or willful misconduct or omissions of the Contractor or its employees, agents, subcontractors or representatives.

Prior to the commencement of the work, and until final completion and acceptance of the work, the Contractor shall procure and maintain the following types of insurance and maintain all insurance coverage for the life of the contract, from an insurance company or companies with an A.M. Best Rating of A- (IX) or better. Such insurance will protect and indemnify the Borough of Naugatuck from all claims which may arise out of or result from the Contractor's obligations under this agreement, whether caused by the contractor or by a subcontractor or any person or entity directly or indirectly employed by the Contractor or by anyone for whose acts said Contractor may be liable.

- A. *Workers Compensation:* The Contractor shall provide workers compensation and employer's liability insurance that complies with the regulations of the State of Connecticut with limits no less than \$100,000 each accident by bodily injury; \$100,000 each accident by disease and a policy limit of \$500,000. Such policy shall contain a 'waiver of our right to recover from other endorsement'.
- B. *Commercial General Liability Insurance:* The Contractor shall provide commercial general liability insurance policy that includes products, operations and completed operations as follows: Bodily injury & property damage with an occurrence limit of \$1,000,000: Personal & advertising injury limit of \$1,000,000 per occurrence: General aggregate limit of \$2,000,000 (other than products and completed operations): Products and completed operations aggregate limit of \$2,000,000. The policy shall name the Borough of Naugatuck as an additional insured on an ongoing basis. In addition,
  - Such policy will be provided on an occurrence basis and will be primary and shall not contribute in any way to any insurance or self-insured retention carried by the additional insured.
  - Such policy shall contain a broad form contractual liability endorsement or similar wording within the policy form.
  - Such policy shall contain a waiver of subrogation in favor to the Borough of Naugatuck.
  - Such policy shall include coverage for the Contractor's sub-contractors, or any person or entity directly or indirectly employed by said Contractor or by anyone for whose acts said Contractor may be liable.
- C. *Commercial Automobile Insurance:* The Contractor shall provide commercial automobile insurance for any owned autos (symbol 1 or equivalent) in the amount of \$1,000,000 each accident covering bodily injury and property damage on a combined single limit. Such coverage shall also include hired and non- owned automobile coverage.
- D. *Umbrella Liability Insurance:* The Contractor shall provide commercial umbrella liability with limits no less than \$5,000,000 each occurrence and \$5,000,000 in the aggregate which shall be following form, without restriction or limitation, providing coverage over items (A), (B), (C), as noted above on a primary and non- contributory basis.

Prior to the issuing of any notice to proceed by the Borough of Naugatuck, the Contractor shall furnish the Borough of Naugatuck with Certificates of Insurance evidencing such insurance as set forth above. Said policies shall not be cancelled or permitted to lapse until final completion and approval of the performance of the work until ten (10) days after the Borough of Naugatuck has received written notice, by certified or registered mail, that the cancellation or change of such policy is contemplated.

The Contractor shall advise their insurers or agent of the contract provisions regarding insurance. The failure of the Contractor to notify insurers or agent of the contract provision shall not relieve the Contractor from its insurance obligations under the Agreement. Non-fulfillment of the insurance provisions shall constitute a breach of this agreement and the Borough of Naugatuck retains the right to stop work until proper evidence of insurance is provided.

This document must be signed by an owner or officer of the company.

Signed by Contractor: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name of Contractor: \_\_\_\_\_ Title \_\_\_\_\_

Address of Contractor: \_\_\_\_\_

Signed by *Borough of Naugatuck*: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name of *Borough of Naugatuck*: \_\_\_\_\_ Title: \_\_\_\_\_

## APPENDIX 3

Vendor Application & W2 Form



BOROUGH OF NAUGATUCK

229 Church Street  
Naugatuck, CT 06770

VENDOR APPLICATION FORM

VENDOR INFORMATION

<b>COMPANY / FIRM NAME</b> as shown on Federal Tax Return		<b>VENDOR ID.</b> If applicable
<b>ALTERNATE NAME</b> if applicable/(doing business as)		<b>TAX ID NUMBER</b> FEIN OR SSN
<b>VENDOR ADDRESS</b>		
<b>PAYMENT ADDRESS</b> if different from above		
<b>PO MAILING ADDRESS</b> if different from above		
<b>PHONE</b>	<b>FAX</b>	<b>WEBSITE</b>
<b>POINT OF CONTACT FOR SALES - NAME &amp; TITLE</b>		<b>POINT OF CONTACT EMAIL</b>

ORGANIZATION TYPE (Please submit completed W9)

	C Corporation	Individual/Sole Proprietor or Single Member LLC	Trust/estate
	S Corporation	Partnership	Limited Liability Company. (C=Corp, S=S Corp, P=Partnership)
	Other		

<b>VENDOR TYPE</b>			
	SERVICE	Type of Service	
	PRODUCT	Type of Product	
	BOTH		

**SERVICE VENDORS**

Where will the Service be performed:  Borough Property  Vendor's location

Is a State License required to perform work in the State of Connecticut? If Yes:  YES  NO

Type of License for Business: (Electrical, Mechanical, HVAC, etc.)

Credential Number (also provide a copy of current license)

\*\*Also provide individual license copy for employees performing work onsite(i.e. Electrical license, HVAC, etc)

NOTE: Service Vendors require a COI to be submitted to Purchasing, as well as a signed Insurance Agreement

**DEPARMENT USE ONLY**

Expected Annual Purchase \$\$ \_\_\_\_\_

Anticipated Purchase Authority \_\_\_\_\_ (reason for adding vendor)

Which line item from your GL will this Vendor fall under?

Will we be processing payments for this Vendor?  YES  NO

Documents obtained: \_\_\_\_\_ W9 \_\_\_\_\_ COI \_\_\_\_\_ Signed Insurance Agreement



By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

**Note:** If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

**Foreign person.** If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, *Withholding of Tax on Nonresident Aliens and Foreign Entities*).

**Nonresident alien who becomes a resident alien.** Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

**Example.** Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

## Backup Withholding

**What is backup withholding?** Persons making certain payments to you must under certain conditions withhold and pay to the IRS 24% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

**Payments you receive will be subject to backup withholding if:**

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the instructions for Part II for details),
3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships*, earlier.

## What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

## Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

## Penalties

**Failure to furnish TIN.** If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

**Civil penalty for false information with respect to withholding.** If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

**Criminal penalty for falsifying information.** Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

**Misuse of TINs.** If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

## Specific Instructions

### Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

**Note: ITIN applicant:** Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or “doing business as” (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity’s name as shown on the entity’s tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a “disregarded entity.” See Regulations section 301.7701-2(c)(2)(iii). Enter the owner’s name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner’s name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity’s name on line 2, “Business name/disregarded entity name.” If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

### Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

### Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

### Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

#### Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys’ fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947



The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 <sup>1</sup>	Generally, exempt payees 1 through 5 <sup>2</sup>
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

<sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

<sup>2</sup> However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

**Exemption from FATCA reporting code.** The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

**Note:** You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

## Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

## Line 6

Enter your city, state, and ZIP code.

## Part I. Taxpayer Identification Number (TIN)

**Enter your TIN in the appropriate box.** If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

**Note:** See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

**How to get a TIN.** If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at [www.SSA.gov](http://www.SSA.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/Businesses](http://www.irs.gov/Businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. Go to [www.irs.gov/Forms](http://www.irs.gov/Forms) to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to [www.irs.gov/OrderForms](http://www.irs.gov/OrderForms) to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

**Note:** Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

**Caution:** A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

## Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

**Signature requirements.** Complete the certification as indicated in items 1 through 5 below.

**1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.**

You must give your correct TIN, but you do not have to sign the certification.

**2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.**

You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

**3. Real estate transactions.**

You must sign the certification. You may cross out item 2 of the certification.

**4. Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

**What Name and Number To Give the Requester**

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account <sup>1</sup>
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
5. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee <sup>1</sup>
b. So-called trust account that is not a legal or valid trust under state law	The actual owner <sup>1</sup>
6. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor*
For this type of account:	Give name and EIN of:
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity <sup>4</sup>
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

<sup>1</sup> List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

<sup>2</sup> Circle the minor's name and furnish the minor's SSN.

<sup>3</sup> You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.

\*Note: The grantor also must provide a Form W-9 to trustee of trust.

Note: If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

**Secure Your Tax Records From Identity Theft**

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

**Protect yourself from suspicious emails or phishing schemes.**

Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to [phishing@irs.gov](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at [spam@uce.gov](mailto:spam@uce.gov) or report them at [www.ftc.gov/complaint](http://www.ftc.gov/complaint). You can contact the FTC at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see [www.IdentityTheft.gov](http://www.IdentityTheft.gov) and Pub. 5027.

Visit [www.irs.gov/IdentityTheft](http://www.irs.gov/IdentityTheft) to learn more about identity theft and how to reduce your risk.

## Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.