

PROJECT MANUAL AND SPECIFICATIONS

for the construction of:

Niles City Building
Roof Replacement
34 W. State St.
Niles, OH 44446

owner:

City of Niles
34 W. State St.
Niles, OH 44446

date of issue:

September 2, 2016

project dates:

Document Release: **September 2, 2016**

Anticipated Construction Commencement: **October 3, 2016**
Anticipated Construction Completion: **November 2, 2016**



Phillips/SekanickArchitects,inc.
architecture | planning | consulting

142 east market street, warren, ohio 44481 (p) 330-395-9518 (f) 330-395-4296 www.phillips-sekanick.com
architects@phillips-sekanick.com

Notice to Bidders, Instructions to Bidders,
Proposal, Bond, Contract Document
and Technical Specifications

For the Construction of
Niles City Building
Roof Replacement and Improvements

CITY OF NILES

Mayor.....	Thomas Scarnecchia
Service Director.....	James DePasquale
Safety Director.....	Frank Pezzano
Council President.....	Robert Marino
Council Members	
1 st Ward.....	Frank Pezzano
2 nd Ward.....	Steve Mientkiewicz
3 rd Ward.....	Linda Marchese
4 th Ward.....	Barry Steffey, Jr.
At Large.....	Michael Lastic
At Large.....	Stephen Papalas
At Large.....	Ryan McNaughton
Clerk of Council.....	Lori Kuszmaul

**NILES CITY BUILDING
ROOF REPLACEMENT AND IMPROVEMENTS**

CITY OF NILES, OHIO

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NILES CITY BUILDING ROOF REPLACEMENT AND IMPROVEMENTS
CITY OF NILES, OHIO

LEGAL NOTICE

The City of Niles, Ohio will accept sealed bids for the “Niles City Building Roof Replacement and Improvements”. Bids are to be addressed to the City of Niles, Ohio, Administration Building, 34 West State Street, Niles, Ohio 44446. Bids will be received until 11:00 A.M. on Wednesday, September 28, 2016, at which time they will be opened and read on the same day thereafter.

Plans, specifications and bidding forms can be reviewed at Niles City Engineers Office, 34 W. State Street, Niles, Ohio 44446 (330) 544-9000 Ext. 181, or purchased from Phillips | Sekanick Architects, 142 E. Market St., Warren, OH 44481 (330) 395-9518. Hardcopy contract documents and drawings are a non-refundable fee of Fifty Dollars (\$50.00) plus postage and handling, when applicable. Checks are to be made payable to the City of Niles. Electronic contract documents and drawings are available from Phillips | Sekanick Architects at no cost.

The work to be performed on this project generally consists of:

Roof Replacement and Associated Improvements

Domestic Steel use requirements as specified in Section 153.001 of the Revised Code apply to this project. Copies of Section 153.001 of the Revised Code can be obtained from any of the offices of the Department of Administrative Services.

Each bidder shall be required to complete and file with his bid the enclosed Proposal Guaranty and Performance/Payment Bond Form (Section 153.571 of the Ohio Revised Code) with a Surety Company executing the Bond, which is listed on the Treasury Department's most current list (Circular 570 as amended) and authorized to transact business in the State where the project is based.

If the bid is accepted, the successful bidder shall enter into a contract and the Proposal Guaranty and Performance/Payment Bond shall provide the conditions in said bond, and as listed below:

- (A) A Contract Performance Bond in an amount equal to 100% of the estimated cost of the work conditioned, among other things that the Contractor will perform the work upon the terms proposed, within the time prescribed, in accordance with the plans and specifications.

- (B) A Payment Bond in an amount equal to 100% of the estimated cost of the work conditioned for the payment by the Contractor and all Sub-contractors for labor performed and materials furnished in connection with the project involved.

Bids of Corporations not chartered in Ohio must be accompanied by proper certification that such corporation is authorized to do business in Ohio.

The successful bidder will be required to pay at least minimum wage rates pre-determined by the Secretary of Labor for the project work as required. The Schedule of Approved Wage Rates, as predetermined by the Secretary of Labor is incorporated in the Contract Documents.

This Contract is subject to the provisions of Executive Order 11246 of September 24, 1965, as pertains to an Affirmative Action Plan, and Governor Executive Order of January 27, 1972.

A bidder/contractor will be deemed committed to the goals of the City of Niles Plan Bid Conditions by submitting a properly signed bid. All bidders must fill in all blanks of the proposal in ink or typewritten. Entire Contract Book must be submitted intact with bid.

The successful low bidder will be required to comply with all Contract Requirements for Equal Employment Opportunities.

Each bidder must insure that all employees and applicants for employment are not discriminated against because of race, color, religion, sex, or national origin.

No bids may be withdrawn after the scheduled closing time for the receipt of bids for at least sixty (60) days.

Architect's Construction Cost Estimate: \$295,000

The City of Niles reserves the right to reject any and all bids and the City of Niles shall determine the rejection of any/or all bids is in the public interest.

BY ORDER OF THE CITY OF NILES, OHIO.

James DePasquale, Service Director

NILES CITY BUILDING ROOF REPLACEMENT AND IMPROVEMENTS
CITY OF NILES, OHIO

INSTRUCTIONS TO BIDDERS

I. GENERAL INFORMATION REGARDING THE WORK:

1. Scope of Work

The work on this project includes:

Roof Replacement and Associated Improvements

2. Special City Requirements

- a. The Contractor shall comply with the City of Niles' Affirmative Action/Equal Opportunity policy.
- b. The Contractor shall comply with State of Ohio, Department of Transportation Construction and Materials Specifications dated January 1, 2005, except as modified.

3. Permits

The Contractor shall take out all necessary permits from the City or other public authorities, and shall give all notices required by law or city ordinance. The charge or fee for any permit issued by the Owner shall be borne by the Contractor and shall be presumed to be included in the price bid.

4. Taxes

The Contractor is not responsible for any taxes and fees relative to this contract. The price bid shall be construed as tax exempt at the time of the bid opening.

5. Ohio Prevailing Wage Rates

This project is subject to the Ohio Prevailing Wage Rate statute, which shall be complied with in its entirety. The current wage rate determinations applicable to this project are included in the General Conditions.

6. Schedule/Liquidated Damages

The work is to be substantially complete within the time noted on the bid proposal from the date of the Notice to Proceed. Failure to do so shall subject the Contractor to an assessment of liquidated damages of Five Hundred Dollars (\$500.00) per calendar day. All work not required for substantial completion, including among other things, punch list and restoration, shall be completed within the time noted on the bid proposal form from the date of substantial completion. Failure to perform the work required for acceptance within the time specified above shall subject the Contractor to an assessment of liquidated damages of One Hundred Fifty Dollars (\$150.00) per calendar day.

These times can be extended with a timely request under the provisions of G.31, Delays and Extension of Time for Substantial Completion. Unless so extended, failure to comply with this project shall subject the Contractor to liquidated damages as described above.

7. Architect's Estimate

The Architect's estimate for the work is stated in the Legal Notice.

II. INSTRUCTIONS REGARDING PRE-BID ACTIVITIES

8. Obtaining Documents

The bidding for and the performance of the resulting Contract will be governed by this document in its entirety, as modified by Addenda that may be issued during the bidding period. Therefore, all interested parties should obtain copies of the Contract Documents and Drawings in accordance with the procedures noted in the Notice to Bidders.

9. Pre-Bid Meeting

A pre-bid meeting is not scheduled for this project.

10. Examination of the Contract Materials and Site

It is the responsibility of each plan holder, whether a potential bidder or a potential supplier or subcontractor, to do the following during the period prior to bid opening:

Examine the Contract Documents, Drawings and other materials provided by the Owner.

Visit and examine the site where the work is to be performed to become familiar with local conditions that may affect cost, progress, performance or furnishing of the work Arrangements to examine areas not open to the general public shall be made through the Owner.

Consider federal, state and local laws and regulations that may affect the cost, progress performance or furnishing of the work.

Study and carefully correlate observations made with the requirements of the Contract Documents and Drawings.

Notify the Owner or the Owner's representative, in writing, of any conflicts, errors, discrepancies, omissions, or matters otherwise in need of clarification, interpretation or revision.

11. Communication with Insurance Representatives

The Instructions to Bidders and the General Conditions set forth various requirements regarding the bonds and insurance that are to be provided. Potential bidders are encouraged to contact their insurance representatives early in the bidding period. Comments and questions, including proposed modifications and clarifications, should be brought to the attention of the Owner or the Owner's representative in a timely manner so that responses can be brought to the attention of all bidders in an Addendum.

12. Bidder Evaluation of Potential Equipment, and Material Suppliers and Subcontractors

The successful bidder shall be responsible for the acceptability of the equipment, materials to be incorporated into the work, as well as any and all subcontractors to be used in performing the work. Equipment and materials which do not conform with the Contract requirements and subcontractors who are rejected for cause under the provisions of Section G.41, Subletting, are to be replaced by the Contractor at no additional cost to the Owner.

Bidders should inform potential suppliers of the requirement for Ohio EPA approval prior to installation of any and all materials which will come into contact with potable water. Evidence of such approval is to accompany shop drawing submittals.

Various specifications reference "brand name" equipment. These are descriptive references to the general nature and quality of the equipment or materials required by the Specifications. Bidders may not rely on these "brand references" as a representation that the named equipment will be approved for incorporation into the work. Approval of all equipment matters, regardless whether named or proposed equal, will depend on the conformance with the technical requirements of the specifications. Therefore, bidders, are required and shall be presumed to have to determine for themselves the merits of all equipment and materials upon which the submitted bid is based.

Similarly, bidders are expected and presumed to have made the necessary evaluation of the subcontractors upon which the submitted bid is based. Such an evaluation can include, among other things, the capabilities, solvency, and performance records of potential subcontractors.

13. Planholder Comments and Addenda

As noted in the Instructions To Bidders, Section II, Subsection 10, each planholder has an obligation to give the Owner or its representative notice of observations made for which addition, modification, clarification or interpretation which benefit the planholders' understanding of the work. The response to such items will be made in Addenda distributed to all planholders. Planholders cannot rely on any oral clarification or interpretation of the Contract Documents and/or Drawings made by representatives of the Owner or the Consulting Architect.

Matters which a planholder wishes to have included in an Addenda shall be submitted to the Consulting Architect at the planholder's earliest convenience, but not less than seven days prior to the date scheduled for bid opening. Such matters should be presented in writing to Phillips | Sekanick Architects, inc. and can be faxed to 330-395-4296, or emailed to michele@phillips-sekanick.com.

Any and all Addenda will be mailed to all planholders who received documents in accordance with the procedures set forth in the Notice to Bidders. Mailing will be by certified mail, return receipt requested, or its equivalent. Upon request, Addenda can be sent by overnight mail service, provided billing is made to the planholder.

Any and all Addenda that may be issued shall become a part of these Bidding Documents and Specifications and must be attached to each proposal as provided below. Failure of any bidder to receive any Addenda does not relieve the bidder from any obligation under the bid as submitted.

III. INSTRUCTIONS REGARDING SUBMISSION OF THE BID

14. Submission of Bid

Bids shall be submitted at the time and place indicated in the Notice to Bidders, and shall be enclosed in an opaque sealed envelope, box, or other suitable container, marked with the Project title, and the name and address of the bidder. The bid submittal shall consist of the completed bid forms, and Addenda received bound in the Contract Documents and returning the entire Contract Documents volume.

If the bid is delivered to the designated location by other than personal delivery, there shall be an outer covering to the materials, with the notation "Bid Enclosed".

The party submitting a bid is solely responsible for delivery of the bid at the specified location prior to the deadline for receipt of bids.

15. Bid Form 1 - Proposal Sheet

The Proposal sheet is the only form upon which the proposed bid price can be offered. Bidder's quote sheets, letters, or other materials cannot be used in lieu of the Proposal Sheet. When descriptive literature is included with the bid submittal, they shall be considered only for informational purposes. Payment, warranty and other terms that may appear on such forms that vary from the terms of these Contract Documents shall be considered null and void.

15a. Bid Form 1-a - Bidder's Affidavit

Bidders shall complete and notarize the affidavit provided.

16. Bid Form 2 - Authority of Bid Signatory

The authority of the bid signatory must be established. Bid Form 2 provides the means by which the bidder can identify the type of business organization it is (corporation, partnership, etc.) and provides instructions as to how signature authority is commonly established.

17. Bid Form 3 - Equipment Data

Each bidder shall fill in all the blanks on the attached equipment data sheet with the names of the equipment he proposes to furnish under the various items of the work for which such information is requested.

18. Bid Form 4 - Bid Guarantee

Each proposal shall be accompanied by a bid guarantee which shall consist of one of the following:

- . Ohio Statutory Bid Guaranty and Contract Bond, substantially in the form prescribed by ORC 153.571.

NOTE: This bid form requires that the penal amount be an amount not less than the bid price. It is a bid error to write in an amount equal to 10% of the amount bid.

- . A certified check or cashier's check in an amount not less than 10% (ten percent) of the total amount bid for all items upon which the proposal is made. Such a bid guarantee check shall be made payable to the City of Niles without condition.

The amount of the bid guarantee shall be the base bid (Bid Form 1). Bidders using the Ohio Statutory Bid Guaranty and Contract Bond Form can leave the penal amount blank, if such is acceptable to the bidder and the surety. The statutory bond, per ORC 153.571, is read as having a penal amount equal to the price bid, if no amount is written.

In case a bidder to whom a contract award is made shall fail to execute and secure a contract within ten (10) days after notice of award in writing, the award shall be vacated and the bid guarantee, in an amount not to exceed ten percent (10%) of the amount bid, forfeited.

The Bid and other bonds required under this Contract shall meet the following requirements:

- . Surety issuing the bond must be licensed to do business within the State of Ohio. A current Certificate of Compliance from the Ohio Department of Insurance shall accompany the bond.
- . The surety must have an agent located within the State of Ohio and the agent shall be identified as part of the bond submittal.
- . The surety shall provide a properly executed power of attorney evidencing the authority of the surety's agent to execute the bond.
- . The surety must be listed on the current edition of U.S. Treasury Circular 570 and the penal amount of the bond shall be within the limit noted on the Circular.

19. Bid Form 5 - Bidder Information - Bid Form

The bidder shall submit the required information on the included form showing "Bidder Information", and shall supplement the information there given to a degree as may be required by the Owner after the receipt of bids. Low Bidders may be interviewed by the Owner and shall furnish such information as the Owner may deem necessary to have prior to making an award.

It is the practice of the City of Niles to request the low bidder to provide information required by the State of Ohio, under Chapter 5525 of the Ohio Revised Code, including the confidential financial statement and experience questionnaire.

20. Bid Form 6 - Insurance Affidavit

The bidder shall provide a notarized statement from an authorized representative of an insurance company(s) licensed to do business in the State of Ohio which states the following:

- (1) The representative has reviewed and understands the insurance requirements (including the cancellation/non-renewal and additional insured provisions), of Sec. G.17.
- (2) The representative certifies that, should the Contract be awarded to the contractor on whose behalf the certificate is being provided, the insurance specified will be provided.
- (3) The representative shall acknowledge that the requisite insurance certificates will be submitted within three business days following bid opening.
- (4) The names and A.M. Best Co. ratings of companies which are expected to provide the required insurance.

If any clarifications or changes regarding the insurance requirements set forth in Sec. G.17 are to be made, they will be made for the benefit of all bidders by addenda. Therefore, all bidders would be well advised to consult their insurance agent as soon as possible so that all questions and concerns that may be raised can be given due consideration.

21. Bid Form 7 - Non-Collusion Affidavit

Each bidder is required to submit with his bid an affidavit stating that neither he nor his agents, nor any other party for him, has paid or agreed to pay, directly or indirectly, any person, firm or corporation any money or valuable consideration for assistance in procuring or attempting to procure the Contract herein referred to, and further agreeing that no such money or reward will be hereafter paid. This affidavit must be on the form provided in this document.

22. Bid Form 8 - Consent to Service

(1) Foreign Corporations

Each bidder who is a foreign corporation, that is, a corporation not chartered in Ohio but licensed to do business in Ohio under the provisions of Chapter 1703 of the Ohio Revised Code, is required to submit with his bid an affidavit, attached hereto, duly executed by the President, Vice-President, or General Manager of the corporation stating in said affidavit that said foreign corporation has, in accordance with the provisions of the Revised Code of the State of Ohio, obtained a certificate authorizing it to do business in the State of Ohio. (These certificates or certified copies of them are obtainable from the Office of the Secretary of State, Columbus, Ohio).

(2) All other Bidders

All bidders, including foreign corporations, consent, as noted on the proposal form, to service of process by a court of competent jurisdiction located in Ohio for the adjudication of all disputes arising under this Contract, except in instances where arbitration or other alternative form of dispute resolution is mutually acceptable.

23. Bid Form 9 - Listing of Subcontractors

The bidder shall complete Bid Form 9 for subcontracts which are in excess of \$1,000.00.

24. Bid Form 10 - City of Niles' Affirmative Action/Equal Employment Opportunity

The Pre-Bid conditions are predicated on the Governor's Executive Order of January 27, 1972, and Final Order of November 30, 1973, and amended Governor's Executive Order 84-9 relating to Equal Employment Opportunity in the State of Ohio.

A responsive Bidder must sign the certification clause provided, adopting the goals and timetables set out in Appendix "A" of the State EEO Bid Conditions and the "specific affirmative action steps" set out in Appendix "B" as its affirmative action program for the project. The Bidder must sign the EEO certification clause prior to submittal of bid.

Noncompliance with the foregoing requirements will cause the proposal to be rejected as non-responsive with the Final Order and Governor's Executive Order.

If you require further clarification of this matter, it is requested that you contact the Equal Employment Opportunity Coordinator at (614) 466-8380.

25. Withdrawal of Bids After Bid Opening

A bidder may withdraw its bid after bid opening without creating a liability against the bid guaranty provided for any one of the following reasons:

The price bid was substantially lower than other bids due to clerical error, provide notice is given in writing to the Owner by the end of the second business day after the bids were opened and read. Withdrawal under such circumstances shall be governed by ORC 9.31.

Any other reasons permitted by law.

IV. EVALUATION AND AWARD OF BIDS

26. Opening and Evaluation of Bids:

The bids shall be opened and publicly read at the time and place specified in the Notice to Bidders.

The City will evaluate the bids and award the contracts on the basis of the lowest and best bid. The primary basis of award shall be price. However, the City will also consider all relevant aspects, including the resources, reputation, and performance record of the bidder in determining the lowest and best bid.

The City shall be the sole judge of the effect of bid irregularities upon acceptance or rejection on a bid, and reserves the right to waive any such irregularities and to require the correction of a waived irregularity. The City reserves the right to reject any or all bids.

27. Evaluation of Bids; Pre-Award Interview

One or more bidders may be required to submit information to Owner or its representative to assist their evaluation of the bid. A bidder may also be required to participate in an interview during which, among other things, the bidder would be requested to make a presentation regarding its organization, resources and its preliminary plan to perform the construction (schedule, means and methods, etc.).

28. Exception to Bid - Statement of Varying Terms

Bidders cannot take exception in their bid submittal to the terms and conditions of the work to be performed under the Contract to be awarded. Any such comments are properly made in the context of a timely comment that can be considered for inclusion in an addendum for the benefit of all bidders.

29. Notice and Award of Contract

Award of Contract will be made when the Owner notifies, in writing, the successful bidder, of its intent to execute this Contract with the bidder, pursuant to authorizing legislation.

30. Bid Tabulations:

Bid tabulations are available upon request.

In tabulating the bids, the actual sum of the "Total Price for Item" will supercede a conflicting total written as the "Unofficial Total for Bid". The pre-printed quantity times the unit price written in words will supercede a conflicting "Total Price for Item". Similarly, the unit price written in words will supercede a conflicting set of material/labor prices or unit price written in numbers. These general rules shall apply unless a different intent can unambiguously be determined from the materials submitted.

V. EXECUTION OF DOCUMENTS

31. Execution of Contract Documents

The City will provide the successful bidder with the appropriate number of Contract Documents for execution within a reasonable amount of time following award of the Contract. A bidder to whom a contract award is made will be required to execute a written contract, complete with contract bond and other required documents, within ten (10) days from the date of service of notice to that effect. If a bidder to whom a contract award is made is unable to meet this requirement, he shall forfeit his bid guarantee in an amount not to exceed ten percent (10%) of his bid.

A successful bidder who is a corporate body shall furnish, at the time of the execution of the Contract, a resolution of the Directors of the corporation; sealed with the corporate seal, authorizing the officer signing to execute the Contract upon behalf of the corporation. A copy of this evidence of signatory authority shall be attached to each copy of the Contract.

32. Contract Bond

The successful bidder, except a bidder who provided the statutory bid bond, will be required to furnish the Ohio statutory performance bond as set forth in ORC 153.57, in a sum not less than one hundred percent (100%) of the total price bid for the completed work.

The surety company providing the performance bond shall meet the requirements and provide the ancillary documents noted in the Instruction regarding the statutory bid bond.

33. Personal Property Tax Affidavit

The successful bidder shall submit to the Owner a notarized statement stating whether the bidder has or has not been charged with any delinquent personal property taxes on the general tax list of Trumbull County, Ohio at the time the bid was submitted. If the bidder has been charged with a delinquency, the statement shall state the amount of the due and unpaid delinquent taxes and any due and unpaid interest and penalties on the delinquency.

The required statement shall be made with the attached form, or its equivalent, on the bidder's letterhead, omitting either paragraph "A" or "B" as appropriate. The statement is to be signed by the authorized signatory of the bidder and the statement is to be notarized.

The statement is to be incorporated as part of the Contract, and no payment can be made under the Contract until the statement is so incorporated. This statement is required by 5719.042 of the Ohio Revised Code. The statute supersedes any conflicting aspect of this specification.

34. Insurance Certificate

An insurance certificate shall be provided evidencing, with such supplemental notes as may be necessary, that the required insurance is in full force and effect.

35. Workers Compensation Certificate

A certificate shall be provided evidencing the availability of the benefits of the workers compensation program for persons employed by the Contractor.

36. Notice to Proceed

Following execution of the Contract by both parties, the City will issue a Notice to Proceed. All time periods for performance will be determined in accordance with the Notice to Proceed, unless otherwise specified.

CITY OF NILES, OHIO

BID PROTEST POLICY AND PROCEDURE

The following policy and procedures shall apply to all protests of requests for proposals or invitations for bids solicited by the City of Niles in the conduct of all procurements:

I. Protest Contents

Protests must comply with the following requirements, and shall, at a minimum, include:

1. The name and address of the protestor,
2. The identity of the solicitation by date, number and title; and,
3. A statement of the grounds for protest and any supporting documentation. Additional materials in support of an initial protest will only be considered within the time limits specified in provision IV, below.

II. Time for Filing Protests.

Protests must comply with the following time requirements or will be dismissed:

1. Protests based upon specifications or alleged improprieties in any solicitation, which are apparent, known to the protestor or which should have been known by the protestor, prior to bid opening or the closing date for receipt of initial proposals, shall be filed not later than three (3) days prior to bid opening or the closing date for the receipt of initial proposals.
2. All protests not included in the classes identified in paragraph II.1, above, shall be filed within five (5) days after notice of an official announcement of an award on the subject procurement.

III. Time for Submitting Additional Protest Information.

Any additional information requested or required by the City of Niles from the protestor or other interested party or parties shall be submitted as expeditiously as possible, but in no case later than five (5) days, or such other time as may be directed in writing by an authorized representative of the City of Niles.

IV. Procedure.

The City of Niles will acknowledge receipt of all timely protests within five (5) days of receipt. Decisions will be rendered within thirty (30) days after receipt of the protest or any supplemental materials submitted in accordance with this Policy, unless additional time is required as reflected in a written notice from the City of Niles to all interested parties. The City of Niles, may, in its own sole discretion, determine if additional submissions or any oral hearing of interested parties shall be required. All parties shall have the right to respond to additional submissions requested by the City of Niles and to participate in any hearing which might be held in the consideration of a bid protest under this Policy.

V. Appeals from City of Niles Bid Protest Decisions.

Appeals may be made as permitted by law to appropriate authorities. The City of Niles will provide notice of available appeals in the text of all bid protest decisions.

NILES CITY BUILDING ROOF REPLACEMENT AND IMPROVEMENTS
CITY OF NILES, OHIO

PROPOSAL

_____, 2016

The undersigned, _____

after having carefully examined and investigated the site for the construction of the above entitled Improvements with all its appurtenances and incidental work and, in addition, having read and studied and understood all the plans, specifications and Contract Documents and accepting the same as sufficient to indicate and convey understanding of all the conditions and requirements under the Contract which will be executed for such work, do hereby propose to comply with all the requirements of the Contract and the intent thereof, to furnish all materials, supplies, management and supervision, labor, appliances, plant and equipment, facilities and incidentals, and all shop drawings and samples, and to perform and construct said work inclusive of all appurtenances incidental thereto, in strict compliance with all of the Contract Documents for said work within the time hereinafter stipulated for prices written in the following proposal form.

It is understood, further, that the quantities in the column headed "Approximate Quantity" are those which will be used in determining the total amount of each proposal for this improvement and for the purpose of determining the lowest bidder, but it is understood and agreed that these quantities are approximate only, and that the Contractor to whom the Contract is awarded shall not be entitled to any claim for loss of profits, or for other damages, should the quantity of work done prove to be greater or less than is herein given in said estimated quantity columns.

The undersigned hereby acknowledges receipt of and acceptance of the following Addenda:

<u>Addendum No.</u>	<u>Date</u>
_____	_____
_____	_____
_____	_____

PROPOSAL BID FORM

1. Bidder has familiarized himself/herself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance or furnishing the Work.
2. Bidder has studied carefully all reports and drawings of subsurface conditions and drawings of physical conditions which are identified in the General Conditions, and accepts the determination of the extent of the technical data contained in such reports and drawings upon which Bidder is entitled to rely.
3. Bidder has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests and studies (in addition to or to supplement those referred to in (2) above) which pertain to the subsurface or physical conditions at the site or otherwise may affect the cost, progress, performance or furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, and no additional examinations, investigations, explorations, tests, reports or similar information or data are or will be required by Bidder for such purposes.
4. Bidder has reviewed and checked all information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports or similar information or data in respect of said Underground Facilities are or will be required by Bidder in order to perform and furnish the Work at the Contract Price, within the Contract Time and in Accordance with the other terms and conditions of the Contract Documents.
5. Bidder has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.
6. Bidder has given Architect written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by Architect is acceptable to Bidder.

PROPOSAL BID FORM

7. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or a corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for himself any advantage over any other Bidder or over Owner.

8. The Bidder shall note that bids shall include and be evaluated on the base bid items of the specifications as listed below. A price must be furnished for each base bid item listed. IF A BID PRICE IS NOT FURNISHED FOR A BASE BID ITEM, THE BID SHALL BE REJECTED. Alternate manufacturers that the Bidder considers able to meet the requirements of the drawings and specifications shall be indicated in the blank spaces provided. Prices shall be for furnishing and installing the equipment, complete and ready for operation, in accordance with the plans and specifications.

Final comparison of total bids and selection of the lowest responsible base bidder will be made on the basis of lowest base bid prices. After selection of the low responsible base bidder, the OWNER shall have the option to substitute alternate named suppliers to the price listed for such suppliers in each proposal. The determination of low responsible bidder, contract award, and agreement will be based on the selected suppliers in the event that alternate suppliers are determined acceptable. After the contract is awarded, no substitutions for the selected major equipment or materials suppliers will be allowed.

The Bidder proposed to complete the work for

A () General contract for

\$ _____ \$ _____
(Written in Words) (Figures)

NILES CITY BUILDING ROOF REPLACEMENT AND IMPROVEMENTS
CITY OF NILES, OHIO

PROPOSAL BID FORM
UNIT PRICES

The undersigned Bidder proposes the amounts below be added to or deducted from the Contract Sum on performance and measurement of the individual items of Work.

If the unit price does not affect the Work of this Contract, the Bidder shall indicate "NOT APPLICABLE."

UNIT PRICES

A. Unit-Price No. 1: Metal Roof Deck

1. _____ Dollars (\$_____) per unit.

SUBMISSION OF BID SUPPLEMENT

Respectfully submitted this ____ day of _____, 2016.

Submitted By: _____ (Insert name of bidding firm or corporation).

Authorized Signature: _____ (Handwritten signature).

Signed By: _____ (Type or print name).

Title: _____ (Owner/Partner/President/Vice President).

NILES CITY BUILDING ROOF REPLACEMENT AND IMPROVEMENTS
CITY OF NILES, OHIO

PROPOSAL BID FORM
ALTERNATES

The undersigned Bidder proposes the amount below be added to or deducted from the Base Bid if particular alternates are accepted by Owner. Amounts listed below for each alternate include costs of related coordination, modification, or adjustment.

If the alternate does not affect the Contract Sum, the Bidder shall indicate "NO CHANGE."

If the alternate does not affect the Work of this Contract, the Bidder shall indicate "NOT APPLICABLE."

The Bidder shall be responsible for determining from the Contract Documents the affects of each alternate on the Contract Time and the Contract Sum.

Owner reserves the right to accept or reject any alternate, in any order, and to award or amend the Contract accordingly within 10 days of the Notice of Award unless otherwise indicated in the Contract Documents.

Acceptance or non-acceptance of any alternates by the Owner shall have no affect on the Contract Time unless the "Schedule of Alternates" Article below provides a formatted space for the adjustment of the Contract Time.

ALTERNATES

A. Alternate No. 1: PVC Roofing Membrane:

1. ADD ___ DEDUCT ___ NO CHANGE ___ NOT APPLICABLE ___.
2. _____ Dollars (\$ _____).

B. Alternate No. 2: Shop-Built Roof Hatch:

1. ADD ___ DEDUCT ___ NO CHANGE ___ NOT APPLICABLE ___.
2. _____ Dollars (\$ _____).
3. ADD ___ DEDUCT ___ calendar days to adjust the Contract Time for this alternate.

SUBMISSION OF BID SUPPLEMENT

Respectfully submitted this ___ day of _____, 2016.

Submitted By: _____ (Insert name of bidding firm or corporation).

Authorized Signature: _____ (Handwritten signature).

Signed By: _____ (Type or print name).

Title: _____ (Owner/Partner/President/Vice President).

NILES CITY BUILDING ROOF REPLACEMENT AND IMPROVEMENTS
CITY OF NILES, OHIO

PROPOSAL BID FORM

The undersigned further agrees to complete all of the work shown or specified for the NILES CITY BUILDING ROOF REPLACEMENT AND IMPROVEMENTS within the schedule noted below, subject to the liquidated damages noted below, unless extended in writing for excusable delay as provided for in the General Conditions. The Contract performance schedule is as noted below:

- . The Contract work shall be substantially complete within 30 calendar days from the effective date of the Notice-to-Proceed. Failure to do so shall subject the Contractor to an assessment of liquidated damages of \$500.00 per calendar day for each and every day of unexcused delay in the substantial completion of the Contract work.

All work under this contract requires inspection by the owner. The City will provide project inspection from 8:30 AM to 4:30 PM Monday thru Friday, at no cost to the contractor. The contractor will be responsible for inspection costs for all hours beyond those provided herein by the owner. The City shall provide a detailed invoice to the contractor for said inspection costs prior to the final payment to the contractor. The contractor may choose to pay the City or have said payments deducted from his/her final payment.

- . All work required for acceptance of the Contract work shall be performed within 30 days after the project is determined to be substantially complete. Failure to perform the work required for acceptance within the time specified above shall subject the Contractor to an assessment of One Hundred Fifty Dollars (\$150.00) per calendar day for each and every day of unexcused delay in the acceptance of the Contract work.

Unofficial Total of Bid

Contractor

By _____

BIDDER'S AFFIDAVIT

(This Affidavit is Part of the Proposal)

STATE OF _____)

SS:

COUNTY _____)

_____ being duly sworn, deposes
and says that he resides at

_____ that he is _____
TITLE

_____ who signed the above
Proposal or bid; that he was duly authorized to sign and that the bid is the true offer of the Bidder,
that the seal attached is the seal of the Bidder and that all the declarations and statements contained
in the bid are true to the best of his knowledge and belief.

(SEAL)

(AFFIANT)

Subscribed and Sworn to before me this _____ day of _____, 2016.

(NOTARY PUBLIC)

My Commission Expires on _____

AUTHORITY OF BID SIGNATORY

The bidder shall indicate which of the following is the source of the bid signatory authority to sign the bid on behalf of the bidder. The bidder shall follow the instructions noted.

- _____ The party bidding is a sole partnership. Below the signature affixed on the Proposal Sheet, a sole proprietorship's owner shall write "sole owner" or "doing business as (name of bidder)."

- _____ The party bidding is a partnership and the party signing is one of the partners. Below the signature affixed on the proposal sheet, a signatory for a partnership shall write "member of the firm".

- _____ The party is a corporation. The party signing is authorized to sign on behalf of the corporation. A copy of the resolution of the corporation's board of directors which delegates signatory authority to the individual signing is to be attached to this bid form. This resolution can be a general delegation of authority for signing bids or can be a specific authorization for this project. The secretary of the corporation shall authenticate the resolution as currently being in full force and effect.

- _____ Signatory authority is evidenced by other means noted below:

EQUIPMENT DATA

EQUIPMENT TO BE USED: The Bidder shall list the equipment owned or which shall be leased in the performance of the work. State the name and maker, type, size, and number of pieces of equipment.

INSERT BID GUARANTY HERE

If a Bid Bond is supplied, the Ohio Statutory Bid Bond, as set forth in ORC 153.571 is to be used.

See Instructions to Bidders No. 18 regarding penal amount to be written on the bond.

BIDDER INFORMATION

1. The Bidder shall provide the following information as part of its bid.

- a. Name of Bidder _____
- b. Business Address _____
- c. Business Telephone No. _____
- d. Person, Address, and Telephone No. to whom official notices are to be sent _____

- e. Person, Address, and Telephone No. for further information regarding this proposal _____

- f. State(s) of Incorporation w/dates of Incorporation _____

- g. Principal Place of Business _____

2. Form of Business Organization

- _____ Corporation
- _____ Partnership
- _____ Other _____

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

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

4. Names and address of other persons, firms or companies interested in this Contract:

The undersigned certifies that the bidder has the facilities, ability and financial resources available for the fulfillment of the Contract if such be awarded to him.

Upon request, the bidder will be expected to amplify the foregoing statements as necessary to satisfy the city officials concerning his ability to successfully perform the work in a satisfactory manner.

Signed this _____ day of _____, 2016.

Contractor

By _____
(Signature of individual, partner or officer signing

proposal)
(SEAL)

(Seal required if Bidder
is a Corporation)

EXPERIENCE STATEMENT

The Bidder is required to state in detail in the space provided below, what work he has done of a character similar to that included in the proposed Contract, to give references and such other detailed information as will enable the Owner to judge of his responsibility, experience, skill and financial standing. Among other things, this statement shall include the following:

A record of similar work performed and evidence to the effect:

- (1) That the Bidder maintains a permanent place of business;
 - (2) Has adequate facilities and equipment available for the work under the proposed contract;
 - (3) That the Bidder has suitable financial means to meet obligations incidental to the work;
 - (4) That the Bidder has appropriate technical experience and possesses sufficient skill and experience;
 - (5) That the Bidder maintains a service department qualified to make all repairs or adjustments that may be required on the equipment to be used under the proposed contract.
-

BIDDER SHALL INSERT
INSURANCE AFFIDAVIT
SEE INSTRUCTION TO BIDDERS #20

NON-COLLUSION AFFIDAVIT

(This Affidavit is part of the Proposal)

STATE OF _____)

SS:

COUNTY OF _____)

being first duly sworn, deposes and says that he is _____

(President, Secretary, etc.)

of _____

the party who made the foregoing proposal or bid; that such bid was genuine and not collusive; that said bidder did not collude, conspire, connive, or agree, directly or indirectly, with any bidder or person, that such other person should refrain from bidding, or submit a sham bid and did not in any manner, directly or indirectly seek by agreement or collusion, or communication or conference, with any person, to fix the bid price of affiant or any other bidder, or to fix any overhead, profit or cost element of said bid price, or of that of any other bidder, or to secure any advantage against the City of Niles, any person interested in the proposed Contract; and that all statements contained in said Proposal or bid are true and further, that such bidder did not directly or indirectly submit this bid, or the contents thereof, or divulge information, or data relative thereto to any association or to any member or agent thereof.

AFFIANT

Sworn to and subscribed before me this ____ day of _____, 2016.

NOTARY PUBLIC IN AND FOR
County, _____

My Commission Expires _____

FILL IN AND RETURN WITH BID

(SEAL)

BIDDER'S AFFIDAVIT: FOREIGN CORPORATION* (LICENSED)

The undersigned certifies that _____ is a foreign corporation incorporated in the State (Commonwealth) _____, whose principal place of business is _____ and is required to obtain a license to transact business in the State of Ohio under Chapter 1703 of the Ohio Revised Code.

The undersigned bidder further certifies that said license has been obtained and is in effect and that in accordance with Chapter 1703 has designated a statutory agent upon whom process against bidder corporation may be served within the State of Ohio. The designated statutory agent is

(name and address)

Process served upon the designated statutory agent named above shall be effective service, unless the Owner has been informed, by certified mail or its equivalent (return receipt), of a change in the agent upon whom process can be served.

Date

Signed

Title

Note: This statement is to be reproduced on the bidder's letterhead, signed by the President, Vice-President or General Manager, notarized and submitted with the bid.

*Any corporation that is not incorporated in the State of Ohio is a foreign corporation.

NILES CITY BUILDING ROOF REPLACEMENT AND IMPROVEMENTS
CITY OF NILES, OHIO

CONTRACT

THIS AGREEMENT, made and entered into at the City of Niles, Ohio, this day of _____,

_____, 2016, by and between the City of Niles, in that behalf duly authorized _____ by _____ Motion _____ passed by the City of Niles, and _____

a corporation/partnership/individual of _____ Contractor.

WITNESSETH: That the said CONTRACTOR has agreed and by these presents does agree with the City, for the consideration herein before mentioned and contained, and under penalty expressed in a bond hearing even date with these presents, and herein contained, or hereunto annexed, to furnish at his own cost and expense, the specified services associated with the above-referenced Contract.

Article 1. The Contractor agrees to perform the work within the time specified in the proposal from the date of written Notice to Proceed from the City and to prosecute the same within reasonable speed and diligence so as to insure the completion of the work in accordance with the time stipulated in the Proposal and to the satisfaction of the City.

Article 2. The City agrees to pay, and the Contractor agrees to accept as full compensation the bid price for the work. Said payment shall be made in accordance with Sec. G.34 of The General Conditions.

Article 3. It is agreed that if the Contractor fails to perform the work within the specified time for substantial completion and/or acceptance, or before the time as either may be extended in accordance with the specifications, the City shall deduct from the monies due or to become due to the Contractor under this Contract, any damages, penalties, or other changes assessed against the Contractor under the terms of the Specifications. Should the aggregate of liquidated damages be greater than the monies due or to become due to the Contractor under this Contract, the Contractor shall be liable for payment of the difference upon demand of the City.

Article 4. If the Contractor shall fail to comply with any of the terms, conditions or stipulations of this Contract according to the true intent and meaning thereof, then the City may avail itself of any or all remedies provided in that behalf in the Contract, and shall have the right and power to proceed in accordance with the provisions thereof.

Article 5. It is further mutually agreed by the parties hereto that the Contract Documents as included in the specifications, applicable to the work of this Contract are those enumerated below:

Notice to Bidders
Instructions to Bidders
Bid Forms
Contract Forms
Performance Bond
Specifications, General Conditions
Specifications, Detailed Provisions
Item Specifications
Addendum No. 1 Date _____
Addendum No. 2 Date _____

which documents form a part of this Contract and the provisions thereof are as binding on the parties to this Contract as if they were fully set forth or repeated herein.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above mentioned.

CITY OF NILES, OHIO

DATE: _____

Mayor

ATTEST:

Service Director

CONTRACTOR:

Name of Contractor

BY: _____
Signatory Representative

ATTEST: _____

APPROVED AS TO FORM:

LEGAL COUNSEL

LEGISLATIVE CERTIFICATION

I hereby certify that the City of Niles, Ohio did by the passage of Ordinance No. _____
on _____ authorize the advertisement for
bids and to enter into contract for the project herein described.

CLERK

APPROVAL OF LEGAL COUNSEL

I, the undersigned _____
the duly authorized and acting legal representative of the City of Niles, Ohio, do hereby certify
as follows:

I have examined the foregoing documents covering the performance of the project which includes the Advertisement, Instructions to Bidders, Proposal as to Form, Executed Contract, Contract Bonds, and Surety Bonds, Bidder's Affidavits, Contractor's Bid Letter, Proposal Form, Original Policies for Owner's protection both bodily and injury and property damage and certificates of additional insurance as may be required, Acknowledgment of Bidders, Payment Bonds, Non-Collusion Affidavits and all other instruments that are a component part of the Proposal and Contract and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with the terms, conditions and provisions thereof.

Legal Counsel, City of Niles, Ohio

Dated at the City of Niles, Ohio, this _____ day of _____, 2016.

FINANCIAL CERTIFICATION

I hereby certify that there stands to the credit of the proper fund, namely _____
Fund of the City of Niles, the sum of _____
(\$_____) Dollars to meet the obligation of this contract, which is unappropriated for any
other purpose.

AUDITOR

INSERT ORC 153.57 OHIO STATUTORY PERFORMANCE BOND

IF NECESSARY

BIDDER'S AFFIDAVIT
PERSONAL PROPERTY TAX DELINQUENCY*

Re: Niles City Building Roof Replacement and Improvements

City of Niles
34 West State Street
Niles, Ohio 44446

Dear Sir:

(A) The undersigned hereby certifies that the party to whom contract award is being considered was not charged with any delinquent personal property tax on the general tax list of personal property for Trumbull County, Ohio, at the time of the bid opening for the above referenced project.

(B) The undersigned hereby certifies that the party to whom contract award is being considered has been charged with a delinquency regarding personal property tax on the general tax list of personal property for Trumbull County, Ohio at the time of bid opening for the above referenced project. The amount of the due and unpaid delinquent taxes, including any due and unpaid penalties and interest thereon is _____

It is understood that, by law, this statement is to be signed by the party whose bid has been tentatively accepted, and must be affirmed under oath. The law also required that his statement is to be submitted to the Clerk and this statement must be incorporated into the pending contract before any payment can be made under the subject contract.

Name of Corporation

President

Secretary

*See Section #33 of Instructions to Bidders.

COMPLETION AFFIDAVIT

STATE OF _____)

SS:

COUNTY OF _____)

_____ being first duly sworn, deposes and says that he is _____
(sole owner, a partner, president, secretary, etc.)

of _____

The Party that entered into a contract with the CITY OF NILES, OHIO on the _____
day of _____, 2016 for the _____

_____ and that all
claims and obligations for services, labor, tools, appliances, materials, equipment, and damages
to personal property and/or bodily injury arising in connection with this contract have been
satisfactorily settled, and that the rate of wages paid has been in compliance with Chapter 4115
of the Ohio Revised Code.

SIGNED: _____

Sworn to and subscribed before me, a Notary Public this ____ day of _____, 2016.

NOTARY PUBLIC

My commission expires _____

(SEAL)

NILES CITY BUILDING ROOF REPLACEMENT AND IMPROVEMENTS
CITY OF NILES, OHIO

GENERAL CONDITIONS

NOTE: The headings of the articles herein are intended for convenience of reference only and shall not be considered as having any bearing on their interpretation.

DEFINITIONS: (Sec. G.01) Whenever in the Contract Documents the following terms, or pronouns in place of them are used, their intent and meaning shall be interpreted as follows:

CITY OR OWNER: City of Niles, Ohio, party of the first part to this contract.

DIRECTOR: The City of Niles Service Director

DIRECTOR OF FINANCE OR TREASURER: The City of Niles Auditor

LAW DIRECTOR, ATTORNEY OR CORPORATION COUNSEL: The Legal Counsel

CONSULTING ARCHITECT OR ARCHITECT: Architect employed by the City in responsible charge of the project.

RESIDENT ENGINEER: Engineer employed by the Consulting Architects or the City to act as an agent of the City in providing on-site observation of the construction of the Project, or City Inspector.

CONTRACT: Agreement between the City and the Contractor for construction of all of the project.

CONTRACT DOCUMENTS: The documents covering the performance of the project, thereafter defined, and payments therefore, including Notice to Bidders, Instructions to Bidders, Proposal, Bidder's Affidavits, Executed Contract, Performance/Payment Bond, Specifications, Plans, Addenda, and supplementary agreements which may be entered into, all of which documents are to be treated as one instrument whether or not set forth at length in the form of contract.

PROJECT: The furnishing of all materials, the construction and testing and labor, together with all appurtenances and all related work required to be performed under this Contract.

CONTRACT DRAWINGS OR PLANS: All drawings or reproductions thereof furnished by the Architect, pertaining to the Project and such detailed drawings as may be issued by the Architect as the work proceeds.

SPECIFICATIONS: The Specifications, General Conditions, Specifications, and Item Specifications, Addenda and all written agreements made or to be made, pertaining to the method or manner of performing the work of the Project or to the quantities or qualities of materials to be furnished for the Project.

PROPOSAL: The prepared form furnished by the Owner properly filled in, executed and submitted as a bid for the performance of the Project.

BIDDER: An individual, firm, partnership, or corporation, acting directly or through a duly authorized representative, legally submitting a Proposal.

CONTRACTOR: Party of the second part to this Contract, acting directly or through agents or employees, and primarily liable for the acceptable performance of the Project and for the payment of all debts pertaining to the Project.

SURETY: The corporate body which is bound with and for the Contractor and which engages to be responsible for his acceptable performance of the Project and for his payments of all debts pertaining to the Project.

BOND: The performance/payment bond for the faithful performance of a contract, and for the payment of all laborers and materialmen, properly executed by the Contractor, as Principal, and the Surety Company as Surety.

AS DESIGNATED OR AS SHOWN: Has reference to information or directions indicated on the contract plans or in the specifications covering the construction of the improvements included in the Project.

APPROVED: The approval by the Architect; unless otherwise specified, use of term "directed", "required", "permitted", or words of like import shall be considered as similarly defined.

NOTICE: Shall mean written notice, and service of same shall be accomplished as provided under Sec. G.05, "Notice to Contractor", of the General Conditions of this Contract.

PROGRAM FOR CONSTRUCTION: The planned order or sequence of construction steps throughout the life of the project.

EXTENT OF CONTRACT: (Sec. G.02) The notice to bidders, instructions to bidders, proposal, bonds, specifications and contract drawings are, and shall be taken to be part of each contract. All work and materials mentioned in the specifications and not shown on the drawings, and all work and materials shown on the drawings and not mentioned in the specifications, and all work and materials necessary for the completion of the work according to the true intent and meaning of the contract drawings and specifications shall be furnished, performed and done, as if the same were both mentioned in the specifications and shown on the drawings.

Should anything be omitted from the contract drawings or specifications which is necessary to a clear understanding of the work, or should any error appear either in any of the various instruments furnished or in the work done by other contractors affecting the work included under this contract, the Contractor shall promptly notify the Architect of such omission or errors and, in the event of the Contractor's failure to do so, he shall make good any damage to or defect in his work caused thereby. He will not be allowed to take advantage of any error or omission on the contract drawings, as full instructions will be furnished by the Architect should such error or omission be discovered, and the Contractor shall carry out such instructions as if originally specified.

Each and every provision of law and clause required by law to be inserted in these contracts shall be deemed to be included therein, and the contracts shall be read and enforced as through such provisions or clause were inserted therein; and if through mistake or otherwise any such requirement of law is not inserted or is incorrect, then, upon the application of either party, the contract shall be physically amended forthwith to provide such insertion or correction.

OBLIGATION OF CONTRACTOR (Sec. G.03) The Contractor shall, at his own cost and expense, and in strict conformity with the hereinafter contained or hereto annexed specifications and with the contract drawings, furnish all the materials, labor, and superintendence and all sheeting, shoring, bracing, scaffolding, tools, derricks, tackle, implements, machinery and appliances of every kind necessary or proper for the purpose, and in a good substantial and workmanlike manner and within the time hereinafter specified, perform and complete the work required under this contract.

He shall complete the entire work to the satisfaction and approval of the Owner or its duly authorized representative, and shall accept in consideration thereof, and as full compensation thereof, the sum stipulated in the proposal for the work and materials named in the contract and proposal herein contained or hereto annexed, the said sum being the amount at which the contract thereof was awarded to the Contractor at the public letting thereof.

ABSENCE OF CONTRACTOR (Sec. G.04) In the absence of the Contractor there shall at all times be a duly authorized representative on the work, who shall receive and execute all orders given by the Architect, and such orders so given to and received by said representative shall be deemed to have been given to and received by the Contractor.

NOTICE TO CONTRACTOR (Sec. G.05) The residence or place of business given in the bid or proposal upon which the contract is founded is hereby designated as the place where all notices, letters and other communications shall be served, mailed to, or delivered. Any notice, letter or other communication addressed to the Contractor and delivered at the above named place or deposited in a postpaid wrapper in any post office box regularly maintained by the United States Post Office Department shall be deemed sufficient service thereof upon the Contractor, and the date of mailing shall be the date of service. The place named may be changed at any time by an instrument in writing, executed and acknowledged by the Contractor and delivered to the Director and the Architect. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter or other communication upon the Contractor personally.

INSPECTION (Sec. G.06) The Architect or his duly authorized representative will inspect, or cause to be inspected, the materials furnished and the work done under this contract, and he is also hereby authorized and empowered to reject and refuse all work and materials and the method of application or any part thereof, under or in fulfillment of this contract, that does not comply in kind, quality, quantity, time or place, with the specifications and the contract drawings. The inspection, approval or acceptance of any part of the work herein contracted for, or the materials used therein, or any payment on account thereof, shall not prevent the rejection of said materials at any time thereafter during the existence of this Contract and prior to the release of the Performance/Payment Bond, should said work or materials be found to be defective or not in accordance with the requirements of this contract.

ARCHITECT'S DECISION (Sec. G.07) The Architect, as an agent of the Owner shall, in all cases, determine the amount, quality, acceptability and fitness of the several kinds of work, materials and equipment which are to be paid for under this contract. He shall also determine all questions in relation to said work and the performance thereof, and decide every question which may arise relative to the fulfillment of this contract on the part of the Contractor, all subject to the approval of the Director.

ACCESS TO WORK (Sec. G.08) The Contractor shall, at all times, give to the Federal or State Authorities, to the Owner, to the Architect, and to the assistants and inspectors under them, all the necessary facilities for determining, both on the work and at the places of manufacture, that all work to be done and all materials to be furnished under this contract are strictly in accordance with the terms of the contract and with the contract drawings and specifications. The Contractor shall notify the Architect in writing at least seven (7) days previous to the commencement of manufacture of any equipment or materials of the time and place where the manufacture is to take place in order that a representative of the Owner may be present to inspect the manufacture, should the Owner so desire.

COMPETENT WORKERS TO BE EMPLOYED (Sec. G.09) The Contractor shall employ a qualified superintendent and only competent and skillful workers to do the work, and whenever the Director shall notify the Contractor in writing that any person on the work is, in his opinion, disobedient, incompetent, unfaithful, disorderly, disrespectful, or otherwise unsatisfactory, the Contractor, on receiving such notice shall forthwith dismiss such person and shall not again employ that person on any part of the work without the written consent of the Director.

LAWS AND ORDINANCES (Sec. G.10) The Contractor shall keep himself fully informed of, and shall carefully observe and comply with all Federal, State, County and local laws, ordinances and regulations which in any manner affect the conduct of the work, and all such orders or decrees as exist at present and those which may be enacted later, of bodies having any jurisdiction or authority over the work, and shall indemnify and save harmless the Owner, its Architects, and all its officers, agents and servants against any claim or liability arising from or based upon the violation of any such law, ordinance, regulation, order or decree, whether by himself or his employees.

LABOR: CONDITIONS AND EMPLOYMENT (Sec. G.11) The provisions of this Contract as to hours, wages and employment shall apply with equal force to all workmen engaged in the performance of this contract, whether employed by the original Contractor or by any subcontractor.

Preference shall be given to qualified local residents in the employment of laborers and mechanics for work on the project under this contract. No persons under the age of sixteen (16) years, or whose age or physical condition is such as to make his employment dangerous to his health or safety or to the health or safety of others, shall be employed on the project, provided that this shall not operate against the employment of physically handicapped persons, otherwise employable, where such persons may be safely assigned to work which they can ably perform. No person currently serving sentence in a penal or correctional institution and no inmate of an institution for mental defectives shall be employed under this contract.

There shall be no discrimination by reason of race, creed, sex, color, national origin or political affiliations, in the employment of persons who are qualified by training and experience for such work.

The legal rights of all workers under this contract to organize and to bargain collectively, to be protected from the requirements to join a company union, and to enjoy freedom of expression and action with respect to wages, hours and conditions of labor shall not be infringed.

OVERTIME WORK (Sec. G.12) All work under this contract requires inspection by the owner. The City will provide project inspection from 8:30 A.M. to 4:30 P.M. Monday through Friday, at no cost to the Contractor. The contractor will be responsible for inspection costs for all hours beyond those provided herein by the owner. The City shall provide a detailed invoice to the contractor for said inspection costs prior to the final payment to the contractor. The contractor may choose to pay the City or have said payments deducted from his/her final payment.

CLAIMS FOR LABOR, MATERIAL AND DAMAGES (Sec. G.13) The Contractor shall, from time to time, as required by the Director, furnish affidavits and satisfactory evidence that all persons who have done work or furnished materials under this contract, or have suffered damage on account of the Contractor's operations, have been fully paid or secured; and in case such evidence is not furnished as aforesaid, such amount as the Director may consider necessary to meet the lawful claims of the persons aforesaid will be retained from the monies otherwise due the Contractor until the liabilities aforesaid have been fully satisfied. It is understood and

agreed, however, that the Owner hereby assumes no obligation toward such claimants, nor in any way undertakes to pay such claims out of any funds due or that may become due the Contractor, or out of its own funds.

WORKERS' COMPENSATION AND INSURANCE (Sec. G.14) The Contractor shall comply with the State law known as the Workers' Compensation Act, and shall pay into the State Insurance Fund the necessary premiums required by the Act to cover all employees working on this contract and under the control of the Contractor, and shall relieve the Owner from any costs due to accidents or other liabilities mentioned in said Act. He shall also furnish at the time of delivery of this contract and at such other times as may be requested, the official certificate or receipt showing the payments previously referred to herein, and he shall furnish to the Owner proof as required that adequate compensation insurance is provided.

If the Contractor sublets any of the work on this contract, the subcontractor thereunder shall be required to procure and maintain, during the life of such subcontract, Worker's Compensation and Insurance for all of his employees engaged upon the work unless these are covered by the compensation insurance of the prime contractor.

Any class of employees engaged in work on this contract which is not covered by the Workers' Compensation Act shall be insured by the Contractor or his subcontractors under Employer's Liability Insurance and/or United States Longshoreman's and Harbor Worker's Compensation Act, and any other Act requiring coverage for liability under Admiralty or Federal Jurisdiction.

INDEMNIFICATION (Sec. G.15) The Contractor shall indemnify and hold harmless the Owner, the Resident Engineer and the Consulting Architects, and their officers, representatives, agents and employees from and against all claims, damages, losses, and expenses, including attorneys' fees arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense is caused in whole or in part by any negligent act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

In any and all claims against the Owner, the Resident Engineer or the Consulting Architects, or any of their officers, representatives, agents or employees by any employee of the Contractor, and subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation of the Contractor under this Section shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

MEANS AND METHODS (Sec. G.16)

a) The means and methods of construction shall be such as the Contractor may choose; subject, however, to the Resident Engineer's, or Consulting Architect's right to reject means and methods proposed by the Contractor which will not produce finished work in accord with the terms of the Contract.

b) The Architect's approval of the Contractor's means or methods of construction or his failure to exercise his right to reject such means and methods, shall not relieve the Contractor of his obligation to accomplish the result intended by the Contract; nor shall the exercise of, or failure to exercise such right to reject, create a cause of action for damages.

c) The Contractor shall be solely responsible for means, methods, or both actually used. To diminish his liability the Contractor shall have the right to deny access to the work or parts of it to third parties at all times during construction except to third parties to inspect, certify, or observe it when required by law, or to those who require reasonable access to a particular part or parts of the work by reason of specific contractual relationship to the work or to maintain existing facilities.

INSURANCE (Sec. G.17)

Each prime Contractor shall have and maintain the following occurrence type insurance coverages during the life of this Contract. The insurance shall be written by a solvent and otherwise acceptable company(ies) authorized to do business in the State of Ohio, with an A.M. Best Co. rating of "A V" or better. Evidence of insurance shall be provided before the issuance of the Notice to Proceed. Such evidence shall consist of the Certificate of Insurance plus the Certificate of Compliance provided by the Ohio Department of Insurance for the company(ies) in question.

Failure to provide evidence of the maintenance of the required insurance will suspend the Owner's obligation to pay for any and all work performed after the cessation of the required coverages for which evidence had previously been provided, and can be the basis of a non-compensable order to suspend work or for termination for cause.

A. Requirements for all Insurance Coverages

1. Notices to Owner and Other Additional Insured

The policy shall provide and the Certificate shall reflect the fact the Owner and all other additional insured shall receive at least 30 days notice of any cancellation or change in the coverage (except for nominal changes) adverse to the interests of the Owner and other additional insured in order for such cancellation or change in coverage to be effective. The Owner and other additional insured shall be provided with any notice or non-renewal, regardless of the cause.

2. Additional Insured

The insurance required by this Section shall include the interests of the Contractor and its subcontractors, the Architect and its sub-consultants in the work, including each of their respective employees, all of whom, shall be listed as insured or as additional insured. The Owner's financing agency shall also be listed as an additional insured, as necessary.

3. Policy Format
All policies shall be the Insurance Service Office's current form or better.

B. General Liability

1. Types of Insurance

The policy should provide at a minimum, the following coverages and the Certificate of Insurance shall so indicate whether the coverage is provided in the basic policy or in supplemental coverage to negate an exclusion in the basic policy:

- Comprehensive Form
- Premises/Operations
- Underground, Explosion and Collapse Hazard (Underground and Collapse Hazard coverage required only for General Construction Contractor and others doing excavation and other earthwork)
- Products/Completed Operations
- Contractual
- Independent Contractor
- Broad Form Property Coverage

2. Liability Limits

The liability limits for the coverages noted above shall be at least as noted below.

	Liability Limits	
	Each Occurrence	Aggregate
BI & PD Combined (CSL)	\$ 1,000,000	\$ 1,000,000

C. Automobile Liability

1. Types of Coverage

The policy shall include at least the following types of coverage:

- Any Auto
- All Owner Autos (Priv. Pass.)
- All Owned Autos (Other than Priv. Pass.)
- Hired Autos
- Non-Owned Autos

2. Liability Limits

The liability limits for the coverages noted above shall be at least as noted below.

	Liability Limits	
	Each Occurrence	Aggregate
BI & PD Combined	\$ 1,000,000	\$ 1,000,000

D. Owners Protective Liability Policy

1. The liability limits for the coverages noted above shall be at least as follows:

	Liability Limits	
	<u>Each Occurrence</u>	<u>Aggregate</u>
BI & PD Combined	\$ 1,000,000	\$ 1,000,000

E. Builders Risk/Installation Floater

1. Types of Coverage

The Contractor shall insure for the life of the contract against all loss or damage by fire, flood other than National Flood Insurance (whether in a flood hazard area or not), hurricane, windstorm, hail, lightning, explosion, riot civil commotion, aircraft, smoke, vehicles and other hazards covered by the standard current I.S.O. standard fire and extended coverage insurance endorsement. Coverage shall also be provided for all materials and equipment for which pre-incorporation payment is requested.

2. Limits of Liability

The limit of liability for the coverage noted above shall be not less than the amount of the Contract.

F. Contractor's Insurance Agent E/O Certificate

Contractor's insurance agent shall provide the Township with Agent's Errors and Omissions Certificate in the minimum amount of One Million Dollars (\$ 1,000,000.00)

PATENT FEES AND ROYALTIES (Sec. G.18) The Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Contract or the incorporation in the Contract of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Contract and if to the actual knowledge of the Owner or its Architects its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by the Owner in the Contract Documents. The Contractor shall indemnify and hold harmless the Owner or its Architects and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorneys' fees) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Contract or resulting from the incorporation in the Contract of any invention, design, process, product or device not specified in the Contract Documents, and shall defend all such claims in connection with any alleged infringement of such rights.

ACCIDENTS AND CLAIMS TO BE GUARDED AGAINST (Sec. G.19) The Contractor shall at all times exercise reasonable precautions for the safety of the public and of employees on the work, and he shall comply with all applicable provisions of Federal, State and Municipal safety laws. All machinery used during construction and all incorporated into the work and all subject to physical hazards shall be guarded in accordance with codes approved by the A.N.S.I., unless such codes are incompatible with Federal, State, or Municipal laws or regulations.

The Contractor will be held responsible for all accidents resulting from negligence or carelessness in the performance of the work, or in caring for the same, or from any improper or inferior workmanship or inferior materials used. The Contractor shall employ at all times as many watchmen as are needed and, when necessary, shall erect and maintain on the work such strong and suitable barriers and at night time such caution lights as will effectively prevent any accident to life, limb or property in consequence of said work, or in the use or occupancy of any waterway, street, alley, highway or public or private grounds. All loss or damage to the work arising from fires, floods, storms or other natural causes or from any detention, obstruction or other difficulties which may be encountered in the prosecution of the work shall be borne by the Contractor.

MATERIALS AND WORKMANSHIP (Sec. G.20) All materials and equipment furnished under those contracts shall be as specified or required, or in the absence of particular specification, shall be the best of their respective kinds, of new stock, unused and not deteriorated, and all work contemplated and described shall be done in a good, substantial and workmanlike manner.

Specific reference in the specifications to any article, device, product, material, fixture, form, or type of construction, etc. by name, make or catalog number, shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition, and the Contractor, in such cases, may at his option use any article, device, product, material, fixture, form or type of construction, which in the judgment of the Architect, expressed in writing, is equal to that named. However, the Contractor will be required to demonstrate to the satisfaction of the Architect that the materials, devices or equipment he proposes to furnish are in fact similar and equal to those designated. It is understood and provided, moreover, that the decision of the Director on all such questions of similarity or equality shall be final; and that in the event of any adverse decision, no claim of any sort shall be made or allowed against the Architect, or the Director.

If, subsequent to the signing of the contract and by reason of conditions of availability, time of delivery or other element of supply, the Contractor offers substitution for the standards stipulated in the contract, the acceptability of such substitution may be conditioned upon adjustment of the contract price to reflect any difference between the cost of the article stipulated for standard and the cost of the article offered in substitution if the Architect finds such difference in costs due to general differences in quality, efficiency, history of performance or service for repairs or replacements, it being the intent herein that savings in cost which result from substitution subsequent to the signing of the contract shall accrue in major part to the advantage of the Owner.

DEFECTIVE WORK OR MATERIALS (Sec. G.21) If, at any time before the release of the Performance/Payment Bond for the work, any materials or workmanship should be discovered which do not comply with the specifications and contract drawings, they shall be immediately removed by the Contractor when notified to do so by a written notice from the Architect; and they shall be replaced at the Contractor's expense. Any work condemned by the Architect as unsuitable or improperly done shall be removed and repaired or otherwise remedied as the Architect may direct. Any material condemned by the Architect shall be removed from the site of the work within two (2) days after notice to that effect is given. Architect's decision may be reviewed by the Director, whose ruling shall be final.

Should work or materials not readily accessible or available to examination be suspected to be defective or not in accord with this contract, the Architect may require the Contractor to uncover or take work down or to make openings in the finished work for the purpose of examination at such points as may be designated.

If the Contractor shall neglect or refuse to remove or replace defective work or materials within seven (7) days from the date of the written notice from the Architect to do so, then the Architect may remove or cause the same to be removed and satisfactorily replaced by contract or otherwise, as he may deem expedient, and he may, and is empowered to, charge the expense thereof to the Contractor. The expense so charged will be deducted and paid by the Owner out of such moneys as are or may become due under this agreement; or, if such moneys are not sufficient to meet said expense, the additional moneys shall be furnished by the Contractor. If the Contractor refuses or neglects to provide the necessary monies, they shall be provided by his surety.

INTERPRETATION OF CONTRACT AS TO LIMITATIONS OF WORK (Sec. G.22) Should it be deemed necessary in the execution of the work, by reason of any condition or circumstances arising or discovered after the making of the contract, to make any variation desirable or necessary for the stability, safety, economy or betterment of the work, which variations increase or decrease the quantities of the work specified, or change the location thereof to an extent not unreasonably affecting the conditions of the work, and further interpreted by the Architect as involving no classes of work other than those called for by this contract, the Contractor shall, upon written order from the Architect to that effect, make such variations. If such variations diminish the quantity of work to be done, no claim for damages or for anticipated profits on the work that may be dispensed with shall thereby accrue to the Contractor, and the value of the work dispensed with will not be included in any payments made to the Contractor. If such variations increase the amount of work, the value of such increase shall be determined and fixed by the Architect in accordance with the quantity of such work actually done and at the unit prices stipulated in the contract.

Such alterations or changes as are mentioned in this section shall not vitiate or annul the obligations of the contract nor the agreement for the work.

Should the Contractor consider himself entitled to extra compensation on account of the aforementioned alterations or changes, he shall notify the Owner by making his claim in writing with copy to the Architect, before proceeding with the work in question. The Director will review the claim or cause it to be reviewed, after which he will rule on the claim and issue order to the

Contractor. Should the Contractor proceed with the said work in compliance with the order of the Director, it is to be construed as his acceptance of the order and of the stipulated compensation for the said work.

Should, in the opinion of the Director, any contemplated change in the quantities of the work or alterations thereof materially change the scope or character of the work or any part thereof, or materially affect the compensation for same, then the work shall be classed as extra work.

EXTRA WORK AND ALTERATIONS IN CONTRACT (Sec. G.23) Any additional work (except as covered by Sec. G.22) not originally contemplated under this Contract, and which, in the opinion of the Director, seems desirable or necessary, shall be performed by the Contractor, if authorized, but only subsequent to and in accordance with a subsidiary agreement between the Owner and the Contractor, in which agreement the prices and method of payment and of doing the work shall be fixed and agreed upon as follows:

- A. The Owner may make changes in the Work and in the Drawings and Specifications thereof by making alterations therein, additions thereto or omissions therefrom. All work resulting from such changes shall be performed and furnished under and pursuant to the terms and conditions of the Contract. If such changes result in an increase or decrease in the quantities thereof, adjustment in compensation shall be made therefor at the unit prices stipulated in the Contract for such work, except that if unit prices are not stipulated for such work, compensation for additional or increased work shall be made as provided hereinafter for "Extra Work" and for eliminated or decreased work the Contractor shall allow the Owner a reasonable credit as determined by the Owner.
- B. Except in an emergency endangering life or property, no change shall be made unless in pursuance of a written order from the Owner authorizing the change, and no claim for additional compensation shall be valid unless the change is so ordered.
- C. The Contractor agrees that he shall neither have nor assert any claim for, or be entitled to, any additional compensation for damages or for loss of anticipated profits on work that is eliminated.
- D. The Contractor shall perform any Extra Work in connection with the Contract but not provided for herein, when and as ordered in writing by the Owner, at the unit prices stipulated in the Contract for such work, or, if none are so stipulated, either: (a) at the price agreed upon before such work is commenced and named in the written order for such work; or (b) if the Owner so elects, for the reasonable cost of such work, as determined by the Contractor and approved by the Owner, plus a percentage of such cost, as set forth below. No extra work shall be paid for unless specifically ordered as such in writing by the Owner.
- E. The cost of Extra Work done under Section D(b) above shall include the reasonable cost to the Contractor of materials used and equipment installed, common and skilled labor, foremen, and the fair rental of all machinery and equipment used on the Extra Work for the period of such use.

- F. At the request of the Owner, the Contractor shall furnish itemized statements of the cost of the Extra Work ordered as above and give the Owner access to all records, accounts, bills and vouchers and correspondence relating thereto.
- G. The Contractor may include in the cost of Extra Work the amounts of additional premiums, if any (other than premiums on bonds), paid on the required insurance on account of such Extra Work, of Social Security or other direct assessments upon the Contractor's payroll by State, Federal or other properly authorized public agencies, and of other approved assessments when such assessments are normally included in payments made by the Contractor directly to his employees, but in fact are, and are customarily recognized as, part of the cost of doing work.
- H. The fair rental for all machinery and equipment shall be based upon the most recent edition of "Compilation of Rental Rates for Construction Equipment" published by the Associated Equipment Distributors, or a similar publication approved by the Owner. Rental for machinery and equipment shall be based upon the appropriate fraction of the approved monthly rate schedule. If said Extra Work requires the use of machinery or equipment not already on the site of the Work, the cost of transportation, not exceeding a distance of 100 miles, of such machinery or equipment to and from the Work shall be added to the fair monthly rental; provided, however, that this shall not apply to machinery or equipment already required to be furnished under the terms of the Contract.
- I. The Contractor shall not include in the cost of Extra Work any cost or rental of small tools, buildings, or any portion of the time of the Contractor, his superintendent, or his office and engineering staff.
- J. To the cost of the Extra Work done by the Contractor's own forces under Section D(b) above (determined as stated above), the Contractor shall add fifteen percent (15%) to cover his overhead, use of capital, the premium on the bonds as assessed upon the amount of this Extra Work, and profit.
- K. In the case of Extra Work done under Section D(b) above by a subcontractor, the subcontractor shall compute, as above, his cost for the Extra Work, to which he shall add fifteen percent (15%) as in the case of the Contractor, and the Contractor shall be allowed an additional five percent (5%) of the subcontractor's cost to cover his overhead, use of capital, the premium on the Bonds as assessed upon the amount of this Extra Work, and profit. Said subcontractor's cost must be reasonable and approved by the Owner.
- L. If Extra Work is done under Section D(b) above, the Contractor and/or subcontractor shall keep daily records of such Extra Work. The daily record shall include the names of men employed, the nature of work performed and hours worked, materials and equipment incorporated, and machinery or equipment used, if any, in the prosecution of such Extra Work. This daily record, to constitute verification that the work was performed, must be signed both by the Contractor and by the Director. A separate daily record shall be submitted for each Extra Work order.

M. When Extra Work is ordered near the completion of the Contract or at any time during the progress of the Work, which in the sole judgment of the Owner unavoidably increases the time for the completion of Work, an extension of the time shall be granted as hereinbefore provided.

N. It is distinctly agreed and understood that any changes made in the Work or the Drawings or Specifications thereof (whether such changes increase or decrease the amount thereof or the time required for its performance), or any change in the manner or time of payments made by

the Owner to the Contractor, or any other modifications of the Contract, shall in no way annul, release, diminish or affect the liability of the Surety on the Contract Bond given by the Contractor, it being the intent hereof that notwithstanding such changes, the liability of the Surety on said Bond continue and remain in full force and effect.

In the case the parties to this agreement fail to agree upon the terms of the said subsidiary agreement, the Owner shall have the right to otherwise provide for the execution of said work, and the Contractor shall permit the doing of said work, and afford every necessary opportunity thereof, and further shall be entitled to no pay for damages due to delays or detention caused thereby. Except as otherwise herein provided, no charge for any extra work or material will be allowed unless the same has been ordered in writing by the Director and the price stated in such order.

OTHER CONTRACTS (Sec. G.24) It is understood and agreed that the Contractor shall execute his work in such a manner and in such order as will not interfere with work in progress and will permit the Owner to perform other work or to enter into other contracts for work and materials to be constructed or placed in, on or about the work herein described, with the least interference possible and with complete cooperation whenever it is desirable to prosecute said work, either simultaneously with the work under this contract or otherwise.

It is agreed that the Contractor shall not be entitled to any damages or extra compensation from the Owner on account of any work performed by the Owner or by other contractors that in any way affects the work under this contract, provided that such work of the Owner and other contractors shall, in the opinion of the Director, be performed in a proper and expeditious or necessary manner. The Director shall decide all questions between Contractor hereunder and other contractors, and the order of carrying on the work shall always be subject to his direction and approval.

If, in the judgment of the Director the joint occupation of the site of the work by the Owner or by two (2) or more contractors working on different contracts at the same time actually impedes progress on the work herein described, then the Owner may extend the time for the completion of the work and in an amount which accords with and compensates for the delays so caused.

In case the Contractor by his own acts or the acts of any person or persons in his employ, shall unnecessarily delay, in the opinion of the Director, the work of the Owner or other contractors by not properly cooperating with or by not affording them sufficient opportunity or facility to perform work as may be specified, the Contractor shall, in that case, pay all costs and expense

incurred by such parties due to such delays. The Contractor hereby authorizes the Owner to deduct the amount of such cost and expenses from any moneys due or to become due him under this contract. The Director shall decide the extent of such delay or delays and the amount of such cost and expenses, and his decision shall be binding upon both parties to this contract. Nothing contained in this paragraph shall, however, relieve said Contractor from any liability or damage resulting to the Owner on account of such delay or delays.

SUSPENSION OF WORK (Sec. G.25) The Owner shall have the right to suspend the whole or any part of the work to be done hereunder, when, in the opinion of the Director, the Contractor is not doing the work in accordance with the provisions of the contract and specifications.

ABANDONMENT OF WORK (Sec. G.26) Should the Contractor abandon or in any manner fail to complete the said work, the Owner is hereby authorized and empowered to pay any tradesman or laborers for work done who have been employed by said Contractor upon the herein work, and to pay any claims against the Contractor for material furnished, out of any funds that would otherwise be due or become due said Contractor under this contract, and in every such case said Owner is hereby authorized and empowered to ascertain through the Director the amount or amounts so due or owing to such tradesmen or laborers, or for material, from said Contractor, in such manner and upon such proof as the said Director may deem sufficient. The amount or amounts so found by the Owner to be due and payable to such tradesmen or laborers, or for materials furnished, shall be final and conclusive against the Contractor, and may thereafter be paid by the Owner to said tradesmen or laborers, or to liquidate claims for labor performed or materials furnished; and any estimates may be withheld from said Contractor until all such claims for labor or material on his contract have been satisfied.

FORFEITURE OF CONTRACT (Sec. G.27) The Owner by and through the Director shall at any time during the continuance of the contract for the work herein provided for, and prior to the date of acceptance of the work as hereinafter provided, have the right and power to declare the whole or any part of the same forfeited for the violation of any of the conditions, terms, requirements, or limitations herein contained, or if the performance of the contract is unnecessarily or unreasonably delayed, or if the Contractor is not progressing with the work as fast as is necessary to insure its completion within the time specified as required by this contract, or if the Contractor is showing bad faith in carrying out the contract, or if the work is not fully completed within the time fixed in this contract for its completion, or within the time to which such completion may be extended as hereinafter provided, or further, if the Contractor shall fail or refuse to remedy or repair defective work or materials when so ordered as herein provided. If the Owner shall declare the said contract forfeited, in whole or in particular, such declaration of forfeiture shall in no way relieve or affect the liability of the Contractor and his sureties for breach of any of the covenants and conditions of said contract.

COMPLETION OF CONTRACT BY OWNER (Sec. G.28) If the work to be done hereunder 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, and for reasons hereinbefore specified, the Owner declares the contract forfeited, the Director may notify the Contractor to discontinue all work or any part thereof, or may notify the Contractor to remedy or correct the conditions or breaches enumerated by a written notice served upon the Contractor. In the event that the work

is ordered discontinued as herein provided, or in case that the said conditions or breaches are not remedied and corrected to the satisfaction of the Owner within seven (7) days from the service of the said written notice, the Owner, through its Director, will thereupon have the power to contract for the completion of the work, or such parts thereof, in the manner prescribed by law, or to employ such and so many persons as he may deem advisable by contract or otherwise, to work at and complete the work herein described, or such part thereof, and to use such materials, machinery, tools and appliances as he may find upon the site of the work, and to procure other materials, machinery, tools, and appliances for the completion of the same, and to charge the expense so incurred to the Contractor. The expense so charged will be deducted and paid by the Owner out of such moneys as may be due or may at any time thereafter become due to the Contractor under and by virtue of this contract or any part thereof.

In case such expense exceeds the amount due and payable or which would become due and payable under this contract if completed by the Contractor, the amount of such excess shall be repaid to the Owner, and in case such expense shall be less than the sum which would have been payable under this contract, if the same had been completed by the Contractor, then the Contractor shall be entitled to receive the difference. When any particular part of the work is being carried out by the Owner, by contract or otherwise, under the provisions of this clause of the contract, the Contractor shall continue the remainder of the work in conformity with the terms of this contract, and in such manner as in nowise to hinder or interfere with the persons or workmen employed, as above provided, by the Owner by contract or otherwise, to do any part of the work, or to complete the same under the provisions of this article of the contract.

SUBSTANTIAL COMPLETION OF WORK (Sec. G.29) Completion of the herein specified work of a contract is defined as that stage when the structures, equipment and facilities supplied, installed, modified or constructed under the contract, together with all appurtenances, are tested and ready to be placed in continuous satisfactory operation by the Owner in the manner intended. After this date there may still remain some cleaning up of the Contractor's plant or other minor work which does not prevent the permanent, continuous, satisfactory use of the facilities which are to be constructed under this contract.

TIME FOR SUBSTANTIAL COMPLETION (Sec. G.30) The work shall be carried on with such force and in such manner and order and at such points that within the time allotted by the substantial completion date specified in the proposal, or as may be modified or extended as hereinafter provided, the whole work and its parts shall be performed in accordance with the terms of this contract.

It is mutually agreed by and between the parties hereto that time is an essential part of this contract, and that, if a Contractor shall fail to complete the work or any part thereof within the time above fixed, the Owner may retain as liquidated damages incident to such delay, from the monies that are or which may become due said Contractor, such sum per day as specified in the proposal for each and every calendar day the completion of work is delayed beyond the time stipulated in the proposal for such completion.

It is agreed by and between the parties hereto that inasmuch as expenses and inconveniences and other damages will be sustained by the Owner in the event that said Contractor fails to perform the work herein specified within the time stipulated in the proposal, such as inconvenience to the public, engineering expenses, interest charges, wages of clerks in the engineering and other departments, salaries of inspectors, delay caused to other work by failure to perform this contract, and other elements, some of which are indefinite and in some cases difficult to substantiate, the sum per day specified in the contract for each day's delay shall be considered as liquidated damages and not as a penalty and shall become due said Owner as full payment for all such expenses and damages sustained by the failure of said Contractor to complete the work as herein specified.

DELAYS AND EXTENSION OF TIME FOR SUBSTANTIAL COMPLETION (Sec. G.31) The Owner shall have the right to defer the beginning of, or to suspend the whole or any part of the work herein contracted to be done whenever, in the opinion of the Director, it may be necessary or expedient for the Owner to do so. If the Contractor is delayed in the completion of the work by any act or neglect of the Owner, or the Architect, or of any agent or employee of theirs, or by any other contractor employed by the Owner, or by changes ordered in the work, or by strikes, lockouts, fire, unusual delay by common carrier, unavoidable casualties, or any cause beyond the Contractor's control or by any delay authorized by the Director pending arbitration, or by any cause which the Director shall decide to justify the delay, then for all such delays and suspensions which actually prevent progress of the work, the Contractor shall be allowed one (1) day additional to the time herein specified for each and every day of such delay so caused in the completion of the work, the same to be ascertained by the Director, and a similar allowance of extra time will be made for such other delays as may be found to have been caused by the Owner.

No such extension shall be made for any one or more of such delays unless within ten (10) days after the beginning of such delay a written request for additional time shall be filed with the Director with one copy to the Architect. In case of a continuing cause of delay, only one (1) request is necessary.

PRICES (Sec. G.32) The Owner will pay and the Contractor shall receive the prices stipulated in the proposal herein contained or hereto annexed, as full compensation for furnishing all the materials and equipment and performing all the superintendence and labor which may be required in the prosecution and completion of the work of this contract, as described and shown in the specifications and contract drawings, or as ordered, and also for the making and submitting of all shop drawings and other required data and samples, and for the furnishing of all superintendence and for all loss and damages arising out of the nature of the work aforesaid, or from the action of the elements or from any unseen obstruction or difficulty encountered in the prosecution of the work, and for all expenses incurred by or in consequence of the suspension or discontinuance of the work as herein specified.

SOCIAL SECURITY ACT (Sec. G.33) Each Contractor shall be and remain an independent contractor with respect to all services performed hereunder, and agrees to and does hereby accept full and exclusive liability for the payment of any and all contributions or taxes for social security, unemployment insurance, or old age retirement benefits, pensions, or annuities, now or hereafter imposed under any State or Federal law, which are measured by the wages, salaries, or other

remuneration paid to persons employed by the Contractor on work performed under the terms of this contract, and further agrees to obey all lawful rules and regulations and to meet all lawful requirements which are now or hereafter may be issued or promulgated under said representative laws by any duly authorized state or federal officials; said Contractor also agrees to indemnify and save harmless the Owner from any contributions or taxes or liability therefore.

ESTIMATES AND PAYMENTS (Sec. G.34) Within the first ten (10) days of each month, the Contractor shall submit to the Architect, a full, accurate and detailed estimate of the amount and value of the work done and the materials incorporated into the work during the previous calendar month, whenever said monthly work exceeds Five Thousand Dollars (\$5,000.00) in value. More frequent estimates may be made at the option of the Owner, at any time during the progress of the work, and payment may at any time be withheld if the work is not proceeding in accordance with this contract.

No payments shall be made to directly reimburse the Contractor for the cost of bonds, insurance and other requirements of the contract, which are not completed work or stored equipment. The Contractor shall be compensated for these items as part of the overhead included in the progress payments for completed work.

The Architect will check the estimate and deliver it to the Director. After the Director has approved the estimate, he shall file a certified copy with the Treasurer and the Owner will pay to the Contractor the following compensation:

A. General

The unit or lump sum price stated in the Contract shall be used in determining the amount to be paid and shall constitute full and final compensation for all the work.

Partial payment to the Contractor for work performed under the lump sum price shall be based on a schedule prepared by the Contractor and approved by the Architect who shall apportion the lump sum price to the major components entering into or forming a part of the work under the lump sum price.

B. Payment for Labor

Partial payment to the Contractor for labor performed under either a unit or lump sum price contract shall be made at the rate of ninety-two percent (92%) of the estimates prepared by the Contractor and approved by the Architect. All labor performed after the job is fifty percent (50%) completed shall be paid for at the rate of one hundred percent (100%) of the estimates submitted by the Contractor and approved by the Architect.

C. Payment for Stored Equipment

In addition to all other payments on account of work performed, there shall be allowed by the Director and paid to the Contractor a sum at the rate of ninety-two percent (92%) of the invoice costs, not to exceed the bid price in a unit price contract or the listed price from the subdivision of the bid in a lump sum contract, for equipment delivered on the site of the work (within the State of Ohio), other points in the vicinity of the work, or other approved storage site, provided such equipment have been inspected and found to meet the specifications. The balance of the equipment cost shall be paid when such equipment is incorporated into and becomes a part of such building, construction, addition, improvement, alteration, or installation, unless the Contractor does not prosecute the work with diligence and with the force specified or intended in the contract.

D. Estimates and Security

Upon receiving from the Contractor a submission of the estimates described in Paragraphs B and C above, the Director shall approve a full, accurate and detailed estimate of the various kinds of labor performed and material furnished under the Contract, with the amount due for each kind of labor and material and the materials and amount due in the aggregate, which estimate shall be based upon actual measurement of such labor and materials, and shall give the amounts of the preceding estimate, and the amount of labor performed and materials furnished since the last estimate. The Director shall, at his sole discretion, delete from such estimate any items which are in dispute with respect to either performance or amount due.

From the date when the Contract is fifty percent (50%) complete, as evidenced by payments in the amount of at least fifty percent (50%) of the Contract to the person with whom the Owner has contracted, all funds retained pursuant to Paragraph B above, for the faithful performance of work shall be deposited in the escrow account designated in Section 153.63 of the Ohio Revised Code. After the contract is fifty percent (50%) complete, no further funds shall be retained.

When the major portion of the project is, in the opinion of the Director, substantially completed and occupied, or in use, or otherwise accepted, and the Director sees no other reason to withhold retainage, the retainage held in connection with such portion shall be released from escrow and paid to the Contractor, withholding only that amount which, in the sole opinion of the Director, is necessary to assure completion. Funds in the escrow account not heretofore paid, with accumulated interest, shall be paid to the Contractor thirty days from the date of completion or occupancy by the Owner. Such payments shall be in accordance with Division (A) (2) of Section 153.63 of the Ohio Revised Code.

E. Payments Withheld

Partial payments may be reduced or withheld entirely, if, in the opinion of the Director, construction is not proceeding according to the Contract, or for any other violation of the Contract, or for failure of the Contractor to comply with orders of the Director, or pending settlements of claims or liens filed against the Contractor.

APPROVAL AND ACCEPTANCE OF WORK (Sec. G.35) Following the total completion of all work of the contract, the Architect will prepare the final estimate. After all contract performances have been satisfactorily completed (in full conformance with the Contract Documents), and as soon thereafter as practicable, the Director will inspect the entire work in all parts and details, or cause the same to be inspected. If said work and all contract performances are found to be satisfactory, complete, and in accordance with the provisions and terms of the Contract and specifications, the Director will certify the work as acceptable to the Owner and will accept it upon behalf of the Owner in writing to the Contractor.

Upon approval of this final estimate by the Director, the Owner will pay, within thirty (30) days after acceptance of the work, the full amount of monies due the Contractor, provided the Contractor has furnished evidence of extending the Performance/Payment Bond for the one year guarantee period, has submitted all required special warranties and guarantees, has provided all payroll records, and has certified that all subcontractors and suppliers have been paid in full. The Contractor shall use Contract Form 4 to certify that these things have been performed.

GUARANTEE (Sec. G.36) Before payment of the final estimate is released to the Contractor, as above provided, the Contractor shall extend the Performance/Payment Bond in the amount of one hundred percent (100%) of the Contract price guaranteeing the repair and correction or replacement of any defect in material, equipment and workmanship becoming evident at any time during a two (2) year guarantee period and at full cost to the Contractor and at no cost to the Owner. The bond shall be in effect for a period of two (2) years commencing on the Contract acceptance date. A guarantee or maintenance bond acceptable to the Owner may be used in lieu of extending the Performance/Payment Bond.

Within twenty-four (24) months after the acceptance of the work as hereinbefore provided, and provided further that any repairs necessitated by defects in material or workmanship as determined by the Architect shall have been made, the Owner, upon certification in writing by the Director that the terms of the contract have been complied with and the work and performances of the Contract itself satisfactorily and fully completed, will inform the Contractor, in writing, of the Owner's final acceptance of the work and such written notice will serve to release the surety on the Performance/Payment Bond, will terminate this Contract and release all parties hereunder.

If, however, the review and reinspection as described herein or any prior inspection discloses defects due to the nonfulfillment of this Contract, or noncompliance with its requirements, the Director shall so notify the Contractor in writing, and thereupon the Contractor shall, at his own expense, repair or replace and shall make good all defects of workmanship, material and guarantee, and shall rectify any noncompliance and such repairs and fulfillment shall be a prerequisite to the release of the surety on the Performance/Payment Bond. Should the

Contractor after due notice refuse or neglect to make good the defects as notified and to the satisfaction of the Director, then the Director may and is empowered to proceed in the manner prescribed in the event of abandonment or forfeiture of the work by the Contractor, and completion by the Owner and the payment of claims for material and labor and other expenses as provided in such procedures shall be a prerequisite to the termination of guarantee and to the release of the surety on the Performance/Payment Bond.

CONTRACTOR'S CLAIM FOR DAMAGES (Sec. G.37) If the Contractor shall claim compensation for any damage sustained by reason of the acts of the Owner or of its agents, he shall, within seven (7) days after the sustaining of such damages, make a written statement to the Architect of the nature of the damages sustained. Within thirty (30) days of such damage, the Contractor shall file with the Director an itemized statement of the details and the amount of such damage, and unless such statement is made as thus required, his claim for compensation shall be forfeited and invalidated, and he shall not be entitled to payment on account of any such damage.

NO WAIVER OF CONTRACT (Sec. G.38) Neither extension of time for any reason beyond the date fixed herein for the completion of a contract, nor the delivery and acceptance of any article or materials nor any payment for, nor acceptance of the whole or any part of the work by the Director, nor any possession taken by the Owner or its employees or agents, shall be deemed to be a waiver by the Owner of the right to abrogate the contract for abandonment or for delay or non-performance in the manner herein provided, nor shall it operate to void or annul any of the terms of the contract.

NO ESTOPPEL (Sec. G.39) Neither the Owner nor any department or officer thereof shall be precluded or estopped, by any return, or certificate made or given by the Director or other officer, agent, Architect or appointee of the Owner under any provision of the Agreement, from at any time (before the completion and acceptance of the work, payment therefor, or before the release of the Performance/Payment Bond, pursuant to any such return or certificate) showing the true and correct amount and character of the work done and materials furnished by the Contractor or any other person under this agreement, or that any such return or certificate is untrue and incorrect or improperly made in any particular, or that the work and materials, or any part thereof, do not in fact conform to the specifications and contract drawings, and the Owner shall not be precluded or estopped, notwithstanding any such return or certificate and payment in accordance therewith, from demanding and recovering from the Contractor such damages as it may sustain by reason of his failure to comply with the specifications and contract drawings.

CERTIFICATE OF UNEXPENDED APPROPRIATIONS (Sec. G.40) These contracts or any agreements subsidiary thereto shall not be binding or of any force unless the Finance Director for the Owner shall endorse thereon his certificate that there remains unexpended or in process of collection and un-applied a balance of the appropriation of funds applicable thereto sufficient to pay the estimated expense of executing the contract or subsidiary agreement, as certified by the officers making the same.

SUBLETTING (Sec. G.41) The Contractor shall utilize the services of specialty and other subcontractors to the extent that the Contractor deems appropriate, subject to the limitations stated below. The Contractor shall be solely responsible for the selection of subcontractors and shall be

as fully responsible to the Owner for the acts and omissions for his subcontractors, and of persons employed by them, either directly or indirectly, as the Contractor is for the acts and omissions of persons directly employed by the Contractor. The Contractor cannot subcontract more than fifty percent (50%) of the value of the Contract.

The Owner has the right to reject and require replacement of a subcontractor whose competency, qualifications and work record are indicative of less than adequate performance. The reasons by which the Owner may object to a subcontractor include, but are not limited to, prior litigation regarding contract performance, other manifestations of a failure to have satisfactorily performed on a contract or default on a contract. The basis for subcontractor rejection can emanate from the subcontractor's performance on a previous contract with the Owner, but is not limited to such contracts.

Subsequent to bid opening, and prior to Contract award, the successful bidder shall provide the Owner with a list of all subcontractors to be used on the project. This list shall give the name and addresses of the subcontractor, the name and phone number of a designated contact person, and the dollar amount and general description of the scope of work to be performed.

The Contractor shall provide the Owner with timely notice of any change in the roster of subcontractors during the course of construction, including significant expansion/reduction of the scope of work of a previously identified subcontractor. The information to be provided should be similar to that described above.

The Contractor shall be as 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 the prime agreement between the Owner and the Contractor insofar as applicable to the work of the 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 the Contract Documents.

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

Within ten (10) days after the Contractor receives payment for work performed under this contract, he shall pay each material and equipment supplier and each subcontractor the amount allowed the Contractor for material and equipment furnished and on account of work performed by the subcontractor to the extent of the supplier's or subcontractor's interest therein.

ASSIGNMENT (Sec. G.42) The Contractor or his thoroughly qualified and designated representative shall give his personal attention constantly to the faithful prosecution of the work. He shall not assign, transfer, convey, or otherwise dispose of this contract, or of his right, title, or interest in, or to the same or any part thereof, without the previous written approval of the Owner.

The Contractor shall not assign, by power of attorney or otherwise, any of the monies to become due and payable under this contract, unless by and with the written consent and approval of the Owner, and such consent or approval, if given, will in nowise relieve the Contractor from any of the obligations of said contract.

Assignment of this contract or any part thereof or of any funds to be received thereunder by the Contractor shall contain a clause to the effect that it is agreed that the funds to be paid the assignee are subject to a prior lien for services rendered or materials supplied for the performance of the work called for in said contract in favor of all persons, firms, or corporations rendering such services or supplying such materials.

PROHIBITED INTERESTS (Sec. G.43) No employees of the Owner nor of the Consulting Architects who may be authorized in such capacity and on behalf of the Owner to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction equipment or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part thereof. No officer, employee, architect, attorney, engineer or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any executive, supervisory, or other similar functions in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part hereof.

SPECIAL NOTICE (Sec. G.44) Bidders are required to inform themselves fully of the conditions relating to construction and labor under which the work will be or is now being performed, and each Contractor must employ, so far as possible, such methods and means in the carrying out of his work as will not cause any interruption of, or interference with, any other contractor.

NOTIFICATION OF UTILITIES (Sec. G.45) Pursuant to Section 153.64 ORC, the Owner has contacted owners of underground facilities for information relating to the existence and location of underground utilities facilities within the construction area. The Owner and the Consulting Architect have used reasonable diligence to reflect such information as was received from the utility owners on the plans and specifications. The Owner and the Consulting Architect have relied upon the utility owners to provide information about the existence and location of underground utility facilities and accept no responsibility for and make no representation or warranty as to the accuracy or completeness of such information.

O.U.P.S. - Ohio Utilities Protection Service-- 800-362-2764, 4740 Belmont Avenue, Youngstown, Ohio 44505.

Notify utility owner directly if not a O.U.P.S. member.

In the event that the Project will require temporary or permanent relocation of any underground utility facility located in the construction area, the Contractor agrees to work with the owner of the underground utility facility in order to coordinate the Contractor's construction operations with such relocation.

The Contractor shall cause notice to be given to the registered underground utility protection services and the owners of underground utility facilities listed above that are not members of a registered underground utilities protection service at least four (4) working days (excluding Saturdays, Sundays, and legal holidays) prior to commencing construction operations in the construction area which may involve underground utility facilities. Notice shall be given via certified mail, return receipt requested. The Contractor shall mail such notices sufficiently in advance of commencing or otherwise designate the location of the underground utility facilities in the initial construction area, showing the course of the utility facilities and the approximate depth at which they were installed. Such marking or locating shall be coordinated to stay approximately two days ahead of planned construction.

Contractor shall be responsible for all losses, costs and expenses, direct or indirect, arising out of or in any way related to damage or injury to any underground utility facility in the following circumstances: (a) Contractor fails to comply with the above paragraph hereof and the damage or injury could have been prevented or mitigated, in whole or in part, if Contractor had complied with such paragraph hereof; or (b) the underground utility facility or Contractor had actual notice of the location of the underground utility facility. Contractor hereby agrees to indemnify and save harmless the City from and against all liabilities, claims or demands arising out of or in any way related to such damage or injury and further from and against any judgment, settlement, penalty, loss, costs, expenses, liability or damages that the City may directly or indirectly sustain, suffer or incur as a result thereof.

The Contractor shall immediately alert the occupants of nearby premises as to any emergency that Contractor may create or discover at or near such premises. The Contractor shall report immediately to the owner or operator of the underground utility facility any break or leaks on its lines or any dent, gouge, groove, or other damage to such lines or to their coating or cathodic protection, made or discovered in the course of their excavation.

In the event of a dispute as to the application of Section 153.64 of the Ohio Revised Code, the dispute shall be resolved in accordance with the provisions of this contract.

MAINTENANCE OF TRAFFIC (Sec. G.46) Maintenance of traffic shall be in accordance with these Specifications and Contract Drawings, but in any case the Contractor must so limit his operations as to provide at all times minimum of one (1) suitable unobstructed and well maintained lane for traffic in each direction on all improved streets unless specifically otherwise authorized in writing by the Director. When necessary, or upon orders of the Resident Engineer, the Contractor shall build temporary sidewalks and roadways or detours to accommodate traffic and/or for his hauling operations, of adequate thickness, width and with proper drainage suitable for traffic, and he shall maintain them without ruts, holes and dust, at all times and at no cost to the Owner.

WORKING SPACE (Sec. G.47) Contractor's use of the site of the work and of public streets is subject to the regulations of the Director, and must be restricted to the construction easements and street rights-of-way lines as actually pertaining whether or not they conform to those shown on Contract Drawings. Should the Contractor desire or require space for storage or construction additional to those provided, such additional space must be arranged for by the Contractor at his expense. All agreements for such additional space must be in writing and a copy must be filed with the Director and with the Architect.

APPENDIX A

EQUAL OPPORTUNITY REQUIREMENTS

52.222-26 Equal Opportunity.

As prescribed in 22.810(e), insert the following clause:

EQUAL OPPORTUNITY (APR 2015)

(a) Definition. As used in this clause.

“Gender identity” has the meaning given by the Department of Labor’s Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

“Sexual orientation” has the meaning given by the Department of Labor’s Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

“United States,” means the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.

(b)(1) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of \$10,000, the Contractor shall comply with this clause, except for work performed outside the United States by employees who were not recruited within the United States. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(2) If the Contractor is a religious corporation, association, educational institution, or society, the requirements of this clause do not apply with respect to the employment of individuals of a particular religion to perform work connected with the carrying on of the Contractor’s activities (41 CFR 60-1.5).

(c)(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. However, it shall not be a violation of this clause for the Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation, in connection with employment opportunities on or near an Indian reservation, as permitted by 41 CFR 60-1.5.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. This shall include, but not be limited to—

- (i) Employment;
- (ii) Upgrading;
- (iii) Demotion;
- (iv) Transfer;
- (v) Recruitment or recruitment advertising;

- (vi) Layoff or termination;
- (vii) Rates of pay or other forms of compensation; and
- (viii) Selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(5) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(7) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall also file Standard Form 100 (EEO-1), or any successor form, as prescribed in 41 CFR Part 60-1. Unless the Contractor has filed within the 12 months preceding the date of contract award, the Contractor shall, within 30 days after contract award, apply to either the regional Office of Federal Contract Compliance Programs (OFCCP) or the local office of the Equal Employment Opportunity Commission for the necessary forms.

(8) The Contractor shall permit access to its premises, during normal business hours, by the contracting agency or the OFCCP for the purpose of conducting on-site compliance evaluations and complaint investigations. The Contractor shall permit the Government to inspect and copy any books, accounts, records (including computerized records), and other material that may be relevant to the matter under investigation and pertinent to compliance with Executive Order 11246, as amended, and rules and regulations that implement the Executive Order.

(9) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(10) The Contractor shall include the terms and conditions of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the

Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(11) The Contractor shall take such action with respect to any subcontract or purchase order as the Contracting Officer may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance, provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(d) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR 60-1.1.

52.222-21 Prohibition of Segregated Facilities.

As prescribed in 22.810(a)(1), insert the following clause:

PROHIBITION OF SEGREGATED FACILITIES (APR 2015)

(a) Definitions. As used in this clause

“Gender identity” has the meaning given by the Department of Labor’s Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

“Segregated facilities,” means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

“Sexual orientation” has the meaning given by the Department of Labor’s Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

(b) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

52.222-22 Previous Contracts and Compliance Reports.

As prescribed in 22.810(a)(2), insert the following provision:

PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)

The offeror represents that—

It has, has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;

It has, has not filed all required compliance reports; and

Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

52.222-23 Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity for Construction.

As prescribed in 22.810(b), insert the following provision:

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)

(a) The offeror’s attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor’s aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for Minority Participation for Each Trade	Goals for Female Participation for Each Trade
--	--

_____ [Contracting Officer shall insert goals]

_____ [Contracting Officer shall insert goals]

These goals are applicable to all the Contractor’s construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor’s compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled “Affirmative Action Compliance Requirements for Construction,” and (3) its efforts to meet the goals. The hours of

minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the—

- (1) Name, address, and telephone number of the subcontractor;
- (2) Employer's identification number of the subcontractor;
- (3) Estimated dollar amount of the subcontract;
- (4) Estimated starting and completion dates of the subcontract; and
- (5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is _____ [Contracting Officer shall insert description of the geographical areas where the contract is to be performed, giving the state, county, and city].

52.222-25 Affirmative Action Compliance.

As prescribed in 22.810(d), insert the following provision:

AFFIRMATIVE ACTION COMPLIANCE (APR 1984)

The offeror represents that—

(a) It ___ has developed and has on file, ___ has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2); or

(b) It ___ has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

52.222-27 Affirmative Action Compliance Requirements for Construction.

As prescribed in 22.810(f), insert the following clause:

AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION (APR 2015)

(a) Definitions. As used in this clause—

“Covered area” means the geographical area described in the solicitation for this contract.

“Deputy Assistant Secretary,” means the Deputy Assistant Secretary for the Office of Federal Contract Compliance Programs, U.S. Department of Labor, or a designee.

“Employer identification number,” means the Federal Social Security number used on the employer’s quarterly Federal tax return, U.S. Treasury Department Form 941.

“Gender identity” has the meaning given by the Department of Labor’s Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

“Minority,” as used in this clause, means—

(1) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(2) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands);

(3) Black (all persons having origins in any of the black African racial groups not of Hispanic origin); and

(4) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race).

“Sexual orientation” has the meaning given by the Department of Labor’s Office of Federal Contract Compliance Programs, and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

(b) If the Contractor, or a subcontractor at any tier, subcontracts a portion of the work involving any construction trade, each such subcontract in excess of \$10,000 shall include this clause and the Notice containing the goals for minority and female participation stated in the solicitation for this contract.

(c) If the Contractor is participating in a Hometown Plan (41 CFR 60-4) approved by the U.S. Department of Labor in a covered area, either individually or through an association, its affirmative action obligations on all work in the plan area (including goals) shall comply with the plan for those trades that have unions participating in the plan. Contractors must be able to demonstrate participation in, and compliance with, the provisions of the plan. Each Contractor or subcontractor participating in an approved plan is also required to comply with its obligations under the Equal Opportunity clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good-faith performance by other Contractors or subcontractors toward a goal in an approved plan does not excuse any Contractor’s or subcontractor’s failure to make good-faith efforts to achieve the plan’s goals.

(d) The Contractor shall implement the affirmative action procedures in paragraphs (g)(1) through (16) of this clause. The goals stated in the solicitation for this contract are expressed as percentages of the total hours of employment and training of minority and female utilization that the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for the geographical

area where that work is actually performed. The Contractor is expected to make substantially uniform progress toward its goals in each craft.

(e) Neither the terms and conditions of any collective bargaining agreement, nor the failure by a union with which the Contractor has a collective bargaining agreement, to refer minorities or women shall excuse the Contractor's obligations under this clause, Executive Order 11246, as amended, or the regulations thereunder.

(f) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(g) The Contractor shall take affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with this clause shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and implement affirmative action steps at least as extensive as the following:

(1) Ensure a working environment free of harassment, intimidation, and coercion at all sites and in all facilities where the Contractor's employees are assigned to work. The Contractor, if possible, will assign two or more women to each construction project. The Contractor shall ensure that foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at these sites or facilities.

(2) Establish and maintain a current list of sources for minority and female recruitment. Provide written notification to minority and female recruitment sources and community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Establish and maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant, referrals of minorities or females from unions, recruitment sources, or community organizations, and the action taken with respect to each individual. If an individual was sent to the union hiring hall for referral and not referred back to the Contractor by the union or, if referred back, not employed by the Contractor, this shall be documented in the file, along with whatever additional actions the Contractor may have taken.

(4) Immediately notify the Deputy Assistant Secretary when the union or unions with which the Contractor has a collective bargaining agreement has not referred back to the Contractor a minority or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area that expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially

those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under paragraph (g)(2) of this clause.

(6) Disseminate the Contractor's equal employment policy by—

(i) Providing notice of the policy to unions and to training, recruitment, and outreach programs, and requesting their cooperation in assisting the Contractor in meeting its contract obligations;

(ii) Including the policy in any policy manual and in collective bargaining agreements;

(iii) Publicizing the policy in the company newspaper, annual report, etc.;

(iv) Reviewing the policy with all management personnel and with all minority and female employees at least once a year; and

(v) Posting the policy on bulletin boards accessible to employees at each location where construction work is performed.

(7) Review, at least annually, the Contractor's equal employment policy and affirmative action obligations with all employees having responsibility for hiring, assignment, layoff, termination, or other employment decisions. Conduct review of this policy with all on-site supervisory personnel before initiating construction work at a job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's equal employment policy externally by including it in any advertising in the news media, specifically including minority and female news media. Provide written notification to, and discuss this policy with, other Contractors and subcontractors with which the Contractor does or anticipates doing business.

(9) Direct recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than 1 month before the date for acceptance of applications for apprenticeship or training by any recruitment source, send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit minority persons and women. Where reasonable, provide after-school, summer, and vacation employment to minority and female youth both on the site and in other areas of the Contractor's workforce.

(11) Validate all tests and other selection requirements where required under 41 CFR 60-3.

(12) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities. Encourage these employees to seek or to prepare for, through appropriate training, etc., opportunities for promotion.

(13) Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the Contractor's obligations under this contract are being carried out.

(14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user rest rooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

(15) Maintain a record of solicitations for subcontracts for minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's equal employment policy and affirmative action obligations.

(h) The Contractor is encouraged to participate in voluntary associations that may assist in fulfilling one or more of the affirmative action obligations contained in paragraphs (g)(1) through (16) of this clause. The efforts of a contractor association, joint contractor-union, contractor-community, or similar group of which the contractor is a member and participant may be asserted as fulfilling one or more of its obligations under paragraphs (g)(1) through (16) of this clause, provided, the Contractor—

(1) Actively participates in the group;

(2) Makes every effort to ensure that the group has a positive impact on the employment of minorities and women in the industry;

(3) Ensures that concrete benefits of the program are reflected in the Contractor's minority and female workforce participation;

(4) Makes a good-faith effort to meet its individual goals and timetables; and

(5) Can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

(i) A single goal for minorities and a separate single goal for women shall be established. The Contractor is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may be in violation of Executive Order 11246, as amended, if a particular group is employed in a substantially disparate manner.

(j) The Contractor shall not use goals or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.

(k) The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts under Executive Order 11246, as amended.

(l) The Contractor shall carry out such sanctions and penalties for violation of this clause and of the Equal Opportunity clause, including suspension, termination, and cancellation of existing subcontracts, as may be imposed or ordered under Executive Order 11246, as amended, and its implementing regulations, by the OFCCP. Any failure to carry out these sanctions and penalties as ordered shall be a violation of this clause and Executive Order 11246, as amended.

(m) The Contractor in fulfilling its obligations under this clause shall implement affirmative action procedures at least as extensive as those prescribed in paragraph (g) of this clause, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of Executive Order 11246, as amended, the implementing regulations, or this clause, the Deputy Assistant Secretary shall take action as prescribed in 41 CFR 60-4.8.

(n) The Contractor shall designate a responsible official to—

(1) Monitor all employment-related activity to ensure that the Contractor's equal employment policy is being carried out;

(2) Submit reports as may be required by the Government; and

(3) Keep records that shall at least include for each employee the name, address, telephone number, construction trade, union affiliation (if any), employee identification number, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, separate records are not required to be maintained.

(o) Nothing contained herein shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

BIDDER SHALL INSERT STATE OF OHIO EEO CERTIFICATION OF COMPLIANCE.

APPENDIX B

W-9 FORM AND INSTRUCTIONS

(see following pages)

Request for Taxpayer Identification Number and Certification

**Give Form to the
 requester. Do not
 send to the IRS.**

Print or type See Specific Instructions on page 2.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2 Business name/disregarded entity name, if different from above	
	3 Check appropriate box for federal tax classification; check only one of the following seven boxes: <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner. <input type="checkbox"/> Other (see instructions) ▶ _____	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>
	5 Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	6 City, state, and ZIP code	
	7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Social security number									
				-			-		
or									
Employer identification number									
					-				

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here	Signature of U.S. person ▶	Date ▶
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General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

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?* on page 2 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 persons 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 Publication 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 28% 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 Part II instructions on page 3 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* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

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* on page 3 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, list first, and then circle, the name of the person or entity whose number you entered in Part I of 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 in line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box in line 3.

Limited Liability Company (LLC). If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space in 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 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² 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.

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. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on this page), 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 the chart on page 4 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. 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 and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

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 items 1, 4, or 5 below indicate 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), 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)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
5. Sole proprietorship or disregarded entity owned by an individual	The owner ³
6. 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:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ⁴
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. 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
14. 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

¹ 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.

² Circle the minor's name and furnish the minor's SSN.

³ 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.

⁴ 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* on page 2.

*Note. 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 Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system 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. 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 or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov 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.

APPENDIX C
PREVAILING WAGE RATES

General Decision Number: OH160122 09/02/2016 OH122

Superseded General Decision Number: OH20150122

State: Ohio

Construction Type: Building

County: Trumbull County in Ohio.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually.

Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/08/2016
1	01/15/2016
2	01/22/2016
3	02/05/2016
4	02/19/2016
5	05/06/2016
6	06/17/2016
7	07/08/2016
8	08/12/2016
9	09/02/2016

ASBE0008-010 07/01/2015

Rates Fringes

ASBESTOS WORKER/HEAT & FROST
INSULATOR.....\$ 29.40 14.77

BROH0008-006 06/01/2015

Rates Fringes

BRICKLAYER.....\$ 27.15 16.82

BROH0008-008 06/01/2015

Rates Fringes

BRICK POINTER/CAULKER/CLEANER....\$ 27.15 16.82

BROH0036-001 05/01/2015

Rates Fringes

TILE SETTER.....\$ 29.06 10.49

CARP0171-003 05/01/2014

Rates Fringes

CARPENTER (Drywall Hanging
and Metal Stud Installation
Only, Excludes Form Work).....\$ 26.02 15.49

ELEC0064-004 11/30/2015

Rates Fringes

ELECTRICIAN (Excludes Low
Voltage Wiring).....\$ 32.02 13.74

ELEV0045-004 01/01/2016

Rates Fringes

ELEVATOR MECHANIC.....\$ 44.40 29.985+a+b

PAID HOLIDAYS:

a. New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving, and Christmas Day.

b. Employer contributes 8% of regular hourly rate to vacation pay credit for employee who has worked in business more than 5 years; 6% for less than 5 years' service.

ENGI0066-049 06/01/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Backhoe/Excavator/Trackhoe; Bobcat/Skid Steer/Skid Loader; Bulldozer; Crane; Grader/Blade; Loader.....	\$ 31.02	17.51
Forklift.....	\$ 27.91	17.51
Mechanic.....	\$ 31.52	17.51
Oiler.....	\$ 21.79	17.51

IRON0207-014 06/01/2015

	Rates	Fringes
IRONWORKER (Ornamental, Reinforcing and Structural).....	\$ 28.06	22.70

LABO0125-004 06/01/2016

	Rates	Fringes
LABORER Mason Tender - Cement/Concrete.....	\$ 26.15	10.30

LABO0935-001 05/01/2014

	Rates	Fringes
LABORER		

Form Work.....\$ 28.15 9.80

LABO0935-002 06/01/2016

Rates Fringes

LABORER

Common or General.....\$ 25.79 10.30

Mason Tender - Brick.....\$ 26.15 10.30

PAIN0847-002 06/01/2016

Rates Fringes

GLAZIER.....\$ 25.76 15.54

PLAS0179-001 06/01/2016

Rates Fringes

CEMENT MASON/CONCRETE FINISHER...\$ 28.95 17.11

PLUM0396-004 06/01/2016

Rates Fringes

PIPEFITTER (Includes HVAC
Pipe Installation).....\$ 33.50 21.96

PLUMBER (Excludes HVAC Pipe
Installation).....\$ 33.50 21.96

ROOF0044-003 05/01/2016

Rates Fringes

ROOFER.....\$ 31.10 17.83

* SHEE0033-022 07/01/2016

Rates Fringes

SHEET METAL WORKER (HVAC Duct
Installation Only).....\$ 29.92 23.11

* SHEE0033-023 07/01/2016

	Rates	Fringes
SHEET METAL WORKER (Excluding HVAC Duct Installation).....	\$ 29.92	23.11

* UAVG-OH-0029 01/01/2016

	Rates	Fringes
PAINTER: Spray.....	\$ 25.29	11.73

* UAVG-OH-0033 01/01/2016

	Rates	Fringes
OPERATOR: Roller.....	\$ 29.46	17.51

* UAVG-OH-0034 01/01/2016

	Rates	Fringes
PAINTER (Drywall Finishing/Taping Only).....	\$ 25.39	11.73

SUOH2012-103 08/29/2014

	Rates	Fringes
ELECTRICIAN (Low Voltage Wiring Only).....	\$ 20.58	0.00
LABORER: Pipelayer.....	\$ 23.98	8.58
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 30.28	13.29
PAINTER (Brush and Roller).....	\$ 20.52	10.06
TILE FINISHER.....	\$ 24.24	9.75

TRUCK DRIVER: Dump (All Types)...\$ 24.32 11.73

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage

payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

SECTION 000004 – TABLE OF CONTENTS

DIVISION 00 - BIDDING & CONTRACT REQUIREMENTS:

CITY OF NILES FRONT END SPECIFICATIONS AND BID DOCUMENTS

000004	TABLE OF CONTENTS
000005	INDEX OF DRAWINGS
000107	SEALS PAGE

DIVISION 01 - GENERAL REQUIREMENTS:

011000	SUMMARY
012200	UNIT PRICES
012300	ALTERNATES
012600	CONTRACT MODIFICATION PROCEDURES
012900	PAYMENT PROCEDURES
013300	SUBMITTAL PROCEDURES
013516	ALTERATION PROJECT PROCEDURES
015000	TEMPORARY FACILITIES & CONTROLS
016000	PRODUCT REQUIREMENTS
017300	EXECUTION
017700	CLOSEOUT PROCEDURES
017839	PROJECT RECORD DOCUMENTS

DIVISION 05 – METALS

055000	METAL FABRICATIONS
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DIVISION 07 - THERMAL & MOISTURE PROTECTION:

070150.19	PREPARATION FOR REROOFING
075323	ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING
075419	POLYVINYL-CHLORIDE (PVC) ROOFING
076200	SHEET METAL FLASHING AND TRIM
077200	ROOF ACCESSORIES

END OF SECTION 000004

NO PRINTING THIS PAGE

SECTION 000005 - INDEX OF DRAWINGS

G-CS	COVER SHEET AND CODE ANALYSIS
D1.1	ROOF EXISTING CONDITIONS / DEMOLITION PLAN
A1.1	ROOF PLAN
A2.1	ROOF DETAILS
A2.2	ROOF DETAILS

END OF SECTION 000005

NO PRINTING THIS PAGE

DOCUMENT 000107 - SEALS PAGE

1.1 DESIGN PROFESSIONALS OF RECORD

A. Architect:

1. Phillips | Sekanick Architect, inc.
2. Bruce W. Sekanick, AIA, Ohio #8954.
3. Responsible for Divisions 01-49 Sections except where indicated as prepared by other design professionals of record.

END OF DOCUMENT 000107

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SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Access to site.
3. Coordination with occupants.
4. Work restrictions.
5. Specification and Drawing conventions.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.2 PROJECT INFORMATION

A. Project Identification: Niles City Building Roof Replacement.

1. Project Location: 34 W. State St., Niles, OH 44446.

B. Owner: The City of Niles.

1. Owner's Representative: Jim DePasquale.

C. Architect: Phillips|Sekanick Architects, inc., 142 E. Market St., Warren, OH 44481.

1.3 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to Work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Driveways, Walkways, and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.4 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy site and existing building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.

1.5 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 4:30 p.m., Monday through Friday, unless otherwise indicated.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
 - 1. Notify Owner not less than two days in advance of proposed disruptive operations.
- E. Restricted Substances: Use of tobacco products within the existing building is not permitted.
- F. Controlled Substances: Use of controlled substances on Project site is not permitted.

1.6 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

NO PRINTING THIS PAGE

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.

1.2 DEFINITIONS

- A. Unit price is an amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
- B. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- C. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price No. 1 - Metal Roof Deck:
 - 1. Description: Remove unsound metal roof deck and replace with 0.0358 inch thick (22 ga.) minimum ASTM A653 galvanized-steel deck with depth and profile to match existing.
 - 2. Unit of Measurement: Square foot.

END OF SECTION 012200

NO PRINTING THIS PAGE

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Execute accepted alternates under the same conditions as other work of the Contract.
- C. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1: PVC Roofing Membrane.

1. Base Bid: Provide EPDM roofing membrane system as specified in Section 075323 "Ethylene-Propylene-Diene-Monomer (EPDM) Roofing."
 2. Alternate: Provide PVC roofing membrane system as specified in Section 075419 "Polyvinyl-Chloride (PVC) Roofing."
- B. Alternate No. 2: Shop-Built Roof Hatch.
1. Base Bid: Provide manufactured roof hatch as specified in Section 077200 "Roof Accessories."
 2. Alternate: Provide shop-built roof hatch as indicated on Roof Hatch Detail.

END OF SECTION 012300

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.2 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710.

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

1.4 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 - 1. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt. One copy shall include waivers of lien and similar attachments if required.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
 - 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 - 2. When an application shows completion of an item, submit conditional final or full waivers.
 - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 - 5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

- G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Contractor's final construction schedule.
 3. Products list.
 4. Schedule of unit prices.
 5. Copies of building permits.
 6. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 7. Certificates of insurance and insurance policies.
 8. Performance and payment bonds.
 9. Data needed to acquire Owner's insurance.
- H. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707, "Consent of Surety of Final Payment."
 7. Evidence that claims have been settled.
 8. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for submittals.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.3 SUBMITTAL FORMATS

A. Submittal Information: Include the following information in each submittal:

1. Project name.
2. Date.
3. Name of Architect.
4. Name of Contractor.
5. Name of firm or entity that prepared submittal.
6. Names of subcontractor, manufacturer, and supplier.
7. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
8. Signature of transmitter.

- B. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.

C. Paper Submittals:

1. Place a permanent label or title block on each submittal item for identification; include name of firm or entity that prepared submittal.
2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.

3. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. Architect will return two copies.
 4. Informational Submittals: Submit one paper copy of each submittal unless otherwise indicated. Architect will not return copy.
- D. PDF Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.4 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Email: Prepare submittals as PDF package, and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
 2. Paper: Prepare submittals in paper form, and deliver to Architect.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 5 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Resubmittal Review: Allow 5 days for review of each resubmittal.
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

1.5 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Paper Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
 - a. Two opaque (bond) copies of each submittal. Architect will return one copy(ies).
- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Product name and name of manufacturer.
 - c. Number and title of applicable Specification Section.
 - d. Specification paragraph number and generic name of each item.
 3. Paper Transmittal: Include paper transmittal including complete submittal information indicated.
 4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

- a. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
- D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- E. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- F. Certificates:
 1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
 2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
 5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
 6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- G. Test and Research Reports:
 1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
 2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

1.6 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

1.7 ARCHITECT'S REVIEW

- A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required, and return it.
 1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action.
 2. Paper Submittals: Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- D. Architect will return without review submittals received from sources other than Contractor.
- E. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

SECTION 013516 - ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes special procedures for alteration work.

1.2 DEFINITIONS

- A. Alteration Work: This term includes remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project.
- B. Consolidate: To strengthen loose or deteriorated materials in place.
- C. Design Reference Sample: A sample that represents the Architect's prebid selection of work to be matched; it may be existing work or work specially produced for the Project.
- D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.
- F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.
- G. Repair: To correct damage and defects, retaining existing materials, features, and finishes. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.
- H. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.
- I. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.
- J. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.
- K. Retain: To keep existing items that are not to be removed or dismantled.
- L. Strip: To remove existing finish down to base material unless otherwise indicated.

1.3 MATERIALS OWNERSHIP

- A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered or uncovered during the Work, regardless of whether they were previously documented, remain Owner's property.

1.4 QUALITY ASSURANCE

- A. Alteration Work Program: Prepare a written plan for alteration work for whole Project, including each phase or process and protection of surrounding materials during operations. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project alteration work program with specific requirements of programs required in other alteration work Sections.
 - 1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.
 - 2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.
- B. Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire extinguishers, fire blankets, rag buckets, and other fire-control devices during each phase or process. Coordinate plan with Owner's fire-protection equipment and requirements. Include fire-watch personnel's training, duties, and authority to enforce fire safety.
- C. Safety and Health Standard: Comply with ANSI/ASSE A10.6.

1.5 STORAGE AND HANDLING OF SALVAGED MATERIALS

- A. Salvaged Materials:
 - 1. Clean loose dirt and debris from salvaged items unless more extensive cleaning is indicated.
 - 2. Pack or crate items after cleaning; cushion against damage during handling. Label contents of containers.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area designated by Owner.
 - 5. Protect items from damage during transport and storage.
- B. Salvaged Materials for Reinstallation:
 - 1. Repair and clean items for reuse as indicated.
 - 2. Pack or crate items after cleaning and repairing; cushion against damage during handling. Label contents of containers.
 - 3. Protect items from damage during transport and storage.
 - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.

- C. Existing Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after alteration and other construction work in the vicinity is complete.
- D. Storage: Catalog and store items within a weathertight enclosure where they are protected from moisture, weather, condensation, and freezing temperatures.
 - 1. Identify each item for reinstallation with a nonpermanent mark to document its original location. Indicate original locations on plans, elevations, sections, or photographs by annotating the identifying marks.
 - 2. Secure stored materials to protect from theft.
 - 3. Control humidity so that it does not exceed 85 percent. Maintain temperatures 5 deg F or more above the dew point.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work.
 - 1. Use only proven protection methods, appropriate to each area and surface being protected.
 - 2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
 - 3. Erect temporary barriers to form and maintain fire-egress routes.
 - 4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during alteration work.
 - 5. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent surfaces.
 - 6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
 - 7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
- B. Temporary Protection of Materials to Remain:
 - 1. Protect existing materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
 - 2. Do not attach temporary protection to existing surfaces except as indicated as part of the alteration work program.
- C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.
- D. Utility and Communications Services:

1. Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations.
 2. Disconnect and cap pipes and services as required by authorities having jurisdiction, as required for alteration work.
 3. Maintain existing services unless otherwise indicated; keep in service, and protect against damage during operations. Provide temporary services during interruptions to existing utilities.
- E. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.
1. Prevent solids such as adhesive or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from alteration work.
 2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.
- F. Existing Roofing: Prior to the start of work in an area, install roofing protection where existing roofing is to remain, if any.

3.2 PROTECTION FROM FIRE

- A. General: Follow fire-prevention plan and the following:
1. Comply with NFPA 241 requirements unless otherwise indicated.
 2. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.
 - a. If combustible material cannot be removed, provide fire blankets to cover such materials.
- B. Heat-Generating Equipment and Combustible Materials: Comply with the following procedures while performing work with heat-generating equipment or combustible materials, including welding, torch-cutting, soldering, brazing, removing paint with heat, or other operations where open flames or implements using high heat or combustible solvents and chemicals are anticipated:
1. Obtain Owner's approval for operations involving use of open-flame or welding or other high-heat equipment. Notify Owner at least 72 hours before each occurrence, indicating location of such work.
 2. As far as practicable, restrict heat-generating equipment to shop areas or outside the building.
 3. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
 4. Use fireproof baffles to prevent flames, sparks, hot gases, or other high-temperature material from reaching surrounding combustible material.
 5. Prevent the spread of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.

6. Fire Watch: Before working with heat-generating equipment or combustible materials, station personnel to serve as a fire watch at each location where such work is performed. Fire-watch personnel shall have the authority to enforce fire safety. Station fire watch according to NFPA 51B, NFPA 241, and as follows:
 - a. Train each fire watch in the proper operation of fire-control equipment and alarms.
 - b. Prohibit fire-watch personnel from other work that would be a distraction from fire-watch duties.
 - c. Cease work with heat-generating equipment whenever fire-watch personnel are not present.
 - d. Have fire-watch personnel perform final fire-safety inspection each day beginning no sooner than 30 minutes after conclusion of work to detect hidden or smoldering fires and to ensure that proper fire prevention is maintained.
 - e. Maintain fire-watch personnel at Project site until two hours after conclusion of daily work.
- C. Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for the type of fire risk in each work area. Ensure that nearby personnel and the fire-watch personnel are trained in fire-extinguisher and blanket use.
- D. Sprinklers: Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to sprinklers, shield them temporarily with guards.
 1. Remove temporary guards at the end of work shifts, whenever operations are paused, and when nearby work is complete.

3.3 PROTECTION DURING APPLICATION OF CHEMICALS

- A. Protect motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and adhesives.
- B. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in alteration work program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.
- C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.
- D. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.
- E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

3.4 GENERAL ALTERATION WORK

- A. Record existing work before each procedure (preconstruction), and record progress during the work. Use digital preconstruction documentation photographs or video recordings.
- B. Perform surveys of Project site as the Work progresses to detect hazards resulting from alterations.
- C. Notify Architect of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.
 - 1. Do not proceed with the work in question until directed by Architect.

END OF SECTION 013516

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.2 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.3 INFORMATIONAL SUBMITTALS

- A. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- B. Moisture-and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold.
- C. Dust- and HVAC-Control Plan: Coordinate with Owner when blocking air intakes.

1.4 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

- A. Storage and Fabrication Sheds: Provide shed(s) sized, furnished, and equipped to accommodate materials and equipment for construction operations.
 - 1. Store combustible materials apart from building.

2.2 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- D. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
- E. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 - 1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
 - 2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- C. Parking: Use designated areas of Owner's existing parking areas for construction personnel.
- D. Project Signs: Unauthorized signs are not permitted.
- E. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."
- F. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- G. Temporary Elevator Use: Use of elevators is not permitted.
- H. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
 - 1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
 - 1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.

- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- C. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- D. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.
- E. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- F. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- G. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

3.5 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Describe delivery, handling, storage, installation, and protection provisions for materials subject to water absorption or water damage.
 - 1. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
 - 2. Indicate methods to be used to avoid trapping water in finished work.
- B. Exposed Construction Period: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
 - 1. Protect porous materials from water damage.
 - 2. Protect stored and installed material from flowing or standing water.
 - 3. Keep porous and organic materials from coming into prolonged contact with concrete.
 - 4. Remove standing water from decks.
 - 5. Keep deck openings covered or dammed.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 - 2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

NO PRINTING THIS PAGE

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved by Architect through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

1.3 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.

1.5 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. See other Sections for specific content requirements and particular requirements for submitting special warranties.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.

2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

NO PRINTING THIS PAGE

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
1. Construction layout.
 2. Field engineering and surveying.
 3. Installation of the Work.
 4. Cutting and patching.
 5. Progress cleaning.
 6. Starting and adjusting.
 7. Protection of installed construction.
- B. Related Requirements:
1. Section 011000 "Summary" for limits on use of Project site.
 2. Section 017700 "Closeout Procedures" for replacing defective work and final cleaning.

1.2 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- B. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect.

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

3.4 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Where possible, select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Remove and replace damaged, defective, or non-conforming Work.

3.5 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 5. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as

practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 3. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.

- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.

END OF SECTION 017300

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.
- B. Related Requirements:
 - 1. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

1.2 ACTION SUBMITTALS

- A. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- B. Certified List of Incomplete Items: Final submittal at final completion.

1.3 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.

1.4 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 5 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, and similar final record information.
 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number.
 5. Submit testing, adjusting, and balancing records.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 5 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of changeover in utility services.
 2. Terminate and remove temporary facilities from Project site, along with construction tools and similar elements.
 3. Complete final cleaning requirements.
 4. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 5 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1.5 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 5 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1.6 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Submit list of incomplete items in one of the following formats:
 - a. MS Excel electronic file. Architect will return annotated file.
 - b. PDF electronic file. Architect will return annotated file.
 - c. Three paper copies. Architect will return two copies.

1.7 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
 - 1. Submit on digital media acceptable to Architect or by email to Architect.
- D. Warranties in Paper Form:
 - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Clean exposed exterior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - c. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, attics, and similar spaces.
- C. Construction Waste Disposal: Dispose of waste properly at an off-site waste facility.

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations, before requesting inspection for determination of Substantial Completion.
- B. Repair, or remove and replace, defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

END OF SECTION 017700

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.

1.2 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of record Drawings as follows:
 - a. Final Submittal:
 - 1) Submit two paper-copy set(s) of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints and one set(s) of prints.
 - 3) Print each drawing, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit one paper copy or annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit one paper copy or annotated PDF electronic files and directories of each submittal.

1.3 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.

- e. Cross-reference record prints to corresponding photographic documentation.
2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Revisions to routing of piping and conduits.
 - d. Revisions to electrical circuitry.
 - e. Actual equipment locations.
 - f. Locations of concealed internal utilities.
 - g. Changes made by Change Order or Construction Change Directive.
 - h. Changes made following Architect's written orders.
 - i. Details not on the original Contract Drawings.
 - j. Field records for variable and concealed conditions.
 - k. Record information on the Work that is shown only schematically.
 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
1. Format: Annotated PDF electronic file.
 2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 3. Refer instances of uncertainty to Architect for resolution.
 4. Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.
- C. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Format: Annotated PDF electronic file.
 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.

- e. Name of Contractor.

1.4 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 - 3. Note related Change Orders and record Drawings where applicable.
- B. Format: Submit record Specifications as annotated PDF electronic file or paper copy.

1.5 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, record Specifications, and record Drawings where applicable.
- C. Format: Submit record Product Data as annotated PDF electronic file or paper copy.
 - 1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

1.6 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store record documents in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 017839

SECTION 055000 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal ladders.

1.2 ACTION SUBMITTALS

- A. Shop Drawings: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.
- B. Delegated-Design Submittal: For ladders, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design ladders.
- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 METALS

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

2.3 FASTENERS

- A. General: Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.

- B. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors.
 - 1. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.

2.4 MISCELLANEOUS MATERIALS

- A. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20.

2.5 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Use connections that maintain structural value of joined pieces.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges. Remove sharp or rough areas on exposed surfaces.
- C. Weld corners and seams continuously to comply with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended.
- D. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Locate joints where least conspicuous.
- E. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

2.6 MISCELLANEOUS FRAMING AND SUPPORTS

- A. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.

2.7 METAL LADDERS

- A. General:
 - 1. Comply with ANSI A14.3.
- B. Steel Ladders:
 - 1. Space siderails 18 inches apart unless otherwise indicated.
 - 2. Siderails: Continuous, 3/8-by-2-1/2-inch steel flat bars, with eased edges.
 - 3. Rungs: 3/4-inch-diameter steel bars.

4. Fit rungs in centerline of siderails; plug-weld and grind smooth on outer rail faces.
5. Provide nonslip surfaces on top of each rung.
6. Galvanize ladders, including brackets.

2.8 FINISHES, GENERAL

- A. Finish metal fabrications after assembly.

2.9 STEEL AND IRON FINISHES

- A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

3.2 ADJUSTING AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780/A 780M.

END OF SECTION 055000

NO PRINTING THIS PAGE

SECTION 070150.19 - PREPARATION FOR REROOFING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Roof tear-off.
 - 2. Partial roof tear-off.
 - 3. Temporary roofing membrane.
 - 4. Roof re-cover preparation.
 - 5. Removal of base flashings.

1.2 UNIT PRICES

- A. Work of the Section is affected by metal deck removal and replacement unit price and wood deck removal and replacement unit price.

1.3 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.
- B. Existing Membrane Roofing System: Built-up asphalt, built-up coal-tar, EPDM, SBS-modified bituminous roofing membrane, roof insulation, surfacing, and components and accessories between deck and roofing membrane.
- C. Roof Re-Cover Preparation: Existing roofing membrane that is to remain and be prepared for reuse.
- D. Roof Tear-Off: Removal of existing membrane roofing systems and built-up roof system structure.
- E. Partial Roof Tear-Off: Removal of a portion of existing membrane roofing system from deck or removal of selected components and accessories from existing membrane roofing system.
- F. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and reinstalled.
- G. Existing to Remain: Existing items of construction that are not indicated to be removed.

1.4 SUBMITTALS

- A. Temporary Roofing: Include Product Data and description of temporary roofing system. If temporary roof will remain in place, submit surface preparation requirements needed to receive permanent roof, and submit a letter from roofing membrane manufacturer stating acceptance of the temporary membrane and that its inclusion will not adversely affect the roofing system's resistance to fire and wind uplift.

1.5 INFORMATIONAL SUBMITTALS

- A. Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, that might be misconstrued as having been damaged by reroofing operations.
 - 1. Submit before Work begins.

1.6 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately below reroofing area. Conduct reroofing so Owner's operations will not be disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.
 - 1. Coordinate work activities daily with Owner so Owner has adequate advance notice to place protective dust and water-leakage covers over sensitive equipment and furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below work area.
 - 2. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below the affected area.
 - a. Verify that occupants below the Work area have been evacuated before proceeding with Work over the impaired deck area.
- B. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- D. Conditions existing at time of inspection from bidding will be maintained by Owner as far as practical.
- E. Limit construction loads on roof to 45 psf rooftop equipment wheel loads and 10 psf for uniformly distributed loads.
- F. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.
- G. Hazardous Materials: It is not expected that hazardous materials such as asbestos-containing materials will be encountered in the Work. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect. Hazardous materials will be removed by Owner under a separate contract.

PART 2 - PRODUCTS

2.1 INFILL MATERIALS

- A. Use infill materials matching existing membrane roofing system materials unless otherwise indicated.

2.2 TEMPORARY ROOFING MATERIALS

- A. Design and selection of materials for temporary roofing are responsibilities of the Roofing Contractor.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect existing membrane roofing system that is indicated not to be reroofed, if any.
- B. Seal or isolate windows that may be exposed to airborne substances created in removal of existing materials.
- C. Test existing roof drains to verify that they are not blocked or restricted.
 - 1. Immediately notify Architect of any blockages or restrictions.
- D. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.
- E. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- F. Maintain roof drains in functioning conditions to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs and end of each workday, when no work is taking place, or when rain is forecast.
 - 1. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new membrane roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under membrane roofing system components that are to remain.
- G. Verify that rooftop utilities and service piping have been shut off before beginning the Work.

3.2 ROOF TEAR-OFF

- A. General: Notify Owner each day of extent of roof tear-off proposed for that day.

- B. Remove pavers and accessories from roofing membrane, if any.
- C. Remove temporary protection materials from areas of Work, if any.
- D. Roof Tear-Off: Remove existing roofing membrane and other membrane roofing system components down to the deck.
 - 1. Remove base flashings and counter flashings.
 - 2. Remove perimeter edge flashing and gravel stops.
 - 3. Remove copings.
 - 4. Remove expansion-joint covers.
 - 5. Remove flashings at pipes, curbs, mechanical equipment, and other penetrations.
 - 6. Remove roof drains indicated on Drawings to be removed.
 - 7. Remove wood blocking, curbs, and nailers.
 - 8. Remove excess asphalt from steel deck.
 - a. A maximum of 15 lb/100 sq. ft. of asphalt is permitted to remain on steel decks.
 - 9. Remove fasteners from deck or cut fasteners off slightly above deck surface.

3.3 DECK PREPARATION

- A. Inspect deck after partial tear-off of roofing system.
- B. If broken or loose fasteners that secure deck panels to one another or to structure are observed or if deck appears or feels inadequately attached, immediately notify Architect.
 - 1. Do not proceed with installation until directed by Architect.
- C. If deck surface is not suitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Architect.
 - 1. Do not proceed with installation until directed by Architect.

3.4 TEMPORARY ROOFING MEMBRANE

- A. Contractor is responsible for selection and installation of temporary roofing membrane to maintain a water-tight roofing condition throughout reroofing Work.

3.5 EXISTING BASE FLASHINGS

- A. Remove existing base flashings around parapets, curbs, walls, and penetrations.
 - 1. Clean substrates of contaminates such as asphalt, sheet materials, dirt, and debris.
- B. Do not damage metal counterflashings that are to remain. Replace metal counterflashings damaged during base flashing removal with counterflashing of same metal, weight or thickness, and finish.

- C. Inspect parapet construction for deterioration and damage. If parapet masonry has deteriorated, immediately notify Architect.

END OF SECTION 070150.19

NO PRINTING THIS PAGE

SECTION 075323 - ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Adhered ethylene-propylene-diene-terpolymer (EPDM) roofing system.
2. Roof insulation.
3. Walkways.

1.2 PREINSTALLATION MEETINGS

- A. Preliminary Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

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

- B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:

1. Layout and thickness if insulation.
2. Base flashings and membrane terminations.
3. Flashing details at penetrations.
4. Tapered insulation, thickness, and slopes.

- C. Samples: For the following products:

1. Roof membrane and flashings of color required.
2. Walkway pads or rolls, of color required.

- D. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

1.4 INFORMATIONAL SUBMITTALS

- A. Manufacturer Certificates:

1. Performance Requirement Certificate: Signed by roof membrane manufacturer, certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - a. Submit evidence of complying with performance requirements.

2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.
- B. Product Test Reports: For components of roof membrane and insulation, for tests performed by a qualified testing agency, indicating compliance with specified requirements.
 - C. Research reports.
 - D. Field quality-control reports.
 - E. Sample warranties.
- 1.5 CLOSEOUT SUBMITTALS
- A. Maintenance data.
- 1.6 QUALITY ASSURANCE
- A. Manufacturer Qualifications: A qualified manufacturer that is UL listed for roofing system identical to that used for this Project.
 - B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.
- 1.7 WARRANTY
- A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
 1. Warranty Period: 20 years from Date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Accelerated Weathering: Roof membrane shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
- B. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D 3746, ASTM D 4272, or the Resistance to Foot Traffic Test in FM Approvals 4470.
- C. Wind Uplift Resistance: Design roofing system to resist the following wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897:
 1. As listed on Drawings.

- D. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

2.2 ETHYLENE-PROPYLENE-DIENE-TERPOLYMER (EPDM) ROOFING

- A. EPDM Sheet: ASTM D 4637/D 4637M, Type I, nonreinforced, EPDM sheet.
 - 1. Thickness: 60 mils, nominal.
 - 2. Exposed Face Color: Black.

2.3 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.
 - 1. Adhesive and Sealants: Comply with VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: 60-mil-thick EPDM, partially cured or cured, according to application.
- C. Protection Sheet: Epichlorohydrin or neoprene nonreinforced flexible sheet, 55 to 60 mils thick, recommended by EPDM manufacturer for resistance to hydrocarbons, non-aromatic solvents, grease, and oil.
- D. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.
- E. Bonding Adhesive: Manufacturer's standard.
- F. Seaming Material: Single-component, butyl splicing adhesive and splice cleaner, or manufacturer's standard, synthetic-rubber polymer primer and 3-inch-wide minimum, butyl splice tape with release film.
- G. Lap Sealant: Manufacturer's standard, single-component sealant.
- H. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.
- I. Metal Termination Bars: Manufacturer's standard, predrilled stainless steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.
- J. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening components to substrate, and acceptable to roofing system manufacturer.
- K. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, molded pipe boot flashings, preformed inside and outside corner sheet flashings, reinforced EPDM securement strips, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

2.4 ROOF INSULATION

- A. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.
 - 1. Minimum Thickness: 4 inches. Build up board layers to meet required minimum thickness.
- B. Tapered Insulation: Provide factory-tapered insulation boards.
 - 1. Material: Match roof insulation.
 - 2. Minimum Thickness: 1/4 inch.
 - 3. Slope:
 - a. Roof Field: 1/4 inch per foot unless otherwise indicated on Drawings.
 - b. Saddles and Crickets: 1/2 inch per foot unless otherwise indicated on Drawings.

2.5 INSULATION ACCESSORIES

- A. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:
 - 1. Bead-applied, low-rise, one-component or multicomponent urethane adhesive.
 - 2. Full-spread, spray-applied, low-rise, two-component urethane adhesive.

2.6 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads, approximately 3/16 inch thick and acceptable to roofing system manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work. Commencing roofing installation indicates acceptance of substrates.

3.2 ROOFING INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions.
- B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 INSULATION INSTALLATION

A. General:

1. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at end of workday.
2. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.
3. Install tapered insulation under area of roofing to conform to slopes indicated.
4. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
5. Trim insulation neatly to fit around penetrations and projections, and fit tight to intersecting sloping roof decks.
6. Make joints between adjacent insulation boards not more than 1/4 inch in width.
7. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches.
 - a. Trim insulation so that water flow is unrestricted.
8. Fill gaps exceeding 1/4 inch with insulation.
9. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

B. Installation Over Metal Decking:

1. Adhere insulation to metal decking according to manufacturer's written instructions.
2. Install base layer of insulation with joints staggered not less than 24 inches in adjacent rows for 48-by-48 boards and end joints staggered not less than 12 inches in adjacent rows for 48-by-96 boards. Install insulation with long joints continuous at right angle to flutes of decking at fluted deck.
 - a. Locate end joints over crests of decking.
3. Install upper layers of insulation with joints of each layer offset not less than 12 inches from previous layer of insulation.
 - a. Staggered end joints within each layer not less than 24 inches in adjacent rows for 48-by-48 boards.
 - b. Install with long joints continuous and with end joints staggered not less than 12 inches in adjacent rows for 48-by-96 boards.
 - c. Adhere each layer of insulation to substrate using adhesive, as follows:
 - 1) Set each layer of insulation in insulation adhesive according to roof membrane manufacturer's written instructions for a fully adhered roofing system, firmly pressing and maintaining insulation in place.

C. Installation Over Concrete Decks:

1. Install base layer of insulation with end joints staggered not less than 12 inches in adjacent rows.

- a. Adhere base layer of insulation to concrete roof deck according to roof membrane manufacturer's written instructions for a fully adhered roofing system, as follows:
 - 1) Set insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.
2. Install upper layers of insulation and tapered insulation with joints of each layer offset not less than 12 inches from previous layer of insulation.
 - a. Install with long joints continuous and with end joints staggered not less than 12 inches in adjacent rows.
 - b. Adhere each layer of insulation to substrate using adhesive according to roof membrane manufacturer's written instructions for a fully adhered roofing system, as follows:
 - 1) Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

3.4 ADHERED ROOFING MEMBRANE INSTALLATION

- A. Adhere roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.
- B. Unroll membrane roof membrane and allow to relax before installing.
- C. Accurately align roof membrane, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Bonding Adhesive: Apply to substrate and underside of roof membrane at rate required by manufacturer, and allow to partially dry before installing roof membrane. Do not apply to splice area of roof membrane.
- E. In addition to adhering, mechanically fasten roof membrane securely at terminations, penetrations, and perimeters.
- F. Apply roof membrane with side laps shingled with slope of roof deck where possible.
- G. Adhesive Seam Installation: Clean both faces of splice areas, apply splicing cement.
 1. Firmly roll side and end laps of overlapping roof membrane to ensure a watertight seam installation.
 2. Apply lap sealant and seal exposed edges of roofing terminations.
 3. Apply a continuous bead of in-seam sealant before closing splice if required by roofing system manufacturer.
- H. Tape Seam Installation: Clean and prime both faces of splice areas, apply splice tape.
 1. Firmly roll side and end laps of overlapping roof membrane to ensure a watertight seam installation.
 2. Apply lap sealant and seal exposed edges of roofing terminations.

- I. Spread sealant or mastic bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.
- J. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.

3.5 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.6 WALKWAY INSTALLATION

- A. Flexible Walkways: Install walkway products according to manufacturer's written instructions.
 - 1. Install flexible walkways at the following locations:
 - a. Perimeter of each rooftop unit.
 - b. Between each rooftop unit location, creating a continuous path connecting rooftop unit locations.
 - c. Between each roof hatch and each rooftop unit location or path connecting rooftop unit locations.
 - d. Top and bottom of each roof access ladder.
 - e. Between each roof access ladder and each rooftop unit location or path connecting rooftop unit locations.
 - f. Locations indicated on Drawings.
 - g. As required by roof membrane manufacturer's warranty requirements.
 - 2. Provide 6-inch clearance between adjoining pads.
 - 3. Adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.7 PROTECTING AND CLEANING

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

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

END OF SECTION 075323

SECTION 075419 - POLYVINYL-CHLORIDE (PVC) ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Adhered polyvinyl chloride (PVC) roofing system.
2. Roof insulation.
3. Walkways.

B. Related Sections:

1. Section 012300 "Alternates" for work by Alternate.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

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

- B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:

1. Layout and thickness of insulation.
2. Base flashings and membrane terminations.
3. Flashing details at penetrations.
4. Tapered insulation thickness and slopes.

- C. Samples: For the following products:

1. Roof membrane and flashing, of color required.
2. Walkway pads or rolls, of color required.

- D. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

1.4 INFORMATIONAL SUBMITTALS

- A. Manufacturer Certificates:

1. Performance Requirement Certificate: Signed by roof membrane manufacturer, certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - a. Submit evidence of compliance with performance requirements.
 2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.
- B. Product Test Reports: For roof membrane and insulation, tests performed by independent qualified testing agency indicating compliance with specified requirements.
- C. Research reports.
- D. Field quality-control reports.
- E. Sample warranties.
- 1.5 CLOSEOUT SUBMITTALS
- A. Maintenance data.
- 1.6 QUALITY ASSURANCE
- A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.
- 1.7 WARRANTY
- A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
1. Warranty Period: 20 years from date of Substantial Completion with wind rating up to 45 mph.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Accelerated Weathering: Roof membrane shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
- B. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D 3746, ASTM D 4272/D 4272M, or the "Resistance to Foot Traffic Test" in FM Approvals 4470.

- C. **Material Compatibility:** Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.
- D. **Wind Uplift Resistance:** Design roofing system to resist the following wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897:
 - 1. As listed on Drawings.
- E. **Exterior Fire-Test Exposure:** ASTM E 108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

2.2 POLYVINYL CHLORIDE (PVC) ROOFING

- A. **PVC Sheet:** ASTM D 4434/D 4434M, Type II, Class I, glass-fiber reinforced.
 - 1. **Basis-of-Design Product:** Subject to compliance with requirements, provide Sika Sarnafil; Sarnafil G410 or a comparable product by one of the following:
 - a. Carlisle Syntec Roofing.
 - b. GAF.
 - c. Johns Manville.
 - 2. **Thickness:** 60 mils (1.5 mm).
 - a. Manufacturer shall guarantee that the membrane thickness meets or exceeds the specified thickness when tested according to ASTM D751.
 - 3. **Exposed Face Color:** Reflective gray.

2.3 AUXILIARY ROOFING MATERIALS

- A. **General:** Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.
 - 1. **Adhesives and Sealants:** Comply with VOC limits of authorities having jurisdiction.
- B. **Sheet Flashing:** Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as PVC sheet.
- C. **Prefabricated Pipe Flashings:** As recommended by roof membrane manufacturer.
- D. **Bonding Adhesive:** Manufacturer's standard, water based.
- E. **Metal Termination Bars:** Manufacturer's standard, predrilled stainless steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.

- F. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roofing components to substrate, and acceptable to roofing system manufacturer.
- G. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.4 ROOF INSULATION

- A. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.
 - 1. Minimum Thickness: 4 inches. Build up board layers to meet required minimum thickness.
- B. Tapered Insulation: Provide factory-tapered insulation boards.
 - 1. Material: Match roof insulation.
 - 2. Minimum Thickness: 1/4 inch.
 - 3. Slope:
 - a. Roof Field: 1/4 inch per foot unless otherwise indicated on Drawings.
 - b. Saddles and Crickets: 1/2 inch per foot unless otherwise indicated on Drawings.

2.5 INSULATION ACCESSORIES

- A. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:
 - 1. Bead-applied, low-rise, one-component or multicomponent urethane adhesive.
 - 2. Full-spread, spray-applied, low-rise, two-component urethane adhesive.

2.6 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads, approximately 3/16 inch thick and acceptable to roofing system manufacturer.
 - 1. Color: Contrasting with roof membrane.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work. Commencing roofing installation indicates acceptance of substrates.

3.2 ROOFING INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions.
- B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 INSULATION INSTALLATION

A. General:

- 1. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at end of workday.
- 2. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.
- 3. Install tapered insulation under area of roofing to conform to slopes indicated.
- 4. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
- 5. Trim insulation neatly to fit around penetrations and projections, and fit tight to intersecting sloping roof decks.
- 6. Make joints between adjacent insulation boards not more than 1/4 inch in width.
- 7. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches.
 - a. Trim insulation so that water flow is unrestricted.
- 8. Fill gaps exceeding 1/4 inch with insulation.
- 9. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

B. Installation Over Metal Decking:

- 1. Adhere insulation to metal decking according to manufacturer's written instructions.
- 2. Install base layer of insulation with joints staggered not less than 24 inches in adjacent rows for 48-by-48 boards and end joints staggered not less than 12 inches in adjacent rows for 48-by-96 boards. Install insulation with long joints continuous at right angle to flutes of decking at fluted deck.
 - a. Locate end joints over crests of decking.
- 3. Install upper layers of insulation with joints of each layer offset not less than 12 inches from previous layer of insulation.
 - a. Staggered end joints within each layer not less than 24 inches in adjacent rows for 48-by-48 boards.
 - b. Install with long joints continuous and with end joints staggered not less than 12 inches in adjacent rows for 48-by-96 boards.
 - c. Adhere each layer of insulation to substrate using adhesive, as follows:

- 1) Set each layer of insulation in insulation adhesive according to roof membrane manufacturer's written instructions for a fully adhered roofing system, firmly pressing and maintaining insulation in place.

C. Installation Over Concrete Decks:

1. Install base layer of insulation with end joints staggered not less than 12 inches in adjacent rows.
 - a. Adhere base layer of insulation to concrete roof deck according to roof membrane manufacturer's written instructions for a fully adhered roofing system, as follows:
 - 1) Set insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.
2. Install upper layers of insulation and tapered insulation with joints of each layer offset not less than 12 inches from previous layer of insulation.
 - a. Install with long joints continuous and with end joints staggered not less than 12 inches in adjacent rows.
 - b. Adhere each layer of insulation to substrate using adhesive according to roof membrane manufacturer's written instructions for a fully adhered roofing system, as follows:
 - 1) Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

3.4 ADHERED ROOFING MEMBRANE INSTALLATION

- A. Adhere roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.
- B. Unroll roof membrane and allow to relax before installing.
- C. Accurately align roof membrane, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Bonding Adhesive: Apply water based adhesive according to roof membrane manufacturer's written instructions.
- E. In addition to adhering, mechanically fasten roof membrane securely at terminations, penetrations, and perimeter of roofing.
- F. Apply roof membrane with side laps shingled with slope of roof deck where possible.
- G. Seams: Clean seam areas, overlap roofing, and hot-air weld side and end laps of roof membrane and sheet flashings to ensure a watertight seam installation.
 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roof membrane and sheet flashings.
 2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.

3. Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.
- H. Spread sealant bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.

3.5 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.6 WALKWAY INSTALLATION

- A. Flexible Walkways: Install walkway products according to manufacturer's written instructions.
 1. Install flexible walkways at the following locations:
 - a. Perimeter of each rooftop unit.
 - b. Between each rooftop unit location, creating a continuous path connecting rooftop unit locations.
 - c. Between each roof hatch and each rooftop unit location or path connecting rooftop unit locations.
 - d. Top and bottom of each roof access ladder.
 - e. Between each roof access ladder and each rooftop unit location or path connecting rooftop unit locations.
 - f. Locations indicated on Drawings.
 - g. As required by roof membrane manufacturer's warranty requirements.
 2. Provide 6-inch clearance between adjoining pads.
 3. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.7 PROTECTING AND CLEANING

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

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

END OF SECTION 075419

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Manufactured reglets with counterflashing.
2. Formed low-slope roof sheet metal fabrications.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For sheet metal flashing and trim.

1. Include plans, elevations, sections, and attachment details.
2. Distinguish between shop- and field-assembled work.
3. Include identification of finish for each item.
4. Include pattern of seams and details of termination points, expansion joints and expansion-joint covers, direction of expansion, roof-penetration flashing, and connections to adjoining work.

1.3 INFORMATIONAL SUBMITTALS

A. Product certificates.

B. Product test reports.

C. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

1.6 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Aluminum Sheet: ASTM B 209, alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required.
 - 1. As-Milled Finish: Mill.
 - 2. Exposed Coil-Coated Finish:
 - a. Three-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - 3. Color: As selected by Architect from manufacturer's full range.
- C. Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304, dead soft, fully annealed; 2D (dull, cold rolled) finish.

- D. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet according to ASTM A 653/A 653M, G90 coating designation or aluminum-zinc alloy-coated steel sheet according to ASTM A 792/A 792M, Class AZ50 coating designation, Grade 40; prepainted by coil-coating process to comply with ASTM A 755/A 755M.
1. Surface: Manufacturer's standard clear acrylic coating on both sides.

2.3 UNDERLAYMENT MATERIALS

- A. Felt: ASTM D 226/D 226M, Type II (No. 30), asphalt-saturated organic felt; nonperforated.
- B. Synthetic Underlayment: Laminated or reinforced, woven polyethylene or polypropylene, synthetic roofing underlayment; bitumen free; slip resistant; suitable for high temperatures over 220 deg F; and complying with physical requirements of ASTM D 226/D 226M for Type I and Type II felts.
- C. Self-Adhering, High-Temperature Sheet: Minimum 30 mils thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer according to written recommendations of underlayment manufacturer.
1. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F or higher.
 2. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F or lower.
- D. Slip Sheet: Rosin-sized building paper, 3 lb/100 sq. ft. minimum.

2.4 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
 - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
 2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
 3. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.

4. Fasteners for Zinc-Coated (Galvanized) and Aluminum-Zinc Alloy-Coated Steel Sheet: Series 300 stainless steel or hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329.
- C. Solder:
1. For Stainless Steel: ASTM B 32, Grade Sn60, with acid flux of type recommended by stainless-steel sheet manufacturer.
 2. For Zinc-Coated (Galvanized) Steel: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead or Grade Sn60, 60 percent tin and 40 percent lead.
- D. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
- E. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane, polysulfide, or silicone polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- F. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- G. Bituminous Coating: Cold-applied asphalt emulsion according to ASTM D 1187.
- H. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

2.5 MANUFACTURED REGLETS

- A. Reglets: Units of type, material, and profile required, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated with factory-mitered and -welded corners and junctions and with interlocking counterflashing on exterior face, of same metal as reglet.
1. Material: Stainless steel, 0.019 inch thick.
 2. Finish: Mill.

2.6 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
1. Obtain field measurements for accurate fit before shop fabrication.
 2. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.

3. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- B. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
 2. Use lapped expansion joints only where indicated on Drawings.
- C. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.
- D. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- E. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard for application, but not less than thickness of metal being secured.
- F. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- G. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.

2.7 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Roof Edge Flashing (Gravel Stop) and Fascia Cap: Fabricate in minimum 96-inch-long, but not exceeding 12-foot-long sections. Furnish with 6-inch-wide, joint cover plates. Shop fabricate interior and exterior corners.
1. Fabricate from the Following Materials:
 - a. Aluminum: 0.050 inch thick.
- B. Copings: Fabricate in minimum 96-inch-long, but not exceeding 12-foot-long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and interior leg. Miter corners, fasten and seal watertight. Shop fabricate interior and exterior corners.
1. Fabricate from the Following Materials:
 - a. Aluminum: 0.050 inch thick.
- C. Base Flashing: Shop fabricate interior and exterior corners to greatest extent possible. Fabricate from the following materials:
1. Aluminum: 0.040 inch thick.
 2. Stainless Steel: 0.019 inch thick.
- D. Counterflashing and Flashing Receivers: Fabricate from the following materials:

1. Aluminum: 0.032 inch thick.
 2. Stainless Steel: 0.019 inch thick.
- E. Roof-Penetration Flashing: Fabricate from the following materials:
1. Galvanized Steel: 0.028 inch thick.
 2. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
- F. Roof-Drain Flashing: Fabricate from the following materials:
1. Stainless Steel: 0.016 inch thick.

PART 3 - EXECUTION

3.1 UNDERLAYMENT INSTALLATION

- A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.
- B. Synthetic Underlayment: Install synthetic underlayment, wrinkle free, according to manufacturers' written instructions, and using adhesive where possible to minimize use of mechanical fasteners under sheet metal.
- C. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Prime substrate if recommended by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps and edges with roller. Cover underlayment within 14 days.

3.2 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
 2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 3. Space cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
 4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
 5. Torch cutting of sheet metal flashing and trim is not permitted.

- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
 - 1. Coat concealed side of uncoated-aluminum and stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
 - 2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.
 - 1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
 - 2. Use lapped expansion joints only where indicated on Drawings.
- D. Fasteners: Use fastener sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."
- G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets with solder to width of 1-1/2 inches; however, reduce pre-tinning where pre-tinned surface would show in completed Work.
 - 1. Do not solder metallic-coated steel and aluminum sheet.
 - 2. Do not use torches for soldering.
 - 3. Heat surfaces to receive solder, and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
 - 4. Stainless-Steel Soldering: Tin edges of uncoated sheets, using solder for stainless steel and acid flux. Promptly remove acid flux residue from metal after tinning and soldering. Comply with solder manufacturer's recommended methods for cleaning and neutralization.
- H. Rivets: Rivet joints in uncoated aluminum where necessary for strength.

3.3 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.

- B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate.
- C. Copings: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated.
- D. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4 inches over base flashing. Install stainless-steel draw band and tighten.
- E. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints minimum of 4 inches.
- F. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric sealant and clamp flashing to pipes that penetrate roof.

3.4 CLEANING AND PROTECTION

- A. Clean and neutralize flux materials. Clean off excess solder.
- B. Clean off excess sealants.
- C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.

END OF SECTION 076200

SECTION 077200 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Roof hatches.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of roof accessory.
- B. Shop Drawings: For roof accessories.

1.3 INFORMATIONAL SUBMITTALS

- A. Sample warranties.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.5 WARRANTY

- A. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finishes or replace roof accessories that show evidence of deterioration of factory-applied finishes within 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 ROOF HATCH

- A. Roof Hatches: Metal roof-hatch units with lids and insulated single-walled curbs, welded or mechanically fastened and sealed corner joints, continuous lid-to-curb counterflashing and weathertight perimeter gasketing, straight sides, and integrally formed deck-mounting flange at perimeter bottom.
- B. Type and Size: Single-leaf lid, custom sized to fit around existing roof hatch curb.
- C. Loads: Minimum 40-lbf/sq. ft. external live load and 20-lbf/sq. ft. internal uplift load.

- D. Hatch Material: Zinc-coated (galvanized) steel sheet.
 - 1. Thickness: 14 gage box and 22 gage cover.
 - 2. Finish: Factory prime coating.
 - 3. Color: As selected by Architect from manufacturer's full range.
- E. Construction:
 - 1. Insulation: Manufacturer's standard 1 inch rigid insulation.
 - 2. Hatch Lid: Opaque, insulated, and double walled, with manufacturer's standard metal liner of same material and finish as outer metal lid.
 - 3. On ribbed or fluted metal roofs, form flange at perimeter bottom to conform to roof profile.
 - 4. Fabricate curbs to match height of existing concrete curb above roof deck.
- F. Hardware: Spring operators, hold-open arm, galvanized-steel spring latch with turn handles, galvanized-steel butt- or pintle-type hinge system, and padlock hasps inside and outside.

2.2 METAL MATERIALS

- A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation and mill phosphatized for field painting where indicated.
 - 1. Factory Prime Coating: Where field painting is indicated, apply pretreatment and white or light-colored, factory-applied, baked-on epoxy primer coat, with a minimum dry film thickness of 0.2 mil.
 - 2. Exterior Field Finish: 2 coats Sherwin Williams; Pro Industrial, DTM Semi-Gloss, or equal meeting MPI #163.
 - 3. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester-backer finish consisting of prime coat and wash coat, with a minimum total dry film thickness of 0.5 mil.
- B. Stainless-Steel Sheet and Shapes: ASTM A 240/A 240M or ASTM A 666, Type 304.
- C. Steel Shapes: ASTM A 36/A 36M, hot-dip galvanized according to ASTM A 123/A 123M unless otherwise indicated.

2.3 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items required by manufacturer for a complete installation.
- B. Glass-Fiber Board Insulation: ASTM C 726, nominal density of 3 lb/cu. ft., thermal resistivity of 4.3 deg F x h x sq. ft./Btu x in. at 75 deg F, thickness as indicated.
- C. Wood Nailers: Softwood lumber, pressure treated with waterborne preservatives for aboveground use, acceptable to authorities having jurisdiction, and complying with AWPAC2; not less than 1-1/2 inches thick.
- D. Underlayment:

1. Felt: ASTM D 226/D 226M, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
2. Polyethylene Sheet: 6-mil-thick polyethylene sheet complying with ASTM D 4397.
3. Slip Sheet: Building paper, 3 lb/100 sq. ft. minimum, rosin sized.
4. Self-Adhering, High-Temperature Sheet: Minimum 30 to 40 mils thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
5. Fasteners: Roof accessory manufacturer's recommended fasteners suitable for application and metals being fastened. Match finish of exposed fasteners with finish of material being fastened. Provide nonremovable fastener heads to exterior exposed fasteners. Furnish the following unless otherwise indicated:
 - E. Gaskets: Manufacturer's standard tubular or fingered design of neoprene, EPDM, PVC, or silicone or a flat design of foam rubber, sponge neoprene, or cork.
 - F. Elastomeric Sealant: ASTM C 920, elastomeric polymer sealant as recommended by roof accessory manufacturer for installation indicated; low modulus; of type, grade, class, and use classifications required to seal joints and remain watertight.
 - G. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for expansion joints with limited movement.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Verify dimensions of roof openings for roof accessories. Install roof accessories according to manufacturer's written instructions.
 1. Install roof accessories level; plumb; true to line and elevation; and without warping, jogs in alignment, buckling, or tool marks.
 2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
 3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
 4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
 1. Underlayment: Where installing roof accessories directly on cementitious or wood substrates, install a course of underlayment and cover with manufacturer's recommended slip sheet.
- C. Seal joints with elastomeric or butyl sealant as required by roof accessory manufacturer.

3.2 REPAIR AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780/A 780M.
- B. Touch up factory-primed surfaces with compatible primer and finish paint.
- C. Clean exposed surfaces according to manufacturer's written instructions.
- D. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077200



Phillips/SekanickArchitects,inc.
architecture | planning | consulting

142 east market street, warren, ohio 44481 (p) 330-395-9518 (f) 330-395-4296 www.phillips-sekanick.com
architects@phillips-sekanick.com