

DESIGN DOCUMENTS
FOR THE CONSTRUCTION OF

H.C. MORGAN WPCF
CLARIFIERS NO. 1 AND NO. 2 WEIRS AND
BAFFLES REPLACEMENT PROJECT



City of Auburn

PREPARED FOR
CITY OF AUBURN, ALABAMA

Volume 1 of 2 - Specifications

For information regarding
this project contact:

WHITNEY ZIRKLE, P.E.
4121 CARMICHAEL ROAD
SUITE 400
MONTGOMERY, AL 36106
334-271-1444

JACOBS Project No. D3592400

Jacobs.

SEPTEMBER 2023

BID DOCUMENTS

CITY OF AUBURN, ALABAMA

**BIDDING REQUIREMENTS
AND
CONTRACT DOCUMENTS**

for the construction of the

**H.C. MORGAN WPCF
CLARIFIERS NO. 1 AND NO. 2 WEIRS AND
BAFFLES REPLACEMENT PROJECT**

JACOBS
Montgomery, Alabama
September 2023

© Jacobs 2023. All rights reserved.

This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of Jacobs and is not to be used in whole or part, for any other project without the written authorization of Jacobs.

Project No. D3592400

Copy No. _____

CITY OF AUBURN, ALABAMA

**H.C. MORGAN WPCF
CLARIFIERS NO. 1 AND NO. 2 WEIRS AND
BAFFLES REPLACEMENT PROJECT
SIGN AND SEAL SHEET**

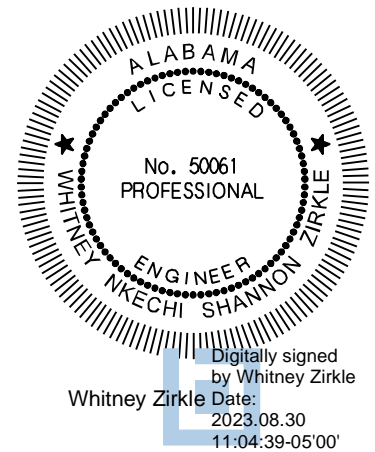
PART 1—BIDDING REQUIREMENTS

Whitney Nkechi Shannon Zirkle, P.E. No. 50061

PART 2—CONTRACTING FORMS

PART 3—CONDITIONS OF THE CONTRACT

PART 4—SPECIFICATIONS



END OF SECTION

TABLE OF CONTENTS

		<u>Pages</u>
<u>PART 1—BIDDING REQUIREMENTS</u>		
00 11 13	Invitation to Bid.....	1- 4
00 21 13	Instruction to Bidders.....	1- 11
00 41 13	Proposal.....	1- 9
00 43 13	Bid Bond	1- 3
<u>PART 2—CONTRACTING FORMS</u>		
00 52 13	Agreement	1- 7
00 61 13.13	Performance Bond	1- 4
00 61 13.16	Payment Bond.....	1- 4
<u>PART 3—CONDITIONS OF THE CONTRACT</u>		
00 72 00	General Conditions	1- 22
00 73 00	Supplementary Conditions	1- 10
<u>PART 4—SPECIFICATIONS</u>		
DIVISION 1—GENERAL REQUIREMENTS		
01 11 00	Summary of Work	1- 1
01 26 00	Contract Modification Procedures.....	1- 7
01 29 00	Payment Procedures.....	1- 4
01 31 13	Project Coordination	1- 5
01 31 19	Project Meetings	1- 2
01 32 00	Construction Progress Documentation.....	1- 6
01 33 00	Submittal Procedures	1- 9
01 43 33	Supplement 1, Transmittal of Contractor’s Submittal	1- 1
	Manufacturers’ Services.....	- 4
	Supplement 1, Manufacturer's Certificate of Proper Installation.....	1- 1
01 61 00	Common Product Requirements.....	1- 9
	Supplement 1, Manufacturer’s Certificate of Compliance	1- 1
01 77 00	Closeout Procedures.....	1- 4
DIVISIONS 2 THROUGH 8 (NOT USED)		

DIVISION 9—FINISHES

09 90 00	Painting and Coating.....	1- 28
	Supplement 1, Paint System Data Sheet (PSDS)	1- 1
	Supplement 2, Product Data Sheet (PDS).....	1- 1

DIVISIONS 10 THROUGH 43 (NOT USED)

DIVISION 44—POLLUTION CONTROL EQUIPMENT

44 42 24.01	Secondary Clarifier Mechanism (Circular Spiral Scraper Type)	1- 12
	Supplement 1, Existing Clarifier 1 & Clarifier 2 Shop Drawings	1- 1
44 42 28	Weir and Baffle Plates	1- 5

DIVISIONS 45 THROUGH 49 (NOT USED)

PART 5—DRAWINGS (BOUND SEPARATELY)

END OF SECTION

PART 1

BIDDING REQUIREMENTS



City of Auburn

Home of Auburn University

INVITATION TO BID

Please note, the City of Auburn is updating its online bid notification system to better communicate with those interested in bidding on City Projects. To receive notifications bidders need to register in the City's [Vendor Self Service \(VSS\) System](#).

Those already registered in VSS will need to add their NIGP commodity codes. Previously entered codes were removed from all vendor records in VSS during the system update. Please note, NIGP commodity codes are required for vendors to receive bid notifications.

The City of Auburn, Alabama, will receive sealed bids until 2:00 PM, local time, on Tuesday, September 19, 2023, in the Office of the City Manager, 144 Tichenor Avenue, Auburn, Alabama, and then publicly opened and read at the City Meeting Room, 122-B Tichenor Avenue, for furnishing all labor, materials and equipment necessary for the complete construction of the following project:

H.C. Morgan WPCF Clarifier No. 1 and Clarifier No. 2 Weirs and Baffles Replacement Project

Bidding Documents are open to public inspection, free of charge, in the Bailey-Alexander Water and Sewer Complex, 1501 West Samford Avenue, Auburn, Alabama or at Engineer's office, JACOBS, 4121 Carmichael Road, Suite 400, Montgomery, AL, 36106. The following plan room services have received sets of Bidding Documents for the Work contemplated: the McGraw Hill Plan Rooms in Montgomery, AL, Birmingham, AL and Marietta, GA as well as Reed Construction Data in Norcross, GA. Electronic copies may be obtained upon request by email to whitney.shannon@jacobs.com. It is the responsibility of the purchaser to print hard copies of the sets. No partial sets, individual pages, or drawing sheets will be provided. Please contact Whitney Zirkle by email or at 334.707.5392 for more information.

The Project consists of the following major components:

- New stainless-steel weirs and baffles for Clarifier No. 1 and Clarifier No. 2
- New fiberglass density current baffles for Clarifier No. 1 and Clarifier No. 2
- New half-length scum troughs and new skimmer arms for Clarifier No. 1 and Clarifier No. 2

The Work will be completed in all respects within 270 calendar days from the date when the Contract Times commence to run.

Guarantee will be required with each bid as follows: At least five percent (not to exceed \$10,000) of the amount bid in the form of a certified or cashier's check or bid bond payable to the City of Auburn, Alabama.

All bidders are required to be compliant with the Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535 (Code of Alabama (1975) § 31-13-9) as amended May 16, 2012 regarding employment practices. Documentation of enrollment in E-Verify should be included with the bid and will

be required as a condition for the award of any contract. All bidders are advised that the award of the contract is conditioned on the bidder not knowingly employing, hiring for employment or continuing to employ an unauthorized alien within the State of Alabama. The awarded contract will contain a provision whereby the bidder pledges not to violate federal immigration law.

Legislative Act 2016-312 (the "Act") prohibits the City from entering into contracts with any business entity that is actively engaged in or plans to engage in the boycott of a person or an entity based in or doing business with a jurisdiction with which the State can enjoy open trade; unless such business entity provides the goods or services for at least 20 percent (20%) less than the lowest business entity in compliance with the Act. All bidders understand and agree that in the awarded contract, the lowest responsive bidder must either certify that it is in compliance with the Act and agree that it will not violate the act during the term of the contract; or agree to offer the goods or services for at least 20 percent (20%) less than the lowest business entity certifying compliance with the Act.

Your attention in particular is invited to the section entitled "Instructions to Bidders", which is to be followed in all respects. The City reserves the right to select the lowest responsible bidder as the best interest of the City may require, to award the purchase contract from any of the bids, to reject any and all bids, and to waive any informalities in bids received. Bids will be good for sixty (60) days after being opened by the City of Auburn, Alabama.

Bids must be submitted upon the standard forms furnished by the City of Auburn, Alabama. No bids may be withdrawn for a period of sixty (60) days after the scheduled closing time for the receipt of bids. A sealed envelope containing the original bid and one (1) copy must be delivered to City Hall or mailed, addressed to:

Finance Information Officer, City of Auburn
144 Tichenor Avenue
Auburn, Alabama 36830

The envelope must be plainly marked on the outside as follows:

BID: H.C. Morgan WPCF Clarifier No. 1 and Clarifier No. 2
Weirs and Baffles Replacement Project

OPENING: 2:00 P.M. LOCAL TIME

DATE: TUESDAY, SEPTEMBER 19, 2023

STATE LICENSE NO.: _____

The successful bidder is responsible for acquiring the appropriate business licenses and permits to conduct work with the City of Auburn. In addition to the business license and permit requirements, the bidder is required to remit all applicable sales and use tax, occupational license fees, and contractors/subcontractors license fee in accordance with City ordinances and codes. In accordance with Section 39-3-5 of State Code, any non-Alabama bidders must submit a written opinion from an attorney stating the amount and criteria, if any, of local preference granted by law to non-resident businesses in his state of residence. Questions regarding business license and applicable taxes may be directed to the Revenue Office at (334) 501-7239.

The award of the contract, if to be awarded, will be made within sixty (60) calendar days after opening of bids and will be to the lowest responsible bidder whose proposal complies with the requirements of the Invitation to Bid. Should no award be made within the sixty (60) days, all proposals will be rejected unless the successful bidder agrees in writing to a stipulated extension in the time limit for award. The successful bidder will be notified by letter mailed to the address shown on his proposal that his bid has been accepted and that he has been awarded the contract.

The City of Auburn believes fully in equal opportunity in the provision of supplies, equipment, construction and services. Positive steps should be taken to assure small businesses, minority businesses and women-owned businesses are given many opportunities to provide the above-mentioned services or materials when economically feasible. In the case of construction projects, the City of Auburn shall rely on individuals or firms seeking to do business with the City of Auburn to ensure that such above-mentioned businesses are given ample opportunity to participate on a sub-contractual basis.

The contractor agrees in all events to use materials, supplies and products manufactured, mined, processed or otherwise produced in the United States or its territories if the same are available at reasonable prices. If the contractor determines that said items are not available at a reasonable price, the contractor must first contact the City of Auburn and obtain approval for the use of other materials, supplies and products. In the event a contractor violates the provisions of this section, the City may at its election, assess against the contractor liquidated damages in an amount of not less than two hundred dollars (\$200.00) nor more than 20% of the gross amount of the contract, as deemed appropriate by the City.

The Bidder shall submit documentation with the bid package that the contractor meets the minimum experience requirements of having completed four (4) projects of similar nature and scope within the last 10 years. Documentation will include a list of referenced projects meeting the Bidder's experience requirements and listing the name and phone number for contacting reference familiar with each project listed.

Please note that the City of Auburn has a mandatory Partial Payment Request form that must be completed and submitted by the contractor before payment is considered. A copy of the required form will be provided to the Contractor. Payments are mailed on each Friday of the month. Pay requests must be reviewed and approved by the appropriate City representatives (architect, if applicable, inspector, project manager and department head) and received by accounts payable at least seven (7) days prior to the scheduled mailing date. The City of Auburn will process only one invoice per month for partial payment to the contractor. If you have any questions concerning billing, contact our accounts payable office at 334.501.7237 or 334.501.7238.

The Contractor will be required to provide certificates of insurance showing that it carries, or has in force, automobile liability insurance, general liability insurance, contractor's pollution liability insurance, umbrella liability insurance, workers' compensation insurance and builder's risk insurance/installation floater. Limits of liability for automobile liability insurance shall be, at a minimum, \$1,000,000.00 combined single limit. Limits of liability for general liability insurance shall be, at a minimum, \$1,000,000.00 per occurrence, \$1,000,000.00 personal and advertising injury, \$2,000,000.00 general aggregate and \$2,000,000.00 products/completed operations aggregate. General liability insurance will include coverage for contractually assumed liability and explosion, collapse, and underground hazards (X, C, and U). Limits of liability for contractor's pollution liability shall be, at a minimum, \$2,000,000.00 per occurrence or claim and \$2,000,000.00 aggregate. Limits of liability for umbrella liability insurance shall be, at a minimum, \$5,000,000.00 per occurrence or claim and \$5,000,000.00 aggregate. If any liability insurance coverage is on a claims-made basis, the Contractor will maintain coverage in force for a period of two (2) years following completion of the work specified in the agreement at the limits specified in this paragraph. Workers' compensation insurance shall provide statutory workers' compensation coverage and employers' liability coverage with limits of, at a minimum, \$1,000,000.00 each accident,

\$1,000,000.00 disease - each employee and, \$1,000,000.00 disease – policy limit. The builder's risk/installation floater coverage will have a limit of coverage sufficient to cover the projected work and any addendums thereto and will be written on a special causes of loss or equivalent basis. The builder's risk coverage/installation floater coverage will allow for partial utilization, start up, and testing. The Contractor is responsible for the payment of any deductibles or self-insured retentions. The Contractor's insurance will be primary. If the Contractor carries higher coverage limits than those mentioned above, the higher coverage limits will apply.

The certificate of insurance shall provide the City of Auburn, Alabama (City) with thirty (30) days written notice of cancellation of any of the coverage named in said certificate and waivers of subrogation.

The City and any other entity as identified in the Supplementary Conditions will be named as additional insured under the Contractor's general liability insurance, contractor's pollution liability insurance, umbrella liability insurance and automobile liability insurance policies. The City will be named as a loss payee under the Contractor's builder's risk insurance or installation floater.

The Contractor shall require certificates of insurance from subcontractors. Subcontractors will carry limits of insurance equal to or greater than those carried by the Contractor. These certificates shall evidence waivers of subrogation in favor of the Contractor and the City, and shall be made available to the City upon request.

At the City's discretion, the Contractor may be required to have in force builder's risk coverage and/or higher liability limits than that mentioned above and/or broader coverage than normally carried by the Contractor.

The Contractor agrees to indemnify, hold harmless, and defend the City, its officials, representatives, agents, servants, and employees from and against any and all claims, actions, lawsuits, damages, judgments, liability and expense, including attorneys' fees and litigation expenses, in whole or in part arising out of, connected with, or in any way associated with the activities of the Contractor, its employees, or its sub-contractors in connection with the work to be performed under this contract. This obligation survives the payment of any loss by the Contractor's insurance company.

Legal action arising from the performance of this contract will be filed in the Circuit Court of Lee County, Alabama located in Opelika, Alabama or the Federal District Court for the Middle District of Alabama – Eastern Division located in Opelika, Alabama.

The contract may not be assigned by the contractor without written permission of the City of Auburn.

Questions concerning insurance coverage may be directed to the City Risk Manager, McCarthy Autry at 334.501.7247.

CITY OF AUBURN, ALABAMA

Valerie Baker
Finance Information Officer

FOR SPECIFIC INFORMATION CONCERNING THIS PROJECT, PLEASE CONTACT WHITNEY SHANNON, JACOBS AT 334.707.5392 or whitney.shannon@jacobs.com.

INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS

1.1. Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

1.1.1. *Issuing Office*—The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

2. COPIES OF BIDDING DOCUMENTS

2.1. Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement for Bids may be obtained from the Issuing Office.

2.2. Complete sets of Bidding Documents shall be used in preparing Bids. Neither Owner nor Engineer assumes responsibility for errors or misinterpretations resulting from use of incomplete sets of Bidding Documents.

3. QUALIFICATIONS OF BIDDERS

3.1. In order to perform public work, Bidder and its Subcontractors, prior to award of Contract or as otherwise required by the jurisdiction, shall hold or obtain such licenses as required by State Statutes, and federal and local Laws and Regulations. No bids will be accepted, except from a qualified contractor duly licensed by the Alabama State Licensing Board for General Contractors.

3.2. To demonstrate Bidder's qualifications to perform the Work, within 5 days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for.

3.3. To demonstrate Subcontractor qualifications to perform the Work, Bidder shall, if requested by the Owner, submit written evidence that Subcontractor(s) named in the Bid form are qualified to perform the Work.

3.4. See paragraph 18 of these Instructions to Bidders.

4. LICENSE REQUIREMENTS

4.1. Contractor's license number and the class required shall be inserted in the appropriate place on the Bid Form, before Bid will be considered.

5. EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

5.1. Underground Facilities: Information and data shown or indicated in the Bidding 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.

5.2. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraph 5.03 through Paragraph 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents as a result of any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

5.3. Reference is made to the General Requirements for identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request Owner will provide to each Bidder for examination, access to or copies of contract documents (other than portions thereof related to price) for such other work.

5.4. It is responsibility of each Bidder before submitting a Bid to:

5.4.1. Examine and carefully study the Bidding Documents, other related data identified in the Bidding Documents, and any Addenda.

5.4.2. Attend the mandatory pre-bid conference and visit the Site to become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

5.4.3. Become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

5.4.4. Carefully study all:

5.4.4.1. Reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Paragraph 5.03 of the Supplementary Conditions as containing reliable “technical data”.

5.4.5. 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(s) Bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

5.4.6. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

5.4.7. Correlate 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.

5.4.8. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in Bidding Documents and confirm that written resolution thereof by Engineer is acceptable to Bidder.

5.4.9. Determine Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of the Work.

5.5. Submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this article; that without exception the Bid is premised upon performing and furnishing the Work required by Bidding Documents and applying specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by Bidding Documents; that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder; and that Bidding Documents are generally sufficient to indicate and convey understanding of terms and conditions for performing and furnishing the Work.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

6. SPECIAL PRODUCT REQUIREMENTS

6.1. Bidder's attention is directed to the Supplementary Conditions, Paragraph 7.03.

7. PREBID CONFERENCE

7.1. A voluntary prebid conference will be held at **10 a.m.** local time on **Tuesday, September 12, 2023** at the H. C. Morgan Water Pollution Control Facility, 616 Sandhill Road, Auburn, AL 36832. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are not required to attend and participate in the conference. Engineer will transmit to prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

8. SITE AND OTHER AREAS

8.1. The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner, unless otherwise provided in the Bidding 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.

9. INTERPRETATIONS AND ADDENDA

9.1. All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by the office issuing documents as having received the Bidding Documents. Questions received less than 3 days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

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

10. BID SECURITY

10.1. Bid shall be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder's maximum Bid price (or maximum amount of \$10,000) and in the form of a certified check, bank money order, or a penal Bid bond (on the attached form), issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions.

10.2. The 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 the time period specified in Article Signing of Agreement, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults. 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 the 7th day after the Effective Date of the Agreement or the number of days specified for all Bids to remain subject to acceptance in Article Bids to Remain Subject to Acceptance, whereupon Bid security furnished by such Bidders will be returned.

10.3. Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within 7 days after Bid opening.

11. CONTRACT TIMES

11.1. The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

12. LIQUIDATED DAMAGES

12.1. Provisions for liquidated damages, if any, are set forth in the Agreement.

13. SUBSTITUTE AND "OR-EQUAL" ITEMS

13.1. The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding 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 Engineer until after the Effective Date of the Agreement.

14. SUBCONTRACTORS, SUPPLIERS, AND OTHERS

14.1. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, apparent Successful Bidder, and any other Bidder so requested, shall within 5 days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner.

14.2. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute without an increase in Bid.

14.3. If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no 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 after the Effective Date of the Agreement as provided in General Conditions Paragraph 7.06.E.

14.4. Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

15. PREPARATION OF BID

15.1. With each copy of the Bidding Documents, Bidder will be furnished one separate unbound copy of the Bid Form, and, if applicable, the Bid Bond Form. No substitution of the Bid Form will be allowed.

15.2. All blanks on the Bid Form shall be completed by typing or printing with ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each Bid item listed therein or the words "No Bid," "No Change," or "Not Applicable" entered.

15.3. 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.

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

15.5. A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

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

15.7. 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 shall be shown.

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

15.9. The Bid shall contain an acknowledgement of receipt of all Addenda; the numbers of which shall be filled in on the Bid Form.

15.10. Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

15.11. The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number and class, if applicable, shall also be shown on the Bid Form.

15.12. The Bid of a nonresident (of Alabama) Bidder shall be accompanied by a written opinion from a licensed attorney in the nonresident Bidder's state as to the preference granted by that state to its own resident Bidders whose principal places of business are in that state in the letting of public contracts.

16. BASIS OF BID; COMPARISON OF BIDS

16.1. Lump Sum:

16.1.1. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.

16.1.2. Bidders shall submit a Bid on a lump sum basis for the base Bid and include a separate price for each alternate described in the Bidding Documents as provided for in the Bid Form. The price for each alternate will be the amount added to or deleted from the base Bid if Owner selects the alternate. In the comparison of Bids, alternates will be applied in the same order as listed in the Bid Form.

17. SALES AND USE TAXES

17.1. Owner is exempt from Alabama state sales and use taxes on applicable materials and equipment to be incorporated in the Work that meet the requirements of the Alabama Department of Revenue's Air and Water Pollution Control Exemption (Rule 810-6-3-.46). Said taxes shall not be included in the Bid.

18. SUBMISSION OF PROPOSAL

18.1. The unbound copy of the Proposal Form is to be completed and submitted with the Bid security and the following data:

18.1.1. Bidder's Experience: The Bidder shall submit documentation that the contractor meets the minimum experience requirements of having completed work in the last ten years on four water or wastewater plant projects similar in nature and scope.

18.1.2. Documentation for supporting data will include a list of referenced projects meeting the Bidder's experience requirements and listing the name and phone number for contacting reference familiar with each project listed.

18.1.3. Subcontractor's Experience: The Bidder shall submit documentation that the ^[Add No. 1]subcontractor meets the minimum experience requirements of having completed work in the last eight years on four water or wastewater plant projects where the total contract amount for the project was greater than \$1,000,000.

18.1.3. Documentation for supporting data of subcontractor's experience will include a list of referenced projects meeting the Subcontractor's experience requirements and listing the name and phone number for contacting reference familiar with each project listed.

18.2. Nonresident Bidder's home state preference for resident bidders, in accordance with Article, Preparation of Bids.

18.3. A Bid shall be submitted no later than the date and time prescribed, and at the place indicated in the Advertisement for Bids. Enclose Bid in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), name and address of Bidder, and 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 package plainly marked on the outside with the notation "BID ENCLOSED."

19. MODIFICATION AND WITHDRAWAL OF BID

19.1. A Bid may be modified or withdrawn by an appropriate document duly executed in the same 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.

19.2. If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

20. OPENING OF BIDS

20.1. Bids will be opened at the time and place indicated in the Advertisement for Bids and unless obviously nonresponsive, read aloud publicly.

21. BIDS TO REMAIN SUBJECT TO ACCEPTANCE

21.1. 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.

22. EVALUATION OF BIDS AND AWARD OF CONTRACT

22.1. Pursuant to Code of Alabama 39-3-5, a resident Bidder shall be allowed a preference over a nonresident Bidder from a state which gives or requires a preference to Bidders from that state. The preference shall be equal to the preference given or required by the state of the nonresident Bidder.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

22.2. Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project 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 contract terms with the Successful Bidder.

22.3. More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

22.4. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

22.5. In evaluating Bidders, Owner may consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted either with the Bid, or otherwise prior to issuance of the Notice of Award.

22.6. Owner may conduct such investigations as Owner deems necessary to establish responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.

22.7. If the Contract is to be awarded, Owner will award the Contract to Bidder whose Bid is in the best interests of the Project.

23. CONTRACT SECURITY AND INSURANCE

23.1. Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to bonds and insurance. When Successful Bidder delivers executed Agreement to Owner, it shall be accompanied by such bonds.

24. SIGNING OF AGREEMENT

24.1. When Owner issues a Notice of Award to Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement along with the other Contract Documents that are identified in the Agreement as attached thereto. Within 10 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within 10 days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

25. RETAINAGE

25.1. Provisions concerning retainage and Contractor's rights to deposit securities in lieu of retainage, if applicable, are set forth in the Agreement.

END OF SECTION

NOTE TO BIDDER: Use typewriter or ink for completing this PROPOSAL.

PROPOSAL

BID RECIPIENT

1.01 THIS PROPOSAL IS SUBMITTED TO:

Owner: City of Auburn, Alabama

Address: 144 Tichenor Avenue, Auburn, AL 36830

Project Identification: H.C. Morgan WPCF Clarifier No. 1 and Clarifier No. 2
Weirs and Baffles Replacement Project

Jacobs Project Number: D3592400

1.02 The undersigned, hereinafter called the Bidder, proposes and agrees, if this Proposal 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 prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding documents.

BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that bidder may agree to in writing upon request of Owner.

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, and the following Addenda, receipt of which is hereby acknowledged.

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

(Bidder shall insert number of each Addendum received.)

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- 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 does not consider that 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 required, and in accordance with the other terms and conditions of the Bidding Documents.
- E. Bidder 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 Bidding Documents.
- F. 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.
- G. Bidder has given Engineer written notice of conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- H. The Bidding Documents are generally sufficient to indicate and convey understanding of terms and conditions for the performance of the Work for which this Bid is submitted.
- I. Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.

BIDDER'S CERTIFICATION

4.01 BIDDER CERTIFIES:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive 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;

- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this paragraph:
 - 1. “corrupt practice” means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;
 - 2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish Bid prices at artificial noncompetitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, noncompetitive levels; and
 - 4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.
- E. Required sales and use taxes are included in the stated Bid prices for the Work unless provision is made herein for the Bidder to separately itemize the estimated amount of sales tax or if Instructions to Bidders state Owner is tax exempt.

BASIS OF AWARD

5.01 BASIS OF AWARD

- A. Award of Contract shall be made to the lowest responsible, responsive bidder as determined in its sole discretion by the Owner.

BASIS OF BIDS

6.01 LUMP SUM BID

- A. The Bidder hereby proposes to accept as full payment for completion of the Project the amounts computed under the provisions of the Contract Documents and based on the following lump sum amount. The bidder agrees that the lump sum prices represent a true measure of the labor and materials required to perform the work, including all allowances for overhead and profit for each type of unit work called for in the Contract Documents. The Lump Sum (LS) shall be shown in both figures and words. In case of discrepancy, the amount in words shall govern.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

6.02 A. BIDDER SHALL COMPLETE THE WORK IN ACCORDANCE WITH THE
CONTRACT DOCUMENTS FOR THE FOLLOWING LUMP SUM PRICE(S):

\$ _____(NUMBER)

(WORDS)

TIME OF COMPLETION

- 7.01 Bidder agrees the work will be substantially complete within 240 calendar days after the date when the Contract times commence to run as provided in Paragraph 4.01 of the General Conditions, and will be completed and ready for final payment in accordance with paragraph 15.06 of the general conditions within 270 calendar days after the date when the contract times commence to run.
- 7.02 Bidder accepts the provisions of the agreement as to liquidated damages in the event of failure to complete the Work, and any specified milestones, within the Contract times.

ATTACHMENTS TO THIS BID

- 8.01 THE FOLLOWING DOCUMENTS ARE SUBMITTED WITH AND MADE A
CONDITION OF THIS BID:
- A. Required Bid security in the form of Bid bond.
 - B. Bidder's Certificate of License Number outside of envelope containing the Proposal
 - C. Experience of Bidder (4 projects similar in nature and scope)
 - D. Identification of Subcontractors

DEFINED TERMS

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

EXPERIENCE OF BIDDER

10.01 EXPERIENCE OF BIDDER

The Bidder shall demonstrate related experience by listing previously completed projects of similar nature and scope. In considering the Proposal, the Owner shall, in its own discretion, determine, in such manner as it deems appropriate, whether the projects listed are of similar nature and scope. In order to meet the requirements for experience, the Contractor shall have successfully completed at least four (4) projects of similar nature and scope within the last 10 years.

The Contractor shall NOT be allowed a separate credit for the experience of any of its employees considered separately and apart from the experience of the Contractor itself. For work performed by Subcontractors to the Contractor, work must have been performed on a project for the Contractor. In the event the following form does not allow sufficient space to adequately provide the required information, the Bidder shall include said information by attachment to this Proposal.

- 1.) Project Name: _____
Project Amount: \$ _____
Owner: _____
Phone Number: _____
Contract Person: _____
Completion Date: _____
- 2.) Project Name: _____
Project Amount: \$ _____
Owner: _____
Phone Number: _____
Contract Person: _____
Completion Date: _____
- 3.) Project Name: _____
Project Amount: \$ _____
Owner: _____
Phone Number: _____
Contract Person: _____
Completion Date: _____

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

4.) Project Name: _____
 Project Amount: \$ _____
 Owner: _____
 Phone Number: _____
 Contract Person: _____
 Completion Date: _____

The Bidder further certifies that if his bid is accepted, the following subcontracting firms or business will, subject to the approval of the Owner, be awarded subcontracts for portions of the work in the event the Bidder is awarded the Contract. The Bidder must identify any and all subcontractors that it plans to use in preparing this Proposal and that it will rely upon if awarded this Contract by the Owner based upon the Owner's consideration of this Proposal. The Bidder acknowledges that the Owner, in its sole and exclusive discretion, can reject the use of any subcontractor by the Bidder.

Name	Type of Work		
Street	City	State	Zip

Name	Type of Work		
Street	City	State	Zip

Name	Type of Work		
Street	City	State	Zip

Name	Type of Work		
Street	City	State	Zip

SURETY

If the Bidder is awarded a construction Contract on this Proposal, the Surety who provides the Performance Bond and Payment Bond will be _____

_____ whose
address is

Street City State Zip

BID SUBMITTAL

11.01 THIS BID SUBMITTED BY:

If Bidder is:

An Individual

Name (typed or printed): _____

By (signature): _____

Doing business as: _____

A Partnership

Partnership Name: _____ (SEAL)

By: .

(Signature of general partner – attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(*Signature – attach evidence of authority to sign*)

Name (typed or printed): _____

Title: _____ (CORPORATE SEAL)

Attest: _____
(*Signature of Corporate Secretary*)

Date of Qualification to do business in is:
_____.

A Joint Venture

Joint Venturer Name: _____ (SEAL)

By: _____
(*Signature of joint venture partner – attach evidence of authority to sign*)

Name (typed or printed): _____

Title: _____

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

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

Bidder's Business Address: _____

Phone No.: _____ FAX No.: _____

E-mail: _____

SUBMITTED on _____, 20__

Alabama Contractor's License No.: _____

Contractor's License Class (where applicable): _____

END OF SECTION

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

BID BOND

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 (Name and Address):

City of Auburn, Alabama

144 Tichenor Ave

Auburn, AL

BID

Bid Due Date:

Project (Brief Description Including Location): H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement Project, City of Auburn, AL

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.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

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

Note: Above addresses are to be used for giving required notice.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Surety's liability.
2. 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. 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 hereof).
4. 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. 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, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
7. 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. 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. Surety shall cause to be attached to this Bond a current and effective Power of 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. 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. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

END OF SECTION

PART 2

CONTRACT FORMS

AGREEMENT

THIS AGREEMENT is by and between The City of Auburn, AL

(Owner) and _____

(Contractor).

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

1. WORK

1.1. Contractor shall complete the Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

1.1.1. Demolition of existing weirs and baffles, density current baffles, scum troughs and skimmer arms in Clarifier No. 1 and Clarifier No. 2.

1.1.2. Construction of new stainless-steel weirs and baffles for Clarifier No. 1 and Clarifier No. 2.

1.1.3. Construction of new fiberglass density current baffles for Clarifier No. 1 and Clarifier No. 2.

1.1.4. Construction of new half-length scum troughs and new skimmer arms for Clarifier No. 1 and Clarifier No. 2.

2. ENGINEER

2.1. The Project has been designed by Jacobs (Engineer), who is to act as Owner's representative, assume duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

3. CONTRACT TIMES

3.1. Time of the Essence: 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.

3.2. Days to Achieve Substantial Completion and Final Payment:

3.2.1. The Work will be substantially completed within 240 calendar days from the date when the Contract times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 270 calendar days after the date when the Contract times commence to run.

3.3. Liquidated Damages:

3.3.1. Contractor and Owner 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 Contract Times above, plus any extensions thereof allowed in accordance with Article 11 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration 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 \$500 for each day that expires after the time specified herein for Substantial Completion until the Work is substantially complete.

3.3.2. After Substantial Completion, if Contractor neglects, refuses, or fails to complete remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner \$200 for each day that expires after the time specified herein for completion and readiness for final payment until the Work is completed and ready for final payment.

4. CONTRACT PRICE

4.1. Owner will pay Contractor for completion of the Work in accordance with the Contract Documents and based on the proposal contained herein an amount in current funds of:

_____ (Words)
\$ _____ (Figures)

5. PAYMENT PROCEDURES

5.1. Submittal and Processing of Payments: Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

5.2. Progress Payments and Retainage: Owner will make progress payments on account of the Contract Price on the basis of Contractor's Application for Payment properly prepared on City provided forms on one Friday of each month. Owner will accept progress payments forms at the beginning of each month for the previous month's Work and will make progress payments to the Contractor on the date of each month as established in the preconstruction conference during performance of the Work as provided herein. All such payments will be measured by the Schedule of Values established as provided in Paragraph 2.05 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.

5.2.1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 15.01 of the General Conditions:

5.2.1.1. 95 percent of Work completed (with the balance being retainage) until the project is 50 percent complete. If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, Owner, on recommendation of Engineer, retainage shall be equal to 5 percent of the first 50 percent of the revised contract amount.

5.3. Final Payment:

5.3.1. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner will pay the remainder of the Contract Price as recommended by Engineer as provided in Paragraph 15.06.

6. CONTRACTOR'S REPRESENTATIONS

6.1. In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

6.1.1. Contractor has examined and carefully studied the Contract Documents.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- 6.1.2. 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.
- 6.1.3. 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.
- 6.1.4. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on 1) the cost, progress, and performance of the Work; 2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and 3) Contractor's safety precautions and programs.
- 6.1.5. 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.
- 6.1.6. Based on the information and observations referred to above, 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.
- 6.1.7. 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.
- 6.1.8. Contractor has given Engineer written notice of conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- 6.1.9. The Contract Documents are generally sufficient to indicate and convey understanding of terms and conditions for performance and furnishing of the Work.

7. CONTRACT DOCUMENTS

7.1. Contents:

7.1.1. The Contract Documents that are attached to this Agreement (except as expressly noted otherwise) consist of the following:

7.1.1.1. This Agreement.

7.1.1.2. Performance bond

7.1.1.3. Payment bond

7.1.1.4. General Conditions

7.1.1.5. Supplementary Conditions

7.1.1.6. Specifications as listed in the table of contents of the Project Manual.

7.1.1.7. Drawings

7.1.1.8. Addenda

7.2. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 11.01 of the General Conditions.

8. MISCELLANEOUS

8.1. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

8.2. Successors and Assigns: 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.

8.3. Severability: Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree 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.

8.4. Assignment of Contract:

8.4.1. No assignment by a party hereto of any rights under or interests in the Contract shall be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, monies that may become due and monies 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 shall release or discharge the assignor from any duty or responsibility under the Contract Documents.

8.5. Contractor's Certifications:

8.5.1. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this paragraph:

8.5.1.1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in Contract execution;

8.5.1.2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract Price at artificial noncompetitive levels, or (c) to deprive Owner of the benefits of free and open competition;

8.5.1.3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, noncompetitive levels; and

8.5.1.4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement in triplicate. One counterpart each has been delivered to Owner, Contractor, and Engineer. All portions of the Contract Documents have been signed or identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____, 2023 (which is the Effective Date of the Agreement).

OWNER: City of Auburn, AL

CONTRACTOR: _____

By: _____

By: _____

Title: _____

Title: _____

[CORPORATE SEAL]

[CORPORATE SEAL]

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

144 Tichenor Ave.

Auburn, AL 36830

(If Owner is a corporation, 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 this Agreement.)

License No. _____
(Where applicable)

Agent for service or process: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

END OF SECTION

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

PERFORMANCE BOND FORM

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):
City of Auburn
144 Tichenor Avenue Ste 5
Auburn, AL 36830

CONTRACT

Date:
Amount:
Description (Name and Location): H.C. Morgan WPCF Clarifier No. 1 and No. 2 Weirs and Baffles
Replacement Project Jacobs Project No. D3592400

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

SURETY

Company:

Signature: _____ (Seal)
Name and Title

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

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

CONTRACTOR AS PRINCIPAL

SURETY

Company:

Signature: _____(Seal)
Name and Title

_____(Seal)
Surety's Name and Corporate Seal

By: _____
Signature and Title

(Attach Power of Attorney)

Attest: _____
Signature and Title

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

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:

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- 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)

END OF SECTION

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

PAYMENT BOND FORM

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):
City of Auburn
144 Tichenor Avenue Ste 5
Auburn, AL 36830

CONTRACT

Date:
Amount:
Description (Name and Location): H.C. Morgan WPCF Clarifier No. 1 and No. 2 Weirs and Baffles
Replacement Project Jacobs Project No. D3592400

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 Payment Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

CONTRACTOR AS PRINCIPAL

SURETY

Company:

Signature: _____(Seal)
Name and Title

_____(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

SURETY

Company:

Signature: _____(Seal)
Name and Title

_____(Seal)
Surety's Name and Corporate Seal

By: _____
Signature and Title

(Attach Power of Attorney)

Attest: _____
Signature and Title

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

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 addresses 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 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. Reserved.
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

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs and Baffles Replacement

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 Construction 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 comply with the other terms thereof.

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

END OF SECTION

PART 3

CONDITIONS OF THE CONTRACT

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

Copyright © 2013:

National Society of Professional Engineers
1420 King Street, Alexandria, VA 22314-2794
(703) 684-2882
www.nspe.org

American Council of Engineering Companies
1015 15th Street N.W., Washington, DC 20005
(202) 347-7474
www.acec.org

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400
(800) 548-2723
www.asce.org

The copyright for this document is owned jointly by the three sponsoring organizations listed above. The National Society of Professional Engineers is the Copyright Administrator for the EJCDC documents; please direct all inquiries regarding EJCDC copyrights to NSPE.

NOTE: EJCDC publications may be purchased at www.ejcdc.org, or from any of the sponsoring organizations above.

**STANDARD GENERAL CONDITIONS OF THE
CONSTRUCTION CONTRACT**

TABLE OF CONTENTS

	Page
ARTICLE 1 – DEFINITIONS AND TERMINOLOGY	1
1.01 <i>Defined Terms</i>	1
1.02 <i>Terminology</i>	4
ARTICLE 2 – PRELIMINARY MATTERS	5
2.01 <i>Delivery of Bonds and Evidence of Insurance</i>	5
2.02 <i>Copies of Documents</i>	5
2.03 <i>Before Starting Construction</i>	5
2.04 <i>Preconstruction Conference; Designation of Authorized Representatives</i>	5
2.05 <i>Initial Acceptance of Schedules</i>	6
2.06 <i>Electronic Transmittals</i>	6
ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE	6
3.01 <i>Intent</i>	6
3.02 <i>Reference Standards</i>	6
3.03 <i>Reporting and Resolving Discrepancies</i>	7
3.04 <i>Requirements of the Contract Documents</i>	7
3.05 <i>Reuse of Documents</i>	8
ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK.....	8
4.01 <i>Commencement of Contract Times; Notice to Proceed</i>	8
4.02 <i>Starting the Work</i>	8
4.03 <i>Reference Points</i>	8
4.04 <i>Progress Schedule</i>	8
4.05 <i>Delays in Contractor’s Progress</i>	9
ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS	9
5.01 <i>Availability of Lands</i>	9
5.02 <i>Use of Site and Other Areas</i>	10
5.03 <i>Subsurface and Physical Conditions</i>	10
5.04 <i>Differing Subsurface or Physical Conditions</i>	11
5.05 <i>Underground Facilities</i>	12
5.06 <i>Hazardous Environmental Conditions at Site</i>	13
ARTICLE 6 – BONDS AND INSURANCE.....	15
6.01 <i>Performance, Payment, and Other Bonds</i>	15
6.02 <i>Insurance—General Provisions</i>	15
6.03 <i>Contractor’s Insurance</i>	16
6.04 <i>Owner’s Liability Insurance</i>	18
6.05 <i>Property Insurance</i>	18
6.06 <i>Waiver of Rights</i>	20
6.07 <i>Receipt and Application of Property Insurance Proceeds</i>	20
ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES.....	21
7.01 <i>Supervision and Superintendence</i>	21
7.02 <i>Labor; Working Hours</i>	21
7.03 <i>Services, Materials, and Equipment</i>	21
7.04 <i>“Or Equals”</i>	21
7.05 <i>Substitutes</i>	22
7.06 <i>Concerning Subcontractors, Suppliers, and Others</i>	23
7.07 <i>Patent Fees and Royalties</i>	24
7.08 <i>Permits</i>	25

7.09	Taxes	25
7.10	Laws and Regulations	25
7.11	Record Documents	26
7.12	Safety and Protection	26
7.13	Safety Representative	26
7.14	Hazard Communication Programs	27
7.15	Emergencies	27
7.16	Shop Drawings, Samples, and Other Submittals	27
7.17	Contractor's General Warranty and Guarantee	29
7.18	Indemnification	29
7.19	Delegation of Professional Design Services	30
ARTICLE 8 – OTHER WORK AT THE SITE		30
8.01	Other Work	30
8.02	Coordination	31
8.03	Legal Relationships	31
ARTICLE 9 – OWNER'S RESPONSIBILITIES		32
9.01	Communications to Contractor	32
9.02	Replacement of Engineer	32
9.03	Furnish Data	32
9.04	Pay When Due	32
9.05	Lands and Easements; Reports, Tests, and Drawings	32
9.06	Insurance	32
9.07	Change Orders	32
9.08	Inspections, Tests, and Approvals	32
9.09	Limitations on Owner's Responsibilities	32
9.10	Undisclosed Hazardous Environmental Condition	32
9.11	Evidence of Financial Arrangements	32
9.12	Safety Programs	32
ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION		32
10.01	Owner's Representative	32
10.02	Visits to Site	33
10.03	Project Representative	33
10.04	Rejecting Defective Work	33
10.05	Shop Drawings, Change Orders and Payments	33
10.06	Determinations for Unit Price Work	33
10.07	Decisions on Requirements of Contract Documents and Acceptability of Work	33
10.08	Limitations on Engineer's Authority and Responsibilities	33
10.09	Compliance with Safety Program	34
ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK		34
11.01	Amending and Supplementing Contract Documents	34
11.02	Owner-Authorized Changes in the Work	35
11.03	Unauthorized Changes in the Work	35
11.04	Change of Contract Price	35
11.05	Change of Contract Times	36
11.06	Change Proposals	36
11.07	Execution of Change Orders	37
11.08	Notification to Surety	37
ARTICLE 12 – CLAIMS		37
12.01	Claims	37
ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK		38
13.01	Cost of the Work	38
13.02	Allowances	40
13.03	Unit Price Work	40

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK	41
14.01 Access to Work	41
14.02 Tests, Inspections, and Approvals	41
14.03 Defective Work	42
14.04 Acceptance of Defective Work	42
14.05 Uncovering Work	42
14.06 Owner May Stop the Work	43
14.07 Owner May Correct Defective Work	43
ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD	43
15.01 Progress Payments	43
15.02 Contractor’s Warranty of Title	46
15.03 Substantial Completion	46
15.04 Partial Use or Occupancy	47
15.05 Final Inspection	47
15.06 Final Payment	47
15.07 Waiver of Claims	48
15.08 Correction Period	48
ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION	49
16.01 Owner May Suspend Work	49
16.02 Owner May Terminate for Cause	49
16.03 Owner May Terminate For Convenience	50
16.04 Contractor May Stop Work or Terminate	50
ARTICLE 17 – FINAL RESOLUTION OF DISPUTES	51
17.01 Methods and Procedures	51
ARTICLE 18 – MISCELLANEOUS	51
18.01 Giving Notice	51
18.02 Computation of Times	51
18.03 Cumulative Remedies	51
18.04 Limitation of Damages	51
18.05 No Waiver	51
18.06 Survival of Obligations	51
18.07 Controlling Law	52
18.08 Headings	52

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. 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, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
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. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
5. *Bidder*—An individual or entity that submits a Bid to Owner.
6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
8. *Change Order*—A document 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, or other revision to the Contract, issued

on or after the Effective Date of the Contract.

9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.
11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C.

- §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
 13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
 14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
 15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
 16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
 17. *Cost of the Work*—See Paragraph 13.01 for definition.
 18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
 19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
 20. *Engineer*—The individual or entity named as such in the Agreement.
 21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
 22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
 23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
 24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
 25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
 26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
 27. *Notice to Proceed*—A written notice 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.
 28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
 29. *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.
 30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
 31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing

- the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
 33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
 34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
 35. *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.
 36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
 37. *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, and such other lands furnished by Owner which are designated for the use of Contractor.
 38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
 39. *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.
 40. *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.
 41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
 42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
 43. *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 a Subcontractor.
 44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made

available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.

45. *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 but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *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; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in the following paragraphs 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 the 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 Article 10 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 15.03 or 15.04).

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. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- 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. *Bonds:* 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 Contractor’s Insurance:* When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance:* After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of

insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 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.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- 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

2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, 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 and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *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 2.03.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 the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic

media or digital format, either directly, or through access to a secure Project website.

- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, 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.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, 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, reference

standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract 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, reference standard, 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 part of the Contract Documents prepared by or for Engineer. 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 part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. Reporting Discrepancies:

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or 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) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) 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 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

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 part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); 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 *Requirements of the Contract Documents*

- #### A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under

the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers 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 its consultants, including electronic media editions, or 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; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- 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.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *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 Contract 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 Contract. 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 Contract, whichever date is earlier.

4.02 *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 such date.

4.03 *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.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 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 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. 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, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, 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 Times and Contract Price. 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.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. 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. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 2. abnormal weather conditions;
 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.
- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

**ARTICLE 5 – AVAILABILITY OF LANDS;
SUBSURFACE AND PHYSICAL CONDITIONS;
HAZARDOUS ENVIRONMENTAL CONDITIONS**

5.01 *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.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. Limitation on Use of Site and Other Areas:

- 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
- 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, 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 any such claim, and against all 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 directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent 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 and adjacent areas 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 of 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 structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
 - 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions

with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on 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.

5.04 Differing Subsurface or Physical Conditions

A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site 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 5.03 is materially inaccurate; or
2. is of such a nature as to require a change in the Drawings or Specifications; 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 7.15), notify Owner

and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.

C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.

D. Possible Price and Times Adjustments:

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, 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 fall within any one or more of the categories described in Paragraph 5.04.A;
- 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 Paragraph 13.03; and,

- c. 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.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a 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 otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing

Underground Facilities at or adjacent 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 do not warrant or guarantee 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 information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then 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 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.
 - C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to

which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.

E. Possible Price and Times Adjustments:

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - 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 Paragraph 13.03;
 - c. 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; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.

2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
2. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on 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 removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) 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 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. 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, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. 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, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, 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, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. 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 failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, 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. 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 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond 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 the accompanying bond.

- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then 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 bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and

endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, 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.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other

party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.

- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).
 - 4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
 - 1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 - 2. claims for damages insured by reasonably available personal injury liability coverage.
 - 3. 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.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO

commercial general liability form (occurrence form) and include the following coverages and endorsements:

1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against 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. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage
- afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.
- G. *Additional insureds:* The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; 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 (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance:* If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions:* The policies of insurance required by this Paragraph 6.03 shall:
1. include at least the specific coverages provided in this Article.

2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
5. be appropriate for the Work being performed and provide protection from claims that 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.

J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, 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.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability

policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.

3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
 5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
 - C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
 - D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 - E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
 - F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective 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, 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 Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, 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 extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, 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 occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.

- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.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, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, 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 builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.

- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

7.01 *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.
- 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.

7.02 *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, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner’s written consent, which will not be unreasonably withheld.

7.03 *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, whether or

not such items are specifically called for in the Contract Documents.

- B. All materials and equipment incorporated into the Work 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.

7.04 *“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 Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item 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 is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that 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, Engineer shall deem it an “or equal” item. For the purposes of this paragraph, 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;
- 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;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
- 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.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may

request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 3. 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:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,

- 2) 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
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
- c. will identify:
- 1) all variations of the proposed substitute item from that specified, and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. 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.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed

acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. 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 the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. 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.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of

Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.

- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. 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.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.
- O. 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 create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *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, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors 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 specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. 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.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, 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 the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of

utility owners for connections for providing permanent service to the Work.

7.09 *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.

7.10 *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 or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and 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 such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of

such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

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

7.12 *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 or 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, other work in progress, 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 Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and

replacement of their property or work in progress.

- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any 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 program 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 7.12.A.2 or 7.12.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 at its expense (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 protection 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 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *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.

7.14 *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.

7.15 *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.

7.16 *Shop Drawings, Samples, and Other Submittals*

- A. Shop Drawing and Sample Submittal Requirements:

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the 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 and equipment offered with respect to the indicated application, 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 of that submittal, and that Contractor approves the 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 set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. Shop Drawings:
 - a. Contractor shall submit the number of copies required in the Specifications.
 - 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 7.16.D.
2. Samples:
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall 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 7.16.D.

3. 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. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- 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 or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample 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 7.16.A.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 will document any such approved variation from the requirements of the Contract Documents in a Field Order.
5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.
- 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.
 2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
 3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to

Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *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 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;
 - 6. the issuance of a notice of acceptability by Engineer;
 - 7. any inspection, test, or approval by others; or
 - 8. any correction of defective Work by Owner.
- D. If the Contract requires the Contractor to accept the assignment of a contract entered

into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, 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 is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent 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.
- 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 7.18.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 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees,

agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *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 Laws and Regulations.
- 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, 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, 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 7.16.D.1.

- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. 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, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, 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.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such

equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. 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.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.
- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) 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 any such claims, and against all 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 damage, delay, disruption, or interference.

ARTICLE 9 – OWNER’S RESPONSIBILITIES

9.01 Communications to Contractor

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

9.02 Replacement of Engineer

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer’s status under the Contract Documents shall be that of the former Engineer.

9.03 Furnish Data

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

9.04 Pay When Due

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 Lands and Easements; Reports, Tests, and Drawings

- A. Owner’s duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner’s duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner’s identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 Insurance

- A. Owner’s responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 Change Orders

- A. Owner’s responsibilities with respect to Change Orders are set forth in Article 11.

9.08 Inspections, Tests, and Approvals

- A. Owner’s responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 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.

9.10 Undisclosed Hazardous Environmental Condition

- A. Owner’s responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 Evidence of Financial Arrangements

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner’s obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 Safety Programs

- A. While at 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.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER’S STATUS DURING CONSTRUCTION

10.01 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.

10.02 *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 10.08. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, 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.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. 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.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

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

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, 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 15.06.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 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. Change Orders:
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order

also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.

- b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.
3. *Field Orders:* Engineer may authorize minor changes in the Work if the changes 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. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor

believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-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. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *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, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. 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, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).
- C. *Contractor's Fee:* When applicable, 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 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.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 Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee

plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;

- d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
- 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 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.

2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. 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;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *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.

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be

submitted to the Claims process set forth in this Article:

1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 2. If Owner and Contractor agree to mediation, then after 60 days from such

agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval:* If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim:* If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results:* If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work:* The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work 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 13.01.C, 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, and 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 13.01.
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, as 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 6.05), 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 communication 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 that

Contractor is required by the Contract Documents to purchase and maintain.

- C. *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 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here 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 Paragraph 13.01.B.
- D. *Contractor's Fee:* When the Work as a whole 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, Change Proposal, Claim, set-off, or other 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 11.04.C.

- E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, 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.

13.02 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:* Contractor agrees that:
1. 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
 2. 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:* 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.

13.03 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. Payments to Contractor for Unit Price Work will be based on actual quantities.
- 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. 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 the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price 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;
 2. there is no corresponding adjustment with respect to any other item of Work; and
 3. Contractor believes that it 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.

times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- 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, obtaining, and paying for all inspections and tests required:
 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 3. by manufacturers of equipment furnished under the Contract Documents;
 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 5. for acceptance of materials, mix designs, or equipment submitted for approval

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable

prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. 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. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to

defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages 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. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then 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, and provide all necessary labor, material, and equipment.

1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages 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 pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
2. 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, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *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, then 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.

14.07 *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, 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, then 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 14.07, 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, 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 incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. 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 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 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 during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. 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, a warehouse bond, 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.

C. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, 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, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and 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; 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 money 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 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.
- D. Payment Becomes Due:
- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.
- E. Reductions in Payment by Owner:
- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;

- i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. 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;
 - l. there are other items entitling Owner to a set off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, 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, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
 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 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *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 and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- 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 preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a

permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. 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 punch list.

15.04 *Partial Use or Occupancy*

- 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. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be 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 15.03.A through E for that part of the Work.
 - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work 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 15.03 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 6.05 regarding builder's risk or other property insurance.

15.05 *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, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *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, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.
 - 2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;

- c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.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, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- 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 have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are

necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. 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 15.07. 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. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.
- D. *Payment Becomes Due*: Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *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 Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. correct the defective repairs to the Site or such other adjacent areas;
 2. correct such defective Work;
 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 to 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. 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 repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- 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, 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 are in addition to all other obligations and

warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 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 written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 Owner May Terminate for Cause

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and 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);
 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and

- 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, 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 complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.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 the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds 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.
- F. 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, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *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; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) 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 16.03.
- 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 are not intended to preclude Contractor from submitting a Change Proposal 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 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 2. agree with the other party to submit the dispute to another dispute resolution process; or
 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *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, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract 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.

18.03 *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. 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.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

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

termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

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

18.08 *Headings*

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

SUPPLEMENTARY CONDITIONS

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

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof. The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix “SC” added thereto.

SC-2.02. Delete Paragraph 2.02.A. in its entirety and insert the following new paragraph in its place:

2.02.A. Owner shall furnish to Contractor 4 copies of conformed Contract Documents incorporating and integrating all Addenda and any amendments negotiated prior to the Effective Date of the Contract (including one fully executed counterpart of the Agreement) and one copy in electronic portable document format (PDF). Additional printed copies of the conformed Contract Documents will be furnished upon request at the cost of reproduction.

2.03. Add the following new paragraph immediately after Paragraph 2.03.A:

2.03.B. Prior to starting Work and in accordance with the Code of Alabama 39-2-14, nonresident Contractor is required to register and deposit 5 percent of the Contract amount with the Alabama Department of Revenue. Within 30 days after registration, nonresident Contractor shall file statement with Department of Revenue itemizing machinery, materials, supplies, and equipment that will be on hand at time Contract begins where such tangible property has been brought, shipped, or transported from outside the State of Alabama upon which neither use taxes or ad valorem taxes have been paid and shall pay tax due at time of filing and there after shall report and pay tax as required by Commissioner of Revenue.

SC-3.01. Add the following new paragraph immediately after Paragraph 3.01.E:

3.01.F. Sections of Division 1, General Requirements, govern the execution of the Work of all sections of the Specifications.

SC-4.01. Delete the first two sentences of Paragraph 4.01.A and replace it with the following:

The Contract Times will commence to run on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 15 days after the Effective Date of the Agreement.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

SC-5.03. Delete Paragraphs 5.03.A and 5.03.B in their entirety and insert the following in their place:

5.03.A. No reports of explorations or tests of subsurface conditions at or contiguous to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site are known to Owner.

SC-5.06. Delete Paragraph 5.06.A and Paragraph 5.06.B in their entirety and insert the following in their place:

5.06A. No reports or drawings related to Hazardous Environmental Conditions at the site are available or known to the Owner.

SC-6.01. Delete the first sentence of Paragraph 6.01.A and replace it with the following:

In accordance with Code of Alabama, Contractor shall furnish performance bond in an amount equal to 100 percent of the Contract Price and payment bond in an amount equal to 100 percent of the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. Payment and performance bonds furnished shall adhere to, at a minimum, the provisions included in the bond forms as made a part of the Contract.

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

6.02.A.1. Surety and insurance companies from which the bonds and insurance for this Project are purchased shall have an A.M. Best's rating of no less than A- in addition to other requirements specified herein.

SC-6.03. Add the following new paragraph immediately following Paragraph 6.03.A.4:

6.03.A.5. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

6.03.A.5.a. Workers' Compensation and related coverages under Paragraph 6.03.A.1 and Paragraph 6.03.A.3 of the General Conditions:

6.03.A.5.a.1. State: Statutory.

6.03.A.5.a.2. Applicable Federal (e.g., Longshoreman's): Statutory.

6.03.A.5.a.5. Employer's Liability:

Bodily Injury, Each Accident: \$1,000,000

Bodily Injury by Disease, Each Employee: \$1,000,000

Bodily Injury/Disease Aggregate: \$1,000,000

SC-6.03. Add the following new paragraph immediately following Paragraph 6.03.C.8:

6.03.C.9. Contractor's General Liability under Paragraph 6.03.B. and Paragraph 6.03.C of the General Conditions which shall eliminate the exclusion with respect to property under the care, custody and control of Contractor:

6.03.C.9.a. General Aggregate	<u>\$2,000,000</u>
6.03.C.9.b. Products - Completed Operations Aggregate	<u>\$2,000,000</u>
6.03.C.9.c. Personal and Advertising Injury (per person/Organization)	<u>\$1,000,000</u>
6.03.C.9.d. Each Occurrence (Bodily Injury and Property Damage)	<u>\$1,000,000</u>
6.03.C.9.e. Property Damage liability insurance will provide Explosion, Collapse, and Underground coverages where applicable.	

SC-6.03. Add the following new paragraph immediately following Paragraph 6.03.D:

6.03.D.1. Contractor's Automobile Liability

6.03.D.1.a. Combined Single Limit of	<u>\$1,000,000</u>
--------------------------------------	--------------------

SC-6.03. Add the following new paragraph immediately following Paragraph 6.03.E:

6.03.E.1. Excess or Umbrella Liability:

a) General Aggregate	<u>\$5,000,000</u>
b) Each Occurrence	<u>\$5,000,000</u>

SC-6.03. Add the following new paragraph immediately following Paragraph 6.03.F:

6.03.F.1. Pollution Liability:

a) Each Occurrence	<u>\$1,000,000</u>
b) General Aggregate	<u>\$2,000,000</u>

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

If box is checked, Contractor is not required to provide Contractor's Pollution Liability insurance under this Contract.

SC-6.03. Add the following language after Paragraph 6.03.G:

6.03.G.1. Include the following parties or entities as additional insured:

6.03.G.1.a. The City of Auburn, AL, 144 Tichenor Ave., Auburn, AL 36830

6.03.G.1.b. Jacobs, 4121 Carmichael Rd., Suite 400, Montgomery, AL 36106

6.03.I.3. Replace the first sentence of 6.03.I.3. with the following:

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 Contractor.

SC 6.05. Insert the following paragraph after 6.05.A.1:

6.05.A.1.a: In addition to the individuals and entities specified in Paragraph 6.05.A.1, include as insureds, the following:

6.05.A.1.a1.): CH2M Hill Engineers, Inc., 4121 Carmichael Rd. suite 400. Montgomery, AL 36106

6.05.B. Replace the first sentence of 6.05.B. with the following:

Notice of Cancellation or Change: All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will 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 the purchasing policyholder.

SC-6.05. Add the following language as Paragraph 6.05.A.15:

6.05.A.15. Property insurance furnished under this Contract shall have deductibles no greater than \$1,000 for direct physical loss in any one occurrence for sublimits except for earthquake, which shall have a maximum deductible of \$1,000.

SC-7.02. Add the following language to the end of Paragraph 7.02.B:

7.02.B.1. Contractor and Subcontractor regular working hours consist of up to 10 working hours within an 11-hour period between 7:00 a.m. and 6:00 p.m. excluding Sundays and holidays. Overtime work is work in excess of 40 hours per week.

SC-7.02. Add the following new paragraph immediately after Paragraph 7.02.B:

7.02.C. Contractor shall be responsible for the cost of any overtime pay or other expense incurred by the Owner for Engineer's services (including those of the Resident Project Representative, if any), Owner's representative, and construction observation services, occasioned by the performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day. If Contractor is responsible but does not pay, or if the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

7.03. Add the following new paragraphs immediately after Paragraph 7.03.C:

7.03.D. Domestic Products:

7.03.D.1. In accordance with Code of Alabama 39-3-1, Contractor agrees to use materials, supplies, and products manufactured, mined, processed, or produced in the United States or its territories, if products are available at reasonable and competitive prices and are not contrary to any sole source specification. If agreement to use domestic products is breached and domestic products are not used, there shall be a downward adjustment in Contract Price equal to any realized savings or benefits to Contractor.

7.03.D.2. In accordance with Code of Alabama 39-3-4, Contractor agrees to use steel produced within the United States when specifications require the use of steel and do not limit its supply to a sole source specification. Owner has right to waive this requirement in the event of national emergency, national strike, or other cause. If agreement to use domestic steel is breached and domestic steel is not used, there shall be a downward adjustment in Contract Price equal to any realized savings or benefits to Contractor.

SC-7.06. Add the following language at the end of Paragraph 7.06.A:

Contractor shall perform a minimum of 50 percent of the onsite labor with its own employees.

SC-7.09. Add the following new paragraphs immediately after Paragraph 7.09.A:

7.09.B. Owner is exempt from payment of sales and compensating use taxes of the State of Alabama and of cities and counties thereof on materials to be incorporated into the Work.

7.09.B.1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of materials and equipment to be incorporated into the Work.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

7.09.B.2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to materials and equipment not incorporated into the Work.

SC-8.02. Add the following new paragraph immediately following Paragraph 8.02.B:

8.02.C. Other work anticipated to be performed at the Site by others that is either directly or indirectly related to the scheduled performance of the Work under these Contract Documents is described in Section 01 31 13, Project Coordination.

SC-10.03. Add the following new paragraphs immediately after Paragraph 10.03.A:

10.03.B. Resident Project Representative (RPR) will be furnished by Engineer. The responsibilities, authority, and limitations of the RPR are limited to those of Engineer in accordance with Paragraph 10.08 and as set forth elsewhere in the Contract Documents and are further limited and described below.

10.03.C. Responsibilities and Authority:

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

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

10.03.C.3. Liaison: (i) Serve as Engineer's liaison with Contractor, working principally through Contractor's authorized representative, and assist in understanding the intent of the Contract Documents; (ii) assist Engineer 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.

10.03.C.4. Interpretation of Contract Documents: Inform Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.

10.03.C.5. Submittals: Receive submittals that are furnished at the Site by Contractor, and notify Engineer of availability for examination. Advise Engineer and Contractor of the commencement of any Work or arrival of materials and equipment at Site, when recognized, requiring a Shop Drawing or Sample if the submittal has not been approved by Engineer.

10.03.C.6. Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and provide recommendations to Engineer; transmit to Contractor, in writing decisions as issued by Engineer.

10.03.C.7. Review of Work and Rejection of Defective Work: (i) Conduct onsite observations of the Work in progress to assist Engineer 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 imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged or does not meet the requirements of any inspection test, or approval required to be made; and advise Engineer of that part of the Work in progress that RPR believes should be corrected or rejected or uncovered for observation, or requires special testing, inspection, or approval.

10.03.C.8. Inspections, Tests, and System Startups: (i) Verify 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; (ii) observe, record, and report to Engineer appropriate details relative to the test procedures and system startups; and (iii) accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections, and report to Engineer.

10.03.C.9. Records: (i) Maintain records for use in preparing Project documentation; (ii) keep a diary or log book recording pertinent Site conditions, activities, decisions and events; (iii) record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of Contractors, Subcontractors, and major Suppliers of materials and equipment.

10.03.C.10. Reports: (i) Furnish Engineer periodic reports of progress of the Work and of Contractor's compliance with the Progress Schedule and Schedule of Submittals; (ii) immediately notify Engineer of the occurrence of Site accidents, emergencies, acts of God endangering the Work, damage to property by fire or other causes, or the discovery of any Hazardous Environmental Condition; and (iii) assist Engineer in drafting proposed Change Orders, Work Change Directives, and Field Orders; obtain backup material from Contractor as appropriate.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

10.03.C.11. Payment Requests: Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, 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.

10.03.C.12. Certificates, Operation and Maintenance Manuals: During the course of the Work, verify materials and equipment certificates and operation and maintenance manuals and other data required by Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents been delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

10.03.C.13. Completion: (i) Participate in a Substantial Completion inspection; assist in determination of Substantial Completion and the preparation of lists of items to be completed or corrected; (ii) Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied; and (iii) observe whether items on final list have been completed or corrected, and make recommendations to Engineer concerning acceptance.

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

10.03.D.1. have authority to authorize a deviation from Contract Documents or substitution of materials or equipment, unless authorized by Engineer; or

10.03.D.2. exceed the limitations of Engineer's authority as set forth in Contract Documents; or

10.03.D.3. undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor's authorized representative; or

10.03.D.4. advise on, issue directions relative to, or assume control over an aspect of the means, methods, techniques, sequences, or procedures of Contractor's work unless such advice or directions are specifically required by the Contract Documents; or

10.03.D.5. advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor; or

10.03.D.6. participate in specialized field or laboratory tests or inspections conducted offsite by others, except as specifically authorized by Engineer; or

10.03.D.7. accept Shop Drawings or Samples from anyone other than Contractor; or

10.03.D.8. authorize Owner to occupy the Project in whole or in part.

SC-10.08. Add the following new paragraph immediately after Paragraph 10.08.E:

10.08.F. Contractors, Subcontractors, Suppliers, and others on the Project, or their sureties, shall maintain no direct action against Engineer, its officers, employees, affiliated corporations, and subcontractors, for any Claim arising out of, in connection with, or resulting from the engineering services performed. Only the Owner will be the beneficiary of any undertaking by Engineer.

SC 15.03.B. Add the following new subparagraph to Paragraph 15.03.B:

SC 15.03.B.1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, shall be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

SC-15.06. Add the following new paragraphs immediately after Paragraph 15.06.A.3:

15.06.A.4. Notice of Completion: In accordance with Code of Alabama 39-1-1, immediately after completion of the Work under these Contract Documents, Contractor shall publish a Notice of Completion in a newspaper of general circulation in the city or county where the Work was performed. Such notice shall be published for a period of 4 successive weeks. No final payment and acceptance will be made on the Work of these Contract Documents until 30 days after completion of Contractor's notice. Submit proof of publication of notice in form of an affidavit of the publisher and a printed copy of the notice. If no newspaper is published in county where the Work is done, notice may be made by posting at courthouse for 30 days.

15.06.A.5. Nonresident Contractor shall submit to Owner proof that all taxes due and payable have been paid prior to final payment as required by the Code of Alabama 39-2-12.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

SC-17.03. Add the following new paragraph immediately after Paragraph 17.02:

SC-17.03 Attorneys' Fees: For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

END OF SECTION

PART 4

SPECIFICATIONS

**SECTION 01 11 00
SUMMARY OF WORK**

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. The completed Work will provide Owner with the following:

- Installation of new stainless-steel weirs and baffles for Clarifier No. 1 and Clarifier No. 2.
- Installation of new fiberglass density current baffles for Clarifier No. 1 and Clarifier No. 2.
- Installation of new half-length scum troughs and new skimmer arms for Clarifier No. 1 and Clarifier No. 2.
- Coating of existing clarifier mechanisms for Clarifier No. 1 and Clarifier No. 2.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 26 00
CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.01 PROPOSAL REQUESTS

- A. Owner may, in anticipation of ordering an addition, deletion, or revision to the Work, request Contractor to prepare a detailed proposal of cost and times to perform contemplated change.
- B. Proposal request will include reference number for tracking purposes and detailed description of and reason for proposed change, and such additional information as appropriate and as may be required for Contractor to accurately estimate cost and time impact on Project.
- C. Proposal request is for information only; Contractor is neither authorized to execute proposed change nor to stop Work in progress as result of such request.
- D. Contractor's written proposal shall be transmitted to Engineer promptly, but not later than 14 days after Contractor's receipt of Owner's written request. Proposal shall remain firm for a maximum period of 45 days after receipt by Engineer.
- E. Owner's request for proposal or Contractor's failure to submit such proposal within the required time period will not justify a Claim for an adjustment in Contract Price or Contract Times (or Milestones).

1.02 CLAIMS

- A. Include, at a minimum:
 - 1. Specific references including (i) Drawing numbers, (ii) Specification section and article/paragraph number, and (iii) Submittal type, Submittal number, date reviewed, Engineer's comment, as applicable, with appropriate attachments.
 - 2. Stipulated facts and pertinent documents, including photographs and statements.
 - 3. Interpretations relied upon.
 - 4. Description of (i) nature and extent of Claim, (ii) who or what caused the situation, (iii) impact to the Work and work of others, and (iv) discussion of claimant's justification for requesting a change to price or times or both.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

5. Estimated adjustment in price claimant believes it is entitled to with full documentation and justification.
6. Requested Change in Contract Times: Include at least (i) Progress Schedule documentation showing logic diagram for request, (ii) documentation that float times available for Work have been used, and (iii) revised activity logic with durations including sub-network logic revisions, duration changes, and other interrelated schedule impacts, as appropriate.
7. Documentation as may be necessary as set forth below for Work Change Directive, and as Engineer may otherwise require.

1.03 WORK CHANGE DIRECTIVES

A. Procedures:

1. Engineer will:
 - a. Initiate, including a description of the Work involved and any attachments.
 - b. Affix signature, demonstrating Engineer's recommendation.
 - c. Transmit five copies to Owner for authorization.
2. Owner will:
 - a. Affix signature, demonstrating approval of the changes involved.
 - b. Return four copies to Engineer, who will retain one copy, send one copy to the Resident Project Representative or other field representative, and forward two copies to Contractor.
3. Upon completion of Work covered by the Work Change Directive or when final Contract Times and Contract Price are determined, Contractor shall submit documentation for inclusion in a Change Order.
4. Contractor's documentation shall include but not be limited to:
 - a. Appropriately detailed records of Work performed to enable determination of value of the Work.
 - b. Full information required to substantiate resulting change in Contract Times and Contract Price for Work. On request of Engineer, provide additional data necessary to support documentation.
 - c. Support data for Work performed on a unit price or Cost of the Work basis with additional information such as:
 - 1) Dates Work was performed, and by whom.
 - 2) Time records, wage rates paid, and equipment rental rates.
 - 3) Invoices and receipts for materials, equipment, and subcontracts, all similarly documented.

- B. Effective Date of Work Change Directive: Date of signature by Owner, unless otherwise indicated thereon.

1.04 CHANGE ORDERS

A. Procedure:

1. Engineer will prepare six copies of proposed Change Order and transmit such with Engineer's written recommendation and request to Contractor for signature.
2. Contractor shall, upon receipt, either: (i) promptly sign copies, retaining one for its file, and return remaining five copies to Engineer for Owner's signature, or (ii) return unsigned five copies with written justification for not executing Change Order.
3. Engineer will, upon receipt of Contractor signed copies, promptly forward Engineer's written recommendation and partially executed five copies for Owner's signature, or if Contractor fails to execute the Change Order, Engineer will promptly so notify Owner and transmit Contractor's justification to Owner.
4. Upon receipt of Contractor-executed Change Order, Owner will promptly either:
 - a. Execute Change Order, retaining one copy for its file and returning four copies to Engineer; or
 - b. Return to Engineer unsigned copies with written justification for not executing Change Order.
5. Upon receipt of Owner-executed Change Order, Engineer will transmit two copies to Contractor, one copy to Resident Project Representative or other field representative, and retain one copy, or if Owner fails to execute the Change Order, Engineer will promptly so notify Contractor and transmit Owner's justification to Contractor.
6. Upon receipt of Owner-executed Change Order, Contractor shall:
 - a. Perform Work covered by Change Order.
 - b. Revise Schedule of Values to adjust Contract Price and submit with next Application for Payment.
 - c. Revise Progress Schedule to reflect changes in Contract Times, if any, and to adjust times for other items of Work affected by change.
 - d. Enter changes in Project record documents after completion of change related Work.

B. In signing a Change Order, Owner and Contractor acknowledge and agree that:

1. Stipulated compensation (Contract Price or Contract Times, or both) set forth includes payment for (i) the Cost of the Work covered by the Change Order, (ii) Contractor's fee for overhead and profit, (iii) interruption of Progress Schedule, (iv) delay and impact, including cumulative impact, on other Work under the Contract Documents, and (v) extended overheads.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

2. Change Order constitutes full mutual accord and satisfaction for the change to the Work.
3. Unless otherwise stated in the Change Order, all requirements of the original Contract Documents apply to the Work covered by the Change Order.

1.05 COST OF THE WORK

- A. In determining the supplemental costs allowed in Paragraph 13.01.B.5 of the General Conditions for rental equipment and machinery, the following will apply.
- B. Rental of construction equipment and machinery and the parts thereof having a replacement value in excess of \$1,000, whether owned by Contractor or rented or leased from others, shall meet the following requirements:
 1. Full rental costs for leased equipment shall not exceed rates listed in the Rental Rate Blue Book published by Equipment Watch, as adjusted to the regional area of the Project. Owned equipment costs shall not exceed the single shift rates established in the Cost Reference Guide (CRG) published by Equipment Watch. The most recent published edition in effect at commencement of actual equipment use shall be used.
 2. Rates shall apply to equipment in good working condition. Equipment not in good condition, or larger than required, may be rejected by Engineer or accepted at reduced rates.
 3. Leased Equipment: For equipment leased or rented in arm's length transactions from outside vendors, maximum rates shall be determined by the following actual usage/Payment Category:
 - a. Less than 8 hours: Hourly rate.
 - b. 8 or more hours but less than 7 days: Daily rate.
 - c. 7 or more days but less than 30 days: Weekly rate.
 - d. 30 days or more: Monthly rate.
 4. Arm's length rental and lease transactions are those in which the firm involved in the rental or lease of equipment is not associated with, owned by, have common management, directorship, facilities and/or stockholders with the firm renting the equipment.
 5. Financial arrangements associated with rental and lease transactions that provide Contractor remuneration or discounts not visible to the Owner must be disclosed and integrated with charged rates.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

6. Leased Equipment in Use: Actual equipment use time documented by Engineer shall be the basis that equipment was on and utilized at the Project Site. In addition to the leasing rate above, equipment operational costs shall be paid at the estimated hourly operating cost rate set forth in the Rental Rate Blue Book if not already included in the lease rate. Hours of operation shall be based upon actual equipment usage to the nearest quarter hour, as recorded by Engineer.
7. Leased Equipment, When Idle (Standby): Idle or standby equipment is equipment onsite or in transit to and from the Work Site and necessary to perform the Work under the modification, but not in actual use. Idle equipment time, as documented by Engineer, shall be paid at the leasing rate determined above, excluding operational costs.
8. Owned and Other Equipment in Use: Equipment rates for owned equipment or equipment provided in other than arm's length transaction shall not exceed the single shift total hourly costs rate developed in accordance with the CRG and as modified herein for multiple shifts. This total hourly rate will be paid for each hour the equipment actually performs work. Hours of operation shall be based upon actual equipment usage as recorded by Engineer. This rate shall represent payment in full for Contractor's direct costs.
9. Owned and Other Equipment, When Idle (Standby): Equipment necessary to be onsite to perform the Work on single shift operations, but not utilized, shall be paid for at the ownership hourly expense rate developed in accordance with the CRG provided its presence and necessity onsite has been documented by Engineer. Payment for idle time of portions of a normal workday, in conjunction with original contract Work, will not be allowed. In no event shall idle time claimed in a day for a particular piece of equipment exceed the normal Work or shift schedule established for the Project. It is agreed that this rate shall represent payment in full for Contractor's direct costs. When Engineer determines that the equipment is not needed to continuously remain at the Work Site, payment will be limited to actual hours in use.
10. Owned and Other Equipment, Multiple Shifts: For multiple shift operations, the CRG single shift total hourly costs rate shall apply to the operating equipment during the first shift. For subsequent shifts, up to two in a 24-hour day, operating rate shall be the sum of the total hourly CRG operating cost and 60 percent of the CRG ownership and overhaul expense. Payment for idle or standby time for second and third shifts shall be 20 percent of the CRG ownership and overhaul expense.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

11. When necessary to obtain owned equipment from sources beyond the Project limits, the actual cost to transfer equipment to the Site and return it to its original location will be allowed as an additional item of expense. Move-in and move-out allowances will not be made for equipment brought to the Project if the equipment is also used on original Contract or related Work.
12. If the move-out destination is not to the original location, payment for move-out will not exceed payment for move-in.
13. If move is made by common carrier, the allowance will be the amount paid for the freight. If equipment is hauled with Contractor's own forces, rental will be allowed for the hauling unit plus the hauling unit operator's wage. If equipment is transferred under its own power, the rental will be 75 percent of the appropriate total hourly costs for the equipment, without attachments, plus the equipment operator's wage.
14. Charges for time utilized in servicing equipment to ready it for use prior to moving and similar charges will not be allowed.
15. When a breakdown occurs on any piece of owned equipment, payment shall cease for that equipment and any other owned equipment idled by the breakdown.
16. If any part of the Work is shut down by Owner, standby time will be paid during nonoperating hours if diversion of equipment to other Work is not practicable. Engineer reserves the right to cease standby time payment when an extended shutdown is anticipated.
17. If a rate has not been established in the CRG for owned equipment, Contractor may:
 - a. If approved by Engineer, use the rate of the most similar model found, considering such characteristics as manufacturer, capacity, horsepower, age, and fuel type, or
 - b. Request Equipment Watch to furnish a written response for a rate on the equipment, which shall be presented to Engineer for approval; or
 - c. Request Engineer to establish a rate.

1.06 FIELD ORDER

- A. Engineer will issue Field Orders, with three copies to Contractor.
- B. Effective date of the Field Order shall be the date of signature by Engineer, unless otherwise indicated thereon.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- C. Contractor shall acknowledge receipt by signing and returning one copy to Engineer.
- D. Field Orders will be incorporated into subsequent Change Orders, as a no-cost change to the Contract.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 29 00
PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SUBMITTALS

- A. Informational Submittals:
 - 1. Schedule of Values: Submit on Contractor's standard form.
 - 2. Schedule of Estimated Progress Payments:
 - a. Submit with initially acceptable Schedule of Values.
 - b. Submit adjustments thereto with Application for Payment.
 - 3. Application for Payment.
 - 4. Final Application for Payment.

1.02 SCHEDULE OF VALUES

- A. Prepare a separate Schedule of Values per the Agreement.
- B. Provide documentation to support the accuracy of the Schedule of Values.
- C. Lump Sum Work:
 - 1. Reflect specified cash allowances and alternates, as applicable.
 - 2. List bonds and insurance premiums, mobilization, demobilization, preliminary and detailed progress schedule preparation, equipment testing, facility startup, and contract closeout separately.
 - 3. Break down by Division 2 through 49 with appropriate subdivision of each Specification.
- D. An unbalanced or front-end loaded schedule will not be acceptable.
- E. Summation of the complete Schedule of Values representing all the Work shall equal the Contract Price.

1.03 SCHEDULE OF ESTIMATED PROGRESS PAYMENTS

- A. Show estimated payment requests throughout Contract Times aggregating initial Contract Price.
- B. Base estimated progress payments on initially acceptable progress schedule. Adjust to reflect subsequent adjustments in Progress Schedule and Contract Price as reflected by modifications to the Contract Documents.

1.04 APPLICATION FOR PAYMENT

- A. Transmittal Summary Form: Attach one Summary Form with each detailed Application for Payment for each schedule and include Request for Payment of Materials and Equipment on Hand as applicable. Execute certification by authorized officer of Contractor.
- B. Use detailed Application for Payment Form Owner.
- C. Provide separate form for each schedule as applicable.
- D. Include accepted Schedule of Values for each schedule or portion of lump sum Work and the unit price breakdown for the Work to be paid on a unit priced basis.
- E. Include separate line item for each Change Order and Work Change Directive executed prior to date of submission. Provide further breakdown of such as requested by Engineer.
- F. Preparation:
 - 1. Round values to nearest dollar.
 - 2. Submit Application for Payment, including a Transmittal Summary Form and detailed Application for Payment Form(s) for each schedule as applicable, a listing of materials on hand for each schedule as applicable, and such supporting data as may be requested by Engineer.

1.05 MEASUREMENT—GENERAL

- A. Weighing, measuring, and metering devices used to measure quantity of materials for Work shall be suitable for purpose intended and conform to tolerances and Specifications as specified in National Institute of Standards and Technology, Handbook 44.
- B. Whenever pay quantities of material are determined by weight, material shall be weighed on scales furnished by Contractor and certified accurate by state agency responsible. Weight or load slip shall be obtained from weigher and delivered to Owner's representative at point of delivery of material.
- C. If material is shipped by rail, car weights will be accepted provided that actual weight of material only will be paid for and not minimum car weight used for assessing freight tariff, and provided further that car weights will not be acceptable for material to be passed through mixing plants.

- D. Vehicles used to haul material being paid for by weight shall be weighed empty daily and at such additional times as required by Engineer. Each vehicle shall bear a plainly legible identification mark.
- E. Materials that are specified for measurement by the cubic yard measured in the vehicle shall be hauled in vehicles of such type and size that actual contents may be readily and accurately determined. Unless all vehicles are of uniform capacity, each vehicle must bear a plainly legible identification mark indicating its water level capacity. Vehicles shall be loaded to at least their water level capacity. Loads hauled in vehicles not meeting above requirements or loads of a quantity less than the capacity of the vehicle, measured after being leveled off as above provided, will be subject to rejection, and no compensation will be allowed for such material.

1.06 PAYMENT

- A. Payment for all Lump Sum Work shown or specified in Contract Documents is included in the Contract Price. Payment will be based on a percentage complete basis for each line item of the accepted Schedule of Values.

1.07 NONPAYMENT FOR REJECTED OR UNUSED PRODUCTS

- A. Payment will not be made for following:
 - 1. Loading, hauling, and disposing of rejected material.
 - 2. Quantities of material wasted or disposed of in manner not called for under Contract Documents.
 - 3. Rejected loads of material, including material rejected after it has been placed by reason of failure of Contractor to conform to provisions of Contract Documents.
 - 4. Material not unloaded from transporting vehicle.
 - 5. Defective Work not accepted by Owner.
 - 6. Material remaining on hand after completion of Work.

1.08 PARTIAL PAYMENT FOR STORED MATERIALS AND EQUIPMENT

- A. Partial Payment: No partial payments will be made for materials and equipment delivered or stored unless Shop Drawings and preliminary operation and maintenance data is acceptable to Engineer.
- B. Final Payment: Will be made only for products incorporated in Work; remaining products, for which partial payments have been made, shall revert to Contractor unless otherwise agreed, and partial payments made for those items will be deducted from final payment.

**1.09 PARTIAL PAYMENT FOR UNDELIVERED, PROJECT-SPECIFIC
MANUFACTURED OR FABRICATED EQUIPMENT**

- A. Notwithstanding above provisions, partial payments for undelivered (not yet delivered to Site or not stored in the vicinity of Site) products specifically manufactured for this Project, excluding off the shelf or catalog items, will be made for products listed below when all following conditions exist:
1. Partial payment request is supported by written acknowledgment from Suppliers that invoice requirements have been met.
 2. Equipment is adequately insured, maintained, stored, and protected by appropriate security measures.
 3. Each equipment item is clearly marked and segregated from other items to permit inventory and accountability.
 4. Authorization has been provided for access to storage Site for Engineer and Owner.
 5. Equipment meets applicable Specifications of these Contract Documents.
- B. Failure of Contractor to continue compliance with above requirements shall give cause for Owner to withhold payments made for such equipment from future partial payments.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 31 13
PROJECT COORDINATION

PART 1 GENERAL

1.01 SUBMITTALS

A. Informational:

1. Work Sequencing Plan: Submit detailed plan including all equipment, materials, labor necessary to complete installation of all new equipment and components. Plan shall show all outage times of equipment, channels, and controls. Plan shall be organized by facility and affected equipment. Plan shall be approved by Engineer prior commencing work.
2. Photographs: Digital Images: Submit one copy of digital storage media containing images within 5 days of being taken. Each image is to have a minimum file size of 1.4 Mb (1,400 Kb) so viewed resolution is high quality. The production of larger file sizes with higher resolution is encouraged.

1.02 RELATED WORK AT SITE

A. General:

1. Other work that is either directly or indirectly related to scheduled performance of the Work under these Contract Documents, listed henceforth, is anticipated to be performed at Site by others.
2. Coordinate the Work of these Contract Documents with work of others as specified in General Conditions.
3. Include sequencing constraints specified herein as a part of Progress Schedule.

1.03 UTILITY NOTIFICATION AND COORDINATION

A. Coordinate the Work with various utilities within Project limits. Notify applicable utilities prior to commencing Work, if damage occurs, or if conflicts or emergencies arise during the Work.

1. Alabama One-Call: 800-282-8525
2. Alabama Power: Brian Mitchell, 334-502-2343; 334-850-3418
3. HC Morgan WPCF
City of Auburn, Water Resources Dept: Matt Dunn, 334-501-3077
Veolia: David Jones, 334-444-0379

1.04 WORK SEQUENCING CONSTRAINTS

- A. Sequencing and constraints will be considered upon written request to Owner and Engineer, provided they afford equivalent continuity of facility operations.
- B. The information provided herein should not be relied upon by the Contractor as fully complete, comprehensive, or fully detailed. Contractor shall make his own assessment and determination of requirements that affect or may affect the progress, sequence, or cost of the Work. Discussion of work sequencing and operation of facilities during construction will be conducted during the preconstruction meeting per Section 01 31 19, Project Meetings.
- C. Sequencing and constraints contained herein are contingent upon average plant flowrates resulting from dry or normal weather conditions. High influent flow rates caused by periods of wet weather may alter sequencing and constraints listed below at the sole discretion of the Owner.
- D. Existing gates and valves may be used by the Contractor for isolation of equipment and facilities. Contractor shall field verify functionality of gates and valves utilized as part of Contractor's work sequencing prior to performing Work.

1.05 FACILITY OPERATIONS

- A. Continuous operation of Owner's facilities is of critical importance. Schedule and conduct activities to enable existing facilities to operate continuously, unless otherwise specified.
- B. Perform Work continuously during critical connections and changeovers, and as required to prevent interruption of Owner's operations.
- C. When necessary, plan, design, and provide various temporary services, utilities, connections, temporary piping and heating, access, and similar items to maintain continuous operations of Owner's facility.
- D. Do not close lines, open or close valves, or take other action which would affect the operation of existing systems, except as specifically required by the Contract Documents and after authorization by Owner and Engineer. Such authorization will be considered within 48 hours after receipt of Contractor's written request.

- E. Process or Facility Shutdown: Removal of pipelines, tanks, basins, or treatment trains reduce capacity of a treatment process or the treatment plant. Removal from service of facilities or equipment which reduce plant or process capacity are dependent on weather and time of year and must be coordinated with the facility. Contractor shall request permission for pipeline, tank, basins, or treatment train removal from service at least 14 days prior to commencement of work.
- F. Install and maintain bypass facilities temporary connections required to keep Owner's facilities described above in operation. Sequences other than those specified will be considered upon written request to Owner and Engineer, provided they afford equivalent continuity of operations.
- G. Do not proceed with Work affecting a facility's operation without obtaining Owner's and Engineer's advance approval of the need for and duration of such Work.
- H. Only one clarifier shall be taken out of service at a time. All work in the first clarifier must be completed and clarifier put back in service before the other clarifier can be taken out of service. Contractor shall meet with Owner and Engineer prior to taking either clarifier out of service and materials must be on Site before dewatering and decommissioning can begin. In event of high flows, Owner needs to maintain ability to use clarifier as temporary storage. Contractor responsible for dewatering and cleaning clarifier prior to resuming construction after temporary storage event.

1.06 CONSTRUCTION PHOTOGRAPHS

- A. General:
 - 1. Photographically document all phases of the Project including preconstruction, construction progress, and post-construction.
 - 2. Engineer shall have right to select subject matter and vantage point from which photographs are to be taken.
- B. Preconstruction and Post-Construction:
 - 1. After Effective Date of the Agreement and before Work at Site is started, and again upon issuance of Substantial Completion, take a minimum of 20 photographs of Site and property adjacent to perimeter of Site.
 - 2. Format: Digital, minimum resolution of 1832 by 3264.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

C. Construction Progress Photos:

1. Photographically demonstrate progress of construction, showing every aspect of Site and adjacent properties as well as interior and exterior of new or impacted structures.
2. Monthly: Take 20 photographs using digital, minimum resolution of 1832 by 3264.

D. Documentation:

1. Digital Images: Electronic image shall have date taken embedded into image.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 CUTTING, FITTING, AND PATCHING

- A. Cut, fit, adjust, or patch Work and work of others, including excavation and backfill as required, to make Work complete.
- B. Obtain prior written authorization of Engineer before commencing Work to cut or otherwise alter:
 1. Structural or reinforcing steel, structural column or beam, elevated slab, trusses, or other structural member.
 2. Weather-resistant or moisture-resistant elements.
 3. Efficiency, maintenance, or safety of element.
 4. Work of others.
- C. Refinish surfaces to provide an even finish.
 1. Refinish continuous surfaces to nearest intersection.
 2. Refinish entire assemblies.
 3. Finish restored surfaces to such planes, shapes, and textures that no transition between existing work and the Work is evident in finished surfaces.
- D. Restore existing work, Underground Facilities, and surfaces that are to remain in completed Work including concrete-embedded piping, conduit, and other utilities as specified and as shown on Drawings.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- E. Make restorations with new materials and appropriate methods as specified for new Work of similar nature; if not specified, use recommended practice of manufacturer or appropriate trade association.
- F. Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces and fill voids.
- G. Remove specimens of installed Work for testing when requested by Engineer.

END OF SECTION

**SECTION 01 31 19
PROJECT MEETINGS**

PART 1 GENERAL

1.01 GENERAL

- A. Engineer will schedule physical arrangements for meetings throughout progress of the Work, prepare meeting agenda with regular participant input and distribute with written notice of each meeting, preside at meetings, record minutes to include significant proceedings and decisions, and reproduce and distribute copies of minutes within 14 days after each meeting to participants and parties affected by meeting decisions.

1.02 PRECONSTRUCTION CONFERENCE

- A. Contractor shall be prepared to discuss the following subjects, as a minimum:

1. Required schedules.
2. Status of Bonds and insurance.
3. Sequencing of critical path work items.
4. Progress payment procedures.
5. Project changes and clarification procedures.
6. Use of Site, access, office and storage areas, security and temporary facilities.
7. Major product delivery and priorities.
8. Contractor's safety plan and representative.

- B. Attendees will include:

1. Owner's representatives.
2. Contractor's office representative.
3. Contractor's resident superintendent.
4. Contractor's quality control representative.
5. Subcontractors' representatives whom Contractor may desire or Engineer may request to attend.
6. Engineer's representatives.
7. Others as appropriate.

1.03 PRELIMINARY SCHEDULES REVIEW MEETING

- A. As set forth in General Conditions and Section 01 32 00, Construction Progress Documentation.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

1.04 PROGRESS MEETINGS

- A. Engineer will schedule regular progress meetings at Site, conducted monthly to review the Work progress, Progress Schedule, Schedule of Submittals, Application for Payment, contract modifications, and other matters needing discussion and resolution.
- B. Attendees will include:
 - 1. Owner's representative(s), as appropriate.
 - 2. Contractor, Subcontractors, and Suppliers, as appropriate.
 - 3. Engineer's representative(s).
 - 4. Others as appropriate or requested by the Engineer.

1.05 PREINSTALLATION MEETINGS

- A. When required in individual Specification sections, convene at Site prior to commencing the Work of that section.
- B. Require attendance of entities directly affecting, or affected by, the Work of that section.
- C. Notify Engineer 7 days in advance of meeting date.
- D. Provide suggested agenda to Engineer to include reviewing conditions of installation, preparation and installation or application procedures, and coordination with related Work and work of others.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 32 00
CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.01 SUBMITTALS

A. Informational Submittals:

1. Preliminary Progress Schedule: Submit within 7 days after Notice to Proceed.
2. Detailed Progress Schedule:
 - a. Submit initial Detailed Progress Schedule within 30 days after Effective Date of the Agreement.
 - b. Submit an Updated Progress Schedule at each update, in accordance with Article Detailed Progress Schedule.
3. Submit with Each Progress Schedule Submission:
 - a. Contractor's certification that Progress Schedule submission is actual schedule being utilized for execution of the Work.
 - b. Progress Schedule: Four legible copies.
 - c. Narrative Progress Report: Same number of copies as specified for Progress Schedule.
4. Prior to final payment, submit a final Updated Progress Schedule.

1.02 PRELIMINARY PROGRESS SCHEDULE

- A. In addition to basic requirements outlined in General Conditions, show a detailed schedule, beginning with Notice to Proceed, for minimum duration of 120 days, and a summary of balance of Project through Final Completion.
- B. Show activities including, but not limited to the following:
 1. Notice to Proceed.
 2. Permits.
 3. Submittals, with review time. Contractor may use Schedule of Submittals specified in Section 01 33 00, Submittal Procedures.
 4. Early procurement activities for long lead equipment and materials.
 5. Initial Site work.
 6. Specified Work sequences and construction constraints.
 7. Contract Milestone and Completion Dates.
 8. System startup summary.
 9. Project close-out summary.
 10. Demobilization summary.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- C. Update Preliminary Progress Schedule monthly as part of progress payment process. Failure to do so may result in the Owner withholding all or part of the monthly progress payment until the Preliminary Progress Schedule is updated in a manner acceptable to Engineer.
- D. Format: In accordance with Article Progress Schedule—Bar Chart.

1.03 DETAILED PROGRESS SCHEDULE

- A. In addition to requirements of General Conditions, submit Detailed Progress Schedule beginning with Notice to Proceed and continuing through Final Completion.
- B. Show the duration and sequences of activities required for complete performance of the Work reflecting means and methods chosen by Contractor.
- C. When accepted by Engineer, Detailed Progress Schedule will replace Preliminary Progress Schedule and become Baseline Schedule. Subsequent revisions will be considered as Updated Progress Schedules.
- D. Format: In accordance with Article Progress Schedule—Bar Chart.
- E. Update monthly to reflect actual progress and occurrences to date, including weather delays.

1.04 PROGRESS SCHEDULE—BAR CHART

- A. General: Comprehensive bar chart schedule, generally as 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.
- B. Format:
 - 1. Unless otherwise approved, white paper, 11-inch by 17-inch sheet size.
 - 2. Title Block: Show name of project and Owner, date submitted, revision or update number, and name of scheduler.
 - 3. Identify horizontally, across the top of the schedule, the time frame by year, month, and day.
 - 4. Identify each activity with a unique number and a brief description of the Work associated with that activity.
 - 5. Legend: Describe standard and special symbols used.

- C. Contents: Identify, in chronological order, those activities reasonably required to complete the Work, including as applicable, but not limited to:
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 Milestones, including Substantial Completion date(s).
 5. Subcontract Work.
 6. Major equipment design, fabrication, factory testing, and delivery dates.
 7. Sitework.
 8. Concrete Work.
 9. Architectural features Work.
 10. Equipment Work.
 11. Mechanical Work.
 12. Electrical Work.
 13. Instrumentation and control Work.
 14. Other important Work for each major facility.
 15. Equipment and system startup and test activities.
 16. Project closeout and cleanup.
 17. Demobilization.

1.05 PROGRESS OF THE WORK

- A. Updated Progress Schedule 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.
- B. Produce detailed subschedules during Project, upon request of Owner or Engineer, to further define critical portions of the Work such as facility shutdowns.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- C. If Contractor fails to complete activity by its latest scheduled completion date and this Failure is anticipated to extend Contract Times (or Milestones), 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 Contract Times (or Milestones) will not be justification for adjustment to Contract Price or Contract Times.
- D. Owner may order Contractor to increase plant, equipment, labor force or working hours if Contractor fails to:
 - 1. Complete a Milestone activity by its completion date.
 - 2. Satisfactorily execute Work as necessary to prevent delay to overall completion of Project, at no additional cost to Owner.

1.06 NARRATIVE PROGRESS REPORT

- A. Format:
 - 1. Organize same as Progress Schedule.
 - 2. Identify, on a cover letter, reporting period, date submitted, and name of author of report.
- 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.

1.07 SCHEDULE ACCEPTANCE

- A. Engineer'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.
 2. In all other respects, Engineer's acceptance of Contractor's schedule indicates that, in Engineer's judgment, schedule represents reasonable plan for constructing Project in accordance with the Contract Documents. Engineer'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 Engineer'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 Engineer 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 Engineer 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 Engineer's acceptance of Baseline Progress Schedule, shall be delineated in Narrative Report current with proposed Updated Progress Schedule.

1.08 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. Schedule Contingency:
 - 1. Contingency, when used in the context of the Progress Schedule, is time between Contractor's proposed Completion Time and Contract Completion Time.
 - 2. Contingency included in Progress Schedule is a Project resource available to both Contractor and Owner to meet Contract Milestones and Contract Times. Use of Schedule contingency shall be shared to the proportionate benefit of both parties.
 - 3. Use of schedule contingency suppression techniques such as preferential sequencing and extended activity times is prohibited.
 - 4. Pursuant to Contingency sharing provisions of this Specification, no time extensions will be granted, nor will delay damages be paid until a delay occurs which (i) consumes all available contingency time, and (ii) extends Work beyond the Contract Completion date.
- D. Claims Based on Contract Times:
 - 1. Where Engineer 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 Engineer.
 - 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 Engineer's formal decision.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 DEFINITIONS

- A. Action Submittal: Written and graphic information submitted by Contractor that requires Engineer's approval.
- B. Informational Submittal: Information submitted by Contractor that requires Engineer's review and determination that submitted information is in accordance with the Conditions of the Contract.

1.02 PROCEDURES

- A. Direct submittals to Engineer as discussed during the Pre-Construction Meeting.
- B. Electronic Submittals: Submittals shall, unless specifically accepted, be made in electronic format.
 - 1. Each submittal shall be an electronic file in Adobe Acrobat Portable Document Format (PDF). Use the latest version available at time of execution of the Agreement.
 - 2. Electronic files that contain more than 10 pages in PDF format shall contain internal bookmarking from an index page to major sections of the document.
 - 3. PDF files shall be set to open "Bookmarks and Page" view.
 - 4. Add general information to each PDF file, including title, subject, author, and keywords.
 - 5. PDF files shall be set up to print legibly at 8.5-inch by 11-inch, 11-inch by 17-inch, or 22-inch by 34-inch. No other paper sizes will be accepted.
 - 6. Submit new electronic files for each resubmittal.
 - 7. Include a copy of the Transmittal of Contractor's Submittal form, located at end of section, with each electronic file.
 - 8. Provide Engineer with authorization to reproduce and distribute each file as many times as necessary for Project documentation.
 - 9. Detailed procedures for handling electronic submittals will be discussed at the preconstruction conference.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

C. Transmittal of Submittal:

1. Contractor shall:
 - a. Review each submittal and check for compliance with Contract Documents.
 - b. Stamp each submittal with uniform approval stamp before submitting to Engineer.
 - 1) Stamp to include Project name, submittal number, Specification number, Contractor's reviewer name, date of Contractor's approval, and statement certifying submittal has been reviewed, checked, and approved for compliance with Contract Documents.
 - 2) Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
2. Complete, sign, and transmit with each submittal package, one Transmittal of Contractor's Submittal form attached at end of this section.
3. Identify each submittal with the following:
 - a. Numbering and Tracking System:
 - 1) Sequentially number each submittal.
 - 2) Resubmission of submittal shall have original number with sequential alphabetic suffix.
 - b. Specification section and paragraph to which submittal applies.
 - c. Project title and Engineer's Project number.
 - d. Date of transmittal.
 - e. Names of Contractor, Subcontractor or Supplier, and manufacturer as appropriate.
4. Identify and describe each deviation or variation from Contract Documents.

D. Format:

1. Do not base Shop Drawings on reproductions of Contract Documents.
2. Package submittal information by individual Specification section. Do not combine different Specification sections together in submittal package, unless otherwise directed in Specification.
3. Present in a clear and thorough manner and in sufficient detail to show kind, size, arrangement, and function of components, materials, and devices, and compliance with Contract Documents.
4. Index with labeled tab dividers in orderly manner.

- E. Timeliness: Schedule and submit in accordance Schedule of Submittals, and requirements of individual Specification sections.
- F. Processing Time:
 - 1. Time for review shall commence on Engineer's receipt of submittal.
 - 2. Engineer will act upon Contractor's submittal and transmit response to Contractor not later than 30 days after receipt, unless otherwise specified.
 - 3. Resubmittals will be subject to same review time.
 - 4. No adjustment of Contract Times or Price will be allowed as a result of delays in progress of Work caused by rejection and subsequent resubmittals.
- G. Resubmittals: Clearly identify each correction or change made.
- H. Incomplete Submittals:
 - 1. Engineer will return entire submittal for Contractor's revision if preliminary review deems it incomplete.
 - 2. When any of the following are missing, submittal will be deemed incomplete:
 - a. Contractor's review stamp; completed and signed.
 - b. Transmittal of Contractor's Submittal; completed and signed.
 - c. Insufficient number of copies.
- I. Submittals not required by Contract Documents:
 - 1. Will not be reviewed and will be returned stamped "Not Subject to Review."
 - 2. Engineer will keep one copy and return submittal to Contractor.

1.03 ACTION SUBMITTALS

- A. Prepare and submit Action Submittals required by individual Specification sections.
- B. Shop Drawings:
 - 1. Copies: When required in non-electronic format, provide two copies of each submittal.
 - 2. Identify and Indicate:
 - a. Applicable Contract Drawing and Detail number, products, units and assemblies, and system or equipment identification or tag numbers.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- b. Equipment and Component Title: Identical to title shown on Drawings.
 - c. Critical field dimensions and relationships to other critical features of Work. Note dimensions established by field measurement.
 - d. Project-specific information drawn accurately to scale.
 - 3. Manufacturer's standard schematic drawings and diagrams as follows:
 - a. Modify to delete information that is not applicable to the Work.
 - b. Supplement standard information to provide information specifically applicable to the Work.
 - 4. Product Data: Provide as specified in individual Specifications.
 - 5. Deferred Submittal: See Drawings for list of deferred submittals.
 - a. Contractor-design drawings and product data related to permanent construction.
 - 1) Written and graphic information.
 - 2) Drawings.
 - 3) Cut sheets.
 - 4) Data sheets.
 - 5) Action item submittals requested in individual Specification section.
 - b. Prior to installation of indicated structural or nonstructural element, equipment, distribution system, or component or its anchorage, submit required supporting data and drawings for review and acceptance by Engineer. Documentation of review and approval provided on Engineer's comment form, along with completed submittal, shall be filed with permitting agency by Contractor and approved by permitting agency prior to installation.
- C. Action Submittal Dispositions: Engineer will review, comment, stamp, and distribute as noted:
- 1. Approved:
 - a. Contractor may incorporate product(s) or implement Work covered by submittal.
 - b. Distribution: Electronic.
 - 1) One copy furnished Owner.
 - 2) One copy furnished Resident Project Representative.
 - 3) One copy retained in Engineer's file.
 - 4) Remaining copies returned to Contractor appropriately annotated.

2. Approved as Noted:
 - a. Contractor may incorporate product(s) or implement Work covered by submittal, in accordance with Engineer's notations.
 - b. Distribution: Electronic.
3. Partial Approval, Resubmit as Noted:
 - a. Make corrections or obtain missing portions, and resubmit.
 - b. Except for portions indicated, Contractor may begin to incorporate product(s) or implement Work covered by submittal, in accordance with Engineer's notations.
 - c. Distribution: Electronic.
4. Revise and Resubmit:
 - a. Contractor may not incorporate product(s) or implement Work covered by submittal.
 - b. Distribution: Electronic.

1.04 INFORMATIONAL SUBMITTALS

A. General:

1. Copies: Submit three copies, unless otherwise indicated in individual Specification section.
2. Refer to individual Specification sections for specific submittal requirements.
3. Engineer will review each submittal. If submittal meets conditions of the Contract, Engineer will forward copy to appropriate parties. If Engineer determines submittal does not meet conditions of the Contract and is therefore considered unacceptable, Engineer will retain one copy and return remaining copy with review comments to Contractor, and require that submittal be corrected and resubmitted.

B. Certificates:

1. General:
 - a. Provide notarized statement that includes signature of entity responsible for preparing certification.
 - b. Signed by officer or other individual authorized to sign documents on behalf of that entity.
2. Welding: In accordance with individual Specification sections.
3. Installer: Prepare written statements on manufacturer's letterhead certifying installer complies with requirements as specified in individual Specification section.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

4. Material Test: Prepared by qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
 5. Certificates of Successful Testing or Inspection: Submit when testing or inspection is required by Laws and Regulations or governing agency or specified in individual Specification sections.
 6. Manufacturer's Certificate of Compliance: In accordance with Section 01 61 00, Common Product Requirements.
 7. Manufacturer's Certificate of Proper Installation: In accordance with Section 01 43 33, Manufacturers' Services.
- C. Construction Photographs: In accordance with Section 01 31 13, Project Coordination, and as may otherwise be required in Contract Documents.
- D. Closeout Submittals: In accordance with Section 01 77 00, Closeout Procedures.
- E. Contractor-design Data (related to temporary construction):
1. Written and graphic information.
 2. List of assumptions.
 3. List of performance and design criteria.
 4. Summary of loads or load diagram, if applicable.
 5. Calculations.
 6. List of applicable codes and regulations.
 7. Name and version of software.
 8. Information requested in individual Specification section.
- F. Deferred Submittals: See Drawings for list of deferred submittals.
1. Contractor-design data related to permanent construction:
 - a. List of assumptions.
 - b. List of performance and design criteria.
 - c. Summary of loads or load diagram, if applicable.
 - d. Calculations.
 - e. List of applicable codes and regulations.
 - f. Name and version of design software.
 - g. Factory test results.
 - h. Informational submittals requested in individual Specification section.

2. Prior to installation of indicated structural or nonstructural element, equipment, distribution system, or component or its anchorage, submit calculations and test results of Contractor-designed components for review by Engineer. Documentation of review and indication of compliance with general design intent and Project criteria provided on Engineer's comment form as meets conditions of the Contract, along with completed submittal, shall be filed with permitting agency by Contractor and approved by permitting agency prior to installation.
- G. Manufacturer's Instructions: Written or published information that documents manufacturer's recommendations, guidelines, and procedures in accordance with individual Specification section.
- H. Payment:
1. Application for Payment: In accordance with Section 01 29 00, Payment Procedures.
 2. Schedule of Values: In accordance with Section 01 29 00, Payment Procedures.
- I. Quality Control Documentation: As required in Section 01 45 16.13, Contractor Quality Control.
- J. Schedules:
1. Schedule of Submittals: Prepare separately or in combination with Progress Schedule, Construction Progress Documentation.
 - a. Show for each, at a minimum, the following:
 - 1) Specification section number.
 - 2) Identification by numbering and tracking system as specified under Paragraph Transmittal of Submittal.
 - 3) Estimated date of submission to Engineer, including reviewing and processing time.
 - b. On a monthly basis, submit updated Schedule of Submittals to Engineer if changes have occurred or resubmittals are required.
 2. Progress Schedules: Submit Bar Chart Schedule for Construction Progress Documentation.
- K. Special Guarantee: Supplier's written guarantee as required in individual Specification sections.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- L. Statement of Qualification: Evidence of qualification, certification, or registration as required in Contract Documents to verify qualifications of professional land surveyor, engineer, materials testing laboratory, specialty Subcontractor, trade, Specialist, consultant, installer, and other professionals.
- M. Submittals Required by Laws, Regulations, and Governing Agencies:
 - 1. Promptly submit promptly notifications, reports, certifications, payrolls, and otherwise as may be required, directly to the applicable federal, state, or local governing agency or their representative.
 - 2. Transmit to Engineer for Owner's records one copy of correspondence and transmittals (to include enclosures and attachments) between Contractor and governing agency.
- N. Test, Evaluation, and Inspection Reports:
 - 1. General: Shall contain signature of person responsible for test or report.
 - 2. Factory:
 - a. Identification of product and Specification section, type of inspection or test with referenced standard or code.
 - b. Date of test, Project title and number, and name and signature of authorized person.
 - c. Test results.
 - d. If test or inspection deems material or equipment not in compliance with Contract Documents, identify corrective action necessary to bring into compliance.
 - e. Provide interpretation of test results, when requested by Engineer.
 - f. Other items as identified in individual Specification sections.
 - 3. Field:
 - a. As a minimum, include the following:
 - 1) Project title and number.
 - 2) Date and time.
 - 3) Record of temperature and weather conditions.
 - 4) Identification of product and Specification section.
 - 5) Type and location of test, Sample, or inspection, including referenced standard or code.
 - 6) Date issued, testing laboratory name, address, and telephone number, and name and signature of laboratory inspector.
 - 7) If test or inspection deems material or equipment not in compliance with Contract Documents, identify corrective action necessary to bring into compliance.
 - 8) Provide interpretation of test results, when requested by Engineer.
 - 9) Other items as identified in individual Specification sections.

1.05 SUPPLEMENTS

A. The supplement listed below, following “End of Section”, is part of this Specification.

1. Forms: Transmittal of Contractor’s Submittal.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

<h2 style="margin: 0;">Jacobs TRANSMITTAL OF CONTRACTOR'S SUBMITTAL</h2> <p style="margin: 0;">(ATTACH TO EACH SUBMITTAL)</p>			
DATE: _____			
TO: _____ _____ _____ _____ _____ FROM: _____ <div style="text-align: center; padding: 5px;">Contractor</div> _____ _____ _____	Submittal No.: _____ <input type="checkbox"/> New Submittal <input type="checkbox"/> Resubmittal Project: _____ Project No.: _____ Specification Section No.: _____ <p style="text-align: center; margin: 0;">(Cover only one section with each transmittal)</p> Schedule Date of Submittal: _____		
SUBMITTAL TYPE:	<input type="checkbox"/> Shop Drawing	<input type="checkbox"/> Sample	<input type="checkbox"/> Informational
	<input type="checkbox"/> Deferred		

The following items are hereby submitted:

Number of Copies	Description of Item Submitted (Type, Size, Model Number, Etc.)	Spec. and Para. No.	Drawing or Brochure Number	Contains Variation to Contract	
				No	Yes

Contractor hereby certifies that (i) Contractor has complied with the requirements of Contract Documents in preparation, review, and submission of designated Submittal and (ii) the Submittal is complete and in accordance with the Contract Documents and requirements of laws and regulations and governing agencies.

By: _____
Contractor (Authorized Signature)

SECTION 01 43 33
MANUFACTURERS' SERVICES

PART 1 GENERAL

1.01 DEFINITIONS

- A. Person-Day: One person for 8 hours within regular Contractor working hours.

1.02 SUBMITTALS

- A. Informational Submittals: Submit qualifications of the Manufacturer's representative(s) that will be providing startup service not less than 21 days prior to the scheduled training.

1.03 QUALIFICATION OF MANUFACTURER'S REPRESENTATIVE

- A. Authorized representative of the manufacturer shall be factory trained and experienced in the technical applications, installation, operation, and maintenance of respective equipment, subsystem, or system, with full authority by the equipment manufacturer to issue the certifications required of the manufacturer. Additional qualifications may be specified elsewhere.
- B. Representative subject to acceptance by Owner. No substitute representatives will be allowed unless prior written approval by such has been given.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 FULFILLMENT OF SPECIFIED MINIMUM SERVICES

- A. Furnish manufacturers' services when required by an individual Specification section, to meet the requirements of this section.
- B. Where time is necessary in excess of that stated in the Specifications for manufacturers' services, or when a minimum time is not specified, the time required to perform the specified services shall be considered incidental and shall be provided at no additional cost to the Owner.
- C. Schedule manufacturer' services to avoid conflict with other onsite testing or other manufacturers' onsite services.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- D. Determine, before scheduling services, that all conditions necessary to allow successful testing have been met.
- E. Only those days of service approved by Engineer will be credited to fulfill the specified minimum services.
- F. When specified in individual Specification sections, manufacturer's onsite services shall include:
 - 1. Assistance during product (system, subsystem, or component) installation to include observation, guidance, instruction of Contractor's assembly, erection, installation or application procedures.
 - 2. Inspection, checking, and adjustment as required for product (system, subsystem, or component) to function as warranted by manufacturer and necessary to furnish Manufacturer's Certificate of Proper Installation.
 - 3. Providing, on a daily basis, copies of all manufacturers' representatives' field notes and data to Owner.
 - 4. Revisiting the site as required to correct problems until installation and operation are acceptable to Engineer.
 - 5. Resolution of assembly or installation problems attributable to, or associated with, respective manufacturer's products and systems.
 - 6. Assistance during functional and performance testing, and facility startup and evaluation.
 - 7. Training of Owner's personnel in the operation and maintenance of respective product as required.
 - 8. Additional requirements may be specified elsewhere.

3.02 MANUFACTURER'S CERTIFICATE OF PROPER INSTALLATION

- A. A Manufacturer's Certificate of Proper Installation form, a copy of which is attached to this section, shall be completed and signed by the equipment manufacturer's representative.
- B. Such form shall certify that the signing party is a duly authorized representative of the manufacturer, is empowered by the manufacturer to inspect, approve, and operate their equipment and is authorized to make recommendations required to assure that the equipment is complete and operational.

3.03 SUPPLEMENTS

A. The supplement listed below, following “End of Section,” is part of this Specification.

1. Manufacturer's Certificate of Proper Installation.

END OF SECTION

MANUFACTURER'S CERTIFICATE OF PROPER INSTALLATION

OWNER _____ EQPT SERIAL NO: _____

EQPT TAG NO: _____ EQPT/SYSTEM: _____

CONTRACT NO: _____ SPEC. SECTION: _____

I hereby certify that the above-referenced equipment/system has been:

(Check Applicable)

- Installed in accordance with Manufacturer's recommendations.
- Inspected, checked, and adjusted.
- Serviced with proper initial lubricants.
- Electrical and mechanical connections meet quality and safety standards.
- All applicable safety equipment has been properly installed.
- Functional tests.
- System has been performance tested, and meets or exceeds specified performance requirements. (When complete system of one manufacturer)

Note: Attach any performance test documentation from manufacturer.

Comments: _____

I, the undersigned Manufacturer's Representative, hereby certify that I am (i) a duly authorized representative of the manufacturer, (ii) empowered by the manufacturer to inspect, approve, and operate his equipment and (iii) authorized to make recommendations required to assure that the equipment furnished by the manufacturer is complete and operational, except as may be otherwise indicated herein. I further certify that all information contained herein is true and accurate.

Date: _____, 20__

Vendor: _____

By Vendor's Authorized Representative: _____

(Authorized Signature)

_____ Date: _____

SECTION 01 61 00
COMMON PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 DEFINITIONS

A. Products:

1. New items for incorporation in the Work, whether purchased by Contractor or Owner for the Project, or taken from previously purchased stock, and may also include existing materials or components required for reuse.
2. Includes the terms material, equipment, machinery, components, subsystem, system, hardware, software, and terms of similar intent and is not intended to change meaning of such other terms used in Contract Documents, as those terms are self-explanatory and have well recognized meanings in construction industry.
3. Items identified by manufacturer's product name, including make or model designation, indicated in manufacturer's published product literature, that is current as of the date of the Contract Documents.

1.02 DESIGN REQUIREMENTS

A. Where Contractor design is specified, design of installation, systems, equipment, and components, including supports and anchorage, shall be in accordance with provisions of latest edition of 2015 International Building Code (IBC) by International Code Council, the Occupational Safety and Health Administration (OSHA), and state and local amendments and regulations. Refer to the drawings for structural design criteria and equipment manufacturers published operating loads.

1. Refer to General Structural Notes on Drawings for design criteria.

B. Where Contractor design is specified, installation, systems, equipment, and components, including supports and anchorage shall be designed by a qualified professional engineer registered in the State of Alabama.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

1.03 QUALITY ASSURANCE

A. Qualifications:

1. Where Contractor design is specified, the following submittals shall be sealed and signed by a qualified professional engineer registered in the State of Alabama:
 - a. Shop, fabrication, erection and installation drawings.
 - b. Calculations.

1.04 ENVIRONMENTAL REQUIREMENTS

- A. Altitude: Provide materials and equipment suitable for installation and operation under rated conditions at 400 feet above sea level.
- B. Provide equipment and devices installed outdoors or in unheated enclosures capable of continuous operation within an ambient temperature range of 100 degrees F to 15 degrees F.

1.05 PREPARATION FOR SHIPMENT

- A. When practical, factory assemble products. 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, name of Project and Contractor, equipment number, and approximate weight. Include complete packing list and bill of materials with each shipment.
- C. Extra Materials, Special Tools, Test Equipment, and Expendables:
 1. Furnish as required by individual Specifications.
 2. Schedule:
 - a. Ensure that shipment and delivery occurs concurrent with shipment of associated equipment.
 - b. Transfer to Owner shall occur immediately subsequent to Contractor's acceptance of equipment from Supplier.
 3. Packaging and Shipment:
 - a. Package and ship extra materials and special tools to avoid damage during long term storage in original cartons insofar as possible, or in appropriately sized, hinged-cover, wood, plastic, or metal box.

- b. Prominently displayed on each package, the following:
 - 1) Manufacturer's part nomenclature and number, consistent with Operation and Maintenance Manual identification system.
 - 2) Applicable equipment description.
 - 3) Quantity of parts in package.
 - 4) Equipment manufacturer.
 - 4. Deliver materials to Site.
 - a. H.C. Morgan WPCF.
616 Sandhill Rd., Auburn, AL, 36830.
 - 5. Replace extra materials and special tools found to be damaged or otherwise inoperable at time of transfer to Owner.
- D. Request a minimum 7-day advance notice of shipment from manufacturer.
- E. Factory Test Results: Reviewed and accepted by Engineer before product shipment as required in individual Specification sections.

1.06 DELIVERY AND INSPECTION

- A. Deliver products in accordance with accepted current Progress Schedule and coordinate to avoid conflict with the Work and conditions at Site. Deliver anchor bolts and templates sufficiently early to permit setting prior to placement of structural concrete.
- B. Deliver products in undamaged condition, in manufacturer's original container or packaging, with identifying labels intact and legible. Include on label, date of manufacture and shelf life, where applicable.
- C. Unload products in accordance with manufacturer's instructions for unloading or as specified. Record receipt of products at Site. Promptly inspect for completeness and evidence of damage during shipment.
- D. Remove damaged products from Site and expedite delivery of identical new undamaged products, and remedy incomplete or lost products to provide that specified, so as not to delay progress of the Work.

1.07 HANDLING, STORAGE, AND PROTECTION

- A. Handle and store products in accordance with manufacturer's written instructions and in a manner to prevent damage. Store in approved storage yards or sheds provided in accordance with Section 01 50 00, Temporary Facilities and Controls. Provide manufacturer's recommended maintenance during storage, installation, and until products are accepted for use by Owner.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- B. Manufacturer's instructions for material requiring special handling, storage, or protection shall be provided prior to delivery of material.
- C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to ensure that products are maintained under specified conditions, and free from damage or deterioration. Keep running account of products in storage to facilitate inspection and to estimate progress payments for products delivered, but not installed in the Work.
- D. Store electrical, instrumentation, and control products, and equipment with bearings in weather-tight structures maintained above 60 degrees F. Protect electrical, instrumentation, and control products, and insulate against moisture, water, and dust damage. Connect and operate continuously space heaters furnished in electrical equipment.
- E. Store fabricated products above ground on blocking or skids, and prevent soiling or staining. Store loose granular materials in well-drained area on solid surface to prevent mixing with foreign matter. Cover products that are subject to deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.
- F. Store finished products that are ready for installation in dry and well-ventilated areas. Do not subject to extreme changes in temperature or humidity.
- G. After installation, provide coverings to protect products from damage due to traffic and construction operations. Remove coverings when no longer needed.
- H. Hazardous Materials: Prevent contamination of personnel, storage area, and Site. Meet requirements of product specification, codes, and manufacturer's instructions.

PART 2 PRODUCTS

2.01 GENERAL

- A. Provide manufacturer's standard materials suitable for service conditions, unless otherwise specified in the individual Specifications.
- B. Where product specifications include a named manufacturer, with or without model number, and also include performance requirements, named manufacturer's products must meet the performance specifications.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- C. Like items of products furnished and installed in the Work shall be end products of one manufacturer and of the same series or family of models to achieve standardization for appearance, operation and maintenance, spare parts and replacement, manufacturer's services, and implement same or similar process instrumentation and control functions in same or similar manner.
- D. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.
- E. Provide interchangeable components of the same manufacturer, for similar components, unless otherwise specified.
- F. Equipment, Components, Systems, and Subsystems: Design and manufacture with due regard for health and safety of operation, maintenance, and accessibility, durability of parts, and shall comply with applicable OSHA, state, and local health and safety regulations.
- G. Regulatory Requirement: Coating materials shall meet federal, state, and local requirements limiting the emission of volatile organic compounds and for worker exposure.
- H. Safety Guards: Provide for all belt or chain drives, fan blades, couplings, or other moving or rotary parts. Cover rotating part on all sides. Design for easy installation and removal. Use 16-gauge or heavier; galvanized steel, aluminum coated steel, or galvanized or aluminum coated 1/2-inch mesh expanded steel. Provide galvanized steel accessories and supports, including bolts. For outdoors application, prevent entrance of rain and dripping water.
- I. Authority Having Jurisdiction (AHJ):
 - 1. Provide the Work in accordance with NFPA 70, National Electrical Code (NEC). Where required by the AHJ, material and equipment shall be labeled or listed by a nationally recognized testing laboratory or other organization acceptable to the AHJ in order to provide a basis for approval under NEC.
 - 2. Materials and equipment manufactured within the scope of standards published by Underwriters Laboratories, Inc. shall conform to those standards and shall have an applied UL listing mark.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- J. Equipment Finish:
 - 1. Provide manufacturer's standard finish and color, except where specific color is indicated.
 - 2. If manufacturer has no standard color, provide equipment with gray finish as approved by Engineer.
- K. Special Tools and Accessories: Furnish to Owner, upon acceptance of equipment, all accessories required to place each item of equipment in full operation. These accessory items include, but are not limited to, adequate oil and grease (as required for first lubrication of equipment after field testing), light bulbs, fuses, hydrant wrenches, valve keys, handwheels, chain operators, special tools, and other spare parts as required for maintenance.
- L. Lubricant: Provide initial lubricant recommended by equipment manufacturer in sufficient quantity to fill lubricant reservoirs and to replace consumption during testing, startup, and operation until final acceptance by Owner.
- M. Components and Materials in Contact with Water for Human Consumption: Comply with the requirements of the Safe Drinking Water Act and other applicable federal, state, and local requirements. Provide certification by manufacturer or an accredited certification organization recognized by the Authority Having Jurisdiction that components and materials comply with the maximum lead content standard in accordance with NSF/ANSI 61 and NSF/ANSI 372.
 - 1. Use or reuse of components and materials without a traceable certification is prohibited.

2.02 FABRICATION AND MANUFACTURE

- A. General:
 - 1. Manufacture parts to U.S.A. standard sizes and gauges.
 - 2. Two or more items of the same type shall be identical, by the same manufacturer, and interchangeable.
 - 3. Design structural members for anticipated shock and vibratory loads.
 - 4. Use 1/4-inch minimum thickness for steel that will be submerged, wholly or partially, during normal operation.
 - 5. Modify standard products as necessary to meet performance Specifications.

B. Lubrication System:

1. Require no more than weekly attention during continuous operation.
2. Convenient and accessible; oil drains with bronze or stainless steel valves and fill-plugs easily accessible from the normal operating area or platform. Locate drains to allow convenient collection of oil during oil changes without removing equipment from its installed position.
3. Provide constant-level oilers or oil level indicators for oil lubrication systems.
4. For grease type bearings, which are not easily accessible, provide and install stainless steel tubing; protect and extend tubing to convenient location with suitable grease fitting.

2.03 SOURCE QUALITY CONTROL

- A. Where Specifications call for factory testing to be witnessed by Engineer, notify Engineer not less than 14 days prior to scheduled test date, unless otherwise specified.
- B. Calibration Instruments: Bear the seal of a reputable laboratory certifying instrument has been calibrated within the previous 12 months to a standard endorsed by the National Institute of Standards and Technology (NIST).
- C. Factory Tests: Perform in accordance with accepted test procedures and document successful completion.

PART 3 EXECUTION

3.01 INSPECTION

- A. Inspect materials and equipment for signs of pitting, rust decay, or other deleterious effects of storage. Do not install material or equipment showing such effects. Remove damaged material or equipment from the Site and expedite delivery of identical new material or equipment. Delays to the Work resulting from material or equipment damage that necessitates procurement of new products will be considered delays within Contractor's control.

3.02 MANUFACTURER'S CERTIFICATE OF COMPLIANCE

- A. When so specified, a Manufacturer's Certificate of Compliance, a copy of which is attached to this section, shall be completed in full, signed by entity supplying the product, material, or service, and submitted prior to shipment of product or material or execution of the services.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- B. Engineer may permit use of certain materials or assemblies prior to sampling and testing if accompanied by accepted certification of compliance.
- C. Such form shall certify proposed product, material, or service complies with that specified. Attach supporting reference data, affidavits, and certifications as appropriate.
- D. May reflect recent or previous test results on material or product, if acceptable to Engineer.

3.03 INSTALLATION

- A. Equipment Drawings show general locations of equipment, devices, and raceway, unless specifically dimensioned.
- B. No shimming between machined surfaces is allowed.
- C. Install the Work in accordance with NECA Standard of Installation, unless otherwise specified.
- D. Repaint painted surfaces that are damaged prior to equipment acceptance.
- E. Do not cut or notch any structural member or building surface without specific approval of Engineer.
- F. Handle, install, connect, clean, condition, and adjust products in accordance with manufacturer's instructions, and as may be specified. Retain a copy of manufacturers' instruction at Site, available for review at all times.
- G. For material and equipment specifically indicated or specified to be reused in the Work:
 - 1. Use special care in removal, handling, storage, and reinstallation to assure proper function in the completed Work.
 - 2. Arrange for transportation, storage, and handling of products that require offsite storage, restoration, or renovation. Include costs for such Work in the Contract Price.

3.04 FIELD FINISHING

- A. In accordance with Section 09 90 00, Painting and Coating, and individual Specification sections.

3.05 ADJUSTMENT AND CLEANING

- A. Perform required adjustments, tests, operation checks, and other startup activities.

3.06 LUBRICANTS

- A. Fill lubricant reservoirs and replace consumption during testing, startup, and operation prior to acceptance of equipment by Owner.

3.07 SUPPLEMENTS

- A. The supplement listed below, following “End of Section”, is part of this Specification.

- 1. Form: Manufacturer’s Certificate of Compliance.

END OF SECTION

MANUFACTURER'S CERTIFICATE OF COMPLIANCE

OWNER: _____ PRODUCT, MATERIAL, OR SERVICE
PROJECT NAME: _____ SUBMITTED: _____
PROJECT NO: _____

Comments: _____

I hereby certify that the above-referenced product, material, or service called for by the Contract for the named Project will be furnished in accordance with all applicable requirements. I further certify that the product, material, or service are of the quality specified and conform in all respects with the Contract requirements, and are in the quantity shown.

Date of Execution: _____, 20__

Manufacturer: _____

Manufacturer's Authorized Representative (*print*): _____

(Authorized Signature)

SECTION 01 77 00
CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 SUBMITTALS

A. Informational Submittals:

1. Submit prior to application for final payment.
 - a. Record Documents: As required in General Conditions.
 - b. Special bonds, Special Guarantees, and Service Agreements.
 - c. Consent of Surety to Final Payment: As required in General Conditions.
 - d. Releases or Waivers of Liens and Claims: As required in General Conditions.
 - e. Releases from Agreements.
 - f. Final Application for Payment: Submit in accordance with procedures and requirements stated in Section 01 29 00, Payment Procedures.
 - g. Extra Materials: As required by individual Specification sections.

1.02 RECORD DOCUMENTS

A. Quality Assurance:

1. Furnish qualified and experienced person, whose duty and responsibility shall be to maintain record documents.
2. Accuracy of Records:
 - a. Coordinate changes within record documents, making legible and accurate entries on each sheet of Drawings and other documents where such entry is required to show change.
 - b. Purpose of Project record documents is to document factual information regarding aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive Site measurement, investigation, and examination.
3. Make entries within 24 hours after receipt of information that a change in the Work has occurred.
4. Prior to submitting each request for progress payment, request Engineer's review and approval of current status of record documents. Failure to properly maintain, update, and submit record documents may result in a deferral by Engineer to recommend whole or any part of Contractor's Application for Payment, either partial or final.

1.03 RELEASES FROM AGREEMENTS

- A. Furnish Owner written releases from property owners or public agencies where side agreements or special easements have been made, or where Contractor's operations have not been kept within the Owner's construction right-of-way.
- B. In the event Contractor is unable to secure written releases:
 - 1. Inform Owner of the reasons.
 - 2. Owner or its representatives will examine the Site, and Owner will direct Contractor to complete the Work that may be necessary to satisfy terms of the side agreement or special easement.
 - 3. Should Contractor refuse to perform this Work, Owner reserves right to have it done by separate contract and deduct cost of same from Contract Price, or require Contractor to furnish a satisfactory bond in a sum to cover legal Claims for damages.
 - 4. When Owner is satisfied that the Work has been completed in agreement with Contract Documents and terms of side agreement or special easement, right is reserved to waive requirement for written release if: (i) Contractor's failure to obtain such statement is due to grantor's refusal to sign, and this refusal is not based upon any legitimate Claims that Contractor has failed to fulfill terms of side agreement or special easement, or (ii) Contractor is unable to contact or has had undue hardship in contacting grantor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 MAINTENANCE OF RECORD DOCUMENTS

- A. General:
 - 1. Promptly following commencement of Contract Times, secure from Engineer at no cost to Contractor, one complete set of Contract Documents.
 - 2. Label or stamp each record document with title, "RECORD DOCUMENTS," in neat large printed letters.
 - 3. Record information concurrently with construction progress and within 24 hours after receipt of information that change has occurred. Do not cover or conceal Work until required information is recorded.

B. Preservation:

1. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
2. Make documents and Samples available at all times for observation by Engineer.

C. Making Entries on Drawings:

1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe change by graphic line and note as required.
 - a. Color Coding:
 - 1) Green when showing information deleted from Drawings.
 - 2) Red when showing information added to Drawings.
 - 3) Blue and circled in blue to show notes.
 2. Date entries.
 3. Call attention to entry by “cloud” drawn around area or areas affected.
 4. Legibly mark to record actual changes made during construction, including, but not limited to:
 - a. Depths of various elements of foundation in relation to finished first floor data if not shown or where depth differs from that shown.
 - b. Horizontal and vertical locations of existing and new Underground Facilities and appurtenances, and other underground structures, equipment, or Work. Reference to at least two measurements to permanent surface improvements.
 - c. Location of internal utilities and appurtenances concealed in the construction referenced to visible and accessible features of the structure.
 - d. Locate existing facilities, piping, equipment, and items critical to the interface between existing physical conditions or construction and new construction.
 - e. Changes made by Addenda and Field Orders, Work Change Directive, Change Order, and Engineer’s written interpretation and clarification using consistent symbols for each and showing appropriate document tracking number.
5. Dimensions on Schematic Layouts: Show on record drawings, by dimension, the centerline of each run of items such as are described in previous subparagraph above.
 - a. Clearly identify the item by accurate note such as “cast iron drain,” “galv. water,” and the like.
 - b. Show, by symbol or note, vertical location of item (“under slab,” “in ceiling plenum,” “exposed,” and the like).
 - c. Make identification so descriptive that it may be related reliably to Specifications.

3.02 FINAL CLEANING

- A. At completion of the Work or of a part thereof and immediately prior to Contractor's request for certificate of Substantial Completion; or if no certificate is issued, immediately prior to Contractor's notice of completion, clean entire Site or parts thereof, as applicable.
1. Leave the Work and adjacent areas affected in a cleaned condition satisfactory to Owner and Engineer.
 2. Remove grease, dirt, dust, paint or plaster splatter, stains, labels, fingerprints, and other foreign materials from exposed surfaces.
 3. Repair, patch, and touch up marred surfaces to specified finish and match adjacent surfaces.
 4. Clean all windows.
 5. Broom clean exterior paved driveways and parking areas.
 6. Hose clean sidewalks, loading areas, and others contiguous with principal structures.
 7. Rake clean all other surfaces.
 8. Leave water courses, gutters, and ditches open and clean.
- B. Use only cleaning materials recommended by manufacturer of surfaces to be cleaned.

END OF SECTION

SECTION 09 90 00
PAINTING AND COATING

PART 1 GENERAL

1.01 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
1. American Water Works Association (AWWA):
 - a. C209, Cold-Applied Tape Coatings for the Exterior of Special Sections, Connections, and Fittings for Steel Water Pipelines.
 - b. C213, Fusion-Bonded Epoxy Coating for the Interior and Exterior of Steel Water Pipelines.
 - c. C214, Tape Coating Systems for the Exterior of Steel Water Pipelines.
 2. Environmental Protection Agency (EPA).
 3. NACE International (NACE): SP0188, Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates.
 4. NSF International (NSF):
 - a. NSF/ANSI 61, Drinking Water System Components - Health Effects.
 - b. NSF/ANSI 372, Drinking Water System Components - Lead Content.
 5. Occupational Safety and Health Act (OSHA).
 6. National Association of Pipe Fabricators, Inc. (NAPF):
 - a. NAPF 500-03-01, Solvent Cleaning.
 - b. NAPF 500-03-01, Hand Tool Cleaning.
 - c. NAPF 500-03-03, Power Tool Cleaning.
 - d. NAPF 500-03-04, Abrasive Blast Cleaning for Ductile Iron Pipe.
 - e. NAPF 500-03-04, Abrasive Blast Cleaning for Cast Iron Pipe Fittings.
 7. The Society for Protective Coatings (SSPC):
 - a. PA 2, Procedure for Determining Conformance to Dry Coating Thickness Requirements.
 - b. PA 10, Guide to Safety and Health Requirements for Industrial Painting Projects.
 - c. SP 1, Solvent Cleaning.
 - d. SP 2, Hand Tool Cleaning.
 - e. SP 3, Power Tool Cleaning.
 - f. SP 5, White Metal Blast Cleaning.
 - g. SP 6, Commercial Blast Cleaning.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- h. SP 7, Joint Surface Preparation Standard Brush-Off Blast Cleaning.
- i. SP 10, Near-White Blast Cleaning.
- j. SP 11, Power Tool Cleaning to Bare Metal.
- k. SP 13, Surface Preparation of Concrete.
- l. SP 16, Brush Off Blast Cleaning of Non-Ferrous Metals.
- m. Guide 15, Field Methods for Retrieval and Analysis of Soluble Salts on Steel and Other Nonporous Substrates.

1.02 DEFINITIONS

A. Terms used in this section:

- 1. Coverage: Total minimum dry film thickness in mils or square feet per gallon.
- 2. FRP: Fiberglass Reinforced Plastic.
- 3. HCl: Hydrochloric Acid.
- 4. MDFT: Minimum Dry Film Thickness, mils.
- 5. MDFTPC: Minimum Dry Film Thickness per Coat, mils.
- 6. Mil: Thousandth of an inch.
- 7. PDS: Product Data Sheet.
- 8. PSDS: Paint System Data Sheet.
- 9. PVC: Polyvinyl Chloride.
- 10. SFPG: Square Feet per Gallon.
- 11. SFPGPC: Square Feet per Gallon per Coat.
- 12. SP: Surface Preparation.

1.03 SUBMITTALS

A. Action Submittals:

- 1. Shop Drawings:
 - a. Data Sheets:
 - 1) For each product, furnish a Product Data Sheet (PDS), the manufacturer's technical data sheets, and paint colors available (where applicable). The PDS form is appended to the end of this section.
 - 2) For each paint system, furnish a Paint System Data Sheet (PSDS). The PSDS form is appended to the end of this section.
 - 3) Submit required information on a system by system basin identifying all areas, equipment, and surfaces to be painted with each system.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- 4) Technical and performance information that demonstrates compliance with Specification.
 - 5) Furnish copies of paint system submittals to the coating applicator.
 - 6) Indiscriminate submittal of only manufacturer's literature is not acceptable.
 - b. Detailed chemical and gradation analysis for each proposed abrasive material.
 - c. Procedures for repairing damaged coatings during installation of new piping and equipment.
 - d. Installation details for protective coatings applied to concrete:
 - 1) Expansion joints and structural isolation joints.
 - 2) Construction joints.
 - 3) Cracks.
 - 4) Wall base details.
 - 5) Gate frames.
 - 6) Equipment bolts (when installed before or after epoxy coating application).
 - 7) Metal angle frames at trenches, gratings, or hatches.
 - 8) Transition and termination detail at edge of epoxy coating system.
 - 9) Pipe penetrations (vertical and horizontal).
 - 10) Other details specific to the structure being coated.
2. Samples:
- a. Proposed Abrasive Materials: Minimum 5-pound sample for each type.
 - b. Reference Panel:
 - 1) Surface Preparation:
 - a) Prior to start of surface preparation, furnish a 4-inch by 4-inch steel panel for each grade of sandblast specified herein, prepared to specified requirements.
 - b) Provide panel representative of the steel used; prevent deterioration of surface quality.
 - c) Panel to be reference source for inspection upon approval by Engineer.
 - 2) Paint:
 - a) Unless otherwise specified, before painting work is started, prepare minimum 8-inch by 10-inch sample with type of paint and application specified on similar substrate to which paint is to be applied.
 - b) Furnish additional samples as required until colors, finishes, and textures are approved.
 - c) Approved samples to be the quality standard for final finishes.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

B. Informational Submittals:

1. Applicator's Qualification: List of references substantiating experience.
2. Coating Manufacturer's Certificate of Compliance, in accordance with Section 01 61 00, Common Product Requirements.
3. Letter from coating manufacturer stating that:
 - a. Applicator has notified manufacturer of proposed installation.
 - b. Manufacturer is in agreement with the intended application.
 - c. Applicator is qualified to do the Work and meets the quality assurance minimum experience requirements.
4. Applicator's quality control program, including, but not limited to:
 - a. Environmental test methods and frequency.
 - b. Steel surface temperature and profile measurement procedure and frequency.
 - c. Recordkeeping form.
 - d. Submit Quality Control Plan.
5. Factory Applied Coatings: Manufacturer's certification stating factory applied coating system meets or exceeds requirements specified.
6. Manufacturer's written verification that submitted material is suitable for the intended use.
7. If the manufacturer of finish coating differs from that of shop primer, provide finish coating manufacturer's written confirmation that materials are compatible.
8. Manufacturer's written instructions and special details for applying each type of paint.

C. Quality Control Submittals:

1. Applicator's Qualification: List of references substantiating experience.
2. Manufacturer's written instructions and special details for applying each type of paint.
3. Verification of surface preparation methods for approval prior to coating application.
4. Field Testing: Inspection and test records.
5. Manufacturers' Certificate of Proper Installation.

1.04 QUALITY ASSURANCE

A. Applicator Qualifications:

1. Minimum 5 years' experience in application of specified products.
2. Approved by manufacturer of specified coating systems.

- B. The Applicator is solely responsible for quality control inspection and testing. Applicator shall monitor and be responsible for all environmental, surface preparation, application and quality control testing compliance at the locations where coating work is undertaken.
- C. Regulatory Requirements:
 - 1. Meet federal, state, and local requirements limiting the emission of volatile organic compounds.
 - 2. Perform surface preparation and painting in accordance with recommendations of the following:
 - a. Paint manufacturer's instructions.
 - b. SSPC PA 3, Guide to Safety in Paint Applications.
 - c. Federal, state, and local agencies having jurisdiction.
- D. Industry Best Practices:
 - 1. Perform surface preparation and painting in accordance with recommendations of the following:
 - a. Paint manufacturer's instructions.
 - b. SSPC-PA Guide 10.
 - 2. Do not apply paint in temperatures outside of manufacturer's recommended maximum or minimum allowable, in dust, in smoke-laden atmosphere, in damp or humid weather.
 - 3. Do not perform abrasive blast cleaning whenever relative humidity exceeds 85 percent or whenever surface temperature is less than 5 degrees F above dewpoint of ambient air.
- E. Mockup:
 - 1. Secondary Clarifier Mechanism:
 - a. Before proceeding with Work under this section, finish one complete space or item of each color scheme required showing selected colors, finish texture, materials, quality of work, and special details.
 - b. After Engineer approval, sample spaces or items shall serve as a standard for similar work throughout the Project.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

1.05 DELIVERY, STORAGE, AND HANDLING

A. Shipping:

1. Where precoated items are to be shipped to the Site, protect coating from damage. Batten coated items to prevent abrasion.
2. Protect shop painted surfaces during shipment and handling by suitable provisions including padding, blocking, and use of canvas or nylon slings.

B. Storage:

1. Store products in a protected area that is heated or cooled to maintain temperatures within the range recommended by paint manufacturer.
2. Primed surfaces shall not be exposed to weather for more than 2 months before being topcoated, or less time if recommended by coating manufacturer.

1.06 PROJECT CONDITIONS

A. Environmental Requirements:

1. Abrasive blasting and coating of clarifier mechanisms must be performed and completed during the months of September through February.
2. Provide environmental controls necessary to meet application and curing requirements of the coatings used.
3. Do not apply paint in temperatures or moisture conditions outside of manufacturer's recommended maximum or minimum allowable.
4. Do not perform final abrasive blast cleaning whenever relative humidity exceeds 85 percent, or whenever surface temperature is less than 5 degrees F above dew point of ambient air.
5. If painting is to occur outside of required window, Provide a temporary enclosure over the clarifier to allow field abrasive blasting and painting work to be performed in a controlled environment. Submit proposed enclosure procedure to the Engineer for review prior to the beginning of the Work.
6. Filter the air escaping the enclosure as required in order to prevent dust from field blasting operations from entering the atmosphere. Verify effectiveness using of dust containment using.

B. Concrete:

1. Apply coating only when substrate, ambient air, and coating material are within manufacturer's recommended range. It is the Subcontractor's responsibility to provide temporary facilities that may be required for proper installation of coating, such as covers, enclosures, air heating and cooling, and dehumidification.
2. Moisture content shall be within manufacturer's recommended range for product application.

1.07 SPECIAL GUARANTEE

- A. Provide extended guarantee or warranty. Special guarantee shall provide for the correction, or removal and replacement if required, of Work specified in this Specification section found defective during a period of 12 months after the date of Substantial Completion.
- B. 12 Month Inspection: The Owner will conduct an inspection of coated secondary clarifier surfaces prior to the end of the Warranty period. The Contractor will be notified in advance of this inspection and may attend at its option and at no additional cost to the Owner. A list of all coating defects and failures identified during the inspection will be prepared and transmitted to the Contractor. The list will serve as notice of repairs required under warranty at no additional cost to the Owner.
- C. Warranty Repairs:
 1. All defective coatings identified at the end of the 12-month warranty period shall be repaired by the Contractor using coating materials, equipment, and methods similar to those used in the original work. Materials shall be of fresh manufacture and within the manufacturer's stated shelf life at the time of application. The Contractor shall provide an extended warranty of 1 year for all repairs.
 2. Contractor shall complete all required coating repairs within 30 calendar days of the 12th Month Inspection.

PART 2 PRODUCTS

2.01 GENERAL

- A. Components and Materials in Contact with Water for Human Consumption: Comply with the requirements of the Safe Drinking Water Act and other applicable federal, state, and local requirements. Provide certification by manufacturer or an accredited certification organization recognized by the Authority Having Jurisdiction that components and materials comply with the maximum lead content standard in accordance with NSF/ANSI 61 and NSF/ANSI 372.
 - 1. Use or reuse of components and materials without a traceable certification is prohibited.

2.02 MANUFACTURERS

- A. Nationally recognized manufacturers of paints and protective coatings who are regularly engaged in the production of such materials for essentially identical service conditions.
- B. Minimum of 10 years' verifiable experience in manufacture of specified product.
- C. Each of the following manufacturers is capable of supplying most of the products specified herein:
 - 1. Sherwin Williams.
 - 2. Carboline.
 - 3. Tnemec.
 - 4. International Coatings.

2.03 ABRASIVE MATERIALS

- A. Select abrasive type and size to produce surface profile that meets coating manufacturer's recommendations for specific primer and coating system to be applied.

2.04 PAINT MATERIALS

A. General:

1. Manufacturer's highest quality products suitable for intended service.
2. Compatibility: Only compatible materials from a single manufacturer shall be used in the Work. Particular attention shall be directed to compatibility of primers and finish coats.
3. Thinners, Cleaners, Driers, and Other Additives: As recommended by coating manufacturer.

B. Products:

Product	Definition
Acrylic Latex	High Dispersion Pure Acrylic Polymer – Semigloss or Gloss
Acrylic Latex (Flat)	Flat latex
Acrylic Sealer	Clear acrylic
Alkyd Enamel	Optimum quality, gloss or semigloss finish as required, medium long oil
Bituminous Paint	Single-component, coal-tar pitch based
Concrete Restoration Material	See Sections 03 01 32, Repair of Vertical and Overhead Concrete Surfaces and 03 01 33, Repair of Horizontal Concrete Surfaces.
Concrete Primer	Coating Manufacturer's recommendations
Coal-Tar Epoxy	Amine, polyamide, or phenolic epoxy type 70% volume solids minimum, suitable for immersion service
Epoxy Filler/Surfacer	Generic Type: Epoxy Modified Cementitious Mortar Solids By Volume: 100% Performance Data: Bond Strength: ASTM C882 (Bond Strength by Slant Shear) Bond Strength: ASTM D7234 (50 mm Dolly) Splitting Tensile: ATMS C496 Drying Shrinkage: ASTM C596
Epoxy Nonskid (Aggregated)	Polyamidoamine or amine converted epoxies aggregated; aggregate may be packaged separately

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

Product	Definition
Epoxy Primer	<p>Two-component, polyamidoamine, phenalkamine, or polyamide cured epoxy. Performance Data: Adhesion: ASTM D4541 (Post 10 Freeze Thaw Cycles): Abrasion: ATMS D4060 (Average of Three Tests) Cyclic Salt Fog: ASTM D5894 (10,000 hours) Salt Spray(Fog): ASTM B117 (5,000 hours) Humidity: ASTM D4585 (10,000 hours) Immersion: ASTM D870: 1,500 hours in 140 F Deionized Water. Water Vapor Transmission: ASTM D1653 (Method B) Wet Cup Condition C – report Metric Perms.</p>
Fusion Bonded Coating	<p>100% solids, thermosetting, fusion bonded, dry powder epoxy, suitable for the intended service</p>
Fusion Bonded, TFE Lube or Grease Lube	<p>Tetrafluoroethylene, liquid coating, or open gear grease as supplied by McMaster-Carr Supply Corporation., Elmhurst, IL; RL 736 manufactured by Amrep, Inc., Marietta, GA</p>
High Build Epoxy	<p>Polyamidoamine, novolac, or amine cured epoxy, minimum 69% volume solids, minimum, suitable for application to metals submerged in secondary wastewater and compatible with specified finish Capability of 4 to 8 MDFT per coat Performance Data: Adhesion: ASTM D4541 (Post 10 Freeze Thaw Cycles): Abrasion: ATMS D4060 (Average of Three Tests) Cyclic Salt Fog: ASTM D5894 (10,000 hours) Salt Spray(Fog): ASTM B117 (5,000 hours) Humidity: ASTM D4585 (10,000 hours) Immersion: ASTM D870: 1,500 hours in 140 F Deionized Water. Water Vapor Transmission: ASTM D1653 (Method B) Wet Cup Condition C – report Metric Perms.</p>

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

Product	Definition
Epoxy – 100 Percent Solids	<p>100-percent solids epoxy, suitable for application to properly prepared concrete or repair mortar and suitable the intended immersion service.</p> <p>Performance Data: Adhesion: ASTM D7234 (50mm Dolly): Adhesion: ASTM D4541 Abrasion: ATMS D4060 (Average of Three Tests) Chemical Resistance: ASTM C868 (25% Sulfuric @ 100F) Immersion: 140 F Deionized Water Chemical Immersion: NACE TM 0174 Acetic Acid, 5%, Calcium Hydroxide, 5% Calcium Hypochlorite, 5% Citric Acid. 5%, 20%, 50% Lactic Acid, 5%, 20% Nitric Acid, 5% Phosphoric Acid, 5% Potassium Hydroxide, 5% Sulfuric Acid. 10%</p> <p>Severe Waste Water: Analysis Test: ASTM G210 (Report initial Impedance (Log z) and post-test Impedance (Log Z)) Water Vapor Transmission: ASTM D1653 (Method B) Wet Cup Condition C – report Metric Perms.</p>
Polyurethane Enamel	<p>Two-component, aliphatic or acrylic based polyurethane with added UV absorbers for added color and gloss durability; high gloss finish Solids by Volume: 66%, Min.</p> <p>Performance Data: Adhesion: ASTM D4541 (Post 10 Freeze Thaw Cycles): Salt Spray(Fog): ASTM B117 (5,000 hours) QUV: ASTM D4587 (7,000 hours – report gloss retention and color retention EMMAQUA: ASTM D4141: 500 mj/m2 Exposure – report gloss retention and color retention</p>

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

Product	Definition
MCU Organic Zinc Rich Primer	Generic Type: Moisture cured organic zinc rich urethane Solids By Volume: 63% Performance Data: Adhesion: ASTM D4541: Salt Spray(Fog): ASTM B117 (50,000 hours) Immersion: 7 Years in Potable Water
Rust-Inhibitive Primer	Single-package steel primers with anticorrosive pigment loading

2.05 MIXING

A. Multiple-Component Coatings:

1. Prepare using each component as packaged by paint manufacturer.
2. No partial batches will be permitted.
3. Do not use multiple-component coatings that have been mixed beyond their pot life.
4. Furnish small quantity kits for touchup painting and for painting other small areas.
5. Mix only components specified and furnished by paint manufacturer.
6. Do not intermix additional components for reasons of color or otherwise, even within the same generic type of coating.
7. Follow manufacturer's recommendations regarding proper mixing, mixing time, induction time if necessary, and appropriate thinners if applicable.

B. Colors:

1. Formulate paints with colorants free of lead, lead compounds, or other materials that might be affected by presence of hydrogen sulfide or other gas likely to be present at Site.
2. Final colors as selected by Owner.

2.06 SHOP FINISHES

A. Shop Blast Cleaning: Reference Paragraph, Shop Coating Requirements.

B. Surface Preparation: Provide Engineer minimum 7 days' advance notice to start of shop surface preparation work and coating application work.

C. Shop Coating Requirements:

1. When required by equipment Specifications, such equipment shall be primed and finish coated in shop by manufacturer and touched up in field with identical material after installation.
2. Where manufacturer's standard coating is not suitable for intended service condition, Engineer may approve use of a tie-coat to be used between manufacturer's standard coating and specified field finish. In such cases, tie-coat shall be surface tolerant epoxy as recommended by manufacturer of specified field finish coat. Coordinate details of equipment manufacturer's standard coating with field coating manufacturer.

PART 3 EXECUTION

3.01 GENERAL

- A. Provide Engineer minimum 7 days' advance notice to start of field surface preparation work and coating application work.
- B. Perform the Work only in presence of Engineer, unless Engineer grants prior approval to perform the Work in Engineer's absence.
- C. Schedule inspection of cleaned surfaces and all coats prior to succeeding coat in advance with Engineer.

3.02 EXAMINATION

- A. Factory Finished Items:
 1. Schedule inspection with Engineer before repairing damaged factory-finished items delivered to Site.
 2. Repair abraded or otherwise damaged areas on factory-finished items as recommended by coating manufacturer. Carefully blend repaired areas into original finish. If required to match colors, provide full finish coat in field.
- B. Surface Preparation Verification: Inspect and provide substrate surfaces prepared in accordance with these Specifications and printed directions and recommendations of paint manufacturer whose product is to be applied. The more stringent requirements shall apply.

3.03 TEST COATING

A. Mockups:

1. Before proceeding with Work under this section, finish one complete space or item of each color scheme required showing selected colors, finish texture, materials, quality of Work, and special details.
2. Procedure:
 - a. Prepare, prime and coat one section of concrete, 5 feet by 5 feet, at a location mutually agreed upon by the Subcontractor and Engineer. Use a "step" down mockup as follows:
 - 1) Leave one-quarter of the surface exposed to allow observation of the surface preparation.
 - 2) Apply primer to three-quarters of remaining surface.
 - 3) Apply filler/surfacer to one-half of the surface, over the primer, leaving one-quarter of the surface exposed with primer.
 - 4) Apply finish coat to filler/surfacer, leaving one-quarter of the surface exposed with surfacer/filler.
 - b. Mockup shall include concrete cuts for coating terminations and one example of a penetration.
 - c. Leave mockup in place to serve as a reference and standard for the remaining Work.
 - d. At completion of Project, clean and prepare all surfaces that are not complete and finish coat the mockup area for incorporation into the Work.
3. After Engineer review and approval, sample spaces or items shall serve as a standard for similar work throughout the Project.

B. Pilot coating must be performed for each of the three surface conditions: New Construction Secondary Clarifier Mechanism.

3.04 BLASTING AND EQUIPMENT PROTECTION

- A. Field Abrasive Blasting: Field abrasive blasting of existing metal parts to be repainted or concrete shall conform to the specified blast finish under Paragraph 3.05 Preparation of Surfaces.
- B. Protection of Items not to be Coated:
 1. Remove, mask, or otherwise protect aluminum surfaces, couplings, shafts, bearings, nameplates on machinery, and other surfaces not intended to be painted.
 2. Provide drop cloths to prevent paint materials from falling on or marring adjacent surfaces.

3. Protect working parts of mechanical and electrical equipment from damage during surface preparation and painting process.
4. Mask openings in motors to prevent paint and other materials from entering the motors.
5. Cover and enclose or otherwise protect clarifier drive mechanism to prevent damage caused by blasting operations. The drive unit must be fully covered and sealed off to protect against grit and dust when abrasive blasting in the vicinity if blasting is required for mechanism after installation.
6. Protect all surfaces adjacent to or downwind of work area from overspray. Contractor shall be responsible for any damage resulting from overspray.

3.05 SURFACE PREPARATION

A. Field Abrasive Blasting:

1. Perform blasting for items and equipment where specified and as required to restore damaged surfaces previously shop or field blasted and primed or coated.
2. Refer to coating systems for degree of abrasive blasting required.
3. Where the specified degree of surface preparation differs from manufacturer's recommendations, the more stringent shall apply.

B. Surface Contamination Testing:

1. A surface contamination analysis test shall be performed every 500 square feet by means of a Chlor Test CSN Salts or approved equivalent.
2. Surface with chloride levels exceeding 3 µg/square centimeter for submerged surfaces and 5 µg/square centimeter for exposed surfaces shall be treated with a liquid soluble salt remover equivalent to CHLOR*RID (CHLOR*RID International, Chandler, AZ).
3. Follow manufacturer's recommendations and procedures for the use of this product to remove the surface contamination.

C. Metal Surface Preparation:

1. Where indicated, meet requirements of SSPC Specifications summarized below:
 - a. SP 1, Solvent Cleaning: Removal of visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants by cleaning with solvent.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

- b. SP 2, Hand Tool Cleaning: Removal of loose rust, loose mill scale, loose paint, and other loose detrimental foreign matter, using nonpower hand tools.
 - c. SP 3, Power Tool Cleaning: Removal of loose rust, loose mill scale, loose paint, and other loose detrimental foreign matter, using power-assisted hand tools.
 - d. SP 5, White Metal Blast Cleaning: Removal of visible oil, grease, dust, dirt, mill scale, rust, coatings, oxides, corrosion products, and other foreign matter by blast cleaning.
 - e. SP 6, Commercial Blast Cleaning: Removal of visible oil, grease, dust, dirt, mill scale, rust, coatings, oxides, corrosion products, and other foreign matter, except for random staining limited to no more than 33 percent of each unit area of surface which may consist of light shadows, slight streaks, or minor discolorations caused by stains of rust, stains of mill scale, or stains of previously applied coatings.
 - f. SP 7, Brush-Off Blast Cleaning: Removal of visible rust, oil, grease, soil, dust, loose mill scale, loose rust, and loose coatings. Tightly adherent mill scale, rust, and coating may remain on surface.
 - g. SP 10, Near-White Blast Cleaning: Removal of visible oil, grease, dust, dirt, mill scale, rust, coatings, oxides, corrosion products, and other foreign matter, except for random staining limited to no more than 5 percent of each unit area of surface which may consist of light shadows, slight streaks, or minor discolorations caused by stains of rust, stains of mill scale, or stains of previously applied coatings.
 - h. SP 11, Power Tool Cleaning to Bare Metal: Removal of visible oil, grease, dirt, dust, mill scale, rust, paint, oxide, corrosion products, and other foreign matter using power-assisted hand tools capable of producing suitable surface profile. Slight residues of rust and paint may be left in lower portion of pits if original surface is pitted.
2. The words “solvent cleaning”, “hand tool cleaning”, “wire brushing”, and “blast cleaning”, or similar words of equal intent in these Specifications or in paint manufacturer’s specification refer to the applicable SSPC Specification.
 3. Where OSHA or EPA regulations preclude standard abrasive blast cleaning, wet or vacu-blast methods may be required. Coating manufacturers’ recommendations for wet blast additives and first coat application shall apply.
 4. Ductile Iron Pipe Supplied with Asphaltic Varnish Finish: Remove asphaltic varnish finish prior to performing specified surface preparation.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

5. Hand tool clean areas that cannot be cleaned by power tool cleaning.
6. Round or chamfer sharp edges and grind smooth burrs, jagged edges, and surface defects.
7. Welds and Adjacent Areas:
 - a. Prepare such that there is:
 - 1) No undercutting or reverse ridges on weld bead.
 - 2) No weld spatter on or adjacent to weld or any area to be painted.
 - 3) No sharp peaks or ridges along weld bead.
 - b. Grind embedded pieces of electrode or wire flush with adjacent surface of weld bead.
8. Preblast Cleaning Requirements:
 - a. Remove oil, grease, welding fluxes, and other surface contaminants prior to blast cleaning.
 - b. Cleaning Methods: Steam, open flame, hot water, or cold water with appropriate detergent additives followed with clean water rinsing.
 - c. Clean small isolated areas as above or solvent clean with suitable solvent and clean cloth.
 - d. Round or chamfer sharp edges and grind smooth burs, jagged edges, and surface defects.
9. Blast Cleaning Requirements:
 - a. Type of Equipment and Speed of Travel: Design to obtain specified degree of cleanliness. Minimum surface preparation is as specified herein and takes precedence over coating manufacturer's recommendations.
 - b. Select type and size of abrasive to produce surface profile that meets coating manufacturer's recommendations for particular primer to be used.
 - c. Use only dry blast cleaning methods.
 - d. Do not reuse abrasive, except for designed recyclable systems.
 - e. Meet applicable federal, state, and local air pollution and environmental control regulations for blast cleaning, confined space entry (if required), and disposition of spent aggregate and debris.
10. Post-Blast Cleaning and Other Cleaning Requirements:
 - a. Clean surfaces of dust and residual particles from cleaning operations by dry (no oil or water vapor) air blast cleaning or other method prior to painting. Vacuum clean enclosed areas and other areas where dust settling is a problem and wipe with a tack cloth.
 - b. Paint surfaces the same day they are blasted. Reblast surfaces that have started to rust before they are painted.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

D. Concrete Surface Preparation:

1. Do not begin until 30 days after concrete has been placed.
2. Remove grease, oil, dirt, salts or other chemicals, loose materials, or other foreign matter by solvent, detergent, or other suitable cleaning methods.
3. Abrasive blast clean to remove loose concrete and laitance, and provide a tooth for binding (reference SSPC-SP 13, ICRI CSP 4 – 5). Upon approval by Engineer, surface may be cleaned by acid etching method. Approval is subject to producing desired profile equivalent to No. 80 grit flint sandpaper. Acid etching of vertical or overhead surfaces shall not be allowed.
4. Secure coating manufacturer's recommendations for additional preparation, if required, for excessive bug holes exposed after blasting.
5. Repair concrete defects in accordance with Sections 03 31 32, Repair of Vertical and Overhead Concrete Surface and 03 31 33, Repair of Horizontal Concrete Surfaces. Fill holes and cracks with manufacturer's recommended materials to produce even surface for application of systems. Secure coating manufacturer's recommendations for additional preparation if required for excessive bug holes exposed after blasting.
6. Contractor shall confirm coating compatibility with concrete repair materials where coating products will be applied on repaired concrete substrate.
7. Unless otherwise required for proper adhesion, ensure surfaces are dry prior to painting.
8. Ensure surfaces are dry prior to coating with epoxy.
 - a. Conduct tests to verify that concrete surfaces are sufficiently dry for coating. Test for moisture using plastic sheets in accordance with ASTM D4263.
 - b. If the test indicates evidence of moisture, conduct tests to determine quantity of water present in accordance with ASTM F1869. Moisture content shall not exceed 3 pounds per 1,000 square feet in a 24-hour period.
 - c. All tests using electronic moisture meters shall conform to ASTM F2170.

E. Plastic and FRP Surface Preparation:

1. Hand sand plastic surfaces to be coated with medium grit sandpaper to provide tooth for coating system.
2. Large areas may be power sanded or brush-off blasted, provided sufficient controls are employed so surface is roughened without removing excess material.

F. Existing Painted Surfaces to be Repainted Surface Preparation:

1. Detergent wash and freshwater rinse.
2. Clean loose, abraded, or damaged coatings to substrate by cleaning in accordance with SSPC-SP 11 Power Tool Cleaning to Bare Metal with a minimum surface profile of 1.0 mil.
3. Feather surrounding intact coating.
4. Apply one spot coat of specified primer to bare areas, overlapping prepared existing coating.
5. Apply one full finish coat of specified primer to entire surface.
6. If an aged, plural-component material is to be topcoated, contact coating manufacturer for additional surface preparation requirements.
7. For ductile iron pipe with asphaltic varnish finish not specified to be abrasive blasted, apply coat of tar stop prior to application of cosmetic finish coat.
8. Application of Cosmetic Coat:
 - a. It is assumed that existing coatings have oxidized sufficiently to prevent lifting or peeling when overcoated with paints specified.
 - b. Check compatibility by application to a small area prior to starting painting.
 - c. If lifting or other problems occur, request disposition from Engineer.
9. Perform blasting as required to restore damaged surfaces. Materials, equipment, procedures shall meet requirements of SSPC.

3.06 SURFACE CLEANING

A. Brush-off Blast Cleaning:

1. Equipment, procedure, and degree of cleaning shall meet requirements of SSPC SP 7.
2. Abrasive: Either wet or dry blasting sand, grit, or nutshell.
3. Select various surface preparation parameters, such as size and hardness of abrasive, nozzle size, air pressure, and nozzle distance from surface such that surface is cleaned without pitting, chipping, or other damage.
4. Verify parameter selection by blast cleaning a trial area that will not be exposed to view.
5. Engineer will review acceptable trial blast cleaned area and use area as a representative sample of surface preparation.
6. Repair or replace surface damaged by blast cleaning.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

B. Acid Etching:

1. After precleaning, spread the following solution by brush or plastic sprinkling can: One part commercial muriatic acid reduced by two parts water by volume. Adding acid to water in these proportions gives an approximate 10 percent solution of HCl.
2. Application:
 - a. Rate: Approximately 2 gallons per 100 square feet.
 - b. Work acid solution into surface by hard-bristled brushes or brooms until complete wetting and coverage is obtained.
 - c. Acid will react vigorously for a few minutes, during which time brushing shall be continued.
 - d. After bubbling subsides (10 minutes), hose down remaining slurry with high pressure clean water.
 - e. Rinse immediately to avoid formation on the surface of salts that are difficult to remove.
 - f. Thoroughly rinse to remove any residual acid surface condition that may impair adhesion.
3. Ensure surface is completely dry before application of coating.
4. Apply acid etching to obtain a “grit sandpaper” surface profile. If not, repeat treatment.

C. Solvent Cleaning:

1. Consists of removal of foreign matter such as oil, grease, soil, drawing and cutting compounds, and any other surface contaminants by using solvents, emulsions, cleaning compounds, steam cleaning, or similar materials and methods that involve a solvent or cleaning action.
2. Meet requirements of SSPC SP 1.

3.07 APPLICATION

A. General:

1. The intention of these Specifications is for existing and new, interior and exterior masonry, concrete, and metal, and submerged metal surfaces to be painted, whether specifically mentioned or not, except as specified otherwise. Do not paint exterior concrete surfaces, unless specifically indicated.
2. Extent of Coating (Immersion): Coatings shall be applied to internal vessel and pipe surfaces, nozzle bores, flange gasket sealing surfaces, carbon steel internals, and stainless steel internals, unless otherwise specified.

3. For coatings subject to immersion, obtain full cure for completed system. Consult coatings manufacturer's written instructions for these requirements. Do not immerse coating until completion of curing cycle.
4. For coatings subject to immersion, stripe coat all edges, angles, corners, fasteners, and other items that are difficult to coat.
5. Apply coatings in accordance with these Specifications and paint manufacturers' printed recommendations and special details. The more stringent requirements shall apply. Allow sufficient time between coats to assure thorough drying of previously applied paint.
6. Sand wood lightly between coats to achieve required finish.
7. Vacuum clean surfaces free of loose particles. Use tack cloth just prior to applying next coat.
8. Fusion Bonded Coatings Method Application: Electrostatic, fluidized bed, or flocking.
9. Coat units or surfaces to be bolted together or joined closely to structures or to one another prior to assembly or installation.
10. On pipelines, terminate coatings along pipe runs to 1 inch inside pipe penetrations.
11. Keep paint materials sealed when not in use.
12. Where more than one coat is applied within a given system, alternate colors to provide a visual reference showing required number of coats have been applied.

B. Stripe Coating:

1. Stripe coat all field welds, edges, angles, fasteners, and other irregular surfaces of the clarifier mechanism and metals subject to immersion.
2. Stripe coat shall consist of one coat, brush applied, to the coating thickness specified.
3. Apply stripe coat between first and second coats.
4. Stripe coat color shall contrast with prime coat to allow visual verification of application.

C. Galvanized Metal, Copper, and Nonferrous Metal Alloys:

1. Refer to SSPC SP 16.
2. Concealed galvanized, copper, and nonferrous metal alloy surfaces (behind building panels or walls) do not require painting, unless specifically indicated herein.
3. Prepare surface and apply primer in accordance with System No. 10 specification.
4. Apply intermediate and finish coats of the coating system appropriate for the exposure.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

D. Concrete:

1. Surfacers/Filler and Concrete Restoration Materials: Apply surfacer/filler to new concrete and concrete restoration materials with methods recommended by the coating manufacturer, as required to provide a surface that is a continuous, smooth, void-free surface. Force material into voids and irregularities, and remove excess filler before the material sets.
2. Dampen repair areas to receive surfacer/filler or concrete restoration material for at least 24 hours to provide saturated surface dry (SSD) condition without standing water at time of application of mortar as required by and in accordance with manufacturer's printed instructions.
3. Cure repair mortars in accordance with manufacturer's printed instructions.
4. Spray apply epoxy coating systems in accordance with manufacturer's printed instructions. Spray applied coating systems shall not be backrolled or troweled to work coating into concrete surfaces.
5. Cove corners at vertical and horizontal intersections, and reinforce as recommended by coating manufacturer.
6. Provide the minimum number of coats required for each coating system, regardless of application method. Do not apply succeeding coats until previous coat has cured in accordance with the coating manufacturer's recommendations.
7. Observe manufacturer's published recoat windows. If recoat window is exceeded, mechanically abrade before recoating in accordance with the manufacturer's directions and as approved by the Engineer.
8. Holiday Prevention for Concrete Coatings: Follow manufacturer's written instructions related to application during decreasing substrate temperature conditions, adequate surface preparation (including enlarging of bugholes) and other application techniques that may be necessary to reduce the potential for outgassing and formation of pinholes during coating application and cure.
9. Joints:
 - a. Provide continuous sealant, backing material, and joint-lining treatment recommended by the coating manufacturer at all expansion, isolation, and construction joints.
 - b. Provide continuous sealant bead at joints between different coating systems.

10. Penetrations: Coat over or around equipment anchors, base plates, pipes, and similar items installed in areas receiving CRC to maintain continuous liquidtight seal. Provide written instructions for treatment of penetrations.
 11. Effluent weirs anchored into the existing concrete launders must be removed prior to any work performed on the launders. Prior to removing weirs, take elevation measurements every two feet around the circumference of the clarifier. Following coating work, weirs must be reinstalled to match the measured elevations.
 12. Terminations:
 - a. Terminate leading edges in saw cuts 1/4-inch wide by 1/4-inch deep, or as required by the coating manufacturer. Prime and extend epoxy resin into the saw cut. Do not place filler in the saw cut.
 - b. Alternative termination details, as recommended by the coating manufacturer, may be used if approved by the Engineer.
 13. For concrete surfaces with previous coatings, previous concrete restoration material shall be removed to a depth of 1-inch or acceptable substrate condition per concrete restoration material manufacturers guidelines, whichever is greater. Concrete to be restored, prior to chemical resistant coating application, to previous top of slab elevation per Specification Section 03 01 33, Repair of Horizontal Concrete Surfaces.
 14. All repaired clarifier launder surfaces, prior to chemical resistant coating application, shall be level within a tolerance of plus or minus 1/8-inch.
- E. Film Thickness and Coverage:
1. Number of Coats:
 - a. Minimum required without regard to coating thickness.
 - b. Additional coats may be required to obtain minimum required paint thickness, depending on method of application, differences in manufacturers' products, and atmospheric conditions.
 2. Application Thickness:
 - a. Do not exceed coating manufacturer's recommendations.
 - b. Measure using a wet film thickness gauge to ensure proper coating thickness during application.
 3. Film Thickness Measurements and Electrical Inspection of Coated Surfaces:
 - a. Perform with properly calibrated instruments.
 - b. Recoat and repair as necessary for compliance with Specification.
 - c. Coats are subject to inspection by Engineer and coating manufacturer's representative.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

4. Visually inspect concrete, masonry, nonferrous metal, plastic, and wood surfaces to ensure proper and complete coverage has been attained.
5. Give particular attention to edges, angles, flanges, and other similar areas, where insufficient film thicknesses are likely to be present, and ensure proper millage in these areas.
6. Apply additional coats as required to achieve complete hiding of underlying coats. Hiding shall be so complete that additional coats would not increase the hiding.

F. Unsatisfactory Application:

1. If item has an improper finish color, or insufficient film thickness, clean surface and topcoat with specified paint material to obtain specified color and coverage. Obtain specific surface preparation information from coating manufacturer.
2. Evidence of runs, bridges, shiners, laps, or other imperfections is cause for rejection.
3. Repair defects in accordance with written recommendations of coating manufacturer.

G. Access:

1. Provide access for inspection by the Engineer as required and when requested. Provide a dust free, suitable environment for inspection by the Engineer.
2. Leave staging and lighting up until Engineer has inspected surface or coating. Replace staging removed prior to approval by Engineer. Provide additional staging and lighting as requested by Engineer.

3.08 PROTECTIVE COATINGS SYSTEMS AND APPLICATION SCHEDULE

- A. Unless otherwise shown or specified, paint surfaces in accordance with the following application schedule. In the event of discrepancies or omissions in the following, request clarification from Engineer before starting work in question.
- B. Additional requirements are included in the Piping Schedule.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

C. System No. 2B Submerged Metal:

Surface Prep.	Paint Material	Min. Coats, Cover
SP 10, Near-White Blast Cleaning	Prime in accordance with manufacturer's recommendations	
	High Build Epoxy	2 coats, 16 MDFT

1. Use on the following items or areas:
 - a. Metal surfaces new and existing below a plane 1 foot above maximum liquid surface, metal surfaces above maximum liquid surface that are a part of immersed equipment, concrete embedded surfaces of metallic items, such as wall pipes, pipes, pipe sleeves, access manholes, gate guides and thimbles, and structural steel, and the following specific surfaces:
 - 1) Secondary Clarifier Mechanism and Scums Beaches.
 - 2) Exterior surfaces of steel and ductile iron piping new as shown on Drawings.
2. Applicator shall apply an additional stripe coating to all edges, angles, corners, fasteners, and other items where paint adherence may be difficult.

D. System No. 4 Exposed Metal—Highly Corrosive:

Surface Prep.	Paint Material	Min. Coats, Cover
SP 10, Near-White Blast Cleaning	Epoxy Primer— Ferrous Metal or MCU Zinc Rich Primer	1 coat, 2.5 MDFT
	Intermediate Coat: High Build Epoxy	1 coat, 5 MDFT
	Polyurethane Enamel	1 coat, 3 MDFT

1. Use on the following items or areas:
 - a. Exposed metal surfaces, new, located inside or outside of structures and exposed to weather and existing surfaces and equipment specifically called out in the Specifications and Drawings
 - b. Equipment and piping specifically called out on Drawings.
 - c. Use System No. 4 for all metal surfaces that are specified to be painted but not specifically listed in other exposed metal paint systems.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

2. Applicator shall apply an additional stripe coating to all edges, angles, corners, fasteners, and other items where paint adherence may be difficult.
3. Equipment and piping to be painted shall be removed from service as necessary to prevent damage to adjacent equipment. Applicator shall coordinate with Owner to ensure that plant operations are not interrupted during removal of equipment for painting. Where equipment and piping may not be removed from service, applicator shall protect all adjacent property from blasting material and painting over spray. Applicator shall submit a plan for protecting adjacent property.
 - a. All exposed-to-view PVC and CPVC surfaces specifically called out to be coated in piping schedule.

3.09 FIELD QUALITY CONTROL

A. Testing Equipment:

1. Provide magnetic type dry film thickness gauge to test coating thickness specified in mils, as manufactured by Nordson Corp., Anaheim, CA, Mikrotest.
2. Provide low-voltage wet sponge electrical holiday detector to test completed coating systems, 20 mils dry film thickness or less, except zinc primer, high-build elastomeric coatings, and galvanizing, for pinholes, holidays, and discontinuities, as manufactured by Tinker and Rasor, San Gabriel, CA, Model M-1.
3. Provide high-voltage spark tester to test completed coating systems in excess of 20 mils dry film thickness. Unit as recommended by coating manufacturer.

B. Testing:

1. Thickness and Continuity Testing:
 - a. Measure coating thickness specified in mils with a magnetic type, dry film thickness gauge, in accordance with SSPC PA 2. Check each coat for correct millage. Do not make measurement before a minimum of 8 hours after application of coating.
 - b. Holiday detect coatings 20 mils thick or less, except zinc primer and galvanizing, with low voltage wet sponge electrical holiday detector in accordance with NACE RP0188.
 - c. Holiday detect coatings in excess of 20 mils dry with high voltage spark tester as recommended by coating manufacturer and in accordance with NACE RP0188.

- d. Holiday test 100 percent of surfaces that will be placed into immersion service.
 - e. After repaired and recoated areas have dried sufficiently, retest each repaired area. Final tests may also be conducted by Engineer.
- C. Inspection: Leave staging and lighting in place until Engineer has inspected surface or coating. Replace staging removed prior to approval by Engineer. Provide additional staging and lighting as requested by Engineer.
- D. Unsatisfactory Application:
- 1. If item has an improper finish color or insufficient film thickness, clean surface and topcoat with specified paint material to obtain specified color and coverage. Obtain specific surface preparation information from coating manufacturer.
 - 2. Evidence of runs, bridges, shiners, laps, or other imperfections is cause for rejection.
 - 3. Repair defects in accordance with written recommendations of coating manufacturer.
- E. Damaged Coatings, Pinholes, and Holidays:
- 1. Feather edges and repair in accordance with recommendations of paint manufacturer.
 - 2. Hand or power sand visible areas of chipped, peeled, or abraded paint, and feather the edges. Follow with primer and finish coat. Depending on extent of repair and appearance, a finish sanding and topcoat may be required.
 - 3. Apply finish coats, including touchup and damage-repair coats in a manner that will present a uniform texture and color-matched appearance.

3.10 MANUFACTURER'S SERVICES

- A. In accordance with Section 01 43 33, Manufacturers' Field Services, coating manufacturer's representative shall be present at Site as follows:
- 1. On first day of application of any coating system.
 - 2. A minimum of two additional Site inspection visits, each for a minimum of 4 hours, in order to provide Manufacturer's Certificate of Proper Installation.
 - 3. As required to resolve field problems attributable to or associated with manufacturer's product.
 - 4. To verify full cure of coating prior to coated surfaces being placed into immersion service.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

3.11 CLEANUP

- A. Place cloths and waste that might constitute a fire hazard in closed metal containers or destroy at end of each day.
- B. Upon completion of the Work, remove staging, scaffolding, and containers from Site or destroy in a legal manner.
- C. Remove paint spots, oil, or stains upon adjacent surfaces and floors and leave entire job clean.

3.12 SUPPLEMENTS

- A. The supplements listed below, following “End of Section,” are a part of this Specification:
 - 1. Paint System Data Sheet (PSDS).
 - 2. Product Data Sheet (PDS).

END OF SECTION

PAINT SYSTEM DATA SHEET

Complete this PSDS for each coating system, include all components of the system (surface preparation, primer, intermediate coats, and finish coats). Include all components of a given coating system on a single PSDS.

Paint System Number (from Spec.):		
Paint System Title (from Spec.):		
Coating Supplier:		
Representative:		
Surface Preparation:		
Paint Material (Generic)	Product Name/Number (Proprietary)	Min. Coats, Coverage

PAINT PRODUCT DATA SHEET

Complete and attach manufacturer's Technical Data Sheet to this PDS for each product submitted. Provide manufacturer's recommendations for the following parameters at temperature (F)/relative humidity:

Temperature/RH	50/50	70/30	90/25
Induction Time			
Pot Life			
Shelf Life			
Drying Time			
Curing Time			
Min. Recoat Time			
Max. Recoat Time			

Provide manufacturer's recommendations for the following:

Mixing Ratio: _____

Maximum Permissible Thinning: _____

Ambient Temperature Limitations: min.: _____ max.: _____

Surface Temperature Limitations: min.: _____ max.: _____

Surface Profile Requirements: min.: _____ max.: _____

SECTION 44 42 24.01
SECONDARY CLARIFIER MECHANISM
(CIRCULAR FLOW TYPE)

PART 1 GENERAL

1.01 REFERENCES

- A. The following is a list of standards that may be referenced in this section:
1. American Bearing Manufacturers Association (ABMA).
 2. American Gear Manufacturers Association (AGMA):
 - a. 2001, Fundamental Rating Factors and Calculation Methods for Involute Spur and Helical Gear Teeth.
 - b. 2004, Gear Materials, Heat Treatment and Processing Manual.
 - c. 6022, Design Manual for Cylindrical Wormgearing.
 - d. 6034, Practice for Enclosed Cylindrical Wormgear Speed Reducers and Gearmotors.
 - e. 9005, Industrial Gear Lubrication.
 3. American Institute of Steel Construction (AISC).
 4. American Iron and Steel Institute (AISI).
 5. American Water Works Association (AWWA): C200, Steel Water Pipe – 6 In. (150 mm) and Larger.
 6. American Welding Society (AWS):
 - a. D1.1/D1.1M, Structural Welding Code – Steel.
 - b. QC 1, Standard for AWS Certification of Welding Inspectors.
 7. ASTM International (ASTM):
 - a. A36/A36M, Standard Specification for Carbon Structural Steel.
 - b. A48/A48M, Standard Specification for Gray Iron Castings.
 - c. A148/A148M, Standard Specification for Steel Castings, High Strength, for Structural Purposes.
 - d. A283/A283M, Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.
 - e. A285/A285M, Standard Specification for Pressure Vessel Plates, Carbon Steel, Low- and Intermediate-Tensile Strength.
 - f. A536, Standard Specification for Ductile Iron Castings.
 8. The Society for Protective Coatings (SSPC): SP 7, Brush-off Blast Cleaning.
 9. Underwriters Laboratories, Inc. (UL): 674, Standard for Safety, Electric Motors and Generators for Use in Hazardous (Classified) Locations.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

1.02 DEFINITIONS

- A. Certified Welding Inspector (CWI): As defined in AWS QC 1.
- B. Slenderness Ratio: Ratio of unbraced length to least radius of gyration.
- C. Submerged Metal: Metal below gear head drive and plane 18 inches above weir elevation indicated.

1.03 SUBMITTALS

A. Action Submittals:

- 1. Shop Drawings:
 - a. Product Data:
 - 1) Descriptive literature, specifications, dimensional layout, identification of materials of construction, and specialized equipment assembly cuts.
 - 2) Painting/Coating System(s): Manufacturer's descriptive technical catalog literature and specifications.
 - b. Detailed Drawings:
 - 1) Structural and Mechanical: Details of scum skimmer, and scum trough.
 - 2) Scum Trough Flushing Valve Details: Method of operation and flushing water flow adjustment, and flow rate calculations.
 - c. Certification of Structural Calculations: Letter of certification for structural design of mechanism, signed and sealed by Registered Professional Engineer.
 - 1) Copies of detailed structural design calculations shall not be submitted for review. If submitted, calculations will be returned without review.
 - d. Structural Loads: Static, dynamic, and torque reaction loads to be transferred into structure at center column (if applicable) and access bridge support locations.

B. Informational Submittals:

- 1. Designer's qualifications.
- 2. Certificates:
 - a. Manufacturer's Certificate of Compliance, in accordance with Section 01 61 00, Common Product Requirements.
 - b. Manufacturer's certificate that coating system(s) meet or exceed specified requirements.

3. Special shipping, storage and protection, and handling instructions.
4. Welder/welding operator qualifications.
5. Welding inspector credentials.
6. Welding Inspector's Report.
7. Test procedures.
8. Test results, reports, and certifications.
9. Manufacturer's Certificate of Proper Installation, in accordance with Section 01 43 33, Manufacturers' Field Services.
10. Service records for maintenance performed during construction.

1.04 QUALIFICATIONS

- A. Designer: Registered Professional Engineer.
- B. Welder/Welding Operator: In accordance with AWS D1.1/D1.1M.
- C. Welding Inspector: Certified in accordance with AWS QC 1, and having prior experience with welding codes specified.

1.05 EXTRA MATERIALS

- A. Furnish, tag, and box for shipment and storage the following spare parts and special tools:

Item	Quantity
Gaskets, O-rings, keys, dowels, and pins	One complete set per unit
Flexible wipers and seals used in scum collection assemblies	Two each type and size per unit
Scum skimming arm blade pivot bearing	One each type and size per unit
Scum trough flushing valve seal assembly	One each per unit
Springs used in scum collection assemblies	Two each type and size per unit

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

Item	Quantity
Special tools required to maintain or dismantle scum collection assemblies, drive unit except for low speed main bearing, but including that required for removal/insertion of main bearing race balls	One complete set
Lubricants	As required for 1 year of continuous operation per unit; locally obtained per manufacturer's listing of approved lubricants

- B. Delivery: In accordance with Section 01 61 00, Common Product Requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Materials, equipment, and accessories specified in this section shall be products of:
1. Ovivo USA, LLC (formerly known as EIMCO Water Technologies).
 2. Walker Process Equipment.

2.02 SERVICE CONDITIONS

- A. Material Handled: Mixed liquor produced by air activated sludge process and resulting from screened, degritted, municipal wastewater.
- B. Influent Liquid Temperature Range: 40 degrees F, minimum to 96 degrees F, maximum.
- C. Influent Mixed Liquor Solids Concentration: 4,000 mg/L, maximum, dry weight basis.
- D. Influent pH Range: 6.2, minimum to 7.4, maximum.

E. Return Sludge Solids Concentration Range, Dry Weight Basis: 2,500 mg/L, minimum, 5,500 mg/L, average, 10,000 mg/L, maximum.

F. Site Conditions:

1. Design shall be in accordance with conditions and requirements stated in Section 01 61 00, Common Product Requirements.
2. In addition, design shall accommodate the following Site conditions:
 - a. Exposure: Ultraviolet radiation of sun.
 - b. Ambient Temperature Range: Minimum 10 degrees F to 110 degrees F, maximum.
 - c. Ambient Humidity Range: Minimum 10 percent to 98 percent relative humidity, including rain and ice.
 - d. W3 Spray Water: 20 gpm at 40 psig.

2.03 MANUFACTURED UNITS

A. Provide two full sets of skimmer arms, scum troughs, discharge weirs, scum baffles and Density Current Baffles as herein specified, each meeting performance and design requirements as specified below.

B. General:

1. Suitable for installation in existing 115-foot diameter by 14.1-foot sidewall water depth (SWD) clarifier having floor slope of 1:12 as shown on Drawings.
2. Furnished complete, including skimmer mechanism and scum trough with flushing device, and other necessary parts, including anchor bolts to be installed on existing clarifier mechanism.
3. Direction of Mechanism Rotation:
 - a. Clarifier 1: Clockwise.
 - b. Clarifier 2: Counter-Clockwise.
4. Scum Baffles and Effluent Weirs: In accordance with Section 44 42 28, Weir and Baffle Plates.

C. Performance Requirements:

1. Collect, convey, and discharge floating scum from surface of clarifier to defined area at outside perimeter of unit.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

2. Operate satisfactorily under the following conditions:

	Design Flow Rates		
	Minimum	Average	Normal Maximum
Return Sludge Flow Rate (mgd)	2.3	3	3.5
Clarified Effluent Flow Rate (mgd)	2	3	7
Influent Mixed Liquor Flow Rate (mgd)	4.3	6	10.5

3. Design sludge loading rate: 25 lbs/day/sf.

D. Design Requirements:

1. Mechanism Construction: Welded, except at locations requiring periodic field adjustment and as approved.
 - a. Welded Joints: Seal welded in shop.
 - b. Welding: Conform to AWS D1.1/D1.1M requirements.
 - c. Incorporate impacts of seal welding on structural design of mechanism, if any, into design.
2. Stresses: Maximum 90 percent of material yield strength at Ultimate Torque load in members.
3. Maximum Slenderness Ratio: 200 for compression member and 240 for tension member.
4. Design Running Torque: 30,000 foot-pounds minimum.
5. Rotational Speed: Between 10 and 16 ft/min.
6. Capable of withstanding, without failure or permanent deformation of any part, Ultimate Torque rating as defined herein.

2.04 SCUM SKIMMING SYSTEM

- A. Mechanically collect and discharge surface scum from annular space between center influent stilling well and outer perimeter scum baffle, with positive means for moving scum from influent well to outer clarifier surface.

B. Skimming Arm and Skimmer Blade Assemblies:

1. Support from rake arms.
2. Quantity: Two per clarifier.
3. Supports: Maximum 10-foot centers, utilize existing supports.

C. Skimming Arm:

1. Provide either a structural steel truss assembly or a fabricate tube assembly connected to center cage and cantilevered from rotating feedwell.
2. Locate tie rods to allow adjustment of skimmer arm as well as to resist horizontal forces.
3. Steel: ASTM A36/A36M, plate and shapes, minimum thickness 1/4 inch.

D. Skimmer Blade Assembly:

1. Traps scum at perimeter scum baffle and discharge it into scum trough.
2. Hinged, adjustable unit designed such that when passing over scum trough bottom, blade edge is always in contact with trough even if trough is not horizontal or plumb.
3. Blade:
 - a. Extend full width of scum trough.
 - b. Bottom and Edges: Replaceable neoprene seal strips to ensure continued entrapment and discharge of scum into scum trough.
 - c. Inner and Outer Edges: Suitable, separate wearing surfaces.
4. Adjustable, spring-loaded device, minimum applied force of 5 pounds, or flexible neoprene wiper to constantly force seal with perimeter scum baffle.

E. Scum Trough Assembly:

1. One per clarifier, including horizontal submerged shelf and inclined beach.
2. Steel: ASTM A36/A36M, plate and shapes, minimum thickness 1/4 inch.
3. Radial Width: Minimum 25 feet.
4. Circumferential Length (Including Inlet and Outlet Beaches): Minimum 3 feet.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

5. Inlet Inclined Beach Length: Minimum 65 percent of total circumferential length of trough.
6. Trough Opening: Minimum 8 inches wide, with a uniformly sloped bottom, with 6-inch outlet to allow discharge towards tank wall.
7. Design trough and support structure for dead loads plus a 200 pound point load at feedwell end of trough with no more than 1/2 inch deflection. Design to coordinate with existing clarifier mechanisms to preclude interferences.
8. Support of skimming blade as it passes over scum trough opening shall be provided by support bars over opening.
9. Support Bars: Maximum of three per scum trough, sized to provide adequate support for skimmer blade.
10. Valve: The clarifier equipment manufacturer shall furnish a flush valve assembly for automatic flushing of the scum trough and scum pipe. The flush valve assembly shall be adjustable to allow 0 to 5 gallons of flow per pass over the scum box. The assembly shall consist of a stainless steel level, UHMW seal plate and neoprene diaphragm mounted to the scum trough. The diaphragm shall be opened and closed by an easily adjustable, submerged actuation arm mounted to the rotating feedwell. The flush volume adjustment mechanism shall be above the water level and shall include at least three settings.
11. Hose/Pipe:
 - a. Attaches trough outlet to scum discharge wall pipe.
 - b. Flexible, industrial grade, abrasion-resistant, wire reinforced rubber.
 - c. Secure both ends with suitable heavy-duty, stainless steel, worm-gear drive hose clamps.
12. Manufacturer and Product:
 - a. Mercer Rubber Co.; Sand Suction Type.
 - b. Fernco; Flexible Coupling.
13. Provide 6-inch Schedule 40 pipe connection for connecting to 6-inch scum line passing through clarifier wall to scum well. Use appropriate transition coupling to connect from scum trough nozzle to scum line.

2.05 SCUM BAFFLES

- A. Type 304 or 304L stainless steel plate in accordance with Section 44 42 28, Weir and Baffle Plates.
- B. Minimum 1/4 inch thickness.
- C. Configuration and Mounting Details: As shown on Drawings.

2.06 PERIPHERAL DENSITY CURRENT BAFFLES

- A. Molded fiberglass plate in accordance with Section 44 42 28, Weir and Baffle Plates.
- B. Minimum 1/4 inch thickness.
- C. Density current baffle shall consist of a series of baffle panels that are attached to the wall of the clarifier to form an inclined, shelf-like surface around the entire inner periphery of the tank. Each panel shall be molded of corrosion-resistant, UV-treated fiberglass. The panel shall be a maximum of 8 feet in length and shall be curved to follow the curvature of the clarifier tank. The width, inclination angle and mounting location of the baffle shall be determined based upon the clarifier configuration in order to provide optimum baffle performance. The panels shall be designed such that adjacent panels fit together without overlapping or cutting, and the completed baffle when installed, has a well-engineered and professional appearance.
- D. Inclination angle shall be 45 degrees as measured from the horizontal. Horizontal projection shall be approximately 2 feet.
- E. Panels shall attach to clarifier wall and supported at the proper angle using a triangular panel bracket. The panel and bracket shall be molded as an integral part of each panel, forming a baffle module. The panel and bracket are to be molded as an integral unit with adequate stiffeners, only one bracket is required per panel. Anchorage shall be designed by baffle manufacturer. A specially formed “free-end” bracket shall be provided to support the free end of the last panel where the run of panels is interrupted by an obstruction. Panels may be cut as required to fit around obstructions.
- F. A method of interconnecting adjacent panels shall be provided such that the entire assembly forms a rigid structure capable of supporting its own weight plus snow and wind loads in the event the tank is out of service. The baffle shall also be designed to withstand a buoyant force load equal to the weight of the water displaced from the volume beneath the baffle. The angled working surface of each baffle shall be sufficient in pitch and width to divert the flow and to create a self-cleaning action of the baffle itself. Provision shall also be made to vent gases that may form beneath the baffle through 3 inch diameter half-round openings molded into the panel at its highest point.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

2.07 WEIR PLATES

- A. Type 304 stainless steel plate in accordance with Section 44 42 28, Weir and Baffle Plates.
- B. Minimum 1/4 inch thickness.
- C. Configuration and mounting details shall be as shown on Drawings.

2.08 ACCESSORIES

- A. Anchor Bolts: Provide coated Type 316 stainless steel bolts, sized by equipment manufacturer and at least 1/2 inch.
- B. Equipment Identification Plates: 316-gauge, Type 304 stainless steel, securely mounted on drive unit and control panel in readily visible location with 3/8-inch high die-stamped block type black enamel filled equipment identification number and letters.

2.09 FABRICATION

- A. Shop fabricate and assemble components in largest sections practicable and permitted by transportation carrier regulations.
- B. Divide large assemblies into flanged sections. Field assembly shall use bolted connections. No field welded connections are allowed. Provide Type 316 stainless steel fasteners. Apply appropriate antiseize compound to the threads during assembly. Do not assemble bolted connections until the final coating system has been applied to mating surfaces and cured.
- C. Shop/Factory Finishing:
 - 1. Shop prime ferrous metal in accordance with and as specified in Section 09 90 00, Painting and Coating, for submerged surfaces and for nonsubmerged surfaces. If coating system is self-priming, first coat of system may be applied as a shop prime coat provided the recoat time will not be exceeded prior to field finish coating. Alternatively, a compatible primer by same coating manufacturer may be shop-applied to avoid recoat time limits.
 - 2. Surfaces inaccessible subsequent to erection, shall be prepared, primed, and finish coated prior to erection.
 - 3. Shop-applied and field-applied coatings shall be by same manufacturer to ensure compatibility.

2.10 SOURCE QUALITY CONTROL

- A. Factory Inspections: Inspect all equipment for required construction, electrical connection, and intended function.
- B. Factory Adjustments: Calibrate torque controls.

PART 3 EXECUTION

3.01 INSTALLATION

- A. In accordance with manufacturer's written instructions.
- B. Based upon existing inspection data, the new skimmer arms can be attached to the existing center column. If it is determined that this is not recommended due to the condition of the center column, and further inspection and revision of work as described per Plans and Specifications is needed, then it is the responsibility of the Contractor to coordinate with the Engineer and manufacturer for further inspection, evaluation, final recommendation and implementation, including all associated costs.
- C. Weir Plate Installation: In accordance with Section 44 42 28, Weir and Baffle Plates.
- D. If field welding is required to correct deficiencies, comply with applicable requirements of AWS D1.1/D1.1M. Clean and repair coated areas following field welding in accordance with coating system manufacturer's recommendations.

3.02 FIELD FINISHING

- A. Paint ferrous metal in accordance with and as specified in Section 09 90 00, Painting and Coating. Field-applied coatings shall be by same manufacturer as shop prime to ensure compatibility. Prepare shop primed mechanism for field finish coating by brush-off blasting in accordance with SSPC SP 7. Prime exposed metal following brushoff blasting using same material as factory prime coat prior to finish coating.
- B. Touch up ferrous metal in accordance with and as specified in Section 09 90 00, Painting and Coating, System No. 2, for all submerged surfaces and System No. 4 for all nonsubmerged, non-galvanized surfaces.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

3.03 FIELD QUALITY CONTROL

- A. Before placing clarifier into service, check weir plate settings by filling clarifiers with water to design elevation. Readjust as necessary as recommended by Equipment Supplier. Level weirs to within plus or minus 1/16 inch of design elevation.
- B. Functional Tests:
 - 1. Conduct on each mechanism.
 - 2. Operate: For continuous 6-hour period without malfunction, rubbing or vibration.

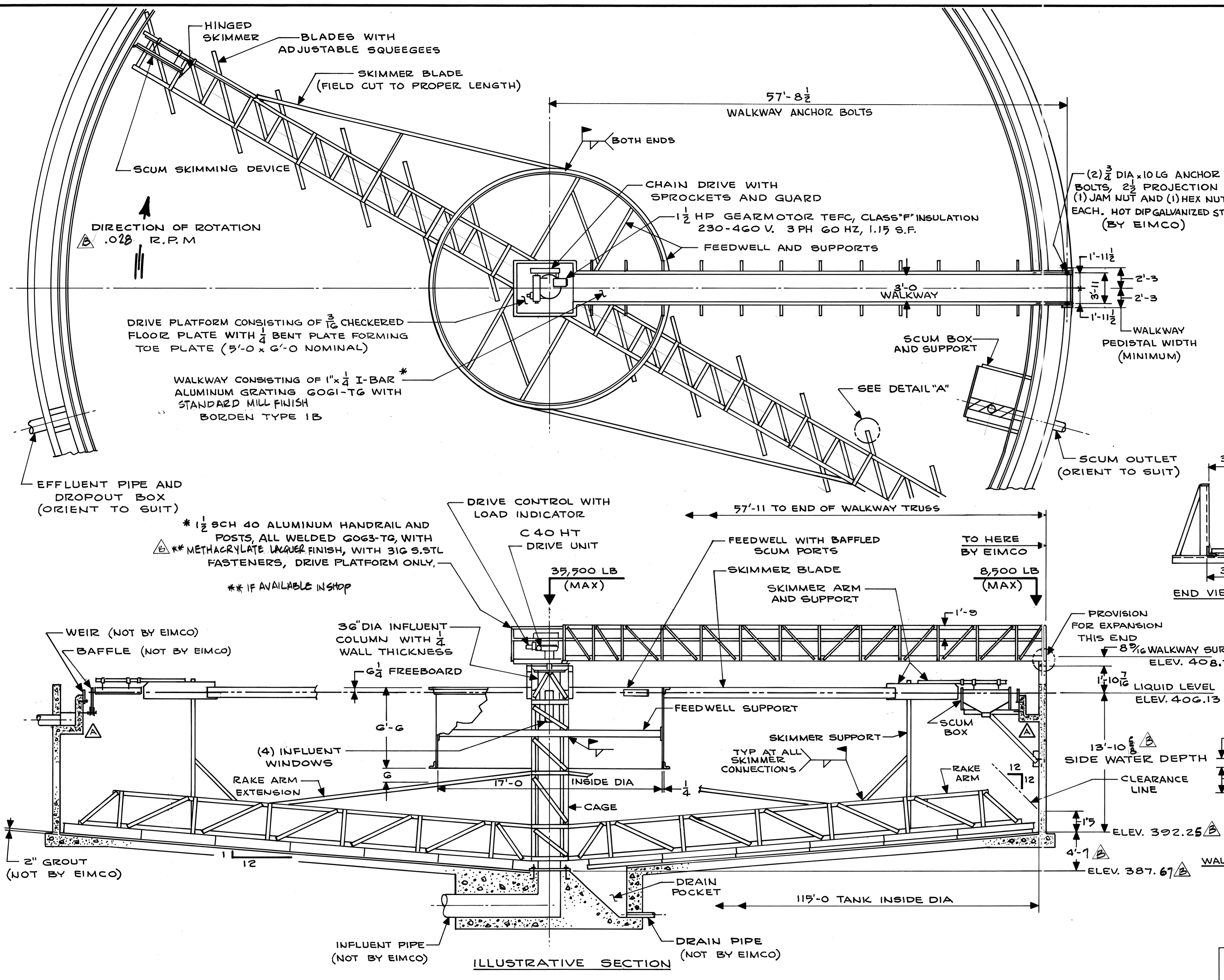
3.04 MANUFACTURER'S SERVICES

- A. Manufacturer's Representative: Present at Site, for minimum person-days listed below, travel time excluded:
 - 1. 2 person-days for installation assistance and inspection.
 - 2. 2 person-days for functional testing and completion of Manufacturer's Certificate of Proper Installation.
- B. See Section 01 43 33, Manufacturers' Field Services.

3.05 SUPPLEMENTS

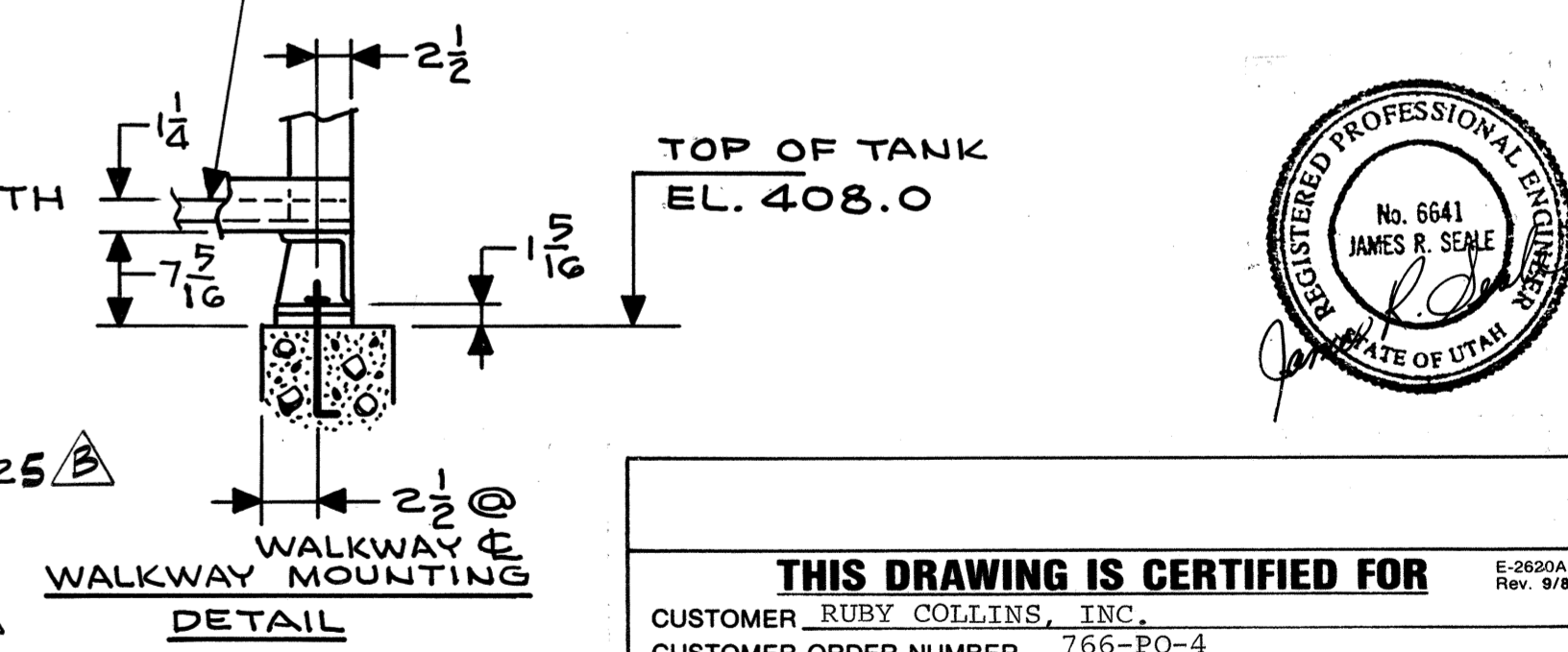
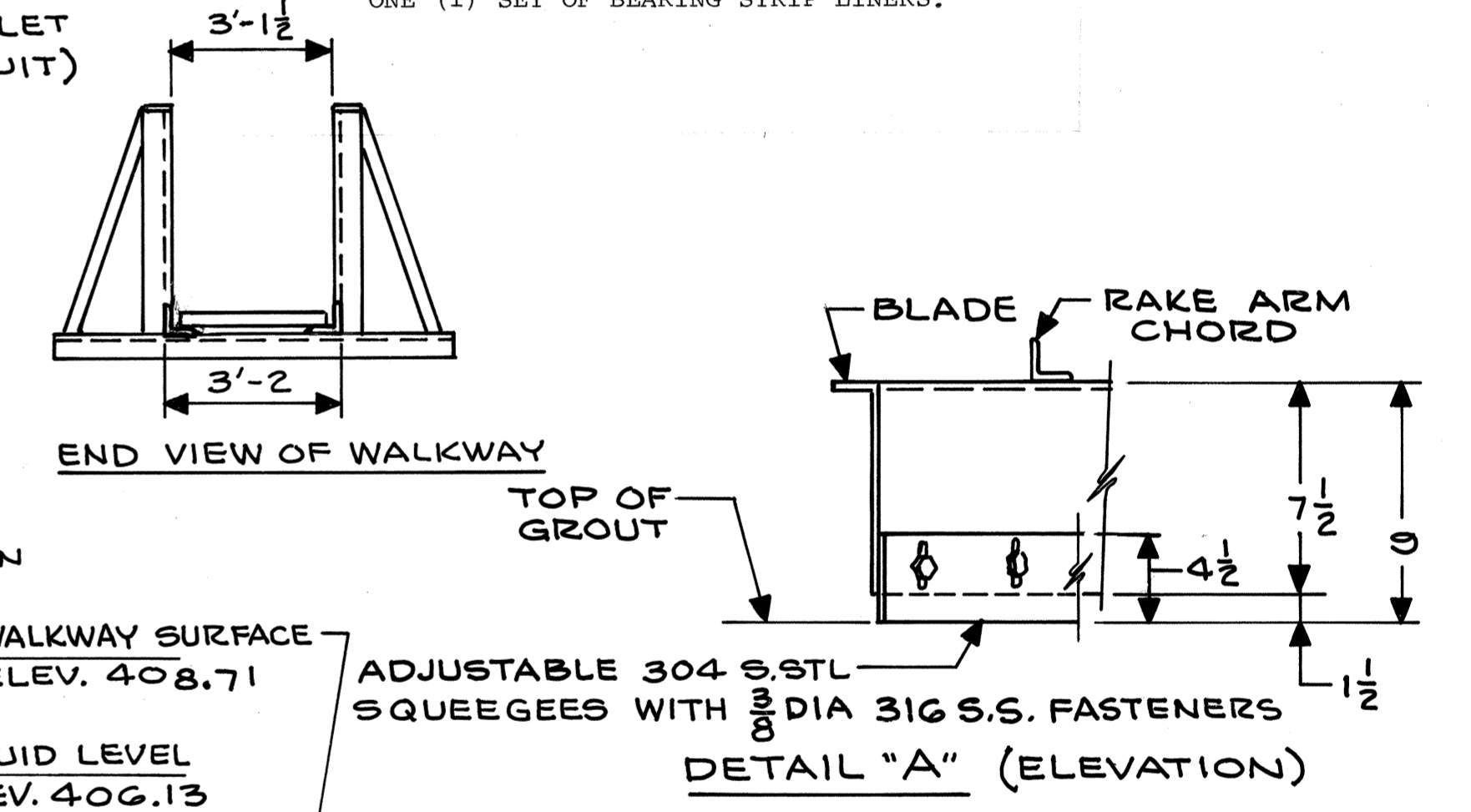
- A. The supplement listed below, following "End of Section" is a part of this Specification:
 - 1. Existing Clarifier 1 & Clarifier 2 Shop Drawings.

END OF SECTION



- NOTES:
- ASTERISK (*) DENOTES VARIANCE FROM CONTRACT DOCUMENTS AND SHOULD BE PARTICULARLY NOTED.
 - THE FOLLOWING DEFINES THE RESPONSIBILITY OF THE EIMCO PROCESS EQUIPMENT COMPANY (EIMCO), WITH REGARD TO THE INFORMATION AND DIMENSIONS SHOWN ON THIS DRAWING. (A) DIMENSIONS, LOADS, AND OTHER INFORMATION ARE PROVIDED TO ACCOMMODATE THE EQUIPMENT TO THE STRUCTURE AS SHOWN. (B) THE CUSTOMER IS TO PROVIDE REINFORCING STEEL AND DESIGN FOR CONCRETE STRUCTURES AND IS TO DETERMINE SIZES TO SUIT LOCAL CONDITIONS. (C) THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OR INSTALLATION PURPOSES UNLESS IT BEARS THE APPROVAL OF THE OWNER, THE ENGINEER OR THEIR AUTHORIZED REPRESENTATIVE. (D) THE MECHANISM SHOWN IS DESIGNED FOR DIRECTION OF ROTATION AS INDICATED. EIMCO DOES NOT ASSUME RESPONSIBILITY FOR DAMAGE IF OPERATED IN THE OPPOSITE DIRECTION. (E) CHARGES FOR MODIFICATIONS, ADDITIONS OR CORRECTIONS TO THE EQUIPMENT WILL NOT BE ACCEPTED BY EIMCO UNLESS PRIOR APPROVAL IS OBTAINED IN WRITING FROM AN AUTHORIZED EIMCO REPRESENTATIVE.
 - EIMCO DOES NOT FURNISH ELECTRICAL WIRING, CONDUIT OR ELECTRICAL EQUIPMENT; PIPING, VALVES OR FITTINGS; LUBRICATING OIL OR GREASE; FIELD PAINTING; FIELD WELDING OR ERECTION, (EXCEPT AS SPECIFICALLY NOTED).
 - SHOP PRIMER PAINT IS INTENDED TO SERVE ONLY AS A PROTECTIVE OR SEALING COAT. AS SUCH IT AFFORDS THE METAL ONLY MINIMAL PROTECTION AGAINST THE ELEMENTS. EIMCO CANNOT BE RESPONSIBLE FOR DETERIORATION OF SHOP-PRIMED EQUIPMENT DURING TRANSPORT, STORAGE OR OTHER EXPOSURE TO THE ELEMENTS PRIOR TO APPLICATION OF FINISH COATS.
 - SURFACE PREPARATION TO CONSIST OF: DRIVE UNIT SSPC-SP3 SUBMERGED AND NON-SUBMERGED STEEL - NONE
 - SHOP PAINTING TO CONSIST OF: DRIVE UNIT - (1) SHOP COAT 2.5 MIL DRY FILM THICKNESS OF TNEEC #77. SUBMERGED AND NON-SUBMERGED STEEL - BARE METAL
 - FOR ADDITIONAL DETAILS, REFER TO DRAWINGS:

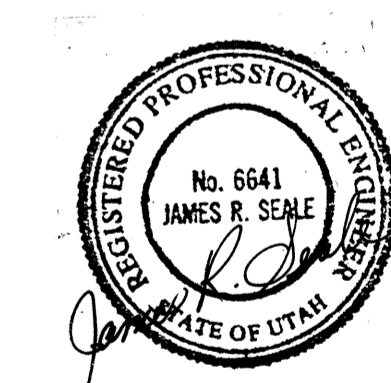
GENERAL ARRANGEMENT DETAILS	23179D2
DRIVE CONTROL	23179C3
WIRING DIAGRAM	203556
GEAR MOTOR	23179A32
 - EIMCO TO SUPPLY (2) MECHANISMS AS SHOWN AND NOTED WITH ALL PLATES AND STRUCTURAL MEMBERS HAVING A MINIMUM STEEL THICKNESS OF .25 INCHES.
 - ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF A.W.S. WELDING PROCEDURES WITH QUALIFICATION RECORDS PER A.W.S. D.1.1.
 - HIGH TORQUE ALARM UNIT AND MOTOR STARTERS (NOT BY EIMCO), HIGH TORQUE ALARM CONTACTS, (BY EIMCO), SEE DRAWING NUMBER 23179C3.
 - ISOLATION MUST BE PROVIDED FOR ALL ALUMINUM TO STEEL CONTACT SURFACES, (ISOLATION NOT BY EIMCO).
 - ANCHOR BOLTS - HOT DIP GALVANIZED STEEL, (BY EIMCO). ASSEMBLY BOLTS - BLACK STEEL EXCEPT AS NOTED BY EIMCO.
 - MILL CERTIFICATION ON ALL MATERIAL IS REQUIRED.
 - SPARE PARTS:
 - ONE (1) SET OF OIL SEALS FOR BASIC DRIVE.
 - ONE (1) SET OF SKIMMER WIPER BLADES.
 - ONE (1) SET OF TURNABLE BALL BEARINGS.
 - ONE (1) SET OF BEARING STRIP LINERS.



THIS DRAWING IS CERTIFIED FOR

CUSTOMER RUBY COLLINS, INC.
 CUSTOMER ORDER NUMBER 766-PO-4
 EIMCO ORDER NUMBER 23179-01
 PROJECT AUBURN SOUTHSIDE WATER TREATMENT PLANT
 PROJECT LOCATION AUBURN, ALABAMA
 CONSULTING ENGINEER METCALF & EDDY, INC.
 BY *Larry Hill* DATE 2-26-85

EIMCO PROCESS EQUIPMENT COMPANY



EIMCO PROCESS EQUIPMENT COMPANY - Salt Lake City, Utah	
THIS DRAWING AND ALL INFORMATION THEREON IS THE PROPERTY OF EIMCO PEC AND IS CONFIDENTIAL AND MUST NOT BE MADE PUBLIC OR COPIED. THIS DRAWING IS LOANED SUBJECT TO RETURN UPON DEMAND AND IS NOT TO BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO OUR INTERESTS.	
DO NOT SCALE PRINTS	DATE 2-15-85
DRAWN Drysdale	CHECK'D RLA
APPR. JS	DATE 3-11-85
REVISION	BY CHECKED DATE
REVISED H-R. FINISH, RAKE R.P.M. & ELEVATIONS	AW JS 5-8-85
ADDED PERIPHERAL INBOARD LAUNDRER	WD RLA 3-11-85
SECONDARY SLUDGE COLLECTOR	01 SC MH
115'-0 DIA x 13'-10 1/2 S.W.D	DWG. NO. 23179D1
GENERAL ARRANGEMENT	REV. B

SECTION 44 42 28
WEIR AND BAFFLE PLATES

PART 1 GENERAL

1.01 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
1. American Water Works Association (AWWA): F102, Matched-Die-Molded, Fiberglass-Reinforced Plastic Weir Plates, Scum Baffles, and Mounting Brackets.
 2. ASTM International (ASTM):
 - a. A167, Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 - b. A193/A193M, Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Applications.
 - c. A194/A194M, Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both.
 - d. A276, Standard Specification for Stainless Steel Bars and Shapes.
 - e. B209, Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - f. B308/B308M, Standard Specification for Aluminum-Alloy 6061-T6 Standard Structural Profiles.
 - g. C581, Standard Practice for Determining Chemical Resistance of Thermosetting Resins Used in Glass-Fiber-Reinforced Structures Intended for Liquid Service.
 - h. C920, Standard Specification for Elastomeric Joint Sealants.
 - i. D256, Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics.
 - j. D570, Standard Test Method for Water Absorption of Plastics.
 - k. D638, Standard Test Method for Tensile Properties of Plastics.
 - l. D790, Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 - m. D2583, Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

1.02 SUBMITTALS

A. Action Submittals:

1. Shop Drawings:

- a. Detailed description of laminate and type of reinforcing to be used.
- b. Manufacturer's drawings showing dimensions of the items and accessories being provided.
- c. Complete information regarding specific resin to be used.

B. Informational Submittals:

1. Manufacturer's Certificate of Compliance, in accordance with Section 01 61 00, Common Product Requirements, and stating the following:

- a. Reinforcing material used will provide suitable chemical resistance.
- b. Resin is suitable for the environmental conditions intended and the fabrication technique proposed.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Site properly packaged for ease of handling and to minimize damage during shipping.

B. Handling and storage of items provided hereunder shall be in strict accordance with manufacturer's printed instructions. Care shall be taken not to damage components and accessories.

PART 2 PRODUCTS

2.01 GENERAL

A. Like items of equipment specified herein shall be the end products of one manufacturer in order to achieve standardization of appearance, operation, maintenance, and manufacturers' services.

B. Coordinate scum baffle configuration with equipment, such as a scum skimmer, that will physically interface with baffle to ensure proper functioning of system.

2.02 MATERIALS

A. Fiberglass:

1. Match-die molded fiberglass, 1/4-inch minimum thickness, in accordance with AWWA F102.
2. Resin: Except as modified by this Specification, conform to ASTM C581:
 - a. Shall not contain fillers or thixotropic agents, except as may be required, and shall conform to resin manufacturer's recommendations.
 - 1) Glass Content: 20 percent to 30 percent.
 - 2) Inorganic Fillers: No less than 40 percent of resin mixture.
 - b. Coloring: Pigmented gel-coat containing ultra-violet blocking agent; manufacturer's standard color.
 - c. Sufficient thixotropic agents to form a paste to seal machined or cut edges.
 - d. Reinforcement:
 - 1) Commercial grade glass, made specifically for use in fiberglass reinforced plastic, and having a coupling agent providing a compatible bond between the glass reinforcement and the resin.
 - 2) Weight and density may be varied to obtain necessary resin-glass ratio and structural strength for the specified service.
 - e. Mold Surfaces: Reinforced with surfacing mat, followed by minimum of 3 ounces of chopped strand mat, in a minimum of two layers, with no other product introduced between layers.
 - f. Exposed Surfaces:
 - 1) Resin-rich, 10 mils to 20-mils thick with Type C surfacing mat, silane finish, and styrene-soluble binder.
 - 2) Glass fibers shall not be exposed.
 - 3) Chopped strand and chopped strand mat shall be Type E glass with silane finish and styrene-soluble binder.
 - 4) Minimum Glass Content: 30 percent by weight.
 - g. Laminates:

Property (70 Degrees F)	ASTM Standard	Value
Ultimate Tensile Strength, psi	D638	7,500 minimum
Flexural Strength, psi	D790	16,000 minimum
Flexural Modulus, psi	D790	800,000 minimum

H.C. Morgan WPCF Clarifiers No. 1 and No. 2 Weirs
and Baffles Replacement

Property (70 Degrees F)	ASTM Standard	Value
Ultimate Tensile Strength, psi	D638	7,500 minimum
Water Absorption	D570	0.2% in 24 hours
Impact, foot-pounds	D256	10

- h. Barcoal Hardness: ASTM D2583; minimum 90 percent of resin manufacturer's minimum specified hardness for cured, nonreinforced resin.
- i. Allowable cosmetic defects: As defined in AWWA F102.
- j. Final Laminate:
 - 1) Thickness: Within plus or minus 10 percent of nominal laminate thickness.
 - 2) Tolerance: Plus 1/16 inch; minus 0 inch of minimum specified thickness.
 - 3) Void Content (Completed Laminate): Maximum 2-1/2 percent of laminate by volume.
- 3. Manufacturers:
 - a. Warminster Fiberglass, Southampton, PA.
 - b. MFG Water Treatment Products Company, Union City, PA.
 - c. NEFCO, Inc., Palm Beach Gardens, FL.

B. Stainless Steel:

- 1. Plate, Baffles, and Supports: ASTM A167 and ASTM A276, Type 304 or 304L, minimum 1/4 inch thick.
- 2. Fasteners: ASTM A193/A193M and ASTM A194/A194M, Type 316.

2.03 APPURTENANCES

A. Gasket: Closed-cell neoprene, 50 durometer, 1/4 inch thick.

B. Sealant:

- 1. Polyurethane base, single-component, moisture curing, ASTM C920, Type S, Grade NS or P, Class 25.
- 2. Capable of being continuously immersed in water.
- 3. Manufacturers and products:
 - a. Sika Chemical Corp.; Sikaflex-1a.
 - b. Mameco International; Vulkem 45.

C. Anchoring: Type 316 stainless steel adhesive anchors.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in strict accordance with the manufacturer's written instructions.
- B. FRP Plates: Sand all cut edges or drilled holes greater than 3/8 inch in diameter, and seal with a nonair-inhibited resin solution, as recommended by resin manufacturer.
- C. Sealant:
 - 1. Clean and prepare concrete and weir plate surfaces in accordance with sealant manufacturer's recommendations.
 - 2. Application:
 - a. In accordance with manufacturer's instructions.
 - b. Completely cover the interface between the weir plate and mounting surface over the full height of the weir plate.
 - c. Apply sufficiently to completely fill any gaps between the weir plate and the supporting wall surface.
 - d. Clean excess sealant that is forced from between the weir plate and supporting wall as the plate is tightened against the wall surface to provide a neat installation.
 - e. Clean all adjacent surfaces of smears or soiling.

3.02 TESTS AND INSPECTION

- A. Functional Test: Demonstrate proper installation of weir plate for both water tightness and level, prior to placing unit into service, by filling unit with water to the weir crest elevation. Make adjustments as necessary to meet Specification.

END OF SECTION

PART 5

DRAWINGS
(BOUND SEPARATELY)
