

PROJECT MANUAL



NORTHERN KENTUCKY WATER DISTRICT

TAYLOR MILL WATER TREATMENT PLANT ELECTRICAL AND BASIN IMPROVEMENTS

PROJECT NO. 184-0476
DOW LOAN NO. DWL 13060

BID SET

GOVERNING BODY

COMMISSIONERS:

DOUG WAGNER - CHAIRPERSON
FRED MACKE, JR. – VICE CHAIRPERSON
CLYDE CUNNINGHAM - SECRETARY
DAVID SPAULDING – TREASURER
PAT SOMMERKAMP - COMMISSIONER
ANDREW C. COLLINS - COMMISSIONER

RON LOVAN, PRESIDENT/CEO

JANUARY 2014

Compiled by:



The Water Division of ARCADIS



S P E C I F I C A T I O N S
FOR
NORTHERN KENTUCKY WATER DISTRICT

TAYLOR MILL
WATER TREATMENT PLANT
ELECTRICAL AND BASIN
IMPROVEMENTS
(Project No. 184-0476)
(DOW Loan No. DWL 13060)

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RON LOVAN, PRESIDENT/CEO

COMPILED BY:

Arcadis, Inc.
4665 Cornell Road, Suite 350
Cincinnati, OH 45249

Magna Engineers
861 Corporate Drive, Suite 210
Lexington, KY 40503

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NORTHERN KENTUCKY WATER DISTRICT

TAYLOR MILL WATER TREATMENT PLANT
ELECTRICAL AND BASIN IMPROVEMENTS

PROJECT MANUAL VOLUME 1 OF 1

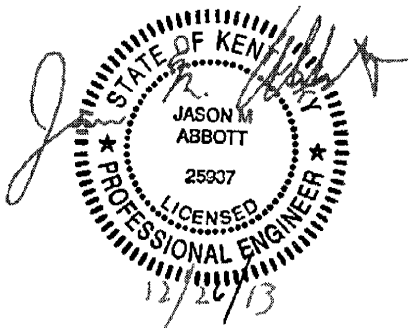
PROJECT NO. 184-0476

CERTIFICATIONS

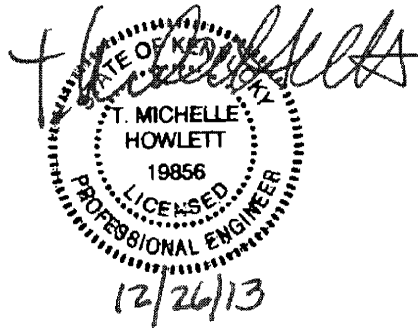
Certification of the Engineers of Record

I hereby certify these documents were prepared by me, or under my direct personal supervision, and I am a duly Licensed Professional Engineer under the laws of the Commonwealth of Kentucky.

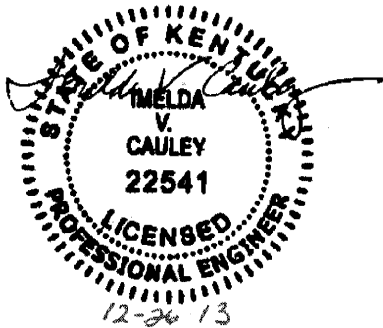
ARCADIS, INC.
Jason M. Abbott
KY PE Number: 25937



MAGNA ENGINEERS.
Michelle Howlett
KY PE Number: 19856



ARCADIS, INC.
Imelda Vejas Cauley
KY PE Number: 22541



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Section 00 11 13

ADVERTISEMENT TO BID

Date: January 30, 2014 and February 13, 2014

PROJECT: Taylor Mill Water Treatment Plant Electrical and Basin Improvements

SEALED BIDS WILL BE RECEIVED AT:

Northern Kentucky Water District
2835 Crescent Springs Road
P.O. Box 18640
Erlanger, Kentucky 41018

UNTIL: Date: February 25, 2014
Time: 2:00 p.m., local time

At said place and time, and promptly thereafter, all Bids that have been duly received will be publicly opened and read aloud.

The proposed Work is generally described, but not limited to, the following:

1. Conduct structural rehabilitation on the Sedimentation Basins and Tunnel at Taylor Mill Treatment Plant;
2. Install new conduits, cable trays, four new MCCs (Pumps no. 1 – 4), and 2 new VFDs (Pumps no. 5 – 6) at Filter Building;
3. Re-roof entire Filter Building and replace skylights above the filters;
4. Complete Architectural, Electrical, and HVAC work at Filter Building;
5. Remove existing feeder, controls, and existing starters to pumps nos. 1–6. Install new feeders from new MCCs and new VFDs, and make all power and control connections;
6. Disconnect and remove existing pump nos. 1, 3, 5, and 6 and motors and appurtenances. Install new pump nos. 1, 3, 5, and 6 and motors, install new shafts, and make all power and control connections;
7. Install new control valves and required piping at pumps nos. 1, 2, and 3.
8. Drain Sedimentation Basins, remove existing tube settler modules and install new tube settler modules and protective surface grating.
9. General demolition and modifications; and
10. Other miscellaneous work as indicated in the drawings or specifications.

All Bids must be in accordance with the Instructions to Bidders and Contract Documents on file, and available for examination at:

- Northern Kentucky Water District, 2835 Crescent Springs Road, Erlanger Kentucky, 41018, Attn: Amy Kramer, (859) 426-2734; or
- Arcadis, Inc., 4655 Cornell Road, Suite 350, Cincinnati, Ohio, 45241, Attn: Carol Lovett, (513) 860-8700; or
- Magna Engineers 861 Corporate Drive, Suite 210, Lexington, Kentucky, 40503, (859) 309-2990.

Copies of the Bidding Documents have also been provided to the following plan rooms:

- Construction News (Allied Construction Industries), 3 Kovach Drive, Cincinnati, Ohio 45215, (513) 221-8020.
- Builders Exchange 9555 Rockslide Road, Suite 300, Valley View, Ohio 44125, (216) 393-6300.
- Reed Construction Data, 30 Technology Parkway South, Suite 100, Norcross, GA 30092, (800) 424-3996.
- McGraw-Hill Construction Dodge, Kenwood Executive Center, 7265 Kenwood Road, Suite 202, Cincinnati, Ohio 45236, (513) 345-8218.

Copies of the Bidding Documents may be obtained by contacting Carol Lovett, (513) 860-8700 at Arcadis US, Inc. No documents may be picked up at this office.

Charges for all documents obtained will be made on the following basis:

Complete Set of Bidding Documents with Full Size Drawings \$290.00

Checks for Bidding Documents shall be made payable to Arcadis, Inc.

Documents will be shipped FedEx Ground unless requesting firm provides billing information for FedEx Overnight or UPS Overnight.

Neither the OWNER nor the ENGINEER will be responsible for full or partial sets of Bidding Documents, including any addenda, obtained from other sources. Return of the documents is not required and NONE OF THE AMOUNT CHARGED IS REFUNDABLE. Partial bid sets will not be available from the issuing office.

Bid security, in the form of a certified check or Bid Bond in the amount of ten percent (10%) of the maximum total bid price, must accompany each Bid.

The Successful Bidder will be required to furnish a Construction Performance Bond and a Construction Payment Bond as security for the faithful performance of the project and the payment of all bills and obligations arising from the performance of the Contract.

The project advertised will be funded by the Kentucky Infrastructure Authority (KIA) through a Federally Assisted Drinking Water State Revolving Fund (DWSRF) Loan and Local Funds. The Successful Bidder must comply with the related DWSRF Loan requirements as detailed in the Bidding Documents.

All Bidders must comply with the President's Executive Order 11246 (EEO) as amended.

All Bidders must comply with Title VI of the Civil Rights Act of 1964, the Anti-Kickback Act, and the Contract Work Hours Standard Act and 40 CFR, and 40 CFR 33.1016.

All Bidders, Contractors and Subcontractors must comply with 41 CFR 60-4, in regards to Affirmative Action, to ensure equal opportunity to females and minorities and will apply the timetables and goals set forth in 41 CFR 60-4 as applicable.

All Bidders must comply with OSHA (P.C. 91-596) and the Contract Work Hours and Safety Standards Act (P.E.91-54).

The Successful Bidder and all Subcontractors will be required to conform to the labor standards set forth in the Contract Documents. This project falls under the provisions of KRS 337.505 to 337.550 for prevailing wage rates.

All Prospective Bidders are strongly encouraged to attend a non-mandatory, Pre-bid conference for prospective Bidders on February 12, 2014 at 9:00 a.m. at the NKWD Central Facility located at 2835 Crescent Springs Road, Erlanger, Kentucky 41018. A site visit will follow at 10:30 a.m. at the Taylor Mill Water Treatment Plant located at 608 Grand Avenue, Taylor Mill, Kentucky 41015.

On request made at least 72-hours in advance, Owner will provide each Bidder access to the site to conduct such investigations and tests as each Bidder reasonably deems necessary for submission of a Bid. Arrangements for site visits shall be made by calling Mollie Bailey, Plant Foreman, with the Northern Kentucky Water District at (859) 991-1645.

Minority Bidders are encouraged to bid and Bidders must employ good faith effort steps to solicit participation of disadvantaged business enterprises.

Bids shall remain subject to acceptance for 120 days after the day of bid opening or for such longer period of time to which a Bidder may agree in writing upon request of the Owner. If a Contract is to be awarded, the Owner will give the Successful Bidder a Notice of Award during the period of time during which the Successful Bidder's bid remains subject to acceptance.

Award of the Contract will be in accordance with the Bidding Documents, including without limitation Article 18, Award of Contract, specified in the Instructions to Bidders. In part, Owner reserves the right to reject any or all Bids, including without limitation the right to reject any or all nonconforming, non-responsive, incomplete, unbalanced, or conditional Bids, to waive informalities, and to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of Owner to make an award to that Bidder. Owner also reserves the right to negotiate with the apparent Successful Bidder to such an extent as may be determined by Owner.

Evaluation of Bids and the awarding of a final contract are also subject to the reciprocal preference for Kentucky resident bidders pursuant to KRS 45A.490 to 45A.494 and KAR 200 5:400, as well as the "Buy American" preference in accordance with Section 215 of the Clean Water Act (33 U.S.C. 1251 et seq.) and EPA regulations.

Richard Harrison
V.P. Engineering, Production & Distribution
Northern Kentucky Water District

+ + END OF ADVERTISEMENT TO BID+ +

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Section 00 21 13

INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS. Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:

- A. *Issuing Office* – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
- B. *Bidder* – The individual or entity who submits a Bid directly to Owner.
- C. *Successful Bidder* – The lowest responsible Bidder submitting a responsive Bid to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.
- D. *Bid Submittal Document* – Separately bound set of documents which must be submitted in its entirety by the Bidder with its Bid and which includes the following:
 - a. Advertisement to Bid
 - b. Instructions to Bidders
 - c. Bid Form
 - d. Supplements to Bid Form
 - e. Affidavit For Claiming Resident Bidding Status
 - f. Bid Bond

2. COPIES OF CONTRACT DOCUMENTS. Complete sets of Contract Documents must be used in preparing Bids; Bidder shall have sole responsibility for errors or misrepresentations resulting from the use of incomplete sets of Contract Documents.

Owner and Engineer, in making copies of Contract Documents available, do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS. Each Bidder must submit with its bid an experience record form (Attachment #4 of Section 00 41 23 – Supplement to Bid Form) with at least four projects listed that are similar to this project in size and scope. To further demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five days of Owner's request written evidence such as financial data, previous experience, present commitments, subcontractor capabilities or experience, and such other data as may be requested by Owner. Bidders who have not, in the Owner's opinion, had sufficient experience in the size and type of work involved to be considered responsible Bidders will not be considered.

Each Bid must contain evidence of Bidder's qualifications to transact business in the State of Kentucky or covenant to obtain such qualifications prior to award of the Contract. If applicable, the Bidder's Organization Number from the Kentucky's Secretary of State and principal place of business as filed with Kentucky's Secretary of State must be included.

Each Bidder must be registered as a plan holder with the Issuing Office.

4. EXAMINATION OF CONTRACT DOCUMENTS AND SITE. It is the responsibility of each Bidder, before submitting a Bid, to:

- a. thoroughly examine and study the Instructions to Bidders and the Contract Documents, including any Addenda and appendices;
- b. visit the Site and become familiar with and satisfy Bidder as to the general, local, and site conditions that may affect cost, progress, performance, or furnishing of the Work;
- c. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, performance, or furnishing of the Work;
- d. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times and in accordance with the other terms and conditions of the Contract Documents;
- e. correlate the information known to Bidder, information and observations obtained from visits to the Site, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents;
- f. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Contract Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and
- g. determine that the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.01. Underground Facilities. Information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner or others, and Owner and Engineer disclaim responsibility for the accuracy or completeness thereof, unless it is expressly provided otherwise in the Supplementary Conditions.

4.02. Additional Information. Before submitting a Bid, each Bidder may, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests, and studies and obtain any additional information and data which pertain to subsurface or physical conditions at or contiguous to the Site or otherwise, which may affect cost, progress, performance, or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of the Contract Documents.

On request made at least 72 hours in advance, Owner will provide each Bidder access to the Site to conduct such explorations and tests as each Bidder reasonably deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations. Arrangements for Site visits shall be made by calling Mollie Bailey, Plant Foreman, with the Northern Kentucky Water District at (859) 991-1645.

4.03. Bidder's Representation. The submission of a Bid will constitute an incontrovertible representation and covenant by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and applying the specific means, methods, techniques, sequences or procedures of construction (if any) that may be shown or indicated or expressly required by the Contract Documents, the prevailing hourly wage rates for the area in which the Project is located, that Bidder has given Engineer prompt written notice of all conflicts, errors, ambiguities, and discrepancies that the Bidder has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Bidder, and that the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

5. SITE AND OTHER AREAS. The Site is identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Contract Documents.

6. INTERPRETATIONS AND ADDENDA. All questions about the meaning or intent of the Contract Documents are to be submitted to Engineer in writing via e-mail to Jason.Abbott@arcadis-us.com. Any interpretations or clarifications that are considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Contract Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. The person submitting questions shall be responsible for their prompt delivery. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

Addenda may be issued to clarify, correct, or change the Contract Documents as deemed advisable by Owner or Engineer.

Owner and Engineer will not be responsible for explanations or interpretations of the Contract Documents except as issued in accordance herewith.

7. BID SECURITY. Each Bid must be accompanied by Bid security made payable without condition to Owner in penal sum amount of 10 percent of Bidder's maximum Bid and in the form of a certified check or Bid Bond (on the form attached) issued by a surety meeting the requirements as set forth in the General Conditions and Supplementary Conditions.

Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may annul the Notice of Award and Bid security of that Bidder will be forfeited. Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement or one day after the last day the Bids

remain subject to acceptance, whereupon Bid security furnished by such Bidders will be returned.

8. CONTRACT TIMES. The numbers of days within which, or the dates by which, the Work is to be (a) Substantially Completed and (b) also completed and ready for final payment are set forth in the Agreement (or incorporated therein by reference to the attached Bid Form).

9. LIQUIDATED DAMAGES. Provisions for liquidated damages, if any, are set forth in the Agreement.

10. SUBSTITUTE OR "OR-EQUAL" ITEMS. The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Contract Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Contract Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by the Engineer until after the Effective Date of the Agreement. The procedure for submission of any such application by Contractor and consideration by Engineer is set forth in the General Conditions and may be supplemented in the Supplementary Conditions.

11. SUBCONTRACTORS, SUPPLIERS, AND OTHERS. Each Bidder shall submit with its Bid the name of all such Subcontractors, Suppliers, and other individuals and organizations proposed for those portions of the Work for which such identification is required. The Bidder shall not substitute any such subcontractors, suppliers, or other individuals or organizations without the written consent of Owner and Engineer. If, after due investigation, Owner or Engineer has reasonable objection to any proposed Subcontractor, Supplier, or other individual or entity, Owner or Engineer may, before the Notice of Award is given, request the apparent Successful Bidder to submit an acceptable substitute without an increase in the Bid. If the apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to another Bidder that proposes to use an acceptable Subcontractor, Supplier, or other individual or entity. Declining to make requested substitutions will not constitute grounds for sacrificing the Bid security of any Bidder. Any Subcontractors, Suppliers, or other individual or entity to whom the Owner or Engineer does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance as provided in the General Conditions. Preliminary acceptance of equipment listed by manufacturer's name shall not in any way constitute a waiver of the specifications covering such equipment; final acceptance will be based on full conformity with the Contract Documents. Any Bid conditioned on furnishing equipment or materials which are not responsive to the Contract Documents will be rejected.

12. PREPARATION OF BID. The Bid Form is included with the Contract Documents and the Bid prices must be entered therein.

All blanks on the Bid form shall be completed by printing in ink or by typewriter and the Bid signed. A Bid price shall be indicated for each lump sum bid item listed therein, or the words "No Bid", "No Change", or "Not Applicable" entered.

A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The

corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

A Bid by a partnership shall be executed in the partnership name and signed by a general partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.

A Bid by a limited liability company shall be executed in the name of the firm by a member (if member-managed) or manager (if manager-managed) and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.

A Bid by an individual shall show the Bidder's name and official address.

A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid form. The official address of the joint venture must be shown below the signature.

All names shall be typed or printed in ink below the signatures.

The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid form.

The address, telephone number, and facsimile number for communications regarding the Bid shall be shown.

The Bid shall identify whether the Bidder is a resident or nonresident bidder for purposes of Kentucky's reciprocal preference statute (KRS 45A.490 to 45A.494 and 200 KAR 5:400). If the Bidder is claiming a "resident bidder" status as defined in KRS 45A.494(2), the Bid shall include a properly executed and notarized affidavit affirming that it meets the criteria to be considered such a resident bidder. If requested by Owner, Bidder shall also provide documentation proving such resident bidder status; failure to do so shall result in disqualification of the Bidder or contract termination.

While the Bidder should consult the applicable statutes and regulation, generally speaking, a "resident bidder" is an individual or business entity that, on the date the contract is first advertised or announced as available for bidding: (a) is authorized to transact business in the Commonwealth; AND (b) has for one (1) year prior to and through the date of the advertisement, (i) filed Kentucky corporate income taxes, (ii) made payments to the Kentucky unemployment insurance fund established in KRS 341.490, and (iii) maintained a Kentucky workers' compensation policy in effect. A "nonresident bidder" is any other individual or business entity.

13. BASIS OF BID. Bidders shall submit a Bid on a lump sum basis or unit price basis for each item of Work listed in the Bid Form. The lump sum price shall be based on the Work as indicated in the Contract Documents. The total of all estimated prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for the item. The final quantities and Contract Price will be determined in accordance with the General Conditions and as amended in the Supplementary Conditions and as outlined in Article 19 below.

Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

14. SUBMITTAL OF BID. A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or Invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "Bid Enclosed".

Bids shall be addressed to Owner at:

Northern Kentucky Water District
2835 Crescent Springs Road
P.O. Box 18640
Erlanger, Kentucky 41018

The bound copy of the Bid Submittal Document that includes the Bid Form and Supplements to Bid Form are to be completed and submitted with the Bid Security and the following data:

1. Certification Regarding Debarment, Suspension and Other Responsibilities (EPA Form 5700-49).
2. Certification Regarding Lobbying, Certification for Contracts, Grants, Loans and Cooperative Agreements.
3. Non-Collusion Affidavit.
4. Affidavit for Bidders, Offerors, and Contractors Claiming Kentucky Resident Bidder Status
5. Bidder's Qualifications.
6. Bidder's Experience Record.
7. Proposed List of Subcontractors.
8. Proposed Major Equipment Manufacturers.

Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids. Bids received after the time and date for receipt of Bids may be returned unopened. Oral, telephone, facsimile, or telegraph Bids are invalid and will not receive consideration.

15. MODIFICATION AND WITHDRAWAL OF BIDS. A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the

opening of Bids. For a period ending 72 hours after Bids are opened, any Bidder may request the withdrawal of its Bid by filing with Owner a duly signed written notice and otherwise demonstrating by clear and convincing evidence to the reasonable satisfaction of Owner that the Bid was submitted in good faith but there was a material and/or substantial mistake in the preparation of its Bid. If the withdrawal of the Bid is approved by the Owner in its sole discretion, the Bid security will be returned. Without the advanced full disclosure by the withdrawing Bidder to and written consent of the Owner, (ia) no Bid shall be withdrawn under this section when the result would be the awarding of the contract on another Bid of the same Bidder or of another Bidder in which the withdrawing Bidder has a direct or indirect equitable interest and (iib) no Bidder who is permitted to withdraw a Bid shall, for compensation, supply any material or labor to or perform any subcontract or other work agreement for the Bidder to whom the contract is awarded or otherwise benefit, directly or indirectly, from the performance of the Project.

16. OPENING OF BIDS. Bids will be opened at the time and place indicated in the Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

17. BIDS TO REMAIN SUBJECT TO ACCEPTANCE. All Bids will remain subject to acceptance for the period of time stated in the Bid form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period. If the Contract is to be awarded, Owner will give Successful Bidder a Notice of Award within the number of days stated in the Bid Form. Should there be any reasons why the Contract cannot be awarded within the specified period, the time may be extended in writing by mutual agreement between the Owner and the Bidder.

18. AWARD OF CONTRACT. Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, non-responsive, incomplete, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder which it finds, after reasonable inquiry and evaluation, to be non-responsive. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Owner to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate with the apparent Successful Bidder to such an extent as may be determined by Owner. The Owner also reserves the right to increase or decrease the quantities of Work per the General Conditions.

In evaluating Bids, Owner will consider, among other lawful considerations, the following:

- a. Whether or not the Bid complies with the prescribed requirements, and provides such alternates, unit prices and other information or data as may be requested in the Bid Form or prior to the Notice of Award.
- b. The qualifications of the Bidder must be submitted. Owner may also consider operating costs, maintenance requirements, performance data, and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data are required to be submitted prior to the Notice of Award.
- c. If the Bidder maintains a permanent place of business.

- d. If the Bidder has adequate personnel, plant and equipment to perform the Work properly and expeditiously.
- e. Bidder's financial status to meet all obligations and incidentals to the Work.
- f. Whether the Bidder has appropriate technical expertise and experience.
- g. Bidder's performance record.
- h. If the Bidder has filed for bankruptcy.
- i. The amount of the total Base Bid, exclusive of any additive or deductive alternates, if applicable. Any alternates will be considered after selection of the lowest total Base Bid. Each alternate will be considered and selected or not selected individually, at Owner's discretion, for inclusion in the Work.

In addition, the evaluation of Bids will be subject to the reciprocal preference for Kentucky resident bidders pursuant to KRS 45A.490 to 45A.494 and KAR 200 5:400. These statutes and regulation provide in part as follows: (a) a resident bidder of the Commonwealth shall be given a preference against a nonresident bidder registered in any state that gives or requires a preference to bidders from that state; (b) the preference shall be equal to the preference given or required by the state of the nonresident bidder; (c) this preference shall not be applied against nonresident bidders residing in states that do not give preference against Kentucky bidders; (d) if a procurement determination results in a tie between a resident bidder and a nonresident bidder, preference shall be given to the resident bidder; and (e) the preference shall not result in a nonresident bidder receiving a preference over another nonresident bidder.

Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders to perform the Work in accordance with the Contract Documents, including, without limitation, a Bidder's claim that it is a resident bidder for purposes of Kentucky's preference statute.

19. CONTRACT SECURITY AND INSURANCE. Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment Bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by such Bonds and insurance certificates.

20. SIGNING OF AGREEMENT. When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents identified in the Agreement as attached thereto. Within 15 days thereafter, the Successful Bidder shall sign, leaving the dates blank, and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within 15 days thereafter, Owner shall deliver one fully signed counterpart to the Successful Bidder.

21. RETAINAGE. Provisions concerning retainage are set forth in the Agreement.

22. DRINKING WATER STATE REVOLVING FUND LOAN. A portion of the funding for this project comes from a Drinking Water State Revolving Fund (DWSRF) loan. This loan originates with the United States Environmental Protection (USEPA) and has several provisions that directly impact the Bidder. These include:

1. A certificate that the Bidder, and any subcontractors used by the Bidder, are not on the Federal List of Debarred Contractors. (CERTIFICATION REGARDING DEBAREMENT, SUSPENSION AND OTHER MATTERS – EPA Form 5700-49) addresses this item and must be executed and included with the bid
2. A certification from the Bidder that no appropriate funds were or will be used for the purposes of lobbying the legislative or executive branches of the Federal government. (CERIFICATION REGARDING LOBBYING) address this item and must be submitted with the Bid.

The DWSRF loan creates additional documentation requirements on both the Contractor and the Owner. These are set forth in the Supplemental General Conditions for Drinking Water State Revolving Fund Loans (DWSRF Supplemental General Conditions). The items identified, but not limited to, in this section must be submitted with the Bid. The remaining items identified in the DWSRF Supplemental General Conditions Section will be submitted by the low bidder within 21 days of the Bid opening. The project will not be awarded until this information is received.

DWSRF funding requires a recipient to utilize minority or women owned businesses as subcontractors where possible. Certain information and documentation is required by the funding agencies and other governing bodies prior to awarding a necessary approval for this project. The BIDDER acknowledges, through the act of submitting a Bid, a commitment to submit the following documentation or information within 7 days of bid Opening or within 5 days of the formal request to do so, whichever is greater. Failure to produce any of this documentation or information within the prescribed period will serve as grounds for rejection of the Bid. If the information is required from a subcontractor or vendor and is not produced within the prescribed, it will serve as grounds to replace the subcontractor or vendor with another company or product.

Specific items to be submitted within 7 days of the Bid opening include:

- A. EPA Form 6100-2, DBE Subcontractor Participation (Attachment 12- Section 00 73 02).
- B. EPA Form 6100-3, DBE Subcontractor Performance (Attachment 12-Section 00 73 02).
- C. EPA Form 6100-4 DBE Subcontractor Utilization (Attachment 12-Section 00 73 02).
- D. Disadvantage Enterprise Participation Policy (Attachment 12-Section 0073 02).
- E. List of DBE Bidders of Subcontractors (Attachment 12-Section 00 73 02).

23. "BUY AMERICAN" PROVISION. In accordance with Section 215 of the Clean Water Act (33 U.S.C. 1251 et seq.) and implementing EPA regulations, the Contractor agrees that preference will be given to domestic construction materials by the Contractor, subcontractors, materialmen and suppliers in the performance of the Work.

++ END OF SECTION ++

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BID FORM

Taylor Mill Water Treatment Plant Electrical and Basin Improvements

(Project No. 184-0476)

TABLE OF ARTICLES

1. Bid Recipient
2. Bidder's Acknowledgements
3. Bidder's Representations
4. Basis of Bid
5. Time of Completion
6. Attachments to this Bid
7. Defined Terms
8. Bid Submittal

ARTICLE 1 - BID RECIPIENT

1.01 This Bid is submitted to:

Northern Kentucky Water District
2835 Crescent Springs Road
P.O. Box 18640
Erlanger, Kentucky 41018

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the price(s) and within the times indicated in this Bid and in accordance with the Bidding Documents.

ARTICLE 2 - BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 120 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner. Bidder will sign the Agreement and will furnish the required contract security, and other required documents within the time periods set forth in the Bidding Documents.

ARTICLE 3 - BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

- A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, if any, and the following Addenda, receipt of all of which is hereby acknowledged.

Addendum No.	Date Received	Addendum No.	Date Received
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 4.02 of the General Conditions, and (2) reports and drawings of Hazardous Environmental Conditions identified at the Site, if any, which that have been identified in the Supplementary Conditions as provided in Paragraph 4.06 of the General Conditions.
- E. Bidder has obtained and carefully studied (or accepts the consequences for not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may effect cost, progress or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
- F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for

performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

- G. Bidder is aware of the general nature of work (if any) to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies and data with the Bidding Documents.
- I. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

K. [Check the one that applies]

_____ Bidder is a “resident bidder” as defined in KRS 45A.494(2) of Kentucky’s resident bidder reciprocal preference statute AND submits with this Bid a properly executed and notarized Affidavit that affirms that Bidder meets the resident bidder criteria, which Affidavit is hereby incorporated herein and made a part of this Bid.

OR

_____ Bidder is a “nonresident bidder” as defined in KRS 45A.494(3) of Kentucky’s resident bidder reciprocal preference statute AND its principal place of business as identified its Certificate of Authority to transact business in Kentucky as filed with Kentucky’s Secretary of State or, if Bidder hereby represents and covenants that it is not required to obtain a Certificate of Authority to transact business in Kentucky, its mailing address, is:

- L. Bidder’s Organization Number from Kentucky’s Secretary of State is # _____ [if applicable] and Bidder is qualified to transact business in

the State of Kentucky or hereby covenants to obtain such qualifications prior to award of the Contract.

3.02 Bidder further represents that:

- A. This Bid is genuine and is not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation;
- B. 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 individual or entity to refrain from Bidding;
- C. Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner; and
- D. No person or persons acting in any official capacity for the Owner are directly or indirectly interested in this Bid, or in any portion of the profit thereof.

ARTICLE 4 - BASIS OF BID

4.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s). Amounts will be shown in both words and figures. In case of discrepancy, the amount in words will govern. Unit prices have been computed in accordance with Paragraph 11.03.B of the General Conditions.

All specified cash allowances are included in the price(s) set forth below and have been computed in accordance with Paragraph 11.02 of the General Conditions.

Bidder acknowledges that estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all Unit Price items will be based on actual quantities of Unit Price Work, determined as provided in the Contract Documents.

Note: The quantities for the Unit Price items are unpredictable and the Engineer has inserted certain quantities in the proposal to be used solely for the purpose of comparison of the Bids. The Bidder shall not be entitled to any adjustment in the contract Unit Price bid items as a result of changes in any of these items from zero to any quantity. The Bidder shall make no claims for anticipated profits, or loss of profits, or for other damages as a result of changes in the quantities purchased.

Base Bid Item Description	Unit	Estimated Quantity	Unit Price	Computed Totals
Item 1 – For General Construction of Taylor Mill Water Treatment Plant Electrical and Basin Improvements	Lump Sum	<u>1</u>	\$ <u> </u>	\$ <u> </u>
Item 2 – For Wall Expansion Joint Repair	Linear Feet	<u>600</u>	\$ <u> </u>	\$ <u> </u>
Item 3 – For Crack Repair	Linear Feet	<u>110</u>	\$ <u> </u>	\$ <u> </u>
Item 4 – Surface Spall Repair	Square Feet	<u>650</u>	\$ <u> </u>	\$ <u> </u>
Item 5 – Contingency Allowance	Lump Sum	<u>1</u>	\$ <u>40,000</u>	\$ <u>40,000</u>

TOTAL BASE BID AMOUNT

_____ Dollars and
 _____ (words)
 _____ Cents , (\$ _____)
 _____ (numerals)

4.02 ALTERNATE BID SCHEDULE

- A. The following is included for the Bidder to provide a lump sum amount for the deletion of certain Work, if desired by the Owner. All Bidders are required to complete this portion of the Bid Form.
- B. Bidder shall enter an amount for each DEDUCT Alternative. If no amount is entered, Bidder agrees to perform Alternative at no change in cost.
- C. ALTERNATIVE NO. 1 – DEDUCT NEW MEDIUM VOLTAGE VARIABLE FREQUENCY DRIVES FOR PUMPS NO. 5 AND NO. 6 AND PROVIDE SOLID STATE REDUCED VOLTAGE STARTERS.

Bidder shall indicate the amount of monies to be DEDUCTED from its Bid for Alternative No. 1, should the OWNER decide to accept Alternative No. 1 as described in Section 01 23 00, Alternatives.

No extension of time will be granted if this Alternative is accepted.

For Alternative No. 1, DEDUCT the lump sum of _____
_____ Dollars and _____ Cents
(words)
(\$ _____).
(numerals)

- D. ALTERNATIVE NO. 2 – DEDUCT NEW VERTICAL TURBINE PUMP NO. 3 WORK.

Bidder shall indicate the amount of monies to be DEDUCTED from its Bid for Alternative No. 2, should the OWNER decide to accept Alternative No. 2 as described in Section 01 23 00, Alternatives.

No extension of time will be granted if this Alternative is accepted.

For Alternative No. 2, DEDUCT the lump sum of _____
_____ Dollars and _____ Cents
(words)
(\$ _____).
(numerals)

E. ALTERNATIVE NO. 3 – DEDUCT NEW MODIFIED BITUMINOUS PROTECTED MEMBRANE ROOF, UNIT SKYLIGHTS, AND LIGHTING WORK AT FILTER BUILDING.

Bidder shall indicate the amount of monies to be DEDUCTED from its Bid for Alternative No. 3, should the OWNER decide to accept Alternative No. 3 as described in Section 01 23 00, Alternatives.

No extension of time will be granted if this Alternative is accepted.

For Alternative No. 3, DEDUCT the lump sum of _____ Dollars and _____ Cents
(words)
(\$ _____).
(numerals)

F. ALTERNATIVE NO. 4 – DEDUCT CLEANING, PREPARATION AND PAINTING OF RAKE ARMS, CENTER CAGES, CENTER COLUMNS AND FEEDWELLS.

Bidder shall indicate the amount of monies to be DEDUCTED from its Bid for Alternative No. 4, should the OWNER decide to accept Alternative No. 4 as described in Section 01 23 00, Alternatives.

No extension of time will be granted if this Alternative is accepted.

For Alternative No. 4, DEDUCT the lump sum of _____ Dollars and _____ Cents
(words)
(\$ _____).
(numerals)

ARTICLE 5 - TIME OF COMPLETION

5.01 Bidder agrees that the Work will be substantially complete and completed and ready for final payment in accordance with Paragraph 14.07.B of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

5.02 Bidder accepts the provisions of the Agreement as to liquidated damages, including Paragraph 4.03.A of the Agreement, in the event of failure to complete the Work within the required Contract Times.

ARTICLE 6 - ATTACHMENTS TO THIS BID

- 6.01 The following documents are attached to and made a condition of this Bid:
- A. Required Bid security in the form of Bid Bond.
 - B. Certification Regarding Debarment, Suspension and Other Responsibilities (EPA Form 5700-49)
 - C. Certification Regarding Lobbying, Certification for Contracts, Grants, Loans and Cooperative Agreements
 - D. Non-Collusion Affidavit of Prime Bidder
 - E. Affidavit for Bidders, Offerors, and Contractors Claiming Kentucky Resident Bidder Status
 - F. Statement of Bidder's Qualifications
 - G. Bidders Experience Record
 - H. Proposed Subcontractors
 - I. Proposed Major Equipment Manufacturers

ARTICLE 7 - DEFINED TERMS

- 7.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders and the General Conditions and Supplementary Conditions.

ARTICLE 8 - BID SUBMITTAL

8.01 This Bid submitted on _____, 20__ by:

If Bidder is:

An Individual

Name (Typed or Printed): _____

By: _____
(Individual's Signature)

Doing business as _____

License or Registration Number: _____

Business Address: _____

Phone No.: _____ Facsimile: _____

A Partnership

Partnership Name: _____

By: _____
(Signature of General Partner - Attach evidence of authority to sign)

(Name (Typed or Printed): _____

License or Registration Number: _____

Business Address: _____

Phone No.: _____ Facsimile: _____

A Corporation

Corporation Name: _____

(State of Incorporation)

By: _____
(Signature - Attach evidence of authority to sign)

Name and Title (Typed or Printed): _____

(CORPORATE
SEAL)

Attest: _____
(Secretary)

License or Registration Number: _____

Business Address: _____

Phone No.: _____ Facsimile: _____

Limited Liability Company

By: _____
(Firm Name)

(State of Formation)

By: _____
(Signature of Member or Manager/Authorized to Sign)

(Printed or Typed Name and Title of Member or Manager Authorized to Sign)
(Attach evidence of authority to sign)

License or Registration Number: _____

Business Address: _____

Phone No.: _____ Facsimile: _____

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____

By: _____

(Signature of First Joint Venturer - Attach evidence of authority to sign)

Name (Typed or Printed): _____

(Title)

Title: _____

Second Joint Venturer Name: _____

By: _____

(Signature of Second Joint Venturer - Attach evidence of authority to sign)

Name (Typed or Printed): _____

(Title)

(Each joint venturer must sign. The manner of signing for each individual, partnership, corporation or limited liability company that is a party to the joint venture shall be in the manner indicated above).

Business Address: _____

Phone and Fax number and address for receipt of communications to joint venture:

Phone: _____ Facsimile: _____

++ END OF BID FORM ++

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SECTION 00 41 23

SUPPLEMENTS TO BID FORM

1. FORMS TO BE SUBMITTED WITH BID

- A. Certification Regarding Debarment, Suspension and Other Matters–EPA Form 5700-49 (Attachment No. 1)
- B. Certification Regarding Lobbying (Attachment No. 2)
- C. Non-Collusion Affidavit from Bidder (Attachment No. 3)
- D. Bidder's Qualifications (Attachment No. 4)
- E. Bidder's Experience Record (Attachment No. 5)
- F. Proposed List of Subcontractors (Attachment No. 6)
- G. Proposed Major Equipment Manufacturers (Attachment No. 7)
- H. Affidavit for Bidders, Offerors, and Contractors Claiming Kentucky Resident Bidder Status (Specification Section 00 41 33)
- I. Bid Security (Specification Section 00 43 13)

2. FORMS TO BE SUBMITTED WITHIN 7 DAYS OF BID OPENING

Certain information and documentation is required by the funding agencies and other governing bodies prior to awarding a necessary approval for this project. The BIDDER acknowledges, through the act of submitting a Bid, a commitment to submit the following documentation or information within 7 days of Bid Opening or within 5 days of the formal request to do so, whichever is greater. Failure to produce any of this documentation or information within the prescribed period will serve as grounds for rejection of the Bid. If the information is required from a subcontractor or vendor and is not produced within the prescribed, it will serve as grounds to replace the subcontractor or vendor with another company or product.

Specific items to be submitted within 7 days of the Bid opening include:

- A. EPA Form 6100-2 DBE Participation (Attachment 12 – Section 00 73 02)
- B. EPA Form 6100-3 DBE Subcontractor Performance (Attachment 12 – Section 00 73 02)
- C. EPA Form 6100-4 DBE Subcontractor Utilization (Attachment 12 – Section 00 73 02)
- D. Disadvantage Enterprise Participation Policy (Attachment 12 – Section 00 73 02)
- E. List of DBE Bidders of Subcontracts (Attachment 12 – Section 00 73 02)

EPA Form 5700-49
CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER SPONSIBILITIES
Attachment Number 1

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

- (A) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency;
- (B) Have not within a three-year period preceding this certification been convicted of or had a civil judgment rendered for commission of fraud of a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
- (C) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and
- (D) Have not within a three-year period preceding this certification had one or more public transactions (Federal, State or local) terminated for cause or default.

I understand that a false statement on this certification may be ground for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative Date

_____ I am unable to certify to the above statements. My explanation is attached.

**CERTIFICATION REGARDING LOBBYING Certification for Contracts, Grants, Loans, and
Cooperative Agreements
Attachment Number 2**

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriate funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriate funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative Date

_____ I am unable to certify to the above statements. My explanation is attached.

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER
Attachment Number 3

STATE OF _____

COUNTY OF _____

- (1) He/She is _____
(OWNER, PARTNER, REPRESENTATIVE OR AGENT)
of, _____ the Bidder that has
submitted the attached bid;
- (2) He/She is fully informed respecting the preparation and contents of the attached Bid and of all pertinent
circumstances respecting such Bid;
- (3) Such Bid is genuine and is not a collusive or sham Bid;
- (4) Neither the said Bidder nor any of its officers, partners, owners, agents or representatives, employees or
parties in interest, including the affinity has in any way colluded, conspired, connived or agree, directly or
indirectly with any other bidder, firm or person to submit a collusive or sham Bid in connection with the
Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such
Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or
conference with any other bidder, firm or person to fix the price or prices in the attached Bid or of any other
Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other bidder, or
to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the
Owner of the Project or any person interested in the proposed Contract; and
- (5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion,
conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives,
owners, employees or parties, including this affiant.

SIGNED _____

TITLE _____

Subscribed and sworn to before me this _____ day of _____, of this year _____.

(NAME)

(TITLE)

MY COMMISSION EXPIRES: _____

STATEMENT OF BIDDER'S QUALIFICATIONS
Attachment Number 4

All questions shall be answered or the bid document will be incomplete. All data given shall be clear and comprehensive. This statement shall be notarized. If necessary, questions may be answered on separate sheets. The Bidder may submit any additional information it desires. If Bidder is a joint venture, submit previous joint venture projects. If joint venture has not completed prior projects of this magnitude then submit projects completed by joint venture partners.

1. Name of Bidder:
2. Permanent main office address:
3. When organized:
4. If a corporation, where incorporated:
5. How many years have you been engaged in operation of your business under your present firm or trade name?
6. Contracts on hand. (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion.)
7. General character of work performed by your company (general contractor, electrical contractor, etc.).
8. Have you ever failed to complete any job awarded to you? If so, where and why?
9. Have you ever defaulted on a contract? If so, where and why?
10. List the more important projects completed by your firm, stating the approximate cost for each, and the month and year completed on attached sheet.
11. List your major equipment available for this work.
12. Experience in work similar in complexity, size and/or dollar value to this project. List and describe at least four on the table "Project References."
13. Background and experience of the principal members of your organization, including the officers in this type work. (Attach.)
14. Credit available: \$ _____
15. Give bank reference: _____
16. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner? Yes No

STATEMENT OF BIDDER'S QUALIFICATIONS
Attachment Number 4
Continued

17. The undersigned hereby authorizes and requests any person, firm or corporation to furnish any information required by the Owner in verification of the statements made comprising this Statement of Bidder's Qualifications.

Dated at _____ this _____ day of _____, of this year

NAME OF BIDDER

BY _____

TITLE _____

STATE OF _____

COUNTY OF _____

_____ being duly sworn deposes and says that he is

_____ of _____
(NAME OF ORGANIZATION)

And that the answers to the foregoing questions and all statements contained therein are true and correct.

Subscribed and sworn to before me this _____ day of _____, of this year _____.

(NOTARY PUBLIC)

My commission expires _____

BIDDERS EXPERIENCE RECORD
Attachment Number 5
 (PROJECTS NEED TO BE OF SIMILAR SIZE AND NATURE)

Project Name, Owner, Address, Telephone #	Architect/Engineer, Contact Name, Telephone #	Project Type, Year of Completion	Size of Project (Capacity, Contract Duration)	Contract Value	Change Order Value

**ATTACHMENT NO. 6
PROPOSED SUBCONTRACTORS**

The BIDDER'S proposed subcontractors shall be listed below for the various branches of work included in the proposed contract. All subcontractors are subject to the approval of the OWNER.

Unless rejected or otherwise permitted by the OWNER, no substitutions or changes to the listing of the entities proposed to perform that branch of the work will be allowed following opening of the Bids.

Where the BIDDER proposes to perform the work with its own forces, the phrase "Prime Contractor" shall be entered in the box provided.

Failure to submit a completed list shall be cause for rejection of the Bid.

Branch of Work	Name of Subcontractor
1. Concrete	
2. Electrical	

**ATTACHMENT NO. 7
PROPOSED MAJOR EQUIPMENT MANUFACTURERS**

The BIDDER'S proposed major equipment manufacturers included in its Base Bid price shall be listed below for the requested items. **For the purposes of determining low Bidder, the Bidder shall include only manufacturers named in the specifications. Substitute or "or equal" manufacturer's will be considered after the Bid.** The OWNER reserves the right to reject any equipment manufacturers not listed in the Specifications. **Unless rejected or otherwise permitted by the OWNER, no substitutions or changes to this list of the major equipment manufacturers will be allowed after opening of the Bids.**

Failure to submit a completed list shall be cause for rejection of the Bid.

Major Equipment Item	Name of Manufacturer
1. Tube Settler Modules	
2. Motor Control Centers	
3. Motors	
4. Medium Voltage Variable Frequency Drives	
5. Vertical Turbine Pumps	
6. Rotary Pump Control Valves	

++ END OF SUPPLEMENTS TO BID FORM ++

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SECTION 00 41 33

AFFIDAVIT FOR CLAIMING RESIDENT BIDDER STATUS

Bid Description: Taylor Mill Treatment Plant Electrical and Basin Improvements

REQUIRED NOTARIZED AFFIDAVIT FOR BIDDERS, OFFERORS AND CONTRACTORS CLAIMING KENTUCKY RESIDENT BIDDER STATUS

FOR BIDS AND CONTRACTS IN GENERAL:

The bidder or offeror hereby swears and affirms under penalty of perjury that, in accordance with KRS 45A.494(2), the entity bidding is an individual, partnership, association, corporation, or other business entity that, on the date the contract was first advertised or announced as available for bidding:

- 1. Is authorized to transact business in the Commonwealth of Kentucky; AND
- 2. Has for one year prior to and through the date this contract was first advertised or announced as available for bidding:
 - a. Filed Kentucky corporate income taxes;
 - b. Made payments to the Kentucky unemployment insurance fund established in KRS 341.490; and
 - c. Maintained a Kentucky workers' compensation policy in effect.

The undersigned acknowledges that the District reserves the right to request documentation supporting a bidder's claim of resident bidder status. Failure to provide such documentation upon request shall result in disqualification of the bidder or contract termination.

Signature

Printed Name

Title (if signing on behalf of an entity)

Date

State of _____)

)ss.

County of _____)

Subscribed and sworn to before me by _____, as the
_____, of _____, this _____ day of
_____, 20_____.

Notary-at-Large
My comm. exp.: _____

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SECTION 00 43 13

BID BOND
(Damages Form)

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable

BIDDER (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER:

Northern Kentucky Water District
2835 Crescent Springs Road
Erlanger, Kentucky 41018

BID:

Bid Due Date: _____

PROJECT:

Taylor Mill Water Treatment Plant
Electrical and Basin Improvements (Project No. 184-0476)
608 Grand Ave.
Taylor Mill, KY 41015

BOND:

Bond Number: _____

Date: (Not later than Bid due date): _____

Penal Sum: _____ (Words) _____ (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

SURETY

_____(Seal)
Bidder's Name and Corporate Seal

_____(Seal)
Surety's Name and Corporate Seal

By: _____
Signature and Title

By: _____
Signature and Title
(Attach Power of Attorney)

Attest: _____
Signature and Title

Attest: _____
Signature and Title

-
- Notes: (1) Above addresses are to be used for giving required notice.
(2) Adapted from EJCDC No. C-435 (2002 Edition).

1.0 Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to Owner upon default of Bidder any difference between the total amount of Bidder's Base Bid and the total amount of the Bid of the next lowest, responsible Bidder who submitted a responsive Bid as determined by Owner for the Work required by the Bidding Documents, provided that:

1.1 If there is no such next Bidder, and Owner does not abandon the Project, then Bidder and Surety shall pay to Owner the penal sum set forth on the face of this Bond, and

1.2 In no event shall Bidder's and Surety's obligation hereunder exceed the penal sum set forth on the face of this Bond.

2.0 Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3.0 This obligation shall be null and void if:

3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment Bonds required by the Bidding Documents, or

3.2 All Bids are rejected by Owner, or

3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5.0 hereof).

4.0 Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt

by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5.0 Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder.

6.0 No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4.0 above is received by Bidder and Surety and in no case later than one year after Bid due date.

7.0 Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8.0 Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9.0 Surety shall cause to be attached to this Bond a current and effective Power or Attorney evidencing the authority of the officer, agent or representative who executed this Bond on behalf of Surety to execute, seal and deliver such Bond and bind the Surety thereby.

10.0 This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11.0 The term "Bid" as used herein includes a Bid, offer or proposal as applicable.

++END OF BID BOND++

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Section 00 52 13

AGREEMENT

THIS AGREEMENT is dated as of the _____ day of _____ in the year _____, by and between the Northern Kentucky Water District, 2835 Crescent Springs Road, Erlanger, Kentucky 41018 (hereinafter called Owner) and _____
(hereinafter called Contractor).

WITNESSETH: Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - WORK

1.01 Contractor shall at its own cost and expense furnish all labor, services, tools, materials, equipment and incidentals necessary to complete all Work as specified or indicated in the Contract Documents to construct the Taylor Mill Water Treatment Plant Electrical and Basin Improvements project. The Work is generally described in Section 01 11 13, Summary of Work.

ARTICLE 2 - PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

Taylor Mill Water Treatment Plant Electrical and Basin Improvements.
Project No. 184-0476

ARTICLE 3 - ENGINEER

3.01 The Project has been designed by Arcadis, Inc., (Engineer), who is to perform duties assigned to Engineer in the Supplementary Conditions in connection with the completion of the Work in accordance with the Contract Documents.

3.02 The Project Construction Administration will be performed by the Engineer. As the Construction Contract Administrator, the Engineer assumes all duties and responsibilities, and has the rights and authority assigned to the Construction Contract Administrator in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIMES

4.01 Time of the Essence

- A. All time limits for Milestones, if any, Substantial Completion and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Days to Achieve Milestones, Substantial Completion and Final Payment

- A. Milestone No. 1: The Tunnel and Flocculator Structural Rehabilitation Work and the Structural Rehabilitation Work of one of the Basins, as described in Section 01 12 00, Suggested Sequence of Construction, shall be completed and the Basin operational and returned to service by October 31, 2014.
- B. Milestone No. 2: The Structural Rehabilitation Work in the second Basin shall be conducted while the other basin is operating. The second Basin shall be completed and the Basin operational and returned to service by December 19, 2014
- C. Milestone No. 3: Additional items that require that the plant be shut down shall be installed between January 1, 2015 and April 30, 2015
- C. The Work will be substantially completed by June 1, 2015. The Work will be ready for final payment in accordance with Paragraph 14.07 of the General Conditions by July 15, 2015.

4.03 Liquidated Damages

- A. Owner and Contractor recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02.A and 4.02.B above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expenses, and difficulties involved in proving in a legal proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner \$1,500.00 for each day that expires after the time specified in paragraph 4.02.A for Milestone No. 1 until the Work is complete, Contractor shall pay Owner \$1,500.00 for each day that expires after the time specified in paragraph 4.02.B for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times or any proper extension thereof granted by Owner, Contractor shall pay Owner as liquidated damages (but not as a penalty) \$1,000.00 for each day that expires after the time specified in paragraph 4.02.B for completion and readiness for final payment until the Work is completed and ready for final payment.

In addition to any other remedies available at law or equity or under the Contract Documents Owner shall have the right to deduct the liquidated damages from any money in its hands, otherwise due, or to become due, to Contractor, or to initiate action to recover liquidated damages for nonperformance of this Contract within the time stipulated.

4.04 Delays and Damages

- A. In the event Contractor is delayed in the prosecution and completion of the Work because of any delays caused by Owner or Engineer, Contractor shall have no claim against Owner or Engineer for damages (including but not limited to acceleration costs or damages) or contract adjustment other than an extension of the Contract Times and the waiving of liquidated damages during the period occasioned by the delay.

Contractor shall provide advance written notice to Owner and Engineer of Contractor's intention to accelerate the Work prior to commencing any acceleration. Such written notice shall include a detailed explanation of the nature and scope of the acceleration, the reason for the acceleration, the anticipated duration of the acceleration, and the estimated additional costs to Contractor, if any, related to the acceleration. This requirement shall not in any way affect or alter the agreement of Owner and Contractor with respect to delays and damages as set forth above and in the General Conditions and Supplementary Conditions. Owner shall not be responsible or liable for any acceleration costs or damages.

ARTICLE 5 - CONTRACT PRICE

- 5.01 Owner shall pay Contractor, in current funds, for completion of the Work in accordance with the Contract Documents. All specific cash allowances are included in the above price and have been computed in accordance with Paragraph 11.02 of the General Conditions.

Total Contract Amount for Base Bid Work including allowances, a sum of:

_____ Dollars and
(words)
_____ Cents (\$ _____).
(numerals)

ARTICLE 6 - PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

- A. Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed as provided in the General Conditions.

6.02 Progress Payments and Retainage

- A. Owner shall make monthly progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment as recommended by Engineer. All progress payments will be on the basis of the progress of the Work measured by the schedule of values provided for in Paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work, based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

- 1. Retainage. In addition to any amounts withheld from payment in accordance with Paragraph 14.02 of the General Conditions, Owner shall retain from progress payments amounts equal to the following percentages:

- a. Ten percent of the amount of the Work completed. This amount may be reduced by the Owner in its sole and absolute discretion, if the project is Substantially Complete; and
- b. Ten percent of the value of materials and equipment that are not incorporated in the Work but are delivered, suitably stored, and accompanied by documentation satisfactory to Owner as provided in paragraph 14.02.A.1 of the General Conditions.

- 2. Subject to any rights of setoff or similar rights granted to Owner under the Contract Documents or at law all retainage will be paid to Contractor when the Work is completed and ready for final payment in accordance with paragraph 14.07.C of the General Conditions. Consent of the Surety shall be obtained before retainage is paid by Owner. Consent of the Surety, signed by an agent, must be accompanied by a certified copy of such agent's authority to act for the Surety.

6.03 Final Payment:

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.

ARTICLE 7 – INTEREST – (NOT USED)

ARTICLE 8 - CONTRACTOR'S REPRESENTATIONS

- 8.01 As part of the inducement for Owner to enter into this Agreement, Contractor makes the following representations:
- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
 - B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
 - D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 4.02 of the General Conditions, and (2) reports and drawings of a Hazardous Environmental Condition identified at the Site, if any, which have been identified in the Supplementary Conditions as provided in Paragraph 4.06 of the General Conditions.
 - E. Contractor has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may effect cost, progress or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents to be employed by Contractor, and safety precautions and programs incident thereto.
 - F. Contractor does not consider that any further examinations, investigations, explorations, tests, studies or data are necessary for the performance of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.
 - G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

- H. Contractor has correlated the information known to Contractor, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
- I. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to Contractor.
- J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- K. All representations and warranties of the Contractor contained in the Contract Documents are true and accurate in all material respects and Contractor shall indemnify and hold harmless Owner, Engineer and all officers, commissioners, employees and agents from all losses, damages, liabilities, expenses and the like including reasonable attorney's fees incurred as a result of any failure of truth or accuracy.

ARTICLE 9 - CONTRACT DOCUMENTS

- 9.01 The Contract Documents consist of the following:
- A. This Agreement (11 pages).
 - B. Performance Bond (2 pages).
 - C. Payment Bond (4 pages).
 - D. General Conditions (72 pages).
 - E. Supplementary Conditions (30 pages).
 - F. Supplemental Conditions for State Revolving Fund EPA Special Appropriations Grants (60 pages).
 - G. Wage Rates (To be provided by Addenda)
 - H. Specifications, as listed in the table of contents of the Project Manual.
 - I. The Drawings comprising a set entitled "Taylor Mill Water Treatment Plant Electrical and Basin Improvements, Project No. 184-0476", dated December 2013.
 - J. Addenda consisting of Numbers ____ to ____, inclusive.

K. Exhibits to the Agreement enumerated as follows:

1. Contractor's Bid including Supplements to Bid Form (pages _____ to _____, inclusive).

L. The following, which may be delivered or issued on or after the Effective Date of the Agreement, and are not attached hereto:

1. Notice to Proceed
2. Work Change Directives
3. Change Order(s)

9.02 The documents listed in Paragraph 9.01 above are attached to this Agreement (except as expressly noted otherwise above). Documents not attached are incorporated by reference. There are no Contract Documents other than those listed in this Article 9.

9.03 The Contract Documents may only be amended or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 – COMPLIANCE WITH KENTUCKY LAW

10.01 Contractor represents and warrants that it has revealed to Owner any and all final determinations of a violation of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 by Contractor or any subcontractor within the past five years. Contractor further represents and warrants that it and each of its subcontractors will remain in continuous compliance with the provisions of KRS Chapters 136, 139, 141, 337, 338, 341 and 342 for the duration of this Agreement. Contractor understands that its failure to reveal a final determination of a violation or to comply with the above statutory requirements constitutes grounds for cancellation of the Agreement and for disqualification of Contractor from eligibility for any contracts for a period of two years.

ARTICLE 11 – EQUAL OPPORTUNITY

11.01 Unless exempted under KRS 45.590, during the performance of this Agreement, Contractor agrees as follows:

- A. Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age forty (40) and over, disability, veteran status, or national origin;

- B. Contractor will take affirmative action in regard to employment, upgrading, demotion, transfer, recruitment, recruitment advertising, layoff, termination, rates of pay or other forms of compensation, and selection for training, so as to ensure that applicants are employed and that employees during employment are treated without regard to their race, color, religion, sex, age forty (40) and over, disability, veteran status, or national origin;
- C. Contractor will state in all solicitations or advertisements for employees placed by or on behalf of Contractor that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age forty (40) or over, disability, veteran status, or national origin;
- D. Contractor will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the nondiscrimination clauses required by this section; and
- E. Contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of Contractor's commitments under the nondiscrimination clauses.

ARTICLE 12 - MISCELLANEOUS

12.01 Terms

- A. Terms used in this Agreement will have the meanings indicated in the General Conditions and the Supplementary Conditions.

12.02 Assignment of Contract

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

12.03 Successors and Assigns

- A. Owner and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

12.04 Severability

- A. Any provision or part of the Contract Documents, held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

12.05 Waiver

- A. The waiver by the Owner of any breach or violation of any term, covenant, or condition of this Agreement or of any Law or Regulation shall not be deemed to be a waiver of any other term, covenant, condition, or Law or Regulation or of any subsequent breach or violation of the same or of any other term, covenant, condition, or Law or Regulation. The subsequent payment of any monies or fee by the Owner which may become due hereunder shall not be deemed to be a waiver of any preceding breach or violation by Contractor of any term, covenant, condition of this Agreement or of any applicable Law or Regulation.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement on the day and year first written above.

This Agreement will be effective on _____, 20____ (which is the Effective Date of the Agreement).

Owner: _____ Contractor: _____

Signature: _____ Signature: _____

Name: _____ Name: _____

Title: _____ Title: _____

[CORPORATE SEAL]

[CORPORATE SEAL]

Attest _____

Attest _____

Title: _____

Title: _____

Address for giving notices

Address for giving notices

(If Owner is a corporation, partnership, or limited liability company, attach evidence of authority to sign) (If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of Agreement.)

License No. _____
(where applicable)

Agent for service of process: _____

(If Contractor is a corporation, partnership, or limited liability company, attach evidence of authority to sign.)

Designated Representative:

Designated Representative:

Signature: _____

Signature: _____

Name: _____

Name: _____

Title: _____

Title: _____

Address: _____

Address: _____

Phone No.: _____

Phone No.: _____

Fax No.: _____

Fax No.: _____

++END OF AGREEMENT++

NOTICE OF INTENT TO AWARD

To: Contractor:
Street:
City, State, Zip Code:

Date: _____, 20__

Description of Work:

Construction of the Taylor Mill Water Treatment Plant Electrical and Basin Improvements Project consisting of: Conduct structural rehabilitation on the Sedimentation Basins and Tunnel at Taylor Mill Treatment Plant; Install new conduits, cable trays, four new MCCs (Pumps no. 1 – 4), and 2 new VFDs (Pumps no. 5 – 6) at Filter Building; Re-roof entire Filter Building and replace skylights above the filters; Complete Architectural, Electrical, and HVAC work at Filter Building; Remove existing feeder, controls, and existing starters to pumps nos. 1–6. Install new feeders from new MCCs and new VFDs, and make all power and control connections; Disconnect and remove existing pump nos. 1, 3, 5, and 6 and motors and appurtenances. Install new pump nos. 1, 3, 5, and 6 and motors, install new shafts, and make all power and control connections; Install new control valves and required piping at pumps nos. 1, 2, and 3. Drain Sedimentation Basins, remove existing tube settler modules and install new tube settler modules and protective surface grating. General demolition and modifications; and Other miscellaneous work as indicated in the drawings or specifications.

The Owner represented by the undersigned has considered the Bid submitted by you for the above described work and any adopted alternatives in response to its Invitation to Bid and Instructions to Bidders dated _____

It appearing that it is to the best interest of said Owner to accept your Base Bid and any adopted alternatives in the amount of (\$ _____), you are hereby notified that your Base Bid has been accepted for the above referenced project. You are required by the Instructions to Bidders to execute the formal Agreement with the undersigned Owner and to furnish the required Contractor's Performance Bond and Payment Bond and proper Insurance Certificate within fifteen (15) days from the date of delivery of this Notice to you. **You are required to return an acknowledged copy of this Notice of Intent to Award and all copies of the signed Agreement (leave dates blank) to the Owner for execution.**

If you fail to execute said Agreement and to furnish said bonds and certificates within 15 days from the date of delivery of this Notice, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Proposal as abandoned and as a forfeiture of your Bid Security. The Owner will be entitled to such other rights as may be granted by law and to award the work covered by your Proposal to another, or to re-advertise the work or otherwise dispose thereof as the Owner may see fit.

Dated this ____ day of _____, 20__.

Owner
Northern Kentucky Water District

By: _____
Richard Harrison
V.P. Engineering, Production & Distribution

ACCEPTANCE OF NOTICE

Receipt of the above Notice of Intent to Award is hereby acknowledged this

_____ day of _____, 20____.

By: _____

NOTICE TO PROCEED

To: Contractor:

Street:

City, State, Zip Code:

Project Description: Construction of the Taylor Mill Water Treatment Plant Electrical and Basin Improvements Project consisting of: Conduct structural rehabilitation on the Sedimentation Basins and Tunnel at Taylor Mill Treatment Plant; Install new conduits, cable trays, four new MCCs (Pumps no. 1 – 4), and 2 new VFDs (Pumps no. 5 – 6) at Filter Building; Re-roof entire Filter Building and replace skylights above the filters; Complete Architectural, Electrical, and HVAC work at Filter Building; Remove existing feeder, controls, and existing starters to pumps nos. 1–6. Install new feeders from new MCCs and new VFDs, and make all power and control connections; Disconnect and remove existing pump nos. 1, 3, 5, and 6 and motors and appurtenances. Install new pump nos. 1, 3, 5, and 6 and motors, install new shafts, and make all power and control connections; Install new control valves and required piping at pumps nos. 1, 2, and 3. Drain Sedimentation Basins, remove existing tube settler modules and install new tube settler modules and protective surface grating. General demolition and modifications; and Other miscellaneous work as indicated in the drawings or specifications.

You are hereby notified to commence WORK in accordance with the agreement dated _____ on or before _____, 20__.

The Work will need to be substantially completed within _____ calendar days after the date when the Contract Times commence to run as provided in paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.07.B of the General Conditions within _____ calendar days after the date when the Contract Times commence to run. The date of substantial completion of the WORK is _____, 20__ and the date of final completion of all WORK is therefore _____, 20__.

OWNER

Northern Kentucky Water District

By:

Richard Harrison
V.P. Engineering, Production &
Distribution

ACCEPTANCE OF NOTICE
Receipt of the above NOTICE TO
PROCEED is hereby acknowledged
this the _____ day of
_____, 20__.

By: _____

Title

Section 00 61 13
PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address):

CONTRACT

Date:

Amount:

Description (Name and Location):

BOND

Bond Number:

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company:

Signature: _____ (Seal)

Name and Title:

SURETY

(Seal)

Surety's Name and Corporate Seal

By: _____

Signature and Title

(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

Attest: _____

Signature and Title

CONTRACTOR AS PRINCIPAL

Company:

Signature: _____ (Seal)

Name and Title:

SURETY

(Seal)

Surety's Name and Corporate Seal

By: _____

Signature and Title

(Attach Power of Attorney)

Attest: _____

Signature and Title:

EJCDC No. C-610 (2002 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.
2. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 3.1.
3. If there is no Owner Default, Surety's obligation under this Bond shall arise after:
 - 3.1. Owner has notified Contractor and Surety, at the addresses described in Paragraph 10 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default; and
 - 3.2. Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 3.1; and
 - 3.3. Owner has agreed to pay the Balance of the Contract Price to:
 1. Surety in accordance with the terms of the Contract;
 2. Another contractor selected pursuant to Paragraph 4.3 to perform the Contract.
4. When Owner has satisfied the conditions of Paragraph 3, Surety shall promptly and at Surety's expense take one of the following actions:
 - 4.1. Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or
 - 4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and Contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or
 - 4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:
 1. After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or
 2. Deny liability in whole or in part and notify Owner citing reasons therefor.
5. If Surety does not proceed as provided in Paragraph 4 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 4.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.
6. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To a limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:
 - 6.1. The responsibilities of Contractor for correction of defective Work and completion of the Contract;
 - 6.2. Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions or failure to act of Surety under Paragraph 4; and
 - 6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.
7. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.
8. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontracts, purchase orders, and other obligations.
9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and shall be instituted within two years after Contractor Default or within two years after Contractor ceased working or within two years after Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
10. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.
11. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
12. Definitions:
 - 12.1. Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.
 - 12.2. Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
 - 12.3. Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
 - 12.4. Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or comply with the other terms thereof.

FOR INFORMATION ONLY – Name, Address and Telephone
 Surety Agency or Broker
 Owner's Representative (engineer or other party)

Section 00 61 16
PAYMENT BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

CONTRACT

Effective Date of Agreement:

Amount:

Description (*Name and Location*):

BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

(Seal)
Contractor's Name and Corporate Seal

(Seal)
Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to Owner, this obligation shall be null and void if Contractor:
 - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2 Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.
3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.
4. Surety shall have no obligation to Claimants under this Bond until:
 - 4.1 Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 4.2 Claimants who do not have a direct contract with Contractor:
 1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.
5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.
6. (Not Used.)
7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.
8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.
9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders, and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. Definitions

15.1 Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

15.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract, or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – *(Name, Address, and Telephone)*

Surety Agency or Broker:

Owner's Representative *(Engineer or other)*:

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**GENERAL CONDITIONS
OF THE CONSTRUCTION CONTRACT**

Adapted from EJCDC C-700, Standard General Conditions
of the Construction Contract (2007 Edition)

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GENERAL CONDITIONS

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda* – Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement* – The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment* – The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos* – Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid* – The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder* – The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents* – The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements* – The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order* – A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim* – A demand or assertion by Owner or Contractor seeking an adjustment of

Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract* – The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.
12. *Contract Documents* – Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price* – The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times* – The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor* or *CONTRACTOR* – The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work* – See Paragraph 11.01.A for definition.
17. *Drawings* – That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement* – The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer* or *ENGINEER* – The individual or entity named as such in the Agreement.
20. *Field Order* – A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements* – Sections of Division 01 of the Specifications.
22. *Hazardous Environmental Condition* – The presence at the Site of Asbestos,

PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.

23. *Hazardous Waste* – The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations* – Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens* – Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone* – A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.
27. *Notice of Award* – The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed* – A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner or OWNER* – The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs* – Polychlorinated biphenyls.
31. *Petroleum* – Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule* – A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project* – The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual* – The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which

may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material* – Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative* – The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples* – Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals* – A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values* – A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
40. *Shop Drawings* – All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site* – Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications* – That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor* – An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion* – The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.

45. *Successful Bidder* – The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions* – That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier* – A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities* – All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work* – Work to be paid for on the basis of unit prices.
50. *Work* – The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive* – A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

- A. The words and terms referenced in this Paragraph 1.02 are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives*
 1. The Contract Documents include the terms “as allowed”, “as approved”, “as ordered”, “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or

import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. Does not conform to the Contract Documents, or
 - b. Does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents, or
 - c. Has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of

Contractor, “provide” is implied.

- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to

Engineer for timely review:

1. A preliminary Progress Schedule;
2. A preliminary Schedule of Submittals; and
3. A preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representative*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to

component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 - 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants or subcontractors any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

- A. Reporting Discrepancies
 - 1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare

the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers or has actual knowledge of and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and

- a) Any applicable Law or Regulation,
- b) Any standard, specification, manual or code, or,
- c) Any instruction of any Supplier

then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. The provisions of any standard, specification, manual, code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. The provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 - 1. A Field Order;
 - 2. Engineer's approval of a Shop Drawing or Sample; (subject to the provisions of Paragraph 6.17.D.3); or
 - 3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
 - 1. Have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's consultants, including electronic media editions; or
 - 2. Reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor or by Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner’s furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- B. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site; that Engineer has used in preparing the Contract Documents; and
 - 2. Those drawings of physical conditions in or relating to existing surface or subsurface at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely on the general accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants or subcontractors with respect to:
 - 1. The completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - 2. Other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. Any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. Is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. Is of such a nature as to require a change in the Contract Documents; or
3. Differs materially from that shown or indicated in the Contract Documents; or
4. Is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer’s Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner’s obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer’s findings and conclusions.

C. *Possible Price and Times Adjustments*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor’s cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a

negotiated contract; or

- b. The existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. The cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data,
 - b. Locating all Underground Facilities shown or indicated in the Contract Documents,
 - c. Coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and
 - d. The safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.,
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such

“technical data,” Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants or subcontractors with respect to:

1. The completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. Other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. Any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice:: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work

under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

- G. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- H. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes

insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Liability Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for

whose acts any of them may be liable:

1. Claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 2. Claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 4. Claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. By any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. By any other person for any other reason;
 5. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 6. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
1. With respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
 2. Include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
 3. Include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
 4. Contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior

written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

5. Remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. Include completed operations insurance;
 - a. Such insurance shall remain in effect for at least two years after final payment, and
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 (Not Used)

5.07 (Not Used)

5.08 (Not Used)

5.09 (Not Used)

5.10 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to

any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. Unless the Owner shall otherwise agree in writing, the superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or received from the superintendent shall be binding on Contractor.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
 - 1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. In the exercise of reasonable judgment Engineer determines that:

- 1) It is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics; and
 - 2) It will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) It has a proven record of performance and availability of responsive service; and
- b. Contractor certifies that, if approved and incorporated into the Work:
- 1) There will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) It will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) Shall certify that the proposed substitute item will:
 - a) Perform adequately the functions and achieve the results called for by the general design,
 - b) Be similar in substance to that specified, and
 - c) Be suited to the same use as that specified;

2) Will state:

- a) The extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
- b) Whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
- c) Whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) Will identify:

- a) All variations of the proposed substitute item from that specified, and
 - b) Available engineering, sales, maintenance, repair, and replacement services; and
- 4) Shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
 - 1. Shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor

2. Shall anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work 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 Work and if to the actual knowledge of Owner or Engineer 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 Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members,

partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work, Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons and property in the performance of their work nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. All persons on the Site or who may be affected by the Work;
 - 2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. Other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety programs with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of

Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar

data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. Reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.;
 - b. Determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. Determined and verified the suitability of all materials offered with respect to indicated use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. Determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawing or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted

to Engineer for review and approval of each such variation.

D. *Engineer's Review*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors,

members, partners, employees, agents, consultants and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. Abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
2. Normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. Observations by Engineer;
2. Recommendation by Engineer or payment by Owner of any progress or final payment;
3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. Use or occupancy of the Work or any part thereof by Owner;
5. Any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. Any inspection, test, or approval by others; or
7. Any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage:

1. Is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of real or personal property (other than the Work itself), including the loss of use resulting therefrom; and

2. Is caused by any act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by an individual or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws or Regulations.
- B. In any and all claims against Owner or Engineer or any of their , officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
 - C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not be limited in any way by the amount or types of insurance provided by Contractor under Article 5 of the General Conditions.
 - D. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the sole negligence or willful misconduct of Owner or Engineer or to the officers, directors, members, partners, employees, agents, and consultants and subcontractors of each and any of them.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. Written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, Contractor may cut or alter the work of others with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Legal Relationships*

- A. Paragraph 7.01.A is not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.03 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.04 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at or contiguous to the Site.

8.05 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.06 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.07 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.08 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.09 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.10 *Evidence of Financial Arrangements*

- A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

8.11 *Compliance With Safety Programs*

- A. While on the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.B.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties

and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner and Engineer.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, or have control over Contractor's Work, nor shall Engineer have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected by Contractor, for safety precautions and programs incident to Contractor's Work in progress, nor for any failure of Contractor to comply with Laws and Regulations applicable to Contractor's furnishing and performing the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be

accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, if any,
 - 1. As to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21;
 - 2. As to Change Orders, see Articles 10, 11, and 12; and
 - 3. As to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the

requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.

- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall

also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Programs*

- A. While on the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of the Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.C.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 - 1. Changes in the Work which are:
 - a) Ordered by Owner pursuant to Paragraph 10.01.A,
 - b) Required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or
 - c) Agreed to by the parties;

2. Changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
3. Changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).
- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. Deny the Claim in whole or in part,
 2. Approve the Claim, or
 3. Notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or

legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to Engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly

or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
 - D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances*
 1. Contractor agrees that:
 - a. The cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*
 1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended

by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - 1. The quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - 2. There is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment

in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:
1. A mutually acceptable fixed fee; or
 2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. For costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. For costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraph 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. No fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

- f. When both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.
- C. If Owner, Engineer, or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- D. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of other contractors or utility owners, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.D.
- E. Owner and Engineer and the officers, directors, members, partners, employees,

agents, consultants, and subcontractors of each of them shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. For inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. That costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in said Paragraph 13.04.C; and
 - 3. As otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in

connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If, the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefore as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. Repair such defective land or areas; or
 - 2. Correct such defective Work; or
 - 3. If the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. Satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to

correct defective Work or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

- A. Applications for Payments

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. The Work has progressed to the point indicated;
 - b. The quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and

- c. The conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. Inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. There may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. To supervise, direct, or control the Work, or
 - b. For the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. For Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. To make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. To determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
 - a. The Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. The Contract Price has been reduced by Change Orders;

- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due*

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment*

- 1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. Claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. There are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
- 2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
- 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within 14 days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said 14 days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the

Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions.

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph

6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. All documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. Consent of the surety, if any, to final payment;
 - c. A list of all Claims against Owner that Contractor believes are unsettled; and
 - d. Complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that:
 - a) The releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and
 - b) All payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
 1. A waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
 2. A waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided

in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's disregard of the authority of Engineer; or
 4. Contractor's repeated violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. Exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
 2. Incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. Complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph Owner shall not be required to obtain the lowest price for the Work performed.

- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. Completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. Expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 - 3. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 - 4. Reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally

determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

- A. Dispute resolution methods and procedures, if any, shall be as set forth in the Supplementary Conditions. If no method and procedure has been set forth, and subject to the provisions of Paragraph 10.05, Owner and Contractor may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
1. Delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or
 2. Delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

++ END OF GENERAL CONDITIONS ++

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SECTION 00 73 01

SUPPLEMENTARY CONDITIONS

SCOPE

These Supplementary Conditions amend or supplement the General Conditions of the Construction Contract. All provisions of the General Conditions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to the singular and plural thereof.

The address system used in these Supplementary Conditions conforms to the address system used in the General Conditions, with the prefix "SC" added thereto.

SC-1.01.A.19. Add the following new sentences at the end of the Paragraph:

Where ever the terms "Engineer" or "Engineer's" appears in these Contract Documents it shall be understood that the terms apply to the position of the Construction Contract Administrator. Exceptions to this are where both "Engineer" and "Construction Contract Administrator" appear in the same sentence or where referring to the following activities: review of technical submittals such as shop drawings, preparation of the overall project operations manual that will incorporate equipment manuals from the Contractor, and configuration of controls software and operations screens. Engineer will assist Construction Contract Administrator in review of Change Orders, Field Orders, Work Change Directives, and requests for information. The terms "Construction Contract Administrator" or "Construction Contract Administrator's" have been inserted in the Contract Documents in some places, but the terms "Engineer" or "Engineer's" are frequently used in these Contract Documents.

The Engineer will retain full responsibility for its design. The Construction Contract Administrator is not authorized to change the design intent without Engineer's written approval.

SC-1.01.A.44. Delete Paragraph 1.01.A.44 in its entirety and insert the following in its place

44. *Substantial Completion* – The time at which the WORK of the entire project has progressed to the point where, in the opinion of Engineer, the WORK of the entire project is sufficiently complete, in

accordance with the Contract Documents, so that the WORK of the entire project can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the WORK refer to Substantial Completion thereof. Substantial Completion is further defined as (i) that degree of completion of the entire Project’s operating facilities or systems sufficient to provide Owner the full time, uninterrupted, and continuous beneficial operation of the WORK of the entire project; and (ii) all required functional, performance and acceptance or startup testing has been successfully demonstrated for all components, devices, equipment, and instrumentation and control to the satisfaction of Construction Contract Administrator in accordance with the requirements of the Specifications. Final paving and installation of vegetated roof shall be completed but seeding and landscape planting are not required to be completed for Substantial Completion.

Partial utilization of any portion of the project by the Owner will not constitute Substantial Completion of that portion of the WORK that is being operated by the Owner until the entire WORK has been issued substantial completion.

SC-1.01.A.52. Add the new definitions immediately following Paragraph 1.01.A.51, that is to read as follows:

SC-1.01.A.52 *Construction Contract Administrator (CCA)*: The individual or entity with whom the Owner has entered into an agreement or selected for administration of construction activities. The term Construction Contract Administrator (CCA) is understood to be substituted for the word “Engineer” everywhere in these Contract Documents except where both terms appear in the same sentence or where the duties described are those set forth for the Engineer in paragraph SC-1.01.A.19.

SC-1.01. Add the following language at the end of Article 1:

G. Construction Contract Administrator Interpretations. In order to avoid cumbersome and confusing repetition of expressions in these specifications, it is provided that whenever anything is, or is to be done, if, as, or when or where “demonstrated, contemplated, required, directed, specified, authorized, ordered, given, designated, indicated, considered necessary, deemed necessary, permitted, reserved, suspended, established, approval, approved, disapproved, acceptable, unacceptable, suitable, satisfactory, sufficient, insufficient, rejected or condemned,” it shall be understood as if the expression were followed by the words, “by the Construction Contract Administer”, “to the Construction Contract Administrator”, and/or “by the Engineer” or “to

the Engineer” depending on whether the activity is of the type to be performed by the Engineer.

SC-1.02 Delete Paragraph 1.02.D.1.C in its entirety and insert the following in its place:

c. has been damaged prior to Engineer’s recommendation of final payment.

SC-2.02. Amend Paragraph 2.02. (by making the following revision):

In the first line delete the word “ten”, add the word “five”.

SC-2.03. *Commencement of Contract Times; Notice to Proceed* Delete Paragraph 2.03.A in its entirety and insert the following in its place:

A. The Contract Times will commence to run on the date in the Notice to Proceed.

SC-2.06. Amend Paragraph 2.06.A (by making the following revision):

In the first line after the word “Contractor”, add the word “Construction Contract Administrator”.

SC-3.03.A.3 Amend Paragraph 3.03.A.3 (by making the following revision):

In the first line after the word “Owner” add the words “Construction Contract Administrator,”.

SC-3.06.A. Amend Paragraph 3.06.A (by making the following revision):

In the first and second lines after the word “Owner” add the words “Construction Contract Administrator,”

SC-4.01. Add the following new paragraph immediately after Paragraph 4.01.B:

C. Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees that receive damage to branches shall be trimmed of those branches to improve the appearance of the tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing.

SC-4.02. Add a new Paragraph immediately after Paragraph 4.02.B that is to read as follows:

SC-4.02. C In preparation of Drawings and Specifications, Engineer or Related Entities relied upon the following drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the Site:

4.02.C.1 Water Treatment Plant, contact No. 3, dated September 1953 by Alfred LeFeber and Associates.

4.02.D.2 Taylor Mill Water Treatment Plant Improvements, dated June 1987 by Burgess & Niple, Limited.

4.02.C.3 Taylor Mill Water Treatment Plant Improvements, dated November 1987 by Burgess & Niple, Limited.

4.02.C.4 Taylor Mill Plant, Chemical Building, Clarifier, and Clearwell Improvements, dated October 1999 by CH2M Hill.

4.02.C.5 Taylor Mill Water Treatment Plant, Filter to Waste System, dated September 2003 by Black & Veatch.

SC-4.02.D Copies of drawings itemized in SC-4.02.C that are not included with Bidding Documents may be examined at Northern Kentucky Water District, 2835 Crescent Springs Road, Erlanger, KY 41018 during regular business hours. These reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Contactor may rely, except for specific locations of buried piping systems, electrical systems and topographic surveys. Contractor is not entitled to rely upon information and data utilized by Engineer and Related Entities in the preparation of Drawings and Specifications.

SC-4.03.C.3. Amend Paragraph 4.03.C.3 (by making the following revision):
In the fourth line after the word “Owner”, add the words “Construction Contract Administrator,”

SC-4.04.A.2.d. Amend Paragraph 4.04.A.2.d (by making the following revision):
Add the paragraph “1) The Contractor shall alert immediately the occupants of nearby premises as to any emergency that it may create or discover at or near such premises.”

SC-4.04.A. Amend Article 4.04.A.(by making the following revisions):

After paragraph 4.04.A.2.d.add the following paragraphs,
3. The Contractor shall have full responsibility for coordination of the WORK with owners of such underground facilities during construction, for the safety and protection thereof as provided in paragraph 6.13 and repairing any damage there to resulting from the

WORK, the cost of which will be considered as having been included in the Contract Price.

4. Where existing utilities and structures are indicated as being in the line of the proposed improvement; the Contractor shall expose them sufficiently in advance of the construction operations to permit adjustments in line or grade, if required, to eliminate interferences.

5. Existing pipes or conduits crossing a trench, or otherwise exposed, shall be adequately braced and supported to prevent movement during construction.

6. Broken Underground Facilities.

a. Underground Facilities broken or damaged shall be repaired at once to avoid inconvenience to customers and utility owners.

b. Temporary arrangements, as approved by the Construction Contract Administrator, may be used until any damaged items can be permanently repaired.

c. All items damaged or destroyed by construction and subsequently repaired must be properly maintained by the Contractor.

d. Contractor must WORK 24 hours a day until service is restored to a damaged utility.

7. Existing Utility Relocation.

a. Where it is necessary to relocate an existing utility or structure, the WORK shall be done in such manner as is necessary to restore it to a condition equal to that of the original utility or structure.

b. No such relocation shall be done until approval is received from the authority responsible for the utility or structure being changed.”

SC-4.06. Delete Paragraphs 4.06.A and 4.06.B in their entirety and insert the following in their place:

SC -4.06.A. The following reports are known to Owner as relating to Hazardous Environmental Conditions that have been identified at the Site.

1. The existing main substation transformer has been tested and contains PCBs. See faxed report sent from Power Plus Engineering, Inc. to the Owner dated June 1, 2009. A copy of the

report will be provided with the purchase of the Bid Set. This is not part of the Contract Documents, but the “technical data” contained therein upon which Contactor may rely, except for specific locations of buried piping systems, electrical systems and topographic surveys. Contractor is not entitled to rely upon information and data utilized by Engineer and Related Entities in the preparation of Drawings.

2. The existing coating systems in the tunnel and at key locations on the existing preliminary treatment structure have been tested for high levels of lead in the paint. Some of the paint has been identified as containing high levels of lead. See “Limited Lead Containing Paint Inspection, Taylor Mill Water Treatment Plant” report dated December 6, 2010 prepared by ATC Associates Incorporated. A copy of the report will be provided with the purchase of the Bid Set. This report is not part of the Contract Documents, but the “technical data” contained therein upon which Contactor may rely, except for specific locations of buried piping systems, electrical systems and topographic surveys. Contractor is not entitled to rely upon information and data utilized by Engineer and Related Entities in the preparation of Drawings and Specifications

SC-4.06.B. There is no technical data which can be relied upon.

SC-4.06.C. Amend Article 4.06.C (by making the following revision):

In the fourth line after the words “Environmental Condition” add the words, “that is created by, or”

SC-4.06.G. Amend Article 4.06.G (by making the following revisions):

In the second line after the word “Subcontractors”, add the words “Construction Contract Administrator,” and starting in line seven delete the words“(i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the WORK, and (ii) was not created by the Contractor or by anyone for whom the Contractor is responsible. Nothing in this Paragraph 4.06 G shall obligate the Owner to indemnify any individual or entity from and against the consequences of that individual’s or entities own negligence.”

and replace with the words

“was created by Owner or by anyone for whom the Owner is responsible, other than Contractor and all persons, subcontractors and entities for which the Contractor is responsible.”

SC-5.01.A. Modify the first part of the second sentence of Paragraph 5.01.A of the General Conditions to read:

“The payment bond shall remain in effect for one year and the performance bond shall remain in effect for one year after the date when final payment becomes due...”

SC-5.02. Add the following new paragraph immediately after Paragraph 5.02.A:

SC-5.02.B. Surety from which the bonds for this Project are purchased shall be listed by the US Treasury Department and the insurance companies from which the insurance for this Project is purchased from shall have an AM Best’s rating of no less than A in addition to other requirements specified herein.

SC-5.04A.7. Add the following new paragraph immediately after Paragraph 5.04.A.6

“7. Claims arising out of pollution and excluded from the Contractor’s general liability and comprehensive automobile liability policies. This insurance shall be coordinated with the Contractor’s general liability policy and shall provide bodily injury and property damage coverage similar to the Contractor’s general liability policy. Coverage shall include contractual liability.”

SC-5.04.B.1. Change the second and third lines of Paragraph 5.04.B.1 by replacing the term, “Owner and” with the term, “Owner, Engineer, and Related Entities,”

SC-5.04. Add the following language after Paragraph 5.04.B.1:

Include the following Related Entities as additional insured:

5.04.B.1.a Northern Kentucky Water District, 2835 Crescent Springs Road, Erlanger, Kentucky 41018

5.04.B.1.b Arcadis, Inc., 4665 Cornell Road, Suite 350 Cincinnati, Ohio 45241

5.04.B.1.c Magna Engineers, 861 Corporate Drive, Suite 210, Lexington, Kentucky 40503

SC-5.04. Add a new paragraph immediately after Paragraph 5.04.B that is to read as follows:

“7. Contain a cross liability or severability of interest clause or endorsement insurance covering the specified additional insureds shall

be primary insurance, and all other insurance carried by the additional insurers shall be excess insurance;”

“8. with respect to workers’ compensation and employers’ liability, comprehensive automobile liability, commercial general liability, and umbrella liability insurance, and all other liability insurance specified herein to be provided by Contractor, Contractor shall require its insurance carriers to waive all rights of subrogation against Owner, Construction Contract Administrator, Engineer, Related Entities, and their respective officers, directors, partners, employees, and agents.”

SC-5.04.C The limits of liability for the insurance required by Paragraph 5.04 shall provide coverage for not less than the following amounts, or greater where required by Laws and Regulations:

1. Workers’ compensation, and related coverage’s under Paragraphs 5.04.A.1. and 5.04.A.2.
 - a. Applicable Federal or State: Statutory
 - b. Maritime Not Required
 - c. Railroad Not Required
 - d. Employer's Liability \$1,000,000 Each Accident

2. For Contractor’s General Liability insurance under Paragraphs 5.04.A.3 through 5.04.A.6 and Paragraph 5.04.B which shall include Premises-Operations, Independent Contractor’s Protection, Products and Completed Operations, Broad Form Property Damage, Contractual Liability) and shall protect Contractor, Owner, Construction Contract Administrator, Related Entities, and Engineer, as additional insured, against claims arising from injuries, sickness, disease, or death of any person or damage to property arising out of performance of the WORK:
 - a. Bodily Injury:

\$1,000,000	Each Occurrence
\$2,000,000	Annual Aggregate

 - b. Property Damage:

\$1,000,000	Each Occurrence
\$2,000,000	Annual Aggregate

 - c. Property Damage liability insurance shall provide Explosion, Collapse and Underground coverage’s.

3. For Contractor’s Automobile Liability under Paragraph 5.04.A.6:
 - a. Bodily Injury:

\$1,000,000	Each Person
-------------	-------------

\$1,000,000 Each Accident

b. Property Damage:
\$1,000,000 Each Occurrence

c. Combined Single Limit of: \$1,000,000

4. Umbrella Liability insurance shall protect Contractor, Owner, Construction Contract Administrator, Related Entities, and Engineer as additional insured, against claims in excess of the limits provided under workers' compensation and employer's liability, comprehensive automobile liability, and commercial general liability policies. The umbrella policy shall follow the forms of the primary insurance, including the application of the primary limits. The liability limits shall be not less than:

a. Bodily injury and \$4,000,000 combined single
Property damage limit for Each Occurrence

SC-5.05. Delete paragraph 5.05 in its entirety and insert the following in its place:

5.05 Owner's Liability Insurance

Owner's Liability Insurance: This insurance shall be obtained by Contractor and issued in the name of Owner, and shall protect and defend Owner, Construction Contract Administrator, Related Entities, and Engineer against claims arising as a result of the operations of Contractors or Contractor's Subcontractors. The liability limits shall be not less than:

a. Bodily Injury:
\$1,000,000 Each Occurrence
\$1,000,000 Annual Aggregate

b. Property Damage:
\$1,000,000 Each Occurrence
\$1,000,000 Annual Aggregate

SC-5.06. Add Paragraph 5.06. in its entirety:

5.06 Property Insurance

A. Contractor shall purchase and maintain property insurance coverage upon the WORK at the Site in the amount of the full replacement cost thereof. This insurance shall:

1. Include the interest of Owner, Contractor, Subcontractors, Engineer, Related Entities, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, commissioners, partners, members, managers, employees, agents, and other consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an additional insured;

2. Be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the WORK, temporary buildings, false WORK, and materials and equipment, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, flood, damage caused by frost and freezing, and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. Cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the WORK, provided that such materials and equipment have been included in an Application for Payment accepted by Owner.

4. Include expenses incurred in the repair or replacement of any insured property (including, but not limited to, fees and charges of engineers and architects);

5. Allow for partial utilization of the WORK by Owner;

6. Include testing and startup; and

7. Be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer, with 30 days' written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Contractor shall be responsible for any deductible or self-insured retention.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with paragraph 5.06 shall contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.07.

D. If Owner requests in writing that other special insurance be included in the property insurance policies provided under paragraph 5.06, Contractor shall, if possible, include such insurance and the cost thereof will be charged to Owner by appropriate Change Order or Written Amendment. Prior to commencement of the WORK at the site, Contractor shall in writing advise Owner whether or not Contractor has procured such other special insurance.

SC-5.07. Add Paragraph 5.06. in its entirety:

5.07. Waiver of Rights

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractor, Construction Contract Administrator, Related Entities, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any of the insured or loss payees there under. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultant and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the WORK; and, in addition, waive all such rights against Subcontractors, Construction Contractor Administrator, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall expend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractor, Construction Contract Administrator, and Engineer, and the officer, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. Loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the WORK caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. Loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractor, Construction Contract Administrator, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

SC-5.08. Add Paragraph 5.08. in its entirety:

5.08. Receipt and Application of Insurance Proceeds

- A, Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Contractor and made payable to Contractor as fiduciary for the insured, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Contractor shall deposit in a separate account any money so received, and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached the damaged WORK shall be repaired or replaced, the moneys so received applied on account thereof and the WORK and cost thereof covered by an appropriate Change Order.
- B. Contractor as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Contractor's exercise of this power. If such objection be made, Contractor as fiduciary shall make settlement with the insurers in accordance with such an agreement as the parties in interest may reach. If no such agreement amount the parties in interest is reached, Contractor as fiduciary shall adjust and settle the loss and the insurers and, if required in writing by any party in interest, Contractor as fiduciary shall give bond for the proper performance of such duties.

SC-5.09. Add Paragraph 5.09. in its entirety:

5.09. Acceptance of Bonds and Insurance; Option to Replace

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonable request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the WORK, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

SC-5.010. Add Paragraph 5.010. in its entirety:

5.10. Partial Utilization, Acknowledgement of Property Insurer

- A. If Owner finds it necessary to occupy or use a portion or portions of the WORK prior to Substantial Completion of all the WORK as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy. The property insurance shall contain no partial occupancy restriction for utilization of the Project by Owner for the purpose intended.

SC-6.02. Add the following language at the end of Paragraph 6.02.B:

- C. In accordance with Kentucky Revised Statute 337.540, no laborer, worker, or mechanic shall be permitted to Work more than 8 hours in 1 day or more than 40 hours in 1 week except in cases of emergency caused by fire, flood, or damage to life or property. This shall not prohibit any laborer, worker, or mechanic from working more than 8 hours in 1 day, but not more than 10 hours in 1 day, where the employee and employer enter into an agreement prior to the working of any 1 day in excess of 8 hours, or where provided for in a collective bargaining agreement. Owner shall determine when an emergency exists. Any time worked in excess of 8 hours per day or 40 hours per week shall be paid at least 1-1/2 times the basic hourly rate. No

Work or Deliveries shall be done between 6:00 p.m. and 8:00 a.m. without permission of Owner. However, emergency work may be done without prior permission

D. Any laborer, worker, or mechanic worked in excess of 8 hours in 1 day or 40 hours in 1 week, except in cases of emergency shall be paid at not less than 1 -1/2 times the basic hourly rate for all overtime worked. In a case where the agreement between the employee and employer provides for not more than 10 hours in 1 day, any hours worked in excess of 10 hours in 1 day or 40 hours in 1 week, except in cases of emergency, shall be paid at not less than 1-1/2 times the basic hourly rate for all overtime worked.

E. Night Work may be undertaken as a regular procedure with the permission of Owner: such permission, however, may be revoked at any time by Owner if Contractor fails to maintain adequate equipment and supervision for the proper prosecution and control of the Work at Night.

SC-6.02. Add the following new paragraph immediately after Paragraph 6.02.B:

6.02.C. Contractor shall reimburse Owner for Engineer's additional extraordinary costs for onsite personnel overtime work resulting from Contractor's overtime operations. Overtime work is work in excess of 40 hours per week Reimbursement shall be on the cost basis defined in Paragraph 14.02.D.4 of these Supplementary Conditions.

SC-6.05.A. 2.d Add the following new paragraph immediately after Paragraph 6.05.A.2.d.

“a. If a proposed substitute item is accepted, all incidental costs associated with the use of the substitute including, but not limited to, redesign, claims of other Contractors, changes to electrical supply equipment, additional equipment or material required for the installation, changes in the controls software development and operator screens, etc., shall be at the expense of the Contractor proposing the substitute unless otherwise agreed to by the Owner.”

SC-6.05.E. Delete Paragraph 6.05.E and replace with the following:

"E. *Construction Contract Administrator's and Engineer's Cost Reimbursement:* Construction Contract Administrator will record Construction Contract Administrator's and Engineer's costs in evaluating a substitute proposed or submitted by the Contractor pursuant to Paragraphs 6.05A.2 and 6.05.B. Whether or not the Construction Contract Administrator approves a substitute so proposed or submitted by the Contractor, Contractor shall reimburse Owner for the reasonable charges of Construction Contract Administrator and Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the

reasonable charges of Construction Contract Administrator and Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

Reimbursement rates for Engineer or Related Entities for evaluation of proposed substitutes shall be on the basis as established in Paragraph 14.02.D.4 of these Supplementary Conditions. Insert the term "Construction Contract Administrator" between the words "Owner and Engineer" or the words "Owner or Engineer". Insert the term "Construction Contract Administrator" between the words "Owner and Engineer" or the words "Owner or Engineer".

SC-6.07. Add the following new paragraphs immediately after Paragraph 6.07.B:

6.07.D. Contractor shall, at its sole expense, defend and pay all damages, fees, royalties, and costs awarded in any proceeding brought against Owner, its employees and Engineer, Construction Contract Administrator, and Related Entities, in which it is claimed that the use of any treatment process, material, equipment, or parts thereof furnished constitutes an infringement of any patent or other proprietary information right, provided Contractor is promptly notified of the commencement of any such proceedings. Contractor's indemnity applies only when infringement occurs from the normal use for which such treatment process, material, or equipment were designed. Owner may, at its option, be represented at any such proceeding. If use is held in any such proceeding to constitute an infringement and is enjoined, Contractor, at its expense, shall either procure for Owner the right to use such treatment process, material and equipment or manufacture and sell product generated from the use of the treatment process; or pay the costs for damages, fees, or royalties.

SC-6.08. Add the following new paragraphs immediately after Paragraph 6.08.A:

6.08.B. Owner will obtain and pay for the following construction permits and licenses if needed:

6.08.B.1. Road and Highway Encroachment Permits

6.08.B.2. Kentucky Division of Water Construction Application For Drinking Water Treatment.

6.08.B.3. Kentucky Division of Water 401/404 Permit

6.08B.4. NKAPC Plumbing Permit

6.08B.5. NKAPC Building Permits

6.08B.6. Sanitation District No.1 Land Disturbance Permit

6.08B.7. Stream Construction Permit

6.08B.8. KPDES Permit

6.08B.9. Fuel Tank Permit

6.08.C. A copy of each permit is available at Owner's office. Contractor shall examine the permits and conform to the requirements contained therein, including the purchase of additional bonds or insurance as specified therein, and such requirements are hereby made a part of these Contract Documents as fully and completely as though the same were set forth herein. Failure to examine the permit(s) will not relieve Contractor from compliance with the requirements stated therein. Within 15 days after the date of signing the Agreement, Contractor shall confer with an agent of the permitting agency so that insurance requirements and similar matters can be arranged prior to the time set for that portion of the WORK.

Insert the term "Construction Contract Administrator" between the words "Owner or Engineer".

SC-6.09. Add the following new paragraph immediately after Paragraph 6.09.C:

6.09.D. While not intended to be inclusive of all Laws or Regulations for which Contractor may be responsible under Paragraph 6.09, the following Laws or Regulations are included as mandated by statute or for the convenience of Contractor:

6.09.D.1. Prevailing Wages: All laborers, workmen, and mechanics performing WORK under the Contract shall be paid not less than the prevailing hourly rate of wages as determined by the Commissioner of Workplace Standards. Wage rates are provided at the end of this section.

6.09.D.2. Contractor agrees as follows:

6.09.D.2.a. Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, or national origin;

6.09.D.2.b. Contractor will take affirmative action in regard to employment, upgrading, demotion, transfer recruitment, recruitment advertising, layoff, termination, rates of pay or other forms of compensation, and selection for training, so as to ensure that applicants are employed and that employees during employment are treated without regard to

their race, color, religion, sex, age, or national origin; however, when layoffs occur, employees shall be laid off according to seniority with the youngest employee being laid off first. When employees are recalled, this shall be done in the reverse of the way the employees were laid off;

6.09.D.2.c. Contractor will state in all solicitations or advertisements for employees placed by or on behalf of the Contractor that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, or national origin;

6.09.D.2.d. Contractor will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of nondiscrimination clauses; and

6.09.D.2.e. Contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the Contractor's commitments under the nondiscrimination clauses.

6.09.D.2.f Employment requirements shall be as specified herein and in the attachments at the end of Supplementary Conditions.

- SC-6.10. Add the following new paragraphs immediately after Paragraph 6.10.A:
- B. Portions of this project may be exempt from taxes. It is the Contractor's responsibility to determine any applicable exemptions.
- SC-6.11. Add the following language to the end of Paragraph 6.11.A.1:
- Contractor shall not enter upon nor use property not under Owner control until appropriate easements have been executed and a copy is on file at the Site.
- SC-6.11. Amend Paragraph 6.11.A.3 (by making the following revisions):
- In lines two and seven, insert the term "Construction Contract Administrator" between the words "Owner, Engineer".
- SC-6.12. Amend Paragraph 6.12 (by making the following revisions):

In the fifth line after the words “available to” add the term “Owner, Construction Contract Administrator, and”.

SC-6.13. Delete Paragraph 6.13.D. and replace with the following:

“D. Contractor shall inform Owner, Construction Contract Administrator, and Engineer of the specific requirements of Contractor’s safety program with which Owner’s, Construction Contract Administrator’s and Engineer’s employees and representatives must comply while at the site.”

SC-6.13. Amend Paragraph 6.13.E. (by making the following revision):

Insert the term “Construction Contract Administrator” between the words “Owner or Engineer”.

SC-6.13 Add the following new paragraphs immediately after Paragraph 6.13.E:

G. The Contractor shall be in compliance with all applicable safety Laws and Regulations including OSHA (P.L. 91-596) and the Contract Work Hours and Safety Standards Act (P.L. 91-54).

SC-6.17.D. Amend paragraphs 6.17.D and 6.17.E (by making the following revisions):

Where ever the word “Engineer” appears, insert the term “Construction Contract Administrator and” before “Engineer”.

SC-6.17. Add the following new paragraphs immediately after Paragraph 6.17.E.1:

6.17.E.2. Contractor shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more than the number of submittals specified in Paragraph 14.02.D.4 of these Supplementary Conditions. Construction Contract Administrator and Engineer will record time for reviewing subsequent submittals of Shop Drawings, samples or other items requiring approval and Contractor shall reimburse Owner for Construction Contract Administrator and Engineer’s charges for such time in accordance with Paragraph 14.02.D.4 of these Supplementary Conditions.

6.17.E.3. In the event that Contractor requests a substitution for a previously approved item, Contractor shall reimburse Owner for Construction Contractor and Engineer’s charges for such time, unless the need for such substitution is beyond the control of Contractor.

SC-6.19.C. Delete Paragraph 6.19.C in its entirety and replace with the following:

C. Contractor's obligation to perform and complete the WORK in accordance with the Contract Documents shall be absolute. None of the following will constitute acceptance of WORK that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the WORK in accordance with the Contract Documents:

1. Observations by Construction Contract Administrator or Engineer;
2. Review of daily inspection reports by Construction Contract Administrator or Engineer;
3. Recommendation by Construction Contract Administrator for, or payment by Owner of any progress or final payment;
4. The issuance of a certificate of Substantial Completion by Construction Contract Administrator or any payment related thereto by Owner;
5. Use or occupancy of the Work or any part thereof by Owner;
6. Any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Construction Contract Administrator or Engineer;
7. Any inspection, test, or approval by others;
8. Any correction of defective WORK by Owner; or
9. Any expiration of a correction period

SC-6.20.A. Amend paragraph 6.20.A (by making the following revisions):

Where the word "Engineer" appears, add the phrase "Construction Contract Administrator, or Related Entities," and before the word "Engineer".

SC-6.20.B. Amend Paragraph 6.20.B (by making the following revisions):

In the first line add the phrase "Construction Contract Administrator Related Entities, or" before the word "Engineer".

SC-6.20.C. Amend Paragraph 6.20.C (by making the following revisions):

Where the word "Engineer" appears, add the phrase "Construction Contract Administrator, Related Entities, and" before the word "Engineer" and where the word "Engineer's" appears add the term "Construction

Contract Administrator's, Related Entities, and" before the word "Engineer's).

SC-7.04. Add the following new paragraph immediately after Paragraph 7.03:

SC-7.04. Claims between Contractors:

7.04.A Should Contractor cause damage to the WORK or property of any other contractor at the Site, or should any claim arising out of Contractor's performance of the WORK at the Site be made by any other contractor against Contractor, Owner, Construction Contract Administrator, Engineer, or the construction coordinator, Contractor shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law.

7.04.B Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner, Construction Contract Administrator, Engineer, Related Entities, the Construction Coordinator (if applicable) and the officers, directors, partners, employees, agents and other consultants and subcontractors of each and any of them from and against all Claims, costs, losses and damages (including, but not limited to, fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any other contractor against Owner, Construction Contract Administrator, Engineer, Related Entities, or the Construction Coordinator (if applicable) to the extent said Claim is based on or arises out of Contractor's performance of the WORK. Should another contractor cause damage to the WORK or property of Contractor or should the performance of WORK by any other contractor at the Site give rise to any other Claim, Contractor shall not institute any action, legal or equitable, against Owner, Construction Contract Administrator, Engineer, or the Construction Coordinator (if applicable) or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from Owner, Construction Contract Administrator, Engineer, or the Construction Coordinator (if applicable) on account of any such damage or Claim.

7.04.C If Contractor is delayed at any time in performing the WORK by any act or neglect of another contractor, and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, Contractor may make a Claim for an extension of times in accordance with Article 12. An extension of the Contract Times shall be Contractor's exclusive remedy with respect to Owner, Construction Contract Administrator, or Engineer, for any delay, disruption, interference, or hindrance caused by any other contractor. This paragraph does not prevent recovery from Owner, Construction Contract

Administrator, or Engineer, for activities that are their respective responsibilities.

SC-8.01.A. Delete the Paragraph in its entirety and replace with the following:

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Construction Contract Administrator.

SC-9.01. Amend Paragraph 9.01.A. (by making the following revision):

Where the word “Engineer” appears, add the term “Construction Contract Administrator or” before the word “Engineer”.

SC-9.02. Insert the following Paragraph after Paragraph 9.02.B:

C. Construction Contract Administrator and Engineer will make visits to the site as described in Paragraph 9.02 but communications by Engineer with Contractor will be transmitted through Construction Contract Administrator

SC-9.03. Add the following new paragraphs immediately after Paragraph 9.03.A:

9.03.B Resident Project Representative (RPR) will be furnished by Construction Contract Administrator. The responsibilities, authority, and limitations of the RPR are limited to those of Engineer in accordance with Paragraph 9.09 and as set forth elsewhere in the Contract Documents and are further limited and described below.

9.03.C. Responsibilities and Authority:

9.03.C.1 Schedules: Review and monitor Progress Schedule, Schedule of Submittals, and Schedule of Values prepared by Contractor and consult with Engineer concerning acceptability.

9.03.C.2 Conferences and Meetings: Conduct or attend meetings with Contractor, such as preconstruction conferences, progress meetings, Work Conferences and other Project related meetings.

9.03.C.3 Liaison: (i) Serve as Construction Contract Administrator’s liaison with Contractor, working principally through Contractor’s superintendent and assist in understanding the intent of the Contract Documents; (ii) assist Construction Contract Administrator in serving as Owner’s liaison with Contractor when Contractor’s operations affect Owner’s onsite operations; (iii) assist in obtaining from Owner additional details or information when required for proper execution of the WORK.

9.03.C.4 Submittals: Receive Submittals that are furnished at the Site by Contractor, and notify Construction Contract Administrator and Engineer of availability for examination. Advise Construction Contract Administrator, Engineer, and Contractor of the commencement of any WORK or arrival of Products at Site, when recognized, requiring a Shop Drawing or Sample if the Submittal has not been approved by Construction Contract Administrator or Engineer.

9.03.C.5 Review of WORK, Rejection of defective WORK, Inspections and Tests: (i) Conduct onsite observations of the WORK in progress to assist Construction Contract Administrator in determining if the WORK is in general proceeding in accordance with the Contract Documents; (ii) inform Engineer and Contractor whenever RPR believes that any WORK is defective; (iii) advise Engineer whenever RPR believes that any WORK will not produce a completed Project that conforms generally to the Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or whenever RPR believes WORK should be uncovered for observation, or requires special testing, inspection, or approval; (iv) monitor that tests, equipment and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and that Contractor maintains adequate records thereof; (v) observe, record and report to Construction Contract Administrator appropriate details relative to the test procedures and startups; and (vi) accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to Construction Contract Administrator.

9.03.C.6 Interpretation of Contract Documents: Inform Construction Contract Administrator when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Construction Contract Administrator and approved by Engineer.

9.03.C.7 Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and provide recommendations to Engineer; transmit to Contractor the decisions issued by Engineer.

9.03.C.8 Records: (i) maintain at the Site files for correspondence, Conference records, Submittals including Shop Drawings and Samples, reproductions of original Contract Documents including all Addenda, signed Agreement, Work Change Directives, Change Orders, Field Orders, additional Drawings issued after the Effective Date of the Agreement, Construction Contract Administrator's written clarifications and interpretations, progress reports, and other Project related documents;

(ii) keep a diary or log book recording pertinent Site conditions, activities, decisions and events.

9.03.C.9 Reports: (i) Furnish Construction Contract Administrator periodic reports of progress of the WORK and of Contractor's compliance with the Progress Schedule and Schedule of Submittals; (ii) consult with Construction Contract Administrator in advance of scheduled major tests, inspections or start of important phases of the WORK; and (iii) assist in drafting proposed Change Orders, Work Change Directives, and Field Orders, obtain backup material from Contractor as appropriate.

9.03.C.10 Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Construction Contract Administrator, noting particularly the relationship of the payment requested to the Schedule of Values, WORK completed and materials and equipment delivered at the Site but not incorporated in the WORK.

9.03.C.11 Certificates, Operation and Maintenance Manuals, Record Documents, and Site Records: During the course of the WORK, monitor that these documents and other data required to be assembled, maintained, and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to Construction Contract Administrator and Engineer as appropriate for review and forwarding to Owner prior to final payment for the WORK.

9.03.C.12 Substantial Completion: (i) Conduct an inspection in the company of Construction Contract Administrator, Engineer, Owner, and Contractor and prepare a list of items to be completed or corrected; (ii) submit to Construction Contract Administrator a list of observed items requiring completion or correction.

9.03.C.13 Completion: (i) conduct final inspection in the company of Construction Contract Administrator, Engineer, Owner and Contractor, and (ii) notify Contractor and Engineer in writing of all particulars in which this inspection reveals that the WORK is incomplete or defective; and (iii) observe that all items on final list have been completed, corrected, or accepted by Owner and make recommendations to Construction Contract Administrator concerning acceptance.

9.03.D. Limitations of Authority: Resident Project Representative will not:

9.03.D.1 Have authority to authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized by Construction Contract Administrator and Engineer; or

9.03.D.2 Undertake any of the responsibilities of Contractor, Subcontractors, or Contractor's superintendent; or

9.03.D.3 Accept Submittals from anyone other than Contractor; or

9.03.D.4 Authorize Owner to occupy the Project in whole or in part; or

9.03.D.5 Participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by Engineer

SC-9.10.A. Amend Paragraph 9.10.A (by making the following revision):

Insert the term "Construction Contract Administrator's and" before the word "Engineer's".

SC-10.01. Add the following new paragraph immediately after Paragraph 10.01.A:

10.01.A.1. In accordance with Kentucky Revised Statute 45A.120, when accepting a Change Order, Contractor shall certify that, to the best of its knowledge and belief, the data submitted is accurate, complete, and current for performing the additional WORK or supplying the additional materials.

SC-10.01 Add the following new sentence immediately after Paragraph 10.01.B:

Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A

SC-12.01.C. Delete the semicolon at the end of GC 12.01.C.2.c, and add the following:

provided, however, that on any subcontracted WORK the total maximum fee to be paid by Owner to Contractor under this Paragraph shall be no greater than 27 percent of the costs incurred by the Subcontractor who actually performs the WORK;

SC-12.01.C Add the following new paragraph immediately after Paragraph 12.01.C:

D. Change orders to the construction contract shall comply with the Kentucky Department of Water Procurement Guidance for Construction and Equipment Contracts. Change orders exceeding \$100,000 shall include the cost, pricing and certifications required by the Kentucky Department of Water Procurement Guidance for Construction and Equipment Contracts.

SC-12.03. Add the following language to the end of Paragraph 12.03.E:

F. In no event shall Owner, Construction Contract Administrator, or Engineer be liable to Contractor, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages, (including acceleration costs) arising out of or resulting from any delay.”

SC-13.02. Access to WORK. Add the following new paragraph immediately after paragraph 13.02.A:

B. Authorized representatives of the U.S. Environmental Protection Agency, the Kentucky Division of Water, and the Kentucky Infrastructure Authority shall have access to the WORK wherever it is in preparation or progress. Contractor shall provide proper facilities for such access and inspection.

SC-13.03. Amend paragraph 13.03.D (by making the following revision):

In the second line insert the term “Construction Contract Administrator’s” after the word “Owner’s” and in the last line insert the term “Construction Contract Administrator, and” after the word “Owner”.

SC-13.04.A. Amend Paragraphs 13.04.A (by making the following change):

In the second line insert the term “Construction Contract Administrator’s or” before the words “Engineer’s observation”.

SC-13.04.B. Amend Paragraphs 13.04.B (by making the following changes):

In the first and third line in insert the term “Construction Contract Administrator or” before the word “Engineer” wherever the word “Engineer” appears.

SC-13.07 Delete Paragraph 13.07.C in its entirety and insert the following in its place:

C. No warranty period for any individual piece of equipment or material will start prior to the commencement of the correction period even if it has been put into beneficial service prior to Substantial Completion.

SC-13.07. At the end of Paragraph 13.07.E insert the following:

“F. Nothing in Article 13 concerning the correction period shall establish a period of limitation with respect to any other obligation which Contractor has under the Contract Documents. The establishment of time periods relates only to the specific obligations of the Contractor to correct the WORK, and has no relationship to the time within which Contractor’s obligations under the Contract Documents may be sought to be enforced,

nor to the time within which proceedings may be commenced to establish Contractor's liability with respect to Contractor's obligations other than to specifically correct the WORK.

G. Contractor shall obtain from all suppliers and manufacturers any and all warranties and guarantees of such Suppliers and manufacturers, whether or not specifically required by the Specifications, and shall render reasonable assistance to Owner when requested, in order to enable Owner to enforce such warranties and guarantees. The assignment of any warranties or guarantees shall not affect the Correction Period or any other provisions of these Contract Documents. Any transfer of warranties to Owner should have an effective date after the end of the correction period."

SC-13.09.B. Amend Paragraphs 13.09.B (by making the following change):

In the second to last line insert the term "Construction Contract Administrator, Construction Contract Administrator's consultant's" before the words "and Engineer".

SC-14.02. Amend Paragraph 14.02.A.1 (by making the following revision):

Delete the word "Engineer" and replace it with "Construction Contract Administrator".

SC-14.02.A. Add the following language to the end of Paragraph 14.02.A.3:

4. Contractor's Applications for Payment shall be accompanied by the documentation specified.

5. Payments for stored materials and equipment shall be based only upon the actual cost to the Contractor of the materials and equipment and shall not include any overhead or profit to Contractor. Partial payments will not be made for undelivered materials or equipment.

6. During the progress of the WORK, each Application for Payment shall be accompanied by Contractor's updated schedule of operations, or progress report, with such shop drawing schedules, procurement schedules, value of material on hand included in application, and other data specified in Contract Documents or reasonably required by Owner."

SC-14.02.B Amend Paragraph 14.02.B. (by making the following revision):

Delete the word "Engineer" and replace it with "Construction Contract Administrator".

SC-14.02. Delete Paragraph 14.02.C.1 in its entirety and insert the following in its place:

14.02.C.1. Twenty-five days after presentation of the Application for Payment to Owner with Construction Contract Administrator's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due and when due will be paid by Owner to Contractor.

SC-14.02. Add the following new paragraph(s) immediately after Paragraph 14.02.D.3:

14.02.D.4. Items entitling Owner to retain set-offs from the amount recommended, including but not limited to:

14.02.D.4.a. Owner compensation to Construction Contract Administrator or Engineer at an estimated average rate of \$140 per each extra personnel hour for labor plus expenses, if applicable, because of the following Contractor caused events:

(1). Return visits to manufacturing facilities to witness factory testing or retesting;

(2). Submittal review in excess of three reviews by Construction Contract Administrator or Engineer for substantially the same Submittal, in accordance with Paragraph 6.17.E of these Supplementary Conditions;

(3). Evaluation of proposed substitutes and in making changes to Contract Documents occasioned thereby, in accordance with Paragraph 6.05. of these Supplementary Conditions;

(4). Overtime worked by Contractor necessitating Construction Contract Administrator, Engineer, and Related Entities, Resident Project Representative or Resident Project Representative's Site staff, if any, to work extraordinary overtime in accordance with Paragraph 6.02.C. of these Supplementary Conditions.

14.02.D.4.b. Liability for liquidated damages incurred by Contractor as set forth in the Agreement.

SC-14.04.A. Add the following new paragraphs immediately after Paragraph 14.04.A:

1. Portions of the WORK not essential to operation, which can be completed without interruption of the Owner's operation, may be completed after the WORK is accepted as substantially complete, and

may include the following items: seeding, placement of sod and landscape planting.

SC-14.05. Delete the 14.05 entirety and insert the following in its place:

“14.05 Partial Utilization

A. Prior to Substantial Completion of all the WORK, Owner may use or occupy any part of the WORK which is generally defined as the proposed pretreatment process and all appurtenances, has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the WORK that can be used by Owner for its intended purpose without significant interference with Contractor’s performance of the remainder of the WORK, subject to the following conditions.

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the WORK which Owner believes to be ready for its intended use. If and when Contractor agrees that such part of the WORK is ready for its intended use, Contractor, Owner and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the WORK, with the exception that the partial utilization of a part of the WORK will not constitute Substantial Completion for that part of the WORK. The Contractor shall continue to provide all bonds and insurance for the WORK that the Owner is operating until the date specified after Substantial Completion. The correction period as specified in section 13.07 shall not commence on any piece of equipment or Work until the date of Substantial Completion for the entire WORK.
2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the WORK ready for its intended use and request Engineer allow Owner to operate that part of the WORK.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the WORK to determine its status of completion. If Engineer does not consider that part of the WORK to be operational, Engineer will notify Owner and Contractor in writing giving the reasons therefore. A correction list will be written by the Engineer and

shall be corrected by the Contractor. If Engineer considers that part of the WORK to be operational the Owner may operate that part of the WORK.

4. The Contractor shall continue to provide all insurance and bonds while part of the WORK is being operated by the Owner.”

SC-14.07. Add the following sentences to the end of Paragraph 14.07.A.2.b:

“Consent of the surety, signed by an agent, must be accompanied by a certified copy of such agent’s authority to act for the surety. The Contractor shall be responsible for providing all the documents identified in this paragraph;”

SC-15.03.A. Delete the first sentence of Paragraph 15.03.A in its entirety and insert the following in its place:

Upon 7 days written notice to Contractor and Construction Contract Administrator, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract or any portion of the Contract.

SC-16.01. Delete Article 16 in its entirety and insert the following new Article in its place:

“A. Arbitration will not be acceptable as a means for settling claims, disputes, and other matters.

B. Any suit involving any dispute or other matter arising under this Contract may only be brought in the state as federal courts for the county or district in which the project is located. All parties hereby consent to the exercise of personal jurisdiction by any such court with respect to any such proceeding.”

SC-17.07. Add a new paragraph immediately after Paragraph 17.06 that is to read as follows:

17.07 Confidential Information

- A. All Drawings, Specifications, technical data, and other information furnished to Contractor either by Owner or Engineer or developed by Contractor or others in connection with the WORK are, and will remain, the property of Owner or Engineer, and shall not be copied or otherwise reproduced or used in any way except in connection with the WORK, or disclosed to third parties or used in any manner detrimental to the interests of Owner or Engineer.

B. The following information is not subject to the above confidentiality requirements:

1. Information in the public domain through no action of Contractor in breach of the Contract Documents; or
2. Information lawfully possessed by Contractor before receipt from Owner or Engineer; or
3. Information required to be disclosed by Laws or Regulations, or by a court or agency of competent jurisdiction. However, in the event Contractor shall be so required to disclose such information, Contractor shall, prior to disclosure, provide reasonable notice to Owner and Engineer, who shall have the right to interpose all objections Owner may have to the disclosure of such information.

+ + END OF DOCUMENT + +

SUPPLEMENTAL GENERAL CONDITIONS
FOR
CLEAN WATER STATE REVOLVING FUND
DRINKING WATER STATE REVOLVING FUND
(Drinking Water and Wastewater)

**Project Name: Taylor Mill Water Treatment Plant Electrical
and Basin Improvements**

Project Number: DWL 13060

The attached instructions and regulations as listed below shall be incorporated into the Specifications and comprise Special Conditions.

	<u>Attachment No.</u>
SRF Special Provisions	1
40 CFR 31.36 (Procurement)	2
KRS Chapter 45A-Kentucky Model Procurement Code	3
Equal Employment Opportunity (EEO) Documents:	
Notice of Requirement for Affirmative Action	4
Contract Specifications (Executive Order 11246)	5
EEO Goals for Region 4 Economic Areas	6
Special Notice #1 - Check List of EEO Documentation	7
Employer Information Report EEO-1 (SF 100)	8
Labor Standards Provisions for Federally Assisted Construction, EPA Form 5720-4	9
Certifications	
Debarment, Suspension and Other Responsibility Matters	10
Anti-lobbying	11
Region 4 Disadvantaged Business Enterprise (DBE)	12
Bonds and Insurance	13
Storm Water General Permit	14
Davis-Bacon Wage Rate Requirements under FY 2013 Continuing Resolution	15

SRF SPECIAL PROVISIONS

- (a) **Line crossings of all roads and streets shall be done in accordance with the Kentucky Transportation Cabinet requirements as may be set forth in the Special Conditions.**
- (b) **Construction is to be carried out so as to prevent by-passing of flows during construction unless a schedule has been approved by the State or EPA, whichever is applicable. Siltation and soil erosion must be minimized during construction. All construction projects with surface disturbance of more than 1 acre during the period of construction must have a KPDES Storm Water General Permit. The permit can be found at the following web address: <https://dep.gateway.ky.gov/eForms/default.aspx?FormID=7>.
If you have any questions regarding the completion of this form call the Surface Water Permits Branch at (502) 564-3410.**
- (c) **Restore disturbed areas to original or better condition.**
- (d) **Use of Chemicals: All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, must show approval of either DOW or EPA. Use of all such chemicals and disposal of residues shall be in conformance with instructions on the manufacturer's label.**
- (e) **The construction of the project, including the letting of contracts in connection therewith, shall conform to the applicable requirements of state, territorial, and local laws and ordinances to the extent that such requirements do not conflict with Federal laws and this subchapter.**
- (f) **The owner shall provide and maintain competent and adequate supervision and inspection.**
- (g) **The Kentucky Infrastructure Authority and Kentucky Division of Water shall have access to the site and the project work at all times.**
- (h) **In the event Archaeological materials (arrowheads, stone tools, stone axes, prehistoric and historic pottery, bottles, foundations, Civil War artifacts, and other types of artifacts) are uncovered during the construction of this project, work is to immediately cease at the location and the Kentucky Heritage Council shall be contacted. The telephone number is (502) 564-7005. Construction shall commence at this location until a written release is received from the Kentucky Heritage Council. Failure to report a find could result in legal action.**
- (i) **This procurement will be subject to DOW Procurement Guidance including the Davis-Bacon Act.**
- (j) **Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees which receive damage to branches shall be trimmed of those branches to improve the appearance of the tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing.**
- (k) **No wastewater bypassing will occur during construction unless a schedule has been approved by the Kentucky Division of Water.**
- (l) **Change orders to the construction contract (if required) must be negotiated pursuant to DOW/KIA Procurement Guidance for Construction and Equipment Contracts.**

**TITLE 40--PROTECTION OF ENVIRONMENT
CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY**

**PART 31--UNIFORM ADMINISTRATIVE REQUIREMENTS FOR GRANTS AND
COOPERATIVE AGREEMENTS TO STATE AND LOCAL GOVERNMENTS**

Subpart C--Post-Award Requirements

Sec. 31.36 Procurement.

(a) *States.* When procuring property and services under a grant, a State will follow the same policies and procedures it uses for procurements from its non-Federal funds. The State will ensure that every purchase order or other contract includes any clauses required by Federal statutes and executive orders and their implementing regulations. Other grantees and subgrantees will follow paragraphs (b) through (i) in this section.

(b) *Procurement standards.* (1) Grantees and subgrantees will use their own procurement procedures which reflect applicable State and local laws and regulations, provided that the procurements conform to applicable federal law, the standards identified in this section, and if applicable, § 31.38.

(2) Grantees and subgrantees will maintain a contract administration system which ensures that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.

(3) Grantees and subgrantees will maintain a written code of standards of conduct governing the performance of their employees engaged in the award and administration of contracts. No employee, officer or agent of the grantee or subgrantee shall participate in selection, or in the award or administration of a contract supported by Federal funds if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when:

(i) The employee, officer or agent,

(ii) Any member of his immediate family,

(iii) His or her partner, or

(iv) An organization which employs, or is about to employ, any of the above, has a financial or other interest in the firm selected for award. The grantee's or subgrantee's officers, employees or agents will neither solicit nor accept gratuities, favors or anything of monetary value from contractors, potential contractors, or parties to subagreements. Grantee and subgrantees may set minimum rules where the financial interest is not substantial or the gift is an unsolicited item of nominal intrinsic value. To the extent permitted by State or local law or regulations, such standards or conduct will provide for penalties, sanctions, or other disciplinary actions for violations of such standards by the grantee's and subgrantee's officers, employees, or agents, or by contractors or their agents. The awarding agency may in regulation provide additional prohibitions relative to real, apparent, or potential conflicts of interest.

(4) Grantee and subgrantee procedures will provide for a review of proposed procurements to avoid purchase of unnecessary or duplicative items. Consideration should be given to consolidating or breaking out procurements to obtain a more economical purchase. Where appropriate, an analysis will be made of lease versus purchase alternatives, and any other appropriate analysis to determine the most economical approach.

(5) To foster greater economy and efficiency, grantees and subgrantees are encouraged to enter into State and local intergovernmental agreements for procurement or use of common goods and services.

(6) Grantees and subgrantees are encouraged to use Federal excess and surplus property in lieu of purchasing new equipment and property whenever such use is feasible and reduces project costs.

(7) Grantees and subgrantees are encouraged to use value engineering clauses in contracts for construction projects of sufficient size to offer reasonable opportunities for cost reductions. Value engineering is a systematic and creative analysis of each contract item or task to ensure that its essential function is provided at the overall lower cost.

(8) Grantees and subgrantees will make awards only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

(9) Grantees and subgrantees will maintain records sufficient to detail the significant history of a procurement. These records will include, but are not necessarily limited to the following: rationale for the method of procurement, selection of contract type, contractor selection or rejection, and the basis for the contract price.

(10) Grantees and subgrantees will use time and material type contracts only—

(i) After a determination that no other contract is suitable, and

(ii) If the contract includes a ceiling price that the contractor exceeds at its own risk.

(11) Grantees and subgrantees alone will be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements. These issues include, but are not limited to source evaluation, protests, disputes, and claims. These standards do not relieve the grantee or subgrantee of any contractual responsibilities under its contracts. Federal agencies will not substitute their judgment for that of the grantee or subgrantee unless the matter is primarily a Federal concern. Violations of law will be referred to the local, State, or Federal authority having proper jurisdiction.

(12) Grantees and subgrantees will have protest procedures to handle and resolve disputes relating to their procurements and shall in all instances disclose information regarding the protest to the awarding agency. A protestor must exhaust all administrative remedies with the grantee and subgrantee before pursuing a protest with the Federal agency. Reviews of protests by the Federal agency will be limited to:

(i) Violations of Federal law or regulations and the standards of this section (violations of State or local law will be under the jurisdiction of State or local authorities) and

(ii) Violations of the grantee's or subgrantee's protest procedures for failure to review a complaint or protest. Protests received by the Federal agency other than those specified above will be referred to the grantee or subgrantee.

(c) *Competition.* (1) All procurement transactions will be conducted in a manner providing full and open competition consistent with the standards of § 31.36. Some of the situations considered to be restrictive of competition include but are not limited to:

(i) Placing unreasonable requirements on firms in order for them to qualify to do business,

(ii) Requiring unnecessary experience and excessive bonding,

(iii) Noncompetitive pricing practices between firms or between affiliated companies,

(iv) Noncompetitive awards to consultants that are on retainer contracts,

(v) Organizational conflicts of interest,

(vi) Specifying only a “brand name” product instead of allowing “an equal” product to be offered and describing the performance of other relevant requirements of the procurement, and

(vii) Any arbitrary action in the procurement process.

(2) Grantees and subgrantees will conduct procurements in a manner that prohibits the use of statutorily or administratively imposed in-State or local geographical preferences in the evaluation of bids or proposals, except in those cases where applicable Federal statutes expressly

mandate or encourage geographic preference. Nothing in this section preempts State licensing laws. When contracting for architectural and engineering (A/E) services, geographic location may be a selection criteria provided its application leaves an appropriate number of qualified firms, given the nature and size of the project, to compete for the contract.

(3) Grantees will have written selection procedures for procurement transactions. These procedures will ensure that all solicitations:

(i) Incorporate a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description shall not, in competitive procurements, contain features which unduly restrict competition. The description may include a statement of the qualitative nature of the material, product or service to be procured, and when necessary, shall set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications should be avoided if at all possible. When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a “brand name or equal” description may be used as a means to define the performance or other salient requirements of a procurement. The specific features of the named brand which must be met by offerors shall be clearly stated; and

(ii) Identify all requirements which the offerors must fulfill and all other factors to be used in evaluating bids or proposals.

(4) Grantees and subgrantees will ensure that all prequalified lists of persons, firms, or products which are used in acquiring goods and services are current and include enough qualified sources to ensure maximum open and free competition. Also, grantees and subgrantees will not preclude potential bidders from qualifying during the solicitation period.

(5) Construction grants awarded under Title II of the Clean Water Act are subject to the following “Buy American” requirements in paragraphs (c)(5) (i)-(iii) of this section. Section 215 of the Clean Water Act requires that contractors give preference to the use of domestic material in the construction of EPA-funded treatment works.

(i) Contractors must use domestic construction materials in preference to nondomestic material if it is priced no more than 6 percent higher than the bid or offered price of the nondomestic material, including all costs of delivery to the construction site and any applicable duty, whether or not assessed. The grantee will normally base the computations on prices and costs in effect on the date of opening bids or proposals.

(ii) The award official may waive the Buy American provision based on factors the award official considers relevant, including:

(A) Such use is not in the public interest;

(B) The cost is unreasonable;

(C) The Agency's available resources are not sufficient to implement the provision, subject to the Deputy Administrator's concurrence;

(D) The articles, materials or supplies of the class or kind to be used or the articles, materials or supplies from which they are manufactured are not mined, produced or manufactured in the United States in sufficient and reasonably available commercial quantities or satisfactory quality for the particular project; or

(E) Application of this provision is contrary to multilateral government procurement agreements, subject to the Deputy Administrator's concurrence.

(iii) All bidding documents, subagreements, and, if appropriate, requests for proposals must contain the following “Buy American” provision: In accordance with section 215 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) and implementing EPA regulations, the contractor agrees that preference will be given to domestic construction materials by the contractor, subcontractors, materialmen and suppliers in the performance of this subagreement.

(d) *Methods of procurement to be followed*—(1) *Procurement by small purchase procedures.* Small purchase procedures are those relatively simple and informal procurement methods for

securing services, supplies, or other property that do not cost more than the simplified acquisition threshold fixed at 41 U.S.C. 403(11) (currently set at \$100,000). If small purchase procedures are used, price or rate quotations shall be obtained from an adequate number of qualified sources.

(2) Procurement by *sealed bids* (formal advertising). Bids are publicly solicited and a firm-fixed-price contract (lump sum or unit price) is awarded to the responsible bidder whose bid, conforming with all the material terms and conditions of the invitation for bids, is the lowest in price. The sealed bid method is the preferred method for procuring construction, if the conditions in 31.36(d)(2)(i) apply.

(i) In order for sealed bidding to be feasible, the following conditions should be present:

(A) A complete, adequate, and realistic specification or purchase description is available;

(B) Two or more responsible bidders are willing and able to compete effectively and for the business; and

(C) The procurement lends itself to a firm fixed price contract and the selection of the successful bidder can be made principally on the basis of price.

(ii) If sealed bids are used, the following requirements apply:

(A) The invitation for bids will be publicly advertised and bids shall be solicited from an adequate number of known suppliers, providing them sufficient time prior to the date set for opening the bids;

(B) The invitation for bids, which will include any specifications and pertinent attachments, shall define the items or services in order for the bidder to properly respond;

(C) All bids will be publicly opened at the time and place prescribed in the invitation for bids;

(D) A firm fixed-price contract award will be made in writing to the lowest responsive and responsible bidder. Where specified in bidding documents, factors such as discounts, transportation cost, and life cycle costs shall be considered in determining which bid is lowest. Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of; and

(E) Any or all bids may be rejected if there is a sound documented reason.

(3) Procurement by *competitive proposals*. The technique of competitive proposals is normally conducted with more than one source submitting an offer, and either a fixed-price or cost-reimbursement type contract is awarded. It is generally used when conditions are not appropriate for the use of sealed bids. If this method is used, the following requirements apply:

(i) Requests for proposals will be publicized and identify all evaluation factors and their relative importance. Any response to publicized requests for proposals shall be honored to the maximum extent practical;

(ii) Proposals will be solicited from an adequate number of qualified sources;

(iii) Grantees and subgrantees will have a method for conducting technical evaluations of the proposals received and for selecting awardees;

(iv) Awards will be made to the responsible firm whose proposal is most advantageous to the program, with price and other factors considered; and

(v) Grantees and subgrantees may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services whereby competitors' qualifications are evaluated and the most qualified competitor is selected, subject to negotiation of fair and reasonable compensation. The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms are a potential source to perform the proposed effort.

(4) Procurement by *noncompetitive proposals* is procurement through solicitation of a proposal from only one source, or after solicitation of a number of sources, competition is determined inadequate.

(i) Procurement by noncompetitive proposals may be used only when the award of a contract is infeasible under small purchase procedures, sealed bids or competitive proposals and one of the following circumstances applies:

(A) The item is available only from a single source;

(B) The public exigency or emergency for the requirement will not permit a delay resulting from competitive solicitation;

(C) The awarding agency authorizes noncompetitive proposals; or

(D) After solicitation of a number of sources, competition is determined inadequate.

(ii) Cost analysis, i.e., verifying the proposed cost data, the projections of the data, and the evaluation of the specific elements of costs and profits, is required.

(iii) Grantees and subgrantees may be required to submit the proposed procurement to the awarding agency for pre-award review in accordance with paragraph (g) of this section.

(e) [Reserved]

(f) *Contract cost and price.* (1) Grantees and subgrantees must perform a cost or price analysis in connection with every procurement action including contract modifications. The method and degree of analysis is dependent on the facts surrounding the particular procurement situation, but as a starting point, grantees must make independent estimates before receiving bids or proposals. A cost analysis must be performed when the offeror is required to submit the elements of his estimated cost, e.g., under professional, consulting, and architectural engineering services contracts. A cost analysis will be necessary when adequate price competition is lacking, and for sole source procurements, including contract modifications or change orders, unless price reasonableness can be established on the basis of a catalog or market price of a commercial product sold in substantial quantities to the general public or based on prices set by law or regulation. A price analysis will be used in all other instances to determine the reasonableness of the proposed contract price.

(2) Grantees and subgrantees will negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed. To establish a fair and reasonable profit, consideration will be given to the complexity of the work to be performed, the risk borne by the contractor, the contractor's investment, the amount of subcontracting, the quality of its record of past performance, and industry profit rates in the surrounding geographical area for similar work.

(3) Costs or prices based on estimated costs for contracts under grants will be allowable only to the extent that costs incurred or cost estimates included in negotiated prices are consistent with Federal cost principles (see § 31.22). Grantees may reference their own cost principles that comply with the applicable Federal cost principles.

(4) The cost plus a percentage of cost and percentage of construction cost methods of contracting shall not be used.

(g) *Awarding agency review.* (1) Grantees and subgrantees must make available, upon request of the awarding agency, technical specifications on proposed procurements where the awarding agency believes such review is needed to ensure that the item and/or service specified is the one being proposed for purchase. This review generally will take place prior to the time the specification is incorporated into a solicitation document. However, if the grantee or subgrantee desires to have the review accomplished after a solicitation has been developed, the awarding agency may still review the specifications, with such review usually limited to the technical aspects of the proposed purchase.

(2) Grantees and subgrantees must on request make available for awarding agency pre-award review procurement documents, such as requests for proposals or invitations for bids, independent cost estimates, etc. when:

(i) A grantee's or subgrantee's procurement procedures or operation fails to comply with the procurement standards in this section; or

- (ii) The procurement is expected to exceed the simplified acquisition threshold and is to be awarded without competition or only one bid or offer is received in response to a solicitation; or
 - (iii) The procurement, which is expected to exceed the simplified acquisition threshold, specifies a “brand name” product; or
 - (iv) The proposed award is more than the simplified acquisition threshold and is to be awarded to other than the apparent low bidder under a sealed bid procurement; or
 - (v) A proposed contract modification changes the scope of a contract or increases the contract amount by more than the simplified acquisition threshold.
- (3) A grantee or subgrantee will be exempt from the pre-award review in paragraph (g)(2) of this section if the awarding agency determines that its procurement systems comply with the standards of this section.

(i) A grantee or subgrantee may request that its procurement system be reviewed by the awarding agency to determine whether its system meets these standards in order for its system to be certified. Generally, these reviews shall occur where there is a continuous high-dollar funding, and third-party contracts are awarded on a regular basis.

(ii) A grantee or subgrantee may self-certify its procurement system. Such self-certification shall not limit the awarding agency's right to survey the system. Under a self-certification procedure, awarding agencies may wish to rely on written assurances from the grantee or subgrantee that it is complying with these standards. A grantee or subgrantee will cite specific procedures, regulations, standards, etc., as being in compliance with these requirements and have its system available for review.

(h) *Bonding requirements.* For construction or facility improvement contracts or subcontracts exceeding the simplified acquisition threshold, the awarding agency may accept the bonding policy and requirements of the grantee or subgrantee provided the awarding agency has made a determination that the awarding agency's interest is adequately protected. If such a determination has not been made, the minimum requirements shall be as follows:

(1) *A bid guarantee from each bidder equivalent to five percent of the bid price.* The “bid guarantee” shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.

(2) *A performance bond on the part of the contractor for 100 percent of the contract price.* A “performance bond” is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

(3) *A payment bond on the part of the contractor for 100 percent of the contract price.* A “payment bond” is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

(i) *Contract provisions.* A grantee's and subgrantee's contracts must contain provisions in paragraph (i) of this section. Federal agencies are permitted to require changes, remedies, changed conditions, access and records retention, suspension of work, and other clauses approved by the Office of Federal Procurement Policy.

(1) Administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate.

(Contracts more than the simplified acquisition threshold)

(2) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of \$10,000)

(3) Compliance with Executive Order 11246 of September 24, 1965, entitled “Equal Employment Opportunity,” as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR chapter 60). (All construction contracts awarded in excess of \$10,000 by grantees and their contractors or subgrantees)

- (4) Compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR part 3). (All contracts and subgrants for construction or repair)
- (5) Compliance with the Davis-Bacon Act (40 U.S.C. 276a to 276a-7) as supplemented by Department of Labor regulations (29 CFR part 5). (Construction contracts in excess of \$2000 awarded by grantees and subgrantees when required by Federal grant program legislation)
- (6) Compliance with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330) as supplemented by Department of Labor regulations (29 CFR part 5). (Construction contracts awarded by grantees and subgrantees in excess of \$2000, and in excess of \$2500 for other contracts which involve the employment of mechanics or laborers)
- (7) Notice of awarding agency requirements and regulations pertaining to reporting.
- (8) Notice of awarding agency requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract.
- (9) Awarding agency requirements and regulations pertaining to copyrights and rights in data.
- (10) Access by the grantee, the subgrantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers, and records of the contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions.
- (11) Retention of all required records for three years after grantees or subgrantees make final payments and all other pending matters are closed.
- (12) Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h)), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (Contracts, subcontracts, and subgrants of amounts in excess of \$100,000)
- (13) Mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).
- (j) *Payment to consultants.* (1) EPA will limit its participation in the salary rate (excluding overhead) paid to individual consultants retained by grantees or by a grantee's contractors or subcontractors to the maximum daily rate for a GS-18. (Grantees may, however, pay consultants more than this amount). This limitation applies to consultation services of designated individuals with specialized skills who are paid at a daily or hourly rate. This rate does not include transportation and subsistence costs for travel performed; grantees will pay these in accordance with their normal travel reimbursement practices. (Pub. L. 99-591).
- (2) Subagreements with firms for services which are awarded using the procurement requirements in this part are not affected by this limitation.
- (k) *Use of the same architect or engineer during construction.* (1) If the grantee is satisfied with the qualifications and performance of the architect or engineer who provided any or all of the facilities planning or design services for a waste-water treatment works project and wishes to retain that firm or individual during construction of the project, it may do so without further public notice and evaluation of qualifications, provided:
- (i) The grantee received a facilities planning (Step 1) or design grant (Step 2), and selected the architect or engineer in accordance with EPA's procurement regulations in effect when EPA awarded the grant; or
- (ii) The award official approves noncompetitive procurement under § 31.36(d)(4) for reasons other than simply using the same individual or firm that provided facilities planning or design services for the project; or
- (iii) The grantee attests that:

- (A) The initial request for proposals clearly stated the possibility that the firm or individual selected could be awarded a subagreement for services during construction; and
 - (B) The firm or individual was selected for facilities planning or design services in accordance with procedures specified in this section.
 - (C) No employee, officer or agent of the grantee, any member of their immediate families, or their partners have financial or other interest in the firm selected for award; and
 - (D) None of the grantee's officers, employees or agents solicited or accepted gratuities, favors or anything of monetary value from contractors or other parties to subagreements.
- (2) However, if the grantee uses the procedures in paragraph (k)(1) of this section to retain an architect or engineer, any Step 3 subagreements between the architect or engineer and the grantee must meet all of the other procurement provisions in § 31.36.

[53 FR 8068 and 8087, Mar. 11, 1988, and amended at 53 FR 8075, Mar. 11, 1988; 60 FR 19639, 19644, Apr. 19, 1995; 66 FR 3794, Jan. 16, 2001; 73 FR 15913, Mar. 26, 2008]

KRS Chapter 45A
Kentucky Model Procurement Code

45A.075 Methods of awarding state contracts.

Except as otherwise authorized by law, all state contracts shall be awarded by:

- (1) Competitive sealed bidding, pursuant to KRS 45A.080; or
- (2) Competitive negotiation, pursuant to KRS 45A.085 and 45A.090 or 45A.180; or
- (3) Noncompetitive negotiation, pursuant to KRS 45A.095; or
- (4) Small purchase procedures, pursuant to KRS 45A.100.

Effective: June 24, 2003

History: Amended 2003 Ky. Acts ch. 98, sec. 4, effective June 24, 2003. -- Created 1978 Ky. Acts ch. 110, sec. 16, effective January 1, 1979.

45A.080 Competitive sealed bidding.

(1) Contracts exceeding the amount provided by KRS 45A.100 shall be awarded by competitive sealed bidding, which may include the use of a reverse auction, unless it is determined in writing that this method is not practicable. Factors to be considered in determining whether competitive sealed bidding is not practicable shall include:

- (a) Whether specifications can be prepared that permit award on the basis of best value; and
- (b) The available sources, the time and place of performance, and other relevant circumstances as are appropriate for the use of competitive sealed bidding.

(2) The invitation for bids shall state that awards shall be made on the basis of best value. In any contract which is awarded under an invitation to bid which requires delivery by a specified date and imposes a penalty for late delivery, if the delivery is late, the contractor shall be given the opportunity to present evidence that the cause of the delay was beyond his control. If it is the opinion of the purchasing officer that there is sufficient justification for delayed delivery, the purchasing officer may adjust or waive any penalty that is provided for in the contract.

(3) Adequate public notice of the invitation for bids and any reverse auction shall be given a sufficient time prior to the date set forth for the opening of bids or beginning of the reverse auction. The notice may include posting on the Internet or publication in a newspaper or newspapers of general circulation in the state as determined by the secretary of the Finance and Administration Cabinet not less than seven (7) days before the date set for the opening of the bids and any reverse auction. The provisions of this subsection shall also apply to price contracts and purchase contracts of state institutions of higher education.

(4) Bids shall be opened publicly or entered through a reverse auction at the time and place designated in the invitation for bids. At the time the bids are opened, or the reverse auction has ended, the purchasing agency shall announce the agency's engineer's estimate, if applicable, and make it a part of the agency records pertaining to the letting of any contract for which bids were received. Each written or reverse auction bid, together with the name of the bidder and the agency's engineer's estimate, shall be recorded and be open to public inspection. Electronic bid opening and posting of the required information for public viewing shall satisfy the requirements of this subsection.

(5) The contract shall be awarded by written notice to the responsive and responsible bidder whose bid offers the best value.

(6) Correction or withdrawal of written or reverse auction bids shall be allowed only to the extent permitted by regulations issued by the secretary.

Effective: July 15, 2010

History: Amended 2010 Ky. Acts ch. 63, sec. 3, effective July 15, 2010. -- Amended 2000 Ky. Acts ch. 509, sec. 1, effective July 14, 2000. -- Amended 1998 Ky. Acts ch. 120, sec. 10, effective July 15, 1998. -- Amended 1997 (1st Extra. Sess.) Ky. Acts ch. 4, sec. 27, effective May 30, 1997. -- Amended 1996 Ky. Acts ch. 60, sec. 2, effective July 15, 1996. -- Amended 1994 Ky. Acts ch. 278, sec. 1, effective July 15, 1994. -- Amended 1982 Ky. Acts ch. 282, sec. 1, effective July 15, 1982. -- Amended 1979 (1st Extra. Sess.) Ky. Acts ch. 9, sec. 1, effective February 10, 1979. -- Created 1978 Ky. Acts ch. 110, sec. 17, effective January 1, 1979.

45A.085 Competitive negotiation.

(1) When, under administrative regulations promulgated by the secretary or under KRS 45A.180, the purchasing officer determines in writing that the use of competitive sealed bidding is not practicable, and except as provided in KRS 45A.095 and 45A.100, a contract may be awarded by competitive negotiation, which may include the use of a reverse auction.

(2) Adequate public notice of the request for proposals and any reverse auction shall be given in the same manner and circumstances as provided in KRS 45A.080(3).

(3) Contracts other than contracts for projects utilizing an alternative project delivery method under KRS 45A.180 may be competitively negotiated when it is determined in writing by the purchasing officer that the bids received by competitive sealed bidding either are unreasonable as to all or part of the requirements, or were not independently reached in open competition, and for which each competitive bidder has been notified of the intention to negotiate and is given reasonable opportunity to negotiate.

(4) Contracts for projects utilizing an alternative project delivery method shall be processed in accordance with KRS 45A.180.

(5) The request for proposals shall indicate the relative importance of price and other evaluation factors, and any reverse auction procedures.

(6) Award shall be made to the responsible and responsive offeror whose proposal is determined in writing to be the most advantageous to the Commonwealth, taking into consideration price and the evaluation factors set forth in the request for proposals and the reciprocal preference for resident bidders required under KRS 45A.494.

(7) Written or oral discussions shall be conducted with all responsible offerors who submit proposals determined in writing to be reasonably susceptible of being selected for award. Discussions shall not disclose any information derived from proposals submitted by competing offerors. Discussions need not be conducted:

(a) With respect to prices, where the prices are fixed by law, reverse auction, or administrative regulation, except that consideration shall be given to competitive terms and conditions;

(b) Where time of delivery or performance will not permit discussions; or

(c) Where it can be clearly demonstrated and documented from the existence of adequate competition or prior experience with the particular supply, service, or construction item, that acceptance of an initial offer without discussion would result in fair and reasonable best value procurement, and the request for proposals notifies all offerors of the possibility that award may be made on the basis of the initial offers.

Effective: July 15, 2010

History: Amended 2010 Ky. Acts ch. 63, sec. 4, effective July 15, 2010; and ch. 162, sec. 8, effective July 15, 2010. -- Amended 2003 Ky. Acts ch. 98, sec. 5, effective June 24, 2003. -- Amended 1997 (1st Extra. Sess.) Ky. Acts ch. 4, sec. 28, effective May 30, 1997. -- Amended 1979 (1st Extra. Sess.) Ky. Acts ch. 9, sec. 2, effective February 10, 1979. -- Created 1978 Ky. Acts ch. 110, sec. 18, effective January 1, 1979.

45A.090 Negotiation after competitive sealed bidding when all bids exceed available funds.

(1) In the event that all bids submitted pursuant to competitive sealed bidding under KRS 45A.080 result in bid prices in excess of the funds available for the purchase, and the chief purchasing officer determines in writing:

(a) That there are no additional funds available from any source so as to permit an award to the responsive and responsible bidder whose bid offers the best value; and
(b) The best interest of the state will not permit the delay attendant to a resolicitation under revised specifications, or for revised quantities, under competitive sealed bidding as provided in KRS 45A.080, then a negotiated award may be made as set forth in subsections (2) or (3) of this section.

(2) Where there is more than one (1) bidder, competitive negotiations pursuant to KRS 45A.085(3) shall be conducted with the three (3) (two (2) if there are only two (2)) bidders determined in writing to be the most responsive and responsible bidders, based on criteria contained in the bid invitation and the reciprocal preference for resident bidders under KRS 45A.494. Such competitive negotiations shall be conducted under the following restrictions:

(a) If discussions pertaining to the revision of the specifications or quantities are held with any potential offeror, all other potential offerors shall be afforded an opportunity to take part in such discussions; and

(b) A request for proposals, based upon revised specifications or quantities, shall be issued as promptly as possible, shall provide for an expeditious response to the revised requirements, and shall be awarded upon the basis of best value.

(3) Where, after competitive sealed bidding, it is determined in writing that there is only one (1) responsive and responsible bidder, a noncompetitive negotiated award may be made with such bidder in accordance with KRS 45A.095.

Effective: July 15, 2010

History: Amended 2010 Ky. Acts ch. 162, sec. 9, effective July 15, 2010. -- Amended 2003 Ky. Acts ch. 98, sec. 6, effective June 24, 2003. -- Amended 1997 (1st Extra. Sess.) Ky. Acts ch. 4, sec. 29, effective May 30, 1997. -- Created 1978 Ky. Acts ch. 110, sec. 19, effective January 1, 1979.

45A.095 Noncompetitive negotiation.

(1) A contract may be made by noncompetitive negotiation only for sole source purchases, or when competition is not feasible, as determined by the purchasing officer in writing prior to award, under administrative regulations promulgated by the secretary of the Finance and Administration Cabinet or the governing boards of universities operating under KRS Chapter 164A, or when emergency conditions exist. Sole source is a situation in which there is only one (1) known capable supplier of a commodity or service, occasioned by the unique nature of the requirement, the supplier, or market conditions. Insofar as it is practical, no less than three (3) suppliers shall be solicited to submit written or oral quotations whenever it is determined that competitive sealed bidding is not feasible. Award shall be made to the supplier offering the best value. The names of the suppliers submitting quotations and the date and amount of each quotation shall be placed in the procurement file and maintained as a public record. Competitive bids may not be required:

(a) For contractual services where no competition exists, such as telephone service, electrical energy, and other public utility services;

(b) Where rates are fixed by law or ordinance;

(c) For library books;

(d) For commercial items that are purchased for resale;

(e) For interests in real property;

(f) For visiting speakers, professors, expert witnesses, and performing artists;

(g) For personal service contracts executed pursuant to KRS 45A.690 to 45A.725; and

(h) For agricultural products in accordance with KRS 45A.645.

(2) The chief procurement officer, the head of a using agency, or a person authorized in writing as the designee of either officer may make or authorize others to make emergency procurements when an emergency condition exists.

(3) An emergency condition is a situation which creates a threat or impending threat to public health, welfare, or safety such as may arise by reason of fires, floods, tornadoes, other natural or man-caused disasters, epidemics, riots, enemy attack, sabotage, explosion, power failure, energy shortages, transportation emergencies, equipment failures, state or federal legislative mandates, or similar events. The existence of the emergency condition creates an immediate and serious need for services, construction, or items of tangible personal property that cannot be met through normal procurement methods and the lack of which would seriously threaten the functioning of government, the preservation or protection of property, or the health or safety of any person.

(4) The Finance and Administration Cabinet may negotiate directly for the purchase of contractual services, supplies, materials, or equipment in bona fide emergencies regardless of estimated costs. The existence of the emergency shall be fully explained, in writing, by the head of the agency for which the purchase is to be made. The explanation shall be approved by the secretary of the Finance and Administration Cabinet and shall include the name of the vendor receiving the contract along with any other price quotations and a written determination for selection of the vendor receiving the contract. This information shall be filed with the record of all such purchases and made available to the public. Where practical, standard specifications shall be followed in making emergency purchases. In any event, every effort should be made to effect a competitively established price for purchases made by the state.

Effective: July 15, 2002

History: Amended 2002 Ky. Acts ch. 344, sec. 9, effective July 15, 2002. -- Amended 1997 (1st Extra. Sess.) Ky. Acts ch. 4, sec. 30, effective May 30, 1997. -- Amended 1990 Ky. Acts ch. 496, sec. 4, effective July 13, 1990. -- Created 1978 Ky. Acts ch. 110, sec. 20, effective January 1, 1979

45A.100 Small purchases by state governmental bodies.

(1) Procurements may be made in accordance with small purchase administrative regulations promulgated by the secretary of the Finance and Administration Cabinet, pursuant to KRS Chapter 13A, as follows:

(a) Up to ten thousand dollars (\$10,000) per project for construction and one thousand dollars (\$1,000) for purchases by any state governmental body, except for those state administrative bodies specified in paragraph (b) of this subsection; and

(b) Up to forty thousand dollars (\$40,000) per project for construction or purchases by the Finance and Administration Cabinet, state institutions of higher education, and the legislative branch of government.

(2) Procurement requirements shall not be artificially divided so as to constitute a small purchase under this section. Reverse auctions may be used for small purchase procurements. At least every two (2) years, the secretary shall review the prevailing costs of labor and materials and may make recommendations to the next regular session of the General Assembly for the revision of the then current maximum small purchase amount as justified by intervening changes in the cost of labor and materials.

(3) The secretary of the Finance and Administration Cabinet may grant to any state agency with a justifiable need a delegation of small purchasing authority which exceeds the agency's small purchase limit provided in subsection (1) of this section. Delegations of small purchasing authority shall be granted or revoked by the secretary of the Finance and Administration Cabinet, in accordance with administrative regulations promulgated by the cabinet pursuant to KRS Chapter 13A. These administrative regulations shall establish, at a minimum, the criteria for granting and revoking delegations of small purchasing authority, including the requesting agency's past compliance with purchasing regulations, the level of training of the agency's purchasing staff, and the extent to which the agency utilizes the Kentucky Automated Purchasing System. The administrative regulations may permit the secretary of the Finance and

Administration Cabinet to delegate small purchase procurements up to the maximum amount specified in subsection (1)(b) of this section.

Effective: July 15, 2010

History: Amended 2010 Ky. Acts ch. 63, sec. 5, effective July 15, 2010. -- Amended 2002 Ky. Acts ch. 320, sec. 2, effective July 15, 2002. -- Amended 2000 Ky. Acts ch. 225, sec. 1, effective July 14, 2000. -- Amended 1996 Ky. Acts ch. 60, sec. 1, effective July 15, 1996. -- Amended 1994 Ky. Acts ch. 323, sec. 1, effective July 15, 1994. -- Amended 1990 Ky. Acts ch. 496, sec. 5, effective July 13, 1990. -- Amended 1986 Ky. Acts ch. 384, sec. 1, effective July 15, 1986. -- Amended 1984 Ky. Acts ch. 384, sec. 1, effective July 13, 1984. -- Amended 1982 Ky. Acts ch. 282, sec. 2, effective July 15, 1982. -- Amended 1980 Ky. Acts ch. 242, sec. 1, effective July 15, 1980; and ch. 250, sec. 19, effective April 9, 1980. -- Created 1978 Ky. Acts ch. 110, sec. 21, effective January 1, 1979.

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE
EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

The following excerpts are from 45 FR 65984 (October 3, 1980):

The minority and female goals apply to Federal and federally assisted construction contractors and subcontractors which have covered contracts. The goals are expressed as a percentage of the total hours worked by such a covered or subcontractor's entire onsite construction workforce, which is working on any construction site within a relevant area. The goal applies to each construction craft and trade in the contractor's entire workforce in the relevant area including those employees working on private non-federally involved projects.

Until further notice, the following goals for minority utilization in each construction craft and trade shall be included in all Federal or federally assisted construction contracts and subcontracts in excess of \$10,000 to be performed in the respective geographic area. The goals are applicable to each nonexempt contractor's total onsite construction workforce, regardless of whether or not part of that workforce is performing work on a Federal, federally assisted or non-federally related project, contract or subcontract.

Construction contractors which are participating in an approved Hometown Plan (see 41 CFR 60-4.5) are required to comply with the goals of the Hometown Plan with regard to construction work they perform in the area covered by the Hometown Plan. With regard to all their other covered construction work, such contractors are required to comply as follows:

- Goals for female participation in each trade.....6.9%
- Goals for minority participation in each trade.....Insert goals for each year
(see Attachment Number 6)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally assisted) performed in the covered area.

The following excerpts are from 45 FR 65977 (October 3, 1980):

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and 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, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of 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 name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

4. As used in this Notice, and in the contract resulting from this solicitation, the covered area is (insert description of the geographical areas where the contract is to be performed giving the state, country, and city, if any).

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION
CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)**

EEO Specifications

Following is the standard language, which must be incorporated into all solicitations for offers and bids on all Federal and Federally assisted construction contracts or subcontracts in excess of \$10,000 to be performed in designated geographical areas:

1. As used in these specifications:

- (a) Covered Area means the geographical area described in the solicitation from which this contract resulted.
- (b) Director means Director, Office of Federal Contract Compliance Program, United States Department of Labor, or any person to whom the Director delegates authority;
- (c) Employer identification number means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
- (d) Minority includes:
 - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) 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); and
 - (iv) 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. Whenever the Contractor or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO 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 covered Contractor's or Subcontractor's failure to take a good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7-a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such 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.

7. The Contractor shall take specific affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative actions steps at least as extensively as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site 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 such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person 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 obligation.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which 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 7-b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, lay-off, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foreman, etc., prior to the initiation of construction work at any 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.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its 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 one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

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

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. 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 EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative actions obligations (7 a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7 a through p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, 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 non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example: even though the Contractor has achieved its goal for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables for affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation, if any, employee identification number when assigned, 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, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of 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).

EEO Goals for Economic Areas in Region 4

Source: Appendix B-80 in 45 FR 65984 (October 3, 1980)

Kentucky:

053 Knoxville, TN
 SMSA Counties:
 3840 Knoxville, TN 6.6
 TN Anderson; TN Blount; TN Knox; TN Union.
 Non-SMSA Counties 4.5
 KY Bell; KY Harlan; KY Knox; KY Laurel; KY McCreary; KY Wayne; KY Whitley; TN
 Campbell; TN Claiborne; TN Cocke; TN Cumberland; TN Fentress; TN Grainger, TN Hamblen;
 TN Jefferson; TN Loudon; TN Morgan; TN Roane; TN Scott;
 TN Sevier.

054 Nashville, TN:
 SMSA Counties:
 1660 Clarksville - Hopkinsville, TN - KY 18.2
 KY Christian; TN Montgomery.
 5360 Nashville - Davidson, TN 15.8
 TN Cheatham, TN Davidson; TN Dickson; TN Robertson; TN Rutherford; TN Sumner; TN
 Williamson; TN Wilson.
 Non-SMSA Counties 12.0
 KY Allen; KY Barren; KY Butler; KY Clinton; KY Cumberland; KY Edmonson; KY Logan; KY
 Metcalfe; KY Monroe; KY Simpson; KY Todd; KY Trigg; KY Warren; TN Bedford; TN Cannon;
 TN Clay; TN Coffee; TN DeKalb; TN Franklin; TN Giles; TN Hickman; TN Houston; TN
 Humphreys; TN Jackson; TN Lawrence; TN Lewis; TN Macon; TN Marshall; TN Maury; TN
 Moore; TN Overton; TN Perry; TN Pickett; TN Putnam; TN Smith; TN Stewart; TN Trousdale;
 TN Van Buren; TN Warren; TN Wayne; TN White.

056 Paducah, KY:
 Non-SMSA Counties 5.2
 IL Hardin; IL Massac; IL Pope; KY Ballard; KY Caldwell; KY Calloway. KY Carlisle; KY
 Crittenden; KY Fulton; KY Graves; KY Hickman; KY Livingston; KY Lyon. KY McCracken; KY
 Marshall.

057 Louisville, KY:
 SMSA Counties:
 4520 Louisville, KY-IN 11.2
 IN Clark; IN Floyd; KY Bullitt; KY Jefferson; KY Oldham.
 Non-SMSA Counties 9.6
 IN Crawford; IN Harrison; IN Jefferson; IN Orange; IN Scott; IN Washington; KY Breckinridge;
 KY Grayson; KY Hardin; KY Hart; KY Henry; KY Larue; KY Marion;
 KY Meade; KY Nelson; KY Shelby; KY Spencer; KY Trimble; KY Washington.

058 Lexington, KY
 SMSA Counties
 4280 Lexington-Fayette, KY 10.8
 KY Bourbon; KY Clark; KY Fayette; KY Jessamine; KY Scott; KY Woodford.
 Non-SMSA Counties 7.0
 KY Adair KY Anderson; KY Bath; KY Boyle; KY Breathitt; KY Casey; KY Clay; KY Estill; KY
 Franklin; KY Garrard; KY Green; KY Harrison; KY Jackson; KY Knott; KY Lee; KY Leslie; KY
 Letcher; KY Lincoln; KY Madison; KY Magoffin; KY Menifee; KY Mercer; KY Montgomery;
 KY Morgan. KY Nicholas; KY Owsley; KY Perry; KY Powell; KY Pulaski; KY Rockcastle; KY
 Russell; KY Taylor; KY Wolfe.

059 Huntington, WV:
 SMSA Counties:
 3400 Huntington – Ashland, WV-KY-OH 2.9
 KY Boyd; KY Greenup; OH Lawrence; WV Cabell; WV Wayne.
 Non-SMSA Counties 2.5
 KY Carter; KY Elliott; KY Floyd; KY Johnson; KY Lawrence; KY Martin; KY Pike; KY Rowan;
 OH Gallia; WV Lincoln; WV Logan; WV Mason; WV Mingo.

067 Cincinnati, OH:
 SMSA Counties:
 1640 Cincinnati, OH-KY-IN 11.0
 IN Dearborn; KY Boone; KY Campbell; KY Kenton; OH Clermont;
 OH Hamilton; OH Warren.
 3200 Hamilton-Middletown, OH 5.0

OH Butler.	
Non-SMSA Counties	9.2
IN Franklin; IN Ohio; IN Ripley; IN Switzerland; KY Bracken; KY Carroll; KY Fleming; KY Gallatin; KY Grant; KY Lewis; KY Mason; KY Owen; KY Pendleton; KY Robertson; OH Adams; OH Brown; OH Clinton; OH Highland.	
080 Evansville, IN:	
SMSA Counties	
2440 Evansville, IN-KY	4.8
IN Gibson; IN Posey; IN Vanderburgh; IN Warrick; KY Henderson.	
5990 Owensboro, KY	4.7
KY Daviess.	
Non-SMSA Counties	3.5
IL Edwards; IL Gallatin; IL Hamilton; IL Lawrence; IL Saline; IL Wabash; IL White; IN Dubois; IN Knox; IN Perry; IN Pike; IN Spencer; KY Hancock; KY Hopkins; KY McLean; KY Muhlenberg; KY Ohio; KY Union; KY Webster.	

**CHECK LIST OF EEO DOCUMENTATION FOR BIDDERS
ON GRANT/LOAN CONSTRUCTION
(Required by Executive Order 11246 as amended)**

The low, responsive responsible bidder must forward the following items, in duplicate, to the owner no later than ten (10) days after bid opening. The owner shall have one (1) copy available for inspection by the Office of Federal Contracts Compliance within 14 days after the bid opening. The web site for the OFCC is http://www.dol.gov/esa/ofcc_org.htm.

1. Project Number. Project Location. Type of Construction.
2. Proof of registration with the Joint Reporting Commission. (See Attachment Number 8.)
3. Copy of Affirmative Action Plan of contractor. Indicate company official responsible for EEO.
4. List of current construction contracts, with dollar amount. List contracting Federal Agency, if applicable.
5. Statistics concerning company percent workforce, permanent and temporary, by sex, race, trade, handicapped, and age. 40 CFR Part 7.
6. List of employment sources for project in question. If union sources are utilized, indicate percentage of minority membership within the union crafts.
7. Anticipated employment needs for this project, by sex, race and trade, with estimate of minority participation in specific trades.
8. List of subcontractors (name, address and telephone) with dollar amount and duration of subcontract. Subcontractor contracts over \$10,000 must submit items 1- 8. The following information must be provided for all supplier contracts regardless of contract size: name of company, contact person, address, telephone number, dollar value of the contract, and a list of the materials to be supplied to the prime contractor.
9. List of any subcontract work yet to be committed with estimate of dollar amount and duration of contract.
10. Contract Price. Duration of prime contract.
11. DBE Documents - See special instructions regarding use of Minority, and Women Owned, and Small Businesses.

Employer Information Report EEO-1

Under the direction of the US Equal Employment Opportunity Commission, the Joint Reporting Committee is responsible for the full-length, multi-phase processing of employment statistics collected on the Employer Information Report EEO-1. This report, also termed Standard Form 100, details the sex and race/ethnic composition of an employer's work force by job category.

The Employer Information EEO-1 survey is conducted annually under the authority of Public Law 88-352, Title VII of the Civil Rights Act of 1964, as amended by the Equal Employment Opportunity Act of 1972. All employers with 15 or more employees are covered by Public Law 88-352 and are required to keep employment records as specified by Commission regulations. Based on the number of employees and federal contract activities, certain large employers are required to file an EEO-1 Report on an annual basis.

The EEO-1 Report must be filed by:

(A) All private employers who are: (1) subject to Title VII of the Civil Rights Act of 1964 (as amended by the Equal Employment Opportunity Act of 1972) with 100 or more employees EXCLUDING State and local governments, primary and secondary school systems, institutions of higher education, Indian tribes and tax-exempt private memberships clubs other than labor organizations; OR (2) subject to Title VII who have fewer than 100 employees if the company is owned or affiliated with another company, or there is centralized ownership, control or management (such as central control of personnel policies and labor relations) so that the group legally constitutes a single enterprise and the entire enterprise employs a total of 100 or more employees.

(B) All federal contractors (private employers), who: (1) are not exempt as provided for by 41 CFR 60-1.5, (2) have 50 or more employees, and (a) are prime contractors or first-tier subcontractors, and have a contract, subcontract, or purchase order amounting to \$50,000 or more; or (b) serve as depository of Government funds in any amount, or (c) is a financial institution which is an issuing an paying agent for U.S. Savings Bonds and Notes.

Only those establishments located in the District of Columbia and the 50 states are required to submit the EEO-1 Report. No Reports should be filed for establishments in Puerto Rico, the Virgin Islands or other American Protectorates.

When filing for the EEO-1 Report for the first time, go to the web site at:

<http://www.mimdms.com/jrc.html> and select "Filing for the first time" from the box labeled INFORMATION. File out the electronic questionnaire to enter your company into Joint Reporting Committee (JRC) system. Once you have completed the registration process, you will be contacted on how to proceed with the EEO-1 Report. If you have previously registered with the JRC, follow their instructions to update your information.

Labor Standards Provisions for Federally Assisted Construction

Labor standards provisions applicable to contracts covering federally financed and assisted construction (29 CFR 5.5, Contract Provisions and Related Matters) that apply to EPA Special Appropriations Projects grants are:

(a)(4)(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(a)(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

(a)(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5 (a) (1) through (10) and such other clauses as the U.S. Environmental Protection Agency may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(a)(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(b) Contractor Work Hours and Safety Standards Act. The Administrator, EPA shall cause or require the contracting officer to insert the following clauses set forth in paragraph (b)(1),(2),(3), and (4) of this section in full in any contract subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by *Section 5.5(a) of this title. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any work week in which he or she is employed on such work to in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b) (1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for unliquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The U.S. Environmental Protection Agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally- assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such liabilities of such contractor or

subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b) (2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in section 5.1, the Administrator of EPA shall cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly worked, deductions made, and actual wages paid. Further, the Administrator of EPA shall cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the U.S. Environmental Protection Agency and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job. (Approved by the Office of Management and Budget under OMB control numbers 1215-0140 and 1215-0017.)

CERTIFICATIONS

Debarred Firms

All prime Construction Contractors shall certify that Subcontractors have not and will not be awarded to any firm that is currently on the EPA Master List of Debarred, Suspended and Voluntarily Excluded Persons in accordance with the provisions of 40 CFR 32.500(c). Debarment action is taken against a firm for noncompliance with Federal Law.

All bidders shall complete the attached certification (Attachment Number 10) and submit to the owner with the bid proposal.

Anti-lobbying Certification

All prime Construction Contractors must certify (Attachment Number 11) that no appropriated funds were or will be expended for the purpose of lobbying the Executive or Legislative Branches of the Federal Government or Federal Agency concerning this contract (contract in excess of \$100,000). If the Contractor has made or agreed to make payment to influence any member of Congress in regard to award of this contract, a Disclosure Form must be completed and submitted to the owner with the bid proposal.

All prime Contractors must require all Subcontractors to submit the certification, which must also be submitted to the owner.

**CERTIFICATION REGARDING DEBARMENT,
SUSPENSION AND OTHER RESPONSIBILITY MATTERS**

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or Local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative

Date

_____ I am unable to certify to the above statements. My explanation is attached.

CERTIFICATION REGARDING LOBBYING
Certification for Contracts, Grants,
Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative

Date

_____ I am unable to certify to the above statements. My explanation is attached.

EPA DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

EPA's Disadvantaged Business Enterprise Program rule applies to contract procurement actions funded in part by EPA assistance agreements awarded after May 27, 2008. The rule is found at Federal regulation Title 40, Part 33. Specific responsibilities are highlighted below.

Grant recipient responsibilities:

- Conduct an Availability Analysis and negotiate fair share objectives with EPA (§33.411), or adopt the fair share objectives of the oversight state agency revolving loan fund for comparable infrastructure. (§33.405(b)(3)).
- Include the Appendix A term and condition in each contract with a primary contractor (§3.106). The term and condition is included in the EPA Region 4 contract specifications insert *FEDERAL REQUIREMENTS AND CONTRACT PROVISIONS FOR SPECIAL APPROPRIATION ACT PROJECTS US ENVIRONMENTAL PROTECTION AGENCY, Region III, June 2008*.
- Employ the six Good Faith Efforts during prime contractor procurement (§33.301).
- Require prime contractor to comply with the following prime contractor requirements of Title 40 Part 33:
 - To employ the six Good Faith Efforts steps in paragraphs (a) through (e) of §33.301 if the prime contractor awards subcontracts (§33.301(f)).
 - To provide EPA form 6100-2 – *DBE Subcontractor Participation Form* to all DBE subcontractors (§33.302(e)).
 - To submit EPA forms 6100-3 – *DBE Program Subcontractor Performance Form* and 6100-4 – *DBE Program Subcontractor Utilization Form* with bid package or proposal. (§33.302 (f) and (g)).
 - To pay its subcontractor for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the recipient (§33.302(a)).
 - To notify recipient in writing by its prime contractor prior to any termination of a DBE subcontractor for convenience by the prime contractor (§33.302(b)).
 - To employ the six good faith efforts described in §33.301 if soliciting a replacement subcontractor after a DBE subcontractor fails to complete work under the subcontract for any reason. (§33.302(c)).
 - To employ the six good faith efforts described in §33.301 even if the prime contractor has achieved its fair share objectives under subpart D of Part 33. (§33.302(d)).

- Semiannually complete and submit to Charles Hayes, EPA Region 4 DBE Coordinator EPA form 5700-52A summarizing DBE participation achieved during the previous six months (§33.502).
- Maintain records documenting its compliance with the requirements of Title 40 Part 33, including documentation of its, and its prime contractors', good faith efforts (§33.501(a)).

Prime Contractor Responsibilities:

- Employ the six Good Faith Efforts steps in paragraphs (a) through (e) of §33.301 if the prime contractor awards subcontracts (§33.301(f)).
- Provide EPA form number 6100-2 – *DBE Program Subcontractor Participation Form* and form number 6100-3 – *DBE Program Subcontractor Performance Form* to each DBE subcontractor prior to opening of the contractor's bid or proposal (§33.302(e) and (f)).
- Complete EPA form number 6100-4 – *DBE Program Subcontractor Utilization Form* (§33.302(g)).
- Submit to recipient with its bid package or proposal the completed EPA form number 6100-4, plus an EPA form number 6100-3 for each DBE subcontractor used in the contractor's bid or proposal (§33.302(f) and (g)).
- Pay subcontractors for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the recipient (§33.302(a)).
- Notify the recipient in writing prior to prime contractor termination of a DBE subcontractor for convenience (§33.302(b)).
- Employ the six good faith efforts described in §33.301 if soliciting a replacement subcontractor after a DBE subcontractor fails to complete work under the subcontract for any reason. (§33.302(c)).
- Employ the six good faith efforts described in §33.301 even if the prime contractor has achieved its fair share objectives under subpart D of Part 33. (§33.302(d)).
- Semiannually inform recipient of DBE participation achieved (§33.502).
- Maintain records documenting its compliance with the requirements of Title 40 Part 33, including documentation of its, and its prime contractors', good faith efforts (§33.501(a)).

Subcontractor Responsibilities:

- May submit EPA form 6100-2 – *DBE Subcontractor Participation Form* to Charles Hayes, EPA Region 4 DBE Coordinator (§33.302(e)).
- Must complete EPA form 6100-3 – *DBE Program Subcontractor Performance Form*, and submit it to the prime contractor soliciting services from the subcontractor prior to the opening of bids for the prime contract.

SPAP Requirements:

Form	Requirement	Provided By:	Completed By:	Submitted To:
EPA Form 6100-2	Grant Recipients required to have prime contractors provide form to Subcontractors	Prime Contractors	DBE Subcontractors	EPA Region 4 DBE Coordinator Charles Hayes
EPA Form 6100-3	Grant Recipients required to have prime contractors provide form to Subcontractors	Prime Contractors	DBE Subcontractors	Grant Recipients as part of a bid or proposal package
EPA Form 6100-4	Grant Recipients required to have prime contractors complete the form	Grant Recipients	Prime Contractors	Grant Recipients as part of a bid or proposal package

SRF Requirements:

Form	Requirement	Provided By:	Completed By:	Submitted To:
EPA Form 6100-2	Recipients required to have prime contractors provide form to Subcontractors	Prime Contractors	DBE Subcontractors	DOW Project Administrator
EPA Form 6100-3	Recipients required to have prime contractors provide form to Subcontractors	Prime Contractors	DBE Subcontractors	Dow Project Administrator w/ATA Package
EPA Form 6100-4	Recipients required to have prime contractors complete the form	Recipients	Prime Contractors	DOW Project Administrator w/ATA Package
Pay Request DBE Form	Recipients required to have prime contractors complete the form	Recipients	Prime Contractors	DOW Project Administrator w/EACH PAYMENT

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION POLICY

PROJECT NAME: _____

BID DATE: _____

1. Name, address and telephone number of contact person on all DBE matters:

Prime Contractor's Name: _____

Contact Person: _____

Address: _____

Phone: _____

Cell Phone: _____

Email: _____

Total Contract Amount: _____

2. Total dollar amount/percent of contract of MBE participation: _____

3. Total dollar amount/percent of contract of WBE participation: _____

4. Are certifications* for each MBE/WBE/DBE subcontractor enclosed; if no, please explain: Yes No _____

5. Are MBE/WBE/DBE subcontracts or letters of intent signed by both parties enclosed; if no, please explain: Yes No _____

6. List of MBE Subcontractors:

Name: _____

Contact Person: _____

Address: _____

Phone: _____

Cell Phone: _____

Email: _____

Type of Contract: _____

Work to be Done: _____

Amount: _____

7. List of WBE Subcontractors:

Name: _____

Contact Person: _____

Address: _____

Phone: _____

Cell Phone: _____

Email: _____

Type of Contract: _____

Work to be Done: _____

Amount: _____

Attach Additional Sheets, If Necessary

*Self-certification: Self certification of MBE/WBE/DBE firms will NOT be accepted as a valid form of certification of MBE/WBE/DBE status.

8. Information and documentation concerning efforts taken to comply with EPA's "six good faith efforts"

- (i). Ensure DBE construction firms or material suppliers are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities; including placing DBEs on solicitation lists and soliciting them whenever they are potential sources. A good source for a list of DBEs is the Kentucky Transportation's website: <http://transportation.ky.gov/Civil-Rights-and-Small-Business-Development/Pages/Certified-DBE-Directory.aspx>.
- The prime contractor certifies that a bidders list (see example sheet below) of qualified vendors, including DBEs, was developed for current and future solicitations and that the list will be maintained. *Submit a copy of the list as documentation.*
- (ii). Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process; including, whenever possible, posting solicitation for bids or proposals for a sufficient amount of time as to receive a competitive bid or proposal pool.
- The prime contractor certifies that every opportunity was provided to a number of DBEs to encourage their participation in the competitive process and that an adequate amount of time was provided for response.
- a. List each DBE construction firm or material supplier to which a solicitation was attempted. *Submit copies of letters, emails, faxes, telecommunication logs, certified mail receipts, returned envelopes, certified mail return receipts, etc. as documentation.*
- Company name and phone number: _____
Area of work expertise: _____
Date of any follow-ups and person spoke to: _____
- b. Advertisements, if applicable: List each publication in which an announcement or notification was placed. *Submit a tear sheet of each announcement from each publication as documentation.*
- Name of publication: _____
Date(s) of advertisement: _____
Specific subcontract areas announced: _____
- c. Other, if applicable: List each notification method in which an announcement or outreach was used; list serve, public meeting, etc. *Submit applicable information to document effort.*
- Method of notification: _____
Date(s) of notification: _____
- (iii). Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs; including dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
- The prime contractor certifies that the project was broken into its basic elements (i.e., dirt hauling, landscaping, painting, pipe installation, material supplies, etc.) and that a determination was made whether it's economically feasible to bid the elements separately and that the analysis of this effort was documented with a short memo to the project file.

- (iv). Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women’s business enterprises.
 - The prime contractor certifies that they established delivery schedules which would allow DBEs to participate in the projects.

- (v). Use the services and assistance of the Small Business Administration (SBA) and the Minority Business Development Agency (MBDA) of the U.S. Department of Commerce. The easiest way to utilize the services of SBA and MBDA is to visit their websites: www.sba.gov and www.mbda.gov and use the electronic tools available there or you may send the nearest SBA and MBDA office a certified letter that generally describes the solicitation, the dates it will be open, the types of vendors you are seeking and applicable SIC or NAIC codes if known. You may also use the services and assistance of the Kentucky Procurement Assistance Program (KPAP). The easiest way to utilize the services of KPAP is to send an email: ced.kpap@ky.gov and provide information on forthcoming opportunities available to DBEs.
 - The prime contractor certifies that the assistance of the SBA, MBDA, and/or KPAP was utilized. *Submit pages printed off the SBA and MBDA websites which evidence efforts to register a solicitation on those sites or submit copies of the letter sent and certified mail receipt as documentation; submit copies of emails with KPAP as documentation.*

- (vi). If a subcontractor awards any subcontracts, require the subcontractor to take the steps in numbers (i) through (v) above.
 - The prime contractor certifies that subcontractors used for this project will be required to follow the steps of the “six good faith efforts” as listed above.

9. Signature and date:

To the best of my knowledge and belief, all “six good faith efforts” have been met and the information contained in this document is true and correct; the document has been duly authorized by the legal representative.

Signature

Print name and title

Date

BIDDER'S LIST FORM

OWNER: _____

LOAN NO: _____

PROJECT TITLE: _____

BID DATE: _____

Instructions:

1. This list must include all firms that were solicited for participation, bid on, or quoted for a prime contract or subcontracts under EPA assisted projects, included both DBE's and non DBE's.
2. SRF loan participants must keep the Bidder's List until the project period for the identified loan has ended and no funds are remaining.
3. This list must be submitted to DOW in the ATA Package. Contract Award Approval cannot be given until this form has been received by DOW.
4. The following information must be obtained from all prime and subcontractors. Please complete the form below:

ENTITY'S NAME	MAILING ADDRESS	CONTACT PERSON	PHONE#	E-MAIL ADDRESS	M/WBE?

BONDS AND INSURANCE

The minimum requirements shall be as follows:

Bonding requirements for contracts of \$100,000 or less are contained in 40 CFR 31.36(h).

Bond requirements for contracts in excess of \$100,000 are:

- Bid guarantee equivalent to five percent of the bid price. The bid guarantee shall consist of a firm commitment such as a certified check or bid bond submitted with the bid;
- Performance bond equal to 100 percent of the contract price, and
- Payment bond equal to 100 percent of the contract price. Bonds must be obtained from companies holding Certificates of Authority as acceptable sureties, issued by the U.S. Treasury.

Insurance requirements are contained in the General Conditions of the contract. In addition to the other required insurance, the owner or the contractor, as appropriate, must acquire any flood insurance made available by the Federal Emergency Management Agency as required by 44 CFR Parts 59-79, if construction will take place in a flood hazard area identified by the Federal Emergency Management Agency. The owner's requirements on Flood Insurance are contained in the Special Conditions Section of the Contracts Documents.

NOTICE OF INTENT

All construction projects with surface disturbance of more than 1 acre during the period of construction must have a KPDES Storm Water General Permit. The permit can be found at the following web address:

<https://dep.gateway.ky.gov/eForms/default.aspx?FormID=7>.

If you have any questions regarding the completion of this form call the Surface Water Permits Branch, at (502) 564-3410.

Davis-Bacon Wage Rate Requirements

CWSRF: The recipient agrees to include in all agreements to provide assistance for the construction of treatment works carried out in whole or in part with such assistance made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.), or with such assistance made available under section 205(m) of that Act (33 U.S.C. 1285(m)), or both, a term and condition requiring compliance with the requirements of section 513 of that Act (33 U.S.C. 1372) in all procurement contracts and sub-grants, and require that loan recipients, procurement contractors and sub-grantees include such a term and condition in subcontracts and other lower tiered transactions. All contracts and subcontracts for the construction of treatment works carried out in whole or in part with assistance made available as stated herein shall insert in full in any contract in excess of \$2,000 the contract clauses as set forth below titled "Wage Rate Requirements Under The Consolidated and Further Continuing Appropriations Act, 2013 (P.L. 113-6)". This term and condition applies to all agreements to provide assistance under the authorities referenced herein, whether in the form of a loan, bond purchase, grant, or any other vehicle to provide financing for a project, where such agreements are executed on or after October 30, 2009.

DWSRF: The recipient agrees to include in all agreements to provide assistance for any construction project carried out in whole or in part with such assistance made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12), a term and condition requiring compliance with the requirements of section 1450(e) of the Safe Drinking Water Act (42 U.S.C.300j-9(e)) in all procurement contracts and sub-grants, and require that loan recipients, procurement contractors and sub-grantees include such a term and condition in subcontracts and other lower tiered transactions All contracts and subcontracts for any construction project carried out in whole or in part with assistance made available as stated herein shall insert in full in any contract in excess of \$2,000 the contract clauses as set forth below entitled "Wage Rate Requirements Under The Consolidated and Further Continuing Appropriations Act, 2013 (P.L. 113-6)". This term and condition applies to all agreements to provide assistance under the authorities referenced herein, whether in the form of a loan, bond purchase, grant, or any other vehicle to provide financing for a project, where such agreements are executed on or after October 30, 2009.

Wage Rate Requirements Under The Consolidated and Further Continuing Appropriations Act, 2013 (P.L. 113-6)

Preamble

With respect to the Clean Water and Safe Drinking Water State Revolving Funds, EPA provides capitalization grants to each State which in turn provides subgrants or loans to eligible entities within the State. Typically, the subrecipients are municipal or other local governmental entities that manage the funds. For these types of recipients, the provisions set forth under Roman Numeral I, below, shall apply. Although EPA and the State remain responsible for ensuring subrecipients' compliance with the wage rate requirements set forth herein, those subrecipients shall have the primary responsibility to maintain payroll records as described in Section 3(ii)(A), below and for compliance as described in Section I-5.

Occasionally, the subrecipient may be a private for profit or not for profit entity. For these types of recipients, the provisions set forth in Roman Numeral II, below, shall apply. Although EPA and the State remain responsible for ensuring subrecipients' compliance with the wage rate requirements set forth herein, those subrecipients shall have the primary responsibility to maintain payroll records as described in Section II-3(ii)(A), below and for compliance as described in Section II-5.

I. Requirements Under The Consolidated and Further Continuing Appropriations Act, 2013 (P.L. 113-6) For Subrecipients That Are Governmental Entities:

The following terms and conditions specify how recipients will assist EPA in meeting its Davis-Bacon (DB) responsibilities when DB applies to EPA awards of financial assistance under the FY 2013 Continuing Resolution with respect to State recipients and subrecipients that are governmental entities. If a subrecipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient. The recipient or subrecipient may also obtain additional guidance from DOL's website at <http://www.dol.gov/whd/>

1. Applicability of the Davis- Bacon (DB) prevailing wage requirements.

Under the FY 2013 Continuing Resolution, DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a subrecipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the subrecipient must discuss the situation with the recipient State before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Subrecipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

(i) While the solicitation remains open, the subrecipient shall monitor www.wdol.gov weekly to ensure that the wage determination contained in the solicitation remains current. The subrecipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the subrecipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the subrecipient.

(ii) If the subrecipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the State recipient, at the request of the subrecipient, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The subrecipient shall monitor www.wdol.gov on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(b) If the subrecipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the subrecipient shall insert the appropriate DOL wage determination from www.wdol.gov into the ordering instrument.

(c) Subrecipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a subrecipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the subrecipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the subrecipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The subrecipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

(a) The Recipient shall insure that the subrecipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or the FY 2013 Continuing Resolution, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determinations from the U.S. Department of Labor's website, www.dol.gov.

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the subrecipient (s) to the State award official. The State award official will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request and the local wage determination, including the views of all

interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The subrecipient(s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that

the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will

no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29

CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Subrecipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of \$100,000.

(a) Contract Work Hours and Safety Standards Act. The subrecipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The subrecipient, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may

be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Subrecipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification.

(a) The subrecipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(b) The subrecipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. Subrecipients shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c) The subrecipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The subrecipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the subrecipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Subrecipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during

the examinations the subrecipient shall verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(d) The subrecipient shall periodically review contractors and subcontractor's use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at <http://www.dol.gov/contacts/whd/america2.htm>.

II. Requirements Under The Consolidated and further Continuing Appropriations Act, 2013 (P.L. 113-6) For Subrecipients That Are Not Governmental Agencies

The following terms and conditions specify how recipients will assist EPA in meeting its DB responsibilities when DB applies to EPA awards of financial assistance under the FY2013 Continuing Resolution with respect to subrecipients that are not governmental entities. If a subrecipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient for guidance. The recipient or subrecipient may also obtain additional guidance from DOL's web site at <http://www.dol.gov/whd/>.

Under these terms and conditions, the subrecipient must submit its proposed DB wage determinations to the State recipient for approval prior to including the wage determination in any solicitation, contract task orders, work assignments, or similar instruments to existing contractors.

1. Applicability of the Davis- Bacon (DB) prevailing wage requirements.

Under the FY 2013 Continuing Resolution, Davis-Bacon prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a subrecipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the subrecipient must discuss the situation with the recipient State before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Subrecipients must obtain proposed wage determinations for specific localities at www.wdol.gov. After the Subrecipient obtains its proposed wage determination, it must submit the wage determination to (insert contact information for State recipient DB point of contact for wage determination) for approval prior to inserting the wage determination into a solicitation, contract or issuing task orders, work assignments or similar instruments to existing contractors

(ordering instruments unless subsequently directed otherwise by the State recipient Award Official).

(b) Subrecipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

(i) While the solicitation remains open, the subrecipient shall monitor www.wdol.gov on a weekly basis to ensure that the wage determination contained in the solicitation remains current. The subrecipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the subrecipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the subrecipient.

(ii) If the subrecipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the State recipient, at the request of the subrecipient, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The subrecipient shall monitor www.wdol.gov on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(c) If the subrecipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the subrecipient shall insert the appropriate DOL wage determination from www.wdol.gov into the ordering instrument.

(c) Subrecipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a subrecipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the subrecipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the subrecipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The subrecipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

(a) The Recipient shall insure that the subrecipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including

painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or the FY 2013 Continuing Resolution, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determinations from the U.S. Department of Labor's web site, www.dol.gov.

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the subrecipient(s) to the State award official. The State award official will transmit the report, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request, and the local wage determination, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The subrecipient(s) shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by

the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered

program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Subrecipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of \$100,000.

(a) Contract Work Hours and Safety Standards Act. The subrecipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The subrecipient shall upon the request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (a)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Subrecipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification.

(a) The subrecipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(b) The subrecipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. Subrecipients shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c) The subrecipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The subrecipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable the subrecipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Subrecipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB . In addition, during the examinations the subrecipient shall verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(d) The subrecipient shall periodically review contractors and subcontractors use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at <http://www.dol.gov/whd/america2.htm> or its successor site.

SECTION 00 83 13

PREVAILING WAGE RATES

R-1. GENERAL. The successful bidder will be required to conform to all provisions of the federal Davis-Bacon and Related Acts (The Act) which requires that all laborers and mechanics employed by contractors and subcontractors performing on federal contracts (and contractors and subcontractors performing on federally assisted contracts under the related ACTS) in excess of \$2,000 pay their laborers and mechanics not less than the prevailing wage rates and fringe benefits, as determined by the Department of Labor, for corresponding classes of laborers and mechanics employed on similar projects in the area.

This Contract shall be based upon payment by the Contractor and his Subcontractors of wage rates not less than the prevailing hourly wage rate for each craft or type of workman engaged on the Work as determined by the Department of Labor of the Commonwealth of Kentucky.

The Contractor shall comply with the prevailing wage law of Kentucky, Kentucky Revised Statutes 337.510 to 337.550, including latest amendments thereto.

The Contractor and each Subcontractor shall keep accurate records indicating the hours worked each day by each employee in each classification of work and the amount paid each employee for his work in each classification. Such records shall be open to the inspection and transcript of the Commissioner of Labor or his duly authorized representatives at any reasonable time. These payroll records shall not be destroyed or removed from the state for one year following completion of the improvement.

The Contractor and each Subcontractor shall post and keep posted in a conspicuous place or places at the construction site a copy or copies of prevailing rates of wages and working hours as prescribed in these Contract Documents.

If, during the life of this Contract, the prevailing hourly rate of wages is changed by the Department of Labor, such change shall not be the basis of any claim by the Contractor against the Owner, nor will deductions be made by the Owner against sums due the Contractor by reason of any such change.

The prevailing wage law does not prohibit payment of more than the prevailing rate of wages.

Pursuant to Kentucky Revised Statute 337.540, no laborer, workman, mechanic, helper, assistant, or apprentice shall be permitted to work more than 8 hours in one calendar day, nor more than 40 hours in one week, except in cases of emergency caused by fire, flood, or damage to life or property. Whenever work in excess of 8 hours per day or 40 hours per week is required, payment for overtime shall be at not less than one and one-half times the prevailing rate of wages.

R-2. PREVAILING WAGES. The following wage rate schedule is the prevailing wage rate determination made by the Department of Labor of the Commonwealth of Kentucky on the designated date, and shall be a part of the Contract.

The Contractor shall note that where a contract is not awarded within 90 days from the date of establishment of the prevailing wages, there shall be a redetermination of the prevailing rate of wage before the contract is awarded.

Davis Bacon wages can be obtained from the Wage Determination OnLine website. Use this link to Find the Davis Bacon wages: <http://www.wdol.gov/dba.aspx#0>. Use the pull down menus to enter "Kentucky", "Kenton", and "Heavy Construction" and click "Search" to find the Davis Bacon Wages.

PREVAILING WAGE RATES DESCRIBED ABOVE SHALL BE PROVIDED BY
ADDENDA.

SECTION 01 11 13

SUMMARY OF WORK

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Table of Articles for this Section is:

<u>Article</u>	<u>Title</u>
1.1	Section Includes
1.2	Location and Description of Work
1.3	Other Construction Contracts
1.4	Work By Others
1.5	Work By OWNER
1.6	OWNER-furnished Equipment and Materials
1.7	Assigned Procurement Contracts
1.8	Sequence and Progress of Work
1.9	CONTRACTOR's Use of Site
1.10	Easements and Rights-of-Way
1.11	Notices to Owners and Authorities of Properties Adjacent to the Work
1.12	Salvage of Equipment and Materials
1.13	Partial Utilization by OWNER

1.2 LOCATION AND DESCRIPTION OF WORK

- A. The Work is located on the site of the Taylor Mill Water Treatment Plant, 608 Grand Avenue, Taylor Mill, Kentucky, 41015.
- B. The Work to be performed under this Contract consists of providing all equipment, materials, supplies, tools, and supervision necessary to construct the **TAYLOR MILL WATER TREATMENT PLANT ELECTRICAL AND BASIN IMPROVEMENTS**, as shown on the Drawings, specified herein, and required for a fully operational and complete facility. See Section 01 14 19, Use of Site, for project work restrictions. The scope of work includes, but is not limited to, the following major items:
1. Conduct structural rehabilitation on the Sedimentation Basins and Tunnel at Taylor Mill Treatment Plant.
 2. Install new conduits, cable trays, four new MCCs (Pumps no. 1 – 4), and 2 new VFDs (Pumps no. 5 – 6) at Filter Building
 3. Re-roof entire Filter Building and replace skylights above the filters.
 4. Complete Architectural, Electrical, and HVAC work at Filter Building.

5. Remove existing feeder, controls, and existing starters to pumps nos. 1–6. Install new feeders from new MCCs and new VFDs, and make all power and control connections.
6. Disconnect and remove existing pump nos. 1, 3, 5, and 6 and motors and appurtenances. Install new pump nos. 1, 3, 5, and 6 and motors, install new shafts, and make all power and control connections;
7. Install new control valves and required piping at pumps nos. 1, 2, and 3.
8. Drain Sedimentation Basins, remove existing tube settler modules and install new tube settler modules and protective surface grating.
9. General demolition and modifications; and
10. Other miscellaneous work as indicated in the drawings or specifications.

C. Contracting Method: Work shall be constructed under one prime contract.

1.3 OTHER CONSTRUCTION CONTRACTS (NOT USED)

1.4 WORK BY OTHERS

- A. The ENGINEER will be programming the SCADA system. The CONTRACTOR shall provide time in their schedule for the ENGINEER to program the SCADA system as specified in section 01 14 19, Use of Site.

1.5 WORK BY OWNER

- A. OWNER will perform the following in connection with the Work:
 1. Operate all existing valves, gates, pumps, equipment, and appurtenances that will affect OWNER's operation, unless otherwise specified or indicated.

1.6 OWNER-FURNISHED EQUIPMENT AND MATERIALS (NOT USED)

1.7 ASSIGNED PROCUREMENT CONTRACTS (NOT USED)

1.8 SEQUENCE AND PROGRESS OF WORK

- A. The Work shall be constructed in accordance with the requirements as outlined in Section 01 14 16, Coordination with Owner's Operations, and Section 01 12 00, Suggested Sequence of Construction. All specific planning for tie-ins to existing facilities and other matters pertaining to coordination the sequence of construction and maintaining operation of the facilities shall be submitted to the OWNER and ENGINEER for approval.

1.9 CONTRACTOR'S USE OF SITE

- A. CONTRACTOR's use of the Site shall be confined to the areas shown.
- B. CONTRACTOR shall:

1. Assume full responsibility for protection and safekeeping of products stored on or off the Site.
 2. Move stored products that interfere with the operations of OWNER, other contractors or others performing work for OWNER.
 3. Obtain and pay for all additional storage for work areas required for its operations.
 4. Not interfere with operation of OWNER.
 5. Provide all tools, ladders, equipment, etc., for CONTRACTOR's work and the work of all its subcontractors.
- C. Limits on CONTRACTOR's use of the Site are:
1. CONTRACTOR and all personnel shall be restricted to the construction areas shown on the Drawings and designated by the OWNER.
 2. CONTRACTOR shall ensure that all utilities are in good working condition for use by the OWNER's personnel at all times unless written permission is received from the OWNER for temporary outages.
 3. CONTRACTOR shall be responsible for any damage resulting from construction activities.
 4. CONTRACTOR shall not block any access to private property.
 5. CONTRACTOR shall submit written requests and be granted approval a minimum of 48 hours in advance of temporary utility outage.

1.10 EASEMENTS AND RIGHTS-OF-WAY

- A. Easements and rights-of-way will be provided by OWNER in accordance with the General Conditions. Confine construction operations within OWNER's property, public rights-of-way, easements obtained by OWNER, and the limits shown. Use care in placing construction tools, equipment, excavated materials, and materials and equipment to be incorporated into the Work to avoid damaging property and interfering with traffic. Do not enter private property outside the construction limits without permission from the owner of the property.

1.11 NOTICES TO OWNERS AND AUTHORITIES OF PROPERTIES ADJACENT TO THE WORK

- A. Notify owners of adjacent property and utilities when prosecution of the Work may affect their property, facilities, or use of property.
- B. When it is necessary to temporarily obstruct access to property, or when utility service connection will be interrupted, provide notices one week in advance to enable affected persons to provide for their needs. Conform notices to Laws and Regulations and, whether delivered orally or in writing, include appropriate information concerning the interruption and instructions on how to limit inconvenience caused thereby.

- C. Notify utility owners and other concerned entities at least 72 hours prior to cutting or closing streets or other traffic areas or excavating near Underground Facilities or exposed utilities.

1.12 SALVAGE OF EQUIPMENT AND MATERIALS

- A. Comply with the requirements of Section 02 41 00, Demolition.
- B. CONTRACTOR shall disassemble and transport all salvaged material that is to remain the property of the OWNER, to an OWNER-designated location, within 20 miles of the Taylor Mill Water Treatment Plant. This equipment includes the following:
 - 1. Electrical Items
- C. Existing equipment and materials removed and not shown or specified to be reused in the Work will become CONTRACTOR's property
- D. Existing equipment and materials removed by CONTRACTOR shall not be reused in the Work, except where so specified or indicated.
- E. Carefully remove in manner to prevent damage all equipment and materials specified or indicated to be salvaged and reused or to remain property of OWNER. Store and protect salvaged items specified or indicated to be used in the Work. Replace in kind or with new items equipment, materials, and components damaged in removal, storage, or handling through carelessness or improper procedures.
- F. CONTRACTOR may furnish and install new items, with ENGINEER's approval, instead of those specified or indicated to be salvaged and reused, in which case such removed items will become CONTRACTOR's property.

1.13 PARTIAL UTILIZATION BY OWNER

- A. Complete Work as specified. OWNER shall operate existing pumps while the Work is taking place. The OWNER will operate the basins and pumps 1, 3, 5, and 6 once they have been rehabilitated / replaced but the CONTRACTOR will continue to provide all insurance and bonds. The correction period as outlined in GC-13.07 will not begin until substantial completion has been given for the entire project.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 12 00

SUGGESTED SEQUENCE OF CONSTRUCTION

PART 1 – GENERAL

1.1 DESCRIPTION

- A. The CONTRACTOR will be required to execute the work in such a manner as will least interfere with the operation of the facility. When filters, clearwells, tanks, process units and conduits are to be taken out of service for construction, dewatering of pipelines shall be done to the extent possible with the existing plant facilities by plant personnel only. Where plant facilities are not sufficient for complete dewatering, the CONTRACTOR shall furnish adequate facilities for and shall completely dewater the pipes or conduits at no additional costs to the OWNER. The CONTRACTOR is advised that existing valves may not be water tight and may leak. The CONTRACTOR shall furnish and operate those additional facilities necessary to handle leakage due to faulty gates or valves. The CONTRACTOR is to include costs of this work in a lump sum bid.
- B. It is the CONTRACTOR'S responsibility to hose down and clean all tanks, basins or structures and remove and dispose of any debris, sludge, solids, etc within the tank or structure in accordance with all applicable regulations.
- C. Temporary power generation/supply is the responsibility of the CONTRACTOR as specified in Section 01 51 13, Temporary Electricity and Lighting.
- D. Provide temporary reducing couplings, supports, and appurtenances as required for phased construction. Install temporary blind flanges as required to keep water from entering new piping during phased construction.
- E. The CONTRACTOR shall field verify the locations and elevations of the existing piping prior to any piping submittals, as required to perform the Work.
- F. All temporary electrical and piping materials, supports and routings shall be submitted for approval prior to installation.
- G. Interruptions in facility operations shall be coordinated in accordance with Section 01 14 16, Coordination with Owner's Operation, and other contract documents.
- H. The CONTRACTOR shall provide necessary temporary structural support.

- I. The CONTRACTOR shall maintain in operation the monitoring and control capabilities that are currently available in the Control Room on the second floor of the Filter Building. Access shall be provided at all times.
- J. The CONTRACTOR shall coordinate the construction WORK such that plant systems which are currently in operation remain in operation at all times throughout the construction period unless otherwise approved by the Construction Contract Administrator.

PART 2 SUGGESTED SEQUENCE OF WORK

2.1 DESCRIPTION

- A. The following suggested sequence of construction can be used as a guide to scheduling the WORK required to meet the project milestones, constraints and work restrictions. Many of these items should be done in parallel to meet the required project milestones, constraints and work restrictions. This is only a suggested sequence of WORK; the CONTRACTOR shall be responsible for the actual sequence of WORK, and all means and methods.

2.2 SUGGESTED SEQUENCE

- A. Once NKWD Board approves apparent low bidder but before Notice to Proceed (NTP), CONTRACTOR is permitted to start submitting shop drawings for time critical items (MCCs, VFDs, tube settlers, pump, motors, etc.). OWNER and CONTRACTOR will follow section 01 33 00 procedures. CONTRACTOR shall sign and submit completed Form No. 35, NKWD Early Submittal of Time Sensitive Shop Drawings Letter (Section 01 33 13, Reference Forms) to the OWNER.
- B. Upon receipt of NTP initiate purchase of items, which have approved shop drawing submittals.
- C. On September 1, 2014 (or sooner if NKWD can shut down sooner) drain and clean the basins.
- D. Complete the demolition and repair of the tunnel and flocculator area(s) by October 31, 2014. Portions of the existing tube settlers may need to be removed and reinstalled in order to access some areas for rehabilitation.
- E. Complete the rehabilitation of at least 1 of the basins and return it to service by October 31, 2014. Portions of the existing tube settlers may need to be removed and reinstalled in order to access some areas for rehabilitation.
- F. Have at least 1 basin operational on October 31, 2104.

- G. Compete the rehabilitation of the other basin by December 19, 2014. Portions of the existing tube settlers may need to be removed and reinstalled in order to access some areas for rehabilitation.
- H. Shutdown entire plant and demolish existing tube settlers and install new tube settlers between March 1, 2015 and April 30, 2015.
- I. Install new conduits and cable tray from new filter building MCC/VFD on third floor, as far as possible to existing high service pumps, and to transformer backfeed locations on mezzanine and in outside substation area.
- J. Furnish and install new conduit from new MCC/VFD location on third floor, to the existing main transformer secondary bus.
- K. Remove portions of the storefronts and install new conduit and control wiring from new filter building MCC/VFD to existing PLC cabinet, and new high service pump remote control station.
- L. Furnish and install new motor control center and variable frequency drives.
- M. Tap existing main transformer secondary bus, connect new MCC/VFD, and energize. Existing bus duct shall remain at this time. (This step requires an outage).
- N. Re-roof entire filter building and replace skylights above the filters.
- O. Complete third floor architectural, electrical and HVAC work.
- P. Steps Q/R through V below shall not be performed concurrently.
- Q. Disconnect and replace existing high service pump no. 3, pump, motor, Magna Drive, control valve and appurtenances. Remove existing feeder and controls from existing starter to high service pump no. 3. Furnish and install feeder from new MCC, and make all power and control connections. Perform startup of high service pump no. 3 on new service. Perform the work described in this paragraph concurrently with the work described in paragraph 2.2.R below.
- R. Disconnect and replace existing control valve and appurtenances at pump no. 2. Replace suction valve. Remove existing feeder and controls from existing starter to high service pump no. 2 and install new feeder from new MCC, and make all power and control connections. Perform startup of high service pump no. 2 on new service. Perform the work described in this paragraph concurrently with the work described in paragraph 2.2.Q above.
- S. Disconnect and replace existing high service pump no. 6, pump, motor, suction piping and appurtenances. Install new “can” for pump. Remove existing feeder

and controls from existing starter to high service pump no. 6. Furnish and install feeder from new VFD, and make all power and control connections. Perform startup of high service pump no. 6 on new service.

- T. Disconnect and replace existing high service pump no. 1, pump, motor, control valve and appurtenances. Replace suction valve. Remove existing feeder and controls from existing starter to high service pump no. 1. Furnish and install feeder from new MCC, and make all power and control connections. Perform startup of high service pump no. 1 on new service.
- U. Remove existing feeder and controls from existing starter to high service pump no. 4 and install new feeder from new MCC, and make all power and control connections. Perform startup of high service pump no. 4 on new service.
- V. Disconnect and replace existing high service pump no. 5, pump, motor and appurtenances. Remove existing feeder and controls from existing starter to high service pump no. 5. Furnish and install feeder from new VFD, and make all power and control connections. Perform startup of high service pump no. 5 on new service.
- W. Remove existing starter in mezzanine adjacent to 150 KVA transformer, and prepare bussing for new connection. Install feeder from new MCC/VFD and make connection to existing transformer. Energize transformer from new service.
- X. Remove existing feeder to existing 2400V switch in mezzanine, serving 150 KVA basement transformer. Install new feeder from MCC/VFD and make connection. Energize transformer from new service. (Must be installed and connected between October 16th and April 30st, plant out of service).
- Y. Disconnect and remove existing switch feeding to existing 300 KVA transformer located outside. Install new feeder from MCC and make connection. Energize transformer from new service. (Must be installed and connected between October 16th and April 30st, plant out of service).
- Z. Disconnect and remove existing secondary bus duct from primary service transformer, existing 2400V switchgear, existing 2400V starters, and associated unused wiring and conduit.
- AA. Finish HVAC, Architectural, and electrical work in filter building.
- BB. Bring plant back on line and test

PART 3 EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 14 16

COORDINATION WITH OWNER'S OPERATIONS

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope:
1. This Section includes requirements for coordinating with OWNER's operations during the Work, and includes requirements for tie-ins and shutdowns necessary to complete the Work without impact on OWNER's operations except as allowed in this Section.
 2. CONTRACTOR shall provide labor, materials, tools, equipment and incidentals shown, specified and required to coordinate with OWNER's operations during the Work.
 3. CONTRACTOR shall complete the Work without interfering in an unapproved manner with the OWNER's operation of its facility.
- B. Coordination:
1. Review installation procedures under other Specification sections and coordinate Work that must be performed with or before the Work specified in this Section.
- C. Related Sections:
1. Section 01 11 13, Summary of Work.
 2. Section 01 12 00, Suggested Sequence of Construction
 3. Section 01 73 24, Installation.
 4. Section 01 73 29, Cutting and Patching.
- D. Except for the shutdowns specified herein, the Work shall be performed such that the OWNER's plant or facility remains in continuous satisfactory operation during the Project. Work shall be scheduled and conducted by CONTRACTOR such that it does not impede the OWNER's production or processes, create potential hazards to operating equipment and personnel, reduce the quality of the treated water.
- E. Work not specifically covered herein and in the referenced Specification sections may, in general, be completed at any time during normal work hours, subject to operating requirements described herein.
- F. CONTRACTOR has the option of providing additional temporary facilities that can eliminate or mitigate a constraint without additional cost to OWNER, provided such additional temporary facilities: do not present hazards to the public, personnel, structures, and equipment; that such additional temporary facilities do not adversely affect OWNER's ability to comply with Laws and Regulations, permits, and operating requirements; that such temporary facilities do not

generate or foster the generation of odors and other nuisances; and that requirements of the Contract Documents are fulfilled.

- G. Coordinate shutdowns with OWNER and CONSTRUCTION CONTRACT ADMINISTRATOR. When possible, combine multiple tie-ins into a single shutdown to minimize impacts on OWNER's operations and processes.
- H. Do not shut off or disconnect existing operating systems, unless accepted by CONSTRUCTION CONTRACT ADMINISTRATOR in writing. Operation of existing equipment will be by OWNER unless otherwise specified or indicated. Where necessary for the Work, CONTRACTOR shall seal or bulkhead OWNER-operated gates and valves to prevent leakage that may affect the Work, OWNER's operations, or both. Provide temporary watertight plugs, bulkheads, and line stops as required. After completing the Work, remove seals, plugs, bulkhead, and line stops to satisfaction of CONSTRUCTION CONTRACT ADMINISTRATOR.
- I. Bypassing:
 - 1. Diversion of flows around treatment processes is not allowed.
- J. SCADA programming for the proposed equipment shall be done by the ENGINEER. CONTRACTOR shall provide enough time in their construction schedule for the programming to be completed prior to the date of Substantial Completion.

1.2 SUBMITTALS

- A. Action Submittals: Submit the following:
 - 1. Substitute Sequence Submittal: When deviation from specified sequence is proposed, provide submittal explaining in detail the proposed sequence change and its effects, including evidence that OWNER's operations will not be adversely affected by proposed change. List benefits of proposed sequence change, including benefits to Progress Schedule. Submit in accordance with Section 01 25 00, Substitution Procedures.
- B. Informational Submittals: Submit the following:
 - 1. Shutdown Planning Submittal:
 - a. For each shutdown, submit an inventory of labor and materials required to perform the shutdown and tie-in tasks, an estimate of time required to accomplish the complete shutdown including time for OWNER to take down and start up existing equipment, systems, or conduits, and written description of steps required to complete the Work associated with the shutdown.
 - b. Furnish submittal to CONSTRUCTION CONTRACT ADMINISTRATOR at least thirty days prior to proposed shutdown start date. Do not start shutdown until obtaining CONSTRUCTION CONTRACT ADMINISTRATOR's acceptance of shutdown planning submittal.

2. Shutdown Notification: After acceptance of shutdown planning submittal and prior to starting the shutdown, provide written notification to OWNER and CONSTRUCTION CONTRACT ADMINISTRATOR of date and time each shutdown is to start. Provide notification at least 2 weeks in advance of each shutdown.

1.3 GENERAL CONSTRAINTS

- A. Specified in the Contract Documents are the sequence and shutdown durations, where applicable, for OWNER'S equipment, systems, and conduits that are to be taken out of service temporarily for the Work. New equipment, materials, and systems may be used by OWNER after the specified field quality controls and testing are successfully completed and the materials or equipment are Substantially Complete.
- B. The following constraints apply to coordination with OWNER's operations:
 1. Operational Access: OWNER'S personnel shall have access to equipment and areas that remain in operation.
 2. Temporary Partitions and Enclosures: CONTRACTOR shall provide temporary partitions and enclosures necessary to maintain dust-free, heated, and ventilated spaces in areas that are adjacent to the Work and that must be kept operational.
 3. Schedule and perform equipment and system start-ups for Monday through Thursday. Equipment and systems shall not be placed into operation on Friday, Saturday, and Sunday without prior approval of OWNER.
 4. Dead End Valves or Pipe: Provide blind flanges, watertight bulkheads, or valve at temporary and permanent terminuses of pipes and conduits. Blind flanges and bulkheads shall be suitable for the service and braced and blocked, as required, or otherwise restrained as directed by CONSTRUCTION CONTRACT ADMINISTRATOR. Temporary valves shall be suitable for their associated service. Where valve is provided at permanent terminus of pipe or conduit, also provide on downstream side of valve a blind flange with drain/flushing connection.
 5. OWNER will assist CONTRACTOR in dewatering process tanks, basins, conduits, and other work areas to be dewatered for shutdowns. Maintain clean and dry work area by pumping and properly disposing of fluid that accumulates in work areas. Where plant facilities are not sufficient for complete dewatering, the CONTRACTOR shall provide all facilities to adequately dewater tanks, basins, conduits and other work areas.
 6. Draining and Cleaning of Conduits, Tanks, and Basins:
 - a. Unless otherwise specified, CONTRACTOR shall dewater process tanks, basins, conduits, and pipelines at beginning of each shutdown. Flush, wash down, and clean tanks, basins, pipelines, conduits, and other work areas.
 - b. CONTRACTOR shall remove liquids and solids and dispose of them at appropriate location at the Site as directed by CONSTRUCTION CONTRACT ADMINISTRATOR. Unless otherwise specified or

indicated, contents of pipes, tanks, basins, and conduits undergoing modifications shall be transferred to existing process tanks or conduits at the Site with capacity sufficient to accept such discharges, using hoses, piping, pumps, or other means provided by CONTRACTOR. Discharge of fluids across floors is not allowed.

- c. If drainage point is not available on the piping or conduit to be drained, provide a wet tap using tapping saddle and valve or other method approved by CONSTRUCTION CONTRACT ADMINISTRATOR. Uncontrolled spillage of pipe's or conduit's contents is not allowed.
- d. Spillage shall be brought to CONSTRUCTION CONTRACT ADMINISTRATOR'S attention immediately, both verbally and in writing, and reported in accordance with Laws and Regulations. CONTRACTOR shall wash down spillage to floor drains or sumps and flush the system to prevent clogging and odors. If spillage is not suitable for discharge to the drainage system, such as chemical spills, as determined by CONSTRUCTION CONTRACT ADMINISTRATOR, CONTRACTOR shall remove spillage by other method, such as vacuor truck, acceptable to CONSTRUCTION CONTRACT ADMINISTRATOR.

1.4 SEQUENCE OF WORK

- A. Perform the Work as required to meet all restrictions, constraints, and project milestones as suggested in Section 01 12 00, Suggested Sequence of Construction. Certain phases or stages of the Work may require working 24-hour days or work during hours outside of regular working hours. Work may be accelerated from a later stage to an earlier stage if OWNER's operations are not adversely affected by proposed sequence change, with CONSTRUCTION CONTRACT ADMINISTRATOR acceptance.

1.5 TIE-INS

- A. Table 01 14 16-A in this Section lists connections by CONTRACTOR to existing facilities. Table 01 14 16-A may not include all tie-ins required for the Work; CONTRACTOR shall perform tie-ins required to complete the Work. For tie-ins not included in Table 01 14 16-A, obtain requirements for tie-ins from CONSTRUCTION CONTRACT ADMINISTRATOR.

1.6 SHUTDOWNS

- A. General:
 1. Terminology: A "shutdown" is when a portion of the normal operation of OWNER's facility, whether equipment, systems, piping, or conduit, has to be temporarily suspended or taken out of service to perform the Work.
 2. Work that may interrupt normal operations shall be accomplished at times convenient to OWNER.

3. Furnish at the Site, in close proximity to the shutdown and tie-in work areas, tools, equipment, spare parts and materials, both temporary and permanent, necessary to successfully complete the shutdown. Complete to the extent possible, prefabrication of piping and other assemblies prior to the associated shutdown. Demonstrate to CONSTRUCTION CONTRACT ADMINISTRATOR'S satisfaction that CONTRACTOR has complied with these requirements before commencing the shutdown.
 4. If CONTRACTOR's operations cause an unscheduled interruption of OWNER's operations, immediately re-establish satisfactory operation for OWNER.
 5. Unscheduled shutdowns or interruptions of continued safe and satisfactory operation of OWNER's facilities that result in fines or penalties by authorities having jurisdiction shall be paid solely by CONTRACTOR if, in CONSTRUCTION CONTRACT ADMINISTRATOR's opinion, CONTRACTOR did not conform to the requirements of the Contract Documents, or was negligent in the Work, or did not exercise proper precautions in conducting the Work.
 6. Shutdowns shall be in accordance with Table 01 14 16-B of this Section. Work requiring service interruptions for tie-ins shall be performed during scheduled shutdowns.
 7. Temporary, short-term shutdowns of smaller piping, conduits, equipment, and systems may not be included in Table 01 14 16-B. Coordinate requirements for such shutdowns with CONSTRUCTION CONTRACT ADMINISTRATOR and OWNER.
- B. Shutdowns of Electrical Systems: Comply with Laws and Regulations, including the National Electric Code. CONTRACTOR shall lock out and tag circuit breakers and switches operated by OWNER and shall verify that affected cables and wires are de-energized to ground potential before shutdown Work is started. Upon completion of shutdown Work, remove the locks and tags and notify CONSTRUCTION CONTRACT ADMINISTRATOR that facilities are available for use.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 GENERAL

- A. In addition to requirements of this Section, conform to requirements of Section 01 73 29, Cutting and Patching, and Section 01 73 24, Installation.

3.2 SCHEDULES

- A. The schedules listed below, following the “End of Section” designation, are part of this Specification section:
1. Table 01 14 16-A, Schedule of Tie-ins.
 2. Table 01 14 16-B, Schedule of Shutdowns.

++ END OF SECTION ++

**TABLE 01 14 16-A
SCHEDULE OF TIE-INS**

Tie-In No.	New Line Size and Service	Existing (Connecting) Line Size & Service	Tie-In Building/Location	Remarks
1	New Starter for Existing High Service Pump #1	---	New MCC on third floor of filter building	---
2	New Starter for Existing High Service Pump #2	---	New MCC on third floor of filter building	---
3	New Starter for Existing High Service Pump #3	---	New MCC on third floor of filter building	---
4	New Starter for Existing High Service Pump #4	---	New MCC on third floor of filter building	---
5	New Starter for Existing High Service Pump #5	---	New VFD on third floor of filter building	---
6	New Starter for Existing High Service Pump #6	---	New VFD on third floor of filter building	---
7	Modifications for Pump No.1, motor, control valve, and suction valve	---	Front Pump Room	---
8	Modifications for new control valve and suction valve for Pump No. 2	---	Front Pump Room	---
9	Modifications for Pump No.3, motor, and control valve	---	Front Pump Room	---
10	Modifications for Pump No.5, and motor	---	Back Pump Room	---
11	Modifications for Pump No.6, and motor	---	Back Pump Room	---

**TABLE 01 14 16-B
SCHEDULE OF SHUTDOWNS**

Shut-down No.	Reason For Plant Shutdown - Process Equipment and Service Lines Out-of-Service During Shutdown	Process Equipment To Remain In Operation During Shutdown	Tie-In Nos.	Maximum Duration of Shutdown	Constraints
A	Drain and clean basins, and conduct structural rehabilitation on the basins and tunnel	Remaining Plant In Service	--	As Required	CONTRACTOR Shall complete between September 1, 2014 and December 19, 2014
B	New Pump, Motor, Control Valve, and Suction Valve. Tie-in Proposed High Service Pump #1 Starter – High Service Pump #1 Out of Service	Remaining Plant In Service	2	15 Day	- High Service Pumps 2, 4, 5 & 6 Shall Remain Operational
C	New Control Valve and Suction Valve. Tie-in Proposed High Service Pump #2 Starter – High Service Pump #2 Out of Service. New Pump, Motor, and Control Valve. Tie-in Proposed High Service Pump #3 Starter – High Service Pump #3 Out of Service	Remaining Plant In Service	4, 1	15 Day	- High Service Pumps 1, 4, 5 & 6 Shall Remain Operational
D	Tie-in Proposed High Service Pump #4 Starter – High Service Pump #4 Out of Service	Remaining Plant In Service	5	<1 Day	- High Service Pumps 1, 2, 3, 5 & 6 Shall Remain Operational
E	New Pump and Motor. Tie-in Proposed High Service Pump #5 Starter – High Service Pump #5 Out of Service	Remaining Plant In Service	6	15 Day	- High Service Pumps 1, 2, 3, 4 & 6 Shall Remain Operational
F	New Pump and Motor. Tie-in Proposed High Service Pump #6 Starter – High Service Pump #6 Out of Service	Remaining Plant In Service	3	30 Day	- High Service Pumps 1, 2, 3, 4 & 5 Shall Remain Operational
G	Install New Tube Settler Modules and Protective Surface Grating at Basins	Remaining Plant In Service	--	As Required	CONTRACTOR Shall complete between March 1, 2015 and April 30, 2015

SECTION 01 14 19

USE OF SITE

PART 1 – GENERAL

1.1 USE OF PREMISES

- A. Limit use of premises at the Site to work areas shown or indicated on the Drawings and as specified in this Section. Do not disturb portions of the Site beyond areas of the Work.
1. Limits:
 - a. Confine construction operations to property owned by the OWNER.
 - b. Confine storage of materials and equipment, and locations of temporary facilities to property owned by the OWNER. Coordinate lay down area with OWNER
 - c. No equipments shall be on the slope north of the existing filter building and existing preliminary treatment facility.
 2. Driveways and Entrances: At all times, keep driveways and entrances serving premises clear and available to OWNER, OWNER's employees, daily deliveries, and emergency vehicles. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for on-site storage of materials and equipment.
- B. Use of Existing Building: Maintain existing building in weather-tight condition throughout construction. Protect building and its occupants during construction.
1. Use of Existing Utilities, Sanitary Facilities, and First-aid Facilities: Refer Sections 01 51 13, 01 51 36, 01 51 16 and 01 52 16.
 2. Use of Existing Elevators: CONTRACTOR may use OWNER's freight elevator for moving materials and equipment during construction. Elevator shall be available to OWNER at all times unless otherwise arranged with OWNER and ENGINEER. Do not load elevator beyond posted capacity. Use of other elevators is not allowed.
- C. Promptly repair damage to premises caused by construction operations. Upon completion of the Work, restore premises to specified condition; if condition is not specified, restore to pre-construction condition.
- D. The Taylor Mill Water Treatment Plant shall not be taken out of service between May 1st and August 31st of any year.

- E. Existing high service pumps 1, 2, and 6 shall remain in service while the Taylor Mill Water Treatment Plant is out of service.
- F. With the exception of Pumps No. 2 and 3, which may be taken out of service at the same time, all other high service pumps shall be taken out of service one at a time.
- G. Access to the east overhead door of the existing sludge building shall be maintained throughout the project. If the CONTRACTOR blocks the west overhead door of the existing sludge building the CONTRACTOR shall provide manpower and equipment to assist the OWNER as needed to remove and rearrange the existing east and west sludge dumpsters up to 11 times per week.
- H. From May 1st to October 15th of any year access to the chemical building shall not be blocked for more than 14 consecutive days. CONTRACTOR shall notify the OWNER at least 14 days in advance of the chemical building being blocked for 14 consecutive days during this time period.
- I. From October 16th to April 30th of any year access to the chemical building shall not be blocked for more than 30 consecutive days. CONTRACTOR shall notify the OWNER at least 14 days in advance of the chemical building being blocked for 30 consecutive days during this time period.
- J. Following the individual complete and satisfactory commissioning and start-up of pumps 1, 2 & 3, 4, 5 and 6 which must be returned to service before starting on the next pump, the CONTRACTOR shall allow a minimum of 7 days after each pump is operational for the ENGINEER to program the SCADA system for each individual pump.
- K. Howard Street shall not be closed to traffic. Contractor shall coordinate with the OWNER and St. Anthony's School to allow access for drop-off and pick up at the school.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 21 00

ALLOWANCES

PART 1 – GENERAL

1.1 SCOPE

- A. This Section includes administrative and procedural requirements governing the following types of allowances:
 - 1. Cash allowances.
 - 2. Contingency allowances.
- B. Authorization of Allowances:
 - 1. Work that will be paid under an allowance will be authorized in OWNER's written instruction to CONTRACTOR.
 - 2. Do not perform Work under an allowance without written authorization of OWNER.

1.2 CASH ALLOWANCES

- A. Cash allowances are stipulated amounts for anticipated purchase of materials or equipment. In addition to this Section, refer to General Conditions, as may be modified by the Supplementary Conditions; and individual Specification Sections for CONTRACTOR's costs to be covered by allowances, and CONTRACTOR's costs, including overhead and profit, to be included elsewhere in the Contract Price.
- B. At earliest practical date after the Contract Times commence running, notify Construction Contract Administrator of date when final selection and purchase of each material or equipment described by an allowance must be completed to avoid delaying the Work.
- C. Consult with CONSTRUCTION CONTRACT ADMINISTRATOR in selecting Suppliers and obtain proposals for price and time from selected suppliers. Submit proposals to CONSTRUCTION CONTRACT ADMINISTRATOR along with recommendations relevant to furnishing and installing products covered in the allowance.
- D. Purchase materials or equipment from Suppliers selected by CONSTRUCTION CONTRACT ADMINISTRATOR.
- E. Submit invoices or delivery slips to show actual cost and quantity of materials or equipment furnished and used in fulfilling each allowance.

- F. Prepare unused materials or equipment for storage by OWNER, when not economically practical to return for credit. Deliver to storage space at the Site designated by OWNER.
- G. For each allowance, submit to CONSTRUCTION CONTRACT ADMINISTRATOR a Change Order proposal to adjust Contract Price for difference between specified allowance amount and actual cost. Prepare Change Order proposal in accordance with the General Conditions and Supplementary Conditions except that payment within limit of a cash allowance shall exclude cost of bond and insurance premiums.

1.3 CONTINGENCY ALLOWANCE

- A. Contingency allowances are stipulated amounts available as reserve for sole use by OWNER to cover unanticipated costs.
- B. When authorization of Work under contingency allowance is contemplated by OWNER for a defined scope, submit Change Order proposal to CONSTRUCTION CONTRACT ADMINISTRATOR. Prepare Change Order proposal in accordance with the General Conditions as may be modified by the Supplementary Conditions, except that payments within limit of contingency allowance shall exclude cost of bond and insurance premiums.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 SCHEDULE OF ALLOWANCES

- A. Contingency Allowance:
 - 1. Contingency Allowance No. 1 – OWNER’s Contingency Allowance
 - a. The amount of \$40,000 is to be included in the Base Bid.
 - b. Allowance will be used for unidentified changes in the work.

++ END OF SECTION ++

SECTION 01 22 13

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Items listed in this Section, beginning with Article 1.4, refer to and are the same pay items listed in the Bid Form. They constitute all pay items for completing the Work. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, plant services, CONTRACTOR'S or CONSTRUCTION CONTRACT ADMINISTRATOR'S field offices, layout surveys, Project signs, sanitary requirements, testing, safety devices, submittals and record drawings, water supplies, power and fuel, traffic maintenance, removal of waste, security, coordination with OWNER'S operations, bonds, insurance, or all other requirements of the General Conditions, Supplementary Conditions, General Requirements, and other requirements of the Contract Documents. Compensation for all services, items, and products shall be included in prices stipulated for lump sum and unit price pay items listed in this Section and included in the Contract.
- B. Each lump sum and unit bid price shall be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR'S overhead and profit for each separately identified item.

1.2 ENGINEER'S ESTIMATE OF QUANTITIES

- A. ENGINEER'S estimated quantities for unit price items, as listed in the Bid Form, are approximate only and are included solely for purpose of comparing Bids. OWNER does not expressly or by implication agree that nature of materials encountered below ground surface or actual quantities of material encountered or required shall correspond with quantities on the Bid Form, and reserves the right to increase or decrease quantities or to eliminate quantities as OWNER may deem necessary. CONTRACTOR shall not be entitled to adjustment in a unit bid price as result of change in an estimated quantity and agrees to accept the unit prices bid as complete and total compensation for additions or deductions caused by changes or alterations in the Work directed by OWNER.

1.3 RELATED PROVISIONS

- A. Payments to CONTRACTOR: Refer to General Conditions, Supplementary Conditions, and Agreement.
- B. Changes in Contract Price: Refer to General Conditions and Supplementary Conditions.

- C. Schedule of Values: Refer to General Conditions, Supplementary Conditions, and Section 01 29 73, Schedule of Values.

1.4 CONTRACT NO. 1 – GENERAL CONSTRUCTION

A. Item 1 – General Construction

1. Measurement and Payment: Lump sum payment for Item 1 will be full compensation for completing the Work, as shown and specified under Divisions 1 through 48, including allowances specified in section 01 21 00, Allowances, but not Work specifically included under other items or other contracts.

B. Item 2 – Wall Expansion Joint Repair

1. Description: Item 2 includes all wall expansion joint repair required for completing the Work as shown and specified.
2. Measurement: The quantity of wall expansion joint repair will be measured for payment on the basis of linear feet of leaking crack.
3. Payment: The unit price payment per linear foot of wall expansion joint repair will be full compensation for all wall expansion joint repair actually performed as shown and specified and not specifically included under other items and under other contracts. The unit price shall apply to actual quantities up to one hundred fifty percent (150%) or to actual quantities less than fifty percent (50%) of the estimated quantity.

C. Item 3 – Crack Repair:

1. Description: Item 3 includes all crack repair required for completing the Work as shown and specified.
2. Measurement: The quantity of crack repair will be measured for payment on the basis of linear feet of crack.
3. Payment: The unit price payment per linear foot of crack repair will be full compensation for all crack repairs actually performed as shown and specified and not specifically included under other items and under other contracts. The unit price shall apply to actual quantities up to one hundred fifty percent (150%) or to actual quantities less than fifty percent (50%) of the estimated quantity.

D. Item 4 – Surface Spall Repair:

1. Description: Item 4 includes all surface spall repair required for completing the Work as shown and specified.
2. Measurement: The quantity of surface spall repair will be measured for payment on the basis of square feet of surface spall.
3. Payment: The unit price payment per square feet of surface spall repair will be full compensation for all surface spall repair actually performed as shown and specified and not specifically included under other items and under other contracts. The unit price shall apply to actual quantities up to one hundred fifty

percent (150%) or to actual quantities less than fifty percent (50%) of the estimated quantity.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 23 00

ALTERNATIVES

PART 1 – GENERAL

1.1 SCOPE

- A. This Section identifies each alternative and describes the basic changes that shall be incorporated into the Work when that alternative is made part of the Work.
- B. Coordination:
 - 1. CONTRACTOR shall coordinate related Work as required to complete the Work under each alternative included in the Contract. Include as part of each alternative miscellaneous devices, accessories, and similar items incidental to or required for a complete installation whether or not shown or indicated as part of the alternative.
 - 2. Notification: Immediately following award of the Contract, notify in writing each entity involved of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

1.2 DESCRIPTION

- A. Alternative No. 1: Deduct New Medium Voltage Variable Frequency Drives For Pumps No. 5 and No. 6.
 - 1. Description: Provide solid state reduced voltage starters for Pumps No. 5 and No. 6 in lieu of the variable frequency drives specified.
 - 2. The scope of Work includes, but is not limited to, the following:
 - a. In lieu of the variable frequency drives shown for Pumps No. 5 and No. 6, furnish and install solid state reduced voltage starters, as specified for Pumps 1-4. The reduced voltage starters shall be furnished in separate enclosures, not in the MCC, and with enclosures sized to accommodate future variable frequency drives.
 - b. Delete the remote potentiometers shown at the pumps, as well as the cabling from the third floor electrical room.
 - c. Delete the speed control and speed reference signal cabling from the third floor electrical room to the existing SCADA panel.
- B. Alternative No. 2: Deduct New Vertical Turbine Pump No. 3 Work.
 - 1. Description: Deduct the Work to remove and replace Vertical Turbine Pump No. 3 and associated valves, piping, fittings, and appurtenances modifications detailed in the Contract Documents.
 - 2. The scope of Work to deduct includes, but is not limited to, the following:

- a. Vertical Turbine Pump and Motor Equipment as specified in Section 43 21 40 and Section 26 29 01 and as shown in the Contract Documents.
 - b. Pump Control Valve and Air Release Valve as specified in Section 40 05 53.
 - c. Associated piping, fittings, specialties, and appurtenances as specified in Division 40.
3. Electrical Work for New Vertical Turbine Pump No. 3 and associated Pump Control Valve, as shown in the Contract Documents, shall be completed if OWNER selects Alternative No.2, except for final connections to pump motors, valves, and appurtenances
- C. Alternative No. 3: Deduct New Modified Bituminous Protected Membrane Roof, Unit Skylights, and Lighting Work at Filter Building.
1. Description: Deduct the Work to remove and replace Modified Bituminous Protected Membrane Roof, Unit Skylights, and Lighting at Filter Building detailed in the Contract Documents.
 2. The scope of Work to deduct includes, but is not limited to, the following:
 - a. Modified Bituminous Protected Membrane Roof as specified in Section 07 55 52 and as shown in the Contract Documents.
 - b. Unit Skylights as specified in Section 08 62 00 and as shown in the Contract Documents.
 - c. Demolition of lighting on the third floor, except in the area of the proposed electrical room, as indicated. If necessary, re-wire existing lighting to accommodate the removal of fixtures in the area of the proposed electrical room.
 - d. New third floor lighting and associated electrical work as specified in Section 26 50 00 and as shown in the Contract Documents, except in the area of the proposed electrical room
 3. Provide roof penetrations in the existing roof for routing of hydronic piping and conduit to ACCU-1, as detailed on the Drawings.
 4. Provide roof support curbs for ACCU-1 complete with roofing and flashing as required to install the support into the existing roofing system.
 5. Alternative No. 3 shall not be accepted by the OWNER if Alternative No. 1 is not excepted.
- D. Alternative No. 4: Deduct Cleaning, Preparation and Painting of Rake Arms, Center Cages, Center Columns and Feedwells .
1. Description: Deduct the Work to clean, prepare and paint the rake arms, center cages, center columns and feedwells in each of the sedimentation basins detailed in the Contract Documents:
 2. The scope of the Work to deduct includes, but is not limited to, the following:
 - a. Associated cleaning, preparation and painting of the rake arms, center cages, center columns and feedwells as shown on the Drawings and as specified in Section 09 91 00.

3. The repair of the steel rake arms, as detailed in the Drawings, shall continue to be completed if OWNER selects Alternative No. 4.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Scope:
1. Administrative and procedural requirements for selecting products for the Project.
 2. Procedural requirements for product substitutions.
 3. Procedural requirements for substitute construction methods or procedures, when construction methods or procedures are specified.

1.2 PRODUCT SUBSTITUTIONS

- A. Submit number of copies of request for substitution as specified for submittal of shop drawings. Submit separate request for each substitution. In addition to requirements in the General Conditions, include in request the following:
1. Product identification, including Supplier's name and address.
 2. Manufacturer's literature with product description, performance and test data, and reference standards with which product complies.
 3. Samples, if appropriate.
 4. Name and address of similar projects on which product was used, and date of installation.

1.3 SUBSTITUTE CONSTRUCTION METHODS OR PROCEDURES

- A. Submit number of copies of request for substitution as specified for submittal of shop drawings. Submit separate request for each substitution. In addition to requirements in the General Conditions, include in request the following:
1. Detailed description of proposed method or procedure.
 2. Itemized comparison of the proposed substitution with the specified method or procedure.
 3. Drawings illustrating method or procedure.
 4. Other data required by ENGINEER to establish that proposed substitution is equivalent to specified method or procedure.

1.4 CONTRACTOR'S REPRESENTATION AND ACCEPTANCE

- A. In making request for substitution, CONTRACTOR represents that:
1. CONTRACTOR has investigated proposed substitution and determined that it is equivalent to item, product, method, or procedure specified, as applicable.

2. CONTRACTOR will provide the same or better guarantees or warranties for proposed substitution as for the specified product, manufacturer, method, or procedure, as applicable.
 3. CONTRACTOR waives all Claims for additional costs or extension of time related to proposed substitution that subsequently may become apparent.
- B. A proposed substitution will not be accepted if:
1. Acceptance will require changes in design concept or a substantial revision of the Contract Documents.
 2. Acceptance will delay completion of the Work or the work of other contractors.
 3. Substitution request is indicated or implied on a Shop Drawing, request for interpretation or clarification, and is not accompanied by CONTRACTOR's formal request for substitution.
- C. If ENGINEER determines that proposed substitute is not acceptable, CONTRACTOR shall provide the specified product, manufacturer, method, or procedure, as applicable.
- D. Approval of a substitution request will not relieve CONTRACTOR from requirement for submitting Shop Drawings as set forth in the Contract Documents.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 29 73

SCHEDULE OF VALUES

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Submit to CONSTRUCTION CONTRACT ADMINISTRATOR for acceptance a Schedule of Values in the format required in Section 01 32 22, Project Documentation, that allocates cost to each item of the Work. Schedule of Value list of line items shall correspond to each aspect of the Work, establishing in detail the portion of the Contract Price allocated to each major component of the Work.
- B. Upon request of CONSTRUCTION CONTRACT ADMINISTRATOR, support values with data that substantiate their correctness.
- C. Submit preliminary Schedule of Values to CONSTRUCTION CONTRACT ADMINISTRATOR for initial review. CONTRACTOR shall incorporate CONSTRUCTION CONTRACT ADMINISTRATOR's comments into the Schedule of Values and resubmit to CONSTRUCTION CONTRACT ADMINISTRATOR. CONSTRUCTION CONTRACT ADMINISTRATOR may require corrections and re-submittals until Schedule of Values is acceptable.
- D. Schedule of Values and the Progress Schedule updates specified in Section 01 32 22, Project Documentation, shall be basis for preparing each Application for Payment. Schedule of Values may be used as a basis for negotiating price of changes, if any, in the Work.
- E. Include in Schedule of Values unit price payment items with their associated quantity. Provide in the Schedule of Values detailed breakdown of unit prices when required by CONSTRUCTION CONTRACT ADMINISTRATOR.
- F. Requirements for preliminary Schedule of Values and Schedule of Values are:
 1. Schedule of Values shall show division of Work between CONTRACTOR and Subcontractors. Line items for Work to be done by Subcontractor shall include the word, "(SUBCONTRACTED)".
 2. Schedule of Values shall include breakdown of costs for materials and equipment, installation, and other costs used in preparing the Bid by CONTRACTOR and each Subcontractor. List purchase and delivery costs for materials and equipment for which CONTRACTOR may apply for payment as stored materials.
 3. Include separate amounts for each Specification Section in the Contract Documents by structure, building, and work area.

4. Identify each line item with number corresponding to the associated Specification Section number. List sub-items of major products or systems, as appropriate or when requested by CONSTRUCTION CONTRACT ADMINISTRATOR.
5. Sum of individual values shown on the Schedule of Values shall equal the total of associated payment item. Sum of payment item totals in the Schedule of Values shall equal the Contract Price.
6. Include in each line item a directly proportional amount of CONTRACTOR's overhead and profit. Do not include overhead and profit as separate item(s).
7. Include separate line item for each allowance, and for each unit price item
8. Line items for Site maintenance such as dust control, snow removal, compliance with storm water pollution prevention plans and permits, spill prevention control and countermeasures plans, and for construction photographic documentation; temporary utilities and temporary facilities, field offices, temporary controls, field engineering, and similar Work shall be included in the Schedule of Values and proportioned in Applications for Payment throughout duration of the Work.
9. Include separate line items for mobilization and demobilization. Document for CONSTRUCTION CONTRACT ADMINISTRATOR the activities included in mobilization and demobilization line items.
 - a. Mobilization will be limited to four percent of the Contract Price, and will be paid in four payments, each of twenty five percent of total amount for mobilization over the first four payment applications. Mobilization shall include bonds, insurance and job mobilization.
 - b. Demobilization shall be at least one percent of the Contract Price and shall be included with the Application for Payment following Substantial Completion, or other schedule accepted by CONSTRUCTION CONTRACT ADMINISTRATOR.
10. Costs for submittals, operations and maintenance manuals, field testing, and training of operations and maintenance personnel shall be as follows, unless otherwise accepted by CONSTRUCTION CONTRACT ADMINISTRATOR:
 - a. Up to eight percent of cost (including overhead and profit) of each equipment item, exclusive of transportation and installation costs associated with that item, may be allocated to preparation of submittals and may be included in the Application for Payment following CONSTRUCTION CONTRACT ADMINISTRATOR's approval of Shop Drawings (and acceptance of other submittals, as applicable) required for fabricating or purchasing for that item for the Work.
 - b. Up to three percent of total cost of each item (including overhead and profit), including materials and equipment, and installation, may be apportioned to testing and included in the Application for Payment following CONSTRUCTION CONTRACT ADMINISTRATOR's acceptance of the associated written Site testing report(s).
 - c. Up to a total of four percent of equipment cost (including overhead and profit), exclusive of transportation and installation costs, may be

apportioned to operations and maintenance manuals and training of operations and maintenance personnel, which may be included in the Application for Payment following completion of training for that item.

11. Schedule of Values shall include an itemized list of Work by work area, as applicable, for Work included in Section 01 14 16, Coordination with Owner's Operations.
 12. Submit Schedule of Values on 8.5-inch by 11-inch white paper, using the continuation sheets of the Application for Payment form specified in Section 01 33 13, Reference Forms.
- G. If the requirements of this section conflict the requirements of Section 01 32 22, Project Documentation, section 01 32 22 shall take precedence and CONTRACTOR shall coordinate with the CONSTRUCTION CONTRACT ADMINISTRATOR and the OWNER so that the project management software system may be utilized for document tracking and control.

1.2 SUBMITTALS

- A. Informational Submittals: Submit the following:
1. Submit to CONSTRUCTION CONTRACT ADMINISTRATOR five copies of Schedule of Values.
 2. Content of Schedule of Values submittals shall conform to Article 1.1 of this Section.
 3. Time Frames for Submittals:
 - a. Submit preliminary Schedule of Values within time frame specified in the General Conditions.
 - b. Submittal of the Schedule of Values shall be in accordance with the General Conditions. CONSTRUCTION CONTRACT ADMINISTRATOR will not accept Applications for Payment without an acceptable Schedule of Values.
 - c. When required by CONSTRUCTION CONTRACT ADMINISTRATOR, promptly submit updated Schedule of Values to include cost breakdowns for changes in the Contract Price.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 29 76

PROGRESS PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 PROGRESS PAYMENTS

A. General.

1. CONTRACTOR's requests for payment shall be in accordance with the Agreement, General Conditions and Supplementary Conditions, and the Specifications.
2. Applications for Payment shall be in the form of Form "Application for Payment" as found in Section 01 33 13, Reference Forms.
3. If the requirements of this section conflict the requirements of Section 01 32 22, Project Documentation, section 01 32 22 shall take precedence and CONTRACTOR shall coordinate with the CONSTRUCTION CONTRACT ADMINISTRATOR and the OWNER so the project management software system may be utilized for document tracking and control.

B. Procedure:

1. Review with Resident Project Representative (RPR) quantities and Work proposed for each progress payment. Application for Payment shall include only Work and quantities recommended by the RPR.
2. Submit to CONSTRUCTION CONTRACT ADMINISTRATOR originals of each complete Application for Payment and other documents to accompany the Application.
3. CONSTRUCTION CONTRACT ADMINISTRATOR will act on request for payment in accordance with the General Conditions and Supplementary Conditions.

C. Each request for progress payment shall include:

1. Completed Application for Payment form, including summary/signature page, progress estimate sheets, and stored materials summary. Progress estimate sheets shall have same level of detail as the Schedule of Values.
2. For materials and equipment not incorporated in the Work but suitably stored, submit documentation in accordance with the General Conditions and Supplementary Conditions. Legibly indicate on invoice or bill of sale the specific materials or equipment included in the Application and corresponding payment item number for each.
3. Updated Project Progress Schedule.

4. For Applications that include payment for Work under an allowance, submit documentation acceptable to OWNER of the authorization of allowance Work.
5. For Applications (other than request for final payment) that include reduction or payment of retainage in an amount greater than that required in the Contract Documents, submit on form acceptable to OWNER consent of surety to partial release or reduction of retainage.

D. Requirements for request for final payment are in the General Conditions, as may be modified by the Supplementary Conditions.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 31 13

PROJECT COORDINATION

PART 1 – GENERAL

1.1 DESCRIPTION

- A. CONTRACTOR shall coordinate the Work, including testing agencies, Subcontractors, Suppliers, and others with whom coordination is necessary, in accordance with the General Conditions, Supplementary Conditions, and this Section, to complete the Work within the Contract Times.
- B. In accordance with the General Conditions, CONTRACTOR shall cooperate with and coordinate the Work with other contractors, utility service companies, OWNER's employees working at the Site, and other entities working at the Site, in accordance with Section 01 11 13, Summary of Work.
- C. CONTRACTOR will not be responsible or liable for damage unless it is through negligence of CONTRACTOR, or his Subcontractors, Supplier, or other entity employed by CONTRACTOR.
- D. Attend and participate in all project coordination and progress meetings, and report on the progress of all Work and compliance with the Progress Schedule.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 31 19

PRE-CONSTRUCTION CONFERENCE

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope:
1. A pre-construction conference will be held for the Project.
 2. CONTRACTOR shall attend the conference prepared to discuss all items on the agenda.
 3. CONSTRUCTION CONTRACT ADMINISTRATOR will distribute an agenda, preside at conference, and prepare and distribute minutes to all conference participants and others as requested.
 4. If the requirements of this section conflict the requirements of Section 01 32 22, Project Documentation, section 01 32 22 shall take precedence and CONTRACTOR shall coordinate with the CONSTRUCTION CONTRACT ADMINISTRATOR and the OWNER so the project management software system may be utilized for document tracking and control.
- B. Purpose of conference is to designate responsible personnel, establish working relationships, discuss preliminary schedules submitted by CONTRACTOR, and review administrative and procedural requirements for the Project. Matters requiring coordination will be discussed and procedures for handling such matters will be established.
- C. Date, Time and Location: Conference will be held after execution of the Contract and before Work starts at the Site. CONSTRUCTION CONTRACT ADMINISTRATOR will establish the date, time, and location of conference and notify the interested and involved parties.
- D. One week prior to the conference, submit the following preliminary schedules in accordance with the General Conditions:
1. Progress Schedule.
 2. Schedule of Submittals.
 3. Schedule of Values.
- E. CONTRACTOR shall provide information required and contribute appropriate items for discussion. CONTRACTOR shall bring to the conference the following, with sufficient number of copies for each attendee:
1. Preliminary Progress Schedule, as submitted to CONSTRUCTION CONTRACT ADMINISTRATOR.

2. Preliminary Schedule of Submittals, as submitted to CONSTRUCTION CONTRACT ADMINISTRATOR.
3. Preliminary Schedule of Values, as submitted to CONSTRUCTION CONTRACT ADMINISTRATOR.
4. List of emergency contact information, in accordance with Article 1.4 of this Section.

1.2 REQUIRED ATTENDANCE

- A. Representative of each entity attending the conference shall be authorized to act on that entity's behalf.
- B. Contractor Attendance: Conference shall be attended by CONTRACTOR's project manager, Site superintendent, project managers for major Subcontractors, and major equipment Suppliers as CONTRACTOR deems appropriate.
- C. Other attendees will be representatives of:
 1. OWNER.
 2. ENGINEER.
 3. Authorities having jurisdiction over the Work, if available.
 4. Utility owners, as applicable.
 5. Others as requested by OWNER, CONTRACTOR, CONSTRUCTION CONTRACT ADMINISTRATOR or ENGINEER.
 6. CONSTRUCTION CONTRACT ADMINISTRATOR

1.3 AGENDA

- A. Preliminary Agenda: Be prepared to discuss in detail the topics listed below. Revisions to this agenda, if any, will be furnished to CONTRACTOR prior to conference.
 1. Procedural and Administrative:
 - a. Personnel and Teams:
 - 1) Designation of roles and personnel.
 - 2) Limitations of authority of personnel, including personnel who will sign Contract modifications and make binding decisions.
 - 3) Lists of proposed Subcontractors and manufacturers (where applicable).
 - 4) Authorities having jurisdiction.
 - b. Procedures for communications and correspondence.
 - c. Copies of the Contract Documents and availability.
 - d. Subcontractors.
 - e. The Work and Scheduling:
 - 1) Scope of the Work.
 - 2) Contract Times, including Milestones (if any).
 - 3) Phasing and sequencing.
 - 4) Preliminary Progress Schedule.

- 5) Critical path activities.
- f. Safety:
 - 1) Responsibility for safety.
 - 2) Designation of Contractor's safety representative.
 - 3) Emergency procedures and accident reporting.
 - 4) Emergency contact information.
 - 5) Confined space entry procedures.
 - 6) Hazardous materials communication program.
 - 7) Impact of Project on public safety.
- g. Permits.
- h. Review of insurance requirements and insurance claims.
- i. Coordination:
 - 1) Project coordination, and coordination among contractors.
 - 2) Coordination with Owner's operations.
 - 3) Progress meetings.
- j. Products and Submittals:
 - 1) Preliminary Schedule of Submittals.
 - 2) Shop Drawings, Samples, and other submittals.
 - 3) Product options, "or equals", and substitutions..
 - 4) Construction photographic documentation.
- k. Contract Modification Procedures
 - 1) Requests for interpretation
 - 2) Clarification notices
 - 3) Field Orders
 - 4) Proposal requests
 - 5) Change Order proposals
 - 6) Work Change Directives.
 - 7) Change Orders.
 - 8) Procedure for filing Claims.
- l. Payment:
 - 1) Owner's Project financing and funding, as applicable.
 - 2) Owner's tax-exempt status.
 - 3) Preliminary Schedule of Values, and procedures for measuring for payment.
 - 4) Retainage.
 - 5) Progress payment procedures.
 - 6) Prevailing wage rates and payrolls.
- m. Testing and inspections, including notification requirements.
- n. Disposal of demolition materials.
- o. Record documents.
- p. Preliminary Discussion of Contract Closeout:
 - 1) Procedures for Substantial Completion.
 - 2) Contract closeout requirements.
 - 3) Correction period.
 - 4) Duration of bonds and insurance.

2. Site Mobilization (if not covered in a separate meeting):
 - a. Working hours and overtime.
 - b. Field offices, trailers, and staging areas.
 - c. Temporary facilities.
 - d. Temporary utilities and limitations on utility consumption (where applicable).
 - e. Utility company coordination (if not done as a separate meeting).
 - f. Access to Site, access roads, and parking for construction vehicles.
 - g. Maintenance and protection of traffic.
 - h. Use of premises.
 - i. Protection of existing property.
 - j. Security.
 - k. Temporary controls, such as sediment and erosion control, noise control, dust control, storm water control, and other such measures.
 - l. Site barriers and temporary fencing.
 - m. Storage of materials and equipment.
 - n. Reference points and benchmarks; surveys and layouts.
 - o. Site maintenance during the Project.
 - p. Cleaning and removal of trash and debris.
 - q. Restoration.
3. General discussion and questions.
4. Next meeting.
5. Site visit, if required.

1.4 EMERGENCY CONTACT INFORMATION

- A. CONTRACTOR shall provide list of emergency contact information for 24-hour use throughout the Project. Emergency contact information shall be updated and kept current throughout the Project. If personnel or contact information change, provide updated emergency contact information list at the next progress meeting.
- B. CONTRACTOR's list of emergency contact information shall include:
 1. CONTRACTOR's project manager's office, field office, cellular, and home telephone numbers.
 2. CONTRACTOR's Site superintendent's office, field office, cellular, and home telephone numbers.
 3. CONTRACTOR's foreman's field office, cellular (if available), and home telephone numbers.
 4. Major Subcontractors' and Suppliers' office, cellular, and home telephone numbers of project manager and foreman (when applicable).
- C. Additional Emergency Contact Information:
 1. OWNER's office and cellular telephone numbers.
 2. OWNER's central 24-hour emergency telephone number.
 3. CONSTRUCTION CONTRACT ADMINISTRATOR's project manager's

- office, cellular, and home telephone numbers.
4. CONSTRUCTION CONTRACT ADMINISTRATOR's project engineer's office, cellular, and home telephone numbers.
 5. Resident Project Representative's office, field office, cellular, and home telephone numbers.
 6. Utility companies' 24-hour contact telephone number(s), including gas, water, sewer, oil, telephone, cable television/telecommunications, and other companies or concerns having utilities in the vicinity of the Work.
 7. Highway and street owners' 24-hour telephone number(s).
 8. Emergency telephone numbers, including: "Emergency: Dial 911", and seven-digit telephone numbers for the hospital, ambulance, police, and fire department nearest to the Site. Provide names of each of these institutions.
 9. Other involved entities as applicable.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 31 23

PROGRESS MEETINGS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:

1. Progress meetings will be held throughout the Project. CONTRACTOR shall attend each progress meeting prepared to discuss in detail all items on the agenda.
2. CONSTRUCTION CONTRACT ADMINISTRATOR will preside at progress meetings and will prepare and distribute minutes of progress meetings to all meeting participants and others as requested.
3. If the requirements of this section conflict the requirements of Section 01 32 22, Project Documentation, section 01 32 22 shall take precedence and CONTRACTOR shall coordinate with the CONSTRUCTION CONTRACT ADMINISTRATOR and the OWNER so the project management software system may be utilized for document tracking and control.

B. Date and Time:

1. Regular Meetings: Every month on a day and time agreeable to OWNER, ENGINEER, CONSTRUCTION CONTRACT ADMINISTRATOR, and CONTRACTOR.
2. Other Meetings: As required.

C. Place:

1. Location mutually agreed upon by OWNER, CONTRACTOR, CONSTRUCTION CONTRACT ADMINISTRATOR, and ENGINEER.

D. Handouts: CONTRACTOR shall bring to each progress meeting a minimum of ten copies of each of the following:

1. List of Work accomplished since the previous progress meeting.
2. Up-to-date Progress Schedule.
3. Up-to-date Schedule of Submittals.
4. Detailed “look-ahead” schedule of Work planned through the next progress meeting, with specific starting and ending dates for each activity, including shutdowns, deliveries of important materials and equipment, Milestones (if any), and important activities affecting the OWNER, Project, and Site.
5. When applicable, list of upcoming, planned time off (with dates) for personnel with significant roles on the Project, and the designated contact person in their absence.

1.2 REQUIRED ATTENDANCE

- A. Representatives present for each entity shall be authorized to act on that entity's behalf.
- B. Required Attendees:
 - 1. CONTRACTOR:
 - a. Project manager.
 - b. Site superintendent.
 - c. Safety representative.
 - d. When needed for the discussion of a particular agenda item, representatives of Subcontractors and Suppliers shall attend meetings.
 - 2. ENGINEER:
 - a. Project manager or designated representative.
 - b. Resident Project Representative (if any).
 - c. Others as required by ENGINEER.
 - 3. OWNER's representative(s), as required.
 - 4. Testing and inspection agencies, as required.
 - 5. Others, as appropriate.
 - 6. CONSTRUCTION CONTRACT ADMINISTRATOR

1.3 AGENDA

- A. Preliminary Agenda: Be prepared to discuss in detail the topics listed below. Revised agenda, if any, will be furnished to CONTRACTOR prior to first progress meeting. Progress meeting agenda may be modified by CONSTRUCTION CONTRACT ADMINISTRATOR during the Project as required.
 - 1. Review, comment, and amendment (if required) of minutes of previous progress meeting.
 - 2. Review of progress since the previous progress meeting.
 - 3. Planned progress through next progress meeting.
 - 4. Review of Progress Schedule
 - a. Contract Times, including Milestones (if any)
 - b. Critical path.
 - c. Schedules for fabrication and delivery of materials and equipment.
 - d. Corrective measures, if required.
 - 5. Submittals:
 - a. Review of status of critical submittals.
 - b. Review revisions to Schedule of Submittals.
 - 6. Contract Modifications
 - a. Requests for interpretation
 - b. Clarification notices
 - c. Field Orders
 - d. Proposal requests
 - e. Change Order proposals

- f. Work Change Directives.
- g. Change Orders.
- h. Claims.
- 7. Applications for progress payments.
- 8. Problems, conflicts, and observations.
- 9. Quality standards, testing, and inspections.
- 10. Coordination between parties.
- 11. Site management issues, including access, security, maintenance and protection of traffic, maintenance, cleaning, and other Site issues.
- 12. Safety.
- 13. Permits.
- 14. Construction photographic documentation.
- 15. Record documents status.
- 16. Punch list status, as applicable.
- 17. Other business.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 32 22

PROJECT DOCUMENTATION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The CONSTRUCTION CONTRACT ADMINISTRATOR will coordinate the project documentation using a project management software system. The primary function of the system is to facilitate timely processing and approval of all contract documentation. This system will utilize Primavera Contract Management for document tracking and control. The system will:
1. Facilitate communication among the OWNER, CONSTRUCTION CONTRACT ADMINISTRATOR, ENGINEER, and CONTRACTOR;
 2. Facilitate turnaround time with regard to responses and approvals;
 3. Provide a central location for all project information;
 4. Provide a standard system for project reporting and administration with accountability.
- B. The system will be used to create and track the following documents:
1. Contact List: name, address, regular and emergency phone numbers, etc.
 2. Shop drawing submittal log.
 3. Transmittals.
 4. Requests for Information (RFIs).
 5. Change Documents including but not limited to:
 - a. Requests for Proposals (RFPs)
 - b. Change Order Requests (CORs)
 - c. Change Orders (COs)
 6. Daily Reports.
 7. Field Orders and Clarification Memos.
 8. Notices of Non-Compliance.
 9. Construction Issue Memos.
 10. Punchlists.
 11. Meeting Minutes and Agendas.
 12. Correspondence.
 13. Progress Payments.
 14. Work plans including shut-downs and tie-ins .
 15. Start-up plans.
 16. Training and vendor requirements.
- C. Related Sections:
1. Section 01 32 22, Project Documentation shall take precedence over any conflicts with, but not limited to, the following sections:
 - a. Section 01 29 73, Schedule of Values
 - b. Section 01 29 76, Progress Payment Procedures
 - c. Section 01 31 19, Pre-Construction Conference

- d. Section 01 31 23, Progress Meetings
- e. Section 01 32 33, Photographic Documentation
- f. Section 01 33 00, Submittal Procedures
- g. Section 01 33 13, Reference Forms

CONTRACTOR shall coordinate conflicts between these sections with the CONSTRUCTION CONTRACT ADMINISTRATOR and the OWNER so that the project management software system may be utilized for document tracking and control.

1.2 TRANSMITTALS AND CORRESPONDENCE

- A. All project correspondence shall be generated utilizing the document control system and logged in the system.
- B. The CONTRACTOR shall generate transmittals for sending submittals, Requests for Information, work plans, shut-down plans, start-up plans, reports, training requirements, and other data to the CONSTRUCTION CONTRACT ADMINISTRATOR using the document control system.
- C. The CONTRACTOR shall electronically transmit documents to the CONSTRUCTION CONTRACT ADMINISTRATOR by placing documents in the CONSTRUCTION CONTRACT ADMINISTRATOR's In-Box in the document control system.
- D. All Change Documents will be generated within the document control system and will be monitored and managed by the CONSTRUCTION CONTRACT ADMINISTRATOR.

1.3 SUBMITTALS

- A. The CONSTRUCTION CONTRACT ADMINISTRATOR will manage the submittal review process through review and distribution of reviewed documents. The document control system will be utilized by the CONSTRUCTION CONTRACT ADMINISTRATOR to log and track submittals.
- B. The CONTRACTOR shall create a submittal log and send it electronically to the CONSTRUCTION CONTRACT ADMINISTRATOR for review within 30 days of the Notice to Proceed. The CONSTRUCTION CONTRACT ADMINISTRATOR will post the approved log on the document control system. The CONTRACTOR shall inform the CONSTRUCTION CONTRACT ADMINISTRATOR of any updates or modifications required to the log entries.
- C. To the maximum extent possible, the CONTRACTOR shall transmit Action Submittals and Informational submittals to the CONSTRUCTION CONTRACT ADMINISTRATOR electronically in color pdf format. The OWNER reserves the right to require submittals in electronic format. Exceptions are samples and color charts.

- D. The CONTRACTOR shall be responsible for printing copies of the approved shop drawings for itself, the OWNER, CONSTRUCTION CONTRACT ADMINISTRATOR, and the ENGINEER.

1.4 DAILY INSPECTION REPORTS

- A. The CONTRACTOR shall prepare daily inspection reports in the Contract Management program and enter them in the document control system.
- B. The CONTRACTOR shall complete each daily report by 11:00 a.m. of the subsequent day for each day that CONTRACTOR performs Work.
- C. Required information shall include the CONTRACTOR's name, date the work was performed, description of work performed, equipment utilized, field force, visitors, key materials and equipment delivered, and list the scheduled activities utilizing the P6 schedule activity codes.

1.5 CONSTRUCTION ISSUE MEMOS

- A. The CONSTRUCTION CONTRACT ADMINISTRATOR will manage and monitor the Construction Issue Memo log.
- B. Memos will identify the responsible "ball in court" party, date of issue, and track it through completion.

1.6 PUNCHLISTS

- A. The CONSTRUCTION CONTRACT ADMINISTRATOR shall prepare the punchlist and manage tracking punchlist items within the document control system.

1.7 MEETING AGENDA AND MINUTES

- A. The CONSTRUCTION CONTRACT ADMINISTRATOR will prepare the meeting agenda and be responsible for preparing and placing meeting minutes on the document control system within 7 days of the meeting.
- B. The CONTRACTOR shall notify the CONSTRUCTION CONTRACT ADMINISTRATOR of any changes to meeting minutes within 60 days of the meeting.

1.8 PROGRESS PAYMENTS

- A. The CONTRACTOR shall review the format of the progress payment requests with the CONSTRUCTION CONTRACT ADMINISTRATOR prior to submitting the first request.
- B. The CONTRACTOR shall prepare progress payment requests electronically by inputting the activity code and approved schedule of values into the P6 program.

1.9 PROGRESS SCHEDULE

- A. The CONTRACTOR shall prepare progress schedules using the P6 program.
- B. The format shall be Critical Path Network (CPN) unless otherwise approved by the CONSTRUCTION CONTRACT ADMINISTRATOR. The schedule shall follow the method as generally outlined in Associated General Contractors of America (AGC) 580, "Construction Project Planning and Scheduling Guidelines." If a conflict occurs between the AGC publication and this Specification, this Specification shall govern.
- C. In the title block, show name of Project, OWNER, date submitted, revision or update number, and the name of the scheduler. Updated schedules shall indicate data date.
- D. Identify horizontally across top of schedule the time frame by year, month, and day.
- E. Identify each activity with a unique number and a brief description of the Work associated with that activity.
- F. Indicate the critical path.
- G. Provide a legend to describe standard and special symbols used.
- H. Cost-Loading:
 - 1. Note the estimated cost to perform each Work activity, with the exception of Submittals or Submittal reviews, in the network in a tabular listing.
 - 2. The sum of all activity costs shall equal the Contract Price. An unbalanced or front-end-loaded schedule will not be acceptable.
 - 3. The accepted cost-loaded Progress Schedule shall constitute the Schedule of Values.
- I. The CONTRACTOR shall submit a Preliminary Progress Schedule within 14 days of the Notice to Proceed. In addition to the basic requirements outlined in the General Conditions, show a detailed schedule beginning with Notice to Proceed for minimum duration of 120 days, and a summary of balance of the Project through Final Completion. Show activities including but not limited to the following:
 - 1. Notice to Proceed.
 - 2. Permits.
 - 3. Submittals, with review time.
 - 4. Early procurement activities for long lead equipment and materials.
 - 5. Initial Site work.
 - 6. Earthwork.
 - 7. Specified Work sequences and construction constraints including shutdowns and tie-ins.
 - 8. Contract Completion Dates.

9. Major structural, mechanical, equipment, electrical, architectural, and instrumentation and control Work.
 10. System startup summary.
 11. Project close-out summary.
 12. Demobilization summary.
- J. The CONTRACTOR shall submit a Detailed Progress Schedule within 30 days of the Notice to Proceed. Show the duration and sequences of activities required for complete performance of the Work reflecting means and methods chosen by CONTRACTOR.
- K. When accepted by CONSTRUCTION CONTRACT ADMINISTRATOR, the Detailed Progress Schedule will replace the Preliminary Progress Schedule and become the baseline CPN Progress Schedule.
- L. The CPN Progress Schedule will be updated by the CONTRACTOR monthly, at a minimum, to reflect actual progress and occurrences to date, including any weather delays. Identify Work on a calendar basis using days as a unit of measure. Show complete interdependence and sequence of construction and Project-related activities reasonably required to complete the Work. Identify the Work of separate stages and other logically grouped activities, and clearly identify critical path of activities. Include as applicable, at a minimum:
1. Obtaining permits, submittals for early product procurement, and long lead time items.
 2. Mobilization and other preliminary activities.
 3. Initial Site work.
 4. Specified Work sequences, constraints, and Contract Times including shut-downs and tie-ins
 5. Major equipment design, fabrication, factory testing, and delivery dates.
 6. Sitework.
 7. Concrete Work.
 8. Structural Steel Work.
 9. Architectural features Work.
 10. Conveying systems Work.
 11. Equipment Work.
 12. Mechanical Work.
 13. Electrical Work.
 14. Instrumentation and control Work.
 15. Other important Work for each major facility.
 16. Equipment and system startup and test activities.
 17. Project closeout and cleanup.
 18. Demobilization.
- M. No activity duration, exclusive of those for Submittals review and product fabrication/delivery, shall be less than 1 day nor more than 14 days, unless otherwise approved by the CONSTRUCTION CONTRACT ADMINISTRATOR. Activity duration for Submittal review shall not be less than review time specified

unless clearly identified and prior written acceptance has been obtained from the CONSTRUCTION CONTRACT ADMINISTRATOR.

- N. Updated Progress Schedules shall reflect:
1. Progress of Work to within 5 working days prior to submission.
 2. Approved changes in Work scope and activities modified since submission.
 3. Delays in Submittals or resubmittals, deliveries, or Work.
 4. Adjusted or modified sequences of Work.
 5. Other identifiable changes.
 6. Revised projections of progress and completion.
 7. Report of changed logic.
- O. The CONTRACTOR shall produce detailed subschedules during the Project upon request of CONSTRUCTION CONTRACT ADMINISTRATOR to further define critical portions of the Work.
- P. If the CONTRACTOR fails to complete activity by its latest scheduled completion date and this failure is anticipated to extend Contract Times, the CONTRACTOR shall, within 7 days of such failure, submit a written statement as to how CONTRACTOR intends to correct nonperformance and return to acceptable current Progress Schedule. Actions by CONTRACTOR to complete the Work within the Contract Times will not be justification for adjustment of Contract Price or Contract Times.
- Q. OWNER may order CONTRACTOR to increase plant, equipment, labor force, or working hours if CONTRACTOR fails to satisfactorily execute Work as necessary to prevent delay to overall completion of Project, at no additional cost to OWNER.

1.10 NARRATIVE PROGRESS REPORT

- A. The CONTRACTOR shall prepare a monthly narrative progress report in the following format and submit with each progress payment:
1. Organize same as Progress Schedule.
 2. Identify, on a cover letter, reporting period, date submitted, and name of author of report.
 3. On 8-1/2-inch by 11-inch white paper, unless otherwise approved.
 4. List information for each activity in tabular format, including at a minimum:
 - a. Activity Identification Number.
 - b. Activity Description.
 - c. Original Duration.
 - d. Remaining Duration.
 - e. Early Start Date (Actual start on Updated Progress Schedules).
 - f. Early Finish Date (Actual finish on Updated Progress Schedules).
 - g. Late Start Date.
 - h. Late Finish Date.
 - i. Total Float.
 5. Sort reports, in ascending order, as listed below:
 - a. Activity number sequence with predecessor and successor activity.

- b. Activity number sequence.
- c. Early-start.
- d. Total float.

B. Contents:

1. Number of days worked over the period, work force on hand, construction equipment on hand (including utility vehicles such as pickup trucks, maintenance vehicles, stake trucks).
2. General progress of Work, including a listing of activities started and completed over the reporting period, mobilization/demobilization of subcontractors, and major milestones achieved.
3. CONTRACTOR's plan for management of Site (e.g., lay down and staging areas, construction traffic), utilization of construction equipment, buildup of trade labor, and identification of potential Contract changes.
4. Identification of new activities and sequences as a result of executed Contract changes.
5. Documentation of weather conditions over the reporting period, and any resulting impacts to the work.
6. Description of actual or potential delays, including related causes, and the steps taken or anticipated to mitigate their impact.
7. Changes to activity logic.
8. Changes to the critical path.
9. Identification of, and accompanying reason for, any activities added or deleted since the last report.
10. Steps taken to recover the schedule from CONTRACTOR-caused delays.

1.11 SCHEDULE ACCEPTANCE

A. CONSTRUCTION CONTRACT ADMINISTRATOR's acceptance will demonstrate agreement that:

1. Proposed schedule is accepted with respect to:
 - a. Contract Times, including Final Completion and all intermediate Milestones are within the specified times.
 - b. Specified Work sequences and constraints are shown as specified.
 - c. Specified OWNER-furnished Equipment or Material arrival dates, or range of dates, are included.
 - d. Access restrictions are accurately reflected.
 - e. Startup and testing times are as specified.
 - f. Submittal review times are as specified.
 - g. Startup testing duration is as specified and timing is acceptable.
2. In all other respects, CONSTRUCTION CONTRACT ADMINISTRATOR's acceptance of CONTRACTOR's schedule indicates that, in CONSTRUCTION CONTRACT ADMINISTRATOR's judgement, schedule represents reasonable plan for constructing Project in accordance with the Contract Documents. CONSTRUCTION CONTRACT ADMINISTRATOR's review will not make any change in Contract requirements. Lack of comment on any aspect of schedule that is not in accordance with the Contract

Documents will not thereby indicate acceptance of that change, unless CONTRACTOR has explicitly called the nonconformance to CONSTRUCTION CONTRACT ADMINISTRATOR's attention in submittal. Schedule remains CONTRACTOR's responsibility and CONTRACTOR retains responsibility for performing all activities, for activity durations, and for activity sequences required to construct Project in accordance with the Contract Documents.

- B. Unacceptable Preliminary Progress Schedule:
 - 1. Make requested corrections; resubmit within 10 days.
 - 2. Until acceptable to CONSTRUCTION CONTRACT ADMINISTRATOR as Baseline Progress Schedule, continue review and revision process, during which time CONTRACTOR shall update schedule on a monthly basis to reflect actual progress and occurrences to date.
- C. Unacceptable Detailed Progress Schedule:
 - 1. Make requested corrections; resubmit within 10 days.
 - 2. Until acceptable to CONSTRUCTION CONTRACT ADMINISTRATOR as Baseline Progress Schedule, continue review and revision process.
- D. Narrative Report: All changes to activity duration and sequences, including addition or deletion of activities subsequent to CONSTRUCTION CONTRACT ADMINISTRATOR's acceptance of Baseline Progress Schedule, shall be delineated in Narrative Report current with proposed Updated Progress Schedule.

1.12 ADJUSTMENT OF CONTRACT TIMES

- A. Reference General Conditions.
- B. Evaluation and reconciliation of Adjustments of Contract Times shall be based on the Updated Progress Schedule at the time of proposed adjustment or claimed delay.
- C. Float:
 - 1. Float time is a Project resource available to both parties to meet contract Milestones and Contract Times.
 - 2. Use of float suppression techniques such as preferential sequencing or logic, special lead/lag logic restraints, and extended activity times are prohibited, and use of float time disclosed or implied by use of alternate float-suppression techniques shall be shared to proportionate benefit of OWNER and CONTRACTOR.
 - 3. Pursuant to above float-sharing requirement, no time extensions will be granted nor delay damages paid until a delay occurs which (i) impacts Project's critical path, (ii) consumes available float or contingency time, and (iii) extends Work beyond contract completion date.

D. Claims Based on Contract Times:

1. Where CONSTRUCTION CONTRACT ADMINISTRATOR has not yet rendered formal decision on CONTRACTOR's Claim for adjustment of Contract Times, and parties are unable to agree as to amount of adjustment to be reflected in Progress Schedule, CONTRACTOR shall reflect an interim adjustment in the Progress Schedule as acceptable to CONSTRUCTION CONTRACT ADMINISTRATOR.
2. It is understood and agreed that such interim acceptance will not be binding on either CONTRACTOR or OWNER, and will be made only for the purpose of continuing to schedule Work until such time as formal decision has been rendered as to an adjustment, if any, of the Contract Times.
3. CONTRACTOR shall revise Progress Schedule prepared thereafter in accordance with CONSTRUCTION CONTRACT ADMINISTRATOR's formal decision.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 32 33

PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. CONTRACTOR shall perform services specified, including:
 - 1. Digital photography.
 - 2. Videography.

- B. Provide photographic documentation for the following:
 - 1. Pre-construction.
 - 2. Construction progress.
 - 3. Final.

- C. Image Quality:
 - 1. All photographic documentation shall be in color.
 - 2. Photographic images shall be suitably staged and set up ("framed"), focused, and with adequate lighting.
 - 3. For still photographs, use camera with minimum 6.0-megapixel resolution.

- D. If the requirements of this section conflict the requirements of Section 01 32 22, Project Documentation, Section 01 32 22, shall take precedence and CONTRACTOR shall coordinate with the CONSTRUCTION CONTRACT ADMINISTRATOR and the OWNER so the project management software system may be utilized for document tracking and control.

1.2 QUALITY ASSURANCE

- A. CONSTRUCTION CONTRACT ADMINISTRATOR will approve the views to be taken and select time at which images will be taken. Photographic subjects, views, and angles will vary with progress of the Work.

1.3 SUBMITTALS

- A. Informational Submittals:
 - 1. Frequency of Photographic Documentation Submittals:
 - a. Pre-construction: Submit pre-construction photographic documentation (prints and discs) prior to mobilizing and disturbing the Site. Provide pre-construction photographic documentation no later than first

- Application for Payment, unless other schedule is accepted by CONSTRUCTION CONTRACT ADMINISTRATOR.
- b. Provide construction progress photographic documentation (prints and discs) monthly. Submit with each Application for Payment, unless otherwise agreed to by CONSTRUCTION CONTRACT ADMINISTRATOR.
 - c. Submit acceptable final photographic documentation (prints and discs) prior to submitting final Application for Payment.
2. Photographic Prints:
- a. Quantity: For each photograph taken, provide to CONSTRUCTION CONTRACT ADMINISTRATOR one set of prints bound in a 3 ring binder or if required by OWNER, submit through documentation control software.
 - b. Print Size and Finish:
 - 1) Photographs: Provide 5-inch by 7-inch prints on professional-grade, 9-mil thick, photograph paper with semi-gloss or satin finish, unless specified otherwise.
 - c. Provide the following information on back of each print and front of each disc containing photographic documentation:
 - 1) Date photograph was taken.
 - 2) Name of OWNER.
 - 3) Name of Site.
 - 4) Project name.
 - 5) Description of view shown in photograph.
 - 6) Name and address of photographer.
3. Digital Files of Photographs:
- a. For each photograph taken, provide high-quality digital image on compact disc (CD) in “*.JPG” file format compatible with Microsoft Windows XP and Microsoft Windows Vista.
 - b. Image resolution shall be sufficient for clear, high-resolution prints. Minimum resolution shall be 150 dots per inch (dpi). Minimum size of digital images shall be equal to specified print size.
 - c. Imprint date and time in the image.
 - d. Electronic image filename shall describe the image; do not submit filenames automatically created by digital camera. For example, an acceptable electronic filename would be, “Dewatering Building – Looking West at Centrifuge No. 2.jpg”.
 - e. Provide one copy of each disc with photographic images.
 - f. Label each CD as specified in Paragraph 1.3.A.3.c of this Section.
4. Videography:
- a. Video shall be high-resolution, high-quality video of the Site and Project work in standard DVD-R format.
 - b. Video image shall have imprinted date and time that video was taken.
 - c. Include audio narration sufficient to explain the scenes shown. Audio shall be done clearly, precisely, and at a moderate pace. CONTRACTOR

shall review audio before submitting to verify the spoken words are audible over background noises. If the CONSTRUCTION CONTRACT ADMINISTRATOR finds the audio is not of said quality and clarity the CONTRACTOR shall create new video discs.

- d. Provide three copies of each video disc.
- e. Label each video disc as specified in Paragraph 1.3.A.3.c of this Section.

1.4 PRE-CONSTRUCTION PHOTOGRAPHIC DOCUMENTATION

A. Pre-construction Photographic Documentation:

1. Obtain and submit sufficient pre-construction photographic documentation to record Site conditions prior to construction. Photographs shall document work areas of all prime contracts.
2. Furnish to CONSTRUCTION CONTRACT ADMINISTRATOR specified number of photographs. Pre-construction photographs are not part of required number of construction progress photographs specified in Article 1.5 of this Section.
3. Provide pre-construction video of all work areas included in all prime contracts on the Project, including indoor and outdoor work areas and staging areas.

B. If dispute arises and pre-construction photographic documentation was not submitted prior to the dispute, restore disputed area to extent directed by CONSTRUCTION CONTRACT ADMINISTRATOR and to complete satisfaction of CONSTRUCTION CONTRACT ADMINISTRATOR.

1.5 CONSTRUCTION PROGRESS PHOTOGRAPHIC DOCUMENTATION

A. Progress Photographs:

1. Take a minimum of 20 photographs each month during the construction period or as directed by the OWNER.
2. Provide interior and exterior photographic documentation of each structure as directed by CONSTRUCTION CONTRACT ADMINISTRATOR at the time photographic documentation is taken.

1.6 FINAL PHOTOGRAPHIC DOCUMENTATION

A. Final Photographs:

1. Take photographs at time and day acceptable to CONSTRUCTION CONTRACT ADMINISTRATOR. Do not take final photographs prior to Substantial Completion. Work documented in final photographs shall be generally complete, including painting, furnishings, landscaping, and other visible Work.
2. Take at least 50 final photographs, based on scope of Work at the time Contract Times commence running. Proportionately modify the number of final

photographs if scope of Project is modified. Final photographs are not part of construction progress photographs required under Paragraph 1.5.A of this Section.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:

1. CONTRACTOR shall provide submittals in accordance with the General Conditions as modified by the Supplementary Conditions, and this Section.
2. Provide submittals well in advance of need for the material or equipment, or procedure (as applicable), in the Work and with ample time required for delivery of material or equipment and to implement procedures following ENGINEER's approval or acceptance of the associated submittal. Work covered by a submittal will not be included in progress payments until approval or acceptance of related submittals has been obtained in accordance with the Contract Documents.
3. CONTRACTOR is responsible for dimensions to be confirmed and corrected at the Site, for information pertaining solely to the fabrication processes and to techniques of construction, and for coordinating the work of all trades. CONTRACTOR's signature of submittal's stamp and letter of transmittal shall be CONTRACTOR's representation that CONTRACTOR has met his obligations under the Contract Documents relative to that submittal.

B. Samples:

1. Conform submittal of Samples to the General Conditions as modified by the Supplementary Conditions, this Section, and the Specification Section in which the Sample is specified.
2. Furnish at the same time Samples and submittals that are related to the same unit of Work or Specification Section. ENGINEER will not review submittals without associated Samples, and will not review Samples without associated submittals.
3. Samples shall clearly illustrate functional characteristics of product, all related parts and attachments, and full range of color, texture, pattern, and material.

1.2 TYPES OF SUBMITTALS

- ###### A. Submittal types are classified as follows: 1) Action Submittals, 2) Informational Submittals, 3) Closeout Submittals, and 4) Maintenance Material submittals. Type of each required submittal is designated in the respective Specification Sections; when type of submittal is not specified in the associated Specification Section, submittal will be classified as follows:

1. Action Submittals include:

- a. Shop Drawings.
 - b. Product data.
 - c. Delegated design submittals, which include documents prepared, sealed, and signed by a design professional retained by CONTRACTOR, Subcontractor, or Supplier for materials and equipment to be incorporated into the completed Work. Delegated design submittals do not include submittals related to temporary construction unless specified otherwise in the related Specification Section. Delegated design submittals include: design drawings, design data including calculations, specifications, certifications, and other submittals prepared by such design professional.
 - d. Samples.
 - e. Testing plans, procedures, and testing limitations.
2. Informational Submittals include:
- a. Certificates.
 - b. Design data not sealed and signed by a design professional retained by CONTRACTOR, Subcontractor, or Supplier.
 - c. Pre-construction test and evaluation reports, such as reports on pilot testing, subsurface investigations, potential Hazardous Environmental Condition, and similar reports.
 - d. Supplier instructions, including installation data, and instructions for handling, starting-up, and troubleshooting.
 - e. Source quality control submittals (other than testing plans, procedures, and testing limitations), including results of shop testing.
 - f. Field or Site quality control submittals (other than testing plans, procedures, and testing limitations), including results of operating and acceptability tests at the Site.
 - g. Supplier reports.
 - h. Sustainable design submittals (other than sustainable design closeout documentation).
 - i. Special procedure submittals, including health and safety plans and other procedural submittals.
 - j. Qualifications statements.
3. Closeout Submittals include:
- a. Maintenance contracts.
 - b. Operations and maintenance data.
 - c. Bonds, such as maintenance bonds and bonds for a specific product or system.
 - d. Warranty documentation.
 - e. Record documentation.
 - f. Sustainable design closeout documentation.
 - g. Software.
4. Maintenance Material Submittals include:
- a. Spare parts.
 - b. Extra stock materials.

- c. Tools.
- 5. When type of submittal is not specified and is not included in the list above, ENGINEER will determine the type of submittal.

B. Not Included in this Section: Administrative and procedural requirements for following are covered elsewhere in the Contract Documents:

- 1. Requests for interpretations of the Contract Documents.
- 2. Change Orders, Work Change Directives, and Field Orders.
- 3. Applications for Payment
- 4. Progress Schedules.
- 5. Photographic documentation.
- 6. Reports and documentation required in accordance with applicable permits
- 7. Site survey data

1.3 SUBMITTALS REQUIRED IN THIS SECTION

A. Informational Submittals: Provide the following:

- 1. Schedule of Submittals:
 - a. Timing:
 - 1) Provide submittal within time frames specified in the Contract Documents.
 - 2) Provide updated Schedule of Submittals with each submittal of the updated Progress Schedule.
 - b. Content: In accordance with the General Conditions as modified by the Supplementary Conditions, and this Section. Requirements for content of preliminary Schedule of Submittals and subsequent submittals of the Schedule of Submittals are identical. Identify on Schedule of Submittals all submittals required in the Contract Documents. Updates of Schedule of Submittals shall show scheduled dates and actual dates for completed tasks. Indicate submittals that are on the Project's critical path. Indicate the following for each submittal:
 - 1) Date by which submittal will be provided to ENGINEER.
 - 2) Whether submittal will be for a substitution or "equal". Procedures for substitutions and "or equals" are specified in the General Conditions and the Division 01 Specifications.
 - 3) Date by which ENGINEER's response is required. At least 14 days shall be allowed from ENGINEER's receipt of each submittal. CONTRACTOR shall allow increased time for large or complex submittals.
 - 4) For submittals for materials or equipment, date by which material or equipment must be at the Site to avoid delaying the Work and to avoid delaying the work of other contractors.
 - c. Prepare Schedule of Submittals using same software, and in same format, specified for Progress Schedules.
 - d. Coordinate Schedule of Submittals with the Progress Schedule.

- e. Schedule of Submittals that is not compatible with the Progress Schedule, or that does not indicate submittals on the Project’s critical path, or that that places extraordinary demands on ENGINEER for time and resources, is unacceptable. Do not include submittals not required by the Contract Documents.
- f. In preparing Schedule of Submittals:
 - 1) Considering the nature and complexity of each submittal, allow sufficient time for review and revision.
 - 2) Reasonable time shall be allowed for: ENGINEER’s review and processing of submittals, for submittals to be revised and resubmitted, and for returning submittals to CONTRACTOR.
 - 3) Identify and accordingly schedule submittals that are expected to have long anticipated review times.

1.4 PROCEDURE FOR SUBMITTALS

- A. Submittal Identification System: Use the following submittal identification system, consisting of submittal number and review cycle number.
 - 1. Submittal Number: Shall be separate and unique number correlating to each individual submittal required. CONTRACTOR shall assign submittal number as follows:
 - a. First part of submittal number shall be the applicable Specification Section number, followed by a hyphen.
 - b. Second part of submittal number shall be a three-digit number (sequentially numbered from 001 through 999) assigned to each separate and unique submittal provided under the associated Specification Section.
 - c. Typical submittal number for the third submittal provided for Section 40 05 19, Ductile Iron Process Pipe, would be “40 05 19-003”.
 - 2. Review Cycle Number: Shall be a letter designation indicating the initial submittal or re-submittal associated with each submittal number:
 - a. “001” = Initial (first) submittal.
 - b. “002” = Second submittal (e.g., first re-submittal).
 - c. “003” = Third submittal (e.g., second re-submittal).
 - 3. Examples:

Example Description	Submittal Identification	
	Submittal No.	Review Cycle
Initial (first) review cycle of the third submittal provided under Section 40 05 19, Ductile Iron Process Pipe	40 05 19-003-	001
Second review cycle (first re-submittal) of third submittal provided under Section 40 05 19, Ductile Iron Process Pipe	40 05 19-003-	002

- B. Letter of Transmittal for Submittals:
 - 1. Provide separate letter of transmittal with each submittal. Each submittal shall be for one Specification Section.

2. At beginning of each letter of transmittal, provide a reference heading indicating: CONTRACTOR's name, OWNER's name, Project name, Contract name and number, transmittal number, and submittal number.
3. For submittals with proposed deviations from requirements of the Contract Documents, letter of transmittal shall specifically describe each proposed variation.

C. Contractor's Review and Stamp:

1. Contractor's Review: Before transmitting submittals to ENGINEER, review submittals to:
 - a. assure proper coordination of the Work;
 - b. determine that each submittal is in accordance with CONTRACTOR's desires;
 - c. verify that submittal contains sufficient information for ENGINEER to determine compliance with the Contract Documents.
2. Incomplete or inadequate submittals will be returned without review.
3. Contractor's Stamp and Signature:
 - a. Each submittal provided shall bear CONTRACTOR's stamp of approval and signature, as evidence that submittal has been reviewed by CONTRACTOR and verified as complete and in accordance with the Contract Documents.
 - b. Submittals without CONTRACTOR's stamp and signature will be returned without review. Signatures that appear to be computer-generated will be regarded as unsigned and the associated submittal will be returned without review.
 - c. CONTRACTOR's stamp shall contain the following:

"Project Name: _____

Contractor's Name: _____

Date: _____

----- *Reference* -----

Item/Submittal Title: _____

Specifications:

Section: _____

Page No.: _____

Paragraph No.: _____

Drawing No.: _____ of _____

Location of Work: _____

Submittal No. and Review Cycle: _____

Coordinated by Contractor with Submittal Nos.: _____

I hereby certify that the Contractor has satisfied Contractor's obligations under the Contract Documents relative to Contractor's review and approval of this submittal.

Approved By (for Contractor): _____”

D. Submittal Marking and Organization:

1. Mark on each page of submittal and each individual component submitted with submittal number and applicable Specification paragraph.
2. Arrange submittal information in same order as requirements are written in the associated Specification Section.
3. Each Shop Drawing sheet shall have title block with complete identifying information satisfactory to ENGINEER.
4. Package together submittals for the same Specification Section. Do not provide required information piecemeal.

E. Format of Submittal and Recipients:

1. Action Submittals and Informational Submittals: Furnish in accordance with Table 01 33 00-A, except that submittals of Samples shall be as specified elsewhere in this Section:

**TABLE 01 33 00-A: SUBMITTAL CONTACTS
AND REQUIRED COPIES**

	Address for Deliveries	Contact Person	E-mail Address	No. of Hard-copies	Remarks
a.	Engineer: Malcolm Pirnie, The Water Division of Arcadis.	TBD	TBD	8	
b.	Resident Project Representative: At the Site.	TBD	TBD	1	Stamped “Preliminary – Not for Construction”
Notes: TBD = To Be Determined					

2. Samples:

- a. Securely label or tag Samples with submittal identification number. Label or tag shall include clear space at least three inches by three inches in size for affixing ENGINEER's review stamp. Label or tag shall not cover, conceal, or alter appearance or features of Sample. Label or tag shall not be separated from the Sample.
- b. Submit number of Samples required in Specifications. If number of Samples is not specified in the associated Specification Section, provide at least three identical Samples of each item required for ENGINEER's approval. Samples will not be returned to CONTRACTOR. If CONTRACTOR requires Sample(s) for CONTRACTOR's use, notify ENGINEER in writing and provide additional Sample(s).

CONTRACTOR is responsible for furnishing, shipping, and transporting additional Samples.

- c. Deliver one Sample to ENGINEER's field office at the Site. Deliver balance of Samples to ENGINEER at address listed in Table 01 33 00-A, unless otherwise directed by ENGINEER.
3. Closeout Submittals:
- a. Provide the following Closeout Submittals in accordance with maintenance contracts; bonds for specific products or systems; warranty documentation; and sustainable design closeout documentation. On documents such as maintenance contracts and bonds, include on each document furnished original signature of entity issuing the document.
 - b. Operations and Maintenance Data: Submit in accordance with Section 01 78 23, Operations and Maintenance Data.
 - c. Record Documentation: Submit in accordance with Section 01 78 39, Project Record Documentation.
 - d. Software: Submit number of copies required in Specification Section where the software is specified. If number of copies is not specified, provide two copies on compact disc in addition to software loaded on to OWNER's computer(s) or microprocessor(s).
4. Maintenance Material Submittals: For spare parts, extra stock materials, and tools, submit quantity of items specified in associated Specification Section. Furnish in accordance with Section 01 78 43, Spare Parts and Extra Materials.

F. Distribution:

- 1. Distribution of Hardcopies: ENGINEER will distribute each reviewed submittal requiring ENGINEER's written response as follows:
 - a. CONTRACTOR: Three copies (except closeout submittals and maintenance material submittals).
 - b. OWNER: Three copies.
 - c. Resident Project Representative: One copy (except closeout submittals and maintenance material submittals).
 - d. ENGINEER's File: One copy.

G. Resubmittals: Refer to the General Conditions for requirements regarding resubmitting required submittals.

1.5 ENGINEER'S REVIEW

- A. Timing: ENGINEER's review will conform to timing accepted by ENGINEER in the accepted Schedule of Submittals.
- B. Submittals not required in the Contract Documents will not be reviewed by ENGINEER and will not be recorded in ENGINEER's submittal log. All hardcopies of such submittals will be returned to CONTRACTOR.

C. Action Submittals, Results of ENGINEER's Review: Each submittal will be given one of the following dispositions:

1. Approved: Upon return of submittal marked "Approved", order, ship, or fabricate materials and equipment included in the submittal (pending ENGINEER's approval or acceptance, as applicable, of source quality control submittals) or otherwise proceed with the Work in accordance with the submittal and the Contract Documents.
2. Approved as Corrected: Upon return of submittal marked "Approved as Corrected", order, ship, or fabricate materials and equipment included in the submittal (pending ENGINEER's approval or acceptance, as applicable, of source quality control submittals) or otherwise proceed with the Work in accordance with the submittal and the Contract Documents, provided it is in accordance with corrections indicated.
3. Approved as Corrected – Resubmit: Upon return of submittal marked "Approved as Corrected – Resubmit", order, ship, or fabricate materials and equipment included in the submittal (pending ENGINEER's approval or acceptance, as applicable, of source quality control submittals) or otherwise proceed with the Work in accordance with the submittal and the Contract Documents, provided it is in accordance with corrections indicated. Provide to ENGINEER record re-submittal with all corrections made. Receipt of corrected re-submittal is required before materials or equipment covered in the submittal will be eligible for payment.
4. Revise and Resubmit: Upon return of submittal marked "Revise and Resubmit", make the corrections indicated and re-submit to ENGINEER for approval. Only 2 of the 7 copies returned will be marked up and sent to the CONTRACTOR. Copies will not be provided to OWNER and RPR.
5. Not Approved: This disposition indicates material or equipment that cannot be approved. Upon return of submittal marked "Not Approved", repeat initial submittal procedure utilizing approvable material or equipment. Only 2 of the 7 copies returned will be marked up and sent to the CONTRACTOR. Copies will not be provided to OWNER and RPR.

D. Informational Submittals, Results of ENGINEER's Review:

1. Each submittal will be given one of the following dispositions:
 - a. Accepted: Information included in submittal conforms to the applicable requirements of the Contract Documents, and is acceptable. No further action by CONTRACTOR is required relative to this submittal, and the Work covered by the submittal may proceed, and products with submittals with this disposition may be shipped or operated, as applicable.
 - b. Not Accepted: Submittal does not conform to applicable requirements of the Contract Documents and is not acceptable. Revise submittal and re-submit to indicate acceptability and conformance with the Contract Documents.

2. The following types of Informational Submittals, when acceptable to ENGINEER, will not receive a written response from ENGINEER. Disposition as “accepted” will be recorded in ENGINEER’s submittal log. When submittals of the following are not acceptable, ENGINEER will provide written response to CONTRACTOR
 - a. Material safety data sheets (MSDS).
 - b. Compaction testing reports.
 - c. Concrete testing reports.
 - d. Manufacturer’s instructions.
- E. Closeout Submittals, Results of ENGINEER’s Review: Dispositions and meanings are the same as specified for Informational Submittals. When acceptable, Closeout Submittals will not receive a written response from ENGINEER. Disposition as “accepted” will be recorded in ENGINEER’s submittal log. When Closeout Submittal is not acceptable, ENGINEER will provide written response to CONTRACTOR.
- F. Maintenance Material Submittals, Results of ENGINEER’s Review: Dispositions and meanings are the same as specified for Informational Submittals. When acceptable, Maintenance Material Submittals will not receive a written response from ENGINEER. Disposition as “accepted” will be recorded in ENGINEER’s submittal log. When Maintenance Material Submittal is not acceptable, ENGINEER will provide written response to CONTRACTOR, and CONTRACTOR is responsible for costs associated with transporting and handling of maintenance materials until compliance with the Contract Documents is achieved.

1.6 EQUIPMENT AND MATERIALS CHECKLIST

- A. A copy of Equipment and Materials Checklist is provided at the end of this section for CONTRACTOR’s convenience when creating a submittal log. CONTRACTOR may use a copy of this form for the Shop Drawing schedule required by Paragraph 2.05.B of the General Conditions and enter dates in this column for submittal of Shop Drawings to ENGINEER. Equipment and Materials Checklist is provided for CONTRACTOR’S Convenience. CONTRACTOR shall meet submittal requirements provided under each Section of the Contract Documents.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

(This page was left blank intentionally.)

SECTION 01 33 13

REFERENCE FORMS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section contains the required forms for CONTRACTOR use. The document testing forms included herein, do not supersede specific testing requirements found elsewhere in the Contract Documents.
- B. If the requirements of this section conflict the requirements of Section 01 32 22, Project Documentation, section 01 32 22 shall take precedence and CONTRACTOR shall coordinate with the CONSTRUCTION CONTRACT ADMINISTRATOR and the OWNER so the project management software system may be utilized for document tracking and control.
- C. The forms listed below are included in this Section are referenced from other Sections in the Contract Documents. Forms include, but are not necessarily be limited to the following:

	<u>Form No.</u>	<u>Title</u>
1.	00 73 01-A	Certificate of Substantial Completion.
2.	00 73 01-B	Contractor's Affidavit Regarding Settlement of Claims.
3.	01 33 00-A	Schedule of Values.
4.	01 33 00-B	Shop Drawings, Product Data and Sample Transmittal Schedule.
5.	01 33 00-C	Authorized Signatures Form.
6.	01 33 00-D	Application for Payment.
7.	01 33 00-E	MBE/WBE Utilization Form.
8.	01 33 00-F	Request for Change Order Proposal.
9.	01 33 00-G	Change Order Proposal.
10.	01 33 00-H	Work Change Directive.
11.	01 33 00-I	Change Order.
12.	01 33 00-J	Request for Information.
13.	01 33 00-K	Request for Alteration.
14.	01 33 00-L	Contractor's Daily Construction Report.
15.	01 33 00-N	Submittal Transmittal Form.
16.	01 35 26-A	Confined Space Data Sheet.
17.	01 35 26-B	Confined Space Entry Permit.
18.	01 35 26-C	Confined Space Hot Work Permit.
19.	01 61 00-B	Unit Responsibility Certification Form.
20.	01 61 00-C	Manufacturer's Installation Certification Form.
21.	01 79 13-A	Equipment Test Report Form.
22.	01 78 23-A	Operation and Maintenance Transmittal Form.
23.	01 79 23-A	Manufacturer's Instruction Certification Form.
24.	40 05 93-A	Motor Data Form.
25.	40 60 05-A	Loop Wiring and Insulation Resistance Test Data Form.

26. 26 05 05-A Wire and Cable Resistance Test Data Form.
27. 26 05 05-B Installed Motor Test Data Form.
28. 26 05 05-D Motor Control Center Test Form.
29. 26 05 05-E Medium Voltage Motor Starter Test Form.
30. 26 05 05-F Medium Voltage Switchgear Test Form.
31. 26 05 05-G Protective Relay Test Form.
32. 26 05 05-H Low Voltage Switchgear Test Form.
33. 26 05 05-I Medium Voltage Load Interrupter Switch Test Form.
34. 26 05 05-K Automatic Transfer Switch Test Form.
35. -- -- -- -- NKWD Early Submittal of Time Sensitive Shop Drawings Letter.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

++ END OF SECTION ++

00 73 01-A CERTIFICATE OF SUBSTANTIAL COMPLETION

CERTIFICATE OF SUBSTANTIAL COMPLETION

PROJECT NUMBER	PROJECT TITLE
----------------	---------------

DATE OF ISSUANCE: _____ OWNER'S CONTRACT NO.: _____

OWNER: _____

CONSTRUCTION CONTRACT ADMINISTRATOR: _____

CONTRACTOR: _____

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

OVERALL PROJECT

To: _____
OWNER

And to: _____
CONTRACTOR

The Work to which this Certificate applies has been inspected by authorized representatives of OWNER, CONTRACTOR and CONSTRUCTION CONTRACT ADMINISTRATOR, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on

DATE OF SUBSTANTIAL COMPLETION

A tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR by Final Completion.

**CONTRACTOR'S AFFIDAVIT
REGARDING SETTLEMENT OF CLAIMS**

Project No.: _____

Contract No.: _____

Gentlemen:

This is to certify that all lawful claims for materials, rental of equipment and labor used in connection with the construction of the above project, whether by subcontractor or claimant in person, have been duly discharged.

The undersigned, for the consideration of \$ _____ as set out in the final pay estimate, as full and complete payment under the terms of the contract, hereby waives and relinquishes any and all further claims or right of lien under, in connection with, or as a result of the above described project. The undersigned further agrees to indemnify and save harmless the **(type in owner here)** against any and all liens, suits, damages, charges and expenses whatsoever, which said **(type in owner here)** may suffer arising out of the failure of the undersigned to pay for all labor performance and materials furnished for the performance of said installation.

Contractor

By

Title

State of _____

County of _____

The forgoing instrument was subscribed and sworn to before me this ____ day of _____, 20____.

Notary Public

Commission Expiration Date

01 33 00-A SCHEDULE OF VALUES

SCHEDULE OF VALUES

Sheet _____ of _____

Section No. _____

Item Description	Material	Labor	Equipment	Total

**AUTHORIZED SIGNATURES FORM
(Corporation)**

Gentlemen:

WHEREAS, _____, a(n) (Name of State) _____ Corporation, is required to execute certain documents which are necessary for the prompt and efficient execution of the corporate business:

NOW, THEREFORE, BE IT RESOLVED, by the Board of Directors of the (Corporate Name) _____ that name of parties listed below be authorized to execute and sign on behalf of said corporation the following documents:

- | | |
|-----------------|---|
| 1. The Proposal | 6. Change Orders |
| 2. The Contract | 7. Application for Payment |
| 3. The Bond | 8. Work Change Directives |
| 4. Payrolls | 9. All other papers necessary for the conduct of the corporation's affairs and the execution of the contract. |
| 5. Claims | |

The powers and duties herein granted shall be and is hereby granted for the duration of the contract for the construction of the _____, Project No. _____, or until express notice of revocation has been duly given in writing, whichever is the lesser period. Dated and passed by the Board of Directors this _____ day of _____, 20__.

<u>NAME</u>	<u>SIGNATURE</u>	<u>TITLE</u>	<u>DOCUMENTS</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

I, _____ of the _____, a corporation, do hereby certify that the above is a true and correct copy of a resolution adopted by the Board of Directors of said corporation, at a meeting of said board held on _____, 20__, and that the same is in full force and effect at this time.

(Seal of Corporation)

(OFFICER OF CORPORATION)

(NAME & TITLE)

STATE OF _____

COUNTY OF _____

This instrument was acknowledged before me this _____ day of _____, 20__ by _____ appearing before the undersigned Notary Public, and stated that he executed such instrument on behalf of said corporation for the purpose and consideration therein expressed.

My Commission Expires: _____
(NOTARY PUBLIC)

01 33 00-D APPLICATION FOR PAYMENT

DISTRIBUTION:
ACCOUNTS
PAYABLE
CENTRAL FILES
PAYMENT FILE

**APPLICATION FOR PAYMENT
TYPE ADDRESS**

To: Project Manager

Progress Payment No.

Payment Period: From mm/dd/yy to mm/dd/yy

Project No.	Project Name NAME OF PROJECT			Contract No. XXXXX			
Name of Contractor NAME OF CONTRACTOR			Telephone (XXX) XXX-XXXX	Fax (XXX) XXX-XXXX			
Address CONTRACTOR'S ADDRESS				Notice To Proceed Date MM/DD/YY			
ITEM NO.	DESCRIPTION List Contract Items, Change Order Items, and Deductions, Each with Subtotals	CONTRACT AMOUNT	ESTIMATED AMOUNT THIS PERIOD	AMOUNT PREVIOUSLY INVOICED	AMOUNT COMPLETED TO DATE		
XXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXX	\$xx,xxx,xxx.xx	\$xx,xxx,xxx.xx	\$xx,xxx,xxx.xx	\$xx,xxx,xxx.xx		
ATTACHMENTS: SCHEDULE OF VALUES			GROSS AMOUNT DUE: \$xx,xxx,xxx.xx				
			<input type="checkbox"/> RETAINAGE - 10%		\$xx,xxx,xxx.xx		
			<input type="checkbox"/> SECURITIES - 10%		\$xx,xxx,xxx.xx		
			NET AMOUNT DUE TO DATE:			\$xx,xxx,xxx.xx	
			LESS AMOUNT PREVIOUSLY PAID:			\$xx,xxx,xxx.xx	
AMOUNT DUE THIS APPLICATION:			\$xx,xxx,xxx.xx				
CERTIFICATION OF CONTRACTOR: I certify that all items and amounts shown on the face of this Application for Payment are correct, that to the best of my knowledge and belief, all work has been performed and/or material supplied in full accordance with the requirements of the referenced contract, and/or duly authorized deviations, substitutions, alterations, and/or additions; that the foregoing is true and correct statement of the contract account up to and including the last day of the period covered by this Application that no part of the "Amount Due This Application" has been received, and that the undersigned and subcontractors have: (check applicable line). <input type="checkbox"/> a. Complied with all labor provisions of said contract. <input type="checkbox"/> b. Complied with all the labor provisions of said contract except in those instances where a dispute exists with respect to said labor provisions. (If "b" is checked, include attachment briefly describing nature of dispute.)			CERTIFICATION OF CONSTRUCTION CONTRACT ADMINISTRATOR: I certify that all work described was inspected, and that to the best of my knowledge and belief the work was performed and/or supplied in full accordance with the requirements of this contract. Resident Project Representative _____ Date _____ I certify that I have checked and verified the above and foregoing Application for Payment; that to the best of my knowledge and belief it is a true and correct statement of work performed and/or material supplied by the contractor; that all work and/or material included in this Application has been inspected and that it has been performed and/or supplied in full accordance with the requirements of the referenced contract; and that payment claimed and requested by the Contractor is correctly computed on the basis of work performed and/or material supplied to date.				
						Contractor Representative _____ Date _____	Project Manager/Engineer _____ Date _____
Title _____	Firm _____	OWNER USE ONLY BELOW THIS LINE					
RECOMMENDED BY:			APPROVED BY:				
Project Manager _____ Date _____			Superintendent _____ Date _____				

01 33 00-E MBE/WBE UTILIZATION FORM

CONTRACTOR'S MONTHLY STATEMENT OF MBE/WBE UTILIZATION

CONTRACTOR: _____ PAY REQUEST NO.: _____ REPORT PERIOD FROM: _____ to _____

Project Number: _____ Project Description: _____	Base Bid Amount: \$ _____
	Required Goals: MBE _____% WBE _____%
	Proposed Goals: MBE _____% WBE _____%

M/WBE Business Name Representative Name and Telephone Number	MBE or WBE	Original Contract Amount	Contract Adjustments	Revised Contract Amount	AMOUNT EARNED THIS PERIOD	AMOUNT EARNED TO DATE	Amount Retained this Period	Amount Retained to Date	Percentage Completed to Date
Minority Owned Business Enterprise Totals									
Woman Owned Business Enterprise Totals									

Authorized Signature: _____ Date: _____

Name and Title: _____

OWNER USE
Percent of total project complete _____ % Date: _____
City Project Manager _____ Signature

01 33 00-F REQUEST FOR CHANGE ORDER PROPOSAL

REQUEST FOR CHANGE ORDER PROPOSAL

Date: _____

CONTRACTOR _____

Project Name _____

Project No. _____

Change Order No. _____

NOTICE TO CONTRACTOR: Please submit a Change Order Proposal for the proposed modifications to the Contract Documents as described below. If acceptable, a Change Order will be issued to authorize the work. **THIS IS NOT A CHANGE ORDER FOR AUTHORIZATION TO PROCEED WITH THE WORK AS DESCRIBED!**

SCOPE OF WORK:

OWNER _____

CHANGE ORDER PROPOSAL

Date _____

Subject: Project Name _____

Project No. _____

Change Order No. _____

Dear Sir:

Certain items of extra work have been found necessary which are not covered by the Contract for the above referenced Project. Therefore, we submit the following amounts as the basis of compensation for such extra work:

JUSTIFICATION:

The Contract completion time will be (increased)(decreased) ____ consecutive calendar days.

Total Cost of Extra Work Covered by Above: \$ _____

Previously Approved Extra Work: \$ _____

Original Contract Amount: \$ _____

TOTAL: \$ _____

By: _____

Title: _____

CONTRACTOR: _____

01 33 00-H WORK CHANGE DIRECTIVE

(OWNER)
WORK CHANGE DIRECTIVE NUMBER X

Page 1 of 1

Project No. XXXXXXXX	Project Title NAME OF PROJECT
--------------------------------	---

CONTRACTOR: _____ CONTRACT NUMBER: _____

IN ACCORDANCE WITH THIS CONTRACT, THE FOLLOWING CHANGE IS ORDERED.

DESCRIPTION:

- AUTHORIZATION FOR WORK DESCRIBED HEREIN TO PROCEED ON A NEGOTIATED COST BASIS.
- AUTHORIZATION FOR WORK DESCRIBED HEREIN TO PROCEED ON A TIME AND MATERIALS BASIS.

COST:

NET AMOUNT OF THIS WORK CHANGE DIRECTIVE = \$ _____

THE CONSTRUCTION CONTRACT ADMINISTRATOR HAS REVIEWED THE COST FOR THIS WORK CHANGE DIRECTIVE AND CONSIDERS IT REASONABLE FOR THE LABOR AND MATERIAL NECESSARY TO COMPLETE THE WORK.

CONTRACT TIME: INCREASE BY _____ DAYS. NO CHANGE.

RECOMMENDED BY: _____ DATE: _____
CONSTRUCTION CONTRACT ADMINISTRATOR

ACCEPTED BY: _____ DATE: _____
CONTRACTOR

APPROVED BY: _____ DATE: _____
OWNER

01 33 00-I CHANGE ORDER

(OWNER)

CONTRACT CHANGE ORDER NO. X

Page 1 of 1

PROJECT NUMBER XXXXXXXX	PROJECT TITLE NAME OF PROJECT		
CONTRACT NUMBER XXXXX	NAME OF CONTRACTOR XXXXX	% COMPLETE(\$) XX%	% TIME USED XX%

In accordance with this contract, the following change is ordered, resulting in: (Check all that apply).

- | | | |
|--|---|--|
| <input type="checkbox"/> Increase in Contract Amount | <input type="checkbox"/> No Change in Contract Amount | <input type="checkbox"/> Decrease in Contract Amount |
| <input type="checkbox"/> Increase in Contract Time | <input type="checkbox"/> No Change in Contract Time | <input type="checkbox"/> Decrease in Contract Time |

DESCRIPTION:

COST:

Work Change Directive No. X-

Prepared by: Project Manager

THIS CHANGE ORDER: AMOUNT: \$ _____ TIME (Days): _____	PRIOR CHANGE ORDER(S): AMOUNT: \$ _____ TIME (Days): _____	ORIGINAL CONTRACT: AMOUNT: \$ _____ TIME (Days): _____	ADJUSTED CONTRACT: AMOUNT: \$ _____ TIME (Days): _____
Notice to Proceed Date:	Original Contract Completion Date:	Adjusted Contract Completion Date:	
We, the undersigned, have given careful consideration to the change proposed, and hereby agree, if this proposal is approved, that we will provide all equipment, furnish all materials, except as may otherwise be noted above, and perform all services necessary for the work specified, and will therefore, accept as full payment, the fees or prices and adjustments in contract time shown above. This Change Order includes all direct costs such as labor, material, job overhead, profit, costs for modifications or changes in sequence of work to be performed, delays, rescheduling, disruptions, extended direct overhead or general overhead, acceleration, material or other escalation which include wages and other impact costs.		REVIEWED BY: _____ (Construction Contract Administrator) DATE	
		RECOMMENDED BY: _____ (A or B - Project Manager) (C - Superintendent) DATE	
		RECOMMENDED BY: _____ (A or B - Project Manager) (C - Superintendent) DATE	
ACCEPTED (Contractor): COMPANY/FIRM: NAME OF CONTRACTOR SIGNATURE: _____ TITLE: _____ DATE: _____		RECOMMENDED BY: _____ (A or B - Project Manager) (C - Superintendent) DATE	
		APPROVED BY: _____ (A or B - Superintendent) (C - Assistant Director) DATE	
		AUTHORIZED FOR THE CITY MANAGER BY: _____ (A or B - Assistant Director) (C - Director) DATE	

01 33 00-I CHANGE ORDER

(OWNER)
CONTRACT CHANGE ORDER NO. X
SUPPLEMENTARY REPORT

Page 1 of 1

PROJECT NUMBER XXXXXXXX	PROJECT TITLE NAME OF PROJECT		
CONTRACT NUMBER XXXXX	NAME OF CONTRACTOR XXXXX	% COMPLETE(\$) XX%	% TIME USED XX%

REASON:

Work Change Directive No. X

Prepared By: Project Manager

BASIS FOR CHANGE: (Check all that apply).

- | | | |
|---|--|---|
| <input type="checkbox"/> City Request
Item 1 | <input type="checkbox"/> Negotiated Cost
Item 1 | <input type="checkbox"/> Contractor Request |
| <input type="checkbox"/> Use of Allowances | <input type="checkbox"/> Unforeseen Site Condition | <input type="checkbox"/> Final Quantity Adjustment |
| <input type="checkbox"/> Error or Omission | <input type="checkbox"/> Engineer Request | <input type="checkbox"/> Added Value for Added Cost |

Reviewed by: _____ Date: _____

01 33 00-J REQUEST FOR INFORMATION

(OWNER)

REQUEST FOR INFORMATION

CONTRACTOR _____
Requested By _____
Subject _____
Spec. Section _____
Drawing References _____
Date Reply Needed _____

RFI# _____
Directed to _____
Date Received _____
Date Transmitted _____
Date Reply Received _____
Date Reply Transmitted _____

INFORMATION NEEDED:

Date _____ Signature _____

REPLY:

Date _____ Signature _____

01 33 00-K REQUEST FOR ALTERATION

(OWNER)

REQUEST FOR ALTERATION

CONTRACTOR _____
Requested By _____
Subject _____
Spec. Section _____
Drawing References _____
Date Reply Needed _____

RFA# _____
Directed to _____
Date Received _____
Date Transmitted _____
Date Reply Received _____
Date Reply Transmitted _____

REQUESTED ALTERATION:

Date _____ Signature _____

REPLY:

Date _____ Signature _____

01 33 00-L CONTRACTOR'S DAILY CONSTRUCTION REPORT

CONTRACTOR _____

CONTRACTOR'S DAILY CONSTRUCTION REPORT

Project Name _____	Report No. _____	Date _____
Project No. _____		

CONTRACTORS WORK FORCE:	SUBCONTRACTORS WORK FORCE:	EQUIPMENT ON SITE:
		In Use Not in Use
Administrative _____	Mechanical _____	Cranes _____
Supervisors _____	Electrical _____	Loaders _____
Carpenters _____	Instrumentation _____	Dozers _____
Iron Workers _____	Sitework _____	Scrapers _____
Operators _____	Masonry _____	Compactors _____
Finishers _____	Roofing _____	Compressors _____
Welders _____	Rebar _____	Welders _____
Electricians _____	Foundation _____	Graders _____
Laborers _____	Painting _____	Trucks _____
_____	_____	Backhoe _____
_____	_____	_____
_____	_____	_____

Work Performed: _____

Material and Equipment Delivered: _____

Remarks: _____

By: _____

Title: _____

SUBMITTAL TRANSMITTAL

Submittal Description: _____ Submittal No: _____

Spec Section: _____

	Routing	Sent	Received
OWNER:	Contractor/RPR		
PROJECT:	RPR/CCA		
	CCA/RPR		
CONTRACTOR:	RPR/Contractor		

We are sending you Attached Under separate cover via _____.
 Submittals for review and comment
 Product data for information only

Remarks: _____

Item	Copies	Date	Section No.	Description	Review action ^a	Reviewer initials	Review comments attached

^aNote: A = Approved; AC = Approved as Corrected; ACR = Approved as corrected Resubmit; RR - Revise and Resubmit; NR - Not Reviewed; NA - Not Approved; I - For Information Only Attach additional sheets if necessary.

Contractor

Certify either A or B:

- ___ A. We have verified that the material or equipment contained in this submittal meets all the requirements, including coordination with all related work, specified (no exceptions).
- ___ B. We have verified that the material or equipment contained in this submittal meets all the requirements specified except for the attached deviations.

No.

Deviation

Certified by: _____

01 35 26-A CONFINED SPACE DATA SHEET
(OWNER)
Confined Space Data Sheet

Name of Confined Space: _____

Location of Confined Space: _____

Division/Section Responsible for Confined Space: _____

PRE-ENTRY SYSTEM CONTROL

	<u>Check</u>
Mechanical: Isolate, lockout and de-energize to zero potential energy.	<input type="checkbox"/>
Engulfment: Blank/block/cap/bleed off lines. Lock out gates, valves, pumps.	<input type="checkbox"/>
Electrical: Lockout/Tagout	<input type="checkbox"/>
Inerting: Flush/Purge/Vent	<input type="checkbox"/>
Special precautions: _____	

ATMOSPHERE

Date of least measured values: _____

Constituent	O ₂	Explosive	H ₂ S/Toxic	CO	Date/Time	Initials
Permissible Range	19.5%-23.5%	<10% LFL	<10ppm H ₂ S	<35ppm	Completed	
Last Measured Values	_____	_____	_____	_____	_____	_____

SITE AND PERSONAL SAFETY (check if required, list type where applicable)

Personal Protective Equipment:
 Safety Harness Life Lines Hard Hats Fall Protection Retrieval Eye Ear Face Hand
 Foot Respiratory (type) _____ Clothing (type) _____
 Other: _____

Rescue and Emergency Equipment:
 Retrieval Equipment Fire Extinguishers Radios/Telephone Ladder Other _____
 Equipment on Standby for Rescue Personnel _____

Site Safety:
 Explosion-Proof Lighting Barriers/Shield/Barricades (type) _____ Postings/Flagging
 Other _____

List specific equipment isolated, de-energized, and locked out.

01 35 26-B CONFINED SPACE ENTRY PERMIT
(OWNER)
Confined Space Entry Permit

ENTRY TEAM

Division: _____ Facility: _____
Specific confined space being entered: _____
Purpose of entry (describe the work to be done): _____

Date: _____ Time: _____ Expected Job Duration (days/hours): _____
Entry Supervisor: _____ Designated Attendant: _____
Authorized/Qualified Entrants: _____

Entry-Team Rotation:

Date: _____ Time: _____
Entry Supervisor: _____ Designated Attendant: _____
Authorized/Qualified Entrants: _____

Entry-Team Rotation:

Date: _____ Time: _____
Entry Supervisor: _____ Designated Attendant: _____
Authorized/Qualified Entrants: _____

Communication Procedures:

Entry Team: _____

Standby/Rescue Personnel: _____

Sign Offs:

Person authorizing this entry: _____
Entry Supervisor: _____
Person terminating permit: _____ Date: _____ Time: _____
Distribution to: _____

01 35 26-B CONFINED SPACE ENTRY PERMIT

Confined Space Entry Permit

PRE-ENTRY SYSTEM CONTROL

	<u>Check</u>	<u>Date/Initials</u>
Mechanical: Isolate, lockout and de-energize to zero potential energy.	Completed <input type="checkbox"/>	_____
Engulfment: Blank/block/cap/bleed off lines. Lock out gates, valves, pumps.	Completed <input type="checkbox"/>	_____
Electrical: Lockout/Tagout	Completed <input type="checkbox"/>	_____
Inerting: Flush/Purge/Vent	Completed <input type="checkbox"/>	_____
Special precautions: _____		

ATMOSPHERE - Tested by portable atmospheric monitor with audible and visual alarms.
No one will enter a space with an unsafe atmosphere without approval from the Division Superintendent/Assistant Superintendent.

Constituent Permissible Range	O ₂ 19.5%-23.5%	Explosive <10% LFL	H ₂ S/Toxic <10ppm H ₂ S	CO <35ppm	Date/Time Completed	Initials
Pre-Entry	_____	_____	_____	_____	_____	_____
Post Ventilation	_____	_____	_____	_____	_____	_____
Continuous	_____	_____	_____	_____	_____	_____
Continuous	_____	_____	_____	_____	_____	_____
Continuous	_____	_____	_____	_____	_____	_____

Ventilation Used (circle one): **Mechanical** **Natural**
Special Precautions: (See Confined Space Data Sheet) _____

SITE AND PERSONAL SAFETY (check if required, list type where applicable)

Personal Protective Equipment:
 Safety Harness Life Lines Hard Hats Fall Protection Retrieval Eye Ear Face Hand
 Foot Respiratory (type) _____ Clothing (type) _____
 Other: _____

Rescue and Emergency Equipment:
 Retrieval Equipment Fire Extinguishers Radios/Telephone Other _____
 Equipment on Standby for Rescue Personnel _____

Site Safety:
 Explosion-Proof Lighting Barriers/Shield/Barricades (type) _____ Postings/Flagging
 Other _____

List specific equipment isolated, de-energized, and locked out.

01 35 26-C CONFINED SPACE HOT WORK PERMIT
(OWNER)

Confined Space Hot Work Permit

Division: _____ **Facility:** _____

Specific Confined Space Being Entered: _____

Date: _____ **Time:** _____

Expected Job Duration (days/hours): _____

Purpose of Entry (describe the work to be done): _____

Explain why work cannot be done outside of the confined space: _____

Safety Equipment Required:

Fire Extinguishers: **Yes** _____ **No** _____ **Number** _____
Type _____

Respirators: **Yes** _____ **No** _____ **Number** _____
Type _____

Other Equipment: _____

Authorizing Supervisor:

Print Name _____

Signature _____

Date Signed _____

(Project Name)

CERTIFICATE OF UNIT RESPONSIBILITY
for Section _____

(Section title)

In accordance with Paragraph 01 61 00.1.2.B of the Contract Documents, the undersigned manufacturer accepts unit responsibility for all components of equipment furnished under specification Section _____.

We hereby certify that these components are compatible and comprise a functional unit suitable for the specified performance and design requirements.

Notary Public

Name of Corporation

Commission expiration date

Address

Seal:

By: _____
Duly Authorized Official

Legal Title of Official

Date: _____

01 61 00-C MANUFACTURER'S INSTALLATION CERTIFICATION FORM

MANUFACTURER'S INSTALLATION CERTIFICATION FORM

Contract No.: _____ Section: _____

Equipment Name: _____

CONTRACTOR: _____

Manufacturer of Equipment Item: _____

The undersigned manufacturer of the equipment item described above hereby certifies that he has checked the installation of the equipment and that the equipment, as specified in the Contract Documents, has been provided in accordance with the manufacturer's recommendations, and that the trial operation of the equipment item has been satisfactory.

Comments: _____

Date

Manufacturer

Signature of Authorized Representative

Date

CONTRACTOR

Signature of Authorized Representative

EQUIPMENT TEST REPORT FORM

NOTE: This example equipment test report is provided for the benefit of CONTRACTOR and is not specific to any piece of equipment to be installed as a part of this Project. The example is furnished as a means of illustrating the level of detail required for the preparation of equipment test report forms for this project.

 NTS: INSERT AT NO. 1 AND 2 PROJECT TITLE. INSERT AT NO. 3 CONSTRUCTION
 CONTRACT ADMINISTRATOR'S NAME.

(OWNER)
 (--1--)
 (--2--)

_____ CONTRACTOR
 (--3--)

EQUIPMENT/SYSTEM TEST REPORT

Equipment Name: _____
 Equipment Number: _____
 Specification Ref: _____
 Location: _____
 System: _____

	CONTRACTOR	ENGINEER
	Verified	Date
	Verified	Date

PRE-OPERATIONAL CHECKLIST

Mechanical

Lubrication.	_____	_____	_____	_____
Alignment.	_____	_____	_____	_____
Anchor bolts.	_____	_____	_____	_____
Seal water system operational.	_____	_____	_____	_____
Equipment rotates freely.	_____	_____	_____	_____
Safety guards.	_____	_____	_____	_____
Valves operational.	_____	_____	_____	_____
Hopper purge systems operational.	_____	_____	_____	_____
Sedimentation tank/hopper clean.	_____	_____	_____	_____
O&M Manual information complete.	_____	_____	_____	_____
Manufacturer's installation certificate complete.	_____	_____	_____	_____

EQUIPMENT TEST REPORT FORM

	CONTRACTOR		ENGINEER	
	Verified	Date	Verified	Date

Electrical (circuit ring-out and high-pot tests)

Circuits:

Power to MCC __.	_____	_____	_____	_____
Control to HOA.	_____	_____	_____	_____
Indicators at MCC:				
Red (running).	_____	_____	_____	_____
Green (power).	_____	_____	_____	_____
Amber (auto).	_____	_____	_____	_____
Indicators at local control panel.	_____	_____	_____	_____
Wiring labels complete:	_____	_____	_____	_____
Nameplates:				
MCC.	_____	_____	_____	_____
Control station.	_____	_____	_____	_____
Control panel.	_____	_____	_____	_____
Equipment bumped for rotation:	_____	_____	_____	_____

Piping Systems

Cleaned and flushed:				
Suction.	_____	_____	_____	_____
Discharge.	_____	_____	_____	_____
Pressure tests:	_____	_____	_____	_____
Temporary piping screens in place:	_____	_____	_____	_____

Instrumentation and Controls

Flowmeter FE____ calibration:	_____	_____	_____	_____
Calibration Report No. _____				
Flow recorder FR____ calibrated against transmitter:	_____	_____	_____	_____
VFD speed indicator calibrated against independent reference:	_____	_____	_____	_____
Discharge overpressure shutdown switch calibration:	_____	_____	_____	_____
Simulate discharge overpressure Shutdown:	_____	_____	_____	_____

EQUIPMENT TEST REPORT FORM

CONTRACTOR		ENGINEER	
Verified	Date	Verified	Date

EQUIPMENT/SYSTEM PERFORMANCE TESTS (Section 01 79 13)

Mechanical

Motor operation temperature				
Satisfactory:	_____	_____	_____	_____
Pump operating temperature				
Satisfactory:	_____	_____	_____	_____
Unusual noise, etc?	_____	_____	_____	_____
Pump operation: 75 gpm/50 psig:	_____	_____	_____	_____
Measurement:				
Flow _____				
Pressure _____	Test gage number _____			
Alignment hot:	_____	_____	_____	_____
Dowelled in:	_____	_____	_____	_____

Remarks: _____

Electrical

Local switch function:				
Runs in <i>HAND</i>	_____	_____	_____	_____
No control power in <i>OFF</i>	_____	_____	_____	_____
Timer control in <i>AUTO</i>	_____	_____	_____	_____
Overpressure protection switch				
PS _____ functional in both				
<i>HAND</i> and <i>AUTO</i> :	_____	_____	_____	_____
Overpressure protection switch				
PS _____ set at 75 psig:	_____	_____	_____	_____
PLC 2500 set at 24-hour cycle,				
25 min <i>ON</i> :	_____	_____	_____	_____

Equipment/System Performance Test Completed

Contractor _____ Date _____

Equipment/System Performance Test Accepted

Engineer _____ Date _____

01 78 23-A OPERATION AND MAINTENANCE TRANSMITTAL FORM

OPERATION AND MAINTENANCE TRANSMITTAL FORM

Date: _____

Submittal No.¹: _____

To: _____

Contract No.: _____

Spec. Section: _____

Submittal Description: _____

From: _____

Attention: _____

Checklist	CONTRACTOR		ENGINEER	
	Satisfactory	N/A	Accept	Deficient
1. Table of Contents				
2. Equipment forms				
3. Manufacturer information				
4. Vendor information				
5. Safety precautions				
6. Operator prestart				
7. Start-up, shutdown, and post-shutdown procedures				
8. Normal operations				
9. Emergency operations				
10. Operator service requirements				
11. Environmental conditions				
12. Lubrication data				
13. Preventive maintenance plan and schedule				
14. Troubleshooting guides and diagnostic techniques				
15. Wiring diagrams and control diagrams				
16. Maintenance and repair procedures				
17. Removal and replacement instructions				
18. Spare parts and supply list				
19. Corrective maintenance man-hours				
20. Parts identification				
21. Warranty information				
22. Personnel training requirements				
23. Testing equipment and special tool information				

Remarks: _____

CONTRACTOR'S Signature

¹ Refer to Paragraph 01340-1.2 A, Transmittal Procedure.

MANUFACTURER'S INSTRUCTION CERTIFICATION FORM

Contract No: _____ Section: _____ Equipment Name: _____

CONTRACTOR: _____

Manufacturer of equipment item: _____

The undersigned manufacturer certifies that a service engineer has instructed the Plant operating personnel in the proper maintenance and operation of the equipment designated herein.

Operations Check List (check appropriate spaces)

Start-up procedure reviewed.	_____
Shutdown procedure reviewed.	_____
Normal operation procedure reviewed.	_____
Others: _____	_____
_____	_____

Maintenance Check List (check appropriate spaces)

Described normal oil changes (frequency).	_____
Described special tools required.	_____
Described normal items to be reviewed for wear.	_____
Described preventive maintenance instructions.	_____
Described greasing frequency.	_____
Others: _____	_____
_____	_____

Date

Manufacturer

Signature of Authorized Representative

Date

Signature of OWNER'S Representative

Date

Signature of CONTRACTOR'S Representative

40 05 93-A MOTOR DATA FORM

MOTOR DATA FORM

Equipment Name: _____

Equipment No.(s): _____

Site Location: _____

Nameplate Markings

Mfr _____ Mfr Model _____ Frame _____ HP _____
Volts _____ Phase _____ RPM _____ Service factor _____
FLA _____ LRA _____ Freq _____ Amb temp rating _____ degrees C
Time rating _____ Design letter _____
(NEMA MG1-10.35) (NEMA MG-1.16)
KVA code letter _____ Insulation class _____

The following information is required for explosionproof motors only:

- A. Approved by UL for installation in Class _____, Div _____
- B. UL frame temperature code _____; Group _____ Atmosphere
(NEC Tables 500-2 and 500-2(b))

The following information is required for all motors 1/2 horsepower and larger:

- A. Guaranteed minimum efficiency _____
(Section 40 05 93)
- B. Nameplate or nominal efficiency _____

Data Not Necessarily Marked on Nameplate

Type of enclosure _____ Enclosure material _____
Temp rise _____ degrees C (NEMA MG1-12.41,42)
Space heater included? _____ Yes _____ No; if Yes, _____ watts _____ volts
Type of motor winding overtemperature protection, if specified: _____

Use the space below to provide additional information on other motor modifications, if specified:

40 60 05-A LOOP WIRING AND INSULATION RESISTANCE TEST DATA FORM

LOOP WIRING AND INSULATION RESISTANCE TEST DATA FORM

Loop No.: _____

List all wiring associated with a loop in table below. Make applicable measurements as indicated after disconnecting wiring.

Wire No.	Panel Tie	Field TB	Continuity Resistance ¹		Insulation Resistance ²			
			Cond./Cond.	Cond./Shield	Shield/Gnd.	Shield/Cond.	Cond./Gnd.	Shield/Shield
A	_____	_____	--	(A/SH)	_____	_____	_____	_____
B	_____	_____	(A/B)	--	_____	_____	_____	_____
C	_____	_____	(A/C)	--	_____	_____	_____	_____
D	_____	_____	(A/D)	--	_____	_____	_____	_____
etc	_____	_____			_____	_____	_____	_____

1. Continuity Test. Connect ohmmeter leads between wires A and B and jumper opposite ends together. Record resistance in table. Repeat procedure between A and C, A and D, etc. Any deviation of +2 ohms between any reading and the average of a particular run indicates a poor conductor, and corrective action shall be taken before continuing with the loop test.
2. Insulation Test. Connect one end of a 500 volt megger to the panel ground bus and the other sequentially to each completely disconnected wire and shield. Test the insulation resistance and record each reading.

CERTIFIED _____
CONTRACTOR'S Representative

Date _____

WITNESSED _____
OWNER'S Representative

Date _____

26 05 05-A WIRE AND CABLE RESISTANCE TEST DATA FORM

WIRE AND CABLE RESISTANCE TEST DATA FORM

Wire or Cable No.: _____

Temperature, °F : _____

<u>Location of Test</u>	<u>Insulation resistance, megohms</u>
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____

CERTIFIED _____
CONTRACTOR'S Representative

Date _____

WITNESSED _____

Date _____

26 05 05-A WIRE AND CABLE RESISTANCE TEST DATA FORM

OWNER'S Representative

26 05 05-B INSTALLED MOTOR TEST DATA FORM

INSTALLED MOTOR TEST DATA FORM

Motor Equipment Number: _____ Date of test: _____

Equipment Driven: _____

MCC Location: _____ Ambient temp: _____ °F

Resistance:

Insulation resistance phase-to-ground megohms:

Phase A _____, Phase B _____, Phase C _____

Current at Full Load:

Phase _____ Current, amps _____

Phase _____ Current, amps _____

Phase _____ Current, amps _____

Thermal Overload Device: Manufacturer/Catalog No. _____ Amperes _____

Circuit breaker (MCP) setting: _____

Motor Nameplate Markings:

Mfr _____ Mfr type _____ Frame _____ HP _____

Volts _____ Phase _____ RPM _____ **Service factor _____

Amps _____ Freq _____ Ambient temp rating _____ °C

Time rating _____ **Design letter _____
(NEMA 1-10.35) (NEMA MG-1.16)

Code letter _____ Insulation class _____

**Required for 3-phase squirrel cage induction motors only.

CERTIFIED _____
CONTRACTOR'S Representative

Date _____

WITNESSED _____
OWNER'S Representative

Date _____

26 05 05-D MOTOR CONTROL CENTER TEST FORM

MOTOR CONTROL CENTER TEST FORM

Equipment No.: _____ Ambient room temperature: _____

Location: _____

A. MECHANICAL CHECK:

- 1. All bolted connections either bus to bus or cable to bus shall be torqued to the manufacturer's recommendations.

B. ELECTRICAL TESTS:

- 1. Measure insulation resistance of each bus section phase to phase and phase to ground for one minute using a megohmmeter at 1000 volts.

Test results (megohms)

<u>Phase</u>	<u>Phase</u>
A-GRD _____	A-B _____
B-GRD _____	B-C _____
C-GRD _____	C-A _____

- 2. Set the circuit breaker in the starter unit to comply with the requirements of NEC, Article 430-52 and Table 430-152.
- 3. Motor overload heater elements shall be sized and installed based on the actual nameplate full load amperes of the motor connected to the starter.

CERTIFIED _____
CONTRACTOR'S Representative

Date _____

WITNESSED _____
OWNER'S Representative

Date _____

26 05 05-E MEDIUM VOLTAGE MOTOR STARTER TEST FORM

MEDIUM VOLTAGE MOTOR STARTER TEST FORM

Equipment No.: _____

Location: _____

Room Temperature: _____

A. The protective devices shall be set in accordance with the specification before the tests are performed.

1. Measure contact resistance (micro-ohms).

Phase: A _____ B _____ C _____

Contacts shall be replaced if resistance exceeds 50 micro-ohms.

2. Perform an insulation resistance test (1000 volts DC for 1 minute).

<u>Phase</u>	<u>A</u>	<u>B</u>	<u>C</u>	
Pole to ground	___	___	___	megohms
Across open pole	___	___	___	megohms
Pole to pole	AB _____	BC _____	CA _____	megohms

3. Perform minimum pickup voltage tests on trip and close coils.

4. Motor RTDs shall be tested by using a hot oil bath. The temperature at which the sensor trips shall be recorded for each RTD.

5. The Contactor shall be tripped by operation of each protective device.

CERTIFIED _____
CONTRACTOR'S Representative

Date _____

WITNESSED _____
OWNER'S Representative

Date _____

MEDIUM VOLTAGE SWITCHGEAR TEST FORM

Equipment No.: _____

Location: _____

Room Temperature: _____

A. The protective devices shall be set in accordance with the specification before the tests are performed.

1. Measure contact resistance (micro-ohms).

Phase: A___ B___ C___

Contacts shall be replaced if resistance exceeds 50 micro-ohms.

2. Perform an insulation resistance test (1000 volts DC for 1 minute).

<u>Phase</u>	<u>A</u>	<u>B</u>	<u>C</u>	
Pole to ground	___	___	___	megohms
Across open pole	___	___	___	megohms
Pole to pole	AB___	BC___	CA___	megohms

3. Perform minimum pickup voltage tests on trip and close coils.

4. Verify the instrument transformer ratios. Check the transformer's polarity electrically.

5. The Contactor shall be tripped by operation of each protective device.

CERTIFIED _____
CONTRACTOR'S Representative

Date _____

WITNESSED _____
OWNER'S Representative

Date _____

26 05 05-G PROTECTIVE RELAY TEST FORM

PROTECTIVE RELAY TEST FORM

Location: _____

Switchgear Breaker No.: _____

Protective Relay Description: _____

- A. The protective relays shall be tested in the following manner:
 - 1. Each protective relay circuit shall have its insulation resistance tested to ground.
 - 2. Perform the following tests on the specified relay setting:
 - a. Pickup parameters on each operating element.
 - b. Timing test shall be performed at three points on the time dial curve.
 - c. Pickup target and seal-in units.

- B. The results shall be recorded and signed by CONTRACTOR and CONSTRUCTION CONTRACT ADMINISTRATOR. A copy shall be provided to the CONSTRUCTION CONTRACT ADMINISTRATOR in accordance with Section 01 79 13, Equipment and System Startup and Performance Testing.

CERTIFIED _____
CONTRACTOR'S Representative

Date _____

WITNESSED _____
OWNER'S Representative

Date _____

26 05 05-H LOW VOLTAGE SWITCHGEAR TEST FORM

LOW VOLTAGE SWITCHGEAR TEST FORM

Equipment No.: _____

Location: _____

Room Temperature: _____

A. The protective devices shall be set in accordance with the specification before the tests are performed.

1. Measure contact resistance (micro-ohms).

Phase: A _____ B _____ C _____

Contacts shall be replaced if resistance exceeds 50 micro-ohms.

2. Perform an insulation resistance test (1000 volts DC for 1 minute).

<u>Phase</u>	<u>A</u>	<u>B</u>	<u>C</u>	
Pole to ground	_____	_____	_____	megohms
Across open pole	_____	_____	_____	megohms
Pole to pole	AB _____	BC _____	CA _____	megohms

3. Minimum pickup current shall be determined by primary current injection.

4. Long time delay shall be determined by primary injection at 300 percent pickup current.

5. Short time pickup and time delay shall be determined by primary injection of current.

6. Instantaneous pickup current shall be determined by primary injection.

7. Trip unit reset characteristics shall be verified.

8. Auxiliary protective devices, such as ground fault or under voltage relays, shall be activated to ensure operation of shunt trip devices.

CERTIFIED _____
CONTRACTOR'S Representative

Date _____

WITNESSED _____
OWNER'S Representative

Date _____

26 05 05-1 MEDIUM VOLTAGE LOAD INTERRUPTER SWITCH TEST FORM

MEDIUM VOLTAGE LOAD INTERRUPTER SWITCH TEST FORM

Equipment Number: _____

Location: _____

Date: _____

1. Measure switch blade resistance (micro-ohms).

Phase: A _____ B _____ C _____

Contacts shall be replaced if resistance exceeds 50 micro-ohms.

2. Perform an insulation resistance test (1000 volts DC for 1 minute).

<u>Phase</u>	<u>A</u>	<u>B</u>	<u>C</u>
Pole to ground	—	—	— megohms
Across open pole	—	—	— megohms
Pole to pole	AB__	BC __	CA __ megohms

The results shall be recorded and signed by CONTRACTOR and CONSTRUCTION CONTRACT ADMINISTRATOR. A copy shall be provided to the CONSTRUCTION CONTRACT ADMINISTRATOR in accordance with Section 01 79 13, Equipment and System Startup and Performance Testing.

CERTIFIED _____
CONTRACTOR'S Representative

Date _____

WITNESSED _____
OWNER'S Representative

Date _____

Northern Kentucky Water District

January 23, 2014

Contact Name
Contractor Name
Street Name
City, State Zip

Re: Taylor Mill Treatment Plant Electrical and Basin Improvements
Project

Dear Contractor:

The Northern Kentucky Water District's Board of Commissioners approved award of the Taylor Mill Treatment Plant Electrical and Basin Improvements project on _____, 2014. At this time we are waiting on a response from the Kentucky Public Service Commission regarding approval of this project before we execute the Contract Documents.

You have requested that your company be permitted to prepare and submit shop drawings for review prior to the issuance and delivery of both the Notice of Award and the Notice to Proceed for the project. The District is willing to allow you to begin preparing and submitting shop drawings for review prior to the issuance and delivery of the Notice of Award and the Notice to Proceed as long as you understand and agree that there is no guarantee that your company will be awarded the project and that your company will bear all costs and expenses in the preparation and submission of the shop drawings should your company not be awarded the project.

At this time we do not have any reason to believe that _____ will not be awarded the project, however, we are sending this letter to clarify the District's position. If your company understands and agrees with these conditions, please so indicate by signing this letter below and returning it to me as soon as possible and prior to the preparation and submission of any shop drawings.

Sincerely yours,

Amy Kramer, P.E.
Engineering Manager

Understood and Agreed by:

CONTRACTOR NAME

Name: _____

Title: _____

SECTION 01 35 43

CONTRACTOR'S HAZARDOUS MATERIALS MANAGEMENT PROGRAM

PART 1 – GENERAL

1.1 DESCRIPTION

- A. CONTRACTOR shall develop, implement, and maintain a Hazardous Materials management program (HMMP) throughout the Project, in accordance with Laws and Regulations.
1. Hazardous Materials Brought to Site by Contractor: Transport, handle, store, label, use, and dispose of in accordance with this Section, and Laws and Regulations.
 2. Hazardous Material Generated by Contractor:
 - a. Hazardous Material shall be properly handled, stored, labeled, transported and disposed of by CONTRACTOR in accordance with Laws and Regulations, and this Section.
 - b. If CONTRACTOR will generate or has generated Hazardous Material at the Site, obtain a United States Environmental Protection Agency (EPA) identification number listing CONTRACTOR's name and address of the Site as generator of the Hazardous Material. Obtain identification number from state environmental agency or similar authority having jurisdiction at the Site. Submit identification number within time frame specified in Article 1.3 of this Section.
 - c. CONTRACTOR shall be responsible for identifying, analysis of profiling, transporting, and disposing of Hazardous Material generated by CONTRACTOR.
 3. Fines or civil penalties levied against OWNER for violations committed at the Site by CONTRACTOR, and costs to OWNER (if any) associated with cleanup of Hazardous Materials shall be paid by CONTRACTOR.
- B. Enforcement of Laws and Regulations:
1. Interests of OWNER are that accidental spills and emissions, Site contamination, and injury of personnel at the Site are avoided.
 2. When OWNER is aware of suspected violations, OWNER will notify CONTRACTOR, and authorities having jurisdiction if OWNER reasonably concludes that doing so is required by Laws or Regulations.
- C. Related Sections:
1. Section 01 35 44, Spill Prevention Control and Countermeasures Plan.

1.2 DEFINITIONS

- A. The following terms are defined for this Section and supplement the terms defined in the General Conditions:
1. Hazardous Material: Material, whether solid, semi-solid, liquid, or gas, that, if not stored or used properly, may cause harm or injury to persons through inhalation, ingestion, absorption or injection, or that may negatively impact the environment through use or discharge of the material on the ground, in water (including groundwater), or to the air. Hazardous Material includes, but is not limited to, chemicals, Asbestos, Hazardous Waste, PCBs, Petroleum, Radioactive Material, and which is or becomes listed, regulated, or addressed pursuant to [a] the Comprehensive Environmental Response, Compensation and Liability Act, 42 United States Code (USC) §§9601 et seq. (“CERCLA”); [b] the Hazardous Materials Transportation Act, 49 USC §§1801 et seq.; [c] the Resource Conservation and Recovery Act, 42 USC §§6901 et seq. (“RCRA”); [d] the Toxic Substances Control Act, 15 USC §§2601 et seq.; [e] the Clean Water Act, 33 USC §§1251 et seq.; [f] the Clean Air Act, 42 USC §§7401 et seq.; and [g] any other Law or Regulation regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements: Laws and Regulations applying to the Work under this Section include:
1. Code of Federal Regulations (CFR), Title 29, Part 1910, Occupational Safety and Health Standards.
 2. CFR, Title 29, Part 1926, Safety and Health Regulations for Construction.
 3. CFR Title 40, Protection of Environment.
 4. CFR, Title 49, Transportation.
 5. Occupational health and safety requirements of state labor department or similar entity; environmental Laws and Regulations of state environmental agency, Laws and Regulations of state department of transportation.

1.4 SUBMITTALS

- A. Informational Submittals: Submit the following to the entity(ies) specified for each:
1. Hazardous Materials (including Chemicals) Proposed for Use at the Site: Submit current (dated within the past two years) material safety data sheets (MSDS) in accordance with 29 CFR 1910.1200 (OSHA Hazard Communication Standard), manufacturer, Supplier (if different than manufacturer), container size(s) and number of containers proposed to be at the Site, minimum and maximum volume of material intended to be stored at the Site, and description of process or procedures in which Hazardous Material will be used. Furnish information in sufficient time to obtain OWNER’s acceptance

- no later than least three days before bringing Hazardous Material to the Site. Submit to CONSTRUCTION CONTRACT ADMINISTRATOR and OWNER's environmental representative.
2. Hazardous Material Generated at the Site: Submit for each Hazardous Material generated at the Site identification number, analysis results, and number and size of storage containers at the Site. Furnish information not less three days of CONTRACTOR's receipt of analytical results. Submit to CONSTRUCTION CONTRACT ADMINISTRATOR and OWNER's environmental representative.
 3. Permits: Copies of permits for storing, handling, using, transporting, and disposing of Hazardous Materials, obtained from authorities having jurisdiction. Submit to OWNER's environmental representative and CONSTRUCTION CONTRACT ADMINISTRATOR.
 4. Other Documents required for the HMMP: Submit to OWNER's environmental representative requested documents within three days of CONTRACTOR's receipt of request. HMMP documents may include emergency/spill response plan, communication plan, and other documents.
 5. Qualifications Statements:
 - a. Contractor's Safety Representative: Submit qualifications of proposed safety representative, including summary of experience, training received and valid certifications applicable to the Project.

1.5 HAZARDOUS MATERIALS MANAGEMENT

- A. Obtain OWNER's environmental representative's acceptance before bringing each Hazardous Material to the Site.
- B. Communication Plan: CONTRACTOR shall develop a Hazardous Materials communication plan. At minimum, maintain at the Site two notebooks containing: 1) Inventory of Hazardous Materials (including all chemicals); and, 2) Current (dated within the past two years) material safety data sheets (MSDS) for all materials being used to accomplish the Work, whether or not defined as Hazardous Material in this Section. Keep one notebook in CONTRACTOR's field office at the Site; keep second notebook at location acceptable by OWNER's environmental representative. Keep notebooks up-to-date as materials are brought to and removed from the Site.
- C. Emergency/Spill Response Plan: Develop, implement, and maintain an emergency/spill response plan, for each Hazardous Material or each class/group of Hazardous Materials as applicable. At minimum, response plan shall include the following:
 1. Description of equipment available at the Site to contain or respond to emergency related to or spill of the material.
 2. Procedures for notifying, and contact information for: authorities having jurisdiction, emergency responders, OWNER, CONSTRUCTION

CONTRACT ADMINISTRATOR, the public as applicable, and other entities as required.

3. Response coordination procedures between CONTRACTOR, OWNER, and others as appropriate.
4. Site plan showing proposed location of Hazardous Materials storage area and location of spill containment/response equipment, and location of storm water drainage inlets and drainage routes.
5. Description of Hazardous Material handling and spill response training provided to CONTRACTOR's and Subcontractors' employees, in accordance with 29 CFR 1926.21(b) and other Laws and Regulations..
6. Comply with Section 01 35 44, Spill Prevention Control and Countermeasures Plan.

D. Storage of Hazardous Materials and Non-Hazardous Materials:

1. Hazardous Materials containers shall bear applicable hazard diamond(s).
2. Container Labeling:
 - a. Properly label each container of consumable materials, whether or not classified as Hazardous Materials under this Section.
 - b. Stencil CONTRACTOR's name and, as applicable, Subcontractor's name, on each vessel containing Hazardous Material and, for non-Hazardous Materials, on each container over five-gallon capacity. Containers shall bear securely-attached label clearly identifying contents. Label containers that are filled from larger containers.
 - c. If OWNER becomes aware of unlabeled containers at the Site, OWNER's environmental representative will notify CONTRACTOR. Properly label container(s) within one hour of receipt of notification or remove container from the Site.
3. To greatest extent possible, store Hazardous Materials off-Site until required for use in the Work.

E. Hazardous Materials Storage Area:

1. Maintain designated storage area for Hazardous Materials that includes secondary containment. Storage area shall include barriers to prevent vehicles from colliding with storage containers, and shall include protection from environmental factors such as weather.
2. Provide signage in accordance with Laws and Regulations, clearly identifying the Hazardous Materials storage area.

F. CONTRACTOR's safety representative shall meet at least monthly with OWNER's environmental representative to review CONTRACTOR's HMMP documents, procedures, and inspect storage areas and the Site in general, to verify compliance with this Section.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 35 44

SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

PART 1 – GENERAL

1.1 DESCRIPTION

- A. CONTRACTOR shall provide all labor, materials, equipment, tools, professional engineering (when required), and incidentals as shown, specified, and required to comply with Laws and Regulations regarding spill prevention control and countermeasures (SPCC) planning and compliance, including 40 CFR Part 112.
- B. CONTRACTOR shall determine whether a SPCC Plan is required. If SPCC Plan is required, CONTRACTOR shall prepare, implement and maintain SPCC Plan as required by Laws and Regulations.
- C. Determination of Need for SPCC Plan:
 - 1. CONTRACTOR shall determine need for SPCC Plan.
 - 2. Professional Engineer:
 - a. If the Site will include storage of more than 10,000 gallons of oil in above-ground storage, or if the Site does not comply with oil discharge history criteria specified in 40 CFR 112, CONTRACTOR shall retain a qualified professional engineer to determine need for SPCC Plan and, if SPCC Plan is required, professional engineer shall prepare or supervise preparation of SPCC Plan.
 - b. If a professional engineer is not required to prepare the full SPCC Plan, but the SPCC Plan includes environmentally-equivalent SPCC measures, or impracticality determinations, CONTRACTOR shall retain a qualified professional engineer to prepare and certify those portions of the SPCC Plan dealing with environmentally equivalent measures and impracticality determinations; the balance of the SPCC Plan may be prepared by and self-certified by CONTRACTOR.
 - 3. Submit to CONSTRUCTION CONTRACT ADMINISTRATOR letter presenting results of evaluation of whether a SPCC Plan is required for the Project in accordance with Laws and Regulations.
- D. SPCC Plan is required if the Project activities at the Site meet the following criteria:
 - 1. the Site and activities thereon are not exempt from Laws and Regulations, and;
 - 2. oil is stored, used, transferred, or otherwise handled at the Site; and
 - 3. maximum oil storage capacity at the Site equals or exceeds either of the following thresholds: 42,000 gallons of completely buried capacity, or 1,320

- of above-ground capacity. Capacity includes total storage tank volume and operational storage volume at the Site for contractors and Subcontractors, including bulk storage tanks, containers with 55-gallon storage capacity and larger, mobile tanks located at the Site, and other containers covered by Laws and Regulations. Motive storage containers, such as those on construction equipment and vehicles, is not included. Oil includes petroleum products, fuel oil, hydraulic fluid, oil sludge, oil refuse, oil mixed with wastes other than dredged material, synthetic oil, vegetable oil, animal fats and oils, and other oils defined in Laws and Regulations; and
4. there is reasonable expectation, based on location of the Site, that oil spill would reach navigable waters of the United States or adjoining shorelines.
- E. If SPCC Plan is not required, CONTRACTOR shall ensure that conditions that preclude the need for SPCC Plan, including the activities of all contractors and Subcontractors at the Site, are maintained throughout duration of the Project. Should changes that affect the storage, use, or handling of oil at the Site occur, reassess the need for SPCC Plan at no additional cost to OWNER and provide to ENGINEER evaluation letter regarding need for SPCC Plan.
- F. If SPCC Plan is required, develop SPCC Plan and submit for acceptance by OWNER, with copy to CONSTRUCTION CONTRACT ADMINISTRATOR. SPCC Plan shall be specific to the Site and shall include the following:
1. Stamp, original signature, and license number of CONTRACTOR'S professional engineer, when self-certification by CONTRACTOR is not allowed by Laws and Regulations.
 2. Site plan identifying the name (or tag number) and location of each tank and container that will contain a substance regulated in 40 CFR 112 and other Laws and Regulations, including above-ground and buried tanks. Site plan shall indicate general directions of storm water runoff, including storm sewers and drainage inlets, and storm sewer outfall locations.
 3. For each tank and container on the Site plan, provide a table that lists the tank or container's name and tag number, type of oil stored, and maximum storage capacity. List total storage capacity of all tanks and containers at the Site covered by SPCC Laws and Regulations.
 4. Predictions of direction, rate of flow, and total quantity of oil that could be discharged from the Site as result of storage tank or container failure.
 5. Operating procedures that prevent oil spills, including procedures for oil handling, details of secondary containment structures at fuel and oil transfer areas, and details and descriptions of equipment to be used for oil handling, including piping.
 6. Details of and descriptions of control measures installed at the Site by CONTRACTOR to prevent spill from reaching navigable waters, including secondary containment and diversionary structures. For on-shore Sites, one of the following must be used, at minimum: dikes, berms, or retaining walls; curbing; culverts, gutters, or other drainage systems; weirs, booms, or other barriers; spill diversion ponds; retention ponds; sorbent materials. Where

appropriate, the SPCC Plan shall clearly demonstrate that containment or diversionary structures or equipment are not practical. Include brittle fracture evaluation, where required, for field-constructed above-ground storage containers undergoing repair, alteration, construction, or change in service.

7. Plans for countermeasures to contain, clean up, and mitigate effects of oil spill that reaches navigable waters, including written commitment of manpower, equipment, and materials to quickly control and remove spilled oil. Include estimation of time required to contain spill after spill occurs.
 8. Contact list and telephone numbers for facility response coordinator, National Response Center, cleanup contractors, and all appropriate federal, state, and local authorities having jurisdiction to be contacted in event of spill or discharge.
 9. Program for monthly inspections of the Site by CONTRACTOR for SPCC Plan compliance. Notify OWNER of each inspection at least 72 hours in advance.
 10. Measures for Site security relative to oil storage.
 11. Procedures for safely handling mobile containers such as totes, drums, and fueling vehicles and construction equipment that remain at the Site.
 12. Procedures and schedules for periodic testing of integrity of tanks and containers, and associated piping and valves.
 13. Plans for bulk storage container compliance.
 14. Plans for personnel training and oil spill prevention briefings.
 15. For SPCC Plans that do not follow the format listed in Laws and Regulations, provide cross-reference to requirements of Laws and Regulations, including 40 CFR 112.7.
- G. Obtain acceptance of SPCC Plan by OWNER, for coordination with OWNER's Site-specific SPCC Plan, if any.
- H. SPCC Plan shall be reviewed by CONTRACTOR's professional engineer (when professional engineer is required) and OWNER every five years, as applicable.
- I. Post a copy of accepted, certified SPCC Plan in conspicuous location at the Site and provide copies to OWNER, CONSTRUCTION CONTRACT ADMINISTRATOR, other contractors, and Subcontractors as appropriate. All contractors shall comply with SPCC Plan.
- J. In event of violation of SPCC Plan or release of oils attributable to construction operations, CONTRACTOR shall:
1. Immediately issue notifications in accordance with Laws and Regulations, including 40 CFR 110 and 40 CFR 112. When required by Laws and Regulations, report to National Response Center, US Environmental Protection Agency, and other authorities having jurisdiction, if any.
 2. Have spill clean-up performed in conformance with Laws and Regulations and the SPCC Plan.

3. Pay fines or civil penalties (or responsible portion thereof) imposed on OWNER by authorities having jurisdiction, and pay costs associated with clean-up of spills.

1.2 QUALITY ASSURANCE

A. Qualifications:

1. Professional Engineer:

- a. When required by Laws and Regulations, engage a registered professional engineer legally qualified to practice in the jurisdiction where the Site is located and experienced in providing engineering services of the kind indicated.
- b. Submit qualifications data.
- c. Responsibilities include but are not necessarily limited to:
 - 1) Carefully reviewing Laws and Regulations relative to SPCC.
 - 2) Preparing written requests for clarifications or interpretations of criteria specified in the Contract Documents for submittal to CONSTRUCTION CONTRACT ADMINISTRATOR by CONTRACTOR, and obtaining from authorities having jurisdiction clarifications regarding Laws and Regulations as required.
 - 3) Preparing or supervising the preparation of letter-report evaluation of need for SPCC Plan in accordance with the Contract Documents. Evaluation shall include professional engineer's seal, registration number, and original signature.
 - 4) When SPCC Plan is required, preparing, supervising the preparation of, or reviewing the SPCC Plan (or designated portions thereof when oil storage at the Site will be 10,000 gallons or less) in accordance with the Contract Documents. SPCC Plan (or designated portions thereof) shall include professional engineer's seal, registration number, and original signature.
 - 5) Periodically re-evaluating the need for SPCC Plan and issuing findings as letter-reports with seal, license number, and signature. When SPCC Plan is required, periodically evaluating the SPCC Plan and providing recommendations for compliance with Laws and Regulations, in accordance with the Contract Documents.
 - 6) Certifying that:
 - a) it is familiar with the Laws and Regulations, including 40 CFR 112, and
 - b) it has visited, examined, and is familiar with the Site, planned modifications to the Site under the Project as such modifications pertain to SPCC Laws and Regulations, and
 - c) it has performed the evaluations and prepared SPCC Plan in accordance with the Contract Documents, and
 - d) procedures for required testing and inspections have been established, and
 - e) the said evaluations and SPCC Plan are adequate for the Project,

- and
- f) the said evaluations and SPECC Plan conform to all Laws and Regulations, applicable industry standards, and to prevailing standards of practice.

1.3 SUBMITTALS

- A. Informational Submittals: Submit the following:
 - 1. Certifications: With each evaluation letter and SPCC Plan submittal, include certification signed by preparer of submittal that the submittal conforms to the Contract Documents and Laws and Regulations. Signature on all certifications shall be original.
 - 2. Evaluations:
 - a. Submit letter presenting results of evaluation of whether a SPCC Plan is required for the Project. Submit evaluation no later than fourteen days after the Contract Times commence running, unless longer time is allowed by CONSTRUCTION CONTRACT ADMINISTRATOR.
 - b. Submit updated evaluations as required when conditions at the Site change. Submit updated evaluation no later than seven days after the conditions at the Site change, or within seven days of CONSTRUCTION CONTRACT ADMINISTRATOR's request, unless longer time is allowed by CONSTRUCTION CONTRACT ADMINISTRATOR.
 - 3. SPCC Plan: When SPCC Plan is required:
 - a. Submit jointly to OWNER and CONSTRUCTION CONTRACT ADMINISTRATOR. Submit within fourteen days of receipt of CONSTRUCTION CONTACT ADMINISTRATOR's acceptance of evaluation submittal.
 - b. Update CONSTRUCTION CONTRACT ADMINISTRATOR e and resubmit the SPCC Plan, or acceptable SPCC Plan amendments, as required when conditions at the Site change. Submit updated SPCC Plan or amendments no later than seven days after the change in conditions at the Site change giving rise to the SPCC Plan change or amendment, or within seven days of CONSTRUCTION CONTRACT ADMINISTRATOR's request, unless longer time is allowed by CONSTRUCTION CONTRACT ADMINISTRATOR.
 - 4. SPPC Plan Distribution: When SPCC Plan is required, submit copies of letters transmitting SPCC Plan and amendments (if any) to contractors and Subcontractors working at the Site.
 - 5. Qualifications Statements: CONTRACTOR's professional engineer, when requested by CONSTRUCTION CONTRACT ADMINISTRATOR.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 42 00

REFERENCES

PART 1 – GENERAL

1.1 DEFINITIONS

- A. Definitions and terminology applicable to all the Contract Documents are included in the General Conditions and Supplementary Conditions.
- B. Terminology used in the Specifications includes:
1. “Indicated” refers to graphic representations, notes, or schedules on the Drawings, or to other paragraphs or schedules in the Specifications and similar locations in the Contract Documents. Terminology such as “shown”, “noted”, “scheduled”, and “specified” are used to help the user locate the reference without limitation on the location.
 2. “Installer”, “applicator”, or “erector” is CONTRACTOR or another entity engaged by CONTRACTOR, either as an employee or Subcontractor, to perform a particular construction activity, including installation, erection, application or similar Work. Installers shall be experienced in the Work that installer is engaged to perform.
 - a. The term “experienced”, when used with the term “installer” means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; being familiar with Laws and Regulations; and having complied with requirements of authorities having jurisdiction, and complying with requirements of the Supplier of the material or equipment being installed.
 3. Trades: Use of a term such as “carpentry” does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as “carpenter”, unless otherwise indicated in the Contract Documents or required by Laws or Regulations. Such terminology also does not imply that specified requirements apply exclusively to trade personnel of the corresponding generic name.
 4. “Assigned specialists” and similar terms: Certain Sections of the Specifications require that specific construction activities be performed by specialists recognized as experts in those operations. Engage said specialists for those activities, and their engagement is a requirement over which CONTRACTOR has no option. These requirements do not conflict with enforcement of building codes and other Laws and Regulations. Also, such requirements are not intended to interfere with local trade union jurisdictional settlements and similar conventions. Such assignments shall not relieve CONTRACTOR of responsibility for complying with the requirements of the Contract Documents.

1.2 ABBREVIATIONS

A. Common abbreviations that may be found in the Contract Documents are listed below, alphabetically by their written-out meaning:

alternating current		a-c
ampere		A
ante meridian		a.m.
average		avg
biochemical oxygen demand		BOD
brake horsepower		bhp
British thermal unit		Btu
Centigrade (or Celsius)		C
chlorinated polyvinyl chloride		CPVC
Construction Contract Administration		CCA
cubic inch		cu in
cubic foot		cu ft
cubic yard		cu yd, or CY
cubic feet per minute		cfm
cubic feet per second		cfs
decibel		db
degree Centigrade (or Celsius)	(Write)	degrees C or °C
degrees Fahrenheit		degrees F or °F
diameter		dia
direct current		d-c
dollars		\$
each		ea
efficiency		eff
Fahrenheit		F
feet		ft
feet per hour		fph
feet per minute		fpm
feet per second		fps
figure		Fig
flange		flg
foot-pound		ft-lb
gallon		gal

gallons per hour	gph
gallons per minute	gpm
gallons per second	gps
gram	g
grams per liter	g/L
Hertz	Hz
horsepower	hp or HP
hour	hr
inch	in.
inches water gage	in. w.g.
inch-pound	in.-lb
inside diameter	ID
thousand pounds	kips
thousand pounds per square inch	ksi
kilovolt-ampere	kva
kilowatt	kw
kilowatt-hour	kwhr or kwh
linear foot	lin ft or LF
liter	L
maximum	max
mercury	Hg
milligram	mg
milligrams per liter	mg/l or mg/L
milliliter	ml
millimeter	mm
million gallons per day	mgd or MGD
million gallon	MG
minimum	min
National Pipe Threads	NPT
net positive suction head	NPSH
net positive suction head available	NPSHA
net positive suction head required	NPSHR
number	no.
ounce	oz
ounce-force	ozf
outside diameter	OD

parts per hundred	pph
parts per million	ppm
parts per billion	ppb
polyvinyl chloride	PVC
post meridian	p.m.
pound	lb
pounds per square inch	psi
pounds per square inch absolute	psia
pounds per square inch gauge	psig
pounds per square foot	psf
revolutions per minute	rpm
second	sec
specific gravity	sp gr, or SG
square	sq
square foot	sq ft, or sf
square inch	sq in.
square yard	sq yd, or SY
standard	std
standard cubic feet per minute	scfm
total dynamic head	TDH
totally-enclosed fan-cooled	TEFC
vertical foot	VF
volt	V
volts alternating current	vac
volts direct current	vdc
vertical foot	vf

1.3 REFERENCE STANDARDS

- A. Refer to Article 3 of the General Conditions, as may be modified by the Supplementary Conditions, relative to reference standards and resolving discrepancies between reference standards and the Contract Documents. Provisions of reference standards are in effect in accordance with the Specifications.
- B. Copies of Standards: Each entity engaged in the Work shall be familiar with reference standards applicable to its construction activity. Copies of applicable reference standards are not bound with the Contract Documents. Where reference

standards are needed for a construction activity, obtain copies of standards from the publication source.

- C. Abbreviations and Names: Where reference standards, specifications, codes, manuals, Laws or Regulations, or other published data of international, national, regional or local organizations are referred to in the Contract Documents, the organization issuing the standard may be referred to by their acronym or abbreviation only. Following acronyms or abbreviations that may appear in the Contract Documents shall have the meanings indicated below. Listing is alphabetical by acronym.

AA	Aluminum Association
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACS	American Chemical Society
AEIC	Association of Edison Illuminating Companies
AF&PA	American Forest and Paper Association
ABMA	American Bearing Manufacturers Association (formerly Anti-Friction Bearing Manufacturers Association (AFBMA))
AGMA	American Gear Manufacturers Association
AI	Asphalt Institute
AIChE	American Institute of Chemical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALSC	American Lumber Standards Committee
AMA	Acoustical Materials Association
AMCA	Air Movement and Control Association
ANSI	American National Standards Institute
APA	The Engineered Wood Association
API	American Petroleum Institute
APHA	American Public Health Association
AREA	American Railway Engineering Association
ARI	Air Conditioning and Refrigeration Institute
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning

Engineers

ASME	American Society of Mechanical Engineers
ASNT	American Society for Non-Destructive Testing
ASTM	American Society for Testing and Materials
AWCI	Association of the Wall and Ceiling Industry
AWI	Architectural Woodwork Institute
AWPA	American Wood Protection Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BAAQMD	Bay Area Air Quality Management District
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Industry Association
CBMA	Certified Ballast Manufacturers Association
CDA	Copper Development Association
CEMA	Conveyor Equipment Manufacturers Association
CGA	Compressed Gas Association
CISCA	Ceilings and Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CMAA	Crane Manufacturers Association of America
CRSI	Concrete Reinforcing Steel Institute
DIN	Deutsches Institut für Normung eV (German Institute for Standardization)
DIPRA	Ductile Iron Pipe Research Association
EJMA	Expansion Joint Manufacturers Association, Inc.
ETL	Intertek Testing Services, Inc. (formerly ETL Testing Laboratories, Inc.)
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FM	Factory Mutual (FM Global)
FRPI	Fiberglass Reinforced Plastics Institute
FS	Federal Specification
GA	Gypsum Association
GANA	Glass Association of North America
HEW	United States Department of Health, Education and Welfare
HI	Hydraulic Institute
HMI	Hoist Manufacturers Institute

HUD	United States Department of Housing and Urban Development
IBC	International Building Code
ICC	International Code Council
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
IFI	Industrial Fasteners Institute
IRI	Industrial Risk Insurers
ISA	Instrumentation, Systems, and Automation Society (formerly Instrument Society of America)
ISO	Insurance Services Office
ISO	International Organization for Standardization
LEED	Leadership in Energy and Environmental Design (USGBC)
LPI	Lightning Protection Institute
MIA	Marble Institute of America
ML/SFA	Metal Lath/Steel Framing Association
MS	Military Specifications
MSS	Manufacturers' Standardization Society
MMA	Monorail Manufacturers Association
NAAMM	National Association of Architectural Metal Manufacturers
NACE	National Association of Corrosion Engineers
NAPF	National Association of Pipe Fabricators, Inc.
NARUC	National Association of Regulatory Utilities Commissioners
NBHA	National Builders Hardware Association
NCMA	National Concrete Masonry Association
NEC	National Electric Code
NELMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NESC	National Electrical Safety Code
NETA	International Electrical Testing Association
NFPA	National Fire Protection Association
NFRC	National Fenestration Rating Council
NGA	National Glass Association
NHLA	National Hardwood Lumber Association
NHPMA	Northern Hardwood and Pine Manufacturers Association
NIST	United States Department of Commerce, National Institute of Standards and Technology
NLGA	National Lumber Grades Authority

NRCA	National Roofing Contractors Association
NRMCA	National Ready Mixed Concrete Association
NSF	National Sanitation Foundation
NSSGA	National Stone, Sand, and Gravel Association
NTMA	National Terrazzo and Mosaic Association
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PEI	Porcelain Enamel Institute
PFI	Pipe Fabrication Institute
PPI	Plastics Pipe Institute
PGMC	Primary Glass Manufacturers Council
PS	Product Standards Section, United States Department of Commerce
RCSC	Research Council on Structural Connections (part of AISC)
RMA	Rubber Manufacturers Association
SAE	Society of Automotive Engineers
SCAQMD	Southern California Air Quality Management District
SCPRF	Structural Clay Products Research Foundation
SDI	Steel Deck Institute
SDI	Steel Door Institute
SIGMA	Sealed Insulating Glass Manufacturing Association
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractor's National Association
SPI	Society of the Plastics Industry
SPIB	Southern Pine Inspection Bureau
SSPC	Society for Protective Coatings
SWI	Steel Window Institute
TEMA	Tubular Exchanger Manufacturers Association
TCNA	Tile Council of North America
UL	Underwriters Laboratories, Inc.
USEPA	United States Environmental Protection Agency
USGBC	United States Green Building Council
USGS	United States Geological Survey
USPHS	United States Public Health Service
WCLIB	West Coast Lumber Inspection Bureau
WDMA	Window and Door Manufacturers Association

WWEMA Water and Wastewater Equipment Manufacturers Association
WWPA Western Wood Products Association

1.4 APPLICABLE CODES

- A. References in the Contract Documents to local code(s) shall mean the following:
1. Kentucky Building Code, Latest Edition
 2. National Electric Code.
 3. NFPA 101, Life Safety Code.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 45 29

TESTING LABORATORY SERVICES

PART 1 – GENERAL

1.1 DESCRIPTION

- A. OWNER will employ and pay for an independent testing laboratory to perform specified services. Testing laboratory selected will be subject to ENGINEER's acceptance. CONTRACTOR shall coordinate with OWNER's special inspection and testing agency.
- B. Inspection, sampling and testing shall be as specified in the Specifications including but not limited to the following:
 - 1. Section 01 45 33, Code Required Special Inspections and Procedures.
 - 2. Section 03 00 05, Concrete, for concrete tests.
 - 3. Section 05 05 33, Anchor Systems.
 - 4. Section 09 91 00, Painting, for tests on paint and painting.
 - 5. Other tests in the Contract Documents that are not specifically assigned to others.
- C. CONTRACTOR shall pay for:
 - 1. Tests not specifically indicated in the Contract Documents as being OWNER's responsibility.
 - 2. Tests made for CONTRACTOR's convenience.
 - 3. Repeat tests required because of CONTRACTOR's negligence or defective Work
 - 4. Tests required after failure of two or more of the same test for the same item to comply with the Contract Documents, for tests initially paid for by OWNER.
- D. Testing laboratory is not authorized to approve or accept any portion of the Work or defective Work; rescind, alter, or augment requirements of Contract Documents; and perform duties of CONTRACTOR.

1.2 REFERENCES

- A. Standards referenced in this Section are:
 - 1. ASTM E329, Specification for Agencies Engaged in Construction Inspection and/or Testing.
 - 2. ISO/IEC 17025, General Requirements for the Competence of Testing and Calibration Laboratories.
 - 3. NIST SRM, Standard Reference Materials.

1.3 QUALITY ASSURANCE

A. Qualifications:

1. Testing Laboratory:

- a. Testing laboratory will comply with applicable requirements of ASTM E329.
- b. Testing laboratory will be authorized to operate in the same state as the Site. Where applicable, laboratory will be certified by the authority having jurisdiction for the types of testing required.
- c. Testing equipment used by laboratory will be calibrated at maximum intervals of twelve months by devices of accuracy traceable to one of the following: NIST SRM, ISO/IEC 17025, certified by state or local bureau of weights and measures, or values of natural physical constants generally accepted in the engineering and scientific community.

1.4 SUBMITTALS

A. Informational Submittals: Submit the following:

1. Quality Control Submittals and Test Reports: Promptly submit to ENGINEER and CONTRACTOR results of testing and inspections, in accordance with Section 01 33 00, Submittal Procedures, including:
 - a. Date issued.
 - b. Project title, number, and name of the Site.
 - c. Testing laboratory name and address.
 - d. Name and signature of inspector or person obtaining samples.
 - e. Date of inspection or sampling.
 - f. Record of temperature and weather.
 - g. Date of test.
 - h. Identification of material or product tested, and associated Specification Section.
 - i. Location in the Project.
 - j. Type of inspection or test.
 - k. Results of tests and observations regarding compliance with the Contract Documents.
2. Qualifications Statements: Upon CONTRACTOR's request, testing laboratory will submit the following:
 - a. Testing Laboratory:
 - 1) Qualifications statement indicating experience and facilities for tests required under the Contract Documents.
 - 2) Copy of report of inspection of facilities during most recent NIST inspection tour. Include memorandum of remedies of deficiencies reported during inspection.
 - 3) Copy of certificate of calibration for each instrument or measuring device proposed for use, by accredited calibration agency.

1.5 TESTING LABORATORY DUTIES

- A. OWNER-hired testing laboratory will:
1. Cooperate with CONTRACTOR and ENGINEER and provide qualified personnel promptly when notified.
 2. Perform required inspections, sampling, and testing of materials and methods of construction; comply with applicable reference standards and the Contract Documents; and ascertain compliance with requirements of the Contract Documents.
 3. Promptly advise ENGINEER and CONTRACTOR in writing of irregularities and deficiencies in the Work observed during performance of services.
 4. Submit to ENGINEER and CONTRACTOR written reports of inspections and tests required by the Contract Documents.
 5. Perform additional tests and services as required by OWNER or ENGINEER to verify compliance with the Contract Documents.

1.5 CONTRACTOR'S COORDINATION WITH LABORATORY

- A. CONTRACTOR shall perform and provide the following relative to OWNER-hired testing laboratory:
1. Provide to testing laboratory representative samples of materials to be tested, in required quantities.
 2. Provide labor and facilities:
 - a. For access to the Work to be tested, and where required, to Suppliers' operations.
 - b. For obtaining and handling samples at the Site.
 - c. For facilitating inspections and tests.
 - d. For laboratory's exclusive use for storing and curing of test samples.
 - e. Forms for preparing concrete test beams and cylinders.
 3. Notify testing laboratory and ENGINEER sufficiently in advance of operations to allow for assignment of personnel and scheduling of tests.
 4. Arrange with testing laboratory and pay for additional services, sampling, and testing required for CONTRACTOR's convenience.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 45 33

CODE-REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope
 - 1. CONTRACTOR shall provide labor, materials, tools, equipment, and incidentals as shown, specified, and required to cooperate with Coordinating Special Inspector, individual inspectors, and testing agencies employed by Owner to facilitate Special Inspections.
 - 2. Supplement A, Statement of Special Inspections, included with this Section, lists testing and inspections required.

1.2 DEFINITIONS

- A. Coordinating Special Inspector: Professional engineer or architect, hired by OWNER, registered in the same state as the Site, responsible for coordinating and verifying the inspection and testing required by the Statement of Special Inspections included in this Section and reporting to the Building Official.
- B. Building Official: Officer or other designated authority having jurisdiction charged with the administration and enforcement of the governing building code, or a duly authorized representative.
- C. Special Inspections: Testing and inspection required in Supplement A, Statement of Special Inspections, of this Section.

1.3 QUALITY ASSURANCE

- A. Qualifications:
 - 1. OWNER will employ and pay for services of the Coordinating Special Inspector, who will have not less than five years of experience in managing, monitoring, and inspecting building construction.
 - 2. Inspectors shall be qualified in the responsibilities of the Special Inspection for which each is responsible to the satisfaction of the Building Official.
- B. Regulatory Requirements:
 - 1. Special Inspections shall be in accordance with applicable building code and other Laws and Regulations, and Supplement A, Statement of Special Inspections, of this Section.

1.4 SUBMITTALS

- A. Action Submittals: Submit the following:
 - 1. Samples: Representative Samples of materials when required by ENGINEER.

1.5 CONTRACTOR'S RESPONSIBILITIES

- A. Provide safe access to the Work to be tested and inspected.
- B. Provide assistance in obtaining and handling test samples at the Site.
- C. Facilitate inspections and tests.
- D. Provide access to Suppliers' and Subcontractors' operations as required.
- E. Notify Coordinating Special Inspector and ENGINEER sufficiently in advance of operations to allow for coordination of personnel at the Site. Do not cover the Work to be inspected until inspection has been completed and results thereof are acceptable.
- F. Special Inspections required in this Section do not supersede or make unnecessary inspections and tests required under other Specification Sections or standard inspections required by Laws and Regulations.

1.6 COORDINATING SPECIAL INSPECTOR'S RESPONSIBILITIES

- A. Coordinating Special Inspector will:
 - 1. Complete Supplement A, Statement of Special Inspections, of this Section to provide names of each inspector and testing agency for each Special Inspection required
 - 2. Engage services of inspectors and testing agencies for Special Inspections in accordance with Supplement A, Statement of Special Inspections, of this Section and as required by Laws and Regulations.
 - 3. Coordinate activities of individual inspectors and testing agencies with CONTRACTOR.
 - 4. Provide interim reports of inspections and material testing to Building Official, OWNER, ENGINEER, and ENGINEER's consultants, including structural engineer and architect.
 - 5. To obtain certificate of use and occupancy from the Building Official, complete and provide to the Building Official, OWNER, and ENGINEER Supplement B, Final Report of Special Inspections, of this Section, documenting completion of Special Inspections and correction of discrepancies noted in the Special Inspections.

1.7 INSPECTOR RESPONSIBILITIES

- A. Perform specified inspections, sampling, and testing of materials and methods of construction; review and ascertain compliance with Laws and Regulations.
- B. Promptly notify Coordinating Special Inspector, OWNER, ENGINEER and CONTRACTOR of irregularities or deficiencies in the Work observed during Special Inspections. Corrective action, if required, will be determined by ENGINEER.
- C. Promptly submit two copies of each report of inspections and tests to Coordinating Special Inspector, ENGINEER, and CONTRACTOR including:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Name and signature of inspector.
 - 4. Date of inspection or sampling and test.
 - 5. Record of temperature and weather.
 - 6. Identification of product and Specification Section.
 - 7. Location in Project.
 - 8. Type of inspection or test.
 - 9. Results of inspections and tests, and observations regarding compliance with Laws and Regulations, and standards.
- D. At the end of construction, each inspector and testing agency shall prepare an Agent's Final Report which is included in Supplement B.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 SUPPLEMENTS

- A. The supplements listed below, following the “End of Section” designation, are part of this Section:
 - 1. Supplement A – Statement of Special Inspections
 - 2. Supplement B – Final Report of Special Inspections

++ END OF SECTION ++

Supplement A - Statement of Special Inspections

Project: Taylor Mill Water Treatment Plant: Electrical and Basin Improvements

Location: 608 Grand Avenue, Taylor Mill, KY 41015

Owner: Northern Kentucky Water District

Prepared By: Structural Engineer of Record: Imelda V. Cauley, P.E.

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to the Project as well as the name of the Coordinating Special Inspector and the identity of other approved agencies to be retained for conducting these inspections and tests.

The Coordinating Special Inspector shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Inspections listed are periodic unless indicated to be continuous or required by code to be continuous.

Interim reports shall be submitted to the Building Official and the Registered Design Professional in Responsible Charge.

A *Final Report of Special Inspections* documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

Interim Report Frequency: As requested by Building Official

Quality Assurance Plan

Quality Assurance for Seismic Resistance (IBC 1705.3)

Seismic Design Category = B

Quality Assurance Plan is not required.

Quality Assurance for Wind Requirements (IBC 1705.4)

Basic Wind Speed = 90 mph

Wind Exposure Category = C

Quality Assurance Plan is not required.

Cast-in-Place Concrete

Item	Scope
1. Mix Design	<i>Review concrete batch tickets and verify compliance with approved mix design. Verify that water added at the site does not exceed that allowed by the mix design.</i>
2. Material Certification	<i>Review trial batch or supporting test data to verify mix meets specified requirements. Confirm materials meet specified requirements.</i>
3. Reinforcement Installation	<i>Inspect size, spacing, cover, positioning and grade of reinforcing steel. Verify that reinforcing bars are free of form oil or other deleterious materials. Inspect bar laps and mechanical splices. Verify that bars are adequately tied and supported on chairs or bolsters</i>
4. Formwork Geometry	<i>Inspect formwork for proper materials, dimensions and alignment.</i>
6. Anchor Rods	<i>Inspect size, positioning and embedment of anchor rods. Inspect concrete placement and consolidation around anchors. (continuous)</i>
7. Concrete Placement	<i>Inspect placement of concrete. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated. (continuous)</i>
8. Sampling and Testing of Concrete	<i>Test concrete compressive strength (ASTM C31 & C39), slump (ASTM C143), air-content (ASTM C231) and temperature (ASTM C1064).</i>
9. Curing and Protection	<i>Inspect curing, cold weather protection and hot weather protection procedures.</i>

Anchor Systems

Item	Scope
1. Material Certification	<ul style="list-style-type: none"> • <i>Confirm anchor type (including product name), anchor dimensions, and anchor material grade for each anchor application.</i> • <i>Confirm post-installed anchor compliance with specified requirements and suitability for each application type by review of the anchor system ICC-ES Evaluation Service Report.</i> • <i>For adhesive anchors, confirm adhesive type</i>
2. Installation of Adhesive Anchors for Concrete	<ul style="list-style-type: none"> • <i>Review compliance with the installation requirements of the anchor system ICC Evaluation Service Report.</i> • <i>Verify and record anchor type (including product name), anchor dimensions, anchor material grade, adhesive type, adhesive expiration date, concrete or masonry type, base material compressive strength, drill bit type, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, base material thickness, anchor embedment, curing period prior to tightening, and tightening torque.</i> • <i>Inspect installation of each type and size of adhesive anchor by construction personnel on the site. (continuous)</i>
3. Installation of Concrete Wedge Expansion Anchors	<ul style="list-style-type: none"> • <i>Review compliance with the installation requirements of the anchor system ICC Evaluation Service Report.</i> • <i>Verify and record anchor type (including product name), anchor dimensions, anchor material grade, concrete or masonry type, base material compressive strength, drill bit type, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, base material thickness, anchor embedment and tightening torque.</i> • <i>Inspect installation of each type and size of wedge anchor by construction personnel on the site. (continuous)</i>
4. Anchor Testing	<ul style="list-style-type: none"> • <i>Perform tension pullout test on 10 percent of each post-installed anchor type and size.</i>

Supplement B - Final Report of Special Inspections

Project: Taylor Mill Water Treatment Plant: Electrical and Basin Improvements
Location: 608 Grand Avenue, Taylor Mill, KY 41015
Owner: Northern Kentucky Water District
Owner's Address:

To the best of my information, knowledge and belief, the Special Inspections required for this project, and itemized in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:

Comments:

(Attach continuation sheets if required to complete the description of corrections.)

Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,
Special Inspector

(Type or print name)

Signature

Date

Agent's Final Report

Project: Taylor Mill Water Treatment Plant: Electrical and Basin Improvements

Agent:

Special Inspector:

To the best of my information, knowledge and belief, the Special Inspections or testing required for this project, and designated for this Agent in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:

Comments:

(Attach continuation sheets if required to complete the description of corrections.)

Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,
Agent of the Special Inspector

(Type or print name)

Signature

Date

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SECTION 01 45 53

CLEANING, TESTING AND DISINFECTING HYDRAULIC STRUCTURES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope:

1. CONTRACTOR shall provide labor, material, tools, equipment, and incidentals as shown, specified, and required to clean, flush, disinfect, and test structures.
2. The Work also includes all labor and materials required to prepare structure for testing and disinfecting, conveying water to testing location, performing testing, and all labor and materials required to drain and dispose of water used for testing and disinfecting.

B. Water for Testing:

1. Water for initial testing will be furnished by OWNER.
2. CONTRACTOR shall provide temporary piping, hoses, valves, backflow preventers, appurtenances, and services required for testing.
3. CONTRACTOR shall convey the water to testing location.
4. Cost of water for re-testing shall be paid by CONTRACTOR to OWNER at OWNER's standard rates.

C. Provide chemicals for disinfection and dechlorination.

D. Related Sections:

1. Section 03 00 05, Concrete

1.2 REFERENCES

A. Standards referenced in this Section are:

1. ACI 350.1/ACI 350.1R, Tightness Testing of Environmental Engineering Concrete Structures.
2. APHA/AWWA/Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater.
3. AWWA C652, Disinfection of Water-Storage Facilities.
4. AWWA C653, Disinfection of Water Treatment Plants.
5. NSF/ANSI 60, Drinking Water Treatment Chemicals – Health Effects.

1.3 TERMINOLOGY

A. The following words or terms are not defined but, when used in this Section, have

the following meaning:

1. "Hydraulic structures" are tanks, channels, and other structures through which fluid is conveyed or that hold fluid. Hydraulic structures include structures open to the atmosphere and structures with closed tops. Hydraulic structures, include wet wells, junction chambers, equalization tanks, storage tanks, treatment process tanks such as grit chambers, clarifiers, aeration tanks, filter beds, contact tanks, and other channels and tanks designated in this Section. Excluded are structures that are to be cleaned or tested under other Specification Sections.

1.4 QUALITY ASSURANCE

A. Testing Laboratory:

1. Testing for bacteria and odor shall be by laboratory certified by authority having jurisdiction. Submit test results to CONSTRUCTION CONTRACT ADMINISTRATOR.
2. Refer to Section 01 45 29, Testing Laboratory Services, for testing laboratory qualifications requirements.

B. Regulatory Requirements:

1. Backflow preventers shall be tested by certified backflow prevention technician and certified by the authority having jurisdiction within one year or less of date of backflow preventer's use on the Project.

1.5 SUBMITTALS

A. Action Submittals: Provide the following:

1. Product Data:
 - a. Data sheets on chemicals used for disinfection and dechlorination.
 - b. Proof of NSF/ANSI 60 compliance for chemicals used in disinfection and dechlorination.
2. Procedure Submittals (including proposed plans for water conveyance, control, and disposal):
 - a. Cleaning procedures.
 - b. Hydrostatic testing procedures and equipment required, by structure to be tested.
 - c. Air testing procedures and equipment required, by structure to be tested.
 - d. Disinfection procedures and equipment required, by structure to be tested.

B. Informational Submittals: Provide the following:

1. Certifications:
 - a. Certification of each backflow preventer proposed for use.
 - b. Calibration certification for each flow meter proposed for use.

- c. Certification that tests were performed in compliance with referenced standards.
2. Special Procedure Submittals:
 - a. Schedule for each test required.
 - b. Procedure for disposal of chlorinated water, including proposed dechlorination chemical and methods.
 - c. Provide written notice of intent to test each structure at least 14 days prior to planned testing. Testing shall not commence without acceptance of CONSTRUCTION CONTRACT ADMINISTRATOR.
3. Site Quality Control Submittals:
 - a. Results of each test.
 - b. Chain of custody documentation for bacteriological and odor tests
4. Qualifications Statements:
 - a. Testing laboratory qualifications in accordance with Section 01 45 29, Testing Laboratory Services.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Provide and maintain temporary valves, plugs, and bulkheads, and other water control equipment suitable for the intended use. Do not use materials that would be injurious to the Work. Backflow preventers shall be reduced pressure zone-type.
- B. Chemicals:
 1. Chemicals used for disinfection and dechlorination shall conform to NSF/ANSI 60.

PART 3 – EXECUTION

3.1 CLEANING

- A. Cleaning Requirements:
 1. Prior to testing, remove all scaffolding, planks, tools, rags, dirt, debris, and material not part of the structure.
 2. Thoroughly clean walls, floors, and operating equipment by sweeping, high-pressure wash, scrubbing, or other methods that will not injure the Work and existing facilities.
 3. Remove from the hydraulic structure all water, dirt, and foreign material accumulated during cleaning. Provide temporary pumps, piping, and facilities as required to discharge water from the cleaning operation in

manner acceptable to CONSTRUCTION CONTRACT ADMINISTRATOR and in conformance with Laws and Regulations.

4. Do not proceed with testing until CONSTRUCTION CONTRACT ADMINISTRATOR has accepted in the field results of cleaning.
5. Conform to Section 01 74 05, Cleaning.

3.2 TESTING AND DISINFECTION, GENERAL

- A. Conform to the following:
 1. Test each hydraulic structure separately.
- B. Hydraulic structures shall be free of visible leakage. Repair leaks in manner in accordance with the Contract Documents.
- C. Successfully test structure before applying exterior coating systems and before installing masonry block veneer (if any). Apply and cure protective coatings for concrete before starting disinfection.
- D. Provide disinfection as late as possible to provide maximum degree of sterility at the time the Work is placed into continuous service.
- E. Bacteriological and odor testing shall be performed by certified testing laboratory retained by CONTRACTOR. Testing laboratory shall be acceptable to CONSTRUCTION CONTRACT ADMINISTRATOR. Samples shall be obtained and transported by testing laboratory employee. Results of bacteriological testing shall indicate conformance with the Contract Documents and shall be acceptable to the authority having jurisdiction.
- F. Release of water from structure after testing shall be as approved or accepted (as applicable) by CONSTRUCTION CONTRACT ADMINISTRATOR.

3.3 TESTING OF APPURTENANT PIPING

- A. Test piping appurtenant to hydraulic structures in accordance with the Contract Documents.

3.4 DISINFECTING HYDRAULIC STRUCTURES

- A. Hydraulic structures to be disinfected shall be chlorinated by CONTRACTOR in accordance with one of the methods in AWWA C652, unless otherwise specified or indicated in the Contract Documents.

- B. Disinfection:
1. Provide temporary taps, plugs, valves, drains, pumps, tanks, piping, facilities, and connections required to disinfect, dechlorinate, and remove chlorinated water as specified.
 2. Disinfect hydraulic structures immediately before each structure is placed in operation to prevent facility from becoming contaminated after disinfection.
 3. Use solution of water and liquid chlorine, calcium hypochlorite, or sodium hypochlorite. Placement of chlorine powder or tablets inside hydraulic structure as means of disinfection is not allowed.
 4. Introduce chlorine solution into hydraulic structure in manner accepted by CONSTRUCTION CONTRACT ADMINISTRATOR.
 5. Add potable water to hydraulic structure with the chlorine solution. Introduce water to hydraulic structure through backflow prevention device.
 6. Upon completion of disinfection of each hydraulic structure, dechlorinate contents of hydraulic structure until chlorine residual equals the residual in local potable water system. If residual of local potable water system is not available, dechlorinate to maximum chlorine residual of 0.5 mg/L. Dechlorination shall be in accordance with AWWA C653.
 7. Discharge of chlorinated water into a sewer will not be allowed without written approval of owner of wastewater conveyance system and wastewater treatment facility. Do not discharge chlorinated water onto roadways or into ditches, storm sewers, drainage culverts, streams, or wetlands.
- C. After disinfection is completed and before hydraulic structure is placed in service, test the hydraulic structure for odor and bacteria in accordance with AWWA C652 and "Standard Methods for Examination of Water and Wastewater".
- D. Samples for bacteriological and odor testing shall be obtained from each disinfected hydraulic structure as follows:
1. Immediately After Completion of Disinfection: Minimum of two samples.
 2. Twenty-four Hours after Obtaining First Set of Samples: Minimum of two samples.
- E. Sampling and testing for bacteriological and odor tests shall conform to Paragraph 3.2.E of this Section. Test results shall indicate satisfactory results for bacteria and odor, in accordance with requirements of authority having jurisdiction, before hydraulic structure will be Substantially Complete.
- F. Repeat the disinfection procedure at no additional cost to OWNER until test results indicate satisfactory results for bacteria and odor.

++ END OF SECTION ++

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SECTION 01 51 13

TEMPORARY ELECTRICITY

PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

This section specifies administrative and procedural requirements for temporary electricity and lighting.

- A. Use Charges: No cost or usage charges for temporary electricity or lighting are chargeable to the Owner or Engineer. Cost or use charges for temporary electricity or lighting will not be accepted as a basis of claims for a change-order extra.

1.2 RELATED DOCUMENTS

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

1.3 JOB CONDITIONS

- A. General: Provide each temporary service and facility ready for use at each location when the service or facility is first needed to avoid delay in performance of the Work. Maintain, expand as required, and modify temporary services and facilities as needed throughout the progress of the Work. Do not remove until services or facilities are no longer needed, or are replaced by the authorized use of completed permanent facilities.
 - 1. With the establishment of the job progress schedule, establish a schedule for the implementation and termination of service for each temporary utility. At the earliest feasible time, and when acceptable to the Owner and Engineer, change over from the use of temporary utility service to the use of the permanent service, to enable removal of the temporary utility and to eliminate possible interference with completion of the Work.
- B. Conditions of Use: Operate temporary services and facilities in a safe and efficient manner. Do not overload temporary services or facilities, and do not permit them to interfere with the progress of the Work. Do not allow public nuisances or hazardous conditions to develop or persist on the site.

PART 2 - PRODUCTS

2.1 MATERIALS, EQUIPMENT AND SERVICES

- A. General: Provide new materials and equipment for temporary services and facilities; used materials and equipment that are undamaged and in serviceable condition may be used, if acceptable to the Engineer. Provide only materials and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards. Temporary services shall be separated into two service types:
1. Temporary Service for construction needs (number of services as required to meet this specification).
- B. Temporary Electricity:
1. Provide temporary electrical service for construction needs, power to all construction trailers, and for lighting and heating facilities, throughout construction period.
 2. Service shall be adequate for construction use by all trades during construction period.
 3. Contractor shall make all necessary arrangements with the power company to obtain this service. He shall furnish, erect, and maintain the service pole, wires, main switch, panelboards, outlets, lights and metering facilities as required by the power company and as necessary to provide electrical service throughout the construction site.
 4. Contractor shall be responsible for payment of all monthly billing charges for temporary electric power. Contractor shall pay costs of equipment, materials, furnishing, installing, maintenance and removal of temporary electric service facilities.
 5. Contractor shall pay costs of equipment, furnishing, installing, maintenance and removal of temporary service facilities.
 6. Maintenance of temporary electric service shall be the sole responsibility of the General Contractor.
- C. Temporary Lighting:
1. Furnish and install temporary lighting required for :
 - a. Construction needs.
 - b. Safe and adequate working conditions.
 - c. Public Safety.
 - d. Security lighting.
 - e. Temporary office and storage area lighting.
 2. As each building is enclosed, temporary lighting shall be furnished to provide not less than 10 foot-candles in all areas.
 3. Service Periods:
 - a. Security lighting: All hours of darkness.
 - b. Safety lighting:

- c. Within construction area: All times that authorized personnel are present.
 - d. Public areas: At all times.
- 4. Costs of installation and operation: Contractor shall pay all installation, maintenance and removal costs of temporary lighting.
 - 5. Maintenance of temporary lighting service (replacement of bulbs, etc.) shall be the sole responsibility of the General Contractor.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with the performance of the Work.
- B. Relocate, modify and extend services and facilities as required during the course of work so as to accommodate the entire work of the Project.

3.2 REMOVAL

- A. Completely remove temporary materials and equipment upon completion of construction.
- B. Repair damage caused by installation, and restore to specified or original condition.

++ END OF SECTION ++

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SECTION 01 51 36

TEMPORARY WATER

PART 1 - GENERAL

1.1 DESCRIPTION

A. Potable water for construction operators:

1. CONTRACTOR shall provide temporary water for entire Project, as specified in this Section.
 - a. Pay all costs for temporary water service facilities, including installation, maintenance, and removal.
 - 1) Obtain permits and pay fees and deposits required by owner of existing water system and authorities having jurisdiction
 - 2) Provide required facilities including piping, valves, meters if not provided by owner of existing waterline, backflow preventers, pressure regulators, and other appurtenances. Provide freeze-protection as required.
 - 3) Provide water for temporary sanitary facilities, field offices, Site cleaning and, when applicable, disinfecting and testing of systems.
 - 4) Continuously maintain adequate water flow and pressure for all purposes during Project, until removal of temporary water system. Provide temporary booster pumps, tanks, compressors, and appurtenances as required for maintaining flow and pressure.
 - 5) Should OWNER occupy part of Project prior to Substantial Completion, cost of water consumed via temporary water service will be shared proportionately between OWNER and CONTRACTOR per a mutually agreeable basis.
 - b. Maintain, service, and clean temporary water facilities and continuously provide consumables.
 - c. Facilities shall be adequate for personnel using the Site and requirements of Project.
 - d. Provide facilities in compliance with Laws and Regulations and, when applicable, requirements of water utility.

B. Water:

1. Temporary potable water for testing or other approved uses during project:
 - a. OWNER will provide the CONTRACTOR a connection to the plant water system using a 2 -inch diameter yard hydrant with a meter and backflow preventer for temporary needs that do not exceed 30 days per each use. The CONTRACTOR is responsible for safety and security of the meter and backflow assembly and for obtaining a hydrant permit from the OWNER.

- b. The OWNER will track the usage of water through the meter. The OWNER will not charge for water used for project purposes unless the CONTRACTOR is found careless with control of the usage. Secure written permission for connection and use from OWNER and met requirements for use. Notify fire department before obtaining water from fire hydrants.
 - c. Use only special hydrant operating wrenches to open hydrants. Make certain hydrant valve is open full, since cracking calve causes damage to hydrant. Repair damaged hydrants and notify OWNER as quickly as possible. Hydrants shall be completely accessible to fire department at all times.
- C. CONTRACTOR shall provide water hoses from hose bibs or hydrants, as applicable, to point of operations required for Work.
- D. Potable Water Source:
- 1. Provide temporary potable water by connecting to existing potable waterline as designated by OWNER. Do not connect to existing fire hydrants.
 - 2. Water Meter: Temporary water service shall have a calibrated meter suitable for the application. Temporary meter will be provided by CONTRACTOR.

1.2 USE OF OWNER'S SYSTEM

- A. Restrictions:
- 1. Existing Systems: Modify and extend existing system for temporary water service.
 - 2. Permanent System Provided Under the Project: Obtain OWNER's written permission for using permanent water system provided under the Project, indicating conditions of use.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Materials may be new or used, and shall be adequate for purpose required.
- B. When connecting to existing waterline at location other than existing fitting, provide suitable stainless steel tapping sleeve with appropriate valve. Do not remove existing waterline from service for tapping.
- C. Temporary Backflow Preventers:
- 1. Shall be reduced pressure zone-type with an air gap between discharge point and drain.

2. Size and Capacity: Sufficient for the water flow and pressure requirements of the temporary water system.
3. Backflow preventers shall conform to Laws and Regulations and continually have a valid test certificate signed by a backflow preventer technician licensed by the authority having jurisdiction.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General:

1. Install temporary water service in neat, orderly manner. Temporary water system shall be structurally and mechanically sound throughout.
2. Locate temporary piping, hose bibs, and hydrants as applicable to provide temporary water service convenient to work areas. Avoid interfering with the Work, traffic and work areas, materials handling equipment, OWNER's operating areas, storage areas, and work under other contracts.
3. Do not locate backflow preventers in basements or in underground chambers. When backflow preventer is outdoors, provide freeze protection.
4. Do not run piping on floor or on ground.
5. Provide drip pan or bucket under each hose bib located within building, and connect drain to sewer, or empty pan or bucket when half full.

B. Modify and extend temporary water service as required by progress of Project.

C. Disinfect temporary water service prior to use in accordance with requirements of authorities having jurisdiction.

3.2 USE

A. Properly supervise temporary water service:

1. Enforce conformance with Laws and Regulations.
2. Enforce sanitary practices.
3. Prevent abuse of services.
4. Prevent wasteful use of water.
5. Protect system from freezing.

3.3 REMOVAL

A. Completely remove temporary facilities and materials when no longer required. Repair damage caused by temporary facilities and their removal and restore Site to specified condition; if restoration of damaged areas is not specified, restore to pre-construction condition.

- B. Where temporary water service is disconnected from existing line, provide suitable, disinfected, watertight cap or blind flange, as applicable, on service line, per requirements of owner of the waterline.

++ END OF SECTION ++

SECTION 01 52 16

TEMPORARY SANITARY AND FIRST AID FACILITIES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. CONTRACTOR shall provide temporary sanitary and first-aid facilities during the Project, including:
1. Paying all costs for temporary sanitary and first-aid facilities, including installation, maintenance, and removal.
 2. Maintain, service, and clean sanitary and first-aid facilities. Keep sanitary and first-aid facilities continuously supplied with consumables.
 3. Facilities shall be adequate for personnel using the Site.
 4. Provide facilities in compliance with Laws and Regulations.
- B. Temporary sanitary and first-aid facilities provided shall include:
1. Potable drinking water supply and cups.
 2. Enclosed Toilet Facilities: Temporary flush toilets or portable toilets.
 3. Suitable washing facilities for employees.
 4. First-aid stations at or immediately adjacent to Site's major work areas, and inside CONTRACTOR's temporary field office. Locations of first-aid stations shall be determined by CONTRACTOR's safety representative. Other contractors shall provide first-aid stations in their own field office.
 5. Post list of emergency telephone numbers at each hardwired telephone at Site, including emergency medical services, hospitals, and ambulance services.
 6. When Work is in progress, provide at the Site at least one person trained in first-aid. First-aid-trained personnel shall possess valid certificate indicating that they have successfully completed first-aid training course by the American Red Cross or similar entity.
- C. Restrictions:
1. Existing Facilities: Shall not be used by contractors without written permission of OWNER with conditions for use.
 2. Permanent Facilities Provided Under the Project: Shall not be used by contractors.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Location of temporary toilets shall be acceptable to OWNER.

3.2 USE

- A. Use of Temporary Facilities:
 - 1. Properly supervise temporary facilities.
 - 2. Enforce proper use of sanitary facilities, including preventing the committing of nuisances in buildings at the Site.
 - 3. Properly dispose of wastes.

3.3 REMOVAL

- A. Completely remove temporary facilities and materials when no longer required. Repair damage caused by temporary facilities and their removal and restore Site to specified condition; if restoration of damaged areas is not specified, restore to pre-construction condition.

++ END OF SECTION ++

SECTION 01 55 26

MAINTENANCE AND PROTECTION OF TRAFFIC

PART 1 – GENERAL

1.1 DESCRIPTION

- A. CONTRACTOR shall keep all streets and traffic ways open for passage of traffic and pedestrians during the Work, unless otherwise approved by owner of the street, traffic way, or right-of-way, as applicable. Construction traffic shall access the Site only via entrance(s) approved by OWNER.
- B. When required to cross, obstruct or temporarily close a street or traffic way, provide and maintain suitable bridges, detours or other approved temporary expedient for the accommodation of traffic. Closings shall be for shortest time practical, and passage shall be restored immediately after completion of backfill and temporary paving or bridging.
- C. Give required advance notice to fire department, police department, and other emergency services as applicable of proposed construction operations.
- D. Give reasonable notice to owners or tenants of private property who may be affected by construction operations. Give minimum 5 day notice.
- E. Provide signs, signals, barricades, flares, lights and other equipment, service, and personnel required to regulate and protect all traffic and warn of hazards. Such Work shall conform to requirements of OWNER and authority having jurisdiction at the Site. Remove temporary equipment and facilities when no longer required, and restore grounds to original or to specified conditions, as applicable.
- F. Howard Street shall not be closed to traffic as specified in Section 01 14 19, Use of Site. The St Anthony School 2013-2014 calendar may be obtained from the OWNER.

1.2 TRAFFIC SIGNALS AND SIGNS

- A. Provide and operate traffic control and directional signals required to direct and maintain an orderly flow of traffic in all areas under CONTRACTOR's control, and areas affected by CONTRACTOR's operations.
- B. Provide traffic control and directional signs, mounted on barricades or standard posts at the following locations:
 - 1. Each change of direction of a roadway and at each crossroad.

2. Detours and hazardous areas.
3. Parking areas.

1.3 FLAGMEN

- A. Provide qualified and suitably equipped flagmen when construction operations encroach on traffic lanes, as required for regulation of traffic and in accordance with requirements of the authority having jurisdiction.

1.4 FLARES AND LIGHTS

- A. Provide flares and lights during periods of low visibility, for the following:
 1. To clearly delineate traffic lanes, to guide traffic, and to warn of hazardous areas.
 2. For use by flagmen directing traffic.
- B. Provide adequate illumination of critical traffic and parking areas.

1.5 PARKING CONTROL

- A. Control all CONTRACTOR-related vehicular parking within limits of the Work to preclude interfering with: public traffic or parking, access by emergency vehicles, OWNER's operations, and construction operations. Provide temporary parking facilities for the public, as required because of construction or operations.
- B. Monitor parking of all construction and private vehicles at the Site:
 1. Maintain free vehicular access to and through parking areas.
 2. Prohibit parking on or adjacent to access roads, and in non-designated areas.
 3. Construction vehicles must possess current vehicle registration.
 4. Private vehicles shall park only in designated areas.

1.6 HAUL ROUTES

- A. Consult with authorities having jurisdiction to establish thoroughfares that will be used as haul routes and Site access.
- B. Drawings indicate haul routes, designated by authorities having jurisdiction, that shall be used for construction traffic.
- C. Submit proposed haul routes to CONSTRUCTION CONTRACT ADMINISTRATOR and OWNER and obtain approval of authorities having jurisdiction.
- D. Confine construction traffic to designated haul routes.

- E. Provide traffic control at critical areas of haul routes to expedite traffic flow, and to minimize interference with normal traffic.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 57 05

TEMPORARY CONTROLS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:

1. CONTRACTOR shall provide and maintain methods, equipment, and temporary construction as required to control environmental conditions at the Site and adjacent areas.
2. Maintain controls until no longer required.
3. Upon completion of the Work, remove temporary controls and restore Site to specified condition; if condition is not specified, restore Site to pre-construction condition.

1.2 NOISE CONTROL

A. Noise Control – General:

1. CONTRACTOR's vehicles and equipment shall minimize noise to greatest degree practicable.
2. Noise levels shall conform to Laws and Regulations, including OSHA requirements and local ordinances.
3. Noise levels shall not interfere with the work of OWNER or others.

1.3 DUST CONTROL

- ###### A. Control objectionable dust caused by CONTRACTOR's operation of vehicles and equipment, clearing, or other actions. To minimize airborne dust, apply water or use other methods subject to acceptance of CONSTRUCTION CONTRACT ADMINISTRATOR and approval of authorities having jurisdiction.

1.4 PEST AND RODENT CONTROL

A. Pest and Rodent Control – General:

1. Provide rodent and pest control as required to prevent infestation of the Site and storage areas.
2. Employ methods and use materials that do not adversely affect conditions at the Site or on adjoining properties.

1.5 WATER CONTROL

A. Water Control – General:

1. Provide methods to control surface water and water from excavations and structures to prevent damage to the Work, the Site, and adjoining properties.
 2. Control fill, grading, and ditching to direct water away from excavations, pits, tunnels and other construction areas and to direct drainage to proper runoff courses to prevent erosion, damage, or nuisance.
- B. Equipment and Facilities for Water Control: Provide, operate, and maintain equipment and facilities of adequate size to control surface water.
- C. Discharge and Disposal: Dispose of drainage water in manner to prevent flooding, erosion, and other damage to any and all parts of the Site and adjoining areas, and that conforms to Laws and Regulations.

1.6 POLLUTION CONTROL

- A. Pollution Control – General:
1. Provide methods, means, and facilities required to prevent contamination of soil, water, or atmosphere caused by discharge of noxious substances from construction operations.
 2. Equipment used during construction shall conform to federal, state, and local Laws and Regulations.
 3. Refer to Section 01 35 43, Contractor’s Hazardous Materials Management Program.
- B. Spills and Contamination:
1. Provide equipment and personnel to perform emergency measures required to contain spillages, and to remove contaminated soils or liquids.
 2. Excavate contaminated earth and dispose of off-Site, and replace with suitable compacted fill and topsoil.
 3. Refer to Section 01 35 44, Spill Prevention Control and Countermeasures Plan
- C. Protection of Surface Waters: Implement special measures to prevent harmful substances from entering surface waters. Prevent disposal of wastes, effluents, chemicals, or other such substances in or adjacent to surface waters and open drainage routes, in sanitary sewers, or in storm sewers.
- D. Atmospheric Pollutants:
1. Provide systems for controlling atmospheric pollutants related to the Work.
 2. Prevent toxic concentrations of chemicals.
 3. Prevent harmful dispersal of pollutants into atmosphere.
- E. Solid Waste:
1. Provide systems for controlling and managing solid waste related to the Work.
 2. Prevent solid waste from becoming airborne, and from discharging to surface waters and drainage routes.

3. Properly handle and dispose of solid waste.

1.7 EROSION CONTROL

A. Erosion Control – General:

1. Plan and execute construction and earthwork by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
2. Coordinate erosion controls with requirements of Article 1.5 of this Section.
3. Hold to a minimum the areas of bare soil exposed at one time.
4. Provide temporary control measures such as berms, dikes, and drains.
5. Construct fills and waste areas by selective placement to eliminate surface silts or clays that will erode.
6. Periodically inspect earthwork to detect evidence of the start of erosion; apply corrective measures as required to control erosion. Continue inspections and corrective measures until permanent vegetation has been established

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 57 33

SECURITY

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope:

1. CONTRACTOR shall safely guard all the Work, products, equipment, and property from loss, theft, damage, and vandalism until Substantial Completion. CONTRACTOR's duty includes safely guarding OWNER's property in vicinity of the Work and other private property from injury or loss in connection with performance of the Work.
2. Employ watchmen as required to provide required security and prevent unauthorized entry.
3. Costs for security specified in this Section shall be paid by CONTRACTOR.
4. Make no claim against OWNER for damage resulting from trespass.
5. Provide full compensation for damage to property of OWNER and others arising from failure to provide adequate security.
6. Provide temporary fencing in accordance with the Contract Documents.
7. CONTRACTOR's security measures shall be at least equal to those usually provided by OWNER to protect existing facilities during normal operation.

1.2 CONTRACTOR'S SITE ACCESS AND SECURITY PROCEDURES

- ###### A. Conform to OWNER's security procedures and access restrictions at Site throughout entire Project. CONTRACTOR, including Subcontractors and Suppliers, shall comply with the following:
1. Personnel Identification: All CONTRACTOR personnel shall wear at all times on-Site a badge bearing CONTRACTOR's name, employee's name and, as applicable, employee number.
 2. Vehicle Identification: While on-Site, all CONTRACTOR vehicles, including employee vehicles, shall display vehicle identification tag in the windshield. Vehicle tag shall include the following information: Site name, CONTRACTOR name, contract number, vehicle license plate number and state of issue, name and employer of vehicle owner, and vehicle owner contact telephone number.
 3. Parking: Do not park outside of designated CONTRACTOR parking area, which shall be coordinated with the OWNER.

1.3 TEMPORARY FENCING

- A. If security fencing or barriers are breached or temporarily removed for the Work, provide and maintain temporary security fencing equal to existing, unless otherwise specified, in manner satisfactory to CONSTRUCTION CONTRACT ADMINISTRATOR and OWNER.

- B. Security fencing shall be installed around the construction area in a manner satisfactory to CONSTRUCTION CONTRACT ADMINISTRATOR and OWNER. The security fencing along Grand Avenue and along the west property line shall incorporate green slats within the fencing for screening purposes.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 62 00

PRODUCT OPTIONS

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope:
1. CONTRACTOR's options for selecting products.
 2. Requirements for consideration of "or-equal" products.

1.2 TERMINOLOGY

- A. The following words or terms are not defined but, when used in this Section, have the following meaning:
1. "Products" includes materials, equipment, machinery, components, fixtures, systems, and other goods incorporated in the Work. Products do not include machinery and equipment used for preparing, fabricating, conveying, erecting, or installing the Work. Products include OWNER-furnished goods incorporated in the Work where use of such goods is specifically required in the Contract Documents.

1.3 PRODUCT OPTIONS

- A. For products specified only by reference standard or description, without reference to Supplier, provide products meeting that standard, by a Supplier or from a source that complies with the Contract Documents.
- B. For products specified by naming one or more products or Suppliers, provide the named products that comply with the Contract Documents, unless an "or-equal" or substitute product is approved by ENGINEER.
- C. For products specified by naming only one product or manufacturer and followed by words indicating that no substitution is allowed, there is no option and no substitution will be allowed.

1.4 "OR EQUAL" PRODUCTS

- A. For proposed products not named in the Contract Documents and considered as an "or equal" as defined in the General Conditions, CONTRACTOR shall request in writing ENGINEER's approval of the "or equal". Request for approval of an "or equal" product shall accompany the Shop Drawing or product data submittal for the proposed product and shall include:

1. CONTRACTOR's request that the proposed product be considered as an "or equal" in accordance with the General Conditions, accompanied by CONTRACTOR's certifications required in the General Conditions.
2. Documentation adequate to show that proposed product does not require extensive revisions to the Contract Documents, that proposed product is consistent with the Contract Documents, and that proposed product will produce results and performance required in the Contract Documents, and that proposed product is compatible with other portions of the Work.
3. Detailed comparison of significant qualities of proposed product with the products and manufacturers named in the Contract Documents. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements shown or indicated.
4. Evidence that proposed product manufacturer will furnish warranty equal to or better than specified, if any.
5. List of similar installations for completed projects with project names and addresses, and names and address of design professionals and owners, if requested.
6. Samples, if requested.
7. Other information requested by ENGINEER.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 65 00

PRODUCT DELIVERY REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope:

1. This Section includes the general requirements for transporting and handling of products.
2. CONTRACTOR shall make all arrangements for transporting, delivery, and handling of products required for prosecution and completion of the Work.
3. Move products stored, when necessary, them without additional compensation or changes to the Contract Times.

1.2 PREPARATION FOR SHIPMENT

- A. When practical, factory-assemble products. Match mark or tag separate parts and assemblies to facilitate field assembly. Cover machined and unpainted parts that may be damaged by the elements with strippable, protective coating.
- B. Package products to facilitate handling and protect from damage during shipping, handling, and storage. Mark or tag outside of each package or crate to indicate its purchase order number, bill of lading number, contents by name, OWNER's contract name and number, CONTRACTOR, equipment number, and approximate weight. Include complete packing lists and bills of materials with each shipment.
- C. Protect products from exposure to the elements and keep thoroughly dry and dust free at all times. Protect painted surfaces against impact, abrasion, discoloration, or other damage. Lubricate bearings and other items requiring lubrication.
- D. Advance Notice of Shipments:
 1. Keep CONSTRUCTION CONTRACT ADMINISTRATOR informed of delivery of all products to be incorporated in the Work.
 2. Upon receipt of Supplier's advance notice of shipment, at least seven days prior to delivery of products, provide CONSTRUCTION CONTRACT ADMINISTRATOR written notice of anticipated date and place of arrival of the following:
 - a. Tube Settler Modules.
 - b. Pump Control Valves.
 - c. Motors.
 - d. Motor Control Centers.

e. Variable Frequency Drives.

E. Do not have products shipped until:

1. Related Shop Drawings, Samples, and other submittals have been approved or accepted (as applicable) by CONSTRUCTION CONTRACT ADMINISTRATOR.
2. Related factory testing results, when required in individual Specification Sections, have been reviewed and accepted by CONSTRUCTION CONTRACT ADMINISTRATOR.
3. Required storage facilities have been provided.

1.3 DELIVERY

A. Scheduling and Timing of Deliveries:

1. Arrange deliveries of products in accordance with the accepted Progress Schedule and in ample time to facilitate inspection prior to installation.
2. Schedule deliveries to minimize space required for and duration of on-Site storage of products and equipment.
3. Coordinate deliveries to avoid conflicting with the Work and conditions at Site, and to accommodate the following:
 - a. Work of other contractors, and OWNER.
 - b. Storage space limitations.
 - c. Availability of equipment and personnel for handling products.
 - d. OWNER's use of premises.
4. Deliver products to the Site during regular working hours.

B. Deliveries:

1. Shipments shall be delivered with CONTRACTOR's name, Subcontractor's name (if applicable), Site name, Project name, and contract designation (e.g., "ABC Construction Co., City of Somewhere, Idaho, Wastewater Treatment Plant Clarifier Improvements, Contract 25, General Construction") clearly marked.
2. Site may be listed as the "Ship To" or "Delivery" address; but OWNER shall not be listed as recipient of shipment, unless otherwise directed in writing by CONSTRUCTION CONTRACT ADMINISTRATOR.
3. Provide CONTRACTOR's telephone number to shipper; do not provide OWNER's telephone number.
4. Arrange for deliveries while CONTRACTOR's personnel are on-Site. CONTRACTOR shall receive and coordinate shipment upon delivery. Shipments delivered to the Site when CONTRACTOR is not present will be refused by OWNER, and CONTRACTOR shall be responsible for delays and additional costs, if incurred.

C. Containers and Marking:

1. Have products delivered to Site in manufacturer's original, unopened, labeled containers.
 2. Clearly mark partial deliveries of component parts of equipment to identify equipment, to allow easy accumulation of parts, and to facilitate assembly.
- D. Immediately upon delivery, inspect shipment to verify that:
1. Products comply with the Contract Documents and approved or accepted (as applicable) submittals.
 2. Quantities are correct.
 3. Products are undamaged.
 4. Containers and packages are intact and labels are legible.
 5. Products are properly protected.
- E. Promptly remove damaged products from the Site and expedite delivery of new, undamaged products, and remedy incomplete or lost products to provide that specified, to avoid delaying progress of the Work.

1.4 PRODUCT HANDLING

- A. Provide equipment and personnel necessary to handle products, including those provided by OWNER, by methods that prevent soiling or damaging products and packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring, or otherwise damaging products or surrounding surfaces.
- C. Handle products by methods that prevent bending or overstressing.
- D. Lift heavy components only at designated lifting points.
- E. Handle products in safe manner and as recommended by manufacturer to prevent damage. Do not drop, roll, or skid products off delivery vehicles or at other times during handling. Hand-carry or use suitable materials handling equipment.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 66 00

PRODUCT STORAGE AND HANDLING

PART 1 – GENERAL

1.1 DESCRIPTION

- A. This Section includes general requirements for storing and protecting materials and equipment.

1.2 STORAGE

- A. Store and protect materials and equipment in accordance with manufacturer's recommendations and the Contract Documents.
- B. CONTRACTOR shall make all arrangements and provisions necessary for, and pay all costs for, storing materials and equipment. Excavated materials, construction equipment, and materials and equipment to be incorporated into the Work shall be placed to avoid injuring the Work and existing facilities and property, and so that free access is maintained at all times to all parts of the Work and to public utility installations in vicinity of the Work. Store materials and equipment neatly and compactly in locations that cause minimum inconvenience to OWNER, other contractors, public travel, and owners, tenants, and occupants of adjoining property. Arrange storage in manner to provide easy access for inspection.
- C. Areas available at the Site for storing materials and equipment shall be as shown or indicated in the Contract Documents, or as approved by CONSTRUCTION CONTRACT ADMINISTRATOR.
- D. Store materials and equipment to become property of OWNER to facilitate their inspection and ensure preservation of quality and fitness of the Work, including proper protection against damage by freezing, moisture, and high temperatures with ambient temperatures as high as 100 degrees F. Store in indoor, climate-controlled storage areas all materials and equipment subject to damage by moisture, humidity, heat, cold, and other elements, unless otherwise acceptable to OWNER. When placing orders to Suppliers for equipment and controls containing computer chips, electronics, and solid-state devices, CONTRACTOR shall request, coordinate, and comply with specific temperature and humidity limitations on materials and equipment, because temperature inside cabinets and components stored in warm temperatures can approach 200 degrees F.
- E. CONTRACTOR shall be fully responsible for loss or damage (including theft) to

stored materials and equipment.

- F. Do not open manufacturer's containers until time of installation, unless recommended by the manufacturer or otherwise specified in the Contract Documents.
- G. Do not store materials or equipment in structures being constructed unless approved by CONSTRUCTION CONTRACT ADMINISTRATOR in writing.
- H. Do not use lawns or other private property for storage without written permission of the owner or other person in possession or control of such premises.

1.3 PROTECTION

- A. Equipment shall be boxed, crated, or otherwise completely enclosed and protected during shipping, handling, and storage, in accordance with Section 01651, Transportation and Handling of Products.
- B. Store all materials and equipment off the ground or floor on raised supports such as skids or pallets.
- C. Protect painted surfaces against impact, abrasion, discoloration, and other damage. Painted equipment surfaces that are damaged or marred shall be repainted in their entirety in accordance with equipment manufacturer and paint manufacturer requirements, to the satisfaction of CONSTRUCTION CONTRACT ADMINISTRATOR.
- D. Protect electrical equipment, controls, and instrumentation against moisture, water damage, heat, cold, and dust. Space heaters provided in equipment shall be connected and operating at all times until equipment is placed in operation and permanently connected.

1.4 UNCOVERED STORAGE

- A. The following types of materials may be stored outdoors without cover on supports so there is no contact with the ground:
 - 1. Reinforcing steel.
 - 2. Structural steel.
 - 3. Piping, except polyvinyl chloride (PVC) or chlorinated PVC (CPVC) pipe.
 - 4. Precast concrete materials.
 - 5. Castings.
 - 6. Handrails and railings.
 - 7. Grating.
 - 8. Checker plate.
 - 9. Metal stairs.

10. Metal access hatches.
11. Fiberglass products.
12. Rigid electrical conduit.

1.5 COVERED STORAGE

- A. The following materials and equipment may be stored outdoors on supports and completely covered with covering impervious to water:
 1. Rough lumber.
 2. PVC and CPVC pipe.
 3. Filter media.
 4. Masonry units.
 5. Grout and mortar materials.
- B. Tie down covers with rope, and slope covering to prevent accumulation of water.
- C. Store loose granular materials, with covering impervious to water, in well-drained area or on solid surfaces to prevent mixing with foreign matter.

1.6 FULLY PROTECTED STORAGE

- A. Store all material and equipment not named in Articles 1.4 and 1.5 of this Section in on supports in buildings or trailers that have concrete or wooden flooring, roof, and fully closed walls on all sides. Covering with visquine plastic sheeting or similar material in space without floor, roof, and walls is not acceptable. Comply with the following:
 1. Provide heated storage for materials and equipment that could be damaged by low temperatures or freezing.
 2. Provide air-conditioned storage for materials and equipment that could be damaged by high temperatures.
 3. Protect mechanical and electrical equipment from being contaminated by dust, dirt, and moisture.
 4. Maintain humidity at levels recommended by manufacturers for electrical and electronic equipment.

1.7 HAZARDOUS PRODUCTS

- A. Prevent contamination of personnel, storage area, and the Site. Comply with Laws and Regulations, manufacturer's instructions, and Section 01413, Contractor's Hazardous Materials Management Program.

1.8 MAINTENANCE OF STORAGE

- A. On scheduled basis, periodically inspect stored materials and equipment to ensure

that:

1. State of storage facilities is adequate to provide required conditions.
 2. Required environmental conditions are maintained on continuing basis.
 3. Materials and equipment exposed to elements are not adversely affected.
- B. Mechanical and electrical equipment requiring long-term storage shall have complete manufacturer's instructions for servicing each item, with notice of enclosed instructions shown on exterior of container or package.
1. Comply with manufacturer's instructions on scheduled basis.
 2. Space heaters that are part of electrical equipment, shall be connected and operated continuously until equipment is placed in service and permanently connected.

1.9 MICROPROCESSORS, PANELS, AND INSTRUMENTATION STORAGE

- A. Store panels, microprocessor-based equipment, electronics, and other devices subject to damage or decreased useful life because of temperatures below 40 degrees F or above 100 degrees F, relative humidity above 90 percent, or exposure to rain or exposure to blowing dust in climate-controlled storage space.
- B. Requirements:
1. Storage shall be in third-party owned, bonded, insured, climate-controlled warehouse in Kenton County.
 2. OWNER and CONSTRUCTION CONTRACT ADMINISTRATOR have the right to inspect materials and equipment during normal working hours.
 3. Placed inside each panel or device a desiccant, volatile corrosion inhibitor blocks (VCI), moisture indicator, and maximum-minimum indicating thermometer.
 4. Check panels and equipment at least once per month. Replace desiccant, VCI, and moisture indicator as often as required, or every six months, whichever occurs first.
 5. Certified record of daily maximum and minimum temperature and humidity in storage facility shall be available for inspection by OWNER and CONSTRUCTION CONTRACT ADMINISTRATOR. Certified record of monthly inspection, noting maximum and minimum temperature for month, condition of desiccant, VCI, and moisture indicator, shall be available for inspection by OWNER and CONSTRUCTION CONTRACT ADMINISTRATOR.
- C. Costs for storing climate-sensitive materials and equipment shall be paid by CONTRACTOR. Replace panels and devices damaged during storage, or for which storage temperatures or humidity range has been exceeded, at no additional cost to OWNER. Delays resulting from such replacement are causes within CONTRACTOR's control.

- D. Do not ship panels and equipment to the Site until conditions at the Site are suitable for installation, including slabs and floors, walls, roofs, and environmental controls. Failure to have the Site ready for installation shall not relieve CONTRACTOR from complying with the Contract Documents.

1.10 RECORDS

- A. Keep up-to-date account of materials and equipment in storage to facilitate preparation of Applications for Payment, if the Contract Documents provide for payment for materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

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SECTION 01 71 33

PROTECTION OF THE WORK AND PROPERTY

PART 1 – GENERAL

1.1 DESCRIPTION

- A. CONTRACTOR shall be responsible for taking all precautions, providing all programs, and taking all actions necessary to protect the Work and all public and private property and facilities from damage, as specified in the General Conditions and this Section.
- B. To prevent damage, injury, or loss, CONTRACTOR's actions shall include the following:
 - 1. Storing apparatus, materials, supplies, and equipment in an orderly, safe manner that will not unduly interfere with progress of the Work or work of other contractors or utility company.
 - 2. Providing suitable storage facilities for materials subject to injury by exposure to weather, theft, breakage, or otherwise.
 - 3. Placing upon the Work or any part thereof only loads consistent with the safety and integrity of that portion of the Work.
 - 4. Frequently cleaning up refuse, rubbish, scrap materials, and debris caused by CONTRACTOR's operations so that, at all times, the Site is safe and orderly, and workmanlike in appearance.
 - 5. Providing barricades and guard rails around the following: openings, for scaffolding, for temporary stairs and ramps, around excavations, for elevated walkways, and other hazardous areas.
- C. Do not, except after written consent from proper parties, enter or occupy privately-owned land with personnel, tools, materials or equipment, except on lands and easements provided by OWNER.
- D. CONTRACTOR has full responsibility for preserving public and private property and facilities on and adjacent to the Site. Direct or indirect damage done by, or on account of, any act, omission, neglect, or misconduct by CONTRACTOR in executing the Work, shall be restored by CONTRACTOR, at his expense to condition equal to that existing before damage was done.

1.2 BARRICADES AND WARNING SIGNALS

- A. Barricades and Warning Signals – General:
 - 1. Where Work is performed on or adjacent to roadway, access road, right-of-way, or public place, provide barricades, fences, lights, warning signs, danger

signals, watchmen, and take other precautionary measures for protecting persons, property, and the Work.

2. Paint barricades to be visible at night.
3. From sunset to sunrise, furnish and maintain at least one light at each barricade.
4. Erect sufficient barricades to keep vehicles from being driven on or into Work under construction.
5. Furnish watchmen in sufficient numbers to protect the Work.
6. CONTRACTOR's responsibility for maintaining barricades, signs, lights, and for providing watchmen shall continue until the Work is accepted in accordance with the General Conditions.

B. Temporary Fencing: Refer to Section 01 57 33, Security.

1.3 TREE AND PLANT PROTECTION

A. Tree and Plant Protection – General:

1. Protect existing trees, shrubs, and plants on or adjacent to the Site, shown or designated to remain in place, against unnecessary cutting, breaking, or skinning of trunk, branches, bark, or roots.
2. Do not store materials or park equipment within the drip line.
3. In areas subject to traffic, provide temporary fencing or barricades to protect trees and plants.
4. Fires are not allowed.
5. Within the limits of the Work, water trees and plants that are to remain to maintain their health during construction operations.
6. Cover all exposed roots with burlap, which shall be kept continuously wet. Cover exposed roots with earth as soon as possible. Protect root systems from mechanical damage and damage by erosion, flooding, runoff, or noxious materials in solution.
7. If branches or trunks are damaged, prune branches immediately and protect cut or damaged areas with emulsified asphalt compounded specifically for horticultural use in manner acceptable to CONSTRUCTION CONTRACT ADMINISTRATOR.
8. When directed by CONSTRUCTION CONTRACT ADMINISTRATOR, remove and dispose of off-Site damaged trees and plants that die or suffer permanent injury, and replace damaged tree or plant with specimen of equal or better quality.

1.4 PROTECTION OF EXISTING STRUCTURES

A. Underground Facilities:

1. Underground Facilities are defined in the General Conditions.

2. All Underground Facilities known to OWNER and CONSTRUCTION CONTRACT ADMINISTRATOR, except water, gas, sewer, electric, and communications services to individual buildings and properties, are shown. This information is the best available to OWNER and CONSTRUCTION CONTRACT ADMINISTRATOR but, in accordance with the General Conditions, is not guaranteed to be correct or complete.
3. CONTRACTOR shall explore ahead of trenching and excavation Work and shall uncover obstructing Underground Facilities sufficiently to determine their location, to prevent damage to Underground Facilities, and to prevent service interruption to building or parcels served by Underground Facilities. If CONTRACTOR damages an Underground Facility, CONTRACTOR shall restore it to original condition, in accordance with requirements of the owner of the damaged facility and the General Conditions.
4. Necessary changes in the location of the Work may be directed by OWNER or CONSTRUCTION CONTRACT ADMINISTRATOR to avoid Underground Facilities not shown or indicated on the Contract Documents.
5. If permanent relocation of an existing Underground Facilities is required and is not otherwise shown or indicated in the Contract Documents, CONTRACTOR will be directed in writing to perform the Work. When the relocation Work results in a change in the Contract Price, Contract Time, or both, the relocation Work shall be paid after execution of associated Change Order, in accordance with the Contract Documents.

B. Surface Structures:

1. Surface structures are existing buildings, structures, and other facilities at or above ground surface, including their foundations or any extension below ground surface. Surface structures include, but are not limited to, buildings, tanks, walls, bridges, roads, dams, channels, open drainage, exposed piping and utilities, poles, exposed wires, posts, signs, markers, curbs, walks, and other facilities visible at or above ground surface.
2. Existing surface facilities, including but not limited to guard rails, posts, guard cables, signs, poles, markers, and curbs that are temporarily removed to facilitate the Work shall be replaced and restored to their original condition at CONTRACTOR'S expense.

C. Protection of Underground Facilities and Surface Structures:

1. CONTRACTOR shall sustain in their places and protect from direct or indirect injury all Underground Facilities and surface structures located within or adjacent to the limits of the Work. Such sustaining and supporting shall be done carefully and as required by the party owning or controlling such structure or facility. Before proceeding with the Work of sustaining and supporting such structure or facility, CONTRACTOR shall satisfy CONSTRUCTION CONTRACT ADMINISTRATOR that methods and procedures to be used have been approved by party owning same.

2. CONTRACTOR shall bear all risks attending the presence or proximity of all Underground Facilities and surface structures within or adjacent to limits of the Work, in accordance with the Contract Documents. CONTRACTOR shall be responsible for damage and expense for direct or indirect injury caused by his Work to structures and facilities. CONTRACTOR shall repair immediately damage caused by his Work, to the satisfaction of owner of damaged structure or facility.

1.5 PROTECTION OF FLOORS AND ROOFS

A. Protection of Floors and Roofs – General:

1. Protect floors and roofs until acceptance of the Work in accordance with the General Conditions.
2. Use proper protective covering when moving heavy equipment, handling materials or other loads, when painting, handling mortar or grout, and when cleaning walls and ceilings.
3. Use metal pans to collect oil and cuttings from pipe, conduit, and rod threading machines, and under metal cutting machines.
4. Do not load concrete floors less than 28 days old without written permission of CONSTRUCTION CONTRACT ADMINISTRATOR. Do not load floors, roofs, or slabs in excess of design loading.
5. Do not load roofs without written permission of CONSTRUCTION CONTRACT ADMINISTRATOR.
6. Restrict access to roofs, and keep CONTRACTOR personnel off existing roofs, except as required for the Work.
7. If access to roofs is required, roofing, parapets, openings, and all other construction on or adjacent to roof shall be protected with suitable plywood or other acceptable means.

1.6 PROTECTION OF INSTALLED PRODUCTS AND LANDSCAPING

- A. Protect installed products to prevent damage from subsequent operations. Remove protection facilities when no longer needed prior to completion of Work.
- B. Control traffic to prevent damage to equipment, materials, and surfaces.
- C. Coverings:
 1. Provide coverings to protect equipment and materials from damage.
 2. Cover projections, wall corners and jambs, sills, and soffits of openings, in areas used for traffic and for passage of products in subsequent work.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 73 24

INSTALLATION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section describes general requirements for installing products. Additional product installation requirements are included in the Specification Sections.

1.2 INSTALLATION QUALITY ASSURANCE AND QUALITY CONTROL

- A. Provide appropriate quality assurance for installing products, and provide quality control over Suppliers, products, services, Site conditions, and workmanship to provide Work of specified quality.
- B. Install products in accordance with approved Shop Drawings, the Contract Documents, and Supplier's installation data. If Supplier's data conflict with the Contract Documents, obtain clarification from CONSTRUCTION CONTRACT ADMINISTRATOR before proceeding.
 - 1. Supplier's installation data includes Supplier's written instructions; drawings; illustrative, wiring and schematic diagrams; diagrams identifying external connections, terminal block numbers and internal wiring; and all other such information pertaining to installation of products and equipment that is not furnished with Shop Drawings. Included are all Supplier's printed installation instructions, including those that may be attached to equipment.
- C. CONTRACTOR's installers shall be experienced in the types of Work required.

1.3 SERVICES OF SUPPLIER'S REPRESENTATIVE

- A. When specified, provide competent, qualified representatives of product Supplier to provide services specified, including supervising installation, adjusting, and testing of products.

PART 2 - PRODUCTS

2.1 EQUIPMENT DRIVE GUARDS

- A. Equipment Drive Guards:

1. Unless otherwise shown or specified, provide all-metal guards conforming to 29 CFR 1910, Subpart O, with equipment driven by open shafts, belts, chains, pulleys, sheaves, or gears. Guards shall enclose drive and driven mechanism.
2. If material of guards is not otherwise specified, guards shall be galvanized sheet steel, galvanized woven wire, or expanded metal set in a frame of galvanized steel members, as appropriate.
3. Secure guards in position by steel braces or straps, securely fastened to frame of equipment, floor, or wall as required.
4. Fastenings shall permit removal of guards for servicing equipment.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General:

1. Prior to installing products, complete preparation of surfaces on which products are to be installed. Prior to installing products on new concrete, concrete shall achieve sufficient compressive strength to support the products.
2. Maintain Work area in a broom-clean condition during installation of products.
3. Use proper tools to assemble products. Do not deform or mar surface of shafts, nuts, and other parts.
4. Do not support rigging from building or structure without written permission of CONSTRUCTION CONTRACT ADMINISTRATOR. CONTRACTOR is responsible for and shall repair all damage to building or structure resulting from his operations.
5. During installation, maintain products in neutral position and do not exert undue stress on products.
6. Tighten connections requiring gaskets evenly all around to ensure uniform stress over entire gasket.
7. Use only an oil bath heater to expand couplings, gears, and other mechanical components to be expanded for installation. Do not force or drive couplings, gears, and other mechanical components onto equipment shafts, or subject them to open flame or torch.
8. Do not alter or repair products and do not burn or weld products unless specified in the Contract Documents or allowed by CONSTRUCTION CONTRACT ADMINISTRATOR.
9. Provide plugs in lubrication holes to prevent entry of foreign material.

B. Setting and Erection:

1. Wedging is not allowed. Use minimum number of shims required in leveling equipment being installed. Shims shall be Type 304L stainless steel, clean and free of slag. Provide shims, filling pieces, keys, packing, red or white lead grout, and other products necessary to properly align, level, and secure apparatus in place. Install products plum and level, unless otherwise specified,

and demonstrate plumbness and level to CONSTRUCTION CONTRACT ADMINISTRATOR. Bring parts to proper bearing after installation and erection.

2. Using experienced millwrights, carefully set and align equipment on foundations, after equipment soleplates or baseplates, as applicable, have been shimmed to true alignment at anchorages. Set anchorages in place and tighten nuts against shims. Check bedplates or wing feet of equipment after securing to foundations and, after confirming alignments, grout soleplates or baseplates, as applicable, in place.
3. Anchorages:
 - a. Provide anchorage setting drawings in time to coordinate with fabrication of products and the Work at the Site.
 - b. Anchorages shall conform to Section 05 05 33, Anchor Systems. Requests for approval of alternate anchorage methods shall be per the General Conditions and Section 01 25 00, Substitution Procedures.
4. Ream misaligned holes. Do not "force" bolts or keys.
5. Where applicable, properly align equipment with associated piping and utility connections, without exerting undue stress on connecting piping and utilities.

C. Alignment and Leveling:

1. Verify that all shafts, couplings, and sheaves are properly aligned and adjust to required tolerances.
2. Align couplings while equipment is free from external loads.
3. Check angular and parallel alignment and record actual alignment and submit to CONSTRUCTION CONTRACT ADMINISTRATOR. Alignment shall be within tolerances specified in Contract Documents and as recommended by Supplier of the product.
4. Use laser indicators or dial indicators for checking angular and parallel alignment. Using dial indicators requires that, during rotation of half couplings in performance of test, dial indicator shall be maintained in same relative position, and dial indicator readings taken at same place on circumference of coupling.

D. Threaded Connections:

1. Apply a molybdenum disulfide, anti-seize compound to threads in mechanical connections such as bolts, studs, cap screws, tubing, and other threads, unless otherwise specified.

++ END OF SECTION ++

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SECTION 01 73 29

CUTTING AND PATCHING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. CONTRACTOR shall perform cutting and coring, and rough and finish patching of holes and openings in existing construction.
- B. Cutting, coring, rough patching, and finish patching shall be by CONTRACTOR.
- C. Provide cutting, coring, fitting and patching, including attendant excavation and backfill, required to complete the Work, and to:
 - 1. Remove and replace defective Work;
 - 2. Remove samples of installed Work as specified or required for testing;
 - 3. Remove construction required to provide for specified alterations or addition to existing work;
 - 4. Uncover Work to for CONSTRUCTION CONTRACT ADMINISTRATOR's observation of covered Work or observation by authorities having jurisdiction;
 - 5. Connect to completed Work not performed in proper sequence;
 - 6. Remove or relocate existing utilities and pipes that obstruct the Work in locations where connections must be made;
 - 7. Make connections or alterations to existing or new facilities.
- D. Structural Elements: Do not cut or patch structural elements in manner that would change structural element's load-carrying capacity as load deflection ratio.
- E. Operating Elements: Do not cut or patch operating elements in manner that would reduce their capacity to perform as intended. Do not cut or patch operating elements or related components in manner that would increase maintenance requirements or decrease operational life or safety.

1.2 SUBMITTALS

- A. Action Submittals: Submit the following:
 - 1. Cutting and Patching Request:
 - a. Submit written request to CONSTRUCTION CONTRACT ADMINISTRATOR well in advance of executing cutting or alteration affecting:
 - 1) Design function or intent of Project.
 - 2) Work of OWNER or other contractors.
 - 3) Structural value or integrity of an element of the Project.

- 4) Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
 - 5) Efficiency, operational life, maintenance, or safety of operational elements.
 - 6) Visual qualities of sight-exposed elements.
- b. Request shall include:
- 1) Identification of Project and contract name and number.
 - 2) Description of affected Work of CONTRACTOR and work of others.
 - 3) Necessity for cutting.
 - 4) Effect on work of OWNER or other contractors, or on structural or weatherproof integrity of Project.
 - 5) Description of proposed Work, describing: scope of cutting and patching; trades who will be executing the Work; products proposed to be used; extent of refinishing; schedule of operations; alternatives to cutting and patching, if any.
 - 6) Designation of party responsible for cost of cutting and patching, when applicable.
 - 7) Written permission of other contractors whose work will be affected.
2. Should conditions of Work, or schedule, indicate a change of materials or methods, submit written recommendation to CONSTRUCTION CONTRACT ADMINISTRATOR including:
- a. Conditions indicating change.
 - b. Recommendations for alternative materials or methods.
 - c. Submittals as required for substitutions.
- B. Informational Submittals: Submit the following:
1. Submit written notice designating time Work will be uncovered, to provide for observation. Do not begin cutting or patching operations until accepted by CONSTRUCTION CONTRACT ADMINISTRATOR.
- C. Conform to submittal requirements in Specifications for application and installation of materials used for patching.

1.4 WARRANTY

- A. Replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials in manner that does not void required or existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Materials:

1. Use materials in conformance with the Contract Documents.
2. If not shown or indicated in the Contract Documents, use materials and products that are identical to existing materials and products affected by cutting and patching Work.
3. For exposed surfaces, use materials that visually match existing adjacent surfaces to fullest extent possible. If identical materials are unavailable or cannot be used, use materials whose installed performance will equal or surpass that of existing materials.

PART 3 - EXECUTION

3.1 GENERAL

- A. Perform cutting and coring in such manner that limits extent of patching.
- B. Core drill holes to be cut through concrete and masonry walls, slabs, or arches, unless otherwise accepted by CONSTRUCTION CONTRACT ADMINISTRATOR in writing.

3.2 INSPECTION

- A. Examine surfaces to be cut or patched and conditions under which cutting or patching are to be performed before starting cutting or patching Work.
- B. Report unsatisfactory or questionable conditions to CONSTRUCTION CONTRACT ADMINISTRATOR in writing. Do not proceed with the Work until unsatisfactory conditions are corrected.

3.3 PREPARATION

- A. Provide temporary support as required to maintain structural integrity of Project, to protect adjacent Work from damage during cutting, and to support the Work to be cut.
- B. Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that will be exposed during cutting and patching operations.
 1. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
 2. Do not cut existing pipe, conduit, ductwork, or other utilities serving facilities scheduled to be removed or relocated until provisions have been made to bypass them.

3.4 CORING

- A. Perform coring with non-impact rotary tool using diamond core drills. Size holes for pipe, conduit, sleeves, equipment or mechanical seals, as required.
- B. Protect existing equipment, utilities and adjacent areas from water and other damage covered by drilling operations.
- C. Vacuum or otherwise remove slurry or tailings from the Work area following drilling.
- D. Do not core-drill through electrical conduit or other utility lines embedded in walls or floors without approval of CONSTRUCTION CONTRACT ADMINISTRATOR. To extent possible, avoid cutting reinforcing steel in floors and walls. After core-drilling, coat exposed concrete and steel with Sika 62 or equal before installing the utility or equipment through the penetration.

3.5 CUTTING

- A. Cut existing construction using methods least likely to damage elements retained or adjoining construction, and that will provide proper surfaces to receive installation or repair.
 - 1. In general, use hand or small power tools designed for sawing or grinding, not hammering and chopping.
 - 2. Cut through concrete and masonry using concrete wall saw with diamond saw blades.
 - a. Provide for control, on both sides of walls, of slurry generated by sawing.
- B. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Provide temporary covering over openings where not in use.
- C. To avoid marring existing finished surfaces, cut or drill from exposed or finished side into concealed side.
- D. Provide adequate bracing of area to be cut prior to start of cutting.
- E. Provide equipment of adequate size to remove cut panel.

3.6 PATCHING

- A. Patch construction by filling, repairing, refinishing, closing-up and similar operations following performance of other Work. Patch with durable seams that are as inconspicuous as possible. Provide materials and comply with installation requirements specified, in the Specifications.

- B. Where feasible, test patched areas to demonstrate integrity of installation.
- C. Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- D. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in manner that eliminates evidence of patching and refinishing.
 - 1. For continuous surfaces, refinish to nearest intersection.
 - 2. For an assembly, refinish entire unit.
- E. Patch, repair or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

3.7 CLEANING

- A. Clean areas and spaces where cutting, coring and patching are performed. Clean piping, conduit, or similar constructions before applying paint or other finishing materials. Restore damaged coverings of pipe and other utilities to original condition.

++ END OF SECTION ++

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SECTION 01 74 05

CLEANING

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope:
1. CONTRACTOR shall execute cleaning during the Work, at completion of the Work, and as required by the General Conditions.
 2. Maintain in a clean manner the Site, the Work, and areas adjacent to or affected by the Work.

1.2 REFERENCES

- A. Standards referenced in this Section are:
1. NFPA 241, Standard for Safeguarding Construction, Alteration, and Demolition Operations.

1.3 PROGRESS CLEANING

- A. General: Clean the Site, work areas, and other areas occupied by CONTRACTOR at least weekly. Dispose of materials in accordance with the General Conditions and the following:
1. Comply with NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold non-combustible materials at the Site more than three days if the temperature is expected to rise above 80 degrees F. When temperature is less than 80 degrees F, dispose of non-combustible materials within seven days of their generation.
 3. Provide suitable containers for storage of waste materials and debris.
 4. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately.
- B. Site:
1. Keep outdoor, dust-generating areas wetted down or otherwise control dust emissions.
 2. At least weekly, brush-sweep roadways and paved areas at the Site that are used by construction vehicles or otherwise affected by the Work. On any day when activity of CONTRACTOR causes soil to be deposited or flow onto plant roads, parking, or public roadways, CONTRACTOR shall remove soil before end of workday.

- C. Work Areas:
1. Clean areas where Work is in progress to level of cleanliness necessary for proper execution of the Work.
 2. Remove liquid spills promptly and immediately report spills to OWNER, CONSTRUCTION CONTRACT ADMINISTRATOR, and authorities having jurisdiction.
 3. Where dust would impair proper execution of the Work, broom-clean or vacuum entire area of Work, as appropriate.
 4. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- D. Installed Work: Keep installed Work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning agents and methods specifically recommended. If manufacturer does not recommend specific cleaning agents or methods, use cleaning agents and methods that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration until Substantial Completion.
- F. Cutting and Patching:
1. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.
 2. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- G. Waste Disposal:
1. Properly dispose of waste materials, surplus materials, debris and rubbish off the Site.
 2. Do not burn or bury rubbish and waste materials at the Site.
 3. Do not discharge volatile or hazardous substances, such as mineral spirits, oil, or paint thinner, into storm sewers or sanitary sewers.
 4. Do not discharge wastes into surface waters or drainage routes.
 5. CONTRACTOR shall be solely responsible for complying with federal, state, and local Laws and Regulations regarding disposal of waste.
- H. During handling and installation of materials and equipment, clean and protect construction in progress and adjoining materials and equipment already in place. Apply protective covering where required for protection from damage or deterioration, until Substantial Completion.
- I. Clean completed construction as frequently as necessary throughout the construction period.

1.4 CLOSEOUT CLEANING

- A. Complete the following prior to requesting inspection for Substantial Completion:
1. Clean and remove from the Site rubbish, waste material, debris, and other foreign substances.
 2. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 3. Hose-clean sidewalks and loading areas.
 4. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 5. Leave surface waterways, drainage routes, and gutters open and clean.
 6. Repair pavement, roads, sod, and all other areas affected by construction operations and restore them to specified condition; if condition is not specified, restore to original condition.
 7. Clean exposed exterior and interior hard-surfaced finishes to dirt-free condition, free of spatter, grease, stains, fingerprints, films, and similar foreign substances.
 8. Clean, wax, and polish wood, vinyl, and painted floors.
 9. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, and similar spaces.
 10. In unoccupied spaces, sweep concrete floors broom-clean.
 11. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
 12. Remove non-permanent tags and labels.
 13. Touch up and otherwise repair and restore chipped, scratched, dented or otherwise marred surfaces to specified finish and match adjacent surfaces.
 - a. Do not paint over "UL" or similar labels, including mechanical and electrical nameplates.
 14. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint, and mortar droppings, and other foreign substances.
 15. Clean plumbing fixtures to sanitary condition, free of stains, including stains resulting from water exposure.
 16. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 17. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace temporary lamps provided in permanent fixtures. Replace existing light fixture components that are burned out or noticeably dimmed from use during the Work. Replace defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 18. Leave the Site clean, and in neat, orderly condition, satisfactory to OWNER and CONSTRUCTION CONTRACT ADMINISTRATOR.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 75 11

CHECKOUT AND STARTUP PROCEDURES

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope:
1. CONTRACTOR shall initially start up and place equipment installed under the Contract into successful operation, in accordance with manufacturer's written instructions and as instructed by Supplier at the Site.
 2. Provide all material, labor, tools, equipment, chemicals, lubricants, and expendables required to complete start-up.
- B. No system or subsystem shall be started up for continuous operation unless all components of that system or subsystem, including instrumentation, have been tested to the extent practicable and proven to be operable as intended by the Contract Documents.
- C. General Activities Include:
1. Cleaning.
 2. Removing temporary protective coatings.
 3. Flushing and replacing greases and lubricants, where required by manufacturer.
 4. Lubrication.
 5. Checking shaft and coupling alignments and resetting where required.
 6. Checking and setting motor, pump, and other equipment rotation, safety interlocks, and belt tensions.
 7. Checking and correcting (if necessary) leveling plates, grout, bearing plates, anchor bolts, fasteners, and alignment of piping, conduits, and ducts that may put stress on equipment connected to it.
 8. All adjustments required.
- D. Provide chemicals, lubricants, and other required operating fluids.
- E. Provide fuel, electricity, water, filters, and other expendables required for start-up of equipment, unless otherwise specified.
- F. OWNER will provide sufficient personnel to assist CONTRACTOR in starting up equipment, but responsibility for proper operation is CONTRACTOR's. Supplier shall be present during initial start-up and operation, unless otherwise acceptable to CONSTRUCTION CONTRACT ADMINISTRATOR.

- G. Start-up of heating and air conditioning systems is dependent upon the time of year. Return to Site at beginning of next heating or air conditioning season (as applicable) to start the appropriate system.
- H. Do not start up system, unit process, or equipment without submitting acceptable preliminary operations and maintenance manuals by CONTRACTOR, in accordance with Section 01 78 23, Operations and Maintenance Data.
- I. Prior to turning over to OWNER responsibility for operating and maintaining system or equipment:
 - 1. Provide training of operations and maintenance personnel in accordance with Section 01 79 23, Instruction of Operations and Maintenance Personnel.
 - 2. Complete system performance testing in accordance with the Contract Documents.
 - 3. Submit acceptable final operations and maintenance manuals in accordance with Section 01 78 23, Operations and Maintenance Data.
 - 4. Submit request for Substantial Completion.
- J. OWNER shall assume responsibility for operation of the equipment upon completion of start-up and placing equipment in operation. If the OWNER does not assume operational responsibility and in the opinion of the CONSTRUCTION CONTRACT ADMINISTRATOR start-up tasks are completed, the CONSTRUCTION CONTRACT ADMINISTRATOR will notify CONTRACTOR, in writing, of the completion of the start-up period.

1.2 SERVICES OF SUPPLIER

- A. When specified, provide competent, qualified representatives of product Supplier to provide services specified, including supervising installation, adjusting, starting-up, and testing of materials and equipment.
- B. When services by Supplier are required at the Site, within fourteen days after first test operation of equipment, submit to CONSTRUCTION CONTRACT ADMINISTRATOR a letter from Supplier, on Supplier's letterhead, stating that materials and equipment are installed in accordance with Supplier's requirements and installation instructions, and in accordance with the Contract Documents. In lieu of Supplier letter, provide completed form attached to this Section. Also provide copy of letter or completed form, as applicable, with final operations and maintenance data.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 MINIMUM START-UP REQUIREMENTS

- A. Bearings and Shafting:
 - 1. Inspect for cleanliness, and clean and remove foreign matter.
 - 2. Verify alignment.
 - 3. Replace defective bearings and those that operate rough or noisy.
 - 4. Grease as necessary, in accordance with manufacturer's recommendations.

- B. Drives:
 - 1. Adjust tension in V-belt drives and adjust vari-pitch sheaves and drives for proper equipment speed.
 - 2. Adjust drives for alignment of sheaves and V-belts.
 - 3. Clean and remove foreign matter before starting operation.

- C. Motors:
 - 1. Check each motor for comparison to amperage nameplate value.
 - 2. Correct conditions that produce excessive current flow and conditions that exist due to equipment malfunction.

- D. Pumps:
 - 1. Check glands and seals for cleanliness and adjustment before running pump.
 - 2. Inspect shaft sleeves for scoring.
 - 3. Inspect mechanical faces, chambers, and seal rings, and replace if defective.
 - 4. Verify that piping system is free of dirt and scale before circulating liquid through pump.

- E. Valves:
 - 1. Inspect manual and automatic control valves, and clean bonnets and stems.
 - 2. Tighten packing glands to ensure no leakage, but allow valve stems to operate without galling.
 - 3. Replace packing in valves to retain maximum adjustment after system is determined to be complete.
 - 4. Replace packing on valves that continue to leak.
 - 5. Remove and repair bonnets that leak.
 - 6. After cleaning, coat packing gland threads and valve stems with surface preparation of "Molycote" or "Fel-Pro".

- F. Verify that control valve seats are free from foreign matter and are properly positioned for intended service.

- G. Tighten flanges and other pipe joints after system has been placed in operation.
 - 1. Replace gaskets that show signs of leakage after tightening.

- H. Inspect all joints for leakage:
 - 1. Promptly remake each joint that appears to be faulty; do not wait for rust or other corrosion to form.
 - 2. Clean threads on both parts, and apply compound and remake joints.
- I. After system has been placed in operation, clean strainers, drives, pockets, orifices, valve seats, and headers in fluid system to ensure freedom from foreign matter.
- J. Open steam traps and air vents, where used, and remove operating elements.
 - 1. Clean thoroughly, replace internal parts, and place back into operation.
- K. Remove rust, scale, and foreign matter from equipment and renew defaced surfaces.
- L. Set and calibrate draft gauges of air filters and other equipment.
- M. Inspect fan wheels for clearance and balance.
 - 1. Provide factory-authorized personnel for adjustment when needed.
- N. Check each electrical control circuit to ensure that operation complies with the Contract Documents.
- O. Inspect each pressure gauge, thermometer, and other instruments for calibration.
 - 1. Replace items that are defaced, broken, or that read incorrectly.
- P. Repair damaged insulation.
- Q. Vent gasses trapped in systems.
 - 1. Verify that liquids are drained from all parts of gas or air systems.

3.2 ATTACHMENTS

- A. The attachment listed below, following the “End of Section” designation, is a part of this Specification Section.
 - 1. Supplier’s Installation Certification Form (one page).

++ END OF SECTION ++

SUPPLIER'S INSTALLATION CERTIFICATION

Contract No. and Name: _____

Specification Section of Equipment: _____

Equipment Name: _____

Contractor: _____

Manufacturer of Equipment: _____

The undersigned Supplier of the products described above hereby certifies that Supplier has checked the product installation and that the product, as specified in the Contract Documents, has been provided in accordance with the Supplier's recommendations and the Contract Documents, and that the trial operation of the equipment item has been satisfactory.

Comments: _____

Date

Supplier Name (print)

Signature of Supplier

Date

Contractor Name (print)

Signature of Contractor

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SECTION 01 78 23

OPERATIONS AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Provide operation and maintenance data, as described in this Section, for use as instructional and reference manuals by operations and maintenance personnel at the Site. At minimum, provide operation and maintenance data for:
 - 1. All equipment and systems.
 - 2. Valves, gates, actuators, and related accessories.
 - 3. Instrumentation and control devices.
 - 4. Electrical gear.

- B. Required Operation and Maintenance Data: For each operation and maintenance manual required, provide the following:
 - 1. Preliminary Submittal: Printed and bound copy of entire operation and maintenance manual, except for test data, service reports by Supplier's representative, and electronic copies.
 - 2. Final Submittal: Printed and bound copy of complete operations and maintenance manual, including test data and service reports by Supplier's representative, with electronic copies.

- C. Prepare each operations and maintenance manual specifically for Project. Include in each manual all pertinent instructions, as-built drawings as applicable, bills of materials, technical bulletins, installation and handling requirements, maintenance and repair instructions, and other printed materials required to provide accurate and comprehensive information for safe and proper operation, maintenance, and repair of products furnished for Project. Include in manual all specific information required by applicable Specification Section, and all data required by Laws and Regulations and by authorities having jurisdiction.

1.2 NUMBER OF COPIES AND TIMING OF SUBMITTALS

- A. Number of Copies Required and Timing of Submittals:
 - 1. Preliminary Submittal:
 - a. Three copies, exclusive of copies required by CONTRACTOR.
 - b. Provide submittal to CONSTRUCTION CONTRACT ADMINISTRATOR by the earlier of: ninety days following approval of Shop Drawings and related submittals, or ten days prior to starting operations and maintenance personnel training and operational testing at the Site.

2. Final Submittal: Provide final submittal prior to Substantial Completion, unless submittal is specified as required prior to an interim Milestone.
 - a. Printed Copies: seven copies.
 - b. Electronic Copies: Two copies.

1.3 FORMAT OF HARDCOPIES

A. Binding and Cover:

1. Bind each operation and maintenance manual in durable, permanent, stiff-cover binder(s), comprising one or more volumes per copy as required. Binders shall be minimum one-inch wide and maximum of three-inch wide. Binders for each copy of each volume shall be identical.
2. Binders shall be locking three-ring/"D"-ring type, or three-post type. Three-ring binders shall be riveted to back cover and include plastic sheet lifter (page guard) at front of each volume.
3. Do not overfill binders.
4. Covers shall be oil, moisture, and wear resistant, including identifying information on cover and spine of manual.
5. Provide the following information on cover of each volume:
 - a. Title, "OPERATING AND MAINTENANCE INSTRUCTIONS".
 - b. Name or type of equipment covered in the manual.
 - c. Volume number, if more than one volume is required.
 - d. Name of Project and, if applicable, contract name and number.
 - e. Name of building or structure, as applicable.
6. Provide the following information on spine of each volume:
 - a. Title, "OPERATING AND MAINTENANCE INSTRUCTIONS".
 - b. Name or type of equipment covered in the manual.
 - c. Volume number, if more than one volume is required.
 - d. Project name and building or structure name.

B. Pages:

1. Print pages in manual on 30-pound (minimum) paper, 8.5 inches by 11 inches.
2. Reinforce binding holes in each individual sheet with plastic, cloth, or metal. When published, separately bound booklets or pamphlets are included in the manual, reinforcing of pages within booklet or pamphlet is not required.
3. Provide each page with binding margin of at least one inch wide. Punch each page with holes suitable for the associated binding.

C. Drawings:

1. Bind into the manual drawings, diagrams, and illustrations up to and including 11 by 17 inches in size, with reinforcing specified for pages.
2. Documents larger than 11 inches by 17 inches shall be folded and inserted into clear plastic pockets bound into the manual. Mark pockets with printed text indicating content and drawing numbers. Provide no more than three drawings per pocket.

- D. Copy Quality and Document Clarity:
1. All contents shall be original-quality copies, viz., material shall either be original manufacturer-printed materials or first-generation photocopies indistinguishable from originals. Manuals that contain copies that are not clear, not completely legible, off-center, skewed, or where text or drawings are cut by binding holes, will be rejected. Pages that contain approval or date stamps, comments, or other markings that cover text or drawing are unacceptable. Faxed copies are unacceptable.
 2. Clearly mark in ink all components of equipment on catalog pages for ease of identification. In standard or pre-printed documents, indicate options provided or cross out inapplicable material. Use of highlighters is unacceptable.
- E. Organization:
1. Coordinate with CONSTRUCTION CONTRACT ADMINISTRATOR and OWNER to develop comprehensive, practical, and consistent indexing system for operations and maintenance data. CONSTRUCTION CONTRACT ADMINISTRATOR and OWNER will review indexing system before operations and maintenance data is submitted.
 2. Table of Contents:
 - a. Provide table of contents in each volume of each operations and maintenance manual.
 - b. In table of contents and at least once in each chapter or section, identify products by their functional names. Thereafter, abbreviations and acronyms may be used if their meaning is explained in table bound at or near end of each volume. Using product model or catalog designations for identification is not acceptable.
 3. Use dividers and indexed tabs between major categories of information, such as operating instructions, preventive maintenance instructions, and other major subdivisions of data in each manual.

1.4 FORMAT OF ELECTRONIC COPIES

- A. Electronic Copies of Manuals:
1. Electronic copy shall include all information provided in hardcopy.
 2. Provide each electronic copy on a separate compact disc (CD).
 3. File Format:
 - a. Files shall be in "portable document format (PDF)". Files shall be electronically searchable.
 - b. Provide separate file for each separate document in the hardcopy.
 - c. Within each file, provide bookmarks for the following:
 - 1) Each chapter and subsection listed in the hardcopy document's table of contents.
 - 2) Each figure.
 - 3) Each table.
 - 4) Each appendix.

4. Also provide drawings and figures in one of the following formats: “.bmp”, “.tif”, “.jpg”, or “.gif”. Provide files in separate directory on CD.
- B. Copies of Programming and Configuration Files:
1. Provide on CD copy of all software programming, such as programmable logic controller programs, prepared specifically for the Project. Third-party, commercially available software is excluded from requirements of this article; provide copies of commercially-available, third-party software as specified in the Contract Documents.
 2. Provide on CD copies of system configuration prepared specifically for the Project, such as SCADA display configurations.
 3. Provide number of programming and configuration files as specified for electronic copies of operation and maintenance data.

1.5 CONTENT

- A. Provide complete, detailed written operating instructions for each product including: function; operating characteristics; limiting conditions; operating instructions for start-up, normal and emergency conditions; regulation and control; operational troubleshooting; and shutdown. Also include, as applicable, written descriptions of alarms generated by product and proper responses to such alarm conditions.
- B. Provide written explanations of all safety considerations relating to operation and maintenance procedures.
- C. Provide complete, detailed, written preventive maintenance instructions including all information and instructions to keep product or system properly lubricated, adjusted, and maintained so that products function economically throughout design life. Instructions shall include:
1. Written explanations with illustrations for each preventive maintenance task such as inspection, adjustment, lubrication, calibration, and cleaning. Provide pre-startup checklists for each equipment item and maintenance requirements for long-term shutdowns.
 2. Recommended schedule for each preventive maintenance task.
 3. Lubrication charts indicating recommended types of lubricants, frequency of application or change, and where each lubricant is to be used or applied.
 4. Table of alternative lubricants.
 5. Troubleshooting instructions.
 6. List of required maintenance tools and equipment.
- D. Complete bills of material or parts lists for products provided. Lists or bills of material may be provided on a per-drawing or per-equipment assembly basis. Bills of material shall indicate:
1. Manufacturer's name, address, telephone number, fax number, and Internet website address.

2. Manufacturer's local service representative's or local parts supplier's name, address, phone number, fax number, and Internet and e-mail addresses, if applicable.
 3. Manufacturer's shop order and/or serial number(s) for product or assembly furnished.
 4. For each part or piece provide:
 - a. Parts cross-reference number. Cross-reference number shall be used to identify the part on assembly drawing, Shop Drawing, or other type of illustration where the part is clearly shown.
 - b. Part name or description.
 - c. Manufacturer's part number.
 - d. Quantity of each part used in each assembly.
 - e. Current unit price of the part at the time the operations and maintenance manual is submitted. Price list shall be dated.
- E. Compete instructions for ordering of all replaceable parts, including reference numbers (e.g., shop order or serial number) that will expedite ordering process.
- F. Manufacturer's recommended inventory levels for spare parts and consumable supplies for the first two years of operation. Consumable supplies are those items consumed or worn by operation of equipment, and items used in maintaining the operation of product, including items such as lubricants, seals, reagents, and testing chemicals used for calibrating or operating the equipment. Provide estimated delivery times, shelf life limitations, and special storage requirements.
- G. Provide manufacturer's installation and operation bulletins, diagrams, schematics, and equipment cutaways. Avoid providing catalog excerpts unless they are the only material available showing identification or description of particular component of the equipment. Where materials pertain to multiple models or types, mark the literature to indicate specific product supplied. Marking may be in the form of checking, arrows, or underlining to show pertinent information, or by crossing out or other means of obliterating information that does not apply to the products furnished.
- H. Provide original-quality copies of each approved and accepted Shop Drawing and submittal, updated to as-installed condition. Reduced drawings are permissible only if reduction is to not less than one-half original size and all lines, dimensions, lettering, and text are completely legible on the reduction.
- I. Provide complete electrical schematic and wiring diagrams, including complete point-to-point wiring and wiring numbers or colors between all terminal points.
- J. Programmable Logic Controllers: If programmable logic controllers are provided under the Contract:
 1. Provide complete logic listings in "ladder diagram", "function block diagram", "sequential function chart", "instruction list" OR, "structured text" format.

2. For ladder diagram logic, include complete cross-referencing of all logic elements. Annotate all elements with clearly understandable tags or descriptive labels.
 3. Provide complete programmable logic controller listing of all input/output address assignments, tag assignments, and pre-set constant values, with functional point descriptions.
 4. Provide complete manufacturer's programming manuals.
- K. Copy of warranty bond and service contract as applicable.
- L. When copyrighted material is used in operations and maintenance manual, obtain copyright holder's written permission to use such material in the operation and maintenance manual.

1.6 SUBMITTALS REQUIRED

- A. Provide operation and maintenance data for the following:
1. All equipment and systems.
 2. Valves, gates, actuators, and related accessories.
 3. Instrumentation and control devices.
 4. Electrical gear.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 78 39

RECORD DOCUMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. CONTRACTOR shall maintain and provide CONSTRUCTION CONTRACT ADMINISTRATOR with record documents per the Specifications, General Conditions, and Supplementary Conditions.
- B. Maintenance of Record Documents:
1. Maintain in CONTRACTOR's field office, in clean, dry, legible condition, complete sets of the following record documents: Drawings, Specifications, and Addenda; Shop Drawings and submittals, including test records, approved or accepted as applicable, by CONSTRUCTION CONTRACT ADMINISTRATOR; Samples, Change Orders, Work Change Directives, Field Orders, photographic documentation, survey data, and all other documents pertinent to the Work.
 2. Provide files and racks for proper storage and easy access to record documents. File record documents in accordance with the 2004 edition of the Construction Specification Institute's *MasterFormat* used for organizing the Project Manual, unless otherwise accepted by CONSTRUCTION CONTRACT ADMINISTRATOR.
 3. Make record documents available for inspection upon request of CONSTRUCTION CONTRACT ADMINISTRATOR or OWNER.
 4. Do not use record documents for purpose other than serving as project record. Do not remove record documents from CONTRACTOR's field office without CONSTRUCTION CONTRACT ADMINISTRATOR's approval.
- C. Submittal of Record Documents:
1. Provide to CONSTRUCTION CONTRACT ADMINISTRATOR the following record documents:
 - a. Drawings.
 - b. Specifications and Addenda (bound).
 2. Prior to readiness for final payment, deliver to CONSTRUCTION CONTRACT ADMINISTRATOR one copy of final record documents. Submit complete record documents; do not make partial submittals.
 3. Submit record documents with transmittal letter on CONTRACTOR letterhead containing: date of transmittal, Project and Contract names, and title and number of each record document.
 4. With submittal of record documents, provide certification, with original signature of official authorized to execute legal agreements on behalf of CONTRACTOR, reading as follows:

“*[Insert Contractor’s corporate name]* has provided record documentation, per the Conditions of the Contract and Section 01 78 39 of the Contract Documents, for the Northern Kentucky Water District, Taylor Mill Treatment Plant Electrical and Basin Improvements Project. We certify that each record document submitted is complete, accurate, and legible relative to the Work performed under our Contract, and that the record documents conform to the requirements of the Contract Documents.

[Provide signature, print name, print signing party’s corporate title, and date]”

1.2 RECORDING CHANGES

A. General:

1. Label each document to be submitted as, “PROJECT RECORD” in two-inch high, legible, printed letters.
2. Keep record documents current. Make entries on record documents within two working days of receipt of information required to record the change.
3. Do not permanently conceal Work until required information has been recorded.
4. Accuracy of record documents shall be such that future searches for items shown on the record documents may rely reasonably on information obtained from CONSTRUCTION CONTRACT ADMINISTRATOR-accepted record documents.
5. Marking of Entries:
 - a. Use erasable, colored pencils (not ink or indelible pencil) for marking changes, revisions, additions, and deletions to record documents.
 - b. Clearly describe the change by graphic line and note as required. Use straight-edge to mark straight lines. Writing shall be legible and sufficiently dark to allow scanning of record documents into legible electronic files.
 - c. Date all entries.
 - d. Call attention to change by drawing a “cloud” around the area(s) affected.
 - e. Mark initial revisions in red. In the event of overlapping changes, use different colors for subsequent changes.

B. Drawings:

1. Record changes on copy of the Drawings. Submittal of CONTRACTOR-produced drawings as a substitute for recording changes on the Drawings is unacceptable.
2. Record changes on plans, sections, schematics, and details as required for clarity, providing reference dimensions and elevations (to Project datum) for complete record documentation.
3. Record actual construction including:
 - a. Depths of various elements of foundation relative to Project datum.
 - b. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements. For each

- buried pipe fitting, valve, or other improvement not visible at ground surface, provide dimensions to at least two permanent surface improvements.
- c. Location of exposed utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
 - d. Changes in structural and architectural elements of the Work, including changes in reinforcing.
 - e. Field changes of dimensions, arrangements, and details.
 - f. Changes made by Change Orders, Work Change Directives, and Field Orders.
 - g. Details on the Drawings.
4. Recording Changes for Schematic Layouts:
- a. In some cases on the Drawings, arrangements of conduits, circuits, piping, ducts, and similar items is shown schematically and is not intended to portray physical layout. For such cases, final physical arrangement is determined by CONTRACTOR subject to acceptance by CONSTRUCTION CONTRACT ADMINISTRATOR.
 - b. Record on record documents all revisions to schematics on Drawings, including: piping schematics, ducting schematics, process and instrumentation diagrams, control and circuitry diagrams, electrical one-line diagrams, motor control center layouts, and other schematics when included in the Contract. Record actual locations of equipment, lighting fixtures, in-place grounding system, and other pertinent data.
 - c. When plans and sections on the Drawings show the Work schematically, show on the record documents, by dimensions accurate to within one inch in the field, centerline location of items of Work such as conduit, piping, ducts, and similar items
 - 1) Clearly identify the Work item by accurate notations such as “cast iron drain”, “rigid electrical conduit”, “copper waterline”, and similar descriptions.
 - 2) Show by symbol or note the vertical location of Work item; for example, “embedded in slab”, “under slab”, “in ceiling plenum”, “exposed”, and similar designations. For piping not embedded, also provide elevation dimension relative to Project datum.
 - 3) Descriptions shall be sufficiently detailed to be related to Specifications.
 - d. CONSTRUCTION CONTRACT ADMINISTRATOR may provide written waiver of requirements relative to schematic layouts shown on plans and sections when, in CONSTRUCTION CONTRACT ADMINISTRATOR’s judgment, dimensioned layouts of Work shown schematically will serve no useful purpose. Do not rely on waiver(s) being issued.
5. Supplemental Drawings:
- a. In some cases, drawings produced during construction by CONSTRUCTION CONTRACT ADMINISTRATOR or

CONTRACTOR supplement the Drawings and shall be included with record documents submitted by CONTRACTOR. Supplemental record drawings shall include drawings provided with Change Orders, Work Change Directives, and Field Orders and that cannot be incorporated into the Drawings due to space limitations.

- b. Supplemental drawings provided with record drawings shall be integrated with the Drawings and include necessary cross-references between drawings. Supplemental record drawings shall be on sheets the same size as the Drawings.
- c. When supplemental drawings developed by CONTRACTOR using computer-aided drafting/design (CADD) software are to be included in record drawings, provide electronic files for such drawings in AutoCAD 2007 format as part of record drawing submittal. Provide electronic files on compact disc labeled, "Supplemental Record Drawings", together with CONTRACTOR name, Project name, and Contract name and number.

C. Specifications and Addenda:

1. Mark each Section to record:
 - a. Manufacturer, trade name, catalog number, and Supplier of each product and item of equipment actually provided.
 - b. Changes made by Addendum, Change Orders, Work Change Directives, and Field Orders.

1.3 ELECTRONIC FILES FURNISHED BY ENGINEER

A. CADD files will be furnished by ENGINEER upon the following conditions:

1. CONTRACTOR shall provide to ENGINEER a letter on CONTRACTOR letterhead requesting CADD files and providing specific definition(s) or description(s) of how files will be used, and specific description of benefits to OWNER (including credit proposal, if applicable) if the request is granted.
2. CONTRACTOR shall execute ENGINEER's standard agreement for release of electronic files and shall abide by all provisions of the agreement for release of electronic files.
3. Layering system incorporated in CADD files shall be maintained as transmitted by ENGINEER. CADD files transmitted by ENGINEER containing cross-referenced files shall not be bound by CONTRACTOR. Drawing cross-references and paths shall be maintained at all times. If CONTRACTOR alters layers or cross-reference files, CONTRACTOR shall restore all layers and cross-references prior to submitting record documents to ENGINEER.
4. CONTRACTOR shall provide record drawings to ENGINEER same CADD format that files were furnished to CONTRACTOR.

PART 2 - PRODUCTS (NOT USED)

PART 3 -EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 78 43

SPARE PARTS AND MAINTENANCE MATERIALS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. CONTRACTOR shall furnish spare parts data and maintenance materials for products per the Contract Documents.
- B. List of Spare Parts and Maintenance Materials: With the Shop Drawings and product data for each Specification Section, submit to CONSTRUCTION CONTRACT ADMINISTRATOR a complete list of spare parts, extra materials, maintenance supplies, and special tools required for maintenance (“spare parts and maintenance materials”) required for two years of operation, with current unit prices in U.S. funds, and source (or sources) of supply for each.
- C. Packaging and Labeling: Furnish spare parts and maintenance materials required per the Contract Documents in manufacturer’s unopened cartons, boxes, crates, or other original, protective covering suitable for preventing corrosion or deterioration for maximum length of storage normally anticipated by manufacturer. Packaging of spare parts and maintenance materials shall be clearly marked and identified with name of manufacturer or Supplier, applicable equipment, part number, part description, and part location in the equipment. Protect and package spare parts and maintenance materials for maximum shelf life normally anticipated by manufacturer.
- D. Storage Prior to Delivery to Owner: Prior to delivering spare parts and maintenance materials to OWNER, store spare parts and maintenance materials per the Contract Documents and manufacturers’ recommendations.
- E. Delivery Time and Eligibility for Payment:
 - 1. Deliver to OWNER spare parts and maintenance materials no later than date of Substantial Completion for products or system associated with spare parts and maintenance materials. Do not deliver spare parts and maintenance materials earlier than date that start-up commences for associated equipment or system.
 - 2. Spare parts and maintenance materials are not eligible for payment until delivered to OWNER and CONTRACTOR’s receipt of OWNER’s countersignature on letter of transmittal.
- F. Procedure for Delivery to OWNER: Deliver spare parts and maintenance materials to OWNER’s permanent storage rooms at the Site or area(s) at the Site designated by OWNER. When spare parts and maintenance materials are delivered, CONTRACTOR and OWNER will mutually inventory the products delivered to

verify compliance with the Contract Documents regarding quantity and part numbers. Additional procedures for delivering spare parts and maintenance materials to OWNER, if required, will be developed by CONSTRUCTION CONTRACT ADMINISTRATOR and complied with by CONTRACTOR.

G. Transfer Documentation:

1. Provide on CONTRACTOR letterhead a letter of transmittal for spare parts and maintenance materials furnished under each Specification Section. Letter of transmittal shall accompany spare parts and maintenance materials. Do not submit letter of transmittal separate from products.
2. Provide three original, identical, signed letters of transmittal for each Specification Section. Upon delivery of specified quantities and types of products to OWNER, designated person from OWNER will countersign each original letter of transmittal indicating OWNER's receipt of spare parts and maintenance materials. OWNER will retain one fully signed original, CONTRACTOR will furnish one fully signed original to CONSTRUCTION CONTRACT ADMINISTRATOR, and CONTRACTOR will retain one fully signed original for CONTRACTOR's file.
3. Letter of transmittal shall include the following:
 - a. Date of letter.
 - b. Project name, and contract name and number.
 - c. CONTRACTOR'S name and address.
 - d. Transmittal shall list for spare parts and maintenance materials furnished under each Specification Section. List each individual part or product and quantity provided.
 - e. Provide space for countersignature by OWNER as follows: space for signature, space for printed name, and date.

H. CONTRACTOR shall be fully responsible for loss or damage to spare parts and maintenance materials until products are received by OWNER.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

++ END OF SECTION ++

SECTION 01 79 13

EQUIPMENT AND SYSTEM PERFORMANCE TESTING

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:

1. CONTRACTOR shall provide all labor, materials, services, equipment, and incidentals required for performance testing as indicated in the Contract Documents.
2. Conduct performance testing for each item of process; mechanical; instrumentation and control; plumbing; heating, ventilating, and air conditioning (HVAC); electrical systems and equipment; and other systems and equipment, to demonstrate compliance with the performance requirements of the Contract Documents.
3. Objectives of performance testing are to:
 - a. Demonstrate to satisfaction of OWNER and CONSTRUCTION CONTRACT ADMINISTRATOR that structures, systems, and equipment tested comply with all functional and performance requirements in the Contract Documents.
 - b. Demonstrate that facility is Substantially Complete
 - c. Establish baseline operating conditions for OWNER's use in establishing standard operating procedures and preventative maintenance programs.
4. Utilities and Consumables:
 - a. CONTRACTOR shall provide the following: electricity, fuel, compressed air, chemicals, temporary piping and appurtenances, and all other items and Work required for completing performance testing.
 - b. OWNER will provide the following: water for initial performance testing. CONTRACTOR shall provide temporary piping and appurtenances required to convey to the testing location utilities and consumables furnished by OWNER. If re-testing is required, cost of utilities and consumables furnished by OWNER for initial testing shall be paid by CONTRACTOR at OWNER's cost or standard rates, as applicable.
5. Sequence: The following general sequence applies to performance testing:
 - a. Furnish submittals required prior to performance testing, in accordance with this Section.
 - b. Complete the Work associated with starting and placing equipment in operation.
 - c. To the extent practicable, complete Site quality control Work specified in Specification Sections for individual equipment items and systems.

- d. Proceed with performance testing in accordance with this Section, simulating the range of actual operating conditions to the greatest extent possible.
- e. Successful completion of performance testing is required to achieve Substantial Completion.

B. Coordination:

1. Review procedures under this and other Sections and coordinate installation and testing of items that must be started up and tested with or before performance testing Work.

1.2 TERMINOLOGY

A. The following words or terms are not defined but, when used in this Section, have the following meaning:

1. A “system” includes all required items of equipment, devices, and appurtenances connected so that their operation or function complements, protects, or controls the operation or function of the others.

1.3 QUALITY ASSURANCE

A. Qualifications:

1. Contractor’s Performance Testing Manager:
 - a. Appoint a performance testing manager, who shall:
 - 1) Manage, coordinate, and supervise CONTRACTOR’s performance testing.
 - 2) Assist in coordinating and documenting Site quality control Work specified in individual Specifications Sections.
 - 3) Prepare, or review and approve, all submittals for the Work under this Section
 - 4) Coordinate activities of Subcontractors and Suppliers relative to performance testing.
 - 5) Be at the Site eight hours per day during performance testing.
 - b. Experience:
 - 1) Performance testing manager shall be an operations engineer or a qualified operations specialist, having at least five years of experience in work similar to that required, or experience on at least five separate projects, in managing performance testing of process, mechanical, instrumentation and control, HVAC, and electrical systems.
 - 2) Operations Engineer: Shall be a graduate of four-year course in mechanical or civil engineering at an accredited college or university.
 - 3) Operations Specialist: Shall have equivalent experience in operation and maintenance of facility similar to the Site.
2. Contractor’s Performance Testing Operators:

- a. Coordinate with requirements of authority having jurisdiction over the facility's operating permit.
- B. Pre-performance Testing Conference:
1. After initial submittal of documentation plan and performance testing plan and prior to starting performance testing, arrange a meeting at Site with CONTRACTOR's performance testing manager, CONTRACTOR's other key personnel, equipment Suppliers' technical representatives, authority having jurisdiction over operating permit(s), CONSTRUCTION CONTRACT ADMINISTRATOR, OWNER, and other representatives directly concerned with performance testing Work. Record discussions of conference and decisions and agreements and disagreements and furnish a copy of record to each party attending. Review foreseeable methods and procedures relating to performance testing Work including:
 - a. Review Project requirements including Contract Documents, submittals related to performance testing, requests for interpretations relative to performance testing, and other pertinent documents.
 - b. Review required submittals, both completed and to be completed.
 - c. Review status of the equipment and systems to be performance tested and work to be completed prior to performance testing.
 - d. Review Progress Schedule and testing schedule.
 - e. Review status of utilities and consumables required for performance testing.
 - f. Review required inspections, testing, certifying, and quality control procedures.
 - g. Review methods for complying with Laws and Regulations and requirements of authorities having jurisdiction, such as compliance with facility operating permit requirements, insurance requirements, environmental protection, health, safety, fire, and similar regulations.
 2. Reconvene meeting at earliest opportunity if additional information must be developed to conclude the required topics of the meeting.
 3. Record revisions or changes agreed upon, reasons therefor, and parties agreeing or disagreeing with them.

1.4 SUBMITTALS

- A. Action Submittals: Submit the following:
1. Documentation plan, in accordance with Article 1.5 of this Section.
 2. Performance testing plans, in accordance with Article 1.5 of this Section.
- B. Informational Submittals: Submit the following:
1. Records of pre-performance testing conference.
 2. Testing schedules, in accordance with Article 1.5 of this Section.

3. Notices: Written notice to CONSTRUCTION CONTRACT ADMINISTRATOR and OWNER at least 72 hours prior to beginning each test.
4. Site Quality Control Submittals: All records produced during, and results of, performance testing.
5. Qualifications Statements:
 - a. Testing laboratory qualifications and certifications, if not previously submitted under other Sections.
 - b. Qualifications of CONTRACTOR's performance testing manager and other required performance testing personnel, including copies of valid operators' licenses issued by authority having jurisdiction.

1.5 DOCUMENTATION PLAN, PERFORMANCE TESTING PLAN, AND TESTING SCHEDULE

- A. Documentation Plans: Develop recordkeeping system to document compliance with requirements of this Section and authorities having jurisdiction.
 1. Calibration documentation including identification (by make, manufacturer, model, and serial number) of all test equipment, date of original calibration, date(s) of subsequent calibrations, calibration method, and test laboratory verifying calibration.
 2. Documentation to be provided for each equipment item and system to be tested shall include date of test, equipment tag number or system name, nature of test, test objectives, test results, test instruments employed, and signature spaces for CONTRACTOR's performance testing manager and OWNER's and CONSTRUCTION CONTRACT ADMINISTRATOR's witnesses. Establish separate file for each system and equipment item to be tested. Files shall include the following information, as applicable, when associated tests, source quality control, or Site quality control measures are required in the Contract Documents:
 - a. Metallurgical tests, when required.
 - b. Source quality control (factory) tests.
 - c. Accelerometer recordings made during shipment, when such recordings are required.
 - d. Field calibration tests, in accordance with the Contract Documents.
 - e. Field hydrostatic tests for equipment and systems that operate under pressure, in accordance with the Contract Documents.
 - f. Site quality control testing, in accordance with the Contract Documents
 3. Forms:
 - a. Develop forms specific to each item of equipment and system being tested, to document results of testing.
 - b. c. Provide forms approved by CONSTRUCTION CONTRACT ADMINISTRATOR in sufficient quantity to document all testing Work.

B. Performance Testing Plans:

1. Develop performance testing plans describing in detail coordinated, sequential performance testing of each system and equipment item to be tested. Each performance testing plan shall be specific to the system or equipment item to be performance-tested, and shall identify by specific equipment or tag number each device or control station to be manipulated or observed during performance testing, and specific results to be observed or obtained. Performance testing plans shall also be specific regarding support systems required to complete the performance testing Work, temporary devices and systems required (if any) during performance testing, Subcontractors and Suppliers to be present during performance testing, and planned performance testing duration. Performance testing plans shall include:
 - a. Summary of start-up, check-out, and Site quality control testing required for each system or equipment item prior to starting performance testing.
 - b. Calibration of all field instruments and control devices.
 - c. Description of and information on temporary systems, equipment, and devices proposed for performance testing, including calibration data for temporary instrumentation and controls.
 - d. Plan and procedures for implementing performance testing of systems and equipment. Performance tests shall duplicate the operating conditions described in the Contract Documents.
 - e. Description of data reduction required, if any, and proposed time between collection of data and submittal of results to CONSTRUCTION CONTRACT ADMINISTRATOR.
 - f. Summary of criteria for acceptance of test results. Summary shall include performance tolerances (if any) included in the Contract Documents. Where performance tolerances are not included in the Contract Documents, testing plan shall include proposed performance tolerances.
2. Performance testing plans shall contain complete description of proposed procedures to achieve desired testing environment.
3. Following CONSTRUCTION CONTRACT ADMINISTRATOR's approval of performance testing plans, CONTRACTOR shall reproduce performance testing plans in sufficient quantity for CONTRACTOR'S purposes plus five copies to CONSTRUCTION CONTRACT ADMINISTRATOR and five copies to OWNER. Do not start performance testing until required quantity of approved performance testing plans is provided.

C. Testing Schedule:

1. Provide a testing schedule that sets forth the planned sequence for performance testing Work.
2. Testing schedule shall be part of the Progress Schedule and shall conform to requirements for Progress Schedule, except as specified in this Section.
3. Test schedule shall:
 - a. Detail the equipment and systems to be performance-tested, and the testing duration required for each.

- b. Show planned start date, duration, and completion of each performance test.
- c. Submitted no later than four weeks in advance of the date performance testing is to begin. CONSTRUCTION CONTRACT ADMINISTRATOR will not witness performance testing Work until test schedule is accepted by CONSTRUCTION CONTRACT ADMINISTRATOR.
- d. Be updated weekly and resubmitted to CONSTRUCTION CONTRACT ADMINISTRATOR. Updates shall indicate actual dates of performance testing Work, indicating systems and equipment for which performance testing is in progress, and that are satisfactorily completed in accordance with the Contract Documents.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 PREPARATION

- A. Before starting the performance testing, complete the following:
 1. Prepare and align equipment in accordance with equipment Specifications and Section 01 73 24, Installation.
 2. To the extent practicable, complete equipment tests and check-out in accordance with the Contract Documents and manufacturers' recommendations.
 3. Complete other tests required by the Contract Documents, including instrumentation and controls calibration and testing, piping tests, electrical tests, and other tests required prior to full operation of the system or facility.
 4. Complete the Work required in Section 01 75 11, Checkout and Startup Procedures.
- B. Temporary Systems and Devices Required for Performance Testing:
 1. Minimize the need for temporary systems and devices required for performance testing.
 2. Provide temporary connections and bulkheads as required, and make other provisions to re-circulate process fluids and gasses as required or otherwise simulate the range of anticipated operating conditions for the systems and equipment being performance-tested. During performance testing, CONTRACTOR's performance testing manager and team shall monitor the characteristics of each equipment item and system and report unusual conditions to CONSTRUCTION CONTRACT ADMINISTRATOR.
 3. Properly install temporary systems. Test temporary equipment and devices in accordance with manufacturer's instructions to verify suitability for use in

performance testing. Test temporary piping using in accordance with requirements for associated permanent piping.

4. Calibration and Loop Testing of Temporary Instruments and Controls: Calibrate and test all loops and associated instruments and control devices, in accordance with instrumentation and controls Sections of Division 40, Process Integration.

3.2 PERFORMANCE TESTING

- A. CONTRACTOR's performance testing manager shall organize teams comprising qualified representatives of Suppliers, Subcontractors, CONTRACTOR's independent testing laboratory (if applicable), and others as appropriate, to efficiently and complete performance testing Work within the Contract Times and in accordance with the accepted Progress Schedule.
- B. Performance testing shall be done in accordance with the approved performance testing plan, approved documentation plan, and accepted testing schedule.
- C. System Performance Tests:
 1. Testing:
 - a. Duration:
 - 1) Operate and performance-test the system (or each portion thereof, as applicable) and equipment for sufficient period of time to determine: operating characteristics of system and equipment, including noise, temperatures, and vibration; observe its performance characteristics; and for initial adjustment of controls and appurtenances.
 - 2) List the proposed performance testing duration in the testing plan and testing schedule.
 - 3) Duration of performance testing shall be in accordance with the approved testing plan and accepted testing schedule.
 - b. When testing requires availability of temporary systems such as temporarily "looped" piping, temporary or standby electrical power, temporary compressed air, or temporary instrumentation and controls, provide acceptable alternate sources that meet the requirements of system and equipment being tested.
 - c. Disposal site for test media that have the potential, upon disposal, to create a Hazardous Environmental Condition, are subject to review and acceptance by OWNER and CONSTRUCTION CONTRACT ADMINISTRATOR.
 - d. During performance testing, CONTRACTOR shall obtain baseline operating data on equipment with motors greater than one horsepower. Baseline data shall include amperage, bearing temperatures, and vibration data obtained at intervals in the approved testing plan. Methods of measurement shall be in accordance with industry standards applicable for the motors being tested.

2. Test Interruption: Should testing be halted for any reason, repeat the operational testing until specified continuous testing period is completed for the system or equipment item without interruption, in accordance with the Contract Documents.
3. Test Results and Re-testing: The following applies to the entire system tested and to portions thereof:
 - a. Successful test results shall indicate conformance in accordance with the Contract Documents. If performance tolerances are not specified in the Contract Documents, test results shall conform to tolerances established in approved testing plan submittal.
 - b. When results of performance testing fail to comply with the Contract Documents regarding such test, CONTRACTOR shall make adjustments and repairs as required and shall repeat the tests as required until conform with the Contract Documents is achieved.
 - c. Re-testing because of Disputed Testing Results or Procedures: In the case of an otherwise satisfactory performance test, when there is doubt, dispute, or difference between CONSTRUCTION CONTRACT ADMINISTRATOR and CONTRACTOR regarding testing results, methods, or equipment used in performance testing, CONSTRUCTION CONTRACT ADMINISTRATOR may order CONTRACTOR to repeat the testing. If repeat testing using such modified methods or equipment required by CONSTRUCTION CONTRACT ADMINISTRATOR confirms the previous test, all costs of repeat test will be paid by OWNER. Otherwise all costs, including costs of engineering, labor, testing agencies, and inspections, shall be paid by CONTRACTOR.
4. Post-test Inspection: After completing performance testing, check equipment for proper alignment and realign as required. Check equipment for loose connections, unusual movement, and other indication of improper operating characteristics. Disassemble and inspect equipment and devices that exhibit unusual or unacceptable operating characteristics. Repair or replace defective Work to conform to the Contract Documents at no additional cost to OWNER

++ END OF SECTION ++

SECTION 01 79 23

INSTRUCTION OF OPERATIONS AND MAINTENANCE PERSONNEL

PART 1 - GENERAL

1.1 DESCRIPTION

- A. CONTRACTOR shall provide services of Supplier's operation and maintenance training specialists to instruct OWNER's personnel in recommended operation and maintenance procedures for products and equipment per the Specifications.
- B. Supplier shall provide a combination of classroom and field training. All training shall be conducted at the Site, unless otherwise stated in the Specifications.
- C. OWNER reserves the right to videotape training sessions.
- D. Scheduling of Training Sessions:
 - 1. General:
 - a. CONTRACTOR shall coordinate training services with start-up and initial operation of products and equipment on days and times, and in manner, acceptable to OWNER and per the Specifications.
 - b. Training may be required outside of normal business hours to accommodate schedules of operations and maintenance personnel. Provide services as necessary at no additional cost to OWNER.
 - 2. Prerequisites to Training:
 - a. Training of OWNER's personnel shall commence only after acceptable preliminary operation and maintenance data have been provided and Work described in Section 01 75 11, Checkout and Startup Procedures, and Section 01 79 13, Equipment and System Startup and Performance Testing, has been completed.
 - b. At option of OWNER or CONSTRUCTION CONTRACT ADMINISTRATOR, training may be allowed to take place before, during, or after equipment start-up.
 - 3. Training Schedule Submittal:
 - a. Training Schedule Required: CONTRACTOR shall prepare and submit proposed training schedule for review and acceptance by CONSTRUCTION CONTRACT ADMINISTRATOR and OWNER. Proposed training schedule shall show all training required under the Contract, and shall demonstrate compliance with specified training requirements relative to number of hours of training, number of training sessions, and scheduling.
 - b. Timing of Submittal: Submit initial training schedule at least sixty days prior to scheduled start of first training session. Submit final training

- schedule, incorporating revisions per comments of OWNER and CONSTRUCTION CONTRACT ADMINISTRATOR, no later than thirty days prior to start of first training session. CONSTRUCTION CONTRACT ADMINISTRATOR may reduce the number of days and otherwise modify requirements for submittal of training schedule.
- c. OWNER reserved the right to modify training schedule to meet process or emergency needs at the Site.

1.2 QUALITY ASSURANCE

A. Qualifications:

1. Supplier's instructors shall be factory-trained by manufacturer of equipment or product.
2. Supplier's instructors shall be proficient and experienced in conducting training of type required.
3. Qualifications of instructors are subject to acceptance by CONSTRUCTION CONTRACT ADMINISTRATOR. If CONSTRUCTION CONTRACT ADMINISTRATOR does not accept qualifications of proposed instructor, provide replacement instructor with acceptable qualifications.

B. Training Scheduling Conference:

1. Prior to preparing initial training schedule submittal, schedule and hold training scheduling conference at the Site, to review:
 - a. Training requirements per the Contract Documents.
 - b. Work to be completed prior to starting training.
 - c. Work progress and Progress Schedule relative to start-up and training.
 - d. Scheduling constraints for OWNER's personnel (i.e., days and times of training sessions).
 - e. Preferred days for training.
 - f. Training location and facilities available.
 - g. Required submittals.
 - h. Other issues relative to training of operations and maintenance personnel.
2. Attendance is mandatory for the following:
 - a. CONTRACTOR's project manager.
 - b. CONTRACTOR's Site superintendent.
 - c. Project manager of Subcontractors responsible for providing equipment and products for which training of OWNER's personnel is required.
 - d. Suppliers invited by CONTRACTOR.
 - f. CONSTRUCTION CONTRACT ADMINISTRATOR.
 - g. OWNER's staff responsible for training coordination, and staff responsible for scheduling operations and maintenance personnel.
3. If additional information must be developed to adequately cover agenda items, reconvene conference as soon as possible.

4. CONTRACTOR shall record discussions of conference and decisions and agreements (or disagreements) and provide copy of record to each conference attendee.

1.3 SUBMITTALS

- A. Action Submittals: Submit the following:
 1. Training Schedule: Detailed schedule of training sessions, demonstrating compliance with number of training sessions, hours required in the Contract Documents, and specified schedule requirements. Provide training schedule submittals per time frames specified in this Specification Section.
- B. Informational Submittals: Submit the following:
 1. Lesson Plan: Acceptable proposed lesson plan for training on each product or equipment item, per Specifications. Lesson plan shall conform to requirements of this Specification Section. Include with lesson plan copy of handouts that will be used during training sessions. Provide lesson plan submittals per time frames specified in this Specification Section.
 2. Qualifications: Credentials of Supplier's proposed operations and maintenance instructor(s). Credentials shall demonstrate compliance with requirements of this Specification Section and shall include brief resume and specific details of instructor's operation, maintenance, and training experience relative to the specific products for which instructor will provide training.
 3. Minutes of training scheduling conference.
- C. Closeout Submittals: Submit the following:
 1. Trainee sign-in sheet for each training session. Provide to OWNER's training coordinator.

1.4 LESSON PLAN

- A. Supplier's lesson plan shall describe specific instruction topics, system components for which training will be provided, and training procedures. Handouts to be used in training shall be attached to lesson plan when applicable. Describe in lesson plan "hands-on" demonstrations planned for training sessions.
- B. Provide acceptable lesson plan fourteen days prior to starting associated training.
- C. Lesson plan shall include estimated duration of each training segment.
- D. Lesson plan shall include the following:
 1. Equipment Overview (required for all types of operations and maintenance training):
 - a. Describe equipment's operating (process) function and performance objectives.

- b. Describe equipment's fundamental operating principles and dynamics.
 - c. Identify equipment's mechanical, electrical, and electronic components and features. Group related components into subsystems and describe function of subsystem and subsystem's interaction with other subsystems..
 - d. Identify all support equipment associated with operation of subject equipment (i.e., air intake filters, valve actuators, motors).
 - e. Identify and describe all safety precautions and potential hazards related to operation.
 - f. Identify and describe in detail safety and control interlocks.
2. Operations Personnel Training:
- a. Equipment Overview: As described above.
 - b. Operation:
 - 1) Describe operating principles and practices.
 - 2) Describe routine operating, start-up, and shutdown procedures.
 - 3) Describe abnormal or emergency start-up, operating, and shutdown procedures that may apply.
 - 4) Describe alarm conditions and responses to alarms.
 - 5) Describe routine monitoring and recordkeeping procedures.
 - 6) Describe recommended housekeeping procedures:
 - c. Troubleshooting:
 - 1) Describe how to determine if corrective maintenance or an operating parameter adjustment is required.
3. Mechanical Maintenance Training:
- a. Equipment Overview: As described above.
 - b. Equipment Preventive Maintenance:
 - 1) Describe preventative maintenance inspection procedures required to:
 - a) Inspect equipment in operation.
 - b) Spot potential trouble symptoms and anticipate breakdowns.
 - c) Forecast maintenance requirements (predictive maintenance).
 - 2) Define recommended preventative maintenance intervals for each component.
 - 3) Provide lubricant and replacement part recommendations and limitations.
 - 4) Describe appropriate cleaning practices and recommend intervals.
 - 5) Identify and describe use of special tools required for maintenance of equipment.
 - 6) Describe component removal/installation and disassembly/assembly procedures.
 - 7) Perform "hands-on" demonstrations of preventive maintenance procedures.
 - 8) Describe recommended measuring instruments and procedures, and provide instruction on interpreting alignment measurements, as appropriate.