

**COBB COUNTY-MARIETTA WATER
AUTHORITY**

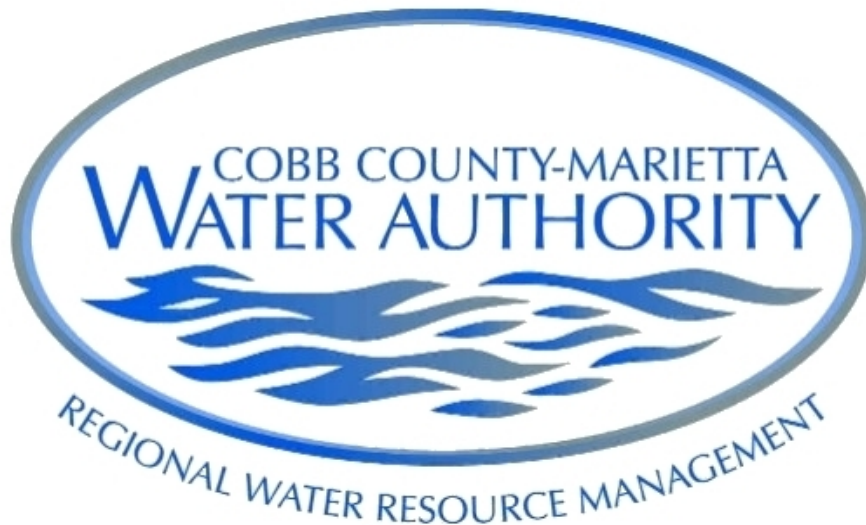
**JAMES E. QUARLES WTP
RESERVOIR CLEANING AND
IMPROVEMENTS PROJECT**

CCMWA Project No. 505-9005-38-20-0000

Permitting Submittal

**CONTRACT REQUIREMENTS AND
SPECIFICATIONS**

VOLUME 1 OF 2



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COBB COUNTY-MARIETTA WATER AUTHORITY

JAMES E. QUARLES WTP RESERVOIR CLEANING AND IMPROVEMENTS PROJECT

CCMWA Project No. 505-9005-38-20-0000

SEPTEMBER 2024 PERMITTING DOCUMENTS

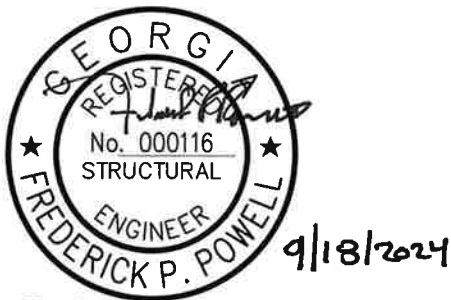
Professional Engineer Certifications



Kristin J. Ray, PE
Registration No. 034202
Divisions 01, 02, 31, 32



Nubea Lima, PE
Registration No. 024756
Divisions 26, 33



Frederick Powell, SE
Registration No. 000116
Divisions 02, 03, 05, 07, 09, 13, 31



Walter C. Goblisch IV
Registration No. 041059
Divisions 33, 40, 46

Hazen and Sawyer
GBPE License #: PEF003685
Expiration: 06/30/2026

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**JAMES E. QUARLES WTP
RESERVOIR CLEANING AND IMPROVEMENTS PROJECT**

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ADVERTISEMENT FOR BIDS

SEPARATE SEALED BIDS for furnishing all materials and providing all labor, tools, and equipment will be received by the Cobb County-Marietta Water Authority at 1170 Atlanta Industrial Drive, Marietta, Georgia 30066 until:

2:00 p.m., local time
on
January 9, 2025

for the Project known as:

JAMES E. QUARLES WTP
RESERVOIR CLEANING AND IMPROVEMENTS PROJECT

at which time and place the Bids will be publicly opened and read aloud. Bids received after the designated time will not be considered. Unsealed Bids, including facsimile Bids or Bids sent by e-mail, will not be considered. The Owner of the project is Cobb County-Marietta Water Authority. The Engineer for the project is Hazen and Sawyer. The Issuing Office for issuance of Bidding Documents is QuestCDN. Bid opening time is subject to extension pursuant to O.C.G.A Section 36-91-20(d).

Bidders shall inform themselves concerning Georgia Laws and comply with same.

The Project includes, but is not limited to, the following major elements:

1. Project Overview
 - a. Removal and off-site disposal of +/-30,000 cubic yards of accumulated sediment deposits from interior of ~6-acre reservoir. Repair damaged clay blanket and fabric-formed concrete slope protection inside reservoir.
 - b. Construct permanent reservoir access ramp with concrete pavement and install new fabric-formed concrete slope protection inside reservoir.
 - c. Construct raw water bypass and reservoir drain at Splitter Box. Perform structural, electrical, bridge, and gate repairs, replacements, and/or upgrades to reservoir Inlet, Outlet, and Splitter Box structures, as required.
 - d. All work shall be performed in accordance with the approved Georgia Safe Dams Program plans and specifications and coordinated with CCMWA for plant and reservoir operation. The existing Quarles Plant 2 facility will only be taken out of service during installation of new bypass line. Quarles Plant 2 shall remain in service during construction of the remaining Project. Quarles Plant 1 shall remain in service at all times during construction of the Project.

- e. Work may require a phased approach based on availability and schedule of products requiring extended lead times. To minimize potential impacts to the water treatment plant operation, Owner may elect to refill and return the reservoir to full operation following completion of Phase I work, requiring Contractor to perform two reservoir draining and dewatering operations.

The water treatment plant will only be taken out of service during installation of new bypass line and will be limited to 72 hours to facilitate new bypass connections. The water treatment plant shall remain in service during the construction of the remaining Project. Contractor will provide temporary facilities as necessary to maintain water production.

The contract time allowed for Substantial Completion is 450 consecutive calendar days. Due to anticipated extended lead times for manufacture and delivery of materials associated with sluice gates, prefabricated bridges, and pipe fittings and valves, the contract time has been predicated on two separate phases of construction (two potential episodes of reservoir draining/dewatering) and includes up to 365 calendar days for an Administrative Period to run concurrently with Phase I to allow for delivery of materials. At the Owner's privilege, Owner may elect to refill and return the reservoir to full operation during the Administrative Period once Phase I work is complete. Final Completion and readiness for final payment is 480 consecutive calendar days from the date of commencement.

THE WORK will be awarded in one Contract.

Only Bids including qualified Contractors, pre-qualified Pipeline Contractors, qualified Electrical Contractors, and pre-approved suppliers(s) will be considered for award of the Contract.

Bidder must have a minimum of ten (10) years of experience as a General Contractor performing general site development, grading and earthwork related activities having completed a minimum of three (3) projects of similar size and complexity in the last five (5) years. The Bidder shall be experienced in the kind of Work to be performed, shall have the necessary equipment therefore, and shall possess sufficient capital to properly execute the Work within the time allowed.

The Bidder's proposed Pipeline Contractor must be pre-qualified with the Cobb County-Marietta Water Authority to construct 48-inch diameter water mains at the time of the first publication of this notice. A list of pre-qualified Pipeline Contractors is included in the specifications.

The Bidder's proposed Electrical Contractor must have completed at least two (2) projects located in a municipally owned water or wastewater treatment plant in the last five (5) years which include installation of buried concrete ductbanks and surface mounted conduit.

Each Bidder must be a State of Georgia licensed Utility Contractor and General Contractor at the time of the Bid. Bids shall be submitted only under the legal name certified to transact business in Georgia by the Georgia Secretary of State.

The successful Bidder must employ and assign to the Project supervisory personnel trained and state certified at Level 1A - Fundamentals of the Georgia Erosion and Sediment Control training program.

A mandatory Pre-Bid Conference will be held for all Bidders beginning at **10:00 a.m., local time, on December 13, 2024**, at the James E. Quarles Water Treatment Plant (WTP) Training/Conference Room, 4402 Lower Roswell Road, Marietta, Georgia 30068. A Bid submitted

by a Bidder not having attended the entire Pre-Bid Conference will not be opened. A short tour of the facility will be conducted as part of the Pre-Bid Conference. Additional, non-mandatory site visits may be allowed for Bidders and will be by appointment only.

All questions related to the Project shall be submitted by email no later than **5:00 p.m., local time, on December 31, 2024**, to Kristin Ray at kray@hazenandsawyer.com with the subject line "Quarles WTP Reservoir Bid Question". Questions, if answered, will be addressed by addendum to the Contract Documents via the Q&A tab on the QuestCDN website for the project. Receipt of any addenda or amendment to this Advertisement for Bids shall be acknowledged, in writing, and shall be submitted with the Bid.

Electrical Copies of Contract Documents are available at <https://www.questcdn.com/> upon payment of \$22 nonrefundable, for download and printing access. All Bidders are required to purchase a set of the Contract Documents. All payments will be made online to QuestCDN. No partial sets will be sold. Bidders will be required to set up a QuestCDN account to access documents and addendum. Contract documents can be searched for in the QuestCDN Project Search bar as Project Number (eBidDoc#) 9425226 Contact QuestCDN at info@questcdn.com for assistance with navigating the website and digital project information. Hard copies of Bidding Documents are the responsibility of the Bidders.

By purchasing the Contract Documents, purchaser agrees to allow company information (company name, address, phone and fax numbers) to be published as a plan holder. The Owner is not obligated to consider a Bidder's proposal if Bidder is not on record with the Issuing Office as having received a complete set of Bidding Documents.

All Bids must be made out on the bid form included in the Bidding Documents, in accordance with the Instructions to Bidders. No interlineations, additions or deletions shall be made in the bid form by the Bidder.

Each Bid must be accompanied by a Bid Bond with good and sufficient surety or sureties approved by the Owner for faithful acceptance of the contract, payable to, in favor of, and for the protection of the Owner in an amount equivalent to five percent of the total amount payable by the terms of the contract or, in lieu thereof, a certified check, cashier's check, or cash in equal amount. The Bid Bond shall be prepared on the Bid Bond form attached to the Contract Documents or a Surety Company's Standard Bid Bond, duly executed by the Bidder as principal and having as Surety thereon a surety company licensed to do business in the State of Georgia and listed in the latest issue of U.S. Treasury Circular 570.

Each Bid must also be accompanied by a notarized Non-Collusion Affidavit of Bidder, Contractor's License Certification, Affidavit Verifying Status for Cobb County-Marietta Water Authority Public Benefit Application, and Security and Immigration Compliance Act Certification. Out-of-state corporations and other entities must submit evidence of authority to conduct business in Georgia as an out-of-state entity.

The Owner will in no way be liable for any costs incurred by any Bidder in the preparation of its Bid in response to this Advertisement for Bid.

The successful Bidder will be required to furnish a Performance Bond, Payment Bond, Certification of Contractor's Attorney, and Contractor's Affidavit and Agreement with the executed Agreement meeting the requirements of the Contract Documents and executed on the forms attached to the Agreement. The successful Bidder will also be required to furnish the Pre-Construction Oath pursuant to O.C.G.A. §36-91-21 from every person who procures the

Agreement. The successful Bidder shall also provide an executed Subcontractor Affidavit for each subcontractor working on the Project, using the form attached to the Agreement; Subcontractor Affidavits shall be submitted to the Cobb County-Marietta Water Authority as each subcontractor is brought under contract during execution of the Project. The terms and time for payment are set forth in the Agreement.

All Bids will remain subject to acceptance for sixty days after the day of the Bid opening, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to that date.

The Owner reserves the right to reject all Bids, to waive informalities and re-advertise.

**Cobb County-Marietta Water Authority
Cole Blackwell
General Manager**

- END OF SECTION -

SECTION 00 20 00

APPROVED SUPPLIERS OF SERVICES

PART 1 – GENERAL

1.01 SCOPE

This section outlines the approved suppliers of services (vendors and subcontractors) for the Project.

1.02 PRE-SELECTED SUPPLIERS OF SERVICES

- A. None.

1.03 PRE-APPROVED SUPPLIERS OF SERVICES

- A. Fabric Forms: The pre-approved fabric forms for the slope protection for this project are HYDROTEX Uniform Section (US400) fabric forms as manufactured by Synthetex LLC.

1.04 PRE-QUALIFIED SUPPLIERS OF SERVICES

- A. Contractors: The pre-qualified contractors for this project include the following firms:
None.
- B. Pipeline Contractors: Contractor shall use an Owner pre-qualified pipeline contractor for 48-inch size ductile iron pipe installation and associated work such as connection to existing 48-inch PCCP. Contractor shall submit the final pipeline contractor(s) selected to CCMWA for review and approval. Only CCMWA-approved contractors shall be allowed to perform pipeline work for the 48-inch pipe. A list of CCMWA pre-qualified pipeline contractors is provided.

- END OF SECTION -

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**Prequalified (DUCTILE) Pipeline Contractors
Approved 03/18/2024**

**Category 1
(24-inch and smaller)**

GS Construction, Inc.
526 Lyle Circle
Lawrenceville, GA 30046
Alessandro Salvo
avsalvo@gsconstruction.net
678-377-8028

John Plott Company, Inc.
2804 Rice Mine Road NE
Tuscaloosa, AL 35406
Tim Gilliam
tgilliam@jplott.com
205-345-5678

K.M Davis Contracting Co., Inc.
212 Lower Dowda Mill Road
Jasper, GA 30143
Miller Davis
kmdcc@bellsouth.net
770-434-0095

RDJE, Inc.
679 Hwy 29 South, Suite A
Newnan, GA 30263
David Warda
dwarda@rdjeinc.com
770-251-2667

Wade Coots Company, Inc.
174 Duncan Circle
Hiram, GA 30141
Mark Sutton
Mark.sutton@wadecootscompany.com
770-819-0601

**Category 2
(36-inch and smaller)**

Don Moorhead Construction, Inc.
1513 Anderson Street
Belton, SC 29627
Kevin Moorhead
kmoorhead@moorheadconstruction.com
404-338-0888

Gordy Construction Company
2960 Smith Road
Fortson, GA 31808
Schley Gordy
schley@gordyconstruction.com
706-324-0143

Legacy Water Group, LLC
10130 Bob Williams Parkway
Covington, GA 30014
Jeff Klebowski
jklebowski@legacywatergroup.com
678-712-2132

Strickland & Sons Pipeline, Inc.
1551 Fullenwider Road
Gainesville, GA 30507
Robert Strickland
strickland@sspipeline.net
770-535-2246

Category 3
(48-inch and smaller)

Cleary Construction Inc.
2006 Edmonton Road
Tompkinsville, KY 42167
Darren Cleary
darrencleary@clearyconst.com
270-427-6146

Unity Construction Co., Inc.
3941 Flint Hill Road
Powder Springs, GA 30127
Andy Anderson
andy@unityconstructioninc.com
770-943-9886

Category 4
(unlimited size)

Garney Companies, Inc.
5895 Shiloh Road, Suite 114
Alpharetta, GA 30005
Billy Page
bpage@garney.com
770-754-4141

Reynolds Construction of Georgia, LLC
300 East Broad Street
Fairburn, GA 30213
Kevin Shemwell
kevin.shemwell@reynoldscon.com
770-969-4040

JDS, Inc.
272 Hurricane Shoals Rd., NE
Lawrenceville, GA 30046
Steven Archer
sarcher@jdspipe.com
770-972-8000

Ruby-Collins, Inc.
4875 Martin Court
Smyrna, GA 30082
Scott Cline
scline@ruby-collins.com
770-432-2900

Mid-South Builders, Inc.
7057 Maddox Road,
Lithonia, GA 30058
Ben Weaver
ben@mid-southbuildersinc.com
770-484-9600

Thalle Construction Co., Inc.
900 NC Hwy 86 North
Hillsborough, NC 27278
Stephen Kholer
skohler@thalle.com
919-245-1490

Morgan Contracting, Inc.
900 Dutch Valley Drive
Knoxville, TN 37918
Shadford Hubbard
shubbard@morgan1.com
865-249-8640

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

1. Defined Terms

Terms used in these Instructions to Bidders which are defined in the Standard General Conditions of the Construction Contract have the meanings assigned to them in the General Conditions.

Certain additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.

- 1.1. Bidder - one who submits a Bid directly to Owner as distinct from a sub-bidder, who submits a bid to a Bidder.
- 1.2. Issuing Office - the office or system named in the Advertisement for Bid from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
- 1.3. Successful Bidder - the lowest, responsible and responsive Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.
- 1.4. Owner - Cobb County-Marietta Water Authority (CCWMA), party of the first part to the Contract Agreement, or its authorized and legal representatives.
- 1.5. Engineer - The individual or entity named as such in the Advertisement for Bids and Agreement.
- 1.6. Contractor - the party of the second part to the Contract Agreement or the authorized and legal representative of such party.
- 1.7. Work and Project - shall mean the entire complete construction required to be furnished under the Contract Documents.
- 1.8. Products - shall mean materials or equipment permanently incorporated into the Project.
- 1.9. Provide - shall mean to furnish and install.

2. Copies of Bidding Documents

- 2.1. Complete sets of the Bidding Documents may be obtained from the Issuing Office.
- 2.2. Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Engineer assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents, whether obtained from the Owner, Engineer, Issuing Office, or other sources.

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

3. Qualifications of Bidders

3.1. Each Bidder must be licensed in the State of Georgia at the time of Bid. Each Bidder must be a State of Georgia licensed Utility Contractor and General Contractor at the time of the Bid.

3.2. Bidders must be on record of having attended the mandatory Pre-Bid Conference and site tour.

3.3. Each Bidder must submit completed Section 00 45 13 – Statement of Bidders Qualifications with the Bid. Owner reserves the right to reject any Bidder who does not satisfy the Owner as to its ability to successfully perform the Work.

3.3.1. Bidder must have a minimum of ten (10) years of experience as a General Contractor performing general site development, grading and earthwork related activities having completed a minimum of three (3) projects of similar size and complexity in the last five (5) years. The Bidder shall be experienced in the kind of Work to be performed, shall have the necessary equipment therefore, and shall possess sufficient capital to properly execute the Work within the time allowed.

3.3.2. Only bids including a Pipeline Contractor that is pre-qualified with the Cobb County-Marietta Water Authority to construct 48-inch diameter water mains at the time of the first publication of this notice will be considered.

3.3.3. Only bids including a qualified Electrical Contractor will be considered. A qualified Electrical Contractor shall have completed at least two (2) projects located in a municipally owned water or wastewater treatment plant in the last five (5) years which include installation of buried concrete ductbanks and surface mounted conduit.

3.4. The successful Bidder must employ and assign to the Project supervisory personnel trained and state certified at Level 1A - Fundamentals of the Georgia Erosion and Sediment Control training program.

4. Examination of Contract Documents and Site

4.1. It is the responsibility of each Bidder before submitting a Bid:

4.1.1. To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents (including "technical data" referred to below);

4.1.2. To visit the site to become familiar with and satisfy Bidder as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work;

4.1.3. To consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work;

4.1.4. To study and carefully correlate Bidder's knowledge and observations with the Contract Documents and such other related data; and

4.1.5. To promptly notify Engineer of all conflicts, errors, ambiguities or discrepancies which Bidder has discovered in or between the Contract Documents and such other related documents.

4.2. Reference is made to the Supplementary Conditions for identification of:

4.2.1. Those reports of explorations and tests of subsurface conditions at or contiguous to the site which have been utilized by Engineer in preparation of the Contract Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such reports but not upon other data, interpretations, opinions or information contained in such reports or otherwise relating to the subsurface conditions at the site, nor upon the completeness thereof for the purposes of bidding or construction.

4.2.2. Those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the site that have been utilized by Engineer in preparation of the Contract Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such drawings but not upon other data, interpretations, opinions or information shown or indicated in such drawings or otherwise relating to such structures, nor upon the completeness thereof for the purposes of bidding or construction.

4.2.3. Copies of such reports and drawings will be made available for review to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02 of the General Conditions has been identified and established in Paragraph SC-4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion drawn from any "technical data" or any such data, interpretations, opinions or information.

4.3. Information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities or others, and Owner and Engineer do not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions.

4.4. 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 Contract Documents due to differing or unanticipated conditions appear in Paragraphs 4.02 and 4.03 of the General Conditions.

4.5. Before submitting a Bid each Bidder will be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or

otherwise, which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

4.6. On request, Owner will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests and studies as each Bidder deems necessary for submission of a Bid. Bidder must fill all drilled or augured holes with a neat cement grout and clean up and restore the site to its former conditions upon completion of such explorations, investigations, tests and studies.

4.7. Reference is made to the Supplementary Conditions for the identification of the general nature of any 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 for which a Bid is to be submitted. 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 work.

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

The provisions of ITB-4.1 through 4.8, inclusive, do not apply to Asbestos, Polychlorinated biphenyls (PCBs), Petroleum, Hazardous Waste or Radioactive Material covered by Paragraph 4.06 of the General Conditions.

5. Availability of Lands for Work, etc.

The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

6. Interpretations and Addenda

6.1. All questions about the meaning or intent of the Bidding Documents are to be directed to Engineer. Every request for such interpretation and all questions must be made in writing and addressed to Hazen and Sawyer, Attention: Kristin Ray, 1300 Altmore Drive, Suite 520, Atlanta, GA 30342. In lieu of mail, questions may be made by e-mail to kray@hazenandsawyer.com.

Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addendum mailed or delivered to all parties recorded by Issuing Office as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

6.2. Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner or Engineer.

6.3. Failure of any Bidder to receive any such addendum or interpretations shall not relieve such bidder from any obligation under his Bid as submitted.

6.4. Failure of any Bidder to acknowledge any such addendum or interpretations shall not relieve such Bidder from any obligation under his Bid as submitted, if Bidder has knowledge of any such addendum, or interpretations. If Bidder has knowledge of any such addendum or interpretation but fails to acknowledge, this will be considered an informality.

7. Bid Security

7.1. Each Bid must be accompanied by a Bid Bond (on the form attached) with good and sufficient surety or sureties approved by the Owner and meeting the requirements of Paragraph 5.01 of the General Conditions, for faithful acceptance of the contract, payable to, in favor of, and for the protection of the Owner in an amount equivalent to five percent (5%) of the total amount payable by the terms of the contract, in lieu thereof, in the form of a certified check, cashier's check, or cash in equal amount. Bidders who submit Bid Security in the form of a certified check, cashier's check, or cash are bound by the "Terms of Bid Bond" as if submitted on the attached "Bid Bond" form.

7.2. The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement, furnished the required contract security and Certifications of Insurance 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 Agreement and furnish the required contract security within fifteen days after the Notice of Award, Owner may annul the Notice of Award and Bid Security of that Bidder will be forfeited. The 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 seventh day after the Effective Date of the Agreement or the sixtieth day after the Bid opening whereupon Bid Security furnished by such Bidders will be returned. Bid Security with Bids which are not competitive will be returned within seven days after the Bid opening, if requested by the respective Bidder. The name of the company on the Certification of Insurance must match current registration with the Secretary of State.

7.3. Failure of Bidder to provide qualification information, if requested, within 10 days of notification of request, shall be grounds for forfeiting of the Bid Security of that Bidder.

8. Contract Times

The number of days within which, or the dates by which, the Work is to be substantially completed and also completed and ready for final payment (the term "Contract Times" is defined in paragraph 1.01. A.14. of the General Conditions) are set forth in the Agreement and incorporated therein by reference in the attached Bid Form.

9. Liquidated Damages

Provisions for liquidated damages are set forth in the Agreement.

10. Substitute and "Or Equal" Items

The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or equal" items which have not received approval of the Engineer. The procedure and timing for submission of any substitution by Contractor and consideration by Engineer is set forth in Paragraph 6.05 of the General Conditions.

11. Subcontractors, Suppliers and Others

11.1. The Contractor shall perform a minimum of 20 percent of the onsite labor with its own employees. If the General Conditions or Supplementary Conditions require the identity of certain Subcontractors, Suppliers and other persons and organizations (including those who are to furnish the principal items of material and equipment) 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 five days after Bid opening (or other date as may be specified by General Conditions or Supplementary Conditions) submit to Owner a list of all such Subcontractors, Suppliers and other persons and organizations 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, person or organization if requested by Owner. Owner or Engineer who after due investigation has reasonable objection to any proposed Subcontractor, Supplier, other person or organization, may before the Notice of Award is given request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit an acceptable substitute, provided that Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution and Owner may consider such price adjustment in evaluating Bids and making the contract award.

11.2. 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 and other persons and organizations. The declining to make requested substitutions will not constitute grounds for sacrificing the Bid security of any Bidder. Any Subcontractor, Supplier, other person or organization submitted to Owner and Engineer by Bidder and to whom Owner or Engineer does not make written objection prior to the giving of the Notice of Award will

be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06B of the General Conditions.

12. Bid Form

12.1. The Bid Form is included with the Bidding Documents.

12.2. All blanks on the Bid Form must be completed by printing in ink or by typewriter.

12.3. Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature and the signature shall be in blue ink. The name of the bidder must match the current registration with the Secretary of State. Bids submitted with a bidder's name shown as "Doing Business As" without an official corporation name currently registered with the Secretary of State shall not be accepted.

12.4. Bids by partnerships and Limited Liability Companies (LLCs) must be executed in the partnership or LLC name and signed in blue ink by a partner, whose title must appear under the signature and the official address of the partnership or LLC must be shown below the signature. The name of the bidder must match the current registration with the Secretary of State. A seal is not required for partnerships or LLCs. Bids submitted with a bidder's name shown as "Doing Business As" without an official partnership or LLC name currently registered with the Secretary of State shall not be accepted.

12.5. All names must be typed or printed in ink below the signature.

12.6. The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).

12.7. The address and telephone number for communications regarding the Bid must be shown.

12.8. Evidence of authority to conduct business as an out-of-state corporation in the state where the Work is to be performed shall be provided with the Bid Form.

12.9. Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his address, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in the bid form. Any bid which is not properly prepared and accompanied by required certifications may be rejected by the Owner.

13. Submission of Bids

Bids shall be submitted at the time and place indicated in the Advertisement or Invitation to Bid and shall be enclosed in an opaque sealed envelope, marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted) and name and

address of Bidder, and accompanied by the Bid security, Contractor's License Certification, Non-collusion Affidavit of Bidder, Bid Form, Corporate Certificate, Security and Immigration Compliance Act Certification (e-verify), and other required documents for a complete, responsive and responsible bid. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

14. Modification of Bids

14.1. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the closing time.

15. Opening of Bids

15.1. Bids will be opened and (unless obviously non-responsive) read aloud publicly at the place where Bids are to be submitted. An abstract of the amounts of the base Bids and major alternates (if any) will be made available to Bidders after the effective date of the Contract.

15.2. The Owner is not obligated to consider a Bidder's proposal, if Bidder is not on record with the Issuing Office as having attended the Pre-Bid Conference and received complete Bidding Documents from the Issuing Office.

15.3. No bid shall be considered unless a proper bid bond or other security authorized in Paragraph 7 of these Instructions to Bidders is submitted.

16. Bids to Remain Subject to Acceptance

All Bids will remain subject to acceptance for sixty days after the day of the Bid opening, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to that date. Owner shall release any Bid and return the Bid Security if a Bidder requests the withdrawal of its Bid and basis of withdrawal is in accordance with O.C.G.A. § 36-91-52.

17. Award of Contract

17.1. Owner reserves the right to reject all Bids, including without limitation the rights to reject any or all nonconforming, nonresponsive, unbalanced or conditional Bids and to 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, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. 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. In the event a Bid is rejected by Owner or a Bidder is permitted by Owner to withdraw its Bid, Owner reserves the right to preclude such Bidder from resubmitting a Bid at any subsequent re-bidding of the Work. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

17.2. In evaluating Bids, Owner will consider the qualifications of Bidders, whether or not the Bids comply with the prescribed requirements as indicated in the Advertisement for Bid, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award. Conditional Bids will not be accepted.

17.3. Owner may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Supplementary Conditions. Owner also may consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.

17.4. Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

17.5. If the contract is to be awarded, it will be awarded to the responsible and responsive Bidder submitting the lowest Bid whose evaluation by Owner indicates to Owner that the award will be in the best interests of the Project.

17.6. If the contract is to be awarded, Owner will give Successful Bidder a Notice of Award within sixty days after the day of the Bid opening.

18. Contract Security

Paragraph 5.01 of the General Conditions and the Supplementary Conditions set forth Owner's requirements as to Performance and Payment Bonds. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by the required Performance and Payment Bonds in the form as shown on Exhibits B and C of the Contract Documents.

19. Signing of Agreement

When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within fifteen days thereafter Contractor shall sign and deliver the required number of counterparts of the Agreement, Contractor Affidavit and Agreement, Subcontractor Affidavit(s) and Agreement(s), and attached documents to Owner with the required Bonds and Certification of Insurance. Within fifteen days of the Owner's receipt from the Contractor of the following documents in proper form: the required number of executed counterparts of the Agreement, the Bonds, the oath pursuant to O.C.G.A. § 36-91-21(e), the Certification of Insurance, and any other documents required by the Bidding Requirements, Owner shall deliver one fully signed counterpart to the Contractor. Each counterpart is to be accompanied by a complete set of the Drawings with appropriate identification. The name of the company on the Certification of Insurance must match current registration with the Secretary of State.

20. Laws and Regulations

All applicable federal and state laws, municipal ordinances, and rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

21. Security and Immigration Act

21.1 Contractors and Subcontractors who enter into contracts with public employers are required to register and participate in the Federal Work Authorization Program to verify work eligibility information of new employees. Bidders are required to fill out the following forms located in the Bidding Documents attesting to their status under this program and that they will pass on the same requirements to their Subcontractors as required by OCGA 13-10-90 and 13-10-91; GA Department of Labor 300-10-1:

21.1.1 Affidavit Verifying Status for Cobb County-Marietta Water Authority;

21.1.2 Security and Immigration Compliance Act Certification.

21.2 Pursuant to Code of Georgia 13-10-90 et. seq., the Georgia Security and Immigration Compliance Act of 2006, the following forms located in the Bidding Documents shall be completed prior to Award:

21.2.1 Contractor Affidavit and Agreement;

21.2.2 Subcontractor and Sub-subcontractor Affidavit and Agreement.

21.3 Contractor understands and agrees that compliance with the requirements of OCGA 13-10-90, OCGA 13-10-91, and Georgia Department of Labor Rule 300-10-1 are conditions of this Agreement.

21.4 Contractor further agrees that such compliance shall be attested by Contractor and its Subcontractors and Sub-subcontractors by execution of the appropriate Contractor Affidavit and Agreement and Subcontractor Affidavit forms included in the Contract Documents.

22. Pre-Bid Conference

22.1 A mandatory Pre-Bid Conference will be held for all Bidders at 4402 Lower Roswell Road, Marietta, Georgia 30068 on **MONTH DAY, 2024**. Attendance is mandatory for all bidders.

22.2 All bidders submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the bidder's bid. No one individual is permitted to represent more than one Bidder at the pre-bid meeting. Any individual that does attempt to represent two or more bidders will be required to select one bidder to which the individual's attendance will be attributed. The bidders not selected will be deemed to have not attended the pre-bid meeting unless another individual attended on their behalf. The

required attribution of attendance to a single bidder should be addressed during the pre-bid meeting but may occur at any time deemed appropriate by Owner.

22.3 An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. Any person attending the pre-bid meeting on behalf of a bidder must list on the attendance sheet his or her name and the name of the bidder he or she is representing.

22.4 Additionally, the person attending the pre-bid meeting should include the bidder's e-mail address and phone number on the attendance sheet. It is the bidder's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required shall result in disqualification of bidder's bid.

22.5 All bidders should arrive prior to the starting time for the pre-bid meeting. Bidders who arrive after the starting time but prior to the end of the pre-bid meeting will be permitted to sign in but are charged with knowing all matters discussed during the entirety of the pre-bid meeting.

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SECTION 00 41 13

BID FORM

PROJECT IDENTIFICATION:

James E. Quarles WTP
Reservoir Cleaning and Improvements Project

THIS BID IS SUBMITTED TO:

Cobb County-Marietta Water Authority
1170 Atlanta Industrial Drive
Marietta, Georgia 30066

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with Owner in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Bid Price and within the Bid Times indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. Bidder accepts all of the terms and conditions of the Advertisement for Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for sixty (60) days after the day of Bid opening. Bidder will sign and deliver the required number of counterparts of the Agreement with the Bonds, Certifications of Insurance, and other documents required by the Bidding Requirements within fifteen (15) days after the date of Owner's Notice of Award.
3. In submitting this Bid, Bidder represents, as more fully set forth in the Agreement, that:
 - (a) Bidder has examined and carefully studied the Bidding Documents and the following Addenda receipt of all of which is hereby acknowledged (list date of Addenda next to respective Addendum No.):

Addendum No. 1: _____
Addendum No. 2: _____
Addendum No. 3: _____
Addendum No. 4: _____
 - (b) Bidder has visited the site and is familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance and furnishing of the Work, and bidder has not relied upon any oral representations by employees or agents of Owner or Engineer.
 - (c) Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.

- (d) Bidder has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all Drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site which have been identified in the Supplementary Conditions as provided in paragraph 4.02.A of the General Conditions. Bidder accepts the determination, if any, set forth in paragraph SC-4.02.A of the Supplementary Conditions of the extent of the "technical data" contained in such reports and drawings upon which Bidder is entitled to rely as provided in paragraph 4.02 of the General Conditions. Bidder acknowledges that such reports and Drawings are not Contract Documents and may not be complete for Bidder's purposes. Bidder acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Bidding Documents with respect to Underground Facilities at or contiguous to the Site. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Bidder and safety precautions and programs incident thereto. Bidder does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance and furnishing of the Work in accordance with the times, price and other terms and conditions of the Contract Documents.
- (e) Bidder is aware of the general nature of Work to be performed by Owner and others at the Site that relates to Work for which this Bid is submitted as indicated in the Contract 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 Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
- (g) Bidder has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Bidder has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to Bidder, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.
- (h) This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

4. As defined in Division 1, General Requirements, Bidder shall complete the Work in accordance with the Contract Documents for the bid prices indicated below.

ITEM 1, LUMP SUM WORK – Furnishing all products, materials, and equipment and performing all labor necessary to complete and put into operation **James E. Quarles WTP Reservoir Cleaning and Improvements Project** including all Work shown on the Drawings and/or specified, excluding OWNER CASH ALLOWANCES (ITEM 2) and UNIT PRICE ITEMS (ITEM 3).

ITEM 1.1, GENERAL CONDITIONS – includes mobilization/demobilization; insurance and bonds; temporary facilities; traffic control and signage; temporary access roads and ramp, safety barriers, erosion and sediment control measures, reservoir dewatering/water control; permanent roadways; restoration of site including enhanced protection for existing underground utilities within haul routes; truck wash facilities and management of spoils and water; control of dust; maintenance and restoration of existing gravel roads; maintenance and replacement of damaged and/or new asphalt pavements; preparation, maintenance of, and restoration of temporary laydown areas; fine grading and grassing; and, perform required quality control testing services based on applicable specification sections.

_____ DOLLARS

(\$ _____). (Numerals)

ITEM 1.2, SEDIMENT REMOVAL – includes sediment excavation, field processing, moisture conditioning, haul-off and disposal of initial 20,000 cubic yards of conditioned sediments from within reservoir limits based on pre-excavation surveyed quantities; and, pre-excavation and post-excavation surveys. Excavate, process, moisture condition, remove and dispose offsite initial 20,000 cubic yards of sediments accumulated within reservoir as shown on Drawings and/or specified complete; includes but is not limited to all labor, materials and equipment as defined in Section 31 00 02. Contractor shall ensure all off-site disposal costs are included; any unforeseen costs related to processing for moisture control, trucking, and/or off-site disposal are not the responsibility of Owner.

_____ DOLLARS

(\$ _____). (Numerals)

ITEM 1.3, BRIDGES AND MISCELLANEOUS METALS – as shown on Drawings and/or specified complete; includes but is not limited to all labor, materials and equipment to deconstruct existing bridge decks and land supports; remove and dispose of demolished structures from site; construct new and modified bridge supports; perform modifications and repairs to slope protection; excavation, placement of earthfill and aggregates; installation of new prefabricated bridges and safety railing as shown on the Drawings and/or specified, complete; and, perform required quality control testing services based on applicable specification sections.

_____ DOLLARS

(\$ _____). (Numerals)

ITEM 1.4, PERMANENT ACCESS RAMP – as shown on Drawings and/or specified complete; includes but is not limited to all labor, materials and equipment to remove existing slope protection; repair/prepare subgrades; import and placement of suitable earthfill for construction of ramp; placement of concrete apron, ramp and stairs; installation of new fabric-formed concrete slope protection at ramp; related erosion control measures and maintenance; and, perform required quality control testing services based on applicable specification sections.

_____ DOLLARS

(\$ _____). (Numerals)

ITEM 1.5, INLET/OUTLET STRUCTURE GATES – as shown on Drawings and/or specified complete; includes but not limited to all labor, materials, and equipment to deconstruct and replace existing gates, miscellaneous hardware and operators on Structures B, C, D and E as shown on the Drawings and/or specified, complete. Includes replacement of eight (8) gates. Perform required quality control testing services based on applicable specification sections.

_____ DOLLARS

(\$ _____). (Numerals)

ITEM 1.6, ELECTRICAL IMPROVEMENTS – as shown on Drawings and/or specified complete; includes but is not limited to all labor, materials, and equipment at and between Splitter Box and Outlet Structure E, and perform required quality control testing services based on applicable specification sections.

_____ DOLLARS

(\$ _____). (Numerals)

ITEM 1.7, RAW WATER BYPASS AND RESERVOIR DRAIN PIPE – valves, gates, structures, pipe removal and abandonment, and Splitter Box improvements as shown on Drawings and/or specified complete; includes but is not limited to all labor, materials and equipment to construct raw water bypass and reservoir drain at Splitter Box to storm drain, including but not limited to all excavation/excavation sloping; structure and excavation bracing; removal of existing 48-inch pipe; installation of 18-inch and 48-inch pipe, valves, fittings, and structures; existing structure repairs and modifications; concrete; earthfill; perform required quality control testing services based on applicable specification sections; concrete splash pad; temporary facilities required to maintain water production, and coordination with Georgia Safe Dams Program. The Quarles Plant 2 water treatment plant will only be taken out of service during installation of new bypass line and will be limited to 72 hours to facilitate new bypass connections.

_____ DOLLARS
 (\$_____). (Numerals)

TOTAL OF ALL LUMP SUM WORK ITEMS (ITEM 1)

_____ DOLLARS
 (\$_____). (Numerals)

ITEM 2, OWNER CASH ALLOWANCES – The Contractor shall include the following cash allowances to be coordinated and authorized by the owner as deemed necessary.

Item No.	Description	Allowance
2.1	Non-specified Owner Directed Work	\$500,000.00
2.2	Land Disturbance Permit Fees	\$5,000.00
TOTAL OF OWNER CASH ALLOWANCES (ITEM 2)		\$505,000.00

ITEM 3, UNIT PRICE ITEMS

Descriptions for non-standard unit price items are provided below:

ITEM 3.01, ADDITIONAL SEDIMENT REMOVAL (during Phase I, in excess of initial 20,000 cubic yards) – includes sediment excavation, field processing, moisture conditioning, haul-off and disposal of conditioned sediment materials in excess of initial 20,000 cubic yards from within reservoir limits based on pre-excavation surveyed quantities. Excavate, process, moisture condition, remove and dispose offsite all sediments accumulated within reservoir as shown on Drawings and/or specified complete; includes but is not limited to all labor, materials and equipment as defined in Section 31 00 02. Contractor shall ensure all off-site disposal costs are included; any unforeseen costs related to processing for moisture control, trucking, and/or off-site disposal are not the responsibility of Owner.

ITEM 3.02, SITE AND FACILITY MAINTENANCE (between Phase I and Phase II) – Due to anticipated construction sequencing and schedule, the project may enter a temporary pause (Administrative Period) to allow for manufacture and delivery of materials with extended lead times. This temporary pause in construction (Administrative Period) is anticipated to last between 2 and 4 months. Item 3.02 includes but is not limited to all labor, materials, and equipment necessary to maintain all temporary access, temporary facilities, and erosion and sedimentation controls during the temporary pause, while allowing CCMWA to return facility to full operational status.

ITEM 3.03, PHASE II RESERVOIR DEWATERING/WATER CONTROL – At the Owner's privilege, Owner may elect to refill and return the reservoir to full operation during the Administrative Period, necessitating Item 3.03. Item 3.03 includes but is not limited to all labor, materials, and equipment necessary for dewatering/water control operations to drain and maintain reservoir in dry condition following temporary pause in construction (as described in Item 3.02) to enable sediment conditioning and removal of sediment accumulations that occurred while the reservoir was refilled during the temporary pause.

ITEM 3.04, PHASE II SEDIMENT REMOVAL MOBILIZATION/DEMobilIZATION – includes mobilization/demobilization of equipment and personnel needed to excavate and dispose of all accumulations of sediments (occurring during the temporary pause) deemed practical by CCMWA. Necessity of Item 3.04 to be determined by Owner following performance of Phase II dewatering (included in Item 3.03).

ITEM 3.05, PHASE II SEDIMENT REMOVAL – includes but is not limited to all labor, materials, and equipment necessary for excavation, conditioning, removal, and disposal of all accumulations of sediments (occurring during the temporary pause) deemed practical by CCMWA. Necessity of Item 3.05 to be determined by Owner following performance of Phase II dewatering (included in Item 3.03) and performed in accordance with Phase I processes (refer to Items 1.2 and 3.01).

ITEMS 3.06, 3.07, and 3.08, INLET SLOPE REPAIR – EXCAVATE AND REPLACE, EXTEND SLOPE PROTECTION, AND GROUT VOIDS – as shown on Drawings and/or directed by the Engineer; includes repair to existing damaged slopes in proximity to Inlet Structures A and B; includes but is not limited to all labor, materials, and equipment to repair damaged earthen embankments below existing slope protection and restore line and grade (excavate and replace); install new extension of slope protection (fabric formed concrete); perform drilling and place grout to fill voids at intersection of existing and new slope protection; and, perform required quality control testing services based on applicable specification sections.

ITEM 3.09, EMBANKMENT SLOPE REPAIR; includes but is not limited to all labor, materials, and equipment to repair damaged or otherwise eroded earthen embankment slopes and restore line and grade below existing slope protection; includes excavation, removal, haul-off, and replacement of water softened and/or damaged soil materials; preparation and benching subgrades; importing, placing, compacting, and grading select earthfill materials; and, perform required quality control testing services based on applicable specification sections.

ITEM 3.10, CLAY BLANKET REPAIR OF RESERVOIR BOTTOM – as directed by Engineer after removal of sediments; includes but is not limited to all labor, materials, and equipment to repair damaged or otherwise eroded earthen clay blanket (liner) in reservoir bottom and restore line and grade; includes excavation, removal, haul-off, and replacement of water softened and/or damaged soil materials; preparation and scarification of subgrades; importing, placing, compacting, and grading clay blanket (select earthfill) materials; and, perform required quality control testing services based on applicable specification sections. This item does not include areas damaged by sediment removal or disturbed by planned construction.

ITEM 3.11, CONCRETE CRACK REPAIR TYPE I – CEMENTITIOUS SURFACE SEAL – Reference Contract Documents including Specification Section 03 01 30 Concrete Repair/Type I-Cementitious Surface Seal. Payment of bid item will be made according to the unit price, which shall constitute full payment to provide concrete crack repair as specified and shown in the Contract Documents when ordered by the Engineer. Unit cost shall include all materials, equipment, and labor to perform concrete crack repair; and, perform required quality control testing services based on applicable specification sections. Measurement of item will be per linear foot of concrete crack repair.

ITEM 3.12, CONCRETE CRACK REPAIR TYPE II – EPOXY INJECTION – Reference Contract Documents including Specification Section 03 01 30 Concrete Repair/Type II-Epoxy Injection Repair. Payment of bid item will be made according to the unit price, which shall constitute full payment to provide concrete crack repair as specified and shown in the Contract Documents when ordered by the Engineer. Unit cost shall include all materials, equipment and labor to perform concrete crack repair; and, perform required quality control testing services based on applicable specification sections. Measurement of item will be per linear foot of concrete crack repair.

ITEM 3.13, CONCRETE CRACK REPAIR TYPE III – WATERPROOF INJECTION GROUTING – Reference Contract Documents including Specification Section 03

01 30 Concrete Repair/Type III-Waterproof Injection Grout. Payment of bid item will be made according to the unit price, which shall constitute full payment to provide concrete crack repair as specified and shown in the Contract Documents when ordered by the Engineer. Unit cost shall include all materials, equipment and labor to perform concrete crack repair; and, perform required quality control testing services based on applicable specification sections. Measurement of item will be per linear foot of concrete crack repair.

ITEM 3.14, CONCRETE SPALL REPAIR – Reference Contract Documents including Specification Section 03 01 30 Concrete Repair/Spall Repair Patching Material. Payment of bid item will be made according to the unit price, which shall constitute full payment to provide concrete spall repair as specified and shown in the Contract Documents when ordered by the Engineer. Unit cost shall include all materials, equipment and labor to perform concrete spall repair; and, perform required quality control testing services based on applicable specification sections. Measurement of item will be per square foot of concrete spall repair.

ITEM 3.15, CONCRETE CAVITY REPAIR – Reference Contract Documents including Drawing Notes. Payment of bid item will be made according to the unit price, which shall constitute full payment to provide concrete cavity repair as specified and shown in the Contract Documents when ordered by the Engineer. Unit cost shall include all materials, equipment and labor to perform concrete cavity repair; and, perform required quality control testing services based on applicable specification sections.. Measurement of item will be per cubic feet of concrete cavity repair.

ITEM 3.16, CONCRETE WALL RESURFACING – Reference Contract Documents including Specification Section 03 01 30 Concrete Repair/Concrete Wall Resurfacing Material. Payment of bid item will be made according to the unit price, which shall constitute full payment to provide concrete wall resurfacing as specified and shown in the Contract Documents when ordered by the Engineer. Unit cost shall include all materials, equipment and labor to perform concrete wall resurfacing; and, perform required quality control testing services based on applicable specification sections. Measurement of item will be per cubic foot of concrete wall resurfacing.

<u>Item No.</u>	<u>Item Description</u>	<u>Approx. Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extended Price</u>
3.01	Additional Sediment Removal	12,000	CY	\$	\$
3.02	Site and Facility Maintenance	6	MO	\$	\$
3.03	Phase II Reservoir Dewatering/Water Control	1	LS	\$	\$
3.04	Phase II Sediment Removal Mobilization/Demobilization	1	LS	\$	\$
3.05	Phase II Sediment Removal	1,500	CY	\$	\$
3.06	Inlet Slope Repair – Excavate and Replace	1,100	CY	\$	\$
3.07	Inlet Slope Repair – Extend Slope Protection Extension	15,000	SF	\$	\$
3.08	Inlet Slope Repair – Grout Voids	600	CF	\$	\$
3.09	Repair of Embankment Slopes	2,000	CY	\$	\$
3.10	Clay Blanket Repair of Reservoir Bottom	500	CY	\$	\$
3.11	Concrete Crack Repair Type I – Cementitious Surface Seal	100	LF	\$	\$
3.12	Concrete Crack Repair Type II – Epoxy Injection	50	LF	\$	\$
3.13	Concrete Crack Repair Type III – Waterproof Injection	150	LF	\$	\$
3.14	Concrete Spall Repair	40	SF	\$	\$
3.15	Concrete Cavity Repair	5	CF	\$	\$
3.16	Concrete Wall Resurfacing	20	CF	\$	\$

TOTAL OF ALL UNIT PRICE ITEMS (ITEM 3)

_____ DOLLARS
(\$_____). (Numerals)

5. Subcontractor Schedule: Identify the subcontractors which will be used for the following trades (if the Bidder intends to self-perform a given trade, the Bidder's name should be listed in the space for Subcontractor for that trade):

<u>Trade</u>	<u>Subcontractor</u>
Electrical	
Bridges	
Concrete Repair	
Sluice Gates and Hardware	
Pipeline	
Mechanical	

6. Major Equipment Schedule: The Bidder agrees to furnish and install, in accordance with the Contract Documents, all items of equipment listed in the Major Equipment Schedule as part of the Lump Sum price stated by the Bidder. All items on the Major Equipment Schedule shall be bid according to the following:

The Major Equipment Schedule designates major equipment items to be provided. The Bidder shall indicate which of the specified Manufacturer's/Supplier's Equipment it is offering to provide by circling one of the Named Manufacturers/ Suppliers listed. A Named Manufacturer/Supplier for each identified major equipment item shall be circled, even if only one is specified. If the Bidder desires to propose a substitute for any Named Manufacturer/Supplier of a specified item, it shall circle the Named Manufacturer/Supplier it is offering to provide and also shall write in the space provided the name of the offered Substitute Manufacturer/Supplier, unless the words "No Substitutes" is listed in which case only the Named Manufacturer/Supplier shall be circled. Should a Substitute Manufacturer/Supplier be determined "not equal" in the Engineer's discretion, the Bidder must provide the Named Manufacturer/Supplier circled.

If none of the Manufacturers/Suppliers are circled for any of the product(s) listed below, the Owner reserves the right either to determine the Bidder non-responsive and reject the Bid or to designate the Manufacturer/Supplier of the product(s) to be provided. No increase in the Contract Price will be allowed should the Owner elect to designate the Manufacturer/Supplier of these product(s).

<u>Major Equipment Schedule</u>		
Section No.	Equipment Name	Manufacturer/Supplier
	N/A	

7. Bidder agrees that the Work will be substantially complete within 450 calendar days after the date when the Contract Times commence to run as provided in paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.07 of the General Conditions within 480 calendar days after the date when the Contract Times commence to run.

Bidder accepts the provisions of the Agreement as to Liquidated Damages in the event of failure to complete the Work within the time(s) specified in the Agreement.

8. The following documents are attached to this Bid Form and are made a condition of this Bid:
- (a) Bid Bond. The required bid security in the form of bid bond, certified check, cashier's check or cash must be included and attached to the Bid Bond form. Bidders who submit Bid Security in the form of a certified check, cashier's check or cash are bound by the "Terms of Bid Bond."
 - (b) Corporate Certificate.
 - (c) Contractor License Certification.
 - (d) Non-Collusion Affidavit of Bidder.
 - (e) Affidavit Verifying Status for Cobb County-Marietta Water Authority Public Benefit Application.
 - (f) Security and Immigration Act Compliance Certification.
 - (g) Security and Immigration Act Compliance Certification of all Sub-Contractors and all Sub-Sub-Contractors (these forms may be submitted by the successful Bidder after Notice of Award is issued, but shall be provided prior to Sub-Contractor or Sub-Sub-Contractor performing any Work on the Project and made part of this Bid by reference).

9. Communications concerning this Bid shall be addressed to:

The address of Bidder indicated below:

BIDDER'S NAME _____

Primary Contact Person _____

Secondary Contact Person _____

Bidder's Street Address _____

Bidder's Phone No. _____

Bidder's Email Address _____

Bidder's Fax No. _____
(optional)

10. Terms used in this Bid which are defined in the General Conditions or Instructions will have the meanings indicated in the General Conditions or Instructions.

THIS BID SUBMITTED on _____, 20_____.

If BIDDER:

An Individual

By _____
(Individual Name)

doing business as: _____

Business Address: _____

Phone No.: _____

A Partnership

By _____
(Firm Name)

(General Partner)

Business Address: _____

Phone No.: _____

A Corporation

By _____
(Corporation Name)

(State of Incorporation)

(Name of person authorized to sign)

(Title)

(Corporate Seal)

Attest _____
(signature)

Business address: _____

Phone No.: _____

Date of Qualification to do business is _____

- END OF SECTION -

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00 43 13

BID BOND

PENAL SUM FORM

BIDDER:

SURETY:

OWNER:

Cobb County-Marietta Water Authority
1170 Atlanta Industrial Drive
Marietta, Georgia 30066

BID

BID DUE DATE: _____

PROJECT: James E. Quarles WTP Reservoir Cleaning and Improvements Project

The Project includes, but is not limited to, the following major elements:

1. Project Overview
 - a. Removal and off-site disposal of +/-30,000 cubic yards of accumulated sediment deposits from interior of ~6-acre reservoir. Repair damaged clay blanket and fabric-formed concrete slope protection inside reservoir.
 - b. Construct permanent reservoir access ramp with concrete pavement and install new fabric-formed concrete slope protection inside reservoir.
 - c. Construct raw water bypass and reservoir drain at Splitter Box. Perform structural, electrical, bridge, and gate repairs, replacements, and/or upgrades to reservoir Inlet, Outlet, and Splitter Box structures, as required.
 - d. All work shall be performed in accordance with the approved Georgia Safe Dams Program plans and specifications and coordinated with CCMWA for plant and reservoir operation. The existing Quarles Plant 2 facility will only be taken out of service during installation of new bypass line. Quarles Plant 2 shall remain in service during construction of the remaining Project. Quarles Plant 1 shall remain in service at all times during construction of the Project.

- e. Work may require a phased approach based on availability and schedule of products requiring extended lead times. To minimize potential impacts to the water treatment plant operation, Owner may elect to refill and return the reservoir to full operation following completion of Phase I work, requiring Contractor to perform two reservoir draining and dewatering operations.

BOND

BOND NUMBER: _____

DATE (*Not later than Bid Due Date*): _____

PENAL SUM: 5 PERCENT OF BASE BID

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

TERMS OF BID BOND

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.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents the executed Agreement required by the Bidding Documents, any Performance and Payment Bonds, and Certification of Insurance required by the Bidding Documents and Contract Documents.
3. This obligation shall be null and void if:
 - a. 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, any Performance and Payment Bonds and Certification of Insurance required by the Bidding Documents and Contract Documents, or
 - b. All bids are rejected by Owner, or
 - c. 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 of 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 time for

issuing Notice of Award including extensions shall not in the aggregate exceed 60 days from the 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. Notice 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 requirements 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 the Bond conflicts with any applicable provision of 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.

Witness as to Principal:

_____ (signature) By: _____ (signature) (SEAL)
 Principal
 Title: _____

Witness as to Surety:

_____ (signature) By: _____ (signature)
 Surety
 Attorney-in-Fact

 Address of Attorney-in-Fact

- END OF SECTION -

SECTION 00 43 16.A
CONTRACTOR'S LICENSE CERTIFICATION

Bidder/Contractor's Name: _____

Georgia Utility Contractor's License Number: _____

Expiration Date of License: _____

Georgia General Contractor's License Number: _____

Expiration Date of License: _____

I certify that the above information is true and correct and that the classification noted is applicable to the Bid for this Project.

BIDDER: _____

By: _____
(name signed)

(name printed or typed)

Title: _____

Date: _____

- END OF SECTION -

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SECTION 00 43 16.B

SECURITY AND IMMIGRATION COMPLIANCE ACT CERTIFICATION

Pursuant to the Georgia Security and Immigration Compliance Act of 2006, Contractor understands and agrees that compliance with the requirements of OCGA 13-10-91 and Georgia Department of Labor Rule 300-10-1 et. seq. are conditions of Agreement. Contractor further agrees that such compliance shall be attested through execution of Contractor Affidavit and Agreement required by Georgia Department of Labor Rule 300-10-1-.07, or a substantially similar contractor affidavit. Contractor's fully executed affidavit is attached and is incorporated into this Agreement by reference herein.

By initialing in the appropriate line below, Contractor certifies that the following employee number category as identified in OCGA 13-10-91 is applicable to Contractor:

- 1. _____ 500 or more employees;
- 2. _____ 100 or more employees;
- 3. _____ Fewer than 100 employees.

Contractor understands and agrees that, in the event Contractor employs or contracts with Subcontractor in connection with this Agreement, Contractor shall:

- 1. Secure from each Subcontractor an indication of the employee-number category as identified in OCGA 13-10-91; and
- 2. Secure from each Subcontractor an attestation of Subcontractor's compliance with OCGA 13-10-91 and Georgia Department of Labor Rule 300-10-1-.02 by causing each Subcontractor to execute the attached Subcontractor Affidavit required by Georgia Department of Labor Rule 300-10-1-.08, or a substantially similar subcontractor affidavit. Contractor further understands and agrees that Contractor shall require the executed Subcontractor Affidavit to become a part of the agreement between Contractor and each Subcontractor. Contractor agrees to maintain records of each Subcontractor attestation required hereunder for inspection by Owner.

BY: Authorized Officer or Agent

Date

Title of Authorized Officer or Agent if Contractor

Printed Name of Authorized Officer or Agent

Subscribed and Sworn Before Me on this _____ day of _____, 20____

Notary Public
My Commission Expires: _____

Reference is hereby made to other Sections and forms that shall be provided to the Owner:

1. Affidavit Verifying Status for Cobb County-Marietta Water Authority Public Benefit Application.
2. Section 00 55 48 – Contractor Affidavit.
3. Section 00 55 49 – Subcontractor Affidavit.
4. Section 00 55 50 – Sub-Subcontractor Affidavit.

- END OF SECTION -

SECTION 00 43 16.C

*Affidavit Verifying Status
For Cobb County-Marietta Water Authority
Public Benefit Application*

By executing this affidavit under oath, as an applicant for a Cobb County-Marietta Water Authority contract or other public benefit as referenced in O.C.G.A. § 50-36-1, I am stating the following with respect to my application for a Cobb County-Marietta Water Authority contract or other public benefit:

1) _____ I am a United States citizen.

OR

2) _____ I am a legal permanent resident 18 years of age or older or I am an otherwise qualified alien or non-immigrant under the Federal Immigration and Nationality Act 18 year of age or older and lawfully present in the United States.

In making the above representation under oath, I understand that any person who knowingly and willfully makes a false, fictitious, or fraudulent statement or representation in an affidavit shall be guilty of a violation of Code Section 16-10-20 of the Official Code of Georgia.

Signature of Applicant:

Date:

Printed Name:

SUBSCRIBED AND SWORN
BEFORE ME ON THIS THE
____ DAY OF _____, _____

* _____
Alien Registration number for non-citizens

Notary Public

My Commission Expires: _____

* Note: O.C.G.A. § 50-36-1(e)(2) requires that aliens under the federal Immigration and Nationality Act, Title 8 U.S.C., as amended, provide their alien registration number. Because legal permanent residents are included in the federal definition of "alien", legal permanent residents must also provide their alien registration number. Qualified aliens that do not have an alien registration number may supply another identifying number below:

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SECTION 00 45 13

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered, and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information desired. Attach all additional sheets to this statement. (Sample "Project Information Form" contained at the end of this Section.) See Section 00 11 13 – Advertisement for Bid and Section 00 21 13 – Instructions to Bidders for required minimum experience and qualifications.

1. Name of Bidder: _____

2. Permanent main office address and phone number: _____

3. When organized: _____

4. If a Corporation, where incorporated: _____

5. How many years have you been engaged in the contracting business under your present firm or trade name? _____

6. Contracts on hand (list major contracts, total number, and dollar value) _____

7. General description of type of work performed by your company: _____

8. Have you ever failed to complete any work awarded to you? If so, where and why? _____

9. Have you ever defaulted on a contract? If so, where and why? _____

10. Attach a list of the most important projects recently completed by your company which are similar in scope to this Project. (Complete a "Project Information Form", attached, for each Project listed.)
11. Attach a list of the most important projects recently completed by your Electrical Contractor which are similar in scope to this Project. (Complete a "Project Information Form", attached, for each Project listed.)
12. Attach a list of your major equipment available for this Contract.
13. Attach the background and experience of the Project Manager that will be assigned to this Project.
14. Attach the background and experience of the Superintendent that will be assigned to this Project.
15. Attach a summary of experience in construction work on projects regulated by the Georgia Safe Dams Program.
16. Attach a summary of experience in construction work on projects involving water/wastewater treatment plants, site development, excavation, earthwork, pond dewatering, dredging, and/or sediment removal.
17. Any history of litigation, arbitration, or other related mediation actions for the proposed Project Manager, Superintendent, or referenced Projects? If yes, attached a description. _____
18. Credit available: \$ _____.
19. Give Bank references: _____

20. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner? _____
21. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner in verification of the recitals comprising this Statement of Bidder's Qualifications.

I, _____, certify that I am _____ of the Bidder, and that the answers to the foregoing questions and statements contained therein are true and correct.

BIDDER: _____

By: _____
(name signed)

(name printed or typed)

Title: _____

Date: _____

Subscribed and sworn to me this ___ day of _____, 20__.

NOTARY PUBLIC: _____
(name signed)

(name printed or typed)

Commission Expires: _____
(Date)

(SEAL)

Project Information Form
(Attach copies as needed)

Project Title: _____

Project Description: _____

Project Owner:

- Owner Name: _____
- Address: _____
- Contact Person: _____
- Phone Number: _____

Engineer/Construction Manager:

- Company Name: _____
- Contact Person: _____
- Phone Number: _____
- Email: _____

Contract Amount:

Initial: _____ Final: _____

Contract Time

Initial: _____ Final: _____

Completion Date: _____

SECTION 00 45 19

NON-COLLUSION AFFIDAVIT OF BIDDER

STATE OF _____ COUNTY OF _____

_____, being first duly sworn, deposes and says that:

He or she is _____ of
(Owner, Partner, Officer, Representative or Agent)

_____, the Bidder that has submitted the attached Bid;

He or she is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

Such Bid is genuine and is not a collusive or sham Bid;

Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this Affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Cobb County-Marietta Water Authority or any person interested in the proposed Contract; and

The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this Affiant.

(Signed) _____

(Title) _____

Subscribed and Sworn before me this _____ day of _____, 20__.

(Notary Public) (signature) My Commission Expires: _____

(SEAL)

- END OF SECTION -

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SECTION 00 45 43
CORPORATE CERTIFICATE

I, _____, certify that I am the Secretary of the Corporation named as Bidder in the foregoing Bid; that _____, who signed said Bid on behalf of the Contractor was then _____ of said Corporation; that said Bid was duly signed for and on behalf of said Corporation by authority of its Board of Directors, and is within the scope of its corporate powers; that said Corporation is organized under the laws of the State of _____.

This _____ day of _____, 20__.

Corporate Secretary: _____
(name signed)

(name printed or typed)

(SEAL)

- END OF SECTION -

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SECTION 00 51 00
NOTICE OF AWARD

Dated: _____

TO BIDDER: _____

ADDRESS: _____

PROJECT: James E. Quarles WTP Reservoir Cleaning and Improvements Project

OWNER's Contract No. 505-9005-38-20-0000

You are notified that your Bid dated _____ for the above Contract has been considered. You are the apparent Successful Bidder and have been awarded a Contract for

(Indicate total Work, alternates or sections or Work awarded)

The Contract Lump Sum Price of your Contract is _____ Dollars. (\$ _____).

As described in Paragraph 11.03 of the General Conditions, the Contract Price includes for all Work an amount equal to the sum of the Lump Sum plus Unit Price for each separately identified item of Unit Price Work times the estimated quantity of each such item. The Owner Allowances and 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. The final Contract Price will be based on determinations of the Owner Allowances plus actual quantities and classifications of Unit Price Work performed by Contractor to be made by Engineer pursuant to the provisions of General Conditions Paragraph 9.07.

Six (6) copies of each of the proposed Contract Documents (except Drawings) accompany this Notice of Award. Six sets of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within fifteen (15) days of the date of this Notice of Award:

1. Deliver to the Owner six (6) fully executed counterparts of the Contract Documents. Each of the Contract Documents must bear your signature on the Agreement, Exhibit B (Payment Bond), Exhibit C (Performance Bond), Pre-Construction Oath, and the Affidavit of Contractor.
2. Deliver with the executed Contract Documents the Contract security (Bonds) as specified in the Instructions to Bidders and General Conditions (Paragraph 5.01).
3. Execute the Performance and Payment Bonds, but DO NOT DATE. Cobb County-Marietta Water Authority will date the bonds with the same date as the Agreement.
4. Deliver with the executed Contract Documents evidence of all insurance which Contractor is required to provide under the Contract Documents.
5. Deliver with the executed Contract Documents the Insurance Certificate Checklist filled out by Contractor's insurance agent.
6. (List other conditions.)

Failure to comply with these conditions within the time specified will entitle Owner to consider your Bid in default, to annul this Notice of Award and to declare your Bid security forfeited.

Within ten (10) days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

COBB COUNTY-MARIETTA
WATER AUTHORITY

By: _____
(AUTHORIZED SIGNATURE)

(TITLE)

Copy to Engineer (Use Certified Mail, Return Receipt Requested)

- END OF SECTION -

SECTION 00 52 13

AGREEMENT BETWEEN OWNER AND CONTRACTOR

AGREEMENT made by and between the **Cobb County-Marietta Water Authority** (hereinafter called Owner) and _____(hereinafter called Contractor).

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

Article 1. WORK.

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

James E. Quarles WTP
Reservoir Cleaning and Improvements Project

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Project includes, but is not limited to, the following major elements:

1. Project Overview

- a. Removal and off-site disposal of +/-30,000 cubic yards of accumulated sediment deposits from interior of ~6-acre reservoir. Repair damaged clay blanket and fabric-formed concrete slope protection inside reservoir.
- b. Construct permanent reservoir access ramp with concrete pavement and install new fabric-formed concrete slope protection inside reservoir.
- c. Construct raw water bypass and reservoir drain at Splitter Box. Perform structural, electrical, bridge, and gate repairs, replacements, and/or upgrades to reservoir Inlet, Outlet, and Splitter Box structures, as required.
- d. All work shall be performed in accordance with the approved Georgia Safe Dams Program plans and specifications and coordinated with CCMWA for plant and reservoir operation. The existing Quarles Plant 2 facility will only be taken out of service during installation of new bypass line. Quarles Plant 2 shall remain in service during construction of the remaining Project. Quarles Plant 1 shall remain in service at all times during construction of the Project.
- e. Work may require a phased approach based on availability and schedule of products requiring extended lead times. To minimize potential impacts to the water treatment plant operation, Owner may elect to refill and return the reservoir to full operation following completion of Phase I work, requiring Contractor to perform two reservoir draining and dewatering operations.

2. Description of Work. Construction milestones are based on the following suggested sequence and phasing of the work with some items performed concurrently:
 - a. Begin Phase I and Administrative Period.
 - b. Obtain required permits including but not limited to Cobb County Land Disturbance Permit including associated NPDES Erosion and Sediment Control Permit.
 - c. Complete upfront and critical submittals. Order products and materials requiring extended, critical path lead times.
 - d. Prepare site access road, temporary laydown area, temporary truck barrier to protect dam crest road, construction ingress and egress routes, and perimeter erosion and sedimentation controls including two truck wash down areas. Install signage. Provide protection for all existing utilities from construction traffic.
 - e. Coordinate initial reservoir draining with Owner. Drain and dewater reservoir to allow for initial, pre-excavation sediment survey, for Engineer and Contractor to inspect the reservoir interior and concrete structures, and for construction within the reservoir to be performed in the dry. Perform initial, pre-excavation sediment survey.
 - f. Following initial pre-excavation survey, perform moisture conditioning (drying) of saturated sediments to remove remaining free water and to prepare sediments in accordance with disposal and transport requirements. Remove and dispose of off-site all sediment materials present in reservoir above original design grades. Construct temporary reservoir access ramp for sediment removal efforts (providing protection of existing fabric-formed concrete slope protection within impacted areas) and deconstruct following completion of sediment removal. Following completion of sediment removal, conduct post-excavation survey.
 - g. Early in the sediment removal efforts, provide access to interior of reservoir and bottoms of structures for Engineer to perform structural inspection and Contractor to perform material verification of inlet and outlet structures, bridges, and associated sluice gates and metals. Complete associated submittals and order additional products requiring extended lead times.
 - h. After Engineer's inspection, perform repairs of defective concrete surfaces on Inlet and Outlet Structures, as practical before deconstruction of bridges and gates.
 - i. Construct new bridge pier between Structures A and B.
 - j. Construct permanent access ramp with concrete pavement and stairs. Replace and install new fabric-formed slope protection associated with permanent access ramp.
 - k. Repair existing damaged clay blanket and fabric-form concrete slope protection inside reservoir in areas surrounding Inlet Structures. Based on Engineer's inspection of reservoir interior after sediment removal, repair slopes, reservoir bottom, clay blanket, and/or fabric-formed concrete slope protection.

- l. Remove all temporary facilities from reservoir interior in preparation for CCMWA to return reservoir to operation.
- m. Coordinate with Owner to return the reservoir to full operation.
- n. End of Phase I. Continuation of Administrative Period.
- o. Maintain Project access and perform required inspections and maintenance of erosion control systems and BMPs.
- p. Accept delivery of all critical path and/or extended lead time materials.
- q. End Administrative Period. Begin Phase II.
- r. Coordinate second reservoir draining with Owner. Drain and dewater reservoir to allow for bridge and gate construction to be performed in the dry. Perform second, pre-excavation sediment survey, as necessary, if determined by Engineer and Owner that new accumulated sediments require removal.
- s. Install new 48-inch DIP raw water bypass line with valves and fittings from existing piping south of Splitter Box to 48-inch DIP on west side of Splitter Box. Sloped excavations and earthwork operations will be in accordance with Georgia Safe Dams Category I embankment design and construction. Remove and abandon by pressure grouting portions of the existing 48-inch RCP supply line. Begin new raw water supply to plant via new bypass. Downtime to the Quarles Plant 2 shall be limited to 72 hours to facilitate new bypass connections. Contractor may not perform new raw water bypass connections between May 1 and September 30. Contractor will provide temporary facilities as necessary to maintain water production.
- t. Once new raw water bypass is operational and Splitter Box is taken out of service, provide access for Engineer to perform evaluation of Splitter Box. Perform structural repairs of defective concrete and metal surfaces as determined.
- u. Install new 16-inch DIP and 18-inch RCP reservoir drain with associated valves and junction boxes from west side of Splitter Box to existing storm inlet. Excavate, remove, and abandon portions of the existing 48-inch pipe along the west side of the Splitter Box, as required. Make structural connection of new 16-inch DIP drain to Splitter Box.
- v. Install new electrical and instrumentation service between Splitter Box and Structure E. Install new deflector hood. Install new concrete pad around base of Splitter Box.
- w. If necessary and following second pre-excavation survey, perform moisture conditioning (drying) of saturated sediments to remove remaining free water and to prepare sediments in accordance with disposal and transport requirements. Remove and dispose of off-site all new sediment materials present in reservoir above original design grades. Following completion of sediment removal, conduct final post-excavation survey.

- x. Deconstruct all sluice gates, hardware, and operators on Structures B, C, D and E. Replace all sluice gates, hardware, and operators with new, like-kind elements.
- y. Deconstruct existing bridge decks and land supports, construct new and modified bridge supports, and install new prefabricated bridges and safety railing. Repair fabric-formed concrete slope protection, as required.
- z. Complete repair of defective concrete surfaces on Inlet and Outlet Structures.
- aa. Remove all temporary facilities from reservoir interior in preparation for CCMWA to return reservoir to operation.
- bb. Coordinate with Owner to return the reservoir to full operation.
- cc. Remove all other temporary facilities, install new pavements, install sod, and perform full site restoration.
- dd. End of Phase II.

Article 2. ENGINEER.

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

Article 3. CONTRACT TIMES.

3.1 Project Milestones:

- 1. Milestone 1: Completion of all submittals required for bypass piping materials and ordering of bypass piping materials requiring an extended lead time within 45 calendar days after the date when the Contract Times commence.
- 2. Milestone 2: Completion of initial pre-excavation sediment survey and start of work within the reservoir within 60 calendar days after the date when the Contract Times commence.
- 3. Milestone 3: Completion of all submittals required for sluice gates, bridges, and associated materials and ordering of sluice gate and bridge materials requiring an extended lead time within 135 calendar days after the date when the Contract Times commence.
- 4. Milestone 4: Completion of Phase I work within 240 calendar days after the date when the Contract Times commence.
- 5. Milestone 5: Completion of Administrative Period including delivery of all extended lead time products and materials and start of Phase II work within 365 calendar days after the date when the Contract Times commence.

3.2 The Work will be substantially completed within 450 consecutive calendar days after the date when the Contract Times commence to run as provided in paragraph 2.03 of the General Conditions. Phase II work will be substantially completed within 85 days of commencement of Phase II work. The Work will be completed and ready for final payment in accordance with paragraph 14.07 of the General Conditions within 480 consecutive calendar days after the date when the Contract Times commence to run.

3.3 *Liquidated Damages.* Owner and Contractor recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times specified above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. Any delays in completing this work will have significant impacts on the Owner. They also recognize the delays, expense and difficulties involved in proving 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 one thousand dollars (\$1,000.00) for each day that expires after the time specified in paragraph 3.1 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse or fail to complete the remaining Work within the times specified for completion and readiness for final payment or any proper extension thereof granted by Owner, Contractor shall pay Owner one thousand dollars (\$1,000.00) for each day that expires after the time specified in paragraph 3.2 for completion and readiness for final payment.

Article 4. CONTRACT PRICE.

Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraphs 4.1 and 4.2 below:

- 4.1. An amount equal to the Lump Sum item(s) of Work as indicated in the Contractor's Bid. All specific allowances are included in the appropriate items of work and have been computed in accordance with paragraph 11.01 of the General Conditions;
plus
- 4.2. for all costs associated with Owner Allowances in the amount of the actual funds spent as directed for the tasks listed to be paid by the Allowances;
plus
- 4.3. for all Unit Costs items in the amount equal to the actual quantities of each extended at the applicable Unit Costs.

SUM OF ALL LUMP SUM PRICES, OWNER ALLOWANCES AND UNIT COSTS:

(Total Contract Price to be written in words)

Article 5. PAYMENT PROCEDURES.

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

5.1. *Progress Payments; Retainage.* Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment as recommended by Engineer, on or about the 25th day of each month during construction as provided in paragraphs 5.1.1 and 5.1.2 below.

5.1.1. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) plus the value of materials and equipment suitably stored, insured, and protected at the construction site, and with the Owner's consent, such materials and equipment suitably stored, insured, and protected off-site at a location approved by the Engineer, less a retainage of five percent (5%) of each progress payment requested.

5.1.2. The Contractor shall be entitled to withhold retainage from subcontractors in accordance with this Agreement and Georgia law. At the discretion of the Owner, upon recommendation of the Engineer and with consent of the Contractor, the retainage of each subcontractor may be released separately as the subcontractor completes his work. If the Contractor does not give such consent, the Contractor shall promptly give the Owner a written explanation of its reason.

5.2. *Final Payment.*

5.2.1. At substantial completion of the contract work and as the Engineer determines the work to be reasonably satisfactory, the Owner shall within 60 days after presentation of Application and other appropriate documentation as required by Article 14 of the General Conditions are provided, pay the retainage to the Contractor. If at that time there are any remaining incomplete minor items, an amount equal to 200 percent of the value of each item, as determined by the Engineer, shall be withheld until such item or items are completed. The reduced retainage shall be shared by the Contractor and subcontractors as their interests may appear. The Contractor shall, within ten (10) days from Contractor's receipt of retainage from the Owner, pass through payments to subcontractors and shall reduce each subcontractor's retainage in the same manner as the Contractor's retainage is reduced by the Owner provided that the work of the subcontractor is proceeding satisfactorily and the subcontractor has provided or provides such satisfactory reasonable assurances of continued performance and financial responsibility to complete his work including any warranty work as the Contractor in his reasonable discretion may require, including, but not limited to a Payment and Performance Bond.

5.2.2. The subcontractor shall, within ten (10) days from the subcontractor's receipt of retainage from the Contractor, pass through payments to the lower tier subcontractors and shall reduce each lower tier subcontractor's retainage in the same manner as the subcontractor's retainage is reduced by the Contractor, provided that the work of the lower tier subcontractor is proceeding satisfactorily and the lower tier subcontractor has provided or provides such satisfactory reasonable assurances of continued performance and financial responsibility to complete his work including any

warranty work as the subcontractor in his reasonable discretion may require, including, but not limited to a Payment and Performance Bond.

- 5.2.3. All prior certificates or estimates upon which payments have been made are approximate only, and subject to correction in the final payment.
- 5.3. In the event of a conflict, O.C.G.A. Sections 13-10-80 through 13-10-83 shall supersede and control any provisions to the contrary in this Article 5.
- 5.4. *Contractor's Agreements with Subcontractors.*

The Contractor hereby covenants and agrees with Owner to obtain written agreements from each subcontractor setting forth payment procedures in accordance with the foregoing provisions of this Section. Nothing contained herein shall preclude the Contractor, prior to making payment to a subcontractor, from requiring the payee to submit satisfactory evidence that all payrolls, material bills, and other indebtedness connected with the work have been paid.

Article 6. INTEREST.

- 6.1. The Current Market Rate will be the rate of interest as of the effective date of this agreement, for the Georgia Fund 1 managed by the Georgia Office of Treasury and Fiscal Services.
- 6.2. All moneys not paid by Owner to Contractor when due as provided in Article 14 of the General Conditions shall bear interest at the Current Market Rate. However, no interest shall be paid upon any moneys due by the Owner to the Contractor during the time in which any item is in dispute between the Owner and the Contractor.
- 6.3. On contracts relating to installation, extension, improvement, maintenance or repair of any water or sewer facility, retainage shall be invested at the Current Market Rate and any interest earned on the retained amount shall be paid to the Contractor when the project has been completed within the Contract Times and for the Contract Price specified in the Contract, or in any amendments or change orders approved in accord with the terms of the Contract.

Article 7. CONTRACTOR'S REPRESENTATIONS.

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

- 7.1. Contractor has examined and carefully studied the Contract Documents (including the Addenda listed in paragraph 8) and the other related data identified in the Bidding Documents including "technical data."
- 7.2. 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, performance or furnishing of the Work.
- 7.3. Contractor is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.
- 7.4. 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.
- 7.5. 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.

- 7.6. Contractor has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to Contractor, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

Article 8. CONTRACT DOCUMENTS.

The Contract Documents which comprise the entire agreement between Owner and Contractor concerning the Work consist of the following:

- 8.1 This Agreement.
- 8.2 Advertisement for Bids.
- 8.3 Approved Suppliers of Services
- 8.4 Instructions to Bidders.
- 8.5 Bid Form.
- 8.6 Bid Bond.
- 8.7 Contractor's License Certification.
- 8.8 Security and Immigration Compliance Act Certification.
- 8.9 Affidavit Verifying Status for Cobb County-Marietta Water Authority Public Benefit Application.
- 8.10 Bidder's Qualifications
- 8.11 Non-Collusion Affidavit of Bidder.
- 8.12 Corporate Certificate.
- 8.13 Notice of Award.
- 8.14 Pre-Construction Oath.
- 8.15 Notice to Proceed.
- 8.16 Contractor Affidavit.
- 8.17 Subcontractor Affidavit.
- 8.18 Sub-Subcontractor Affidavit.

- 8.19 Construction Performance Bond.
- 8.20 Construction Payment Bond.
- 8.21 Certification of Contractor's Attorney.
- 8.22 Certification of Owner's Attorney.
- 8.23 Insurance Certification Checklist.
- 8.24 Certificate of Substantial Completion.
- 8.25 Affidavit of Completion.
- 8.26 Standard General Conditions of The Construction Contract.
- 8.27 Supplementary Conditions.
- 8.28 Specifications bearing the title James E. Quarles WTP Reservoir Cleaning Project, Contract Requirements and Specifications as listed in table of contents thereof, bound separate from this Agreement.
- 8.29 Drawings consisting of a cover sheet and sheets as listed in the Drawing Index thereof with each sheet bearing the following general title of James E. Quarles WTP Reservoir Cleaning Project, bound separate from this Agreement.
- 8.30 Addenda number(s) __ to __, incorporated herein.
- 8.31 The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All Written Amendments and other documents amending, modifying or supplementing the Contract Documents pursuant to paragraphs 3.04.A and 3.04.B of the General Conditions.

The documents listed in paragraphs 8.2 et seq. above are attached to this Agreement (except as expressly noted otherwise above).

There are no Contract Documents other than those listed above in this Article 8. The Contract Documents may only be amended, modified or supplemented as provided in paragraphs 3.04.A and 3.04.B of the General Conditions.

Article 9. MISCELLANEOUS.

- 9.1. Terms used in this Agreement which are defined in Article I of the General Conditions will have the meanings indicated in the General Conditions.

9.2. Assignment of Contract

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

9.3. 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.

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

-CONTINUED ON NEXT PAGE-

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, initialed or identified by Owner and Contractor or identified by ENGINEER on their behalf.

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

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement under seal as of the day and year first above-written.

CONTRACTOR

Cobb County-Marietta Water Authority
OWNER

By: _____

By: _____

Signature _____

Signature _____

Typed Name: _____

Typed Name: Cole Blackwell

Title: _____

Title: General Manager

Date: _____

Date: _____

Attest

Attest

By: _____

By: _____

Secretary

Patricia Tibbits, Secretary

AFFIX SEAL

AFFIX SEAL

Approved as to form:

Douglas R. Haynie
Cobb County-Marietta Water Authority
Attorney

END OF SECTION

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SECTION 00 52 14

PRE-CONSTRUCTION OATH

PROJECT NAME: James E. Quarles WTP Reservoir Cleaning and Improvements Project

CCMWA PROJECT NUMBER: 505-9005-38-20-0000

DATE: _____

STATE OF _____ COUNTY OF _____

In accordance with O.C.G.A. 36-91-21(e), each of the undersigned persons affiliated with
_____.

being first duly sworn, deposes and says that:

I have not directly violated O.C.G.A. 36-91-21(d), and more specifically, I have not

- prevented or attempted to prevent competition in such bidding or proposals by any means whatever,
- prevented or endeavored to prevent anyone from making a bid or proposal thereof by any means whatever, nor
- caused or induced another to withdraw a bid or proposal for the work.

Each undersigned, to the best of his/her knowledge, affirms that no other officers, agents or other persons acted for or represented the Contractor in the bidding for and procurement of this Contract.

Signature	Printed Name	Title	Date
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Subscribed and Sworn to before me this _____ day of _____, 20_____.

(Notary Public) My Commission Expires: _____

(SEAL)

- END OF SECTION -

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SECTION 00 55 00
NOTICE TO PROCEED

Dated: _____

TO CONTRACTOR: _____

ADDRESS: _____

CONTRACT: James E. Quarles WTP Reservoir Cleaning and Improvements Project

OWNER's Contract No. 505-9005-38-20-0000

You are hereby notified that the Contract Times under the above contract will commence to run on _____. By that date you are to begin performing the Work and your obligations under the Contract Documents. In accordance with Article 3 of the Agreement, the date of Substantial Completion is _____ and the date of readiness for final payment is _____.

Before you may start any Work at the Site, Paragraph 2.01.A of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also, before you may start any Work at the Site, you must:
(add other requirements)

COBB COUNTY-MARIETTA
WATER AUTHORITY

By: _____
(AUTHORIZED SIGNATURE)

(TITLE)

Copy to Engineer (Use Certified Mail, Return Receipt Requested)

- END OF SECTION -

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SECTION 00 55 48

CONTRACTOR AFFIDAVIT UNDER O.C.G.A. § 13-10-91(b)(1)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of COBB COUNTY-MARIETTA WATER AUTHORITY has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Contractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, ____, 20__ in _____(city), _____(state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE _____ DAY OF _____,
20__.

NOTARY PUBLIC

My Commission Expires: _____

- END OF SECTION -

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SECTION 00 55 49

SUBCONTRACTOR AFFIDAVIT UNDER O.C.G.A. § 13-10-91(b)(3)

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with (name of contractor) on behalf of COBB COUNTY-MARIETTA WATER AUTHORITY has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the subcontractor with the information required by O.C.G.A. § 13-10-91(b). Additionally, the undersigned subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to the contractor within five business days of receipt. If the undersigned subcontractor receives notice of receipt of an affidavit from any sub-subcontractor that has contracted with a sub-subcontractor, the undersigned subcontractor will forward, within five business days of receipt, a copy of such notice to the contractor. Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Subcontractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, ____, 20__ in _____(city), _____(state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 20__.

NOTARY PUBLIC

My Commission Expires: _____

- END OF SECTION -

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SECTION 00 55 50

SUB-SUBCONTRACTOR AFFIDAVIT UNDER O.C.G.A. § 13-10-91(b)(4)

By executing this affidavit, the undersigned sub-subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract for (name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract) and (name of contractor) on behalf of COBB COUNTY-MARIETTA WATER AUTHORITY has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned sub-subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned sub-subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the sub-subcontractor with the information required by O.C.G.A. § 13-10-91(b). The undersigned sub-subcontractor shall submit, at the time of such contract, this affidavit to (name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract). Additionally, the undersigned sub-subcontractor will forward notice of the receipt of any affidavit from a sub-subcontractor to (name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract). Sub-subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Sub-Subcontractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, ____, 20__ in _____(city), _____(state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 20__.

NOTARY PUBLIC

My Commission Expires: _____

- END OF SECTION -

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SECTION 00 61 13.13

CONSTRUCTION PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS _____

(hereinafter called the "Principal") and _____
(hereinafter called the "Surety"), are held and firmly bound unto **Cobb County-Marietta Water Authority** (hereinafter called the "Owner") and its successors and assigns, in the penal sum of

_____,
lawful money of the United States of America, for the payment of which the Principal and the Surety bind themselves, their administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered, or is about to enter, into a certain written contract with the Owner, dated _____, which is incorporated herein by reference in its entirety (hereinafter called the "Construction Contract"), for the James E. Quarles WTP Reservoir Cleaning and Improvements Project more particularly described in the Construction Contract (hereinafter called the "Project"); and

NOW, THEREFORE, the conditions of this obligation are as follows, that if the Principal shall fully and completely perform all the undertakings, covenants, terms, conditions, warranties, and guarantees contained in the Construction Contract, including all modifications, amendments, changes, deletions, additions, and alterations thereto that may hereafter be made, then this obligation shall be void; otherwise it shall remain in full force and effect.

Whenever the Principal shall be, and declared by the Owners to be, in default under the Construction Contract, the Surety shall promptly remedy the default as follows:

- 1) Complete the Construction Contract in accordance with its terms and conditions; or
- 2) Obtain a bid or bids for completing the Construction Contract in accordance with its terms and conditions, and upon determination by the Surety and the Owners of the lowest responsible qualified bidder, arrange for a contract between such bidder and Owners and make available as the work progresses (even though there should be a default or succession of defaults under the Construction Contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the penal sum set forth in the first paragraph hereof, as may be adjusted, and the Surety shall make available and pay to the Owners the funds required by this Paragraph prior to the payment of the Owners of the balance of the contract price, or any portion thereof. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by the Owner to the Contractor under the Construction Contract, and any amendments thereto, less the amount paid by the Owner to the Contractor; or, at the option of the Owner;
- 3) Allow Owner to complete the work and reimburse the Owner for all reasonable costs incurred in completing the work.

In addition to performing as required in the above paragraphs, the Surety shall indemnify and hold harmless the Owner from any and all losses, liability and damages, claims, judgments, liens, costs and fees of every description, which the Owner may incur, sustain or suffer by reason of the failure or default on the part of the Principal in the performance of any or all of the terms, provisions, and requirements of the Construction Contract, including any and all amendments and modifications thereto, or incurred by the Owner in making good any such failure of performance on the part of the Principal.

The Surety shall commence performance of its obligations and undertakings under this Bond promptly and without delay, after written notice from the Owner to the Surety.

The Surety hereby waives notice of any and all modifications, omissions, additions, changes, alterations, extensions of time, changes in payment terms, and any other amendments in or about the Construction Contract, and agrees that the obligations undertaken by this Bond shall not be impaired in any manner by reason of any such modifications, omissions, additions, changes, alterations, extensions of time, change in payment terms, and amendments.

The Surety hereby agrees that this Bond shall be deemed amended automatically and immediately, without formal or separate amendments hereto, upon any amendment to the Construction Contract, so as to bind the Principal and the Surety to the full and faithful performance of the Construction Contract as so amended or modified, and so as to increase the penal sum to the adjusted contract price of the Construction Contract.

No right of action shall accrue on this Bond to or for the use of any person, entity or corporation other than the Owner and any other obligee named herein, or their executors, administrators, successors or assigns.

This bond is given pursuant to and in accordance with the provisions of O.C.G.A. Section 36-91-1 *et seq.* and all the provisions of the law referring to this character of Bond as set forth in said Sections or as may be hereinafter enacted, and these are hereby made a part hereof to the same extent as if set out herein in full.

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IN WITNESS WHEREOF the undersigned have caused this instrument to be executed and their respective corporate seals to be affixed by their duly authorized representatives this _____ day of _____, 20____.

Principal

By: _____

Its: _____

Witness

Typed name of witness

Typed address of witness

(Surety)

By: _____

Its: Attorney-in-Fact

Typed name of Attorney-in-Fact

Witness

Type name of witness

Type address of witness

(Address of Surety's Home Office)

Note: Date of Bond must not be prior to date of contract.

- END OF SECTION -

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SECTION 00 61 13.16

CONSTRUCTION PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS that _____
(hereinafter called the "Principal") and _____
(hereinafter called the "Surety"), are held and firmly bound unto **Cobb County-Marietta Water Authority** (hereinafter called the "Owner"), its successors and assigns as obligee, in the penal sum of

_____,
lawful money of the United States of America, for the payment of which the Principal and the Surety bind themselves, their administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered, or is about to enter, into a certain written contract with the Owner, dated _____, which is incorporated herein by reference in its entirety (hereinafter called the "Construction Contract"), for the construction of a project known as James E. Quarles WTP Reservoir Cleaning and Improvements Project as more particularly described in the Construction Contract (hereinafter called the "Project");

NOW, THEREFORE, the condition of this obligation is such that if the Principal shall promptly make payment to all persons working on or supplying labor or materials under the Construction Contract, and any amendments thereto, with regard to labor or materials furnished and used in the Project, and with regard to labor or materials furnished, but not so used, then this obligation shall be void; but otherwise it shall remain in full force and effect.

1. A "Claimant" shall be defined herein as any subcontractor, person, party, partnership, corporation or other entity furnishing labor, services or materials used, or reasonably required for use, in the performance of the Construction Contract, without regard to whether such labor, services or materials were sold, leased or rented, and without regard to whether such Claimant is or is not in privity of contract with the Principal or any subcontractor performing work on the Project, including, but not limited to, the following labor, services, or materials: water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Construction Contract.
2. In the event a Claimant files a lien against the property of the Owner, and the Principal fails or refuses to satisfy or remove it promptly, the Surety shall satisfy or remove the lien promptly upon written notice from the Owner, either by bond or as otherwise provided in the Construction Contract.
3. The Surety hereby waives notice of any and all modifications, omissions, additions, changes, alterations, extensions of time, changes in payment terms, and any other amendments in or about the Construction Contract and agrees that the obligations undertaken by this Bond shall not be impaired in any manner by reason of any such modifications, omissions, additions, changes, alterations, extensions of time, changes in payment terms, and amendments.

4. The Surety hereby agrees that this Bond shall be deemed amended automatically and immediately, without formal or separate amendments hereto, upon any amendment or modification to the Construction Contract, so as to bind the Principal and Surety, jointly and severally, to the full payment of any Claimant under the Construction Contract, as amended or modified, provided only that the Surety shall not be liable for more than the penal sum of the Bond, as specified in the first paragraph hereof.
5. This Bond is made for the use and benefit of all persons, firms, and corporations who or which may furnish any materials or perform any labor for or on account of the construction to be performed or supplied under the Construction Contract, and any amendments thereto, and they and each of them may directly sue the Principal and the Surety hereon.
6. No action may be maintained on this Bond after one (1) year from the date the last services, labor, or materials were provided under the Construction Contract by the Claimant prosecuting said action.
7. This bond is given pursuant to and in accordance with the provisions of O.C.G.A. Section 36-91-1 *et.seq.* and all the provisions of the law referring to this character of Bond as set forth in said Sections or as may be hereinafter enacted, and these are hereby made a part hereof to the same extent as if set out herein in full.

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IN WITNESS WHEREOF, the Principal and the Surety have hereunto affixed their corporate seals and caused this obligation to be signed by their duly authorized representatives this _____ day of _____, 20 _____.

Principal

By: _____

Its: _____

Witness

Typed name of witness

Typed address of witness

(Surety)

By: _____

Its: Attorney-in-Fact

Typed name of Attorney-in-Fact

Witness

Type name of witness

Type address of witness

(Address of Surety's Home Office)

Note: Date of Bond must not be prior to date of contract.

- END OF SECTION -

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SECTION 00 61 13.17

CERTIFICATION OF CONTRACTOR'S ATTORNEY

The undersigned Contractor hereby certifies one of the following:

_____ (initial) Prior to execution and delivery of the contract contained herein, the attorney has examined the attached contract, any applicable performance and payment bonds and the manner of execution thereof, as well as all other documents attached hereto and is of the opinion that upon the execution and delivery of these documents, same will constitute a valid and legally binding obligation of the undersigned contractor in accordance with the terms, conditions and provisions thereof.

Typed Name of Attorney

Signature of Attorney

Date: _____

_____ (initial) The undersigned contractor has an attorney but has not obtained any legal opinion regarding the execution and delivery of these documents.

_____ (initial) The undersigned contractor does not have an attorney and has elected not to engage an attorney regarding the execution and delivery of this contract and attached documents.

CONTRACTOR

Name of Contractor: _____

By: _____

Title: _____

Attest: _____

Title: _____

[SEAL]

- END OF SECTION -

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SECTION 00 61 13.18

CERTIFICATION OF OWNER'S ATTORNEY

I, the undersigned Douglas R. Haynie, the duly authorized and acting legal representative of COBB COUNTY-MARIETTA WATER AUTHORITY, do hereby certify as follows:

Prior to execution and delivery thereof by Cobb County-Marietta Water Authority, I have examined the attached contract and any applicable performance and payment bonds and the manner of execution thereof, and I am of the opinion that upon the correction of any matters noted hereon, the foregoing contract will be ready for execution and upon execution and delivery will constitute a valid and legally binding obligation of Cobb County-Marietta Water Authority in accordance with the terms, conditions, and provisions thereof.

Date: _____

Douglas R. Haynie
Typed Name

Signature

- END OF SECTION -

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SECTION 00 62 16

INSURANCE CERTIFICATE CHECKLIST

Name of Vendor/Contractor: _____
Contract Name/Number: James E. Quarles WTP Reservoir Cleaning and Improvements Project
CCMWA Project No.: 505-9005-38-20-0000
Reviewed by: _____ Date Reviewed: _____

Workers' Compensation and Employers Liability

Effective Date: _____ Expiration Date: _____
Are Effective Dates Current? Yes No
Insurance Carrier: _____ A.M. Best Rating: (A-or better) _____

Coverage A: Workers' Compensation: Statutory Limits Provided Yes No
Coverage B: Employers Liability: Limits of \$1,000,000 Provided Yes No

Does policy provide coverage for leased employees, temporary staff and
Part-time employees? Yes No
Are officer's/owner's included for coverage? Yes No

Commercial Automobile Liability

Effective Date: _____ Expiration Date: _____
Are Effective Dates Current? Yes No
Insurance Carrier: _____ A.M. Best Rating: (A- or better) _____

Combined Single Limit for BI/PD of at least \$1,000,000? Yes No
Is liability coverage provided for owned/leased, hired and non-owned
Vehicles? Yes No

Commercial General Liability

Effective Date: _____ Expiration Date: _____
Are Effective Dates Current? Yes No
Insurance Carrier: _____ A.M. Best Rating: (A- or better) _____

Are the following policy limits provided?
\$2,000,000 General Aggregate Yes No
\$1,000,000 Each Occurrence Yes No
\$2,000,000 Products/Completed Operations Yes No
\$1,000,000 Personal/Advertising Injury Yes No
\$ 100,000 Fire Damage/Fire Legal Liability Yes No
\$ 5,000 Medical Expense any one person Yes No
Contractual Liability provided at full policy limits? Yes No
Aggregate Limits apply Per Project/Per Job? Yes No
Coverage stipulated for Products/Completed Operations? Yes No

Occurrence Form or Claims Made Form? _____
 If Claims-Made is continuity date at least the start date of the project? Yes No
 Is the care, custody, control exclusion for property other than Contractor's property deleted? Yes No

Excess/Umbrella Liability:

Effective Date: _____ Expiration Date: _____
 Are Effective Dates Current? Yes No
 Insurance Carrier: _____ A.M. Best Rating: (A- or better) _____

Are the following policy limits provided?
 \$5,000,000 Aggregate Yes No
 \$5,000,000 Each Occurrence Yes No

Does the excess/umbrella liability policy provide additional limits above the following?
 General Liability Yes No
 Automobile Liability Yes No
 Employers Liability Yes No

Is Contractual Liability coverage included at full policy limits? Yes No
 Coverage stipulated for Products/Completed Operations? Yes No
 Occurrence Form or Claims Made Form? _____
 If Claims-Made is continuity date at least the start date of the project? Yes No

Property/Builder's Risk-Installation Floater:

Effective Date: _____ Expiration Date: _____
 Are Effective Dates Current? Yes No
 Insurance Carrier: _____ A.M. Best Rating: (A- or better) _____

Are policy limits provided at least equal to the value of the project? Yes No
 Is a replacement cost valuation provided? Yes No
 Is coverage provided for "all-risk" or special perils? Yes No
 Is coverage provided for personal property in transit? Yes No
 Is coverage provided for damage to property and "soft costs"? Yes No
 Is boiler and machinery coverage provided? Yes No
 Is coverage provided for testing and start-up? Yes No

Contractor's Pollution Liability:

Effective Date: _____ Expiration Date: _____
 Are Effective Dates Current? Yes No
 Insurance Carrier: _____ A.M. Best Rating: (A- or better) _____
 Are the following policy limits provided?

\$5,000,000 Each Occurrence or Claim	Yes	No
Coverage for lead and asbestos exposure through remediation provided?	Yes	No
\$5,000,000 for lead and asbestos exposure through remediation, each occurrence or claim	Yes	No

General Requirements:

Are the Cobb County-Marietta Water Authority, the Engineer, and the Engineer’s Consultants included as additional insured?

Yes No

Is the certificate issued to Cobb County-Marietta Water Authority? Yes No

Does the cancellation clause provide at least 30 day notice? Yes No

Is a waiver of subrogation rights included? Yes No

Is the Insurance Company’s name listed on the certificate? Yes No

Does the certificate list the policy numbers next to each coverage? Yes No

Note: Continuous coverage is required for products and completed operations for a minimum of two years following completion of the job. The contractor must furnish an updated certificate of insurance for a period of two years following the completion of the job. Therefore, new certificates which show continuous general liability (including products and completed operations) or “tail liability” for claims-made policies (where the policy is not renewed/maintained) must be submitted to Cobb-Marietta Water Authority on an annual basis for the two years following completion of the job.

Specific Requirements:

1. Insurance certificate must include the following affirmative statement: "Coverage afforded will not be cancelled, materially changed or renewal refused until at least thirty (30) days prior written notice has been given to Owner and to each other additional insured to whom a certificate of insurance has been issued." Language stating that the Insurance Company is not responsible if the notice is not sent is not acceptable.
2. Insurance certificate must also show the following:
 - A. Proper name and address of Cobb County-Marietta Water Authority:
1170 Atlanta Industrial Drive, Marietta, Georgia 30066.
 - B. Show at least the insurance coverage required by bid proposal.
3. Should there be any differences in insurance requirements stated above as compared to the General Conditions and Supplementary Conditions, the requirements stated in the General Conditions and Supplementary Conditions shall take precedence.

- END OF SECTION -

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SECTION 00 65 16

CERTIFICATE OF SUBSTANTIAL COMPLETION

Certificate of Substantial Completion

Project: James E. Quarles WTP Reservoir Cleaning and Improvements Project

Owner: Cobb County-Marietta Water Authority

Owner's Project No.: 505-9005-38-20-0000

Engineer's Project No.: 32485-017/026

This [tentative] [definitive] Certificate of Substantial Completion applies to:

- All Work under the Contract Documents:
- The following specified portions of the Work:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [definitive] list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

- Amended Responsibilities
- Not Amended

Owner's Amended Responsibilities:

Contractor's Amended Responsibilities:

The following documents are attached to and made part of this Certificate:

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Executed by Engineer

Date

Accepted by Contractor

Date

Accepted by Owner

Date

- END OF SECTION -

SECTION 00 65 19

AFFIDAVIT OF COMPLETION

STATE OF _____

COUNTY OF _____

(1) I, _____, being duly sworn do hereby affirm that I am duly authorized to make this affidavit on behalf of _____ (hereinafter called "Contractor") as _____ Contractor in connection with the contract dated _____, between Cobb County-Marietta Water Authority (hereinafter called "Owner") and Contractor, for construction of James E. Quarles WTP Reservoir Cleaning and Improvements Project (hereinafter called the "Project").

(2) I affirm under oath that all work has been completed in accordance with contract provisions, and all laborers, sub-contractors and material supplier have been paid in full, and there are no suits or liens outstanding in connection with said contract or the Project.

(3) I affirm under oath that the agreed price for all of the labor, services and materials to be furnished for the Project is \$_____, and that \$_____ has been previously paid by Owner as progress payments for the Project.

(4) I affirm under oath that the balance of \$_____ on said total contract price of \$_____ is simultaneously being paid to Contractor as a final disbursement on the Project. I hereby acknowledge receipt of the same on behalf of Contractor, and I hereby acknowledge that this affidavit is made under the provisions of Official Code of Georgia Annotated Section 44-14-316.2 for the purpose of inducing Owner to pay said balance to Contractor.

-CONTINUED NEXT PAGE-

(5) I affirm under oath that all of the agreed price or reasonable value of the labor, services or materials for the Project has now been paid by Owner.

(Signature of Affiant)

Sworn to and subscribed before me this _____ day of _____, 20__.

NOTARY PUBLIC

My commission expires _____

- END OF SECTION -

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by

ACEC

AMERICAN COUNCIL OF ENGINEERING COMPANIES



ASCE American Society
of Civil Engineers



**National Society of
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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement. [See Supplementary Conditions.](#)
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 01 of the Specifications. [The General Requirements are applicable to all Sections of the Specifications and to the entire Work.](#)
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

25.1 Liquidated Damages – amounts shall be as stipulated in the Agreement. Liquidated damages shall apply to the Contract Times for the Project. Liquidated Damages shall be both additive and cumulative. Liquidated Damages shall end upon Substantial Completion, Completion of the Work associated with each Milestone Date, and upon final completion of the Work.

26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.
27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents to provide the following: (i) the Owner full time, uninterrupted, continuous operation of the work; and (ii) all required functional, performance, and operational or startup testing has been successfully demonstrated for all components, devices, equipment, and systems to the satisfaction of the Engineer in accordance with the requirements of the Specifications; and (iii) all required inspections and other work necessary for the Engineer to certify “substantially complete” have been completed. ~~, 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. See General Conditions Paragraph 14.04 for additional provisions.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.

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

1.02 Terminology

- A. The words and terms discussed in Paragraph 1.02.B through F 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,” “as required” 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 requirements of and the information in the Contract Documents and compliance with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

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

D. *Defective:*

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

E. *Furnish, Install, Perform, Provide:*

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

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

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. ~~When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.~~

- B. ~~*Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.~~
- A. When Contractor delivers the executed Agreements to Owner, Contractor shall also deliver to Owner such Bonds and Certifications of Insurance as Contractor may be required to furnish in accordance with Article 5.
- B. Contract, Performance Bond and Payment Bond shall not be dated prior to submittal to the Owner so that all three can be filled in by the Owner with the same date.
- C. Certified copy of Power of Attorney for Performance Bond and Payment Bond must be dated prior to submittal to the Owner with a date which is within the previous fifteen days.
- D. Performance Bond, Payment Bond and Certified Copy of Power of Attorney must have corporate seal of surety.
- E. Signature of attorney-in-fact for surety company on Performance Bond and Payment Bond must be one of persons authorized to sign on certified copy of Power of Attorney.
- F. The copy of Contract Documents to be kept by the Owner must have original signed certificate version of the certified Power of Attorney. Other copies may have copies of the certificate.
- G. If Contractor is a corporation, Contract, Performance Bond and Payment Bond must have corporate seal of Contractor affixed, must show title of person signing on behalf of Contractor and must be attested by Secretary or Assistant Secretary.
- H. The Payment Bond and the Performance Bond must be on Owner's forms, included herein.
- I. Surety company must be shown on the current Department of the Treasury Circular 570, Surety Companies Acceptable on Federal Bonds, with an underwriting limitation greater than the amount of the Contract.

2.02 *Copies of Documents [See Supplementary Conditions SC-2.02]*

- A. Owner ~~shall~~ will furnish to Contractor up to ~~ten~~ four printed or hard copies of the ~~Drawings and Project Manual~~ Contract Documents and one counterpart of the executed Contract Agreement. Additional copies will be furnished upon request at the cost of reproduction.
- B. Owner may also, if requested by Contractor, furnish Contractor with electronic copies of the Drawings and other Contract Documents. Contractor agrees it will only use the same for performing the Work and will not disseminate the same except to its subcontractors where necessary to perform the Work. Contractor shall obtain written acceptance of any subcontractor to these limitations before disseminating the same to such subcontractor. Electronic copies of the Contract Documents will be provided as a convenience to the

Contractor. The Owner and Engineer assume no liability and shall be held harmless for any discrepancies between the hard copy and electronic copy of the Contract Documents.

2.03 Commencement of Contract Times; Notice to Proceed

- A. ~~The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated~~date established in the Notice to Proceed. A Notice to Proceed may be given at any time within ~~30~~ 60 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the ~~sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier~~ one-hundred and twentieth day after the Owner receives copies of the Agreement properly executed by the Contractor and the Bonds, evidence of proper insurance and other materials required by the Notice of Award.

2.04 Starting the Work

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

2.05 Before Starting Construction

- A. *Preliminary Schedules:* Within 10 days after the ~~Commencement of the Contract Time~~Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
1. a preliminary Progress Schedule 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 Documents;
 2. a preliminary Schedule of Submittals; which indicates each required Submittal and the dates for submitting, time for reviewing and processing each Submittal (periodic Submittals may be listed by a common monthly date); 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~~ in a format acceptable to the Engineer and in accordance with the requirements specified in the General Requirements.

2.06 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 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. ~~At least 10 days before submission of the first Application for Payment a~~ Within ten days after the preconstruction conference, a conference attended by Contractor, Owner, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
1. The Progress Schedule will be acceptable to Engineer as being the Contractor's schedule for the 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. The Progress Schedule may subsequently be adjusted in accordance with Paragraph 6.04 and applicable provisions of the General Requirements.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals. The Schedule of Submittals may subsequently be adjusted in accordance with Paragraph 6.04 and applicable provisions of the General Requirements.
 3. Contractor's Schedule of Values will be acceptable to the Engineer as to form and substance if it is provided in accordance with the requirements specified in the General Requirements.~~provides a reasonable allocation of the Contract Price to component parts of the Work.~~

2.08 *Licensing*

Before any work at the site is started which is governed by the Construction Industry Licensing Board of Georgia (O.C.G.A. Section 43-14-1 et seq and Section 43-41 et seq), or its rules or regulations, Contractor shall inform himself of those rules and regulations, and qualifications for licensure, and if requested shall deliver proof of compliance to the Owner and Engineer.

ARTICLE 3 – CONTRACT DOCUMENTS; INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The individual components of the Contract Documents are complementary; what is required by one is as binding as if required by all.

- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.
- D. Where the word “similar” occurs in the Contract Document, it shall have a general meaning and not be interpreted as being identical, and all details shall be worked out in relation to their location and their connection with other parts of the Work.
- E. Each and every clause or other provision required by law to be inserted in these Contract Documents shall be deemed to be inserted herein, and they shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted, or if not correctly inserted, then upon the application of either party, the Contract Documents shall forthwith be amended to make such insertion.
- F. “Imperative” or “Command” type language is used in the Contract Documents. This command language refers to and is directed to the Contractor.
- G. Emphasis, such as italics or quotes, has been used throughout the Contract Documents. Use of emphasis shall not change the meaning of the term emphasized.
- H. Special Specifications stated on the Drawings govern that particular part of the Work and have equal weight and importance as the printed Specifications.

3.02 Reference Standards

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

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies:

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation-, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. Resolving Discrepancies:

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).
2. In resolving inconsistencies within the Contract Documents, precedence shall be given in the following descending order:
 - a. Change Orders.
 - b. Work Change Directives.
 - c. Field Orders.
 - d. Engineer's written interpretations and clarifications.

e. Notice to Proceed.

f. Addenda.

g. Contract Agreement.

h. Supplementary Conditions.

i. General Conditions.

j. Specifications.

k. Drawings: _

i. Figure dimensions on Drawings shall take precedence over scaled dimensions.

ii. Detailed drawings shall take precedence over general drawings.

iii. In case of discrepancy between small-scale detail and large-scale detail, the large-scale detail shall govern. On any of the Drawings where a portion of the Work is drawn out and the remainder is shown in outline, the portion drawn out shall apply also to all other like portions of the Work.

l. Bidding Requirements.

3. In cases where products or quantities are omitted from the Specifications, the description and quantities on the Drawings shall govern.

3.04 *Amending and Supplementing Contract Documents*

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

3.05 *Reuse of Documents*

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

3.06 *Electronic Data*

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

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

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the

Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed 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.
- D. The Owner has begun to obtain all lands, rights-of-way and easements as indicated in the Contract Documents however, delays obtaining such lands may occur. If the Owner is unable to obtain lands as indicated in the Contract Documents, the Owner will notify the Contractor of those lands which are not yet acquired and those areas where lands are available. Contractor shall begin the Work upon such land and rights-of-way as Owner has acquired.

4.02 *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 contiguous to the Site that have been utilized by the Engineer in preparing the Contract Documents; -and
- 2. those drawings ~~known to Owner~~ of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been utilized by the Engineer in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

- 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
- 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
- 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

- A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:
1. is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
 2. is of such a nature as to require a change in the Contract Documents; or
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

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

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

C. *Possible Price and Times Adjustments:*

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

contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

- c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

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

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

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the

consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.
- C. The dimensions and descriptions given on the Drawings for adjacent work by others, if any, (including any existing facilities or utilities previously constructed for Owner) are based on the design drawings and not as-built drawings. Prior to commencing the Work, the Contractor shall verify all as-built conditions and information whenever existing facilities or utilities may impact the Work. Failure of Contractor to so verify all as-built conditions prior to commencing the Work shall bar Contractor from later seeking additional compensation for conflicts with existing facilities or utilities.
 - D. Prior to the construction or installation of any proposed facility or pipeline, the Contractor shall expose all existing utilities true to their vertical and horizontal location, within the vicinity of the Work. In order to avoid conflicts between existing and proposed facilities or utilities, the Contractor shall either relocate the existing or proposed utility on a temporary or permanent basis, or shall take whatever means necessary to protect the existing facilities or utilities during the installation of proposed utilities, as approved by the Engineer. No additional payment will be made for the relocation of existing utilities or for any work associated with the protection of existing facilities or utilities.

4.05 Reference Points

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of ~~Owner~~Engineer. 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.
- B. Engineer may check the lines, elevations, and reference marks set by Contractor, and Contractor shall correct any errors disclosed by such check. Such a check shall not be considered as approval of Contractor's work and shall not relieve Contractor of the responsibility for accurate construction of the entire Work.

- C. The Contractor shall review the Contract Documents and the Project site to determine the presence and location of any property or rights-of-way monuments or markers, and to assess the possibility of disruption to these monuments or markers. It will be the Contractor's responsibility to flag, erect guard posts, or provide offset references for the protection or the re-monumentation of these property or rights-of-way monuments or markers. In the event these monuments or markers are covered over or disturbed, it will be the Contractor's responsibility to employ a surveyor licensed in the state of Georgia to re-establish those monuments or markers of property or rights-of-way, which were present prior to Work on the Project.
- D. It shall be the Contractor's responsibility to verify all reference points shown on the Contract Documents prior to beginning Work on the site. This verification shall be conducted by professionally qualified personnel in a manner which will verify the accuracy of the information shown in the Contract Documents. On projects which involve the connection to, or additions to existing structures, the elevations of these existing structures shall also be verified. Any findings which differ from those shown on the Contract Documents shall be submitted in writing to the Engineer for resolution.
- E. Additional surveys necessary for the construction staking shall be performed by the Contractor, the cost of which shall be incorporated into the appropriate items of Work. On projects in which payment is classified by depth of cut, the construction staking shall be performed in a manner that will allow for the determination of cut classification. During construction of the project, the Contractor shall keep a daily log and record of the location of all underground pipes, all structures, and any deviation from the Drawings. The Contractor shall keep and furnish this daily log and record in a manner which will allow the Engineer to incorporate these items into the Contract Documents.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may issue a Work Change Directive or Change Order as appropriate, order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner’s own forces or others in accordance with Article 7.
- G. ~~To the fullest extent permitted by Laws and Regulations, 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: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the~~

~~scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.~~

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

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment ~~becomes due~~ is made by the Owner or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers [See Supplementary Conditions SC-5.02]*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as ~~may be~~ provided ~~below in the Supplementary Conditions.~~
1. Surety shall be in good standing with Georgia's Insurance Commissioner's Office.
 2. Surety and Insurers must have an A.M. Best Financial Strength Rating and a Financial Size Category as stated in the insurance requirements specified elsewhere in these Contract Documents.
 3. The surety shall have an underwriting limitation in Circular 570 in excess of the Contract Price.

5.03 *Certificates of Insurance [See Supplementary Conditions SC-5.03]*

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

5.04 *Contractor's Insurance [See Supplementary Conditions SC-5.04]*

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

or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the

certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

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

- C. The limits of liability for the insurance required by paragraph 5.04.B.2 of the General Conditions shall provide coverage specified in the Supplementary Conditions or greater where required by Laws and Regulations.
- D. Any renewal of a policy shall have an original retroactive date no later than the date of the Contract.

5.05 Owner's Liability Insurance

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

5.06 Property Insurance [See Supplementary Conditions SC-5.06]

- A. Unless otherwise provided in the Supplementary Conditions, ~~Owner~~Contractor shall purchase and maintain property insurance as required in the Supplementary Conditions.

~~upon the Work at the Site in the amount of the full 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 interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;~~
- ~~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, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, 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.~~

- ~~3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);~~
 - ~~4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;~~
 - ~~5. allow for partial utilization of the Work by Owner;~~
 - ~~6. include testing and startup; and~~
 - ~~7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.~~
- ~~B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.~~
- ~~C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 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 Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.~~
- ~~D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.~~
- ~~E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.~~

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 by Contractor will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. ~~Owner and Contractor waive all rights against each other and their 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 Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused.~~ None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner/Contractor as trustee 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 utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.~~
- C. ~~Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.~~

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special

agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

- B. Owner ~~as fiduciary~~ shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner ~~as fiduciary~~ shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner ~~as fiduciary~~ shall adjust and settle the loss with the insurers.

~~and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.~~

5.09 Acceptance of Bonds and Insurance; Option to Replace

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

5.10 Partial Utilization, Acknowledgment of Property Insurer

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

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 Supervision and Superintendence *[See Supplementary Conditions SC-6.01]*

- A. Contractor shall supervise, provide quality control, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be

necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. Contractor shall also designate, in writing, a representative, hereinafter referred to as Project Manager, assigned to the Project on a full-time basis during execution of the Work who shall have the authority to act on behalf of Contractor, including executing the orders or directions of the Engineer without delay. This Superintendent and/or Project Manager shall have full authority to promptly supply products, tools, plant equipment, and labor as may be required to diligently prosecute the Work. All communications given to or received from the Superintendent and/or the Project Manager shall be binding on Contractor.
- C. If at any time during the Project the Superintendent or Project Manager leaves the Project site while Work is in progress, Engineer shall be notified and provided with the name of Contractor's representative having responsible charge.
- D. Contractor shall also designate the person responsible for Contractor's quality control while Work is in progress. Engineer shall be notified in writing prior to any change in quality control representative assignment.
- E. Prior to the Commencement of the Contract Times, Contractor shall furnish to the Owner and Engineer the names, resumes, 24-hour contact information and other relevant information associated with the Project Manager and the Superintendent that are to be assigned to this project. The Project Manager and Superintendent must be acceptable to the Owner and Engineer.

6.02 Labor; Working Hours [See Supplementary Conditions SC-6.02]

- A. Contractor shall provide competent, skilled, 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. Contractor shall, upon demand from the Engineer, immediately remove any manager, superintendent, foreman or workman whom the Engineer or Owner may consider incompetent or undesirable.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.
- C. Regular working hours may be Monday through Friday, excluding holidays, occurring between the hours of 7:00 AM and 6:00 PM, unless restricted otherwise. Contractor shall establish a 40-hour work week with regular scheduled work times, e.g., four 10-hour days or five 8-hour days, within the hours and days allowed above. Approval for specific work outside regular

scheduled work times shall be requested no less than 48 hours prior to the requested work period. Contractor shall request approval of changes in regular scheduled work times no less than one week prior to the desired change. Occasional unscheduled overtime on weekdays may be permitted provided reasonable notice is given to Engineer.

- D. Contractor shall pay all extra costs incurred by the Owner associated with work, outside of regular working hours, including additional support services, inspection services, testing services, utilities or other applicable costs. The cost associated with the Owner's inspection overtime will be the amounts as provided in the Supplementary Conditions per hour per individual, depending upon individuals assigned to the Project, the type of work being inspected, and the date of the invoice; i.e., allowing for salary escalation. Contractor will not be responsible for extra costs associated with inspection overtime for work in excess of 5040 hours per week when such overtime work is explicitly required by the Contract Documents.
- E. Except in the case of emergencies or other unusual circumstances, no work shall be permitted on the project on Sunday.
- F. The Engineer will determine to what extent extraordinary onsite personnel work is required during Contractor's overtime work or working hours outside regular scheduled work hours.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, quality control, testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All products (material and equipment) provided on this Project shall be new and unused and provided by the Contractor unless specified otherwise, shall be products currently manufactured by the manufacturer, i.e., products shall not be discontinued or out-of-date products nor shall they be of the last production run of the product. Contractor shall incorporate the previous sentence in any contract or agreement between Contractor and subcontractor or supplier supplying products provided on this Project. All special warranties and guarantees required by the SpecificationsContract Documents 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.
- D. Without limiting the responsibility or liability of the Contractor pursuant to this agreement, all warranties given by manufacturers on materials or equipment incorporated in the work are hereby assigned by the Contractor to the Owner. Such assignment shall be effective upon completion of Contractor's warranty period. If requested, the Contractor shall execute formal

assignments of said manufacturer's warranties to the Owner. All such warranties shall be directly enforceable by the Owner. Such assignment shall in no way affect the Contractor's responsibilities and duties during the warranty period.

6.04 Progress Schedule

- A. The Contractor shall proceed with the Work at a rate of progress which will ensure completion within the Contract Time. It is expressly understood and agreed by and between the Contractor and the Owner, that the Contract Times for the Work described herein are reasonable times, taking into consideration the average climatic and economic conditions, and other factors prevailing in the locality of the Work.
- ~~BA.~~ Contractor shall provide all resources, labor, materials, equipment, services, etc. necessary to adhere to the Progress Schedule established in accordance with Paragraph 2.07 and the General Requirements as it may be adjusted from time to time as provided below.
1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) ~~proposed adjustments in and the General Requirements)~~ an updated the Progress Schedule that will not result in changing the Contract Times and an updated Schedule of Submittals with each partial payment request, but no less than monthly. Contractor's failure to provide acceptable updated Progress Schedule and Schedule of Submittals will delay processing of the pay request until receipt of the acceptable updated Progress Schedule and/or an updated Schedule of Submittals. Such adjustments will updates and adjustments shall comply with any provisions of the General Requirements applicable thereto.
 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.
 3. Number of anticipated days associated weather conditions, as defined in the General Requirements, shall be included on the critical path of Project Schedule.
- C. If the Progress Schedule reflects a completion date prior to the completion date established by the Agreement, this shall afford no basis to claim for delay should Contractor not complete the Work prior to the projected completion date. Instead, all "float" between the completion date in Contractor's schedule and the completion date established in the Agreement shall belong to and is exclusively available to the Owner. Should a change order be executed with a revised completion date, the Progress Schedule shall be revised to reflect the new completion date.
- D. Project Coordination Meetings: The Contractor shall participate in Project Coordination Meetings to be held on the site monthly, or more often if conditions warrant, to establish the current state of completion and revise the schedule as necessary. The Project Coordination Meeting will be conducted by the Owner and/or the Engineer.
- E. The Contractor shall implement the detailed schedule of activities to the fullest extent possible between Project Coordination Meetings.

- F. The Contractor shall prepare its daily report by 10:00 a.m. of the day following the report date. This daily report will contain, as a minimum, the weather conditions; number of workers by craft, including supervision and management personnel on site; active and inactive equipment on site; work accomplished by schedule activity item; problems; and visitors to the jobsite.
- G. If a current activity or series of activities on the overall project schedule is behind schedule and if the late status is not due to an excusable delay for which a time extension would be forthcoming, the Contractor shall attempt to reschedule the activity to be consistent with the overall Project Schedule so as not to delay any of the Contract milestones. The Contractor agrees that:
 - 1. The Contractor shall attempt to expedite the activity completion so as to have it agree with the overall progress schedule. Such measures as the Contractor may choose shall be made explicit during the Project Coordination Meeting.
 - 2. If, within two weeks of identification of such behind-schedule activity, the Contractor is not successful in restoring the activity to an on schedule status, the Contractor shall:
 - a. Carry out the activity with the scheduled crew on an overtime basis until the activity is complete or back on schedule.
 - b. Increase the crew size or add shifts so the activity can be completed as scheduled.
 - c. Commit to overtime or increased crew sizes for subsequent activities, or some combination of the above as deemed suitable by the Engineer.
 - 3. These actions shall be taken at no increase in the Contract Price.
- H. The Contractor shall maintain a current copy of all construction schedules on prominent display in the Contractor's field office at the Project site.
- I. The Contractor shall cooperate with the Owner and Engineer in all aspects of the Project scheduling system. Failure to implement the Project scheduling system or to provide specified schedules, diagrams and reports, or to implement actions to re-establish progress consistent with the overall progress schedule may be causes for withholding of payment.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
 - 1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be

accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named[HD1] 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; and
 - 3) it has a proven record of performance and availability of responsive service.
- b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

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

- 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
- 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
- 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of

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

- F. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Acceptance of any Subcontractor, other person or organization by Owner shall not constitute a waiver of any right of Owner to reject defective Work. Contractor shall not be required to employ any Subcontractor, ~~Supplier~~, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection. If more than twenty-five percent of the work (as measured by dollar value and not including specialty work that is customarily subcontracted) is to be performed by one or more subcontractors, then Contractor is obligated to notify Owner in writing of this intent with the submission of the Bid and to provide such supplemental information within five days of the bid as outlined under ~~section 11~~ paragraph 1.13 of INSTRUCTIONS TO BIDDERS.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, ~~and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued.~~ No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier ~~will shall~~ be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. ~~Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.~~
- H. Owner or Engineer may furnish to any Subcontractor, Supplier or other person or organization, to the extent practicable, information about amounts paid on their behalf to Contractor in accordance with Contractor's Applications for Payment.
- I. Specialty Subcontractors: Contractor shall utilize the services of Specialty Subcontractors on those parts of the Work which is declared as specialty work in Specifications and which, under normal contracting practices, is best performed by Specialty Subcontractors, as required by the Engineer in Engineer's sole discretion, at no additional cost to the Owner. If Contractor desires to self-perform specialty work, Contractor shall submit a request to the Owner, accompanied by evidence that Contractor's own organization has successfully performed the type of work in question, is presently competent to perform the type of work, and the performance of the work by Specialty Subcontractors will result in materially increased costs or inordinate delays.
- J. The Contractor shall perform a minimum of 20 percent of the onsite labor with its own employees.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents

for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

- B. To the fullest extent permitted by Laws and Regulations, 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

6.08 *Permits*

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

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.
- D. The Contractor shall keep fully informed of all laws, ordinances and regulations of the federal, state, county, city and municipal governments or authorities in any manner affecting those engaged or employed in the Work or the materials used in the Work or in any way affecting the conduct of the Work and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over same.
1. Security and Immigration Act: Contractor and its Subcontractors shall register and comply with OCGA 13-10-90 et. seq. and Georgia Department of Labor Chapter 300-10-1.
- E. Contractor shall perform those duties as they relate to O.C.G.A. Section 36-91-92, including filing the Notice of Commencement. Contractor shall provide Owner and Engineer with proof of having performed these duties before any progress payments or final payment shall be considered due and payable to the Contractor.
- F. Where professional engineering and/or architectural services are required in connection with any of the components required by the Contract, all Bidders and component suppliers must make certain that there is full compliance with all applicable laws of the State of Georgia and any other state governing professional engineering and/or architecture. The Owner and Engineer do not warrant that any entity listed as an acceptable manufacturer is or will be in compliance with such laws.
- G. Any fines levied against the Owner for failure of Contractor to properly maintain required NPDES erosion and sediment control measures or any other related requirements will be deducted as set-offs from payments due Contractor.

6.10 Taxes

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

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas:

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.
 - B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
 - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
 - D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

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

6.13 Safety and Protection [[See Supplementary Conditions SC-6.13](#)]

- 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 **pollution of or** damage, injury or lossto:

1. all persons on the Site or who may be affected by the Work;
 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, 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 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- G. The property, improvements or facilities at the Site shall be replaced or restored to a condition as good as when Contractor entered upon the Site. In case of failure on the part of Contractor to restore such property, or make good such damages or injury, the Owner may, after 48 hours written notice, or sooner in the case of an emergency, proceed to repair, rebuild, or otherwise restore such property, improvements or facilities as may be deemed necessary. The cost thereof will be deducted from any monies due or which may become due Contractor under this Contract.
- H. Cobb County has enacted a local ordinance which requires strict adherence to OSHA regulations Subpart P, Part 1926 pertaining to trenching and excavation. All bidders are advised to be

familiar with both the OSHA regulations and the local ordinance before bidding this Project. Some shoring work and/or trench boxes may be necessary to complete the work as shown on the construction Drawings.

6.14 *Safety Representative*

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

6.15 *Hazard Communication Programs*

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

6.16 *Emergencies*

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

6.17 *Shop Drawings and Samples*

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

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements Specifications.
- b. Data shown on the Shop Drawings shall will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.

- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.
- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials offered with respect to 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 **Shop Drawing and Sample** submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will **return as incomplete or will** provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval **or disapproval** 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 **or disapproval** will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means,

method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures:

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

F. Excessive Submittal Resubmission: Engineer will record time required by Engineer for excessive submittal review occasioned by Contractor's resubmission, in excess of two resubmissions of any required submittal, caused by unverified, unchecked or unreviewed, incomplete, inaccurate or erroneous, or nonconforming submittals. Upon receipt of Engineer's accounting of time and costs, Contractor will reimburse Owner for the charges of Engineer's review for excessive resubmissions through set-offs from the recommended Owner payments to Contractor as established in Paragraph 14.02.D. of these General Conditions.

G. In the event that Contractor provided a submittal for a previously approved item, whether such is as a substitution or in addition to the previously approved item, Contractor shall reimburse Owner for Engineer's charges for such time as may be required to perform all reviews of the substitute item, unless the change is specifically requested by the Owner.

6.18 Continuing the Work

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

6.19 Contractor's General Warranty and Guarantee

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
 6. any inspection, test, or approval by others; or
 7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage 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, regardless of whether or not caused in part by any negligence or omission of a person or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such person or entity. If through the negligent act or omission on the part of Contractor, any other contractor or any subcontractor shall suffer loss or damage on the Work, Contractor shall settle with such other Contractor or Subcontractor by agreement or arbitration if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim against Owner and/or Engineer on account of any damage alleged to have

been sustained, Owner shall notify Contractor, who shall indemnify and save harmless Owner and Engineer against any such claims.

- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor ~~under Paragraph 6.20.A~~ shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the negligent preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. negligently giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.
- D. Contractor, Subcontractors, Suppliers and others on the Project, or their sureties, shall maintain no direct action against the Engineer, their officers, employees, affiliated corporations, consultants, 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 the Engineer.

6.21 *Delegation of Professional Design Services*

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

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

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 Related Work at Site

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

- A. If Owner ~~intends to~~ contracts with others for the performance of other work on the ~~Project at the~~ Site, the following will be set forth in Supplementary Conditions:
1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination with other contractors.
- C. If Owner contracts with others for the performance of other work on the Site, the Contractor shall attend and participate in coordination meetings with the other on-site contractors.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

7.04 Claims Between Contractors

- A. Should Contractor cause damage to the work or property of any separate contractor at the Site, or should any claim arising out of Contractor's performance of the work at the Site be made by any separate contractor against Contractor, Owner, Engineer, or any other person, Contractor shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by mediation, arbitration, or at law.
- B. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold Owner, Engineer, and the officers, directors, employees, agents, and other consultants of each and any of them harmless 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 directly, indirectly or consequentially out of or resulting from any action, legal or equitable, brought by any separate contractor against Owner, Engineer, or the officers, directors, employees, agents, and other consultants of each and any of them to the extent based on a claim arising out of Contractor's performance of the Work. Should a separate contractor cause damage to the Work or property of Contractor or should the performance of work by any separate contractor at the Site give rise to any other claim, Contractor shall not institute any action, legal or equitable, against Owner,

Engineer, or the officers, directors, employees, agents, and other consultants of each and any of them or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any mediator or arbitrator which seeks to impose liability on or to recover damages from Owner, Engineer, or the officers, directors, employees, agents, or other consultants of each and any of them on account of any such damage or claim.

C. If Contractor is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor, and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable hereto, Contractor may make a claim for an extension of times in accordance with Article 12. An extension of the Contract Times shall be Contractor's exclusive remedy with respect to Owner, and/or Engineer and the officers, directors, employees, agents, or other consultants of each and any of them for any delay, disruption, interference or hindrance caused by any separate contractor. This Paragraph does not prevent recovery from Owner and Engineer for activities that are their respective responsibilities.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 Communications to Contractor

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

8.02 Replacement of Engineer

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer ~~to whom Contractor makes no reasonable objection~~, whose status under the Contract Documents shall be that of the former Engineer.

8.03 Furnish Data

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

8.04 Pay When Due

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

8.05 Lands and Easements; Reports and Tests

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

8.06 Insurance

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

8.07 *Change Orders*

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

8.08 *Inspections, Tests, and Approvals*

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

8.09 *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.

8.10 *Undisclosed Hazardous Environmental Condition*

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

8.11 *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.

8.12 *Compliance with Safety Program*

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 pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in

accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, 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.

9.03 *Project Representative [See Supplementary Conditions SC-9.03]*

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

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

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

9.06 *Shop Drawings, Change Orders and Payments*

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

9.07 *Determinations for Unit Price Work*

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

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

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

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

9.10 *Compliance with Safety Program*

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

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

1. Owner may, in anticipation of possibly ordering an addition, deletion or revision to the Work, request Contractor to prepare a proposal of cost and times to perform Owner's contemplated changes in the Work. Contractor's written proposal shall be transmitted to the Engineer promptly, but not later than fourteen days after Contractor's receipt of Owner's written request and shall remain a firm offer for a period not less than sixty days after receipt by Engineer.
2. Contractor is not authorized to proceed on an Owner contemplated change in the Work prior to Contractor's receipt of a Change Order (or Work Change Directive) incorporating such change into the Work.
3. 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).
4. The Owner shall not be liable to the Contractor for any costs associated with the preparation of proposal associated with the Owner's contemplated changes in the Work.

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 Unauthorized Changes in the Work

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

10.03 Execution of Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of

executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

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

1. The stipulated compensation (Contract Price or Contract Time, or both) set forth in the Change Order includes payment for:
 - a. the Cost of the Work covered by the Change Order,
 - b. Contractor's fee for overhead and profit,
 - c. interruption of Progress Schedules,
 - d. delay and impact, including cumulative impact, on other work under the Contract Documents, and
 - e. extended home office and jobsite overhead;
2. the Change Order constitutes full mutual accord and satisfaction for the change to the Work;
3. No reservation of rights to pursue subsequent claims on the Change Order will be made by either party; and
4. No subsequent claim or amendment of the Contract Documents will arise out of or as a result of the Change Order.

10.04 *Notification to Surety*

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

10.05 *Claims and Disputes*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than ~~30-14~~ days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with written supporting data shall be delivered to the Engineer and the other party to the Contract within ~~60~~ 21 days (and monthly thereafter for continuing events) after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).
- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
 2. approve the Claim; or
 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, ~~unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.~~
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

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

11.01 *Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of

the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

1. Full rental cost for rented, leased, and/or owned equipment shall not exceed the rates listed in the Rental Rate Blue Book published by Equipment Watch, a unit of Primedia, Inc., as adjusted to the regional area of the Project. The most recent published edition in effect at the commencement of the 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. Equipment in Use: Actual equipment use time documented by the Engineer shall be the basis that the 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 operating cost, payment category (and the table below), and associated rate set forth in the Blue Book if not already included in the lease rate.

The hours of operation shall be based upon actual equipment usage to the nearest full hour, as recorded by the Engineer.

<u>Actual Usage</u>	<u>Blue Book Payment Category</u>
<u>Less than 8 hours</u>	<u>Hourly Rate</u>
<u>8 or more hours but less than 7 days</u>	<u>Daily Rate</u>
<u>7 or more days but less than 30 days</u>	<u>Weekly Rate</u>
<u>30 days or more</u>	<u>Monthly Rate</u>

4. Equipment when idle (Standby): Idle or standby equipment is equipment on-site 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 the Engineer, shall be paid at the leasing rate determined in 11.01.A.5.c., excluding operational costs.
5. Where a breakdown occurs on any piece of equipment, payment shall cease for that equipment and any other equipment idled by the breakdown. If any part of the Work is shutdown by the Owner, standby time will be paid during non-operating 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.

- 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 any of the Work that has been completed and accepted by the Owner, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D.), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee. If, however, any such loss or damage to the Work that has been accepted by Owner requires reconstruction and Contractor is placed in charge thereof, Contractor shall be paid for services, a fee proportionate to that stated in Paragraph 12.01.c.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

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

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

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

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

11.03 Unit Price Work

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

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

12.01 Change of Contract Price

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum value fixed by the Owner or by unit price values fixed by the Owner (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached where the methods are not selected by the Owner, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee*: The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent based on subcontractor's actual Cost of the Work;
 - 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 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor; except the maximum total allowable cost to Owner shall be the Cost of the Work plus a maximum collective aggregate fee for Contractor and all tiered Subcontractors of 26.8 percent.
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

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

- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 Delays

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, quarantine restrictions, strikes, freight embargoes, acts of war (declared or not declared), or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

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

13.01 Notice of Defects

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

13.02 Access to Work

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

13.03 Tests and Inspections

- A. Contractor is responsible for the initial and subsequent inspections of Contractor's Work to ensure that the Work conforms to the requirements of the Contract Documents. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests. Contractor shall establish an inspection program and a testing plan acceptable to the Engineer and shall maintain complete inspection and testing records available to Engineer.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all non-contractor inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.

- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.
- G. Tests required by Contract Documents to be performed by Contractor and that require test certificates to be submitted to Owner or Engineer for acceptance shall be made by an independent testing laboratory or agency licensed or certified in accordance with Laws and Regulations and applicable state and local statutes. In the event state license or certification is not required testing laboratories or agencies shall meet the following applicable requirements:
1. "Recommended Requirements for Independent Laboratory Qualification", published by the American Council of Independent Laboratories.
 2. Basic requirements of ASTM E329, "Standard of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction" as applicable.
 3. Calibrate testing equipment at reasonable intervals by devices of accuracy traceable to either the National Bureau of Standards or accepted values of natural physical constants.

13.04 Uncovering Work

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

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.
- B. If Owner stops Work under Paragraph 13.05.A. Contractor shall not be entitled to an extension of Contract Times or increase in Contract Price.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- C. Contractor shall promptly segregate and remove rejected products from the Site.
- D. If rejected products or Work is not removed within 48 hours, the Engineer will have the right and authority to stop the Work immediately and will have the right to arrange for the removal of said rejected products or Work at the cost and expense of the Contractor.

13.07 *Correction Period*

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

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

13.08 *Acceptance of Defective Work*

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

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time **as defined by the Engineer** after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

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

14.02 Progress Payments *[See Supplementary Conditions SC-14.02]*

A. *Applications for Payments:*

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

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, 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 9.07, 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 Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

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

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.
4. Items entitling Owner to retain set-offs from the amount recommended, include but are not limited to:
 - a. Owner compensation to Engineer at an estimated average rate as specified in the Supplementary Conditions per each extra personnel hour for labor plus expenses because of the following Contractor-caused events:
 - (1) Delays necessitating a time extension for the performance of Engineer's services;
 - (2) Witnessing retesting of corrected or replaced defective Work;
 - (3) Return visits to manufacturing facilities to witness factory testing or retesting;

- (4) Submittal reviews in excess of three reviews by Engineer for substantially the same Submittal;
 - (5) Evaluation of proposed substitutes and in making changes to Contract Documents occasioned thereby;
 - (6) Hours worked by Contractor, in excess of regular work as defined by Article 6.02 of the General Conditions, necessitating Engineer to work overtime;
 - (7) Return visits to the Project by Engineer for Commissioning Activities not performed on the initial visit;
- b. Fines levied against the Owner for Contractor's performance of NPDES Erosion and Sedimentation Control Measures or other permit violations.
 - c. The cost of repair, rebuilding or restoration of property improvements or facilities by the Owner as outlined in Paragraph 6.13.
 - d. Liability for liquidated damages incurred by Contractor as set forth in the Agreement.

E. Prompt Payment Clause

1. Owner and Contractor agree that all partial payments and final payments shall be subject to the Georgia Prompt Pay Act, as originally enacted and amended, and as set forth in O.C.G.A. 13-11-1 through 13-11-11, except as provided below to the extent authorized by law.
2. Interest Rate: For purposes of computing interest on late payments, the rate of interest shall be one-half percent per month or a pro-rata fraction thereof on the unpaid balance as may be due.
3. Payment Periods:
 - a. When Contractor has performed in accordance with the provisions of these Contract Documents, the Owner shall pay Contractor within 45 days of receipt by the Owner or the Owner's representative of any properly completed Application for Payment, based upon work completed or service provided pursuant to the terms of these Contract Documents.
 - b. When a subcontractor has performed in accordance with the provisions of its subcontract and the subcontract conditions precedent to payment have been satisfied, Contractor shall pay to that subcontractor and each subcontractor shall pay to its subcontractor, within ten days of receipt by Contractor or subcontractor of each periodic or final payment, the full amount received for such subcontractors work and materials based on work completed or

service provided under the subcontract, less retainage expressed as a percentage, but such retainage shall not exceed that retainage being held by the Owner, provided that the subcontractor has provided or provides such satisfactory reasonable assurances of continued performance and financial responsibility to complete its work as contractor in its reasonable discretion may require, including but not limited to a payment and performance bond.

4. Interest on Late Payment: Except otherwise provided in these Contract Documents and/or in O.C.G.A. 13-11-5, if a periodic or final payment to Contractor is delayed by more than the time allotted in Paragraph 14.02.E.3b, or if a periodic or final payment to a subcontractor is delayed more than ten days after receipt of periodic or final payment by Contractor or Subcontractor, the Owner, Contractor, or subcontractor, as the case may be, shall pay interest to its Contractor, or subcontractor beginning on the day following the due dates as provided in Paragraph 14.02.E.3b, at the rate of interest as provided herein. Interest shall be computed per month or a pro-rata fraction thereof on the unpaid balance. There shall be no compounded interest. No interest is due unless the person or entity being charged interest received "Notice" as provided in Paragraph 14.02.E.5. Acceptance or progress payments or final payment shall release all claims for interest on said payments.

5. Notice of Late Payment and Request of Interest: Any person or entity asserting entitlement to interest on any periodic or final payment pursuant to the provisions of this Prompt Payment Clause shall provide "notice" to the person or entity being charged interest of the charging party's claim to interest on late payment. "Notice" shall be in writing, served by U.S. Certified Mail – Return Receipt Requested at the time the properly completed Application for Payment is received by the Owner or Owner's representative, and shall set forth the following:
 - a. A short and concise statement that interest is due pursuant to the provisions of the Georgia Prompt Pay Act and this Prompt Payment Clause;
 - b. The principal amount of the periodic or final payment which is allegedly due to the charging party; and
 - c. The first day and date upon which the charging party alleges that said interest will begin to accrue, pursuant to the provisions of the Georgia Prompt Pay Act and this Prompt Payment Clause.

6. These "Notice" provisions are of the essence; therefore, failure to comply with any requirement as set forth in the Prompt Payment Clause precludes the right to interest on any alleged late payment to which said "Notice" would otherwise apply.

7. Integration with the Georgia Prompt Pay Act: Unless otherwise provided in these Contract Documents, the parties hereto agree that these provisions of this Prompt Payment Clause supersede and control all provisions of the Georgia Prompt Pay Act (O.C.G.A. 13-11-1 through 13-11-11 (1994)), as originally enacted and as amended, and that any dispute arising

between the parties hereto as to whether or not the provisions of this contract or the Georgia Prompt Pay Act control will be resolved in favor of these Contract Documents and its terms.

14.03 Contractor's Warranty of Title

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.
- B. No materials or supplies for the Work shall be purchased by Contractor or subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. Contractor warrants that Contractor has good title to all materials and supplies used by Contractor in the Work, free from all liens, claims or encumbrances.
- C. Contractor shall indemnify and save Owner harmless from all claims growing out of the lawful demands for payment by subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this Contract. Contractor shall, at Owner's request, furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged, or waived. If Contractor fails to do so, then Owner may, after having served written notice on the said Contractor either pay unpaid bills, of which Owner has written notice, direct, or withhold from Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to Contractor shall be resumed, in accordance with the terms of this Contract, but in no event shall the provisions of this sentence be construed to impose any obligations upon Owner to either Contractor or to Contractor's Surety. In paying any unpaid bills of Contractor, Owner shall be deemed the agent of Contractor and any payment so made by Owner shall be considered as payment made under the Contract by Owner to Contractor and Owner shall not be liable to Contractor for any such payment made in good faith.

14.04 Substantial Completion

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion. Specific items of Work that must be completed prior to the Engineer's issuance of a certificate of Substantial Completion include, but are not limited to, the following:
 - 1. Correction of all deficient Work items listed by all state, local, and other regulatory agencies or departments.
 - 2. All submittals must be received and approved by the Engineer, including but not necessarily limited to, the following:
 - a. Record documents.

- b. Factory test reports, where required.
 - c. Equipment and structure testreports.
 - d. Manufacturer's Certificate of Proper Installation.
 - e. Operating and maintenance information, instructions, manuals, documents, drawings, diagrams, and records.
 - f. Spare parts lists.
- 3. All additional warranty or insurance coverage requirements have been provided.
 - 4. All manufacturer/vendor-provided operator training is complete and documented.
 - 5. All occupancy permits required by local building code officials.
 - 6. Other items of Work specified elsewhere as being prerequisite for Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 Partial Utilization

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
 - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 Final Inspection

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

14.07 Final Payment

A. Application for Payment:

- 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract

Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments. Under no circumstances will Contractor's application for final payment be accepted by the Engineer until all Work required by the Contract Documents has been completed.

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

B. Engineer's Review of Application and Acceptance:

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

Payment. If the Application for Payment and accompanying documentation are appropriate as to form and substance, Owner will in accordance with the applicable State or local General Law, pay Contractor the amount recommended by Engineer.

C. *Payment Becomes Due:*

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

14.08 *Final Completion Delayed*

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

14.09 *Waiver of Claims*

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

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

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

Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 Owner May Terminate for Cause

- A. The occurrence of any one or more of the following events will justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; ~~or~~
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.;
 5. If Contractor abandons the Work, or sublets this Contract or any part thereof, without the previous written consent of Owner, or if the Contract or any claim thereunder shall be assigned by Contractor otherwise than as herein specified;
 6. Contractor is adjudged bankrupt or insolvent;
 7. Contractor makes a general assignment for the benefit of creditors;
 8. A trustee or receiver is appointed for Contractor or for any of Contractor's property;
 9. Contractor files a petition to take advantage of any debtor's relief act, or to reorganize under the bankruptcy or applicable laws;
 10. Contractor repeatedly fails to supply sufficient skilled workmen, materials or equipment;
 11. Contractor fails to make satisfactory progress toward timely completion of the work; or
 12. Contractor repeatedly fails to make prompt payments to subcontractors or material suppliers for labor, materials or equipment.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor, unless Contractor otherwise cures the deficiency in accordance with Paragraph 15.02.D.:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.
- G. Any termination by Owner pursuant to Paragraph 15.02 may result in the disqualification of Contractor for bidding on future contracts of Owner.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate or discontinue, in whole or in part, 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. direct expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, ~~plus fair and reasonable sums for overhead and profit on such expenses;~~
 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; ~~and~~
 4. reasonable expenses directly attributable to termination; ~~and-~~
 5. ten percent overhead and profit for those costs agreed to in Paragraphs 15.03.A.1 through 15.03.A.4 above.
- B. Contractor shall submit within 30 calendar days after receipt of notice of termination a written statement setting forth its proposal for an adjustment to the Contract Price to include only the incurred costs described in this clause. Owner shall review, analyze, and verify such proposal and negotiate an equitable amount and the Contract may be modified accordingly.
- C. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 Contractor May Stop Work or Terminate

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within ~~30~~ 45 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within ~~30~~ 45 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION – Not Used

~~16.01 – Methods and Procedures~~

- ~~A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.~~
- ~~B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.~~
- ~~C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:~~
- ~~1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or~~
 - ~~2. agrees with the other party to submit the Claim to another dispute resolution process; or~~
 - ~~3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.~~

ARTICLE 17 – MISCELLANEOUS

17.01 Giving Notice

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, or by facsimile transmission and followed by written confirmation, to the last business address known to the giver of the notice.
- B. All notices required of Contractor shall be performed in writing to the appropriate entity.
- C. Electronic mail and messages will not be recognized as a written notice.

D. If the Contractor does not immediately notify the Owner in writing of the belief that a field order, additional work by other contractors or the Owner, or subsurface, latent, or unusual unknown conditions entitles the Contractor to a Change Order, no consideration for time or money will be given the Contractor.

17.02 *Computation of Times*

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

17.03 *Cumulative Remedies*

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

17.04 *Survival of Obligations*

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

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located. Each and every provision of this Agreement shall be construed in accordance with and governed by Georgia law. The parties acknowledge that this Contract is executed in Cobb County, Georgia and that the Contract is to be performed in Cobb County, Georgia. Each party hereby consents to the Cobb County Superior Court's sole jurisdiction over any dispute which arises as a result of the execution or performance of this Agreement, and each party hereby waives any and all objections to venue in the Cobb County Superior Court.

17.06 *Headings*

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

17.07 Addresses

A. Both the address given in the Bid form upon which this Agreement is founded, and Contractor's office at or near the site of the Work are hereby designated as places to either of which notices, letters, and other communications to Contractor shall be certified, mailed, or delivered. The delivering at the above named place, or depositing in a postpaid wrapper directed to the first-named place, in any post office box regularly maintained by the post office department, of any notice, letter or other communication to Contractor shall be deemed sufficient service thereof upon date of such delivery or mailing. The first-named address may be changed at any time by an instrument in writing, executed by Contractor, and delivered to and acknowledged by the Owner and Engineer. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon Contractor personally.

17.08 Forms and Record

- A. The form of all Submittals, notices, change orders and other documents permitted or required to be used or transmitted under the Contract Documents shall be determined by the Engineer.
- B. Contractor shall maintain throughout the term of the Contract, complete and accurate records of all Contractor's costs which relate to the work performed, including the extra work, under the terms of the Contract. The Owner, or its authorized representative, shall have the right at any reasonable time to examine and audit the original records.
- C. Records to be maintained and retained by Contractor shall include, but not be limited to:
1. Payroll records accounting for total time distribution of Contractor's employees working full or part time on the work;
 2. Cancelled payroll checks or signed receipts for payroll payments in cash;
 3. Invoices for purchases, receiving and issuing documents, and all other unit inventory records for Contractor's stores, stock, or capital items;
 4. Paid invoices and cancelled checks for materials purchase, subcontractors, and any other third parties' charges;
 5. Original estimate and change order estimate files and detailed worksheets;
 6. All project-related correspondence; and
 7. Subcontractor and supplier change order files (including detailed documentation covering negotiated settlements).

D. Owner shall also have the right to audit: any other supporting evidence necessary to substantiate charges related to this agreement (both direct and indirect costs, including overhead allocations as they may apply to costs associated with this agreement); and any records necessary to permit evaluation and verification of Contractor compliance with contract requirements and compliance with provisions for pricing change orders, payments, or claims submitted by Contractor or any payees thereof. Contractor shall also be required to include the right to audit provision in the contracts (including those of a lump-sum nature) of all subcontractors, insurance agents, or any other business entity providing goods and services.

17.09 Assignment

A. Contractor shall not assign the whole or any part of this Contract or any monies due or to become due hereunder without written consent of the Owner. In case Contractor assigns all or any part of any monies due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to Contractor shall be subject to prior liens of all persons, firms and corporations for services rendered or materials supplied for the performance of the Work called for under this Contract.

END OF SECTION

SECTION 00 73 00

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC C-700 (2007 Edition, with CCMWA Modifications 01-13-2010). All provisions which 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.

The provisions in this Section of the Specifications shall govern in the event of any conflict between this Section and the General Conditions.

SC-1.01 *Definitions*

SC-1.01 A.19. Add the following at the end of paragraph 1.01.A.19:

The Engineer for this Project is Hazen and Sawyer.

SC-1.01 Add the following new paragraph immediately after Paragraph 1.01.A.51:

1.01.A.52. *Specialist*—The term Specialist refers to a person, partnership, firm, or corporation of established reputation (or if newly organized, whose personnel have previously established a reputation in the same field), which is regularly engaged in, and which maintains a regular force of workers skilled in either (as applicable) manufacturing or fabricating items required by the Contract Documents, or otherwise performing Work required by the Contract Documents. Where the Specifications require the installation by a Specialist, that term shall also be deemed to mean either the manufacturer of the item, a person, partnership, firm, or corporation licensed by the manufacturer, or a person, partnership, firm, or corporation who will perform the Work under the manufacturer’s direct supervision.

SC-2.02 *Copies of Documents*

SC-2.02 C. Add the following new paragraph immediately after paragraph 2.02.B:

2.02.B To receive electronic copies of the Contract Documents (PDF), Contractor shall complete and provide to Engineer an Electronic Media Release Form. Contractor shall provide same documentation from any subconsultant, sub-subconsultant or supplier requesting electronic copies of the Contract Documents.

SC-3.01 *Intent*

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

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

SC-4.02 *Subsurface and Physical Conditions*

SC-4.02 C. Add the following new paragraphs immediately after Paragraph 4.02 B:

4.02 C. In preparation of Drawings and Specifications, Engineer or Related Entities relied upon the reports of explorations and tests of subsurface conditions at the Site. The Engineer, Hazen and Sawyer, and the Engineer's Consultants are not responsible for any claims, damages, or liability associated with interpretation of subsurface data or reuse of the subsurface data or engineering analyses without the express written authorization of Hazen and Sawyer. Questions and comments pertaining to these documents should be directed through Hazen and Sawyer in accordance with procedures outlined the project documents.

The following information and reports are provided to the Bidders for evaluation of the project and preparation of bid:

- Report for October 2023 Follow-up Lake Sediment Assessment, James Quarles Water Treatment Plant, Marietta, Georgia, dated November 15, 2023, and prepared by Aquascape Environmental.
- Technical Memorandum, James E. Quarles Water Treatment Plant, Raw Water Reservoir Sediment Removal Project, dated January 7, 2022, and prepared by Hazen and Sawyer.

SC-5.02 *Licensed Sureties and Insurers*

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

5.02 B. All Sureties and Insurers must have an A.M. Best Financial Strength Rating of A- or higher, with a Financial Size Category of X or higher.

SC-5.03 *Certificates of Insurance*

SC-5.03 The following shall be added as Paragraphs 5.03 F through N, following Paragraph 5.03 E:

5.03 F. Notwithstanding provisions of O.C.G.A., Section 33-23-44, insurance certificate must include the following affirmative statement: "Coverage afforded will not be cancelled, materially changed or renewal refused until at least thirty (30) days prior written notice has been given to Owner and to each other additional insured to whom a certificate of insurance has been issued."

5.03 G. Insurance certificate must show proper name and address of Cobb County-Marietta Water Authority: 1170 Atlanta Industrial Drive, Marietta, Georgia 30066 and show Owner, Engineer, and Engineer's Consultants as additional insureds.

5.03 H. Insurance certificate must show coverage applies for contractual liability for Contractor's indemnity obligations under Paragraphs 6.07, 6.11 and 6.20 of the General Conditions.

5.03 I. In addition to the requirement for the policy limits specified under S.C. 5.04, A.3 – A.5, the applicable insurance certificate must show that the entire aggregate policy limits for general liability coverage will apply specifically for the Project.

5.03 J. Each insurance certificate for coverage other than Worker's Compensation Insurance must show that a waiver of rights of recovery against any of the insureds or the additional insureds is in effect.

5.03 K. Certificate for Contractor's liability insurance must show coverage of claims for damages because of bodily injury, sickness or death of any person or property damage resulting from the ownership, maintenance or use of mobile equipment.

5.03 L. Certificate for Worker's Compensation Insurance must show coverage includes executive officers and Contractor's leased employees, temporary staff and part-time employees.

5.03 M. Owner may waive specific insurance coverages set forth in SC-5.04 where contractor provides equivalent insurance coverage by way of a different combination of policies.

5.03 N. Each insurance certificate must show coverage is underwritten with an insurance carrier which has A.M. Best ratings as stipulated in Paragraph SC-5.02-B.

SC-5.04 *Contractor's Liability Insurance*

The limits of liability for the insurance required by paragraph 5.04 of the General Conditions shall provide the following coverages for not less than the following limits or greater where required by Laws and Regulations:

5.04 A.1 and 5.04 A.2. For coverage as required by General Conditions 5.04 A.1 and 5.04 A.2 (Worker's Compensation):

- | | |
|--------------------------|-----------------|
| (1) State | Statutory Limit |
| (2) Federal | Statutory Limit |
| (3) Employer's Liability | \$ 1,000,000 |

5.04 A.3 – A.5. For coverage as required by General Conditions 5.04 A.3, 5.04 A.4 and 5.04 A.5 (General Liability) which shall also include broad form property damage liability, loss of use of tangible property, and loss of use of property that has not been damaged but has been rendered useless nonetheless, completed operations and product liability coverage's and eliminate the exclusion with respect to property under the care, custody and control of Contractor other than Contractor's work or equipment:

(1) Aggregate	\$ 2,000,000
(2) Each Occurrence	\$ 1,000,000
(3) Products and completed operations, aggregate	\$ 2,000,000
(4) Personal and advertising injury	\$ 1,000,000
(5) Fire Damage/Legal Liability	\$ 100,000
(6) Medical Expense Limit any one person	\$ 5,000
(7) Property damage liability insurance will provide explosion, collapse and underground coverages where applicable.	
(8) Excess/Umbrella Liability:	
General Aggregate	\$ 5,000,000
Each Occurrence	\$ 5,000,000

The aggregate policy limits for general liability coverage must be designated to the Project. The excess/umbrella policy must provide additional coverage for policy limits in excess of the general liability (including products and completed operations), automobile liability, contractual liability and employer's liability. Mobile equipment coverage described in S.C. 5.03 G must be included.

5.04 A.6. *Automobile Liability:*

- (1) Combined Single Limit (Bodily Injury and Property Damage): \$1,000,000

Coverage must be provided for all owned/leased, hired and non-owned vehicles.

5.04 B.3. *Contractual Liability Insurance:*

The Contractual Liability coverage required by paragraph 5.04 B.3 of the General Conditions shall provide coverage for not less than the following amounts:

(1) General Aggregate	\$ 2,000,000
(2) Each Occurrence (Bodily Injury and Property Damage)	\$ 2,000,000

The aggregate policy limits for Contractual Liability must be designated to the Project. As indicated in S.C. 5.04 A.3 – A.5, the excess/umbrella policy must provide additional coverage in excess of these amounts.

SC-5.04 E. After Paragraph D. add Paragraphs 5.04 E and 5.04 F:

5.04 E. Contractor's Pollution Liability (CPL) - coverage shall be provided with minimum limits of \$5,000,000 per occurrence or claims made and aggregate with Hazen and Sawyer and Owner named as additional insureds. This insurance shall be primary and non-contributory as to Hazen and Sawyer and Owner. A waiver of subrogation in favor of Hazen and Sawyer and Owner shall be provided.

Contractor's Pollution Liability Coverage for Lead and Asbestos Not Excluded - coverage for lead and asbestos exposure through remediation shall be provided by the Contractor's Pollution Liability Policy with minimum limits of \$5,000,000 per occurrence or claims made and aggregate with Hazen and Sawyer and Owner named as additional insureds. This insurance shall be primary and non-contributory coverage as to Hazen and Sawyer and Owner. A waiver of subrogation in favor of Hazen and Sawyer and Owner shall be provided.

5.04 F. Additional Insureds: The Owner, Engineer, and Engineer's Consultants shall be covered as Additional Insured under any and all Insurance required by this Contract, and such insurance shall be primary with respect to the Additional Named Insured. Confirmation of this shall appear on the Accord Certificate of Insurance, and on any and all applicable Insurance policies. However, this requirement does not apply to Workers' Compensation or Professional Liability Insurance. Copies of endorsements showing that the Owner and each additional insured identified herein have been added to the policies as an additional insured shall be attached to each of the certificates.

SC-5.06 *Property Insurance*

Delete Paragraph 5.06 of the General Conditions in its entirety and insert the following in its place:

5.06 A. Contractor shall purchase and maintain property insurance upon the Work at the site in the amount of the full replacement cost thereof except for flood perils which shall have a \$1,000,000 limit (subject to such deductible amounts as may be provided in these Supplemental Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, Engineer, Engineer's Consultants and any other person or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk or Installation Floater "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss and damage to the Work, temporary buildings, falsework and Work in transit and shall insure real and personal property against at least the following perils: fire, lightning, extended coverage, theft, vandalism and malicious mischief, explosives and blasting, wind, flood, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils as may be specifically required by the Supplementary Conditions.
3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects, permits, loss and damage to the Work, temporary building and scaffoldings, false work, work in transit, and materials and supplies, fixtures, machinery and equipment);
4. cover materials and equipment in transit for incorporation in the Work or stored at the site or at any other location prior to being incorporated in the Work, provided that such materials and equipment have been recommended by Engineer; and be maintained in effect until final agreed to in writing by Owner, Contractor, and Engineer with thirty days written notice to each other additional insured to whom a certificate of insurance has been issued.
5. allow for partial utilization of the Work by Owner;
6. include testing and startup;
7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued; and
8. contain the following provisions: (1) coverage for property in transit and (2) coverage for building damage as required by ordinance and law including demolition, debris removal and increased cost of construction.
9. Property insurance furnished under this contract shall have deductibles no greater than \$25,000 for all perils.

5.06 B. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions or approved by Owner. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them

wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

The policies of insurance required to be purchased and maintained by Contractor in accordance with paragraph 5.06 shall comply with the requirements of GC 5.04 B.5.

SC-SC-6.01 Supervision and Superintendence

SC-6.01 Replace Paragraph 6.01 B:

6.01 B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent, or qualified Project Manager to assume all Supervision and Superintendence responsibilities, who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. Contractor shall also designate, in writing, a representative, hereinafter referred to as Project Manager, assigned to the Project on a full-time basis during execution of the Work who shall have the authority to act on behalf of Contractor, including executing the orders or directions of the Engineer without delay. This Superintendent and/or Project Manager shall have full authority to promptly supply products, tools, plant equipment, and labor as may be required to diligently prosecute the Work. All communications given to or received from the Superintendent and/or the Project Manager shall be binding on Contractor.

SC-6.01 Add Paragraph 6.01 F:

6.01 F. When electrical Work is being performed, a resident electrical superintendent, who is a full-time employee of the electrical firm, shall be assigned to oversee and coordinate the electrical Work being performed. This requirement is in addition to the Supervision and Superintendence requirements of the Contractor specified in Paragraph SC-6.01 A. The Contractor's Superintendent and/or Project Manager shall be responsible for all communications with the electrical firm's superintendent.”.

SC-6.02 *Labor; Working Hours*

SC-6.02 Add Paragraph 6.02 C:

6.02 C. Regular working hours shall be Monday through Friday, excluding holidays, occurring between the hours of 7:00 AM and 6:00 PM, unless restricted otherwise. Contractor shall establish a 40-hour work week with regular scheduled work times consisting of five 8-hour days, within the hours and days allowed above unless otherwise approved by the Owner. Approval for specific work outside regular scheduled work times shall be requested no less than 48 hours prior to the requested work period. Contractor shall request approval of changes in regular scheduled work times no less than one week prior to the desired change. Occasional unscheduled overtime on weekdays may be permitted provided reasonable notice is given to Owner and Engineer.

SC-6.02 Add the following subparagraph 6.02 G:

1. The rate of \$150.00/hour/person will apply for the overtime work performed on behalf of the Owner.

SC-6.13 *Safety and Protection*

SC-6.13 Delete the second sentence of Paragraph 6.13 C.

SC-6.13 Add item 6.13.I

6.13.I. Contractor's Plan for Safety Precautions and Programs

1. Before any Work at the site is started, Contractor shall have prepared Contractor's written plan for Project-specific safety precautions and programs, complete with respect to procedures and actions that the Contractor intends Contractor and all others as provided in Paragraphs 6.13 A.1 and 13.02 A, to follow in order for Contractor and all others to comply with all applicable Laws and Regulations. Contractor's plan for safety precautions and programs shall have been approved and endorsed by Contractor's designated safety representative required in Paragraph 6.14 A.
2. Contractor shall revise Contractor's plan for safety precautions and programs at appropriate times to reflect changes in construction conditions, the Work, Contractor's means, methods, techniques, sequences and procedures of construction, and the requirements of paragraph 13.02.A. Contractor shall disseminate the original plan and revisions to all others indicated in Paragraphs 6.13 A and 13.02 A.

3. Contractor's plan for safety precautions and programs will not require more stringent safety requirements, training or other qualifications for all others, including those specified in Paragraph 13.02 A and their employees, than Contractor sets forth for comparable activity and responsibility of Contractor, Subcontractors, and Suppliers and their respective employees.
4. COVID-19 Protocols: Contractor shall provide site-specific health and safety plan which shall include, but not be limited to, corporate and site-specific protocols for conducting operations during the COVID-19 pandemic. Contractor shall adhere to all local, state and national orders as well as follow all Centers for Disease Control guidance for essential operations, including but not limited to, wearing masks, wearing gloves, temperature checks, and maintaining social distancing of minimum six feet until all such orders are no longer in effect.

SC-6.14 Safety Representative: ADD paragraph B:

- B. The Contractor's safety representative shall be onsite at all times when work is being performed; the safety representative may have other responsibilities in addition to serving as safety representative.

SC-9.03 *Project Representative*

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

- B. The Resident Project Representative (RPR) will be Engineer's employee or agent at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall be only through or with the full knowledge and approval of Contractor. The RPR shall:
 1. *Schedules*: Review the progress schedule, schedule of Shop Drawing and Sample submittals, and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.
 2. *Conferences and Meetings*: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.

3. *Liaison:*
 - a. Serve as Engineer's liaison with Contractor, working principally through Contractor's authorized representative, assist in providing information regarding the intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's onsite operations.
 - c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
4. *Interpretation of Contract Documents:* Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
5. *Modifications:* Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.
6. *Review of Work and Rejection of Defective Work:*
 - a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress 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 work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
7. *Inspections, Tests, and System Startups:*
 - a. Verify that tests, equipment, and systems startups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
 - b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems startups.

8. *Records:*

- a. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
- b. Maintain records for use in preparing Project documentation.

9. *Reports:*

- a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.
- b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
- c. Immediately notify Engineer of the occurrence of any 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.

10. *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.

11. *Certificates, Operation and Maintenance Manuals:* During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the 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 delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

12. *Completion:*

- a. Participate in a Substantial Completion inspection, assist in the determination of Substantial Completion and the preparation of lists of items to be completed or corrected.
- b. 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.

- c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work.

C. The RPR shall not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including “or-equal” items).
2. Exceed limitations of Engineer’s authority as set forth in the Contract Documents.
3. Undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor’s superintendent.
4. Advise on, issue directions relative to, or assume control over any 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.
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.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Authorize Owner to occupy the Project in whole or in part.

SC-11.02 B. *Allowances:*

SC-11.01.B After paragraph 11.02 B.1.b., add the following:

- c. Contractor agrees that Owner-directed work will be accomplished by increasing the resources on the Project as necessary so as not to impact the Project Schedule. Time extensions will not be given for Owner-directed work unless the new work can be shown to directly impact the critical path of the Project.
- d. Contractor overhead and profit cost for Owner-Directed Work will be calculated according to Section 00 72 00, Standard General Conditions of the Contract, paragraph 12.01 C., and will be paid from the Cash Allowance for Owner-Directed Work.

SC-11.02 C. *Contingency Allowance:*

SC-11.02.C Change the title of this article to “Allowances for Owner-Directed Work.” Change item SC-11.02 C.1 to read, “Contractor agrees that an allowance

for Owner-Directed Work, if any, is for the sole use of Owner to cover unanticipated costs.”

SC-12.03 *Delays*

SC-12.03 Add the following paragraph 12.03 F.:

12.03 F. Completion time will be extended for abnormal weather as defined herein. The time for completion as stated in the Contract Documents includes due allowances for days on which work cannot be performed out-of-doors. The Contractor acknowledges that it has taken into consideration normal weather conditions. Normal weather conditions shall be determined from the public historical records as shown in the chart below and the Contractor acknowledges that such weather can be reasonably anticipated and will not be considered abnormal. Unless the Owner agrees in writing otherwise, the weather conditions must be shown by use of data, submitted by the Contractor from either the National Weather Service (NWS) for Peachtree City, GA, or the NWS for Marietta, GA and not by use of weather readings on the Site or by the Contractor. In order to request an extension of Contract Times for abnormal weather conditions, such request must be submitted by the tenth (10th) day of the month after the month as to which the request is made. An extension of time for abnormal weather will be reasonably considered by the Owner if all of the following conditions are met:

1. The request for additional time shall be substantiated by weather data collected by the NWS as described above. Said data must demonstrate that an actual departure from normal weather occurred at the Site for the period in question;
2. The extension requested must be supported by delay in completion of the entire Project shown on the existing Project Schedule. Extensions will be granted only for delays in completion of the Project, not for that portion of any delay which consumes only float time built into the Project Schedule;
3. The extension request must be supported by documentation that planned outdoor Work on the critical path of the Contractor’s approved schedule was impacted by adverse weather conditions; and
4. All of the evidence and data supporting the request must be furnished to the Owner before any consideration will be given to the request.

Weather Station: Peachtree City, GA (National Weather Service)												
Period of Record Monthly Climate Summary												
Period of Record: 01/01/1981 - 12/31/2010												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg max temp	52.3	56.6	64.6	72.5	79.9	86.5	89.1	88.8	82.2	72.7	63.6	54
Avg min temp	34.3	37.7	44.1	51.5	60.3	68.2	71.3	70.7	64.8	54	44.5	36.5
Avg temp	43.3	47.2	54.3	62	70.1	77.3	80.2	79.4	73.5	63.3	54	45.3
Total inches rain	4.2	4.67	4.81	3.36	3.67	3.95	5.27	3.9	4.47	3.41	4.1	3.9
Total inches snow	1.3	0.4	0	0	0	0	0	0	0	0	0	0.4
Days max <=32	0.8	0.2	0	0	0	0	0	0	0	0	0	0.5
Days max >=90	0	0	0	0.1	1.1	8.6	13	10.6	2.4	0	0	0
Days rain >=0.1 inch	7.3	6.7	6.4	6	6.2	6.6	7.9	6.4	5.1	4.4	6.1	6.3
Days rain >=0.5 inch	2.8	3.2	3.1	2.3	2.7	2.7	3.3	2.6	2.7	2.1	2.7	2.8
Days rain >=1 inch	1.1	1.4	1.6	0.8	0.8	1	1.6	1.3	1.4	1.1	1.4	1.1

SC-14.02 D. *Reduction in Payment:*

SC-14.02 D. After paragraph 14.02 D. 4.d., add the following:

- e. The rates of \$140.00 to \$250.00 per hour, depending on person performing the service, will apply for the additional services performed by the Engineer on behalf of the Owner.

END OF SECTION

SECTION 01 11 00
SUMMARY OF WORK

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:

1. Summary
2. Location and Description of Work
3. Construction Contracts, This Project
4. Construction Contracts, Other Projects
5. Work by Others
6. Work by Owner
7. Owner Furnished Equipment and Materials
8. Owner Assigned Procurement Contracts
9. Owner Pre- Qualified Electrical Subcontractors
10. Owner Pre-selected Equipment and Materials
11. Sequence and Progress of Work
12. Contractor's Use of Site
13. Easements and Rights-of-Way
14. Notices to Owners of Properties Adjacent to the Work
15. Salvage of Equipment and Materials
16. Partial Utilization by Owner

1.02 LOCATION AND DESCRIPTION OF WORK

- A. The Work is located at the following Site:
James E. Quarles Water Treatment Plant (WTP)
4402 Lower Roswell Road
Marietta, GA 30068

B. The Work to be performed under this Contract includes, but is not limited to, constructing the Work described below and all appurtenances related to the Work. The Work shall be as follows:

1. Project Overview

- a. Removal and off-site disposal of +/-30,000 cubic yards of accumulated sediment deposits from interior of ~6-acre reservoir. Repair damaged clay blanket and fabric-formed concrete slope protection inside reservoir.
- b. Construct permanent reservoir access ramp with concrete pavement and install new fabric-formed concrete slope protection inside reservoir.
- c. Construct raw water bypass and reservoir drain at Splitter Box. Perform structural, electrical, bridge, and gate repairs, replacements, and/or upgrades to reservoir Inlet, Outlet, and Splitter Box structures, as required.
- d. All work shall be performed in accordance with the approved Georgia Safe Dams Program plans and specifications and coordinated with CCMWA for plant and reservoir operation. The existing Quarles Plant 2 facility will only be taken out of service during installation of new bypass line. Quarles Plant 2 shall remain in service during construction of the remaining Project. Quarles Plant 1 shall remain in service at all times during construction of the Project.
- e. Work may require a phased approach based on availability and schedule of products requiring extended lead times. To minimize potential impacts to the water treatment plant operation, Owner may elect to refill and return the reservoir to full operation following completion of Phase I work, requiring Contractor to perform two reservoir draining and dewatering operations.

2. Description of Work. Construction milestones are based on the following suggested sequence and phasing of the work with some items performed concurrently:

- a. Begin Phase I and Administrative Period.
- b. Obtain required permits including but not limited to Cobb County Land Disturbance Permit including associated NPDES Erosion and Sediment Control Permit.
- c. Complete upfront and critical submittals. Order products and materials requiring extended, critical path lead times.
- d. Prepare site access road, temporary laydown area, temporary truck barrier to protect dam crest road, construction ingress and egress routes, and perimeter erosion and sedimentation controls including two truck wash

down areas. Install signage. Provide protection for all existing utilities from construction traffic.

- e. Coordinate initial reservoir draining with Owner. Drain and dewater reservoir to allow for initial, pre-excavation sediment survey, for Engineer and Contractor to inspect the reservoir interior and concrete structures, and for construction within the reservoir to be performed in the dry. Perform initial, pre-excavation sediment survey.
- f. Following initial pre-excavation survey, perform moisture conditioning (drying) of saturated sediments to remove remaining free water and to prepare sediments in accordance with disposal and transport requirements. Remove and dispose of off-site all sediment materials present in reservoir above original design grades. Construct temporary reservoir access ramp for sediment removal efforts (providing protection of existing fabric-formed concrete slope protection within impacted areas) and deconstruct following completion of sediment removal. Following completion of sediment removal, conduct post-excavation survey.
- g. Early in the sediment removal efforts, provide access to interior of reservoir and bottoms of structures for Engineer to perform structural inspection and Contractor to perform material verification of inlet and outlet structures, bridges, and associated sluice gates and metals. Complete associated submittals and order additional products requiring extended lead times.
- h. After Engineer's inspection, perform repairs of defective concrete surfaces on Inlet and Outlet Structures, as practical before deconstruction of bridges and gates.
- i. Construct new bridge pier between Structures A and B.
- j. Construct permanent access ramp with concrete pavement and stairs. Replace and install new fabric-formed slope protection associated with permanent access ramp.
- k. Repair existing damaged clay blanket and fabric-form concrete slope protection inside reservoir in areas surrounding Inlet Structures. Based on Engineer's inspection of reservoir interior after sediment removal, repair slopes, reservoir bottom, clay blanket, and/or fabric-formed concrete slope protection.
- l. Remove all temporary facilities from reservoir interior in preparation for CCMWA to return reservoir to operation.
- m. Coordinate with Owner to return the reservoir to full operation.
- n. End of Phase I. Continuation of Administrative Period.

- o. Maintain Project access and perform required inspections and maintenance of erosion control systems and BMPs.
- p. Accept delivery of all critical path and/or extended lead time materials.
- q. End Administrative Period. Begin Phase II.
- r. Coordinate second reservoir draining with Owner. Drain and dewater reservoir to allow for bridge and gate construction to be performed in the dry. Perform second, pre-excavation sediment survey, as necessary, if determined by Engineer and Owner that new accumulated sediments require removal.
- s. Install new 48-inch DIP raw water bypass line with valves and fittings from existing piping south of Splitter Box to 48-inch DIP on west side of Splitter Box. Sloped excavations and earthwork operations will be in accordance with Georgia Safe Dams Category I embankment design and construction. Remove and abandon by pressure grouting portions of the existing 48-inch RCP supply line. Begin new raw water supply to plant via new bypass. Downtime to the Quarles Plant 2 shall be limited to 72 hours to facilitate new bypass connections. Contractor may not perform new raw water bypass connections between May 1 and September 30. Contractor will provide temporary facilities as necessary to maintain water production.
- t. Once new raw water bypass is operational and Splitter Box is taken out of service, provide access for Engineer to perform evaluation of Splitter Box. Perform structural repairs of defective concrete and metal surfaces as determined.
- u. Install new 16-inch DIP and 18-inch RCP reservoir drain with associated valves and junction boxes from west side of Splitter Box to existing storm inlet. Excavate, remove, and abandon portions of the existing 48-inch pipe along the west side of the Splitter Box, as required. Make structural connection of new 16-inch DIP drain to Splitter Box.
- v. Install new electrical and instrumentation service between Splitter Box and Structure E. Install new deflector hood. Install new concrete pad around base of Splitter Box.
- w. If necessary and following second pre-excavation survey, perform moisture conditioning (drying) of saturated sediments to remove remaining free water and to prepare sediments in accordance with disposal and transport requirements. Remove and dispose of off-site all new sediment materials present in reservoir above original design grades. Following completion of sediment removal, conduct final post-excavation survey.

- x. Deconstruct all sluice gates, hardware, and operators on Structures B, C, D and E. Replace all sluice gates, hardware, and operators with new, like-kind elements.
- y. Deconstruct existing bridge decks and land supports, construct new and modified bridge supports, and install new prefabricated bridges and safety railing. Repair fabric-formed concrete slope protection, as required.
- z. Complete repair of defective concrete surfaces on Inlet and Outlet Structures.
- aa. Remove all temporary facilities from reservoir interior in preparation for CCMWA to return reservoir to operation.
- bb. Coordinate with Owner to return the reservoir to full operation.
- cc. Remove all other temporary facilities, install new pavements, install sod, and perform full site restoration.
- dd. End of Phase II.

1.03 CONSTRUCTION CONTRACTS, THIS PROJECT

- A. The Contracts under which the Project will be constructed are:
 - 1. Work specified in Divisions 0 through 46 (inclusive) of the Specifications.
 - 2. Work shown on sheets 1 through 42 (inclusive) of the Drawings.

1.04 CONSTRUCTION CONTRACTS, OTHER PROJECTS

- A. Notification of other Contractors is required for coordination purposes. Current and anticipated construction contracts at the site will need to be coordinated throughout the construction period for this project to ensure there are no impacts to the overall project schedule.

1.05 WORK BY OWNER

- A. Owner will perform the following in connection with the Work: Operate all existing valves, gates, pumps, equipment, and appurtenances that will affect Owner's operation, unless otherwise specified or indicated.

1.06 OWNER-FURNISHED EQUIPMENT AND MATERIALS

- A. One (1) 48-inch PCCP – DIP Adaptor

1.07 OWNER ASSIGNED PROCUREMENT DOCUMENTS (NOT USED)

1.08 OWNER PRE-QUALIFIED SUBCONTRACTORS

- A. Pipeline Contractors: Contractor shall use an Owner pre-qualified pipeline contractor for 48-inch size ductile iron pipe installation and associated work such as connection to existing 48-inch PCCP. Contractor shall submit the final pipeline contractor(s) selected to CCMWA for review and approval. Only CCMWA-approved contractors shall be allowed to perform pipeline work for the 48-inch pipe. A list of CCMWA pre-qualified pipeline contractors is provided.

1.09 OWNER PRE-APPROVED EQUIPMENT AND MATERIALS

- A. Owner has pre-approved the following equipment/materials/suppliers. Any proposed alternates must be approved in writing by Owner and Engineer:
 - 1. HYDROTEX Uniform Section (US400) fabric forms as manufactured by Synthetex, LLC. (Fabric-Formed Concrete Slope Protection)

1.10 SEQUENCE AND PROGRESS OF WORK

- A. Requirements for sequencing and coordinating with Owner's operations, including maintenance of plant operations during construction, and requirements for tie-ins and shutdowns, are in Section 01 14 00 – Coordination with Owner's Operations.
- B. The Contractor shall develop a construction schedule based on the sequence outlined in Paragraph 1.02 B.2. to meet project milestones in Section 00 52 13, and deviations shall be submitted to the Engineer for review and approval.

1.11 CONTRACTOR'S USE OF SITE

- A. Contractors' use of the Site shall be confined to the areas shown. Contractor shall share use of the Site with Owner and other contractors, as applicable.
- B. Contractor shall move stored products that interfere with operations of Owner, other contractors, or others performing work for Owner.

1.12 EASEMENTS AND RIGHTS-OF-WAY (NOT USED)

1.13 NOTICES TO OWNERS OF PROPERTIES ADJACENT TO THE WORK (NOT USED)

1.14 SALVAGE OF EQUIPMENT AND MATERIALS

- A. Existing equipment and materials removed and not shown or specified to be reused in the Work will be Contractor's property.
- B. Existing equipment and material removed by Contractor shall not be reused in the Work, except where specified or indicated.
- C. Carefully remove in manner to prevent damage all equipment and materials specified or indicated to be salvaged and reused or to remain property of Owner. Store and protect salvaged items specified or indicated to be used in the Work. Replace in kind or with

new items equipment, materials, and components damaged in removal, storage, or handling through carelessness or improper procedures.

- D. Contractor may furnish and install new items, with Engineer's approval, instead of those specified or indicated to be salvaged and reused, in which case such removed items will become Contractor's property.

1.15 PARTIAL UTILIZATION BY OWNER

- A. Owner reserves the right to enter and use portions of the Work prior to Certificate of Substantial Completion is issued by Engineer.
- B. Owner shall be responsible to prevent premature connections by private and public parties, persons or groups of persons, before Engineer issues Certificate of Substantial Completion for the portion of Work being partially utilized by Owner.
- C. Contractor shall cooperate with Owner, Owner's agents, and Engineer to accelerate completion of Work designed for partial utilization by Owner in accordance with Contractor's progress schedule.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 01 14 00
COORDINATION WITH OWNER'S OPERATIONS

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Requirements for coordinating with Owner's operations during the Work and included requirements for tie-ins and shutdowns necessary to complete the Work without impact on Owner's operations except as allowed in this Section.
2. Contractor shall provide labor, materials, tools, equipment and incidentals shown, specified and required to coordinate with Owner's operations during the Work.

B. General Requirements:

1. Except for shutdowns specified in this Section, perform the Work such that Owner's facility remains in continuous satisfactory operation during the Project. Schedule and conduct the Work such that the Work does not: impede Owner's production or processes, create potential hazards to operating equipment and personnel, reduce the quality of the facility's products or effluent, or cause odors or other nuisances.
2. Work not specifically covered in this Section or in referenced Sections may, in general, be completed at any time during regular working hours in accordance with the General Conditions and Supplementary Conditions, subject to the requirements in this Section.
3. Contractor has the option of providing additional temporary facilities that can eliminate or mitigate a constraint without additional cost to Owner, provided such additional temporary facilities: do not present hazards to the public, personnel, structures, and equipment; that such additional temporary facilities do not adversely affect Owner's ability to comply with Laws and Regulations, permits, and operating requirements; that such temporary facilities do not generate or foster the generation of odors and other nuisances; and that requirements of the Contract Documents are fulfilled.
4. Coordinate shutdowns with Owner and Engineer. When possible, combine multiple tie-ins into a single shutdown to minimize impacts on Owner's operations and processes.
5. Do not shut off or disconnect existing operating systems, unless accepted by Engineer in writing. Operation of existing equipment will be by Owner unless otherwise specified or indicated. Where necessary for the Work, Contractor shall

seal or bulkhead Owner-operated gates and valves to prevent leakage that may affect the Work, Owner's operations, or both. Provide temporary watertight plugs, bulkheads, and line stops as required. After completing the Work, remove seals, plugs, bulkhead, and line stops to satisfaction of Engineer.

C. Continuous Treatment Provision:

1. Contractor shall provide labor, equipment, materials, and incidentals to provide continuous treatment to the level prior to construction Work.
2. Contractor shall be responsible for providing temporary pumping, facilities, systems, piping, valve, appurtenances, equipment, materials, and temporary utilities necessary to complete the Work without treatment bypassing.

D. Related Sections:

1. Section 01 11 00 – Summary of Work
2. Section 01 25 00 – Substitution Procedures
3. Section 01 31 19 – Project Meetings
4. Section 01 45 23 – Testing Services Provided by Contractor
5. Section 01 65 00 – Product Delivery
6. Section 01 66 00 – Product Storage and Protection Requirements
7. Section 01 73 00 – Execution of Work

1.02 REFERENCES

- A. Definitions: A "shutdown" is when a portion of the normal operation of Owner's facility, whether equipment, systems, piping, electrical, controls, or conduit, has to be temporarily suspended or taken out of service to perform the Work.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Review installation procedures under other Specification sections and coordinate Work that must be performed with or before the Work specified in this Section.
2. Notify other contractors in advance of Work requiring coordination with Owner's operations, to provide other contractors sufficient time for work included in their contracts that must be installed with or before Work specified in this Section.

3. When possible, combine multiple tie-ins into a single shutdown to minimize impacts on Owner's operations and processes.
- B. Process Interruption Planning (PIP) Meetings: Contractor shall schedule and conduct meetings with Owner, Engineer and other Vendors and obtain sign-off prior to starting any conversion.
 - C. Weekly Progress Meetings: Contractor shall schedule and conduct meetings with Owner, Engineer, and other major subcontractors, weekly.
 - D. Monthly Leadership Meetings: Contractor shall schedule and conduct meetings with Owner and Engineer monthly.
 - E. Pre-Shutdown Meetings: Contractor shall schedule and conduct meeting with Owner and Engineer prior to scheduling shutdown
 - F. Sequencing:
 1. Perform the Work in the specified sequence approved by CCMWA/Engineer. Certain phases or stages of the Work may require working 24-hour days or work during hours outside of regular working hours. Work may be accelerated from a later stage to an earlier stage if Owner's operations are not adversely affected by proposed sequence change, with Engineer's acceptance. Stages specified in this Section are sequential in performance of the Work.
 - G. Scheduling:
 1. Work that may interrupt normal operations shall be accomplished at times convenient to Owner.
 2. Furnish at the Site, in close proximity to the shutdown and tie-in work areas, tools, equipment, spare parts and materials, both temporary and permanent, necessary to successfully complete the shutdown. Complete to the extent possible, prefabrication of piping, electrical and controls and other assemblies prior to the associated shutdown Demonstrate to Engineer's satisfaction that Contractor has complied with these requirements before commencing the shutdown.
 3. If Contractor's operations cause an unscheduled interruption of Owner's operations, immediately re-establish satisfactory operation for Owner.
 4. Unscheduled shutdowns or interruptions of continued safe and satisfactory operation of Owner's facilities that result in fines or penalties by authorities having jurisdiction shall be paid solely by Contractor if, in Engineer's opinion, Contractor did not conform to the requirements of the Contract Documents, or was negligent in the Work, or did not exercise proper precautions in conducting the Work.
 5. Work requiring service interruptions for tie-ins shall be performed during scheduled shutdowns.

6. Temporary, short-term shutdowns of smaller piping, conduits, equipment, and systems may be required. Coordinate requirements for such shutdowns with Engineer and Owner.

1.04 SUBMITTALS

A. Action/Informational Submittals:

1. Administrative Period Schedule/Temporary Construction Pause.
2. Substitute Sequence Submittal: When deviation from specified sequence is proposed, provide submittal explaining in detail the proposed sequence change and its effects, including evidence that Owner's operations will not be adversely affected by proposed change. List benefits of proposed sequence change, including benefits to Progress Schedule. Submit in accordance with Section 01 25 00 – Substitution Procedures.
3. Shutdown Planning Submittal:
 - a. For each shutdown, submit an inventory of labor and materials required to perform the shutdown and tie-in tasks, an estimate of time required to accomplish the complete shutdown including time for Owner to take down and start up existing equipment, systems, or conduits, and written description of steps required to complete the Work associated with the shutdown.
 - b. Furnish submittal to Engineer at least thirty (30) days prior to proposed shutdown start date. Do not start shutdown until obtaining Engineer's acceptance of shutdown planning submittal.
 - c. Shutdown Notification: After acceptance of shutdown planning submittal and prior to starting the shutdown, provide written notification to Owner and Engineer of date and time each shutdown is to start. Provide notification at least 72 hours in advance of each shutdown.
4. Process Interruption Planning (PIP): Provide weekly coordination meetings and a final submittal for Engineer and Owner to sign-off and approve prior to any conversions.

1.05 SITE CONDITIONS

- A. General Constraints: Specified in the Contract Documents are suggested sequence and shutdown durations, where applicable, for Owner's equipment, electrical and control systems, and conduits that are to be taken out of service temporarily for the Work. New equipment, materials, and systems may be used by Owner after the specified field quality controls and testing are successfully completed and the materials or equipment are Substantially Complete.

B. The following constraints apply to coordination with Owner's operations:

1. Operational Access: Owner's personnel shall have access to equipment and areas that remain in operation.
2. Schedule and perform equipment and system start-ups for Monday through Thursday. Equipment and systems shall not be placed into operation on Friday, Saturday, and Sunday without prior approval of Owner.
3. Dead End Valves or Pipe: Provide blind flanges, watertight bulkheads, or valve at temporary and permanent terminuses of pipes and conduits. Blind flanges and bulkheads shall be suitable for the service and braced and blocked, as required, or otherwise restrained as directed by Engineer. Temporary valves shall be suitable for their associated service. Where valve is provided at permanent terminus of pipe or conduit, also provide on downstream side of valve a blind flange with drain/flushing connection.
4. Owner will assist Contractor in dewatering process tanks, basins, conduits, and other work areas to be dewatered for shutdowns. Maintain clean and dry work area by pumping and properly disposing of fluid that accumulates in work areas.
5. Draining and Cleaning of Conduits, Tanks, and Basins: Draining and cleaning conducted by Contractor shall be as specified below:
 - a. Contractor shall remove liquids and solids and dispose of them at appropriate location at the Site as directed by Engineer. Contents of pipes, tanks, basins, and conduits undergoing modifications shall be transferred to existing process tanks or conduits at the Site with capacity sufficient to accept such discharges, using hoses, piping, pumps, or other means provided by Contractor. Discharge of fluids across floors is not allowed.
 - b. If drainage point is not available on the piping or conduit to be drained, provide a wet tap using tapping saddle and valve or other method approved by Engineer. Uncontrolled spillage of pipe's or conduit's contents is not allowed.
 - c. Spillage shall be brought to Engineer's attention immediately, both verbally and in writing, and reported in accordance with Laws and Regulations. Contractor shall wash down spillage to floor drains or sumps and flush the system to prevent clogging and odors. If spillage is not suitable for discharge to the drainage system, such as chemical spills, as determined by Engineer, Contractor shall remove spillage by other method, such as vactor truck, acceptable to Engineer.

1.06 SUGGESTED SEQUENCE OF WORK

- A. Perform the Work in the specified sequence or as otherwise approved by CCMWA/Engineer. Certain phases or stages of the Work may require working 24-hour days or work during hours outside of regular working hours. Work may be accelerated from a later stage to an earlier stage if Owner's operations are not adversely affected by proposed sequence change, and with Engineer's acceptance. Stages specified in this Section are sequence-dependent.
- B. Administrative Period: After NTP and during the construction period, the Contractor is allowed a maximum 12-month administrative period to run concurrently with Phase 1 work to procure products and materials with extended lead times and to perform necessary evaluations including, but not limited to, procurement of gates, valves, pipe, bridges, and related other items. The Administrative Period should take into consideration the project phased sequencing. Contractor shall prepare and submit a schedule for the administrative period for review and approval. The Contractor shall not coordinate drawdown of the reservoir for Phase II until milestones of the administrative period are complete.
- C. The Contractor shall develop a construction schedule based on the sequence and phasing of work outlined in Section 01 11 00 Paragraph 1.02.B.2, and deviations shall be submitted to the Engineer for review and approval.

1.07 SHUTDOWNS

- A. General:
 - 1. Work that may interrupt normal operations shall be accomplished at times convenient to Owner.
 - 2. Furnish at the Site, in close proximity to the shutdown and tie-in work areas, tools, equipment, spare parts and materials, both temporary and permanent, necessary to successfully complete the shutdown. Complete to the extent possible, prefabrication of piping and other assemblies prior to the associated shutdown. Demonstrate to Engineer's satisfaction that Contractor has complied with these requirements before commencing the shutdown.
 - 3. If Contractor's operations cause an unscheduled interruption of Owner's operations, immediately re-establish satisfactory operation for Owner.
 - 4. Unscheduled shutdowns or interruptions of continued safe and satisfactory operation of Owner's facilities that result in fines or penalties by authorities having jurisdiction shall be paid solely by Contractor if, in Engineer's opinion, Contractor did not conform to the requirements of the Contract Documents, or was negligent in the Work, or did not exercise proper precautions in conducting the Work.

5. Shutdowns shall be in accordance with Table 01 14 00-A of this Section. Work requiring service interruptions for tie-ins shall be performed during scheduled shutdowns. The order of shutdowns shown in Table 01 14 00-A is not intended to be sequential.
6. Temporary, short-term shutdowns of smaller piping, conduits, equipment, and systems may not be included in Table 01 14 00-A. Coordinate requirements for such shutdowns with Engineer and Owner.

Table 01 14 00-A: Shutdowns

Shutdown Type/Description
Phase I Reservoir Drawdown
Phase II Reservoir Drawdown
Bypass Piping Tie-In

- B. Shutdowns of Electrical and Control Systems: Comply with Laws and Regulations, including the National Electric Code. Contractor shall lock out and tag circuit breakers and switches operated by Owner and shall verify that affected cables and wires are de-energized to ground potential before shutdown Work is started. Upon completion of shutdown Work, remove the locks and tags and notify Engineer that facilities are available for use.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 GENERAL

- A. In addition to requirements of this Section, conform to requirements of Section 01 73 00 – Execution of Work.

3.02 DETAILED SHUTDOWN REQUIREMENTS:

- A. Prior to Typical Shutdown:
 1. Obtain Engineer’s acceptance of proposed shutdown planning submittal and shutdown notification submittal.
 2. Submittal and approval of all shop drawings required.
 3. Coordinate with plant operations on timing of shutdown and provide required notice to Owner.

4. Bring necessary piping, couplings, valves, equipment, and appurtenances to the work areas.
5. Assist Owner in preparing to take equipment, tanks, basins, and conduits temporarily out of service.
6. Coordinate other tie-ins to be performed simultaneously.
7. Install and ensure functionality of temporary systems as applicable.

B. During Typical Shutdown:

1. Owner will operate valves to drain Inlet, Outlet, Splitter Box structures and Reservoir as much as practical. Contractor is required to provide and operate any necessary temporary dewatering equipment to complete dewatering of Inlet, Outlet, Splitter Box structures and Reservoir, as necessary for completion of the Work, including to remove water associated with leakage and/or backflow through existing valves.
2. Remove existing equipment, piping, and accessories as required.
3. Verify operation of new equipment, materials, and systems.
4. Following approval from Engineer, return equipment and system to operation with Owner.

C. Following Typical Shutdown:

1. Verify functionality of equipment and system.
2. Verify operation of new equipment and systems; verify that joints in piping are watertight or gastight as applicable.
3. Repair joints that are not watertight or gastight as applicable.
4. Remove temporary systems as applicable.

END OF SECTION

SECTION 01 20 00
MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Items listed in this Section refer to and are the same pay items listed in the Bid Form and constitute all pay items for completing the Work.
2. Compensation for all services, items, materials, and equipment shall be include in prices stipulated for lump sum and unit price pay items listed in this Section and included in the Contract.
3. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, bonds, insurance, or other requirements of the General Conditions, Supplementary Conditions, General Requirements, and other requirements of the Contract Documents.
4. Each lump sum and unit bid price shall include an amount considered by the Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

B. Related Sections:

1. Payments to Contractor: Refer to General Conditions, Supplementary Conditions, and Agreement.
2. Changes to Contract Price: Refer to General Conditions, Supplementary Conditions, and Section 01 26 00 – Contract Modification Procedures.
3. Schedule of Values: Refer to General Conditions, Supplementary Conditions, and Section 01 29 73 – Schedule of Values.

1.02 ENGINEER'S ESTIMATE OF QUANTITIES

- A. ENGINEER'S and OWNER's estimated quantities for unit price pay items, as listed in the Bid Form, are approximate only and are included solely for the purpose of comparison of Bids. Owner does not expressly or by implication agree that the nature of the materials encountered below the surface of the ground or the actual quantities of material encountered or required will correspond therewith and reserves the right to increase or decrease any quantity or to eliminate any quantity as Owner may deem necessary. Contractor will not be entitled to any adjustment in a unit bid price as a result of any change in an estimated quantity and agrees to accept the aforesaid unit bid prices

as complete and total compensation for any additions caused by changes or alterations in the Work ordered by Owner.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Contractor shall include all additional Work items, services, goods, resources, and manpower necessary for installation of the Work to provide a completely functional system in accordance with the Contract Documents. Contractor shall include these costs associated with providing a completely functional system within the listed items on the Bid Form and as specified herein.

B. Bid Items:

Item 1: Lump Sum Work Items

a. Measurement and Payment for items under Item 1 (Items 1.1 through 1.7) will be full compensation for administration and completion of the Work, as shown on the Drawings and specified in the Contract Documents.

Item 2: Owner Allowance Items

b. Non-specified Owner-Directed Work (Item 2.1): Allow the amount provided in the Bid for additional Work authorized by the Owner that is outside the original scope of work of this Contract.

c. Land Disturbance Permit Fees (Item 2.2): Allow up to the amount provided in the Bid for fees paid by the Contractor to receive the Land Disturbance Permit from Cobb County.

d. Consult with Engineer and Owner in selection of products or services. Obtain proposals from suppliers and installers and offer recommendations.

e. Owner Allowance will be administered in accordance with Paragraph 11.02 of the General Conditions. Owner-Directed Work shall be accomplished by increasing resources on the Project so as not to impact the overall Project Schedule. Time extensions will not be given for Owner-directed Work unless the new Work can be shown to directly impact the critical path of the Project.

f. Submit, with application for payment, invoice showing date of purchase, from whom the purchase was made, the date of delivery of the product or service, and the price, including delivery to the Site and applicable taxes.

Item 3: Unit Price Items

g. Unit Price Items (Items 3.01 through 3.16) will be compensated in accordance with the applicable paragraphs of the General Conditions and as modified by the Supplementary Conditions. Payment for unit price items will

be made according to the unit prices in the Bid Schedule of the Bid Form, which shall constitute full payment to perform the work described therein.

- h. To determine the extent of concrete repair to be performed under Items 3.11 through 3.15, Engineer and Contractor shall jointly inspect and evaluate the existing structures. Contractor shall not begin the application of repair material until the quantities of repair have been identified, submitted to, and approved by the Engineer. Repair shall be performed where approved by the Engineer after removal of unsound material. Repair work shall include, but not be limited to, all removal of unsound material, substrate cleaning, rebar cleaning and protection, bond breaker, mortar, grout, epoxy bonding agents, adhesives, sealants, rebar, accessories, etc. as required to rehabilitate the existing concrete as directed by the Engineer.
- i. To determine the extent of additional concrete wall resurfacing material under item 3.16, Engineer and Contractor shall jointly inspect and evaluate the structures being repaired. Contractor shall not begin the application of additional concrete wall resurfacing material until the quantities have been identified, submitted to, and approved by the Engineer.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 01 25 00
SUBSTITUTION PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Procedural requirements for product substitutions.
 - 2. Procedural requirements for substitute construction methods or procedures, when construction methods or procedures are specified.
- B. Requests for substitutions of equipment and material shall conform to the requirements of the General Conditions and Supplemental Conditions.
- C. Procedure for substitution requests and review including evaluation, reimbursement, acceptance, and determination shall be in accordance with General Conditions and Supplemental Conditions.

1.02 REFERENCES

- A. Definitions: The following words or terms are not defined but, when used in this Section, have the following meaning:
 - 1. “Products” includes materials, equipment, machinery, components, fixtures, systems, and other goods incorporated in the Work. Products do not include machinery and equipment used for preparing, fabricating, conveying, erecting, or installing the Work. Products include Owner-furnished goods incorporated in the Work where use of such goods is specifically required in the Contract Documents.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Contractor’s Responsibilities: In submitting request for substitution, Contractor represents that:
 - 1. Contractor has investigated proposed substitution and determined that it is equivalent to item, product, method, or procedure specified, as applicable.
 - 2. Contractor will provide the same or better guarantees or warranties for proposed substitution as for the specified product, manufacturer, method, or procedure, as applicable.
 - 3. Contractor waives all Claims for additional costs or extension of time related to proposed substitution that subsequently may become apparent.

- B. Engineer's Review: A proposed substitution will not be accepted for review if:
1. Approval would require changes in design concept or a substantial revision of the Contract Documents.
 2. Approval would delay completion of the Work or the work of other contractors.
 3. Substitution request is indicated or implied on a Shop Drawing or other submittal, or on a request for interpretation or clarification, and is not accompanied by Contractor's formal request for substitution.
- C. If Engineer does not approve the proposed substitute, Contractor shall provide the specified product, manufacturer, method, or procedure, as applicable.
- D. Approval of a substitution request will not relieve Contractor from requirement for submitting Shop Drawings as set forth in the Contract Documents.
- E. Product Substitutions Procedure:
1. Requests for approval of substitute products or items will be considered for a period of 30 days after Notice to Proceed. After end of specified period, requests will be considered only in case of unavailability of a specified product or other conditions beyond Contractor's control.
 2. Submit two (2) copies of request for substitution.
 3. Submit separate request for each substitution.
 4. In addition to requirements of the General Conditions and information required on substitution request forms, include with request the following:
 - a. Product identification, including manufacturer's name and address.
 - b. Manufacturer's literature with product description, performance and test data, and reference standards with which product complies.
 - c. Samples, if appropriate.
 - d. Name and address of similar projects on which product was used, and date of installation.
 - e. Certified tests, where applicable, by an independent laboratory attesting the proposed substitution is equal.
 - f. Cost information for the proposed substitution and the specified products.
- F. Construction Methods Substitutions Procedures:

1. Where construction methods or procedures are specified, for a period of 30 days after Notice to Proceed, Engineer will consider Contractor's written requests for substitute construction methods or procedures specified.
2. Submit two (2) copies of request for substitution.
3. Submit separate request for each substitution.
4. In addition to requirements of the General Conditions and information required on substitution request forms, include with request the following:
 - a. Detailed description of proposed method or procedure.
 - b. Itemized comparison of the proposed substitution with the specified method or procedure.
 - c. Drawings illustrating method or procedure.
 - d. Other data required by Engineer to establish that proposed substitution is equivalent to specified method or procedure.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

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SECTION 01 26 00
CONTRACT MODIFICATION PROCEDURES

PART 1 – GENERAL

1.01 THE REQUIREMENT

A. Section includes:

1. General Conditions and Supplementary Conditions provision expansion, including the following:
 - a. Requests for interpretation.
 - b. Field Orders
 - c. Work Change Directives
 - d. Proposal requests
 - e. Change Proposals
 - f. Change Orders

1.02 ADMINISTRATIVE REQUIREMENTS

- A. Submit Contract modification documents to Engineer's contact person and address in the Contract Documents.
- B. Retain at Contractor's office and at the Site complete copy of each Contract modification document and related documents, and Engineer's response.

1.03 REQUEST FOR INTERPRETATION

A. General:

1. Submit written or electronic requests for interpretation to Engineer. Contractor and Owner may submit requests for interpretation.
2. Submit request for interpretation to obtain clarification or interpretation of the Contract Documents. Report conflicts, errors, ambiguities, and discrepancies in the Contract Documents using requests for interpretation.
3. Do not submit request for interpretation when other form of communication is appropriate, such as submittals, requests for substitutions or "or equals", notices, ordinary correspondence, or other form of communication. Improperly prepared or inappropriate requests for interpretation will be returned without response or action.

B. Procedure:

1. Submit electronic copy of each request for interpretation.
2. Engineer will provide timely review of requests for interpretation. Allow sufficient time for review and response.
3. Engineer will maintain log of requests for interpretation. Copy of log will be provided upon request.
4. Engineer will provide written response to each request for interpretation. One copy of Engineer's response will be distributed to:
 - a. Contractor
 - b. Owner
 - c. Engineer
 - d. Resident Project Representative (RPR)

C. If Engineer requests additional information to make an interpretation, provide information requested within ten (10) days, unless Engineer allows additional time, via correspondence referring to request for interpretation number.

D. If Contractor or Owner believes that a change in the Contract Price or Contract Times or other change to the Contract is required, notify Engineer in writing before proceeding with the Work associated with the request for interpretation.

E. Submit each request for interpretation on a form acceptable to Engineer.

1. Number each request for interpretation as follows: Numbering system shall be the Contract number and designation followed by a hyphen and three-digit sequential number.
2. In space provided on form, describe the interpretation requested. Provide additional sheets as necessary. Include text and sketches as required in sufficient detail for engineer's response.
3. When applicable, request for interpretation shall include Contractor's recommended resolution.

1.04 FIELD ORDERS

A. General:

1. Field Orders, when required, will be initiated and issued by Engineer.

2. Field Orders authorize minor variations in the Work but do not change the Contract Price or Contract Times.
3. Field Orders will be in the form of Engineers Joint Contract Documents Committee (EJCDC) document C-942, "Field Order" or other Engineer's accepted form.
4. Engineer will maintain a log of Field Orders issued.

B. Procedure.

1. Electronic copies of Field Orders will be maintained, stored, and distributed by electronic construction document management system.
2. If Contractor or Owner believes that a change in the Contract Price or the Contract Times or other change to the Contract is required, immediately notify Engineer in writing before proceeding with the Work associated with the Field Order.
3. If the Field Order is unclear, submit request for interpretation.

1.05 WORK CHANGE DIRECTIVE

A. General:

1. Work Change Directives, when required, order additions, deletions, or revisions to the Work.
2. Work Change Directives do not change the Contract Price or Contract Times but are evidence that the parties to the Contract expect that the change ordered or documented by the Work Change Directive will be incorporated in subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.
3. Work Change Directives will be in the form of EJCDC document C-940, "Work Change Directive" or other Engineer's accepted form.

B. Procedure:

1. Three originals of Work Change Directive signed by Owner and Engineer will be furnished to Contractor, who shall promptly sign each original Work Change Directive and, within five days of receipt, return all originals to Engineer.
2. Original, signed Work Change Directives will be distributed as follows:
 - a. Contractor: One original
 - b. Owner: One original
 - c. Engineer: One original

3. One copy of each Work Change Directive will be distributed to: Resident Project Representative (RPR).
4. When required by Engineer, document for the Work performed under each separate Work Change Directive, for each day, the number and type of workers employed and hours worked; equipment used including manufacturer, model, and year of equipment, and number of hours; materials used, receipts for and descriptions of materials and equipment incorporated into the Work, invoices and labor and equipment breakdowns for Subcontractors and Suppliers, and other information required by Owner or Engineer, in a format acceptable to Engineer. Submit this documentation to Engineer as a Change Proposal.

1.06 PROPOSAL REQUESTS

A. General:

1. Proposal requests may be initiated by Engineer or Owner.
2. Proposal requests are for requesting the effect on the Contract Price and the Contract Times and other information relative to contemplated changes in the Work. Proposal requests do not authorize changes or variations in the Work, and do not change the Contract Price or Contract Times or terms of the Contract.
3. Proposal requests will be furnished using the proposal request form included with this Section.

B. Procedure.

1. One copy of each signed proposal request will be furnished to Contractor with one copy each to:
 - a. Owner
 - b. Engineer
 - c. Resident Project Representative (RPR)
2. Submit request for interpretation to clarify conflicts, errors, ambiguities, and discrepancies in proposal request.
3. Upon receipt of proposal request, Contractor shall prepare and submit a Change Proposal, in accordance with this Section, for the proposed Work described in the proposal request.

1.07 CHANGE PROPOSALS

A. General.

1. Submit written Change Proposal to Engineer in response to each proposal request, and when Contractor believes a change in the Contract Price or Contract Times or other change to the terms of the Contract is required.

B. Procedure.

1. Submit to Engineer one original and one copy of each Change Proposal with accompanying documentation, and simultaneously submit two copies to Owner. Submit each Change Proposal with separate letter of transmittal.
2. Engineer will review Change Proposal and either request additional information from Contractor or provide to Owner recommendation regarding approval of the Change Proposal.
3. When Engineer requests additional information to render a decision, submit required information within five days of receipt of Engineer's request, unless Engineer allows more time. Submit the required information via correspondence that refers to Change Proposal number.
4. Upon completing review, one copy of Engineer's written response, if any, will be distributed to:
 - a. Contractor
 - b. Owner
 - c. Engineer
 - d. Resident Project Representative (RPR)
5. If Change Proposal is recommended for approval by Engineer and approved by Owner, a Change Order will be issued.
6. If parties do not agree on terms for the change, Owner or Contractor may file a Claim against the other, in accordance with the General Conditions and the Supplementary Conditions.

C. Each Change Proposal shall be submitted on a Change Proposal form acceptable to Engineer.

1. Number each Change Proposal as follows: Numbering system shall be the Contract number and designation followed by a hyphen and three-digit sequential number. Example: First Change Proposal for the general contract for project named "Contract 23" would be, "Proposal No. 23-001".
2. In space provided on form:
 - a. Describe scope of each proposed change. Include text and sketches on additional sheets as required to provide detail sufficient for Engineer's review

and response. If a change item is submitted in response to proposal request, write in as scope, "In accordance with Change Proposal Request No." followed by the proposal request number. Provide written clarifications, if any, to scope of change.

- b. Provide justification for each proposed change. If change is in response to proposal request, write in as justification, "In accordance with Change Proposal Request No." followed by the proposal request number.
 - c. List the total change in the Contract Price and Contract Times for each proposed change.
3. Unless otherwise directed by Engineer, attach to the Change Proposal detailed breakdowns of pricing (Cost of the Work and Contractor's fee) including:
- a. List of Work tasks to accomplish the change.
 - b. For each task, labor cost breakdown including labor classification, total hours per labor classification, and hourly cost rate for each labor classification.
 - c. Construction equipment and machinery to be used, including manufacturer, model, and year of manufacture, and number of hours for each.
 - d. Detailed breakdown of materials and equipment to be incorporated into the Work, including quantities, unit costs, and total cost, with Supplier's written quotations.
 - e. Breakdowns of the Cost of the Work and fee for Subcontractors, including labor, construction equipment and machinery, and materials and equipment incorporated into the Work, other costs, and Subcontractor fees.
 - f. Breakdown of other costs eligible, in accordance with the General Conditions and the Supplementary Conditions.
 - g. Other information required by Engineer.
 - h. Contractor's fees applied to eligible Contractor costs and eligible Subcontractor costs.

1.08 CHANGE ORDERS

A. General:

1. Change Orders will be recommended by Engineer and signed by Owner, and Contractor, to authorize additions, deletions, or revisions to the Work, or changes to the Contract Price or Contract Times.
2. Change Orders will be in the form of EJCDC document C-941, "Change Order" or other Engineer's accepted form.

B. Procedure.

1. Three originals of each Change Order will be furnished to Contractor, who shall sign each original Change Order and return all originals to Engineer within five days of receipt.
2. Engineer will sign each original Change Order and forward them to Owner.
3. Owner will sign each original Change Order and forward to the funding agency.
4. After approval and signature of all parties, three executed original copies will be returned to Engineer. Engineer will distribute as follows:
 - a. Contractor: One original
 - b. Owner: One original
 - c. Engineer: One original
5. One copy of each Change Order will be distributed to:
 - a. Resident Project Representative (RPR)

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 SCHEDULE

- A. 2013 EJCDC Form C-942, Field Order
- B. 2013 EJCDC Form C-940, Work Change Directive
- C. 2013 EJCDC Form C-941, Change Order

END OF SECTION

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Date of Issuance:	Effective Date:
Owner:	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer:	Engineer's Project No.:
Project:	Contract Name:

- 1) Contractor is hereby directed to promptly execute this Field Order, issued in accordance with General Conditions Paragraph 9.04, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference: _____
Specification(s) Drawing(s) / Detail(s)

Description:

Attachments:

ISSUED:	RECEIVED:
By: _____ Engineer (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Title: _____	Title: _____
Date: _____	Date: _____

Copy to: Owner

Date of Issuance:	Effective Date:
Owner:	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer:	Engineer's Project No.:
Project:	Contract Name:

Contractor is directed to proceed promptly with the following change(s):

Description:

Attachments: [List documents supporting change]

Purpose for Work Change Directive:

Directive to proceed promptly with the Work described herein, prior to agreeing to changes on Contract Price and Contract Time, is issued due to: [check one or both of the following]

- Non-agreement on pricing of proposed change.
- Necessity to proceed for schedule or other Project reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price	\$ _____	[increase] [decrease].
Contract Time	____ days	[increase] [decrease].

Basis of estimated change in Contract Price:

- Lump Sum Unit Price
- Cost of the Work Other

RECOMMENDED:

AUTHORIZED BY:

RECEIVED:

By: _____ Engineer (Authorized Signature)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____

Approved by Funding Agency (if applicable)

By: _____	Date: _____
Title: _____	

Date of Issuance:	Effective Date:
Owner:	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer:	Engineer's Project No.:
Project:	Contract Name:

The Contract is modified as follows upon execution of this Change Order:

Description:

Attachments: [List documents supporting change]

<p>CHANGE IN CONTRACT PRICE</p> <p>Original Contract Price:</p> <p>\$ _____</p>	<p>CHANGE IN CONTRACT TIMES [note changes in Milestones if applicable]</p> <p>Original Contract Times: Substantial Completion: Ready for Final Payment: days or dates</p>
<p>[Increase] [Decrease] from previously approved Change Orders No. to No. :</p> <p>\$ _____</p>	<p>[Increase] [Decrease] from previously approved Change Orders No. to No. : Substantial Completion: Ready for Final Payment: days</p>
<p>Contract Price prior to this Change Order:</p> <p>\$ _____</p>	<p>Contract Times prior to this Change Order: Substantial Completion: Ready for Final Payment: days or dates</p>
<p>[Increase] [Decrease] of this Change Order:</p> <p>\$ _____</p>	<p>[Increase] [Decrease] of this Change Order: Substantial Completion: Ready for Final Payment: days or dates</p>
<p>Contract Price incorporating this Change Order:</p> <p>\$ _____</p>	<p>Contract Times with all approved Change Orders: Substantial Completion: Ready for Final Payment: days or dates</p>

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By: _____ Engineer (if required)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____

Approved Funding Agency (if required)

By: _____ Date: _____

Title: _____

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SECTION 01 29 73
SCHEDULE OF VALUES

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. General requirements for preliminary and final Schedule of Values.
2. Schedule of Values and the Progress Schedule updates specified in Section 01 32 00 – Construction Progress Schedule, shall be basis for preparing each Application for Payment. Schedule of Values may be used as a basis for negotiating price of changes, if any, in the Work.

1.02 ADMINISTRATIVE REQUIREMENTS

A. General Requirements:

1. Schedule of Values shall include breakdown of costs for materials and equipment, installation, and other costs used in preparing the Bid by Contractor and each Subcontractor. List purchase and delivery costs for materials and equipment for which Contractor may apply for payment as stored materials.
2. Include separate amounts for each Specification Section in the Contract Documents by structure, building, and work area.
3. Identify each line item with number corresponding to the associated Specification Section number. List sub-items of major products or systems, as appropriate or when requested by Engineer.
4. Include in Schedule of Values itemized list of Work for each major part of the Contract, for each payment item specified in Section 01 20 00 – Measurement and Payment.
5. Sum of individual values shown on the Schedule of Values shall equal the total of associated payment item. Sum of payment item totals in the Schedule of Values shall equal the Contract Price.

B. Specific Requirements:

1. Include in each line item a directly proportional amount of Contractor's overhead and profit. Do not include overhead and profit as separate item(s).
2. Include separate line item for each allowance, and for each unit price item.

3. Include line item for bonds and insurance in amount not exceeding two percent of the Contract Price. This may be applied for in the first Application for Payment.
 4. Include items for the General Conditions, permits (when applicable), construction Progress Schedule, and other items required by Engineer. Include such items in Applications for Payment on schedule accepted by Engineer.
 5. Line items for Site maintenance such as dust control, snow removal, compliance with storm water pollution prevention plans and permits, spill prevention control and countermeasures plans, and for construction photographic documentation; temporary utilities and temporary facilities, field offices, temporary controls, field engineering, and similar Work shall be included in the Schedule of Values and proportioned in Applications for Payment throughout duration of the Work.
 6. Include separate line items under each appropriate payment item for mobilization and demobilization. Document for Engineer the activities included in mobilization and demobilization line items.
 - a. Mobilization/Demobilization as described in General Conditions will be limited to two percent of the Contract Price, and will be paid in two payments, each of 50 percent of total amount for mobilization.
 7. Costs for submittals, operations and maintenance manuals, field testing, and training of operations and maintenance personnel shall be as follows, unless otherwise accepted by Engineer:
 8. Provide a separate line item in the Schedule of Values for each part of the Work where Application for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between potential items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required.
- C. Preliminary Schedule of Values: Submit preliminary Schedule of Values to Engineer for initial review. Contractor shall incorporate Engineer's comments into the Schedule of Values and resubmit to Engineer. Engineer may require corrections and re-submittals until Schedule of Values is acceptable.
- D. Time Frame for Submittals:
1. Submit preliminary Schedule of Values within ten (10) days of date that the Contract Times commence running in accordance with the Notice to Proceed.
 2. Submittal of the Schedule of Values shall be in accordance with the General Conditions. Engineer will not accept Applications for Payment without an acceptable Schedule of Values.
 3. When required by Engineer, promptly submit updated Schedule of Values to include cost breakdowns for changes in the Contract Price.

1.03 SUBMITTALS.

A. Submit the following:

1. Electronic copy of preliminary Schedule of Values.
2. Electronic copy of Schedule of Values.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 01 29 76
PROGRESS PAYMENT PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

- A. Administrative and procedural requirements for progress payment to the Contractor by the Owner.
- B. Related Sections:
 - 1. Section 01 20 00 – Measurement and Payment
 - 2. Section 01 32 00 – Construction Progress Schedule
 - 3. Section 01 33 00 – Submittal Procedures
 - 4. Section 01 77 19 – Closeout Requirements.

1.02 ADMINISTRATIVE REQUIREMENTS

- A. General: Contractor's request for payment shall be in accordance with the Agreement, General Conditions and Supplementary Conditions, and the Specifications.
 - 1. Payment will be based on completion of individual items per milestone conversion area as detailed in the construction project schedule.
- B. Procedure:
 - 1. Review with Resident Project Representative (RPR) quantities and the Work proposed for inclusion in each progress payment. Application for Payment shall cover only the Work and quantities recommended by the RPR.
 - 2. Submit to Engineer each complete Application for Payment and other documents to accompany the Application for Payment. Except for Final Application of Payment, Application for Payment may be submitted in digital format with electronic or scanned signatures. Four (4) copies of Final Application for Payment shall be submitted as paper copy with inked signatures and stamps.
 - 3. Engineer will act on request for payment in accordance with the General Conditions and Supplementary Conditions.
- C. Requirements:

1. Completed Application for Payment form, including summary/signature page, progress estimate sheets, and stored materials summary. Progress estimate sheets shall have the same level of detail as the Schedule of Values.
 2. For materials and equipment not incorporated in the Work but suitably stored, submit documentation in accordance with the General Conditions and Supplementary Conditions. Legibly indicate on invoice or bill of sale the specific materials or equipment included in the payment request and corresponding bid/payment item number for each.
 3. Contractor's Affidavit is required for payment application and requests beginning with the second application for payment.
 4. For payment requests that include payment for Work under an allowance, submit documentation acceptable to Owner of the authorization of allowance Work.
- D. Requirements for request for final payment are in the General Conditions, as modified by the Supplementary Conditions, and Section 01 77 19 – Closeout Requirements.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 31 19
PROJECT MEETINGS

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes:
1. Pre-Construction Meeting
 2. Weekly Construction Progress Meetings
 3. Monthly Leadership Meetings
 4. Pay Application Review Meetings
 5. Project Closeout Meeting
 6. Georgia Safe Dams Final Inspection

1.02 ADMINSTRATIVE REQUIREMENTS

- A. Pre-Construction Meeting:
1. Purpose of the Pre-Construction Meeting is to designate responsible personnel, establish working relationships, discuss preliminary schedules submitted by Contractor, review System Integrator scope of supply, and review administrative and procedural requirements for the Project. Matters requiring coordination will be discussed and procedures for handling such matters will be established.
 2. Date, Time and Location: Pre-Construction meeting will be held after execution of the Contract and before Work starts at the Site. Engineer will establish the date, time, and location of conference and notify the interested and involved parties.
 3. Contractor shall provide pre-construction meeting submittals with sufficient number of copies for each attendee:
 4. Required Attendees:
 - a. Contractor
 - 1) Project manager
 - 2) Site superintendent
 - 3) Safety representative

- 4) Electrical Subcontractor
 - 5) Pipeline Subcontractor
 - b. Owner
 - c. Engineer
 - d. Resident Project Representative (RPR)
 - e. Representatives of governmental or other regulatory agencies
5. Contractor shall prepare and submit a health and safety plan, including confined space entry plan, as specified in this Section prior to the pre-construction meeting.
6. Contractor shall provide a “lock out / tag out” plan prior the pre-construction meeting.
7. Agenda, minimum:
 - a. Procedural requirements:
 - 1) Designation of responsible personnel, contact information, and key contact matrix
 - 2) Use of Site and Owner’s requirements, including general regards for community relations
 - 3) Delivery and storage of materials
 - 4) Delivery of equipment to the Site
 - 5) Safety and first aid procedures
 - 6) Confined space entry plan
 - 7) Electrical temporary power plan
 - 8) Control temporary power plan
 - 9) Security procedures
 - 10) Housekeeping procedures
 - 11) Permits (Cobb County, NPDES Stormwater, Erosion Control, Georgia Safe Dams, etc.)

- b. Administrative requirements:
 - 1) Distribution of Contract Documents
 - 2) Shop Drawing submittal procedures
 - 3) Maintaining As-Built record documents at the Site and monthly reviews
 - 4) Contract modification procedures
 - 5) Processing of Payment Application

- c. Site mobilization requirements:
 - 1) Working hours, overtime, and holidays.
 - 2) Field offices, trailers, and staging areas.
 - 3) Temporary power, control, facilities and utilities, including usage and coordination.
 - 4) Temporary controls, such as sediment and erosion control, noise, dust, storm water, and other measures.
 - 5) Access to Site, access roads, and parking for construction vehicles.
 - 6) Protection of traffic and existing property, including site barriers and temporary fencing.
 - 7) Security
 - 8) Storage of materials and equipment.
 - 9) Reference points and benchmarks, surveys and layouts.
 - 10) Site and building maintenance during the project, including cleaning and removal of trash and debris.
 - 11) Site and building restoration.

- d. Schedules
 - 1) Preliminary construction schedule
 - 2) Critical work sequencing
 - 3) Preliminary Shop Drawing submittal schedule
 - 4) Preliminary Schedule of Values

B. Bi-Weekly Construction Progress Meetings:

1. Progress meetings will be held a minimum of once every two (2) weeks throughout the Project. Contractor shall attend each progress meeting prepared to discuss in detail all items on the agenda.
2. Engineer will preside at progress meetings and will prepare and distribute minutes of progress meetings to all meeting participants and others as requested.
3. Date, Time, and Location:
 - a. Regular Meetings: On a day and time agreeable to Owner, Engineer, and Contractor, to occur on the same day and at the same time every two (2) weeks.
 - b. Engineer's Field Office at the Site or other location mutually agreed upon by Owner, Contractor, and Engineer.
4. Additional meetings may be conducted as progress of Work requires at a mutually agreed date, time and location.
5. Bi-weekly (once every two (2) weeks) meetings may be moved to weekly (once every one (1) week) meetings as needed for coordination of Project at the discretion of the Engineer.
6. Contractor shall provide submittals specified in this Section prior to each progress meeting.
7. Attendance:
 - a. Contractor, including project manager, site superintendent, safety representative, and representatives of Subcontractors and Suppliers as required.
 - b. Engineer, including project manager (or designated representative), Resident Project Representative, others as required by Engineer.
 - c. Owner.
8. Agenda, minimum (refer to the attached template)
 - a. Safety topic
 - b. 4- Week Look Ahead schedule
 - c. Change Management, RFI and Submittals
 - d. Project Conflicts

- e. Upcoming Project Items
- f. Client Coordination Items
- g. Other Items

C. Monthly Progress Meetings

1. Monthly Leadership meetings frequency shall be conducted on the first agreed upon day per month. Additional meetings may be conducted as progress of Work requires.
2. Contractor shall provide submittals specified in this Section prior to each progress meeting.
3. Attendance:
 - a. Contractor, including project manager, site superintendent, safety representative, Electrical Subcontractor, Pipeline Subcontractor, and representatives of Subcontractors and Suppliers as required.
 - b. Engineer, including project manager (or designated representative), Resident Project Representative, others as required by Engineer.
 - c. Owner.
4. Agenda, minimum:
 - a. Safety Topic
 - b. Review, comment, and amend (if required) of minutes of previous progress meeting.
 - c. Review of progress since the previous progress meeting.
 - d. Planned progress through next 30 – 60 days.
 - e. Review of Progress Schedule
 - 1) Contract Times, including Milestones (if any)
 - 2) Critical path.
 - 3) Schedules for fabrication, fabrication inspections and delivery and storage of materials and equipment.
 - 4) Corrective measures, if required.
 - f. Manpower

- 1) Contractor
- g. Submittals:
 - 1) Review of status of critical submittals.
 - 2) Review revisions to schedule of submittals.
- h. Contract Modifications:
 - 1) Requests for interpretation
 - 2) Clarification notices
 - 3) Field Orders
 - 4) Proposal requests
 - 5) Change Proposals
 - 6) Work Change Directives.
 - 7) Change Orders.
 - 8) Claims.
- i. Applications for progress payments.
- j. Problems, conflicts, and observations.
- k. Quality standards, testing, and inspections.
- l. Coordination between parties and other Owner ongoing projects
- m. Site management issues, including access, security, maintenance and protection of traffic, maintenance of plant operations, cleaning, and other Site issues.
- n. Permits.
- o. Record documents status.
- p. Punch list status, as applicable.
- q. Other business.

D. Process Interruption Planning (PIP) Meetings

1. Process Interruption Planning meetings frequency shall occur on an as needed basis. Special called meetings may be conducted as progress of Work requires.
2. Contractor shall provide submittals specified in this Section prior to each progress meeting.
3. Attendance:
 - a. Contractor, including project manager, Electrical Subcontractor, System Integrator and representatives of Subcontractors and Suppliers as required.
 - b. Engineer, Controls and Electrical Engineers as required (or designated representative), Resident Project Representative, others as required by Engineer.
 - c. Owner, Operations.
4. Agenda, minimum:
 - a. Area/Process Area Description
 - b. Approval of PIPs
 - c. Anticipated Conversion Schedule
 - d. State Compliance Requirements
 - e. Description of Process Interruption
 - f. Identify Risk and Contingencies
 - g. Lock-Out / Tag-Out Implementation Plan

1.03 SUBMITTALS

A. Pre-Construction Meeting Submittals:

1. Prior to the conference, submit the following preliminary schedules in accordance with the General Conditions:
 - 1) Progress schedule
 - 2) Schedule of submittals
 - 3) Schedule of values
2. Contractor's safety and first aid procedures.

3. Confined space entry plan.
 4. List of emergency contact information.
- B. Monthly Progress Meeting Submittals:
1. List of Work accomplished since the previous monthly meeting.
 2. Up-to-date Progress Schedule.
 3. Up-to-date Schedule of Submittals.
 4. 4 week “look-ahead” schedule of Work, with specific starting and ending dates for each activity, including shutdowns, deliveries of important materials and equipment, Milestones (if any), and important activities affecting the Owner, Project, and Site.
 5. When applicable, list of upcoming, planned time off (with dates) for personnel with significant roles on the Project, and the designated contact person in their absence.

1.04 EMERGENCY CONTACT INFORMATION

- A. Contractor shall provide list of emergency contact information for 24-hour use throughout the Project. Emergency contact information shall be updated and kept current throughout the Project. If personnel or contact information change, provide updated emergency contact information list at the next progress meeting.
- B. Contractor’s list of emergency contact information shall include:
1. Contractor’s project manager’s office, field office, cellular, and home telephone numbers.
 2. Contractor’s Site superintendent’s office, field office, cellular, and home telephone numbers.
 3. Contractor’s foreman’s field office, cellular (if available), and home telephone numbers.
 4. Major Subcontractors’ and Suppliers’ office, cellular, and home telephone numbers of project manager and foreman (when applicable).
- C. Additional Emergency Contact Information:
1. Owner’s Project Manager: office, cellular, and home telephone numbers.
 2. Owner’s central 24-hour emergency telephone number.

3. Engineer's project engineer's office, cellular, and home telephone numbers, including Project Manager, RPR, Electrical and Mechanical Engineers.
4. Resident Project Representative's office, field office, cellular, and home telephone numbers.
5. Emergency telephone numbers, including: "Emergency: Dial 911", and seven-digit telephone numbers for the hospital, ambulance, police, and fire department nearest to the Site. Provide names of each of these institutions.
6. Other involved entities as applicable.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

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SECTION 01 32 00
CONSTRUCTION PROGRESS SCHEDULE

PART 1 – GENERAL

1.01 SUMMARY

- A. Contractor shall prepare and submit Progress Schedules and related documents in accordance with the General Conditions, as may be modified by the Supplementary Conditions, Project Meetings (01 31 19) and this Section, unless otherwise accepted by Engineer.
1. Maintain and update Progress Schedules and related documents.
 2. Progress Schedule shall be a Critical Path Method (CPM) Progress Schedule.
 3. Maintain and Update four week look ahead and daily conversion schedules.
- B. Engineer's acceptance of the Progress Schedule or related documents, and comments or opinions concerning activities in the Progress Schedule and related documents shall not control independent judgment of Contractor concerning means, methods, techniques, sequences and procedures of construction, unless the associated means, method, technique, sequence, or procedure is directed by the Contract Documents. Contractor is solely responsible for complying with the Contract Times.

1.02 REFERENCES

- A. Definitions:
1. **Activity:** An element of the construction work that has the following specific characteristics: consumes time, consumes resources, has a definable start and finish, is assignable, and is measurable.
 2. **Constraint:** An imposed date on the Progress Schedule or an imposed tie between Activities. The Contract Times are Constraints.
 3. **CPM Progress Schedule:** Computerized Progress Schedule in Critical Path Method (CPM) format which accounts for the entire Work, defines the interrelationships between elements of the Work, reflects the uncompleted Work, and indicates the sequence with which the Work has been completed, indicates the sequence in which uncompleted Work will be completed, and indicates the duration of each Activity.
 4. **Critical Path:** The continuous chain of Activities with the longest duration for completion within the Contract Times.

5. Early Start: The earliest possible date an Activity can start according to the assigned relationships among Activities.
6. Early Finish: The earliest date an Activity can finish according to the assigned relationships among the Activities.
7. Late Finish: The latest date an Activity can finish without extending the Contract Times.
8. Late Start: The latest date an Activity can start without extending the Contract Times.
9. Float: The time difference between the calculated duration of the Activity chain and the Critical Path.
10. Total Float: The total number of days that an Activity (or chain of Activities) can be delayed without affecting the Contract Times.
11. Network Diagram: A time-scaled logic diagram depicting the durations and relationships of the Activities.
12. Work Areas, Area, or System: A logical breakdown of the Project elements or a group of Activities which, when collectively assembled, are readily identifiable on the Project (for example, yard piping, a structure or building, a treatment process, or other logical grouping).

1.03 ADMINSTRATIVE REQUIREMENTS

- A. The Construction Schedule shall be cost loaded and used as the basis for determining the Schedule of Values, Payment Schedule, and Progress Payments. The Owner shall be under no contractual obligation and shall have no responsibility to process Contractor's application for payment until the Contractor has submitted an acceptable Construction Schedule in accordance with the requirements of the Contract Documents. Once the Contractor has complied with the requirements of the Contract Documents relating to the Construction Schedule, the Owner, shall make payment to the Contractor for all amounts withheld under this paragraph within twenty-one (21) calendar days after Engineer's approval.
- B. The existing facility shall remain in service during the construction of the Project using either the existing or new raw water bypass systems. A maximum 72-hour facility shut down of Quarles Plant 2 will be allowed only during connection of new bypass system. Contractor will include in their schedule processes that will utilize temporary or alternate facilities to allow the facility to remain in service at all other times.
- C. If temporary facilities are utilized, Contractor shall submit a Temporary Facilities Plan for review and approval by the Owner and Engineer via the submittal process.

- D. Refer to Specification 01 14 00 Coordination with Owner Operations for suggested sequencing plan.

1.04 SCHEDULE REQUIREMENTS

A. Initial Progress Schedule:

1. Type and Organization of Progress Schedules:
 - a. Prepare one Progress Schedule covering the entire Project using scheduling software that is acceptable to Engineer.
 - b. Sheet Size: 11" by 17", unless otherwise accepted by Engineer.
 - c. Time Scale: Indicate first date of each work week.
 - d. Activity Designations: Indicate title and related Specification Section number.
 - e. Organization:
 - 1) Indicate on the separate Schedule of Submittals dates for submitting and reviewing Shop Drawings, Samples, and other submittals.
 - 2) Group deliveries of materials and equipment into a separate sub-schedule that is part of the Progress Schedule.
 - 3) Group construction into Work Area sub-schedules (that are part of the Progress Schedule) by Activity.
 - 4) Clearly indicate the Critical Path on the Progress Schedule.
 - 5) Organize each Work Area sub-schedule by Specification Section number.
2. Preliminary Progress Schedule:
 - a. Contractor shall submit to Engineer the preliminary Progress Schedule with associated Network Diagrams within 14 days after the Contract Times commence running.
 - b. Submit electronic copy of preliminary Progress Schedule and associated reports and schedule-related documents to accompany the preliminary Progress Schedule, in accordance with the Submittals Article of this Section. Submit in accordance with Section 01 33 00 – Submittal Procedures.
3. Initial Acceptance of Progress Schedule:

- a. At least 10 days before submission of the first Application for Payment, Contractor shall schedule a conference at the Site for review of the preliminary Progress Schedule.
 - 1) Attendees shall include Contractor, Engineer, Owner and others as required.
 - 2) Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the Progress Schedule and associated Network Diagram.
 - 3) Owner reserves the right to not make progress payment to Contractor until acceptable Progress Schedule, Network Diagram, and other reports and schedule-related documents required are submitted to Engineer.
- b. Submit electronic copy each of acceptable Progress Schedule with Network Diagram, reports, and other schedule-related documents required to accompany the initial acceptable Progress Schedule, in accordance with the Submittals Article of this Section.
- c. Initially-accepted Progress Schedule shall be identified as the baseline Progress Schedule.

B. Progress Schedule Updates:

1. Update the Progress Schedule each month. If during progress of the Work events develop that necessitate changes in the initially accepted Progress Schedule (i.e., baseline Progress Schedule), identify updated Progress Schedules sequentially as Progress Schedule Revision 1, 2, 3, and continuing in sequence as required.
2. The update to the Progress Schedule shall be based on retained logic. Progress override logic is not allowed.
3. Required scheduling software, and schedule organization, format, and content for updated Progress Schedules are identical to that required in this Section for initial Progress Schedules.
4. Submit to Engineer electronic copy of the updated Progress Schedule, Network Diagram, narrative report, and other schedule-related reports and documents required.
5. Submit updated Network Diagrams when revisions are proposed to the logic. Indicate in the narrative report delays that have occurred since the previous updated Progress Schedule. Engineer will not recommend payment by Owner of progress payments until updated Progress Schedule is received, reviewed, and accepted by Engineer. Payment for out-of-sequence Work is not allowed.

C. 4- Week Look Ahead

1. Maintain and update four week look ahead weekly.

D. It is understood and agreed that TIME IS OF THE ESSENCE and the Contractor agrees to diligently follow and adhere to the schedule with due diligence so as to execute the work within the milestone, Substantial Completion and Final Completion dates stipulated in the Contract Documents. The Contractor shall, at no additional cost, take all necessary steps, including overtime, double shifts, weekends, and holiday work to complete this work and meet the Substantial Completion and Final Completion dates stipulated in the Contract Documents.

1.05 NETWORK DIAGRAMS (PERT CHARTS)

A. General:

1. Contractor shall prepare and submit Network Diagrams, as generated using the scheduling software on paper of the size indicated for Progress Schedules in this Section.
2. Group Network Diagrams by Area and show the order and interdependence of Activities and sequence and quantities in which the Work will be accomplished.
3. Do not use match lines on Network Diagrams. Depict interrelationships to or from Activities outside the Area shown using an Activity symbol with Activity number and description.
4. In preparing Network Diagrams, comply with the basic concept of precedence diagramming method (PDM) network scheduling to show how start of a given Activity depends on completion of preceding Activities, and how the Activity's completion may affect the start of subsequent Activities.
5. Level of schedule detail shall define the day-to-day Activities of the Work.

B. Content:

1. Clearly indicate the Critical Path and distinguish the Critical Path from other paths on the network.
2. Organize Network Diagrams by grouping into major Work Areas, including one for procurement of materials and equipment, and by specific Activity within each Area.
3. Logic diagrams shall include the following:
 - a. Activity number.
 - b. Activity description.

- c. Activity duration (in work days).
- d. Critical Path denoted.
- e. Float for each Activity.
- f. Activity or System designation.
- g. Coded Area designation.
- h. Responsibility code (e.g., each prime contractor and their respective Subcontractors, trade, operation, Suppliers, or other entity responsible for accomplishing an Activity).
- i. Shift number (if more than one shift per day is to be employed).

C. Revisions:

1. When conditions develop that require revisions to logic or durations of the Network Diagram associated with the initially accepted Progress Schedule (i.e., baseline Progress Schedule), identify updates to the Network Diagram in the same manner required in this Section for Progress Schedule updates.
2. Revision of the logic or durations from the baseline Progress Schedule initially accepted by Engineer shall be submitted to Engineer for acceptance.
3. Incorporate into the Progress Schedule revisions to logic or duration accepted by Engineer and include in monthly narrative report both a description of revisions and listing of Activities affected by revisions.
4. Changes resulting from Change Orders and other additions or deletions, shall be fully incorporated into the Progress Schedule and Network Diagram on the first update after the associated Change Order is approved by Owner, including adjustments to the Contract Price.

1.06 TIME IMPACT ANALYSIS (NOT USED)

1.07 RECOVERY SCHEDULES

A. General:

1. When updated Progress Schedule indicates that the ability to comply with the Contract Times falls 30 or more days behind schedule, and there is no excusable delay, Change Order, or Work Change Directive to support an extension of the Contract Times, Contractor shall prepare and submit a recovery Progress Schedule demonstrating Contractor's plan to accelerate the Project to achieve compliance with the Contract Times (i.e., "recovery" schedule) for Engineer's acceptance.

2. Submit recovery schedule within 14 days after submittal of updated Progress Schedule where need for recovery schedule is indicated.

B. Implementation of Recovery Schedule:

1. At no additional cost to Owner, Contractor shall do one or more of the following:
 - a. Furnish additional labor and construction equipment
 - b. Employ additional work shifts
 - c. Expedite procurement of materials and equipment to be incorporated into the Work
 - d. Other measures necessary to complete the Work within the Contract Times.
2. Upon acceptance of recovery schedule by Engineer, incorporate recovery schedule into the next Progress Schedule update.

- C. Lack of Action: Contractor's refusal, failure or neglect to submit a recovery schedule, shall constitute reasonable evidence that Contractor is not prosecuting the Work or separable part thereof with the diligence that will ensure completion within the Contract Times. Such lack of action shall constitute sufficient basis for Owner to exercise remedies available to Owner under the Contract Documents

1.08 USE OF FLOAT

- A. Total Float and Contract Float belong to the Project and may be used by Owner, Engineer, or Contractor to accommodate modifications, regardless of origination, in the Work or to mitigate the effect of events that may delay performance or completion of the Work.
- B. Changes or delays that influence scheduled Work Activities with Float and that do not extend the critical path will not be justification for an extension in Contract Times.

1.09 SUBMITTALS

- A. Action/Informational Submittals:
 1. Initial Progress Schedules:
 - a. Preliminary Progress Schedule with associated Network Diagrams.
 - b. Acceptable Progress Schedule with associated Network Diagrams.
 2. Progress Schedule Updates:

- a. Progress Schedule updates shall comply with requirements of this Section, and shall include updated Progress Schedule, updated Network Diagram when relationships among Activities are changed.
 - b. Submit updated Progress Schedule at each Monthly Leadership meeting.
3. Recovery Schedule: Submit in accordance with this Section.
 4. Qualifications: Progress Schedule preparer, and other personnel that will assist Progress Schedule preparer in preparing and maintaining the Progress Schedule.

1.10 SOFTWARE

- A. The Contractor shall submit a licensed copy of the network analysis system software (if other than P6) for use by the Owner / Engineer. Data files shall be submitted on an electronic exchange media such as a compact disc. The Contractor is responsible for having an archived copy of the analysis system software and data files on hand. The final approved version of the baseline Construction Schedule and all monthly updates will be submitted electronically. The software and data files shall be PC compatible and Windows based.
- B. The Contractor's scheduling software shall have the capability of furnishing data reports or sorts in the following formats:
 1. Activity listing by activity.
 2. Activity listing by early and late start dates.
 3. Activity listing by early and late finish dates.
 4. Critical path activities.
 5. Activity listing by responsibility code or subcontractor or Division.
 6. Activity listing by total float.
 7. Computer produced time scaled network diagram.
 8. Computer produced bar chart.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Contractor shall provide submittals in accordance with the General Conditions as modified by the Supplementary Conditions and this Section.
2. Contractor is responsible for dimensions to be confirmed and corrected at the Site, for information pertaining solely to the fabrication processes and to techniques of construction, and for coordinating the work of all trades. Contractor's signature of submittal's stamp and letter of transmittal shall be Contractor's representation that Contractor has met his obligations under the Contract Documents relative to that submittal.

B. Related Sections:

1. Section 01 25 00 – Substitution Procedures.
2. Section 01 31 19 – Project Meetings.
3. Section 01 78 23 – Operation and Maintenance Data.
4. Section 01 78 39 – Project Record Documents.
5. Section 01 78 43 – Spare Parts and Extra Material.
6. Section 01 79 00 – Instruction of Owner's Personnel.
7. Divisions 03, 05, 07, 09, 13, 26, 31, 32, 33, 40, and 46.

1.02 REFERENCES

A. Types of Submittals: When type of submittal is not specified and is not specified in this Section, Engineer will determine type of submittal.

1. Action/Informational Submittals:
 - a. Shop Drawings.
 - b. Product data.
 - c. Delegated design submittals in accordance with the General Conditions and as modified by the Supplemental Conditions.

- d. Samples.
 - e. Testing plans, procedures, and testing limitations.
 - f. Design data not sealed and signed by a design professional retained by Contractor, Subcontractor, or Supplier.
 - g. Pre-construction survey, test, and evaluation reports, such as reports on pilot testing, subsurface investigations, potential Hazardous Environmental Condition, and similar surveys and reports.
 - h. Supplier instructions, including installation data, and instructions for handling, starting-up, and troubleshooting.
 - i. Sustainable design submittals (other than sustainable design closeout documentation).
 - j. Lesson plans for training and instruction of Owner's personnel.
2. Closeout Submittals:
- a. Maintenance contracts.
 - b. Operations and maintenance data.
 - c. Bonds, such as maintenance bonds and bonds for a specific product or system.
 - d. Warranty documentation.
 - e. Record documentation.
 - f. Sustainable design closeout documentation.
 - g. Asset Record
3. Maintenance Material Submittals:
- a. Maintenance materials schedule and checklist.
 - b. Spare parts.
 - c. Extra stock materials.
 - d. Tools.
4. Engineering Operations and Maintenance Submittals:
- a. Operation schedule and checklist.

- b. Maintenance materials schedule and checklist.
5. Quality Assurance Submittals:
- a. Manufacturer's Certificate of Compliance.
 - b. Certificates.
 - c. Source quality control submittals (other than testing plans, procedures, and testing limitations), including results of shop testing.
 - d. Field or Site quality control submittals (other than testing plans, procedures, and testing limitations), including results of operating and acceptability tests at the Site.
 - e. Supplier reports.
 - f. Special procedure submittals, including health and safety plans and other procedural submittals.
 - g. COVID-19 Protocols: Contractor shall provide site-specific health and safety plan which shall include, but not be limited to, corporate and site-specific protocols for conducting operations during the COVID-19 pandemic. Contractor shall adhere to all local, state and national orders as well as follow all Centers for Disease Control guidance for essential operations, including but not limited to, wearing masks, wearing gloves, temperature checks, and maintaining social distancing of minimum six feet until all such orders are no longer in effect.
 - h. Qualifications statements.
The existing treatment facility shall remain in service during the construction of the Project. Contractor will include temporary facilities in order to maintain water production. The temporary facilities plan will require review and approval by the Owner and Engineer via the submittal process.

1.03 ADMINSTRATIVE REQUIREMENTS

A. Submittal Requirements:

1. Contractor shall submit electronic copy of submittals for Engineer's review via cloud-based document management system, unless otherwise specified in individual Specification Sections. Acceptable electronic formats are Bluebeam, Adobe PDF, Microsoft Word, Autodesk DWF and AutoCAD DWG.
2. Submittal shall be accompanied by letter of transmittal containing date, project title, Contractor's name, number and title of submittal, list of relevant Specification Sections, notification of deviations from Contract Documents, and other material required for Engineer's review.

3. Contractor shall provide two full, bound paper copies and a digital copy (in Bluebeam or Adobe PDF) of all final Operations and Maintenance Submittals/Manuals including all approved shop drawings.

B. Scheduling:

1. Provide submittals well in advance of need for the material or equipment, or procedure (as applicable), in the Work and with ample time required for delivery of material or equipment and to implement procedures following Engineer's approval or acceptance of the associated submittal. Work covered by a submittal will not be included in progress payments until approval or acceptance of related submittals has been obtained in accordance with the Contract Documents.
2. Submittals shall be provided by Contractor with at least thirty (30) calendar days for review and processing.
3. Engineer will provide submittal review and resubmittal review comments within thirty (30) calendar days of receipt except as noted in Item 4 below.
4. In addition to Engineer's review, equipment submittals for Section 40 05 59.20 Replacement of Sluice Gates will also require Georgia Safe Dams Program review and approval and are not subject to schedule set forth in Item 3 above. Engineer and Georgia Safe Dams Program will provide submittal review and resubmittal review comments within thirty (30) calendar days for equipment submittals for Section 40 05 59.20 Replacement of Sluice Gates

1.04 SCHEDULE OF SUBMITTALS

A. Schedule of Submittals, as specified in this Section:

1. Timing:
 - a. Provide submittal within time frames specified in the Contract Documents.
 - b. Provide updated Schedule of Submittals with each submittal of the updated Progress Schedule.
2. Content: In accordance with the General Conditions as modified by the Supplementary Conditions, and this Section. Requirements for content of preliminary Schedule of Submittals and subsequent submittals of the Schedule of Submittals are identical.
 - a. Identify submittals required in the Contract Documents. Updates of Schedule of Submittals shall show scheduled dates and actual dates for completed tasks. Indicate submittals that are on the Project's critical path.
 - b. Indicate the following for each submittal:
 - 1) Date when submittals are requested and received from Supplier.

- 2) Date when certification is received from Supplier and when submitted to Engineer.
 - 3) Date when submittals are submitted to Engineer and returned with disposition from Engineer.
 - 4) Date when submittals are revised by Supplier and submitted to Engineer.
 - 5) Date when submittals are returned with “Furnish as Submitted” (FAS) or “Furnish as Corrected” (FAC) disposition from Engineer.
 - 6) Date when approved submittals are returned to Supplier.
 - 7) Date of Supplier scheduled delivery of equipment and material.
 - 8) Date of actual delivery of equipment and material.
 - 9) Whether submittal will be for a substitution or “equal”. Procedures for substitutions and “or equals” are specified in the General Conditions and the Section 01 25 00 – Substitution Procedures.
 - 10) For submittals for materials or equipment, date by which material or equipment must be at the Site to avoid delaying the Work and to avoid delaying the work of other contractors.
3. Prepare Schedule of Submittals using same software, and in same format, specified for Progress Schedules. The Submittal schedule will be reviewed at each Monthly Leadership Meeting.
 4. Coordinate Schedule of Submittals with the Progress Schedule.
 5. Schedule of Submittals that is not compatible with the Progress Schedule, or that does not indicate submittals on the Project’s critical path, or that places extraordinary demands on Engineer for time and resources, is unacceptable. Do not include submittals not required by the Contract Documents.
 6. In preparing Schedule of Submittals:
 - a. Considering the nature and complexity of each submittal, allow sufficient time for review and revision.
 - b. Reasonable time shall be allowed for: Engineer’s review and processing of submittals, for submittals to be revised and resubmitted, and for returning submittals to Contractor.
 - c. Identify and accordingly schedule submittals that are expected to have long anticipated review times.

1.05 ACTION/INFORMATIONAL SUBMITTALS

A. Provide the following Submittals in accordance with the individual Specification Sections, including, but not limited to, the following:

1. Product Data:
 - a. Catalog cut-sheets
 - b. Descriptive bulletins/brochures/specifications
 - c. Material of construction data, including details on all components including applicable ASTM designations.
 - d. Lifting, erection, installation, and adjustment instructions, and recommendations.
 - e. Finish/treatment data, including interior and exterior shop coating systems.
 - f. Equipment/material weight/loading data, including total uncrated weight of the equipment plus the approximate weight of shipped materials. Support locations and loads that will be transmitted to bases and foundations following installation. Size, placement, and embedment requirements of anchor bolts.
 - g. Complete information regarding location, type, size, and length of all field welds in accordance with "Standard Welding Symbols" AWS A2.0 of the American Welding Society. Special conditions shall be fully explained by notes and details.
 - h. Motor data, equipment and motor protective devices, and interconnection diagrams.
 - i. Engineering design data, calculations and system analyses
 - j. Digital system documentation
 - k. Operating sequence descriptions
 - l. Manufacturer's instructions
2. Shop Drawings:
 - a. Equipment and material layout drawings, including panel layout drawings.
 - b. System schematics and diagrams including, but not limited to, piping systems; HVAC and ventilation systems; process equipment systems; electrical operating systems; wiring diagrams; controls, alarm and communication systems.

- c. Layout and installation drawings (interior and exterior) for all pipes, valves, fittings, sewers, drains, heating and ventilation ducts, all electrical, heating, ventilating and other conduits, plumbing lines, electrical cable trays, lighting fixture layouts, and circuiting, instrumentation, interconnection wiring diagrams, communications, power supply, alarm circuits, etc.
 - d. Layout and installation drawings shall show connections to structures, equipment, sleeves, valves, fittings, etc.
 - e. Drawings shall show the location and type of all supports, hangers, foundations, etc., and the required clearances to operate valves, equipment, etc.
 - f. Drawings for pipes, ducts, conduits, etc., shall show all 3 inch and larger electrical conduits and pressure piping, electrical cable trays, heating and ventilation ducts or pipes, structure, manholes or any other feature within four (4) feet (measured as the clear dimension) from the pipe duct, conduit, etc., for which the profile is drawn.
 - g. Equipment including Electrical (e.g. MCCs, power panels), Controls (e.g. PLC, Remote IO, work stations, Instruments) and material schedules.
3. Delegated design submittals, which include documents prepared, sealed, and signed by a design professional retained by Contractor, Subcontractor, or Supplier for materials and equipment to be incorporated into the completed Work. Delegated design submittals do not include submittals related to temporary construction unless specified otherwise in the related Specification Section. Delegated design submittals include: design drawings, design data including calculations, specifications, certifications, and other submittals prepared by such design professional.

B. Samples:

- 1. General Requirements:
 - a. Conform submittal of Samples to the General Conditions as modified by the Supplementary Conditions, this Section, and the Specification Section in which the Sample is specified.
 - b. Furnish at the same time Samples and submittals that are related to the same unit of Work or Specification Section. Engineer will not review submittals without associated Samples and will not review Samples without associated submittals.

Samples shall clearly illustrate functional characteristics of product, all related parts and attachments, and full range of color, texture, pattern, and material.

2. Submittal Requirements:
 - a. Securely label or tag Samples with submittal identification number. Label or tag shall not cover, conceal, or alter appearance or features of Sample. Label or tag shall not be separated from the Sample.
 - b. Submit number of Samples required in Specifications. If number of Samples is not specified in the associated Specification Section, provide at least one identical Samples of each item required for Engineer's approval. If Contractor requires Sample(s) for Contractor's use, notify Engineer in writing and provide additional Sample(s). Contractor is responsible for furnishing, shipping, and transporting additional Samples.
 - c. Deliver one Sample to Engineer's field office at the Site. Deliver balance of Samples to location directed by Engineer.

1.06 CLOSEOUT SUBMITTALS

- A. Provide the following Closeout Submittals in accordance with the individual Specification Sections, including, but not limited to, the following:
 1. Maintenance contracts
 2. Bonds for specific products or systems
 3. Warranty documentation
 4. Sustainable design closeout documentation.
- B. On documents such as maintenance contracts and bonds, include on each document furnished original signature of entity issuing the document.
- C. Operations and Maintenance Data: Submit in accordance with Section 01 78 23 – Operations and Maintenance Data.
- D. Record Documentation: Submit in accordance with Section 01 78 39 – Project Record Documents.
- E. Disposition: Dispositions and meanings are the same as specified for Informational Submittals.

1.07 MAINTENANCE MATERIAL SUBMITTALS

- A. For spare parts, extra stock materials, and tools, submit quantity of items specified in associated Specification Section. Furnish in accordance with Section 01 78 43 – Spare Parts and Extra Materials.
- B. Disposition: Dispositions and meanings are the same as specified for Informational Submittals.

1.08 CONTRACTOR'S RESPONSIBILITIES

- A. Contractor shall review, coordinate, and verify submittals with Subcontractors, Manufacturers, and Suppliers, including field measurements at Site, in accordance with the General Conditions and as modified by Supplemental Conditions prior to submitting material for Engineer's review.
- B. Contractor shall provide Contractor's stamp of approval certifying submittal material has been reviewed and conform to the Contract Documents prior to submitting material for Engineer's review.
- C. Contractor shall provide written notice of deviations or variations that submittal may have with the Contract Documents.
- D. Contractor shall provide bound, dated, labeled, tabulated, and consecutively numbered submittals as specified in the individual Specification Section. Label shall contain the following:
 - 1. Specification Section.
 - 2. Referenced Drawing number.
 - 3. Subcontractor or Supplier name.
 - 4. Type of equipment and/or materials.
- E. Contractor shall perform the following after receiving Engineer's review disposition:
 - 1. Order, fabricate, or ship equipment and materials included in the submittal (pending Engineer's review of source quality control submittals) with the following disposition:
 - a. "Furnish as Submitted" (FAS).
 - b. "Furnish as Corrected" (FAC).
 - c. "Furnish as Corrected – Confirm" (FACC), only portions of Work that do not require resubmittal for Engineer's review.

2. Resubmittal requirements:
 - a. Partial resubmittal of “Furnish as Corrected – Confirm” (FACC) returned dispositions, until Engineer’s disposition is either “Furnish as Submitted” (FAS) or “Furnish as Corrected” (FAC).
 - b. Full resubmittal of material with Engineer’s disposition of “Revise and Resubmit” (R&R), until Engineer’s disposition is “Furnish as Submitted” (FAS), “Furnish as Corrected” (FAC), or “Furnish as Corrected – Confirm” (FACC) that requires a partial resubmittal.
 - c. Contractor shall be responsible for Engineer’s charges to Owner if submittals are not approved within the number of specified submittals in accordance with the General Conditions. Engineer’s charges shall include, but not limited to, additional review effort, meetings, and conference calls with Contractor, Subcontractor, or Supplier.

1.09 ENGINEER’S REVIEW

- A. Engineer’s review of the Contractor’s submittal shall not relieve Contractor’s responsibility under the Contract Document in accordance with the General Conditions and as modified in the Supplemental Conditions. An acceptance of a submittal shall be intended to mean the Engineer does not have specific objection to the submitted material, subject to conformance with the Contract Drawings and Specifications.
- B. Engineer’s review of Contractor’s submittal shall be confined to general arrangement and compliance with the Contract Documents, and shall not be for the purpose of checking dimensions, weights, clearances, fittings, tolerances, interferences, coordination of Subcontractor work, etc.
- C. Review Dispositions:
 1. “Furnish as Submitted” (FAS) – No exceptions are taken.
 2. “Furnish as Corrected” (FAC) – Minor corrections are noted for Contractor’s correction.
 3. “Furnish as Corrected – Confirm” (FACC) – Corrections are noted and partial resubmittal shall be made as noted.
 4. “Revise and Resubmit” (R&R) – Corrections are noted and complete resubmittal shall be made. Submittal does not conform to applicable requirements of the Contract Documents and is not acceptable. Revise submittal and re-submit to indicate acceptability and conformance with the Contract Documents.
 5. “Receipt Acknowledged” (RA) –
 - a. Information included in submittal conforms to the applicable requirements of the Contract Documents and is acceptable. No further action by Contractor

is required relative to this submittal, and the Work covered by the submittal may proceed, and products with submittals with this disposition may be shipped or operated, as applicable.

- b. Information included in submittal is for Project record purposes and does not require Engineer's review or approval.
- 6. "Rejected" (R) – Information included in submittal does not conform to the applicable requirements of the Contract Documents and is unacceptable. Contractor shall submit products and materials as specified in the Contract Documents or provide required information for substitution as specified in the Contract Documents for consideration by Engineer.
- D. Electronic Submittal Return to Contractor: Electronic submittals shall be returned electronically with dispositions provided.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 01 35 20
CONFINED SPACE ENTRY PLAN

PART 1 – GENERAL

1.01 SUMMARY

- A. Owner has determined that portions of the Site may constitute confined spaces or permit-required confined spaces, as defined in this Section.
- B. Contractor shall provide appropriate measures, including labor, supervision, equipment, protective devices, and incidentals, to protect the health and safety of personnel at the Site relative to confined spaces, and who may be affected by the Work in confined spaces including, without limitation: employees and agents of Contractor, Subcontractors, Suppliers, Owner, and Engineer, while engaged in performance of their respective duties at Site.
- C. Comply with requirements of Owner’s confined space entry program, if any.

1.02 REFERENCES

- A. Definitions: The following words or terms are not defined but, when used in this Section, have the following meaning:
 - 1. “Confined spaces” are areas on or about the Site as defined in 29 CFR 1910.146(b) and 29 CFR 1926.21(b)(6). Confined spaces include, but are not limited to: storage tanks, process vessels, bins, boilers and similar spaces; ventilation or exhaust ducts and stacks; manholes, underground utility vaults and chambers, sewers, pipelines, tunnels; and open-topped spaces greater than four feet deep, such as pits, tubs, vaults, and vessels.
 - 2. “Entry permit” means the written or printed document provided by the employer of personnel entering permit-required confined space, to allow and control entry into permit-required confined space and that contains the information specified in 29 CFR 1926.146(f).
 - 3. “Permit-required confined space” means confined space as defined in 29 CFR 1926.146(b) and that has one or more of the following characteristics:
 - a. Contains or has potential to contain a hazardous atmosphere.
 - b. Contains material that has potential for engulfing an entrant.
 - c. Has internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or floors, or by floor that slopes downward and tapers to a smaller cross-section.

- d. Contains other recognized serious safety or health hazard.
- 4. "Hot work permit" means the written authorization of employer of personnel entering a confined space to perform operations, such as riveting, welding, cutting, burning, and heating, capable of providing a source of ignition.
- B. Reference Standards: Comply with Laws and Regulations related to protecting personnel working in or entering confined spaces, including:
 - 1. Code of Federal Regulations (CFR), Title 29, Part 1910, Occupational Safety and Health Standards.
 - 2. CFR, Title 29, Part 1926, Safety and Health Regulations for Construction.

1.03 PLAN REQUIREMENTS

- A. Prepare Site-specific confined space entry plan which shall be incorporated into Contractor's Site-specific health and safety plan. Maintain copy of the confined space entry plan at the Site for access by employees, Owner and authorities having jurisdiction. Confined space entry plan shall include:
 - 1. Results of Contractor's Site-specific hazard assessment to identify confined spaces that are permit-required confined spaces, including list of all such spaces that will be accessed for the Work. Update the list as required throughout the Project.
 - 2. Requirements for safeguarding access to, and restricting non-permitted personnel from access to, permit-required confined spaces during the Work.
 - 3. Project-specific procedures to be followed when entering or accessing permit-required confined spaces.
 - 4. Documentation of training provided to each person that will enter, or work in conjunction with entry to, permit-required confined spaces
 - 5. Update the plan by adding copies of permits issued and records of entry to permit-required confined spaces, as required in this Section.
- B. Confined Space Safety:
 - 1. Personnel entering confined space shall be trained in accordance with 29 CFR 1926.21 (b)(6) and 29 CFR 1910.146(g).
 - 2. Comply with 29 CFR 1910.146 and requirements of authorities having jurisdiction.
 - 3. Recordkeeping: Using forms required by Contractor, Owner, or authority having jurisdiction, issue for each instance of access to permit-required confined space, completed permit(s) and complete associated data sheet. File completed permits

and data sheets in the Site-specific confined space entry plan and submit in accordance with this Section.

- a. Permit for entry to permit-required confined space(s).
- b. Permit for hot work in permit-required confined space(s).
- c. Complete confined space data sheet.

1.04 SUBMITTALS

- A. If acceptable, written response for Submittals required in this Section will not be returned to Contractor.
- B. Submit the following to Owner; if submittals under this Section are furnished to Engineer, Engineer will forward all submittals under this Section to Owner without review.
 1. Procedures: Site-specific confined space entry plan, submitted upon request of Owner.
 2. Permits and Reports: For each time personnel enter a confined space, copies of completed permits required for confined space entry, and completed confined space data sheets, submitted upon request of Owner.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 01 42 00
REFERENCES

PART 1 – GENERAL

1.01 SUMMARY

- A. Definitions and terminology applicable to all the Contract Documents are included in the General Conditions and Supplementary Conditions.

1.02 REFERENCES

- A. Abbreviations and Acronyms: Common abbreviations that may be found in the Contract Documents are listed below:

alternating current	a-c
ampere	A
Architectural Barriers Act	ABA
Americans with Disabilities Act	ADA
Americans with Disabilities Act Accessibility Guidelines	ADAAG
ante meridian	a.m.
average	avg
biochemical oxygen demand	BOD
brake horsepower	bhp
British thermal unit	Btu
Centigrade (or Celsius)	C
chlorinated polyvinyl chloride	CPVC
Code of Federal Regulations	CFR
cubic inch	cu in
cubic foot	cu ft
cubic yard	cdu yd, or CY
cubic feet per minute	cfm
cubic feet per second	cfs

degree Centigrade (or Celsius)	degrees C or °C
degrees Fahrenheit	degrees F or °F
diameter	dia
direct current	d-c
dollars	\$
each	ea
efficiency	eff
Fahrenheit	F
feet	ft
feet per hour	fph
feet per minute	fpm
feet per second	fps
figure	Fig
flange	flg
foot-pound	ft-lb
gallon	gal
gallons per hour	gph
gallons per minute	gpm
gallons per second	gps
gram	g
grams per liter	g/L
Hertz	Hz
horsepower	hp or HP
hour	hr
human-machine interface	HMI
inch	in.
inches water gage	in. w.g.
inch-pound	in.-lb
inside diameter	ID

iron pipe size	IPS
thousand pounds	kips
thousand pounds per square inch	ksi
kilovolt-ampere	kva
kilowatt	kw
linear foot	lin ft or LF
liter	L
maximum	max
mercury	Hg
milligram	mg
milligrams per liter	mg/l or mg/L
milliliter	ml
millimeter	mm
million gallons per day	mgd or MGD
million gallons	MG
minimum	min
national pipe threads	NPT
net positive suction head	NPSH
net positive suction head available	NPSHA
net positive suction head required	NPSHR
nominal pipe size	NPS
number	no.
operator interface terminal	OIT
ounce	oz
ounce-force	ozf
outside diameter	OD
parts per hundred	pph
parts per million	ppm
parts per billion	ppb

polyvinyl chloride	PVC
post meridian	p.m.
pound	lb
pounds per square inch	psi
pounds per square inch absolute	psia
pounds per square inch gauge	psig
pounds per square foot	psf
process control system	PCS
programmable logic controller	PLC
revolutions per minute	rpm
second	sec
specific gravity	sp gr or SG
square	sq
square foot	sq ft or sf
square inch	sq in.
square yard	sq yd or SY
standard	std
standard cubic feet per minute	scfm
total dynamic head	TDH

B. Definitions: Terminology used in the Specifications includes:

1. "Indicated" refers to graphic representations, notes, or schedules on the Drawings, or to other paragraphs or schedules in the Specifications and similar locations in the Contract Documents.
2. "Shown", "noted", "scheduled", and "specified" are used to help the user locate the reference without limitation on the location.
3. "Installer", "applicator", or "erector" is Contractor or another entity engaged by Contractor, either as an employee or subcontractor, to perform a particular construction activity, including installation, erection, application or similar Work. Installers shall be experienced in the Work that installer is engaged to perform.

4. “Experienced”, when used with the term “installer” means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; being familiar with Laws and Regulations; and having complied with requirements of authorities having jurisdiction, and complying with requirements of the Supplier of the material or equipment being installed.
5. Trades: Use of a term such as “carpentry” does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as “carpenter”, unless otherwise indicated in the Contract Documents or required by Laws or Regulations. Such terminology also does not imply that specified requirements apply exclusively to trade personnel of the corresponding generic name.
6. “Assigned specialists” and similar terms: Certain Sections of the Specifications require that specific construction activities be performed by specialists recognized as experts in those operations. Engage said specialists for those activities, and their engagement is a requirement over which Contractor has no option. These requirements do not conflict with enforcement of building codes and other Laws and Regulations. Also, such requirements are not intended to interfere with local trade union jurisdictional settlements and similar conventions. Such assignments shall not relieve Contractor of responsibility for complying with the requirements of the Contract Documents.

C. Reference Standards:

1. Refer to General Conditions, as may be modified by the Supplementary Conditions, relative to reference standards and resolving discrepancies between reference standards and the Contract Documents. Provisions of reference standards are in effect in accordance with the Specifications.
2. Copies of Standards: Each entity engaged in the Work shall be familiar with reference standards applicable to its construction activity. Copies of applicable reference standards are not bound with the Contract Documents. Where reference standards are needed for a construction activity, obtain copies of standards from the publication source.
3. Abbreviations and Names: Where reference standards, specifications, codes, manuals, Laws or Regulations, or other published data of international, national, regional or local organizations are referred to in the Contract Documents, the organization issuing the standard may be referred to by their acronym or abbreviation only.
4. Following acronyms or abbreviations that may appear in the Contract Documents shall have the meanings indicated below. Listing is alphabetical by acronym.

AA	Aluminum Association
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACIFS	American Cast Iron Flange Standards
ACS	American Chemical Society
ADC	Air Diffusion Council
ADSC	International Association of Foundation Drilling.
AEIC	Association of Edison Illuminating Companies
AF&PA	American Forest and Paper Association
ABMA	American Bearing Manufacturers Association (formerly Anti- Friction Bearing Manufacturers Association (AFBMA))
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AHDGA	American Hot Dip Galvanizers Association
AI	Asphalt Institute
AIA	American Institute of Architects
AIChE	American Institute of Chemical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALSC	American Lumber Standards Committee
AMA	Acoustical Materials Association
AMCA	Air Movement and Control Association
AMP	National Association of Architectural Metal Manufacturers, Architectural Metal Products Division
ANSI	American National Standards Institute
APA	The Engineered Wood Association
API	American Petroleum Institute

APHA	American Public Health Association
AREA	American Railway Engineering Association
ARI	Air Conditioning and Refrigeration Institute
ASA	American Standards Association
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASNT	American Society for Non-Destructive Testing
ASQ	American Society for Quality
ASSE	American Society of Safety Engineers
ASTM	American Society for Testing and Materials
AWCI	Association of the Wall and Ceiling Industry
AWI	Architectural Woodwork Institute
AWPA	American Wood Protection Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BAAQMD	Bay Area Air Quality Management District
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Industry Association
BOCA	Building Officials and Code Administrators
CBMA	Certified Ballast Manufacturers Association
CDA	Copper Development Association
CEMA	Conveyor Equipment Manufacturers Association
CGA	Compressed Gas Association
CISCA	Ceilings and Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute

CMAA	Crane Manufacturers Association of America
CPSC	Consumer Product Safety Commission
CRSI	Concrete Reinforcing Steel Institute
CSI	Construction Specifications Institute
DIN	Deutsches Institut für Normung eV (German Institute for Standardization)
DIPRA	Ductile Iron Pipe Research Association
EJCDC	Engineers Joint Contract Documents Committee
EJMA	Expansion Joint Manufacturers Association, Inc.
ETL	Intertek Testing Services, Inc. (formerly ETL Testing Laboratories, Inc.)
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FM	Factory Mutual (FM Global)
FRPI	Fiberglass Reinforced Plastics Institute
FS	Federal Specification
GA	Gypsum Association
GANA	Glass Association of North America
GAEPD	Georgia Environmental Protection Division
GDOT	Georgia Department of Transportation
HEW	United States Department of Health, Education and Welfare
HI	Hydraulic Institute
HMI	Hoist Manufacturers Institute
HUD	United States Department of Housing and Urban Development
IBC	International Building Code
ICC	International Code Council
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America

IFI	Industrial Fasteners Institute
IFCEA	Insulated Power Cable Engineers Association
IRI	Industrial Risk Insurers
ISA	Instrumentation, Systems, and Automation Society (formerly Instrument Society of America)
ISO	Insurance Services Office
IOS	International Organization for Standardization
LPI	Lightning Protection Institute
MIA	Marble Institute of America
ML/SFA	Metal Lath/Steel Framing Association
MS	Military Specifications
MSS	Manufacturers' Standardization Society
MMA	Monorail Manufacturers Association
NAAMM	National Association of Architectural Metal Manufacturers
NACE	National Association of Corrosion Engineers
NAPF	National Association of Pipe Fabricators, Inc.
NARUC	National Association of Regulatory Utilities Commissioners
NBHA	National Builders Hardware Association
NBS	United States Department of Commerce, National Bureau of Standards
NCMA	National Concrete Masonry Association
NEC	National Electric Code
NELMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NESC	National Electrical Safety Code
NETA	International Electrical Testing Association
NFPA	National Fire Protection Association
NFRC	National Fenestration Rating Council
NGA	National Glass Association
NHLA	National Hardwood Lumber Association

NHPMA	Northern Hardwood and Pine Manufacturers Association
NIST	United States Department of Commerce, National Institute of Standards and Technology
NLGA	National Lumber Grades Authority
NRCA	National Roofing Contractors Association
NRMCA	National Ready Mixed Concrete Association
NSF	National Sanitation Foundation
NSSGA	National Stone, Sand, and Gravel Association
NTMA	National Terrazzo and Mosaic Association
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PEI	Porcelain Enamel Institute
PFI	Pipe Fabrication Institute
PPI	Plastics Pipe Institute
PGMC	Primary Glass Manufacturers Council
PS	Product Standards Section, United States Department of Commerce
RCSC	Research Council on Structural Connections (part of AISC)
RMA	Rubber Manufacturers Association
SAE	Society of Automotive Engineers
SBCCI	Southern Building Code Congress International, Inc.
SCAQMD	Southern California Air Quality Management District
SCPRF	Structural Clay Products Research Foundation
SCTE	Society of Cable Telecommunications Engineers
SDI	Steel Deck Institute
SDI	Steel Door Institute
SIGMA	Sealed Insulating Glass Manufacturing Association
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractor's National Association
SPI	Society of the Plastics Industry

SPIB	Southern Pine Inspection Bureau
SSPC	Society for Protective Coatings
SWI	Steel Window Institute
TCNA	Tile Council of North America
TEMA	Tubular Exchanger Manufacturers Association
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance
UBC	Uniform Building Code
UL	Underwriters Laboratories, Inc.
USAB	United States Access Board
USDOE	United States Department of Energy
USEPA	United States Environmental Protection Agency
USGBC	United States Green Building Council
USGS	United States Geological Survey
USPHS	United States Public Health Service
WCLIB	West Coast Lumber Inspection Bureau
WCMA	Window Covering Manufacturers Association
WCMA	Wood Component Manufacturers Association
MDMA	Window and Door Manufacturers Association
WWEMA	Water and Wastewater Equipment Manufacturers Association
WWPA	Western Wood Products Association

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

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SECTION 01 45 23
TESTING SERVICES FURNISHED BY CONTRACTOR

PART 1 – GENERAL

1.01 SUMMARY

- A. Contractor shall employ and pay for independent testing entity to perform specified services. Entity selected shall be subject to approval by Engineer.
- B. Inspection, sampling and testing shall be as specified in the individual Specification Sections.
- C. Materials for testing include, but are not limited to, the following and as specified in the individual Specification Sections:
 - 1. Concrete
 - 2. Grout
 - 3. Metal Fasteners
 - 4. Gates
 - 5. Valves
 - 6. Pipes
 - 7. Earthwork
 - 8. Paving

1.02 ADMINISTRATIVE REQUIREMENTS

- A. Contractor's Responsibilities:
 - 1. Provide to laboratory representative samples of materials to be tested, in required quantities.
 - 2. Provide labor and facilities:
 - a. To provide access to the Work to be tested, and where required, to Suppliers' operations.
 - b. To obtain and handle samples at the Site.
 - c. To facilitate inspections and tests.

- d. For testing entity's exclusive use for storage and curing of test samples.
- e. Forms for preparing concrete test beams and cylinders.
3. Notify testing entity and Engineer sufficiently in advance of operations to allow for assignment of personnel and scheduling of tests.
4. Arrange with testing entity and pay for additional services, sampling, and testing required for Contractor's convenience.
5. Provide to testing entity the preliminary design mix proposed for concrete, and other material mixes that require testing by the testing laboratory.

B. Testing Entity's Responsibilities:

1. Perform specified inspections, sampling, and testing of materials and methods of construction; comply with applicable standards; ascertain compliance with requirements of the Contract Documents.
2. Promptly notify Engineer and Contractor of irregularities or deficiencies in the Work observed during performance of services.
3. Submit specified quantity of report copies of inspections and tests to Contractor and Engineer.
4. Perform additional tests and services as required to ensure compliance with the Contract Documents.

C. Report Requirements:

1. Electronic Submittal of testing reports.
2. Include the following information:
 - a. Date issued.
 - b. Project title, number, and name of the Site.
 - c. Testing laboratory name and address.
 - d. Name and signature of inspector or person obtaining samples.
 - e. Date of inspection or sampling.
 - f. Record of temperature and weather.
 - g. Date of test.

- h. Identification of material or product tested and associated Specification Section.
- i. Location in the Project.
- j. Type of inspection or test.
- k. Results of tests and observations regarding compliance with the Contract Documents.

1.03 SUBMITTALS

- A. Submit copies of material and product test reports where required by the Contract Documents and as requested by Engineer.
- B. Quality Assurance Submittals:
 - 1. Qualifications statement indicating experience and facilities for tests required under the Contract Documents.
 - 2. Copy of report of inspection of facilities during most recent NIST inspection tour. Include memorandum of remedies of deficiencies reported during inspection.
 - 3. Copy of certificate of calibration for each instrument or measuring device proposed for use, by accredited calibration agency.

1.04 QUALIFICATIONS

- A. Comply with applicable requirements of ASTM E329, Specification for Agencies Engaged in Construction Inspection and/or Testing.
- B. Laboratory shall be authorized to operate in the same State or Commonwealth as the Site. Where applicable, laboratory shall be certified by the authority having jurisdiction for the types of testing required.
- C. Testing equipment used by laboratory will be calibrated at maximum twelve month intervals by devices of accuracy traceable to either NIST's Standard Reference Materials (SRM), ISO 17025, General Requirements for the Competence of Testing and Calibration Laboratories, or certified by State, Commonwealth, or local bureau of weights and measures, or values of natural physical constants generally accepted in the engineering and scientific community.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

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SECTION 01 51 00
TEMPORARY UTILITIES

PART 1 – GENERAL

1.01 SUMMARY

- A. Contractor shall provide and pay for temporary utilities required for the Project and to complete the Work.
1. Make arrangements with utility service companies for temporary services and obtain required permits and approvals for temporary utilities.
 2. Pay utility service costs, including connection fees, required for the Work as needed.
 3. Continuously maintain adequate utilities for all purposes during the Project, until removal of temporary utilities and temporary facilities. At minimum, provide and maintain temporary utilities through Substantial Completion and removal of temporary field offices and sheds.
 4. Should Owner occupy part of the Project prior to Substantial Completion of the entire Work, cost of utilities consumed via temporary utilities serving the portion occupied by Owner will be shared proportionately between Owner and Contractor as mutually agreed to by the parties.
 5. Maintain, including cleaning, temporary utilities and continuously provide consumables as required.
 6. Temporary utilities and temporary facilities shall be adequate for personnel using the Site, maintaining water production and requirements of Project.
 7. Provide temporary utilities and temporary facilities in compliance with Laws and Regulations and, when applicable, requirements of utility owners.
- B. Provide the following temporary utilities:
1. Electricity and lighting.
 2. Electrical, Controls and Programming.
 3. Telephone and communications.
 4. Heating.
 5. Sanitary facilities.

6. Water service.
7. First-aid facilities.
8. Fire protection.

1.02 ADMINISTRATIVE REQUIREMENTS

A. Use of Owner's System:

1. Existing Utility Systems: Do not use systems in existing buildings or structures for temporary utilities without Owner's written permission and mutually acceptable basis agreed upon by the parties for proportionate sharing of costs between Owner and Contractor.
2. Use of Permanent Utility Systems Provided Under the Project:
 - a. Permanent lighting, water, heating, ventilating, and fire protection systems and first-aid facilities may be used to provide temporary utilities and temporary facilities if the following are met:
 - 1) Obtain Owner's written permission to use permanent systems.
 - 2) Permanent systems to be used for temporary utilities or temporary facilities shall have achieved Substantial Completion, including complete functionality of all controls.
 - b. Do not use the following permanent facilities:
 - 1) Telephone and communication facilities.
 - 2) Sanitary facilities.

1.03 SYSTEM DESCRIPTION

A. Electricity and lighting:

1. Contractor shall provide electrical and lighting service for construction field offices, sheds, storage containers, etc. and as required for the Work.
2. General 120/240 V service requirements:
 - a. Contractor shall provide 120/240 V, single phase, 3-wire temporary system for small power requirements and general lighting.
 - b. Contractor shall provide main disconnect, overcurrent protection, meter outlet, branch circuit breakers, and wiring for temporary service to the Contractor's field office service connections. Contractor shall provide

equipment and appurtenances in accordance with electricity service provider and applicable standards and codes.

- c. Contractor shall register the 120/240 V electrical service meter in the Contractor's name and shall be responsible for electrical charges at no additional cost to the Owner.
 - d. Contractor shall provide electrical service other than 120/240 V, single phase, 3-wire service as required for the Work at the Contractor's own expense.
3. General lighting requirements:
 - a. Contractor shall provide a minimum of 10 foot candles for enclosed and partially enclosed structures for performing the Work.
 - b. Contractor shall provide a night lighting circuit for security. Light intensity shall be a minimum of 2 foot candles.
 4. Contractor shall energize the electrical system 15-minutes prior to and following regular work day hours at the Site. Required from Monday through Friday, all inclusive.
 5. Contractor shall energize the night lighting system at end of typical working day and de-energize at start of typical working day. System shall be continuously energized on Saturdays, Sundays, and holidays.
 6. Contractor shall provide an independent grounding cable connected directly to the structure, building, and equipment for erection and fabrication by electrical welders. Grounding by adjacent conduit, piping, etc. shall be prohibited at the Site.
 7. Contractor shall coordinate usage of temporary electrical system with Subcontractors, Suppliers, and Owner including the following:
 - a. Usage is suitable for 120V, single phase, 60 Hz operation with a maximum operating input of 1,500 volt-amperes.
 - b. One unit connected to a single outlet.
 - c. Restrict usage in case of overloading circuits to correct loading.

B. Electrical, Controls and Programming

1. Contractor shall provide temporary power, controls and programming as necessary to maintain plant water production during the project.

- C. Telephone and communications: Contractor shall provide temporary telephone and communications required for its operations at the Site and for summoning emergency medical assistance.
- D. Heating:
1. Contractor shall provide temporary heating, ventilation coverings and enclosures necessary to protect the Work and materials against wetness and temperature damage, to dry out the Work, and to facilitate the Work in structures.
 2. Equipment, fuel, materials, personnel and methods used shall be adequate to maintain critical installation temperatures and ventilation of Work at all times in areas where necessary to perform the Work.
 3. Enclosed structures shall have a minimum temperature of 50°F, unless otherwise specified, where Work is performed.
 4. Contractor shall provide sufficient heat to maintain a minimum temperature of 65°F before and during application of interior finishing, painting, coating, etc.
 5. Contractor shall replace any Work damaged by dampness or insufficient/abnormal heating at no cost to the Owner.
- E. Sanitary facilities:
1. Contractor shall provide suitably-enclosed chemical or self-contained toilets for Contractor's employees and visitors to the Site. Location of temporary toilets shall be acceptable to Owner and screened from public observation.
 2. Facilities shall be maintained and provided in accordance with State or Commonwealth Labor Regulations and local ordinances. Contents shall be removed and disposed in accordance with local and state or commonwealth regulations as required.
 3. Contractor shall be prohibited from committing nuisances within, on, or in the vicinity of the Site.
- F. Water service:
1. Contractor shall provide temporary water service for the Work including for construction purposes, sanitary facilities, fire protection, field office, and cleaning purposes. CCMWA may have available non-potable water source for use in truck wash operations. CCMWA finished water sources will require contractor meter and compensatory arrangements.
 2. Contractor shall provide potable water for Contractor's personnel either by portable containers or drinking fountains.

3. Contractor shall provide temporary hose bibs, hoses, and watertight barrels for the distribution of water.

4. Contractor shall provide freeze protection for water service.

G. First-aid facilities:

1. Contractor shall provide temporary first-aid stations at or immediately adjacent to the Site's major work areas. Contractor shall provide temporary first-aid stations inside its temporary field office. Locations of first-aid stations shall be determined by Contractor's safety representative.

2. Contractor shall provide list of emergency telephone numbers at each hardwired telephone at the Site. List shall be in accordance with the list of emergency contact information required in Section 01 31 19 – Project Meetings.

H. Fire protection:

1. Contractor shall comply with NFPA 241, Safeguarding Building Construction, Alteration, and Demolition Operations, and requirements of fire marshals and authorities having jurisdiction at the Site.

2. Contractor shall provide temporary fire exits, fire extinguishers, hoses and safety devices as required by authorities having jurisdiction.

3. Contractor shall notify Engineer, Owner, and fire marshals in the event of fire at the Site including, but not limited to, fuel tanks and similar hazardous utilities and devices. Contractor shall cooperate with Owner of fuel tank and utilities to prevent occurrence of fire or explosion.

4. Contractor shall perform safety precautions and comply with fire marshal's instructions in the event of fire.

PART 2 – PRODUCTS

2.01 EQUIPMENT

A. Materials and equipment for temporary systems may be new or used but shall be adequate for purposes intended and shall not create unsafe conditions and shall comply with Laws and Regulations.

B. Provide required materials, equipment, and facilities, including piping, wiring, and controls.

C. Electrical system requirements: System shall consist of wiring, switches, insulated supports, poles, fixtures, sockets, receptacles, lamps, guards, cutouts and fuses as required for completion of the Work.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Install temporary facilities in neat, orderly, manner, and make structurally, mechanically, and electrically sound throughout.
- B. Location of Temporary Utilities and Temporary Facilities:
 - 1. Locate temporary systems for proper function and service.
 - 2. Temporary systems shall not interfere with or provide hazards or nuisances to: the Work under this and other contracts, movement of personnel, traffic areas, materials handling, hoisting systems, storage areas, finishes, and work of utility companies.
 - 3. Do not install temporary utilities on the ground, with the exception of temporary extension cords, hoses, and similar systems in place for short durations.
- C. Modify and extend temporary systems as required by progress of the Work.

3.02 MAINTENANCE

- A. Maintain temporary systems to provide safe, continuous service as required.
- B. Properly supervise operation of temporary systems:
 - 1. Enforce compliance with Laws and Regulations.
 - 2. Enforce safe practices.
 - 3. Prevent abuse of services.
 - 4. Prevent nuisances and hazards caused by temporary systems and their use.
 - 5. Prevent damage to finishes.
 - 6. Ensure that temporary systems and equipment do not interrupt continuous progress of construction.
- C. At end of each work day, check temporary systems and verify that sufficient consumables are available to maintain operation until work is resumed at the Site. Provide additional consumables if the supply on hand is insufficient. Contractor to maintain system 24 hours per day as necessary.
- D. Contractor shall replace broken and burned out lamps, blown fuses, and damaged wiring and appurtenances as required to maintain adequate and safe operating conditions.

- E. Contractor shall permit subcontractors and others at a mutually agreed arrangement to use temporary electrical system that meet the following requirements:
 - 1. Equipment are suitable for 120 V, single phase, 60 Hz operation.
 - 2. Operating input does not exceed 1,500 volt-amperes.
 - 3. Single piece of equipment connected to one outlet.
 - 4. Contractor shall restrict use of equipment as required to prevent overloading circuits.

3.03 CLOSEOUT ACTIVITES

- A. Completely remove temporary utilities, facilities, equipment, and materials when no longer required. Repair damage caused by temporary systems and their removal and restore the Site to condition required by the Contract Documents; if restoration of damaged areas is not specified, restore to preconstruction condition.
- B. Contractor is responsible for and shall return to original condition those portions of permanent electric system used in completing the Work.
- C. Where temporary utilities are disconnected from existing utility, provide suitable, watertight or gastight (as applicable) cap or blind flange, as applicable, on service line, in accordance with requirements of utility owner.
- D. When permanent utilities and systems that were used for temporary utilities, upon Substantial Completion replace all consumables such as filters and light bulbs and parts used during the Work.

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SECTION 01 52 00
CONSTRUCTION FACILITIES

PART 1 – GENERAL

1.01 SUMMARY

- A. Contractor shall provide construction facilities for performance of the Work, including the following:
1. Contractor's field office, sheds, and storage containers that shall be erected within 30 days of Notice to Proceed on the Project.
 2. Project sign that shall be erected within 21 days of Notice to Proceed on the Project, or before the start date of construction, whichever is sooner.

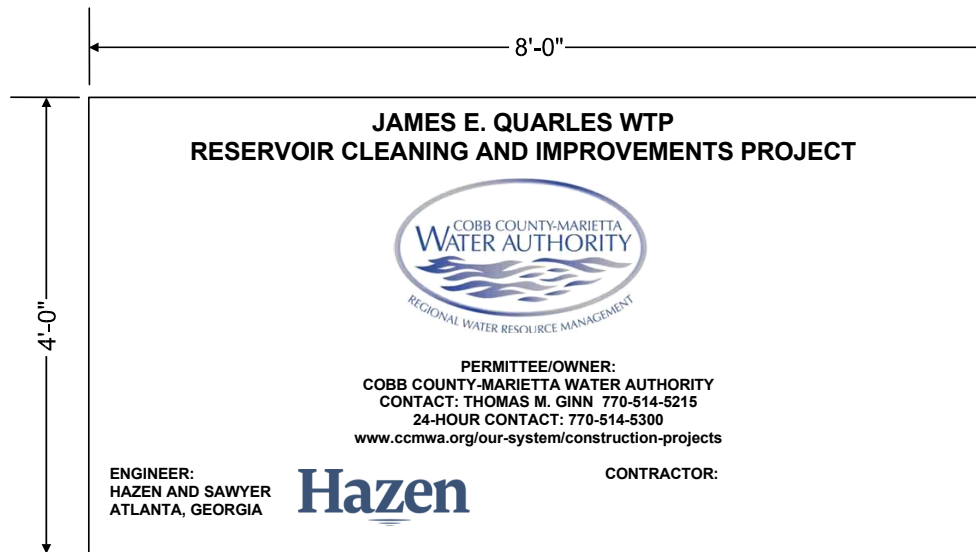
1.02 FACILITY DESCRIPTION

- A. Contractor's Field Office, Sheds, and Storage:
1. Contractor shall provide and maintain a field office at the Site, including temporary utility services specified.
 2. Size and Furnishings: As required by Contractor.
 3. Features: Exterior Contractor identification sign, night lighting for security, and temporary utilities specified in Section 01 51 00 – Temporary Utilities.
 4. Location: As shown on the Contract Documents.
 5. Contractor shall provide and maintain one set of Contract Documents, latest approved Shop Drawings, Field Orders, request for interpretations, clarification notices, Work Change Directives, proposal requests, Change Proposals, Change Orders, and other pertinent Project related correspondence.

1.03 PROJECT SIGN AND SIGN PANEL

- A. The Contractor shall erect a sign at the Project site identifying the Project. **The sign shall be erected within twenty-one (21) days after the Notice to Proceed** or before the start date of construction, whichever is sooner, and shall be in accordance with the Specifications and details included in this Section. The project sign and sign panel shall be furnished, erected, and maintained by the Contractor at the location designated by the Engineer and visible from a public roadway. Wording and colors shall be as shown on the detail below. The Contractor shall submit a scale drawing of the sign to the Engineer for approval prior to its assembly.

- B. The project sign shall be fabricated, erected and maintained by the Contractor in accordance with the following specifications:
1. Sign Panel: The sign panel shall be constructed of 3/4-inch minimum thickness marine plywood (4 feet x 8 feet) rabbeted into a 2 inch x 4 inch wood frame. All fasteners used in the construction of the sign shall be of a rustproof nature.
 2. Painting: All supports, trim and back of the sign panel shall be painted with at least two (2) coats of the same paint used for the sign face. All paint used shall be exterior grade paint, suitable for use on wood signs.
 3. Sign Supports: The supports for the project sign shall be at least two 4" by 4" treated wood posts. The sign panel shall be securely fastened to the sign supports with at least six (6) 3/8" galvanized bolts, nuts and washers. The positioning and alignment of the sign shall be as determined by the Engineer.
 4. Maintenance: The project sign shall be maintained by the Contractor, in good condition, at all times, for the duration of construction.
 5. Removal of Sign from Project Site: The removal of the project sign from the construction site by the Contractor shall be at the completion of construction, when ordered by the Engineer.
 6. Payment: The cost of the fabrication, erection, maintenance, and removal of the project sign, including all labor and materials, shall be included in the General Contractor's Lump Sum Bid. No extra payment will be made for obliterating certain names and offices and replacement thereof of others because of administrative changes during the course of this Contract.
 7. The sign should be generally configured as follows:



1. Provide black letters on white background.
2. Use of ½" durably signboard with vinyl lettering will be acceptable as an alternate to plywood and painted letters.

C. The Contractor shall provide directional signs at the plant entrance and within the plant property to direct Contractor's deliveries to the Contractor's office using approved traffic flow patterns (see Civil drawings), and flow of trucks during sediment removal and other contractor activities.

1. One directional sign shall be placed at each road intersection between the plant entrance and each destination.
2. The directional signs shall be made of material that is weather resistant with minimum 2" tall block letters with directional arrows that are clear and legible by a person in a vehicle. Each sign may contain directions to multiple destinations, as needed, so long as the information is clear and legible.
3. The Contractor shall submit a scale drawing of the directional signs to the Engineer for approval.
4. The directional signs shall be maintained by the Contractor, in good condition, at all times, for the duration of construction.
5. As required by Contractor's operations, additional directional signs shall be provided for temporary changes in the traffic flow pattern.

1.04 SUBMITTALS

- A. Action/Informational Submittals: Project identification sign and directional signs layout, details, and materials of construction.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 55 00
CONTRACTOR ACCESS AND PARKING

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Contractor shall provide and maintain temporary laydown and employee parking areas and appurtenances required during the Project for use by Contractor, other contractors employed on the Project, Owner's, and emergency vehicles, as shown on the Drawings.
2. Laydown and employee parking areas shall be designed and maintained by Contractor and shall be fully passable to vehicles in all weather conditions.

1.02 ADMINISTRATIVE REQUIREMENTS

A. Access roads:

1. Contractor shall construct and maintain such temporary access roads as required to perform the Work.
2. Contractor shall construct access roads, where possible, in locations over the areas of future road systems.
3. Access roads shall be located within the property lines of the Owner unless the Contractor independently secures easements for use and convenience.

B. Use of existing access roads:

1. Contractor will be allowed to use Owner's existing roads as shown on the Drawings.
2. Prevent interference with traffic on existing roads and parking areas. At all times, keep access roads and entrances serving the Site clear and available to Owner, Owner's employees, emergency vehicles, and other contractors. Do not use access roads or Site entrances for parking or storage of materials or equipment.
3. Contractor shall indemnify and hold harmless Owner and Engineer from expenses caused by Contractor's operations over existing roads and parking areas.
4. Schedule deliveries to minimize use of driveways and Site entrances.
5. Contractor shall suitably maintain existing access road at Contractor's expense for the duration of the Contract time.

C. Contractor parking areas:

1. Contractor employee vehicles shall park in area(s) designated by Owner or as shown on the Drawings.

D. Restoration

1. At the completion of the work, the surfaces of land used for access roads and parking areas shall be restored by Contractor to its original condition and to the satisfaction of the Engineer. At a minimum, such restoration shall include establishment of a permanent ground cover adequate to restrain erosion for all disturbed areas and repair of roadway surfaces, curb and gutter in any locations damaged by Contractor.

E. State/Commonwealth and local regulations:

1. Contractor shall obtain and pay all cost associated with bonds required by authorized entity (i.e. State or Commonwealth Department of Transportation) for the use of State or Commonwealth maintained roads.
2. Contractors shall obey traffic laws and comply with requirements, rules and regulations of the authorized entity (i.e. State or Commonwealth Department of Transportation), including local authorities having jurisdiction, to maintain warning signs, lights, barriers, etc. for the protection of traffic on public roadways.

F. Site security:

1. Contractor shall safely guard all the Work, the Project, products, equipment, and property from loss, theft, damage, and vandalism until Substantial Completion. Contractor's duty includes safely guarding Owner's property in vicinity of the Work and Project, and other private property in the vicinity of the Project from injury and loss in connection with performance of the Project.
2. Contractor's Superintendent or other authorized access card holder shall open the gate for Contractor's employees, subcontractors, deliveries and visitors. Owner will not be responsible for opening the gate for Contractor's employees, subcontractors, deliveries, and visitors.
3. Owner shall establish a security gate and employ security staff. Contractor shall adhere to site access protocols established by Owner at all times that gate guard is present.
4. Make no claim against Owner for damage resulting from trespass.
5. Pay full compensation for, or repair or replace, damage to property of Owner and others arising from failure to furnish adequate security.
6. Provide temporary fencing in accordance with the Contract Documents.

7. Security requirements specified in the Section shall begin as soon as the contractor delivers materials to the Site and/or begins work, and shall continue until the date of Final Completion.
8. Procedures:
 - a. Contractor shall conform to Owner's security procedures and access restrictions at Site throughout entire Project.
 - b. Contractor, including Subcontractors and Suppliers, shall comply with the following:
 - 1) Parking: Do not park outside of designated Contractor parking area, which is shown on the Drawings. Prepare and maintain parking area as required. Personal vehicles are not allowed outside Contractor parking area.
9. Contractor shall provide and maintain temporary security fencing if existing security fencing or barriers are breached or temporarily removed for the Project at no additional cost to the Owner. Temporary security fencing shall be equal to existing, unless otherwise specified, and provided and maintained in a manner satisfactory to Engineer and Owner.

1.03 PERSONNEL ACCESS REQUIREMENTS

A. Security Badges:

1. Owner shall issue photo identification badges, upon security background clearance, for the Engineer and Contractor's management personnel.
2. The Owner shall, at its discretion, provide security access privileges to individual badges.
3. No less than 3 days prior to requesting a photo identification badge for any employee, the Contractor shall provide the Owner with the full names, and any other such personal information as required in order to conduct a security background check. The employee shall sign a release form allowing the Owner to conduct a background check. Refusal to sign the release form is grounds for refusing admission to the Site. The Owner will have the right to conduct the background checks and the authority to refuse to issue a security badge to any person without disclosing the reason for such refusal. The Owner will have the right to withdraw security badge privileges to an individual at any time.
4. Employees shall wear the badge in a visible location on their person at all times while on the Site.

B. Block Badges:

1. Contractor shall issue block badges for Contractor and Subcontractor employees. The Block Badges format shall be approved by Owner and meet the following criteria:
 - a. Minimum overall dimension of 2-1/8 inch by 3-3/8 inch.
 - b. Individual's Name or Block Badge number, Contractor's name, Project name.
 - c. Badges issued to subcontractors shall contain the subcontractors name as well.
 - d. Durable and waterproof.
 - e. All block badges shall contain a common background color scheme so as to make the badges readily identifiable for the Project.
2. The Contractor shall submit sample badges (block) to the Owner for approval prior to issuance.
3. Employees shall wear the badge in a visible location on their person at all times while on the Project Site.
4. Any employee on the Project site for more than 10 consecutive working days shall be required to obtain an Owner-issued photo identification badge in accordance with paragraph A above, except that laborers working under the direct supervision of a foreman may use the Contractor-issued block badge in accordance with this paragraph B.

C. Block Badge – Issuance:

1. Contractor shall issue block badges to all persons upon entrance to the Site.
 - a. Once inside the gate, persons wearing block badges on the Site must always be escorted and under visible supervision by a Contractor or Subcontractor employee wearing a photo identification badge.
 - b. The block badges shall be turned back in to the Contractor when the person leaves the Project Site.
 - c. Employees shall wear the badge in a visible location on their person at all times while on the Project Site.
2. The Contractor shall issue a known quantity of each set of block badges and shall, on a weekly basis, report to the Owner the number of block badges:
 - a. Originally and subsequently manufactured.
 - b. In the Contractor's possession.
 - c. Lost or unaccounted for.
 - d. Otherwise accounted for with an explanation of such.

3. Rotating Block Badge System:
 - a. Four separate sets of block badges shall be issued for the Project under each Security Badge System.
 - b. Each separate set of block badges shall contain a varying color scheme or other identification so as to make it readily distinguishable from the other sets of block badges from a distance of 20 feet.
 - c. Contractor shall issue a separate set of block badges no less than every 3 months.
 - d. Persons found on the Site using block badges authorized for other periods will be treated as trespassers and are subject to legal actions.
 - e. At any time upon the request of the Owner, the Contractor shall begin using a separate set of block badges.
4. Authorized Admittance List:
 - a. Contractor shall provide to the Owner, periodically and upon request, a list of all persons, employees and subcontractors, authorized for admittance. This list will identify employees with photo identification badges and those routinely issued block badges.
 - b. The minimum frequency for submitting this list is on the first day of each month but the Owner may increase this frequency to the beginning of business each day.
5. Replacement of Lost Badges and Complete Security Badge System:
 - a. Lost badges shall be replaced at the Contractor's expense (although the Contractor may charge individual employees for lost badge replacement).

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Contractor shall determine if and where temporary fencing is necessary, unless existing security fencing is damaged, which will be determined by Engineer and Owner.
- B. Install temporary fencing used for site security in accordance with the Contract Documents and fence manufacturer's instructions. Provide temporary fencing for site security so that integrity of site security is maintained throughout the Project.
- C. Maintain temporary fencing. Repair damage to temporary fencing and replace fencing when required to maintain site security.

- D. Remove temporary fencing when permanent site security fencing is in place and fully functional, or when otherwise directed by Owner or Engineer.

END OF SECTION

SECTION 01 55 26
TRAFFIC CONTROL

PART 1 – GENERAL

1.01 THE REQUIREMENT

- A. The Contractor shall prepare and submit a Traffic Control Plan as needed prior to or during the prosecution of the work to address the flow of truck traffic to and from the facility onto surrounding public roads. The Contractor is to also address traffic control and/or signage within the limits of the facility to enhance the ingress/egress flow of traffic through the Site.

1.02 STREET SIGNS AND MARKERS AND ROUTE MARKERS

- A. The Contractor shall move any existing street signs and markers and route markers out of the construction limits of the project and install the street signs and markers and route markers so that they will be visible to the traveling public if there is sufficient right of way for these signs and markers outside of the construction limits.
- B. Near the completion of the project and when so directed by the Engineer, the Contractor shall move the signs and markers and install them in their proper location in regard to the finished pavement of the project.
- C. Any signs or markers which cannot be relocated due to lack of right-of-way, or any signs and markers which will no longer be applicable after the construction of the project, shall be stockpiled at locations directed by the Engineer for removal by others.
- D. The Contractor will be responsible to the Owner for any damage to any street signs and markers or route markers during the above described operations.
- E. No direct payment will be made for relocating, reinstalling, and/or stockpiling the street signs and markers and route markers as such work will be considered incidental.

PART 2 – MATERIALS

2.01 CONSTRUCTION TRAFFIC CONTROL DEVICES

- A. Description - The work covered by this Section consists of furnishing, erecting, maintaining, relocating, and removing traffic control devices in accordance with the Drawings, Specifications, MUTCD, or as directed by the Engineer. The MUTCD referred to in this provision shall be the current edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, as prepared by the National Advisory Committee on Uniform Traffic Control Devices, including all standard documents referred to in the second paragraph of Section 1A-7 of the MUTCD. The current edition shall be the edition current on the date of advertisement for the Project. All traffic control devices

furnished by the Contractor shall remain the property of the Contractor, unless otherwise required by the Contract. Traffic control devices shall include, but not be limited to signs, non-metallic drums, barricades, cones, delineators, temporary guardrail, temporary pavement marking, raised reflective pavement markers, flaggers and pilot vehicles, as required.

- B. Materials - General - Unless otherwise required, materials used in the fabrication and installation of construction traffic control devices shall be in accordance with the applicable provision of the MUTCD. When traffic control devices are no longer required for traffic handling in the initial phase of construction requiring their use, they may be reused at various locations throughout the project provided the device is not defaced, is structurally sound, clean, and otherwise conforms to the above requirements.
- C. Traffic control devices which do not meet the requirements of this Section shall not be used; and, when during the life of a project, a device ceases to meet the requirements of this Section it shall be promptly removed and replaced with a conforming device at no additional compensation. The Engineer shall have the authority to determine the acceptability of the traffic control devices.
- D. Construction Methods - General - Traffic control devices shall be installed at the inception of construction operations, and shall be properly maintained, relocated as necessary, cleaned, and operated during the time they are in use. They shall remain in place only as long as they are needed and shall be immediately removed thereafter. Where operations are performed in stages, only those devices that apply to the conditions present shall be left in place.
- E. The location, legends, sheeting, dimensions, number of supports, and horizontal and vertical placement of warning signs, barricades, and other traffic control devices shall be as required by the Drawings or the MUTCD or as directed by the Engineer. The Contractor may submit for the Engineer's consideration a method for handling traffic other than as shown on the Drawings. The alternate traffic handling plans shall not be used until they are approved by the Engineer in writing. During periods when not warranted, warning signs and other devices shall be removed from the work area, covered with specified material, or otherwise positioned so they do not convey their message to the traveling public. If covered, the covering material shall be exterior plywood and shall cover the entire face of the sign panel. The covering material shall be installed in such a manner that the sign panel will not be defaced. Covering material shall be maintained in a neat and workmanlike manner during its use.
- F. Weeds, brush, trees, construction materials, equipment, etc., shall not be allowed to obscure any traffic control device in use.
- G. If cones are used for delineation at night, each cone shall have any appropriate white reflectorized cone collar as detailed on the Drawings, or as directed by the Engineer.
- H. Competent and properly trained flaggers, properly attired and equipped, shall be provided as shown on the Drawings, when directed by the Engineer, or when the Contractor deems it necessary to safely handle traffic through the construction area.

- I. The Contractor shall assume full responsibility for the continuous and expeditious maintenance of all construction warning signs, barricades, and other traffic control devices. Maintenance shall include repair and replacement of traffic control devices which, in the opinion of the Engineer, are damaged by traffic or other means, or deteriorated beyond effectiveness. Conditions covered under maintenance shall include but not be limited to replacement due to loss of reflectivity; replacement of broken supports; plumbing of leaning signs; cleaning of dirty signs, barricades, and other devices; repair of defaced sheeting and legend; and replacement of stolen or vandalized items. All items used for traffic control shall be maintained in a satisfactory condition. Failure to maintain all traffic control devices in a satisfactory condition may be cause for suspension of construction operations until proper traffic control is re-established.
- J. The Contractor shall continuously review and maintain all traffic handling measures to assure that adequate provisions have been made for the safety of the public and workers.

2.02 STATIONARY CONSTRUCTION SIGNS

- A. Description - The work covered by this Section consists of furnishing, erecting, relocating, maintaining, and removing stationary signs necessary for controlling traffic.
- B. Materials - Reflective sheeting shall be used on all sign facing and shall meet the requirements of AASHTO M268. The reflective sheeting shall be enclosed lens (Engineers grade) sheeting and shall have a smooth, sealed outer surface which will display the same color both day and night. The reflective sheeting on each sign shall have a smooth appearance. The reflective sheeting shall be applied in a workmanlike manner so that there are no bubbles or wrinkles in the material.
 - 1. The Contractor shall furnish a material certification in accordance with GDOT Standard Specifications for all new and used reflective sheeting as required by the Engineer.
- C. Construction Methods - All work shall be in accordance with requirements of Section 2.01.

2.03 TYPE III BARRICADES

- A. Description - The work covered by this Section consists of furnishing, erecting, maintaining, and removing Type III Barricades.
- B. Construction Methods - All work shall be in accordance with requirements of Section 2.01.

2.04 PORTABLE TEMPORARY TRAFFIC CONTROL DEVICES

- A. Description - The work covered by this Section consists of furnishing erecting, relocating, maintaining, and removing portable temporary traffic control devices necessary for controlling traffic. Portable temporary traffic control devices shall include but not be

limited to portable signs, non-metallic drums, barricades, cones, delineators, flaggers, pilot vehicles, and any other traffic control device not covered by any other Sections included in this Contract.

- B. Portable Signs - Reflective sheeting shall be used on all sign facing and shall meet the requirement of AASHTO M268. The reflective sheeting shall be enclosed lens (Engineers grade) sheeting and shall have a smooth, sealed outer surface which will display the same color both day and night. The reflective sheeting on each sign shall have a smooth appearance. The reflective sheeting shall be applied in a workmanlike manner so that there are no bubbles or wrinkles in the material.
1. The Contractor shall furnish a material certification in accordance with GDOT Standard Specifications for all new and used reflective sheeting as required by the Engineer.
- C. Non-Metallic Drums - The drums shall be made of plastic impact resistant material. The drums shall have a two-piece, breakaway design that will maintain its integrity upon impact throughout a temperature range of -20°F to 125°F . Upon impact the upper portion of the drum shall deform and breakaway from the base, minimizing damage to drums or vehicles. The base and ballast shall remain in position and vehicle shall easily pass over it.
1. The drums shall be designed to have two TYPE "A" or "C" light wells located on the top surface of the drums. The drums shall be designed with a top to completely seal the drums to prevent water from accumulating and freezing in the bottom of the drums. The base shall be designed to accommodate a sandbag of 40 lbs. to 60 lbs. A sandbag with 50 lbs. of sand shall be supplied with each drum.
 2. The drums shall have an assembled minimum height of 36", a minimum outside base diameter of 21", and a combined minimum weight of 12 lbs.
 3. The Contractor shall be required to furnish the Engineer a sample drum and its specifications for approval prior to the delivery of drums of the project.
 4. The markings on drums shall be horizontal, circumferential, orange and white stripes six to eight inches wide, covering entire outside. The entire area of orange and white shall be reflectorized with the enclosed lens (Engineers grade) sheeting, except for the corrugation area where a 2" non-reflectorized band will be allowed. There shall be at least two orange and two white stripes on each drum. Reflectorized material shall have a smooth, sealed outer surface which will display the same approximate color day and night. The reflective sheeting shall meet the requirement of AASHTO M268.
- D. Construction Methods - All work shall be in accordance with the requirements of Section 2.01.

2.05 FLASHING ARROW PANELS

- A. Description - The work covered by this Section consists of furnishing, maintaining, moving, and relocating flashing arrow panels mounted on a trailer, truck, or other mobile unit, as shown on the Contract Drawings.
- B. Materials - The flashing arrow panels shall meet the requirements of the MUTCD (Section 6E) for a Type A panel.
- C. Construction Methods - All work shall be in accordance with the requirements of Section 2.01.
- D. During periods of times that traffic is shifted from its normal pattern, a mobile flashing arrow panel shall be used at locations shown on the Drawings or at locations directed by the Engineer.

PART 3 – PAYMENT

All work required by this Section shall be paid under Lump Sum Item 1.1 General Conditions.

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SECTION 01 57 00
TEMPORARY CONTROLS

PART 1 – GENERAL

1.01 SUMMARY

- A. Contractor shall provide and maintain methods, equipment, and temporary construction as required to control environmental conditions at the Site and adjacent areas. These include the installation/maintenance of two temporary truck and tire wash facilities as shown in the Contract Documents.
- B. Maintain controls until no longer required.
- C. Temporary controls include, but are not limited to, the following:
 - 1. Dust control.
 - 2. Noise controls.
 - 3. Pollution controls.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 DUST CONTROL

- A. Contractor shall take measures to control dust from Contractor's operations and prevent spillage of excavated materials on public and facility roads.
- B. Contractor shall remove spillage of excavated materials, debris and dust from public and facility roads by methods approved by Engineer.
- C. Contractor shall refer to applicable sections of local and state/commonwealth regulations on dust control for additional guidance.
 - 1. Contractor shall apply water at locations, quantities, and frequencies required by Engineer to control dust for nuisance prevention to Owner, Engineer, and properties in the vicinity of the Site.
 - 2. Dust control and cleaning measures shall be provided at no additional cost to the Owner.

3.02 NOISE CONTROL

- A. Contractor's vehicles and equipment shall minimize noise emissions to greatest degree practicable. Provide mufflers, silencers, and sound barriers when necessary.
- B. Noise levels shall comply with Laws and Regulations, including OSHA requirements and local ordinances.
- C. Noise emissions shall not interfere with the work of Owner or others.

3.03 POLLUTION CONTROL

- A. General:
 - 1. Provide means, methods, and facilities required to prevent contamination of soil, water, and atmosphere caused by discharge of noxious substances from construction operations.
 - 2. Equipment used during construction shall comply with Laws and Regulations.
- B. Spills and Contamination:
 - 1. Provide equipment and personnel to perform emergency measures required to contain spills and to remove contaminated soils and liquids.
 - 2. Excavate contaminated material and properly dispose of off-site and replace with suitable compacted fill and topsoil.
- C. Protection of Surface Waters: Implement special measures to prevent harmful substances from entering surface waters. Prevent disposal of wastes, effluents, chemicals, and other such substances in or adjacent to surface waters and open drainage routes, in sanitary sewers, or in storm sewers.
- D. Atmospheric Pollutants:
 - 1. Provide systems for controlling atmospheric pollutants related to the Work.
 - 2. Prevent toxic concentrations of chemicals and vapors.
 - 3. Prevent harmful dispersal of pollutants into atmosphere.
- E. Solid Waste:
 - 1. Provide systems for controlling and managing solid waste related to the Work.
 - 2. Prevent solid waste from becoming airborne, and from discharging to surface waters and drainage routes.
 - 3. Properly handle and dispose of solid waste.

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SECTION 01 61 00
PRODUCT REQUIREMENTS AND OPTIONS

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes:
1. Common requirements for products.
 2. Contractor's options for selecting products.
 3. Requirements for consideration of "or equal" products.
 4. Warranty requirements of products.

1.02 REFERENCES

- A. Definitions: "Products" includes materials, equipment, machinery, components, fixtures, systems, and other goods incorporated in the Work. Products do not include machinery and equipment used for preparing, fabricating, conveying, erecting, or installing the Work. Products include Owner-furnished goods incorporated in the Work where use of such goods is specifically required in the Contract Documents.

1.03 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 Georgia State Minimum Standard Building Code, Occupational Safety and Health Administration (OSHA) and local ordinances.

1.04 ENVIRONMENTAL REQUIREMENTS

- A. Altitude: Provide materials and equipment suitable for installation and operation under rated conditions at 900 feet above sea level.
- B. Provide equipment and devices installed outdoors capable of continuous operation within an ambient temperature range of 10 degrees F to 100 degrees F.

1.05 REQUIREMENT

- A. Common Products:
1. Provide products that have not been previously incorporated into another project or facility unless otherwise indicated in the Contract Documents.

2. To the extent possible, provide products of the same generic kind from a single source.
3. Provide products complete with accessories, trim, finish, fasteners, and other items shown, indicated, or required for a complete installation for the indicated use and performance.
4. Standard Products: When available, and unless custom or nonstandard options are specified or indicated, provide standard products of types that have been produced and used successfully in similar situations on other projects.
5. Visual Matching: Where required in the Contract Documents, provide products that match referenced existing construction, approved mock-ups, or approved Sample, as determined by Engineer.
6. Where the Contract Documents include the phrase “as selected” for product color, finish pattern, option, or similar phrase, provide products selected by Engineer as follows:
 - a. Standard Range: Where the Contract Documents include the phrase “standard range of colors, patterns, textures” or similar phrase, provide color, pattern, density, or texture selected by Engineer from manufacturer’s product line that does not include premium items.
 - b. Full Range: Where the Contract Documents include the phrase “full range of colors, patterns, textures” or similar phrase, Engineer will select color, pattern, density, or texture from manufacturer’s entire product line, including standard and premium items.

B. Product Compatibility:

1. Similar products by the same Supplier shall be compatible with each other, unless otherwise indicated in the Contract Documents or approved by Engineer.
2. Provide products compatible with products previously selected or installed on the Project.

C. Product Options:

1. For products specified only by reference standard or description, without reference to Supplier, provide products meeting that standard, by a Supplier or from a source that complies with the Contract Documents.
2. For products specified by naming one or more products or Suppliers, provide the named products that comply with the Contract Documents, unless an “or equal” or substitute product is approved by Engineer.

3. For products specified by naming one or more products or Suppliers and the term, “or equal”, when Contractor proposes a product or Supplier as an “or equal”, submit to Engineer a request for approval of an “or equal” product or Supplier.
4. For products specified by naming only one product or manufacturer and followed by words indicating that no substitution is allowed, there is no option and no substitution will be allowed. Refer to Section 01 25 00 Substitution Procedures.

D. “Or Equal” Products:

1. For proposed products not named in the Contract Documents and considered as an “or equal” as defined in the General Conditions, Contractor shall request in writing Engineer’s approval of the “or equal”. Request for approval of an “or equal” product shall accompany the Shop Drawing or product data submittal for the proposed product and shall include:
 - a. Contractor’s request that the proposed product be considered as an “or equal” in accordance with the General Conditions, accompanied by Contractor’s certifications required in the General Conditions.
 - b. Documentation adequate to show that proposed product does not require extensive revisions to the Contract Documents, that proposed product is consistent with the Contract Documents, and that proposed product will produce results and performance required in the Contract Documents, and that proposed product is compatible with other portions of the Work.
 - c. Detailed comparison of significant qualities of proposed product with the products and manufacturers named in the Contract Documents. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements shown or indicated.
 - d. Evidence that proposed product manufacturer will furnish warranty equal to or better than specified, if any.
 - e. List of similar installations for completed projects with project names and addresses, and names and address of design professionals and owners, if requested.
 - f. Samples, if requested.
 - g. Other information requested by Engineer.

E. Replacements

1. In the event of damage, immediately make all repairs and replacements necessary for the approval of the Engineer and at no additional cost to the Owner.

2. Stainless steel piping and materials shall be protected from contact with dissimilar metals, especially carbon steels. Contaminated, impregnated, or otherwise damaged stainless steel shall be replaced at no cost to the Owner. Determination of replacement shall be at the sole discretion of the Owner or Owner's representative.

F. Manufacturer's Certificate of Compliance

1. 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.
2. Engineer may permit use of certain materials or assemblies prior to sampling and testing if accompanied by accepted certification of compliance.
3. Such form shall certify proposed product, material, or service complies with that specified. Attach supporting reference data, affidavits, and certifications as appropriate.
4. May reflect recent or previous test results on material or product, if acceptable to Engineer.

1.06 WARRANTY

- A. Warranties specified for products shall be in addition to, and run concurrent with, Contractor's general warranty and guarantee and requirements for the required correction period. Disclaimers and limitations in specific product warranties do not limit Contractor's general warranty and guarantee.
1. Product manufacturer's warranty is preprinted written warranty published by product manufacturer and specifically endorsed by product manufacturer to Owner.
 2. Special warranty is written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by product manufacturer's warranty or to provide increased rights to Owner.
 3. Special warranty information, if any, will be located in the Specification Section for that product.
- B. Requirements for Special Warranties: Provide written special warranty document that contains appropriate terms and identification, ready for execution by product manufacturer and Owner. Submit draft warranty with submittals required for product.
1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed by product manufacturer and other parties as appropriate.

2. Specified Form: When specified forms are included in the Contract Documents, prepare written document, properly executed by product manufacturer and Owner, using appropriate form.
 3. Refer to Specifications for content and requirements for submitting special warranties.
- C. Submit product manufacturer's warranties and special warranties as submittals in accordance with Schedule of Submittals accepted by Engineer.
- D. Warranty periods will start at the substantial completion of each milestone area.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 01 65 00
PRODUCT DELIVERY REQUIREMENTS

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes:
1. General requirements for preparing for shipping, delivering, and handling materials and equipment.
 2. Contractor shall make all arrangements for transporting, delivering, and handling of materials and equipment required for prosecution and completion of the Work.

1.02 SUBMITTALS

- A. Refer to individual Specification Sections for submittal requirements relative to delivery and handling materials and equipment.

1.03 SHIPMENT REQUIREMENTS

- A. When practical, factory-assemble materials and equipment. Match mark or tag separate parts and assemblies to facilitate field assembly. Cover machined and unpainted parts that may be damaged by the elements with strippable, protective coating.
- B. Package materials and equipment to facilitate handling, and protect materials and equipment from damage during shipping, handling, and storage. Mark or tag outside of each package or crate to indicate the associated purchase order number, bill of lading number, contents by name, Owner's contract name and number, Contractor name, equipment number, and approximate weight. Include complete packing lists and bills of materials with each shipment.
- C. Protect materials and equipment from exposure to the elements and keep thoroughly dry and dust-free at all times. Protect painted surfaces against impact, abrasion, discoloration, and other damage. Lubricate bearings and other items requiring lubrication in accordance with manufacturer's instructions.
- D. Advance Notice of Shipments:
1. Keep Engineer informed of delivery of all materials and equipment to be incorporated in the Work.

E. Do not ship materials and equipment until:

1. Related Shop Drawings, Samples, and other submittals have been approved or accepted (as applicable) by Engineer, including, but not necessarily limited to, Submittals associated with the materials and equipment being delivered.
2. Manufacturer's instructions for handling, storing, and installing the associated materials and equipment have been submitted to and accepted by Engineer in accordance with the Specifications.
3. Results of source quality control testing (factory testing), when required by the Contract Documents for the associated materials or equipment, have been reviewed and accepted by Engineer.
4. Facilities required for handling materials and equipment in accordance with manufacturer's instructions are in place and available.
5. Required storage facilities have been provided.

1.04 DELIVERY REQUIREMENTS

A. Scheduling and Timing of Deliveries:

1. Arrange deliveries of materials and equipment in accordance with the accepted Progress Schedule and in ample time to facilitate inspection prior to installation.
2. Schedule deliveries to minimize space required for and duration of storage of materials and equipment at the Site or delivery location, as applicable.
3. Coordinate deliveries to avoid conflicting with the Work and conditions at Site, and to accommodate the following:
 - a. Work of other contractors and Owner.
 - b. Storage space limitations.
 - c. Availability of equipment and personnel for handling materials and equipment.
 - d. Owner's use of premises.
4. Deliver materials and equipment to the Site during regular working hours.
5. Deliver materials and equipment to avoid delaying the Work and the Project, including work of other contractors, as applicable. Deliver anchor system materials, including anchor bolts to be embedded in concrete or masonry, in ample time to avoid delaying the Work.

B. Deliveries:

1. Shipments shall be delivered with Contractor's name, Subcontractor's name (if applicable), Site name, Project name, and contract designation clearly marked.
2. Site may be listed as the "ship to" or "delivery" address; but Owner shall not be listed as recipient of shipment unless otherwise directed in writing by Engineer.
3. Provide Contractor's telephone number to shipper; do not provide Owner's telephone number.
4. Arrange for deliveries while Contractor's personnel are at the Site. Contractor shall receive and coordinate shipments upon delivery. Shipments delivered to the Site when Contractor is not present will be refused by Owner, and Contractor shall be responsible for the associated delays and additional costs, if incurred.

C. Containers and Marking:

1. Have materials and equipment delivered in manufacturer's original, unopened, labeled containers.
2. Clearly mark partial deliveries of component parts of materials and equipment to identify materials and equipment, to allow easy accumulation of parts, and to facilitate assembly.

D. Inspection of Deliveries:

1. Immediately upon delivery, Contractor shall inspect shipment to verify that:
 - a. Materials and equipment comply with the Contract Documents and approved or accepted (as applicable) submittals.
 - b. Quantities are correct.
 - c. Materials and equipment are undamaged.
 - d. Containers and packages are intact and labels are legible.
 - e. Materials and equipment are properly protected.
2. Promptly remove damaged materials and equipment from the Site and expedite delivery of new, undamaged materials and equipment, and remedy incomplete or lost materials and equipment to furnish materials and equipment in accordance with the Contract Documents, to avoid delaying progress of the Work.
3. Advise Engineer in writing when damaged, incomplete, or defective materials and equipment are delivered, and advise Engineer of the associated impact on the Progress Schedule.

E. Storage On-Site

1. Contractor to provide conditioned storage units for all Electrical and Controls hardware.

1.05 HANDLING REQUIREMENTS

- A. Provide equipment and personnel necessary to handle materials and equipment, including those furnished by Owner, by methods that prevent soiling or damaging materials and equipment and packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring, and otherwise damaging materials and equipment and surrounding surfaces.
- C. Handle materials and equipment by methods that prevent bending and overstressing.
- D. Lift heavy components only at designated lifting points.
- E. Handle materials and equipment in safe manner and as recommended by the manufacturer to prevent damage. Do not drop, roll, or skid materials and equipment off delivery vehicles or at other times during handling. Hand-carry or use suitable handling equipment.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 66 00
PRODUCT STORAGE AND PROTECTION REQUIREMENTS

PART 1 – GENERAL

1.01 SUMMARY

- A. General requirements of storing and protecting equipment and materials.

1.02 STORAGE

- A. Store and protect materials and equipment in accordance with manufacturer's recommendations and the Contract Documents.
- B. Contractor shall make all arrangements and provisions necessary for, and pay all costs for, storing materials and equipment. Construction equipment, and materials and equipment to be incorporated into the Work shall be placed to avoid injuring the Work and existing facilities and property, and so that free access is maintained at all times to all parts of the Work and to public utility installations in vicinity of the Work. Store materials and equipment neatly and compactly in locations that cause minimum inconvenience to Owner, other contractors, public travel, and owners, tenants, and occupants of adjoining property. Arrange storage in manner to allow easy access for inspection.
- C. Areas available at the Site for storing materials and equipment are shown or indicated in the Contract Documents, or as approved by Owner and Engineer.
- D. Store materials and equipment to become Owner's property to facilitate their inspection and ensure preservation of quality and fitness of the Work, including proper protection against damage by freezing, moisture, and high ambient temperatures. Store in indoor, climate-controlled storage areas all materials and equipment subject to damage by moisture, humidity, heat, cold, and other elements, unless otherwise acceptable to Owner.
- E. Where space or strip heaters are provided within the enclosure for motors, valve operators, motor starters, panels, instruments, or other electrical equipment, the Contractor shall make connections to these heaters from an appropriate power source and operate the heaters with temperature control as necessary until the equipment is installed and being operated according to its intended use.
- F. Contractor shall be fully responsible for loss or damage (including theft) to stored materials and equipment.
- G. Do not open manufacturer's containers until time of installation, unless recommended by the manufacturer or otherwise specified in the Contract Documents.

- H. Do not store materials or equipment in structures being constructed unless approved by Engineer in writing.
- I. Do not use lawns or other private property for storage without written permission of the owner or other person in possession or control of such premises.
- J. Contractor shall not store unnecessary equipment and materials at the Site and shall take care to prevent structures from being loaded with a weight that endanger its security and safety of persons.
- K. Stored equipment and materials shall not be placed within 10 feet of fire hydrants. Gutters, drainage channels and inlets shall be kept unobstructed at all times.

1.03 PROTECTION

- A. Contractor shall provide temporary storage containers/facilities, if required, to protect equipment and materials at the Site.
- B. Equipment to be incorporated into the Work shall be boxed, crated, or otherwise completely enclosed and protected during shipping, handling, and storage, in accordance with Section 01 65 00 – Product Delivery Requirements.
- C. Store all materials and equipment off the ground (or floor) on raised supports such as skids or pallets.
- D. Protect painted surfaces against impact, abrasion, discoloration, and other damage. Painted equipment surfaces that are damaged or marred shall be repainted in their entirety in accordance with equipment manufacturer and paint manufacturer requirements, to the satisfaction of Engineer.

1.04 SPECIFIC STORAGE REQUIREMENTS

- A. Uncovered:
 - 1. The following types of materials may be stored outdoors without cover on supports so there is no contact with the ground:
 - a. Piping, except polyvinyl chloride (PVC) or chlorinated PVC (CPVC) pipe.
- B. Covered:
 - 1. The following materials and equipment may be stored outdoors on supports and completely covered with covering impervious to water:
 - a. Grout and mortar materials.
 - b. Rough lumber.

- c. PVC and CPVC pipe.
 - 2. Tie down covers with rope, and slope covering to prevent accumulation of water.
- C. Fully Protected:
- 1. Store all material and equipment not named as uncovered or covered of this Section on supports in buildings or trailers that have concrete or wooden flooring, roof, and fully closed walls on all sides. Covering with plastic sheeting or similar material in space without floor, roof, and walls is not acceptable. Comply with the following:
 - a. Provide heated storage for materials and equipment that could be damaged by low temperatures or freezing.
 - b. Provide air-conditioned storage for materials and equipment that could be damaged by high temperatures (e.g. Electrical MCCs, PLCs, Remote I/O Panels)
 - c. Protect mechanical and electrical equipment from being contaminated by dust, dirt, and moisture.
 - d. Maintain humidity at levels recommended by manufacturers of electrical and electronic equipment.
- D. Maintenance of Storage: On scheduled basis, periodically inspect stored materials and equipment to ensure that:
- 1. Condition and status of storage facilities is adequate to provide required storage conditions.
 - 2. Required environmental conditions are maintained on continuing basis.
 - 3. Materials and equipment exposed to elements are not adversely affected.

1.05 RECORDS

- A. Keep up-to-date account of materials and equipment in storage to facilitate preparation of Applications for Payment, if the Contract Documents provide for payment for materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 71 23
FIELD ENGINEERING

PART 1 – GENERAL

1.01 SUMMARY

- A. Contractor shall provide field engineering and professional services of the types indicated for the Project, including:
1. Furnishing civil, structural, and other professional engineering services specified or required to execute Contractor's construction methods.
 2. Developing and making all detail surveys and measurements required for construction.
 3. Keeping a transit, theodolite, or total station (theodolite with electronic distance measurement device); leveling instrument; and related implements such as survey rods and other measurement devices, at the Site at all times, and having a skilled instrument person available when necessary for laying out the Work.
 4. Being solely responsible for all locations, dimensions and levels. No data other than Change Order, Work Change Directive, or Field Order shall justify departure from dimensions and levels required by the Contract Documents.
 5. Rectifying all Work improperly installed because of not maintaining, not protecting, or removing without authorization established reference points, stakes, marks, and monuments.
 6. Providing such facilities and assistance necessary for Engineer to check lines and grade points placed by Contractor.
- B. Related Sections:
1. Section 01 25 00 – Substitution Procedures
 2. Section 01 26 00 – Contract Modification Procedures
 3. Section 01 61 00 – Product Requirements and Options
 4. Section 01 78 39 – Project Record Documents

1.02 ADMINISTRATIVE REQUIREMENTS

- A. Departures from Contract Drawings:
1. Contract Drawings show the extent and arrangement of the Work.

2. Contractor shall notify Engineer of departures from the Drawings that the Contractor deems required for incorporation of the Work at the Site in accordance with Section 01 26 00 – Contract Modification Procedures.
3. Contractor shall provide field engineering services for equipment and materials that require modifications to existing structures, auxiliary equipment, piping, electrical controls that are not indicated for modifications in the Contract Documents.

B. Structural Design Criteria:

1. Structural design in the Contract Documents of facilities, structures, supports, roofs and floors are based on typical weights for equipment and materials and design criteria in the Contract Documents.
2. Contractor shall notify Engineer of equipment and materials to be considered as substitutions and “or equals” in accordance with Section 01 25 00 – Substitution Procedures and Section 01 61 00 – Product Requirements and Options.
3. Contractor shall provide services for incorporation of equipment and materials that exceed structural design criteria at no additional cost to Owner.

1.03 SERVICES AND RESPONSIBILITIES

A. Contractor’s Field Engineer:

1. Contractor shall employ and retain field engineer capable of performing field engineering tasks required, including:
 - a. Provide reports to Engineer on the Work.
 - b. Check formwork, reinforcing, inserts, structural steel, bolts, sleeves, piping and other equipment and materials for conformance with Contract Documents.
 - c. Maintain field office files and drawings, record documents, and coordination with Subcontractors.
 - d. Prepare layout and coordination drawings for construction operations.
 - e. Check and coordinate Work for conflicts, interferences, and discrepancies with notification to Engineer.
 - f. Cooperate with Engineer and Owner in observing the Work and field inspections.
 - g. Review and coordinate the Work with Shop Drawings and other submittals.

B. Contractor's Surveyor:

1. Contractor shall employ or retain the services, as needed, a surveyor with experience and capability of performing surveying and layout tasks required in the Contract Documents and as required for the Work. Surveyor's tasks include, but are not necessarily limited to, the following:
 - a. Providing required surveying equipment, including transit or theodolite, level, stakes, and surveying accessories.
 - b. Establishing required lines for constructing all facilities, structures, pipelines, and site improvements.
 - c. Preparing and maintaining professional-quality, accurate, well organized, legible notes of all measurements and calculations made while surveying and laying out the Work.
 - d. Complying with requirements of the Contract Documents relative to surveying and related work.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 SURVEYING

- A. Contractor shall establish baselines for location of equipment, materials and structures of the Work with bench marks adjacent to Work.
- B. Contractor shall provide detailed surveys necessary for the Work including, but not limited to, working points, lines and elevations.
- C. Specific surveying (not used)

3.02 CLOSEOUT ACTIVITES

- A. Contractor shall provide Project record documents for field engineering and surveying in accordance with Section 01 78 39 – Project Record Documents.

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SECTION 01 71 33
PROTECTION OF WORK AND PROPERTY

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes:
1. Protection of existing utilities and structures.
 2. Protection of installed equipment and materials.
 3. Protection during inclement weather.
 4. Reporting of accidents.
 5. Barricades, signs and warning signals.
- B. Contractor shall be responsible for taking all precautions, providing all programs, and taking all actions necessary to protect the Work and all public and private property and facilities from damage, as specified in the General Conditions, Supplementary Conditions, and this Section.
- C. To prevent damage, injury, impacting water production, or loss, Contractor's actions shall include the following:
1. Storing apparatus, materials, supplies, and equipment in an orderly, safe manner that does not unduly interfere with progress of the Work or work of other contractors or utility companies.
 2. Providing suitable storage facilities for equipment and materials subject to damage or degradation by exposure to weather, theft, breakage, or other cause.
 3. Placing upon the Work or any part thereof only loads consistent with the safety and integrity of that portion of the Work and existing construction.
 4. Frequently removing and disposing of refuse, rubbish, scrap materials, and debris caused by Contractor's operations so that, at all times, the Site is safe, orderly, and workmanlike in appearance.
- D. Contractor has full responsibility for preserving public and private property and facilities on and adjacent to the Site. Direct or indirect damage done by, or on account of, any act, omission, neglect, or misconduct by Contractor in executing the Work, shall be restored by Contractor, at his expense to condition equal to that existing before damage was done.

- E. Contractor shall comply with safety regulations required by Owner or authorities having jurisdiction. Contractor shall comply with and correct unsafe conditions created or caused by Contractor's personnel. In the event Contractor fails to comply, Owner receives the right to take necessary measures to correct conditions or practices for reimbursement by Contractor.

1.02 REFERENCES

A. Definitions:

1. "Existing utilities" shall refer to both publicly-owned and privately-owned utilities such as, but are not limited to, electric power and lighting, telephone, water, gas, storm drains, process lines, sanitary sewers, control systems and all appurtenant structures.
2. "Surface structures" are existing buildings, structures, and other facilities at or above ground surface, including their foundations or any extension below ground surface. Surface structures include, but are not limited to, buildings, tanks, walls, channels, open drainage, exposed piping and utilities, poles, exposed wires, posts, signs, markers, curbs, walks, fencing, and other facilities visible at or above ground surface.

1.03 SITE CONDITIONS

A. Location of Existing Utilities and Structures:

1. Contractor shall confirm and verify location of existing utilities by Level A Subsurface Utility Engineering (SUE) and structures at the Site prior to commencing the Work.
2. Contractor shall notify and obtain approval from authority having jurisdiction prior to performing the Work in the vicinity of the existing utilities and structures.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 PROTECTION OF EXISTING UTILITIES AND STRUCTURES

A. General:

1. Contractor shall satisfy Engineer that methods and procedures for protection have been approved by authorities having jurisdiction prior to proceeding with the Work.
2. Contractor shall provide temporary support and protection, as required, to existing utilities and structures during the Work, including excavation.

- a. Temporary support and protection of existing utilities shall be provided in accordance with requirements of the authority having jurisdiction.
 - b. Temporary support and protection of existing structures shall be provided as directed by the Engineer.
3. Contractor shall be responsible for costs incurred for temporary support or protection provided by a third-party or authority having jurisdiction to ensure safety of the existing utility, Owner, and public and private parties.

B. Existing Buried Utilities:

1. Contractor shall perform field investigate to identify conflicts or interferences between existing utilities and utility Work prior to excavation Work.
 - a. Investigation of conflicts and interferences shall be performed on Site locations, elevations, slopes, etc. of the existing utilities determined during the field investigations.
 - b. Contractor shall notify Engineer and Owner in writing of identified conflicts or interferences. Contractor shall not proceed with the Work until written authorization is provided by the Engineer.
 - c. Identified conflicts and interferences shall be handled in accordance with the Contract Documents. If required, potential modification to the Contract Documents shall be performed in accordance with Section 01 26 00 – Contract Modification Procedures.
2. Contractor shall perform the Work to prevent disruption of existing service, water production and damage to existing utilities.
 - a. Temporary connections shall be provided, as required, to provide un-interrupted service of existing utilities.
 - b. Contractor shall repair damage to existing utilities as directed by the Engineer or the authority having jurisdiction at Contractor's own expense.
 - c. Contractor shall be responsible for damages and repair costs to the authority having jurisdiction if third-party or authority having jurisdiction personnel repair damaged existing utilities.

C. Protection of Existing Structures:

1. Contractor shall sustain existing surface structures in existing place and protect from direct or indirect injury located within or adjacent to the limits of the Work. Such sustaining and supporting shall be done carefully and as required by the party owning or controlling such structure or facility.

2. Contractor shall bear all risks attending the presence or proximity of all surface structures within or adjacent to limits of the Work, in accordance with the Contract Documents.
 3. Contractor shall be responsible for damage and expense for direct or indirect injury caused by his Work to structures and facilities.
 4. Contractor shall repair immediately damage caused by his Work, to the satisfaction of owner of damaged structure or facility at no cost to the Owner.
 5. Contractor shall provide temporary weather protection for existing structures and buildings where exterior walls or roofs are modified or disturbed in the Work. Contractor shall be responsible for damages due to inadequate protection of existing structures and building.
- D. Relocation of Surface Structures: Existing surface facilities, including but not limited to guard rails, posts, guard cables, signs, poles, markers, curbs, and fencing, that are temporarily removed to facilitate the Work shall be replaced and restored to their original condition at Contractor's expense.

3.02 PROTECTION OF INSTALLED EQUIPMENT AND MATERIALS

- A. Contractor shall protect installed equipment and materials equipment to prevent damage, injury or loss from subsequent operations. Remove protection facilities when no longer needed prior to completion of the Work.
- B. Control traffic to prevent damage to equipment, materials, and surfaces.
- C. Coverings: Provide coverings to protect materials and equipment from damage.

3.03 PROTECTION DURING INCLEMENT WEATHER

- A. Contractor shall not perform Work during inclement or unsuitable weather that will affect the quality of the completed Work.
- B. Contractor shall take necessary precautions in the event of impending inclement weather to protect equipment, materials and Work from damage or deterioration due to floods, driving rain, wind, ice storms or snow storms.
 1. Owner reserves the right to require additional protection measures beyond Contractor's proposed protection measures to protect the Work.
 2. Contractor shall not claim additional compensation for additional protection measures required by Owner nor for damages to equipment, material, or Work due to the inclement weather.
- C. When directed by Engineer, Contractor shall stop Work and protect new Work by protective covering during rain storms for, but not limited to, the following:

1. Concrete mixing and placement.
2. Paving placement.
3. Masonry installation.
4. Buried piping, valve and appurtenance installation.
5. Ductbank installation.
6. Additional inclement weather requirements and limitations are specified in individual Specification Sections.

3.04 REPORTING OF ACCIDENTS

- A. Contractor shall immediately report, in writing, to Engineer and Owner accidents out of, or in conjunction with, the performance of Work.
 1. Accident reporting includes on Site and adjacent to Site, which cause death, personal injury, or property damage.
 2. Written report shall provide full details and witness statements.
 3. If claim is made against Contractor, Supplier, or Subcontractor due to accident, Contractor shall promptly report facts, in writing, to Engineer and Owner, with full account of the claim.
- B. Contractor shall immediately report death, serious injury, or serious damage caused by telephone or messenger to Engineer and Owner.

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SECTION 01 73 00
EXECUTION OF WORK

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Contractor shall provide labor, materials, tools, equipment, and incidentals shown, specified, and required for execution of the Work as specified in this Section, including the following:
 - a. Demolition
 - b. Cutting and Coring
 - c. Patching
 - d. Installation
2. Requirements for demolition, removal and disposal of existing buildings, structures, pavement, curbs, and sidewalks and electrical, controls, plumbing, heating and ventilation equipment and materials as indicated in the Contract Documents for demolition.
3. General requirements for installation of equipment and material. Additional installation requirements are included in the individual Specification Sections.
4. General requirements for connections to existing facilities. Requirements for tie-ins and shutdowns necessary to complete the Work are included in Section 01 14 00 – Coordination with Owner’s Operations.
 - a. To extent possible, materials, equipment, systems, piping, and appurtenances that will be placed into service upon completion of connection to existing facilities shall be checked, successfully tested, and in condition for operation prior to making connections to existing facilities, if valves, gates, or similar watertight and gastight isolation devices are not provided at the connection point.
5. Requirements for cutting and coring, and rough and finish patching of holes and openings in existing construction. Provide cutting, coring, fitting and patching, including attendant excavation and fill, required to complete the Work, and to:
 - a. Remove and replace defective Work;

- b. Remove samples of installed Work as specified or required for testing;
- c. Remove construction required to perform required alterations or additions to existing work;
- d. Connect to completed Work not performed in proper sequence;
- e. Remove or relocate existing utilities and pipes that obstruct the Work in locations where connections must be made;
- f. Make connections or alterations to existing or new facilities.

B. Related Sections:

1. Section 01 14 00 – Coordination with Owner’s Operations
2. Section 01 51 00 – Temporary Utilities
3. Section 01 57 00 – Temporary Controls
4. Section 01 61 00 – Product Requirements and Options
5. Section 01 66 00 – Product Storage and Protection Requirements
6. Section 01 79 00 – Instruction of Owner’s Personnel
7. Section 02 41 16 – Demolition and Removal of Existing Structures and Equipment

1.02 REFERENCES

A. Definitions:

1. “Manufacturer’s installation instructions” includes manufacturer’s and System Integrator’s written instructions; drawings; illustrative, wiring and schematic diagrams; diagrams identifying external connections; and other such information pertaining to installation of equipment and materials. Installation instructions are printed instructions, including those attached to the equipment and materials, all inclusive.
2. “Salvage” items are equipment and materials shown on the Contract Documents for selective removal by the Contractor to furnish to the Owner. Contractor shall be responsible for removal, handling, and depositing of equipment and material to location designated by Owner.

B. Reference Standards:

1. 29 CFR 1910, OSHA.
2. ANSI A10.2, Safety Code for Building Construction

1.03 ADMINSTRATIVE REQUIREMENTS

A. Coordination:

1. Review installation procedures under other Sections and coordinate Work that must be performed with or before the Work specified in this Section.
2. Notify other contractors in advance of Work for connections to existing facilities to prevent delay of the Work.
3. Contractor shall remove and dispose of equipment and materials indicated for demolition on the Contract Documents, unless indicated as salvage items for the Owner. Contractor shall obtain ownership of removed equipment and materials following Engineer and Owner approval. Disposal of equipment and materials shall be in accordance with the Contract Documents

B. Sequencing:

1. Contractor shall remove and demolish equipment and materials in sequence specified in Section 01 14 00 – Coordination with Owner's Operation and following approval by Engineer and Owner.
2. Contractor shall replace equipment and materials removed without proper authorization from Engineer, which are necessary for the operation of the existing facilities. Re-installation of equipment and materials shall be to the satisfaction of the Engineer at no cost to the Owner

C. Title to Equipment and Materials:

1. Equipment and materials indicated for demolition and removal in the Contract Documents, and not designated as Owner's salvaged items, shall become the Contractor's property following removal from the Site. Contractor shall be responsible for legally disposing of the equipment and material.
2. Contractor shall have no right or title to any of the equipment, materials or other items to be removed until the elements have been removed from the Site.
3. Contractor shall not sell or assign or attempt to sell or assign any interest in the equipment, materials or other items until removal from Site.
4. Contractor shall have no claim against the Owner because of the absence of equipment, fixtures and materials.

D. Salvage Equipment and Materials:

1. Contract Documents indicate equipment and materials that shall be retained by Owner. Owner has the right to request any demolished equipment and materials be retained at their discretion.

2. Contractor shall move salvaged equipment and materials to storage areas located at the Site as instructed by Owner.
 3. Architectural equipment and materials may be salvaged for incorporation into the Work when approved by Engineer.
- E. Use of Explosives: Contractor shall not use explosives or blasting equipment and material in the Work in accordance with the Contract Documents.

1.04 SUBMITTALS

A. Action/Informational Submittals:

1. Demolition Plan: Submit detailed description of methods, equipment, and sequence for demolition Work.
2. Cutting and Patching Request:
 - a. Submit written request to Engineer, well in advance of executing cutting or alteration that affects one or more of the following:
 - 1) Design function or intent of Project.
 - 2) Work of Owner or other contractors.
 - 3) Structural value or integrity of an element of the Project.
 - 4) Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
 - 5) Efficiency, operational life, maintenance, or safety of operational elements.
 - 6) Visual qualities of sight-exposed elements.
 - b. Request shall include:
 - 1) Identification of Project and contract name and number.
 - 2) Description of affected Work of Contractor and work of others (if any).
 - 3) Necessity for cutting.
 - 4) Effect on work of Owner, other contractors (if any), and on structural or weatherproof integrity of Project.
 - 5) Description of proposed Work, describing: scope of cutting and patching; trades who will be executing the Work; products proposed to

be used; extent of refinishing; schedule of operations; alternatives to cutting and patching, if any.

- 6) Designation of entity responsible for cost of cutting and patching, when applicable.
 - 7) Written permission of other contractors (if any) whose work will be impacted.
3. Recommendation Regarding Cutting and Patching:
- a. Should conditions of work, or schedule, indicate a change of materials or methods, submit written recommendation to Engineer including:
 - 1) Conditions indicating change.
 - 2) Recommendations for alternative materials or methods.
 - 3) Items required with substitution request, in accordance with the substitution request requirements of the Contract Documents and Section 01 61 00 – Product Requirements and Options.
 4. Product Data: Submit manufacturer's product data for the protective compound to be applied to core-drilled surfaces and cut concrete surfaces.
 5. Informational Submittal: Submit written indication designating the day and time that the construction associated with cutting and patching will be uncovered, to provide for observation. Do not begin cutting or patching operations until submittal is accepted by Engineer.
 6. Comply with submittal requirements of individual Specification Sections for patching materials.

1.05 SITE CONDITIONS

- A. Owner does not assume responsibility for the actual condition of structures and equipment to be demolished and removed.
- B. Existing Site conditions shall be maintained to the greatest extent possible by the Owner to the time of Notice to Proceed.
- C. Contractor shall perform investigations, explorations and probes as necessary at the Site prior to initiating demolition Work to ascertain any required protective measures before proceeding with demolition and removal. Contractor shall give particular attention to shoring and bracing requirements to prevent damage to the Work and existing structures.

- D. Contractor shall verify measurements, dimensions and other conditions of each existing structure, system, equipment and material indicated in the Contract Documents for new Work prior to ordering equipment and materials.

PART 2 – PRODUCTS

2.01 MATERIALS

A. General:

1. Provide materials and products in accordance with the individual Specification Sections and the Contract Documents.
2. Provide materials and products that visually match existing adjacent surfaces to fullest extent possible for exposed surfaces.
3. If not indicated in the Contract Documents, provide materials and products that are identical to existing materials and products affected by the Work.
4. If identical materials and products are unavailable, provide materials and products that shall equal or exceed performance requirements of existing materials and products.

B. Compound Applied to Core-Drilled Surfaces and Cut Concrete Surfaces:

1. Product and Manufacturer: Provide one of the following:
 - a. Sikagard 62, by Sika Corporation.
 - b. Or equal.

PART 3 – EXECUTION

3.01 DEMOLITION

A. General:

1. Demolition Work shall comply with the applicable provisions and recommendation of ANSI A10.2, Safety Code for Building Construction, all governing codes, and as specified in this Section.
2. Contractor shall furnish competent and experienced personnel for the various type of demolition and removal Work. Demolition and removal Work shall be performed with regard to the safety of Owner employees, individuals at the Site, and the public.

3. Contractor shall remove temporary work, such as enclosures, signs, guards, etc. when such temporary Work is no longer required or when directed at the completion of the Work.
4. Contractor shall perform patching, restoration and Work in accordance with individual Specification Sections and details shown on Contract drawings.
5. Contractor shall be responsible for damage caused by demolition Work to existing structures, equipment and materials indicated for reuse or to remain at no additional cost to Owner.
6. Contractor shall maintain a clean working environment during the demolition Work in accordance with Section 01 74 00 – Cleaning and Waste Management.

B. Protection during Demolition:

1. Contractor shall provide, erect, and maintain catch platforms, lights, barriers, weather protection, warning signs and other items as required for proper protection of the public, occupants of the building, personnel engaged in demolition Work, and adjacent construction.
2. Contractor shall provide and maintain weather protection at exterior openings so as to fully protect the interior premises against damage from the elements until such openings are closed by the Work.
3. Contractor shall provide and maintain temporary protection of the existing structure designated to remain where demolition, removal and Work is being done, connections made, materials handled or equipment moved. Temporary protection shall be provided in accordance with Section 01 71 33 – Protection of Work and Property.
4. Contractor shall take necessary precautions to prevent dust from rising by wetting demolished masonry, concrete, plaster and similar debris. Unaltered portions of the existing buildings affected by the operations in the Contract Documents shall be protected by dust proof partitions and other adequate means. Dust control shall be provided in accordance with Section 01 57 00 – Temporary Controls.
5. Contractor shall provide adequate fire protection in accordance with Section 01 51 00 – Temporary Utilities and authorities having jurisdiction.
6. Contractor shall perform the demolition Work with minimum traffic interference. Contractor shall not close or obstruct walkways, passageways, or stairways. Contractor shall not store or place materials in passageways, stairs or other means of egress.

7. Contractor shall minimize disturbances to exterior walls and roofs to small sections that are readily repaired and patched to maintain watertight conditions in existing structures and buildings.

C. Performance of Demolition:

1. Equipment, Electrical, Controls, piping, valves and appurtenances:
 - a. Contractor shall drain equipment, piping, valves, and appurtenances prior to demolition Work. Contractor shall be responsible for collection, transport, and disposal of drained contents at no additional cost to the Owner.
 - b. Contractor shall provide line stops, plugs, blind flanges, etc. for equipment, piping, valves and appurtenance required to remain in service during the Project. Contractor shall provide temporary or permanent supports in accordance with the Contract Documents.
 - c. Contractor shall provide any temporary or permanent electrical and/ or control items prior to any demolition.
 - d. Supports, pedestals and anchors shall be removed with the equipment and piping unless otherwise noted in the Contract Documents.
 - e. Concrete bases, anchor bolts and other supports shall be removed to approximately 1 inch below the surrounding finished area and the recesses shall be patched to match the adjacent areas.
 - f. Wall and roof openings shall be closed, and damaged surfaces shall be patched to match the adjacent areas, in accordance with the Contract Documents and as directed by the Engineer.
 - g. Wall sleeves, wall pipes, and wall castings shall be plugged or blanked off in accordance with the Contract Documents and as directed by the Engineer.
 - h. Openings in concrete shall be closed in accordance with the Contract Documents and as directed by the Engineer.
2. Electrical components and equipment:
 - a. Contractor shall de-energize panelboards, lighting fixtures, switches, circuit breakers, electrical conduits, motors, limit switches, pressure switches, instrumentation such as flow, level and/or other meters, wiring, and similar electrical equipment prior to removal.
 - b. Contractor shall relocate or isolate electrical equipment and materials that serve equipment, piping, valves and appurtenance that are to remain in service during the Project. Relocation or isolation Work shall be sequenced

and scheduled in accordance with Section 01 14 00 – Coordination with Owner's Operations.

3. Reused and relocated equipment:
 - a. Contractor shall receive approval from Engineer prior to removal and relocation of equipment and material. Equipment and materials removed by Contractor prior to Engineer's approval that is required for Owner's operation of the facility shall be reinstalled at no cost to the Owner.
 - b. Prior to removal and relocation Work, equipment and materials indicated for reuse and relocation shall be operated by Owner with Contractor and Engineer present to witness existing functionality and operation.
 - c. Contractor shall provide personnel responsible for reinstallation of equipment and material for the removal Work.
 - d. Contractor shall be responsible and provide storage and protection of equipment and materials in accordance with Section 01 66 00 – Product Storage and Protection Requirements until relocation and reinstallation Work is performed.
 - e. Contractor shall provide replacement equipment and material that is damaged during the removal Work at new cost to the Owner. Contractor shall be responsible to provide same type, model, electrical components, etc. equipment and material as approved by Engineer and Owner.
4. Structural removal:
 - a. Contractor shall provide and install temporary shoring, struts, and bracing required for the demolition Work for structural materials.
 - b. Contractor shall cut and remove structural material at the interface of demolition Work and the existing structural element. Cutting and removal shall occur in small sections, including masonry units, to prevent instability of structural elements.
 - c. Contractor shall patch, repair, and refinish adjacent surfaces that remain following demolition Work.
 - 1) Adjacent surfaces shall be repaired and refinished to the condition prior to the demolition Work and in accordance with the Contract Documents.
 - 2) Adjacent surfaces shall be cleaned of dirt, grease, loose paint, etc., prior to refinishing.

- d. Contractor shall limit cutting of existing roof areas designated to remain to the limits required for the proper installation of the Work.
 - 1) Cut and remove insulation, joists, flashing, membranes, shingles, and metals, etc. in accordance with the Contract Documents and as directed by the Engineer for installation of the Work.
 - 2) Provide temporary weather tight protection as required until new roofing and flashings are installed.
- 5. Architectural repairs and removal Work, not specifically shown on the Drawings, may include, but not limited to, the following:
 - a. Brickwork: Re-pointing; removing and replacing broken, cracked, disintegrating and missing materials.
 - b. Windows: Removing cracked or disintegrating sealant material; replacing missing or broken glass; re-caulking and sealing frames; glazing sealants.
 - c. Re-finishing: Removing rust, sealing or peeling paint from surfaces by scraping, sanding or wire brushing; priming and repainting surfaces.
 - d. Roofing: Patching and repairing membrane or built-up roofing; metal flashing repair; correcting roof pitch to eliminate ponding; cleaning and/or replacing roof drains.
 - e. Masonry: Cutting and installing new expansion and control joints.
 - f. Parapets: Removing and construction of new walls and copings; clean and patching of copings; replacing copings where broken.
 - g. Concrete surfaces: Patching, cleaning, sealing and resurfacing floors, walls, lintels, sills and trim. Replace lintels where broken. Patching or replacing broken, spalled, cracked and disintegrating concrete encased steel columns and piers.
 - h. Openings: Cutting and modifying as required for new Work. Provide new lintels, doors and frames.
 - i. Doors: Patching and refinishing doors and frames.
 - j. Ceilings: Patching, refinishing and replacing.
 - k. Guards, handrails and appurtenances: Cleaning and repainting steel materials. Replacing steel material with new aluminum material.

- I. Demolished Exterior Openings: Remove window sash, frame, sill, stool and trim at exterior doors indicated for enclosure and sealing. Provide brick and/or masonry block for closure and sealing.

D. Maintenance during Demolition:

1. Contractor shall maintain the buildings, structures and public properties free from accumulations of waste, debris and rubbish, generated by the demolition Work.
2. Contractor shall provide cleaning and waste management of demolition equipment and materials in accordance with Section 01 74 00 – Cleaning and Waste Management.

3.02 CUTTING AND CORING

A. General:

1. Contractor shall notify Engineer in writing and receiving Engineer's approval prior to cutting load bearing walls (concrete or masonry) and structural concrete floors.
2. Perform cutting and coring to limit extent of patching required.
3. Structural Elements: Do not cut or core structural elements in manner that would change structural element's load-carrying capacity as load deflection ratio.
4. Operating Elements: Do not cut or core operating elements in manner that would reduce capacity to perform as intended. Do not cut or core operating elements or related components in manner that would increase maintenance requirements or decrease operational life or safety.
5. Replace, patch, and repair materials and surfaces cut or damaged during cutting and coring Work, Contractor shall use methods that do not void required or existing warranties.
6. Provide temporary or permanent bypass provisions prior to cutting existing pipe, conduit, ductwork, or other utilities serving facilities scheduled to be removed or relocated in accordance with the Contract Documents.
7. Inspection: Examine and prepare surfaces prior to commencing Work. Contractor shall report unsatisfactory or questionable conditions to Engineer in writing. Contractor shall not proceed with the Work until unsatisfactory conditions are corrected.
8. Preparation:
 - a. Provide temporary support required to maintain structural integrity, to protect adjacent Work from damage, and to support the element(s) to be cut or cored.

- b. Protection of Existing Construction During Cutting and Coring:
 - 1) Protect existing structures, equipment, and materials during cutting and coring to prevent damage.
 - 2) Provide protection from adverse weather conditions that will be exposed during cutting and coring Work.
 - 3) Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

- 9. Restoration:
 - a. Clean equipment, materials, piping systems, valves, conduit and appurtenances that were damaged due to the Work prior to applying paint or other finishing materials.
 - b. Restore damaged pipe coverings, including insulation, to original condition.

- B. Cutting:
 - 1. General:
 - a. Cut existing structures and appurtenances that provide surfaces for installation or repair of the Work. Cut existing construction using methods to minimize damage and disturbance to retained and adjoining construction elements.
 - b. Cutting equipment used shall be hand or small power tools suitable for sawing or grinding. Avoid using hammering or chopping equipment for cutting Work.
 - c. Cut holes and slots as small as possible and to size required for incorporation of the Work and in accordance with the Contract Documents.
 - d. Cut or drill from exposed or finished side to concealed side to avoid marring finished surfaces.
 - e. Provide adequate bracing of area to be cut prior to cutting.
 - f. Provide equipment and material to remove cut spoils.
 - g. Provide temporary protection for cut openings where and when Work is not being performed.

 - 2. Concrete and Masonry:

- a. Cut through concrete and masonry using concrete wall saw with diamond saw blades.
- b. Provide control for slurry generated during sawing on both sides of element being cut.
- c. After cutting concrete and before installing new Work on or through the opening, coat exposed concrete and steel with protective coating material specified in this Section. Apply protective coating in accordance with manufacturer's instructions.

C. Coring:

1. Core-drill holes through concrete and masonry walls, slabs, or arches, in accordance with the Contract Documents, unless written authorization is furnished by Engineer.
2. Protection: Protect existing structures, equipment, materials, utilities, and adjacent areas from water and other damage by core-drilling Work.
3. Coring:
 - a. Perform coring with non-impact rotary tool using diamond core-drills.
 - b. Size holes for pipe, conduit, sleeves, equipment or mechanical seals, as required, to be installed through the penetration and in accordance with the Contract Documents.
 - c. After core-drilling and before installing equipment and material through the penetration, coat exposed concrete and steel with protective coating material specified in this Section. Apply protective coating in accordance with manufacturer's instructions.
4. Cleaning: Vacuum or otherwise remove slurry and tailings from the work area following core-drilling.

3.03 PATCHING

A. General:

1. Construction shall be patched by filling, repairing, refinishing, closing-up, and similar methods at completion of the Work.
2. Provide equipment and materials in accordance with the Contract Documents for patching Work. Comply with manufacturer's installation instructions.

3. Provide airtight connections to pipes, sleeves, ducts, conduit, and other penetrations through surfaces when patching the Work. Provide durable patching seams that minimize visual appearance.
 4. Patched areas shall be tested to demonstrate integrity of installation as directed by the Engineer. Contractor shall provide testing equipment, material and services for patch testing.
- B. Restoration:
1. Restore exposed finishes of patched areas to minimize evidence of patching and refinishing.
 2. Contractor shall extend refinishing and restoration into adjoining areas to blend patched areas with existing adjacent areas.
 - a. Refinish to nearest intersection for continuous surfaces.
 - b. Refinish the entire assembly and system for equipment and materials.
 - c. Repair and rehang existing ceilings to provide an even-plane surface of uniform appearance.
 - d. Apply plaster and finishes to match adjacent interior walls and partition areas for openings sealed with brick and/or masonry block.

3.04 INSTALLATION

- A. Install equipment and materials in accordance with the Contract Documents, approved Shop Drawings, and manufacturer's installation instructions. When manufacturer's installation instructions conflict with the Contract Documents, obtain interpretation or clarification from Engineer before proceeding.
- B. Preparation of surfaces shall be performed prior to installation of equipment and material.
1. New floor finishes: Repair and patch with concrete, asphalt latex type emulsion and underlayment as required for existing surfaces or new flooring surface.
 2. Ceramic tile flooring or bases installed over concrete floors: Grind away cove, if present, for installation of new Work.
- C. Concrete surfaces shall achieve compression strength in accordance with the Contract Documents prior to installation of equipment and materials.
1. Anchor bolts and templates shall be provided by Contractor and as specified in the individual Specification Sections.

2. Concrete foundations shall be treated with sealer to prevent oil from seeping into concrete as specified in the individual Specification Sections.
- D. Maintain the work area in a broom-clean condition while installing materials and equipment.
- E. Contractor shall be responsible for equipment for hoisting, lifting, moving, rigging, etc. for installation of equipment and materials.
1. Contractor shall be responsible for design of temporary installation system used for the installation Work, unless otherwise indicated in the Contract Documents.
 2. Contractor shall be responsible for damage to existing structure, equipment, and material caused prior, during, and following installation of the Work with the Contractor furnished temporary installation system at no cost to Owner. Repairs shall be in accordance with the Contract Documents, shall return to condition prior to installation Work, and as directed by the Engineer.
 3. Owner's hoists, monorails, bridge cranes, rigging, etc. shall not be used by the Contractor unless written authorization is provided by Owner.
- F. Alteration or repair of new equipment and materials shall not be permitted without written authorization from Engineer.
- G. Field welding or burning of new equipment and materials shall not be permitted unless indicated in the Contract Documents or without written authorization from Engineer.
- H. Contractors shall install temporary shoring and bracing where necessary during installation of the Work where required:
1. System shall be provided in accordance with the Contract Documents and code requirements.
 2. Temporary system shall consist of adjustable sound timbers or rolled shapes easily removable following installation of the Work.
 3. Contractor shall be responsible for damage to existing structures and new Work during installation, utilization, and removal of the temporary system at new additional cost to the Owner.
- I. Manufacturer's Installation Services: Provide competent, qualified manufacturer's representatives of equipment and material for services specified in the individual Specification Sections, including, but not limited to:
1. Supervising installation
 2. Checking the completed installation

3. Adjusting and testing of equipment and materials
4. Instructing Owner's operations and maintenance in accordance with Section 01 79 00 – Instruction of Owner's Personnel.

END OF SECTION

SECTION 01 73 23
SEISMIC ANCHORAGE AND BRACING

PART 1 – GENERAL

1.01 THE REQUIREMENT

- A. Furnish all equipment, labor, materials, and services required to design and provide seismic restraint and bracing for all nonstructural architectural, mechanical, electrical, and plumbing components and their supports and attachments permanently attached to the primary structure in which the components are to be installed in accordance with the Contract Documents and the seismic restraint requirements of Chapter 13 in ASCE 7.
- B. Furnish mechanical, electrical, and plumbing equipment manufacturer certifications showing seismic compliance in accordance with Chapter 13 of ASCE 7 for equipment designated as an essential component or to remain operational following a seismic event.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 05 10 00 – Metal Materials
- B. Section 05 05 23 – Metal Fastening
- C. Section 05 13 00 – Stainless Steel
- D. Section 06 51 00 – Glass Fiber and Resin Fabrications
- E. Section 40 05 00 – Basic Mechanical Requirements
- F. Section 40 05 07 – Pipe Supports
- G. Section 26 05 00 – Basic Electrical Requirements
- H. Division 40 – Control and Information Systems
- I. Further requirements for seismic anchorage and bracing may be included in other Sections of the Specifications. See section for the specific item in question.

1.03 DEFINITIONS

- A. Nonstructural components: All architectural, mechanical, electrical or plumbing elements or systems and their supports or attachments provided under this contract which are permanently attached to the floors, roof, walls, columns and beams of newly constructed buildings, building additions, existing buildings or non-building structures.

1. Architectural nonstructural components include, but are not limited to, interior nonstructural walls and partitions, exterior wall panels and glazing elements, glass curtain walls, skylights, cabinets, suspended ceilings, fascias, and cladding.
 2. Mechanical nonstructural components include, but are not limited to, HVAC units, fans, water and wastewater treatment process equipment, instrumentation cabinets, piping and ductwork.
 3. Electrical nonstructural components include, but are not limited to, conduit systems, cable tray systems, boxes, transformers, panelboards, switchboards, switchgear, busway, individual motor controllers, motor control centers, variable frequency drives, automatic transfer switches, and lighting systems.
 4. Plumbing nonstructural components include, but are not limited to, sprinkler systems and associated piping, and sump pumps.
- B. Seismic Restraint: Attachments and supports, including braces, frames, legs, hangers, saddles, and struts which anchor and brace nonstructural components to minimize their displacement during an earthquake and transmit loads between non-structural components and their attachments to the structure or building.
- C. Attachment: Elements including anchor bolts, welded connections, and mechanical fasteners which secure non-structural components or supports to the structure.
- D. Hazardous: Toxic, flammable, explosive or corrosive materials in excess of building code mandated threshold quantities for non-hazardous condition.
- E. Essential Components: Nonstructural components considered necessary to public safety for which the importance factor I_p applies, including:
1. Life safety systems which must function following an earthquake, including but not limited to, sprinklers for fire protection, emergency lighting, egress corridors and stairways, and smoke purge systems.
 2. Components which contain, convey or support hazardous materials.
 3. Components which are within or attached to an Occupancy or Risk Category IV structure as defined in ASCE 7 Chapter 1.
 4. Process systems and elements designated below:
 - a. Water storage facilities and water pumping systems required to maintain water pressure used for fire suppression.

- F. Nonbuilding Structures: All self-supporting structures which are supported by an independent foundation or by other structures which include, but are not limited to, storage tanks, silos, exhaust stacks, storage racks, and towers.
- G. Delegated Design: Design of a structure or structural element(s) which has been deferred by the contract documents to be performed during the project construction stage, by a registered design professional retained by the contractor and with the design submitted as a shop drawing to the Engineer.

1.04 EXEMPTIONS

- A. The following nonstructural components are exempt from requiring seismic anchorage and bracing: (See paragraph 1.07.C herein for Seismic Design Category)
 - 1. All architectural, mechanical, electrical and plumbing nonstructural components in Seismic Design Category A.
 - 2. All mechanical, electrical and plumbing nonstructural components in Seismic Design Category B.
 - 3. All architectural nonstructural components in Seismic Design Category B provided $I_p = 1.0$, except parapets supported by bearing or shear walls.
 - 4. All mechanical, electrical and plumbing nonstructural components in Seismic Design Category C provided $I_p = 1.0$.
 - 5. All mechanical, electrical and plumbing nonstructural components in Seismic Design Category D, E or F provided all the following apply:
 - a. $I_p = 1.0$.
 - b. Components are positively attached to the structure without consideration of frictional resistance and have flexible connections between the components and associated ductwork, piping and conduit.
 - c. Either of the following:
 - 1) Component center of mass is 4 ft or less above a floor level and weighs 400 lbs. or less.
 - 2) Component weighs 20 lbs. or less or 5 plf or less for distribution systems.
 - 6. Other exemptions as allowed by the Specifications, Codes and Standards referenced herein.

1.05 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. Without limiting the generality of the Specifications, all work herein shall conform to or exceed the applicable requirements of the following documents. The building code shall be the version in effect at the time of Bid within the jurisdiction where the Work is located. All other referenced specifications, codes, and standards refer to the version as referenced by the building code. If no version is referenced by the building code, then the most current issue available at the time of Bid shall be used.

1. International Building Code
2. ASCE/SEI 7 Minimum Design Loads for Buildings and Other Structures
3. NFPA 13 Standard for Installation of Sprinkler Systems
4. FEMA 412 Installing Seismic Restraints for Mechanical Equipment
5. FEMA 413 Installing Seismic Restraints for Electrical Equipment
6. FEMA 414 Installing Seismic Restraints for Duct and Pipe
7. SMACNA Sheet Metal and Air Conditioning Contractors' National Association, Seismic Restraint Manual: Guidelines for Mechanical Systems
8. ACI 318 Building Code Requirements for Structural Concrete and Commentary
9. ACI 308 Qualifications of Post-Installed Mechanical Anchors in Concrete
10. ACI 308 Qualifications of Post-Installed Adhesive Anchors in Concrete

1.06 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00 – Submittal Procedures.

1. Seismic anchorage and bracing shop drawings for all architectural, mechanical, electrical, and plumbing nonstructural components, elements and systems not meeting any of the exemptions in paragraph 1.4 above and do not have a design for seismic anchorage and bracing provided within the contract documents. Submittals shall include the following:
 - a. Component manufacturer's cut sheets and fabrication details for equipment bases and foundations, including dimensions, structural member sizes, support point locations and equipment operational loads. Equipment anchorage details shall clearly indicate anchor size, pattern, embedment and edge distance requirements to satisfy operational and seismic forces. Details shall also indicate grout, bearing pads, isolators, etc. required for complete installation.

- b. Design calculations, signed and sealed by a Professional Engineer registered in the State or Commonwealth in which the project is located confirming the proposed seismic restraints and attachment will provide sufficient strength and stiffness to resist the design earthquake and limit damage to nonstructural components and the entire support is sufficient to resist the combined gravity and seismic loads. Separate calculation submittals for vertical and lateral load support systems shall not be allowed.
 - c. Detailed Shop Drawings, signed and sealed by a Professional Engineer registered in the State or Commonwealth in which the project is located, showing specific details of the support design including material, installation, attachments, connection hardware, etc., and the restraint layout and location of all hangers and supports (resisting both gravity and seismic loads), including restraint orientation and direction of force(s) to be resisted. Within each submittal, the Contractor shall include a cumulative set of hanger and support location drawings (one cumulative 'living drawing for each building structure) containing all proposed mechanical, electrical and plumbing support locations submitted to date showing the locations of all support attachments to the primary structure. Load magnitudes shall be indicated at attachments to the structure where the sum of the reaction loads on a single member exceeds 1000 pounds vertically or exceeds 500 pounds horizontally. Unless requested by the Engineer, load magnitudes need not be submitted for load values less than these stated values. Separate shop drawing submittals for vertical and lateral load support systems shall not be allowed.
 - d. For components required to be certified as seismically qualified in accordance with paragraph 1.06.A.2 below, submit installation guidelines provided by the equipment manufacturer for proper seismic mounting of the equipment.
2. For each mechanical, electrical and plumbing nonstructural components and systems furnished, including associated equipment appurtenances and attachments, designated as essential components in Seismic Design Categories C through F, provide Manufacturer's Certification signed and sealed by a registered Professional Engineer in the State or Commonwealth in which the project is located to show the component is seismically qualified in accordance with the Specifications, Codes, and Standards requirements referenced herein. The following requirements shall be met:
 - a. Seismic qualification shall be substantiated either by approved shake table testing or experience data, with the evidence of such qualification testing or experience data submitted to the Engineer along with the manufacturer's statement certifying the equipment shall remain operable following the design seismic event.

- b. Components with hazardous contents shall also be certified by the manufacturer to maintain containment following the design seismic event based on analysis, approved shake table testing, or experience data. Evidence demonstrating compliance shall be submitted to the Engineer.
 - c. Seismic qualification testing shall be based on ASCE 7 and on a nationally recognized testing standard procedure such as ICC-ES AC 156.
3. Seismic anchorage and bracing shop drawings for all architectural, mechanical, electrical, and plumbing nonstructural components, elements and systems that do not meet any of the exemptions in paragraph 1.4 above and do not have a design for seismic anchorage and bracing provided within the contract documents. Submittals shall include the following:
- a. Component manufacturer's cut sheets and fabrication details for equipment bases and foundations, including dimensions, structural member sizes, support point locations and equipment operational loads. Equipment anchorage details shall clearly indicate anchor size, pattern, embedment and edge distance requirements to satisfy operational and seismic forces. Details shall also indicate grout, bearing pads, isolators, etc. required for complete installation.
 - b. Design calculations, signed and sealed by a Professional Engineer registered in the State or Commonwealth in which the project is located, confirming the proposed seismic restraints and attachment will provide sufficient strength and stiffness to resist the design earthquake and limit damage to nonstructural components and that the entire support is sufficient to resist the combined gravity and seismic loads. Separate calculation submittals for vertical and lateral load support systems shall not be allowed.
 - c. Detailed Shop Drawings, signed and sealed by a Professional Engineer registered in the State or Commonwealth in which the project is located, showing specific details of the support design including material, installation, attachments, connection hardware, etc., and the restraint layout and location of all hangers and supports (resisting both gravity and seismic loads), including restraint orientation and direction of force(s) to be resisted. Within each submittal, each Prime Contractor shall include a cumulative set of hanger and support location drawings (one cumulative 'living' drawing for each building structure) containing all proposed support locations which that Contractor has submitted to date showing the locations of all support attachments to the primary structure. Load magnitudes shall be indicated at attachments to the structure where the sum of all reaction loads on a single member (from all attachments of all Prime Contractors) exceeds 1000 pounds vertically or exceeds 500 pounds horizontally. Unless requested by the Engineer, load magnitudes need not be submitted for load values less than these stated values. Separate shop drawing submittals for vertical and lateral load support systems shall not be allowed.

- d. For components required to be certified as seismically qualified in accordance with paragraph 1.06.A.2 below, submit installation guidelines provided by the equipment manufacturer for proper seismic mounting of the equipment.
4. For each mechanical, electrical and plumbing nonstructural components and systems furnished, including associated equipment appurtenances and attachments, designated as essential components in Seismic Design Categories C through F, provide Manufacturer's Certification signed and sealed by a registered Professional Engineer in the State or Commonwealth in which the project is located to show the component is seismically qualified in accordance with the Specifications, Codes, and Standards requirements referenced herein. The following requirements shall be met:
 - a. Seismic qualification shall be substantiated either by approved shake table testing or experience data, with the evidence of such qualification testing or experience data submitted to the Engineer along with the manufacturer's statement certifying the equipment shall remain operable following the design seismic event.
 - b. Components with hazardous contents shall also be certified by the manufacturer to maintain containment following the design seismic event based on analysis, approved shake table testing, or experience data. Evidence demonstrating compliance shall be submitted to the Engineer.
 - c. Seismic qualification testing shall be based on ASCE 7 and on a nationally recognized testing standard procedure such as ICC-ES AC 156.

1.07 DESIGN REQUIREMENTS

- A. Seismic restraints systems for nonstructural components shall be subject to the most current local Building Code in conjunction with the seismic provisions of the International Building Code (IBC) Section 1613 and referenced ASCE 7 Chapter 13.
- B. Seismic restraints systems for nonbuilding structures shall be subject to the most current local Building Code in conjunction with the seismic provisions of the International Building Code (IBC) Section 1613 and referenced ASCE 7 Chapter 15,
- C. Nonstructural components shall be assigned to the same Seismic Design Category as the structure they occupy or to which they are attached. Design of seismic support system and anchorage shall follow the site-specific seismic criteria noted on the drawings. Criteria shall include site-specific spectral response coefficients, site class, seismic design category, and risk category.
- D. Component Importance Factor I_p shall be 1.5 for all essential nonstructural components noted in item 1.03.E above. All other nonstructural components shall utilize $I_p = 1.0$ unless noted otherwise.

- E. Components shall be restrained and braced for earthquake forces both in the vertical and each orthogonal direction. Seismic restraint systems shall limit deflections of components per ASCE 7 and the displacements shall not impede component functionally and containment.
- F. Anchorage shall be designed in accordance with ASCE 7. Mechanical fasteners used to secure nonstructural architectural, mechanical, electrical and plumbing components shall meet the requirements of Section 05 05 23 – Metal Fastening. All mechanical fasteners used to anchor essential components and other elements so designated in Section 05 05 23 – Metal Fastening shall be considered Structural Anchors.
- G. Avoid crossing structural expansion joints with seismic supports or bracing. Nonstructural components shall not be attached to multiple structure elements which may respond differently in an earthquake without provisions to accommodate independent movement. Flexible expansion loops or offsets, flexible joints, bellows type pipe expansion joints, couplings, etc. shall be provided at structure expansion joints to allow for independent structure movement and thermal movement of piping, ductwork and conduit. Minimum movement capability in the vertical and each orthogonal direction shall equal the width of the joint.
- H. Provide flexible connections, piping, conduit, etc. at foundation levels where below grade utilities enter into the structure.
- I. Design of support system for components with multiple attachments shall take into account the stiffness and ductility of the supporting members. Equipment designed as free-standing shall only be attached at its base. Use of non-free-standing equipment requiring both vertical and lateral attachment is contingent upon loads applied to the structure and requires approval by the Engineer.
- J. The seismic restraint design shall be based on actual equipment data (dimensions, weight, center of gravity, etc.) obtained from the specifications or the approved equipment manufacturer. The equipment manufacturer shall verify the attachment points on the equipment can safely withstand the combination of seismic, self-weight and other loads imposed.
- K. Attachments of nonstructural component supports and seismic restraints causing the building structure slabs, beams, walls, columns, etc. to be overstressed shall not be permitted.
- L. Where the weight of a nonstructural component is greater than or equal to 25 percent of the effective seismic weight (as defined by ASCE 7) of the structure it is attached to, the component shall be classified as a nonbuilding structure and its support designed in accordance with ASCE 7 Chapter 15.
- M. No reaction loads (either vertical or lateral) from nonstructural component supports and seismic restraints shall be allowed on any element where design has been delegated unless the additional loads on the element have been coordinated with the delegated

designer and the submittal is accompanied by a sealed letter from the delegated designer indicating the element has been designed to support the reaction loads.

- N. Reaction loads from nonstructural component supports and seismic restraints shall be transferred directly to the primary structural members, with no components supported from secondary members unless otherwise approved.
- O. No holes shall be drilled into any structural steel for attachment of component supports without prior approval of the Engineer.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Seismic restraints and braces shall be constructed of appropriate materials and connecting hardware to provide a continuous load path between the component and supporting structure of sufficient strength and stiffness to resist the calculated design seismic forces and displacements.
- B. Component restraint, bracing and connection materials shall be compatible with and in general match the component and component gravity support materials. Contact between dissimilar metals shall be prevented. See Section 40 05 07 – Pipe Supports for additional details.
- C. Post-installed concrete anchors used for seismic restraint and bracing anchorage shall be considered structural anchors per Section 05 05 23 – Metal Fastening and shall be prequalified for use in seismic applications.
- D. Powder actuated fasteners in steel or concrete shall not be used for sustained tension loads in Seismic Design Categories D, E or F unless approved for seismic loading or specifically exempted by ASCE 7. Powder actuated fasteners in masonry shall not be used unless approved for seismic loading regardless of Seismic Design Category.
- E. Friction clips shall not be used in Seismic Design Categories D, E or F for supporting sustained tension loads in combination with resisting seismic forces. C-type and large flange clamps may be used for hanger attachments provided restraining straps meeting NFPA 13 requirements are utilized and loosening of threaded connections is prevented by lock nuts, burred threads, etc.

PART 3 – EXECUTION

3.01 INSTALLATION OF SEISMIC RESTRAINTS AND ANCHORAGES

- A. No components, seismic anchorages or restraints shall be installed prior to review and acceptance by the Engineer and permitting agency.

- B. Seismic certified equipment shall be installed per the manufacturer's recommendations. Fasteners shall meet manufacturer's requirements.

END OF SECTION

SECTION 01 74 00
CLEANING AND WASTE MANAGEMENT

PART 1 – GENERAL

1.01 SUMMARY

- A. Administrative and procedural requirements for progress and closeout cleaning at the Site.
 - 1. Contractor shall execute cleaning during the Project, at completion of the Work, and as required by the General Conditions and this Section.
 - 2. Maintain in a clean manner the Site, the Work, and areas adjacent to or affected by the Work.
- B. Administrative and procedural requirements for disposing of non-hazardous excavation and construction waste.
 - 1. Contractor shall comply with the requirements and procedures for construction waste management and disposal.
 - 2. Extent of required construction waste management and disposal includes within the Project limits, as shown or indicated.

1.02 REFERENCES

- A. Definitions:
 - 1. “Construction waste” is building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
 - 2. “Demolition waste” is building and site improvement materials resulting from demolition or selective demolition operations.
 - 3. “Disposal” is removal to an off-Site location of demolition and construction waste and subsequent sale, recycling, reuse, or disposal in a landfill or incinerator conforming to Laws and Regulations and acceptable to authorities having jurisdiction.
- B. Reference Standards: NFPA 241, Safeguarding Construction, Alteration, and Demolition Operations

1.03 ADMINISTRATIVE REQUIREMENTS

A. Failure of Contractor to Maintain Clean Site:

1. Owner will provide written notification to Contractor for failure to maintain a clean Site.
2. Written notification shall provide five (5) days for Contractor to remedy Site cleaning to the Engineer's and Owner's satisfaction.
3. Following the five (5) day remedy period, Owner shall without prejudice to any other rights provide services to clean Site to the satisfaction of Owner and Engineer. Contractor shall be responsible for reimbursement of Owner's costs and expenses for the cleaning work.

1.04 SUBMITTALS (NOT USED)

1.05 DELIVERY, STORAGE AND HANDLING

- A. Replace loaded containers with empty containers as demand requires.
- B. Deposit recyclable materials in containers free from debris.
- C. Transport and deposit waste in containers to minimize dust. Close container covers immediately after materials are deposited.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 PROGRESS CLEANING

- A. General: Clean the Site, work areas, and other areas occupied by Contractor daily. Dispose of materials in accordance with the General Conditions and the following:
 1. Comply with NFPA 241 for removing combustible waste materials and debris.
 2. Do not hold non-combustible materials at the Site more than three days if the temperature is expected to rise above 80 degrees F. When temperature is less than 80 degrees F, dispose of non-combustible materials within seven days of their generation.
 3. Provide suitable containers for storage of waste materials and debris.
 4. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately.
- B. Work Areas:

1. Clean areas where the Work is in progress to level of cleanliness necessary for proper execution of the Work.
 2. Remove liquid spills promptly and immediately report spills to Owner, Engineer, and authorities having jurisdiction.
 3. Where dust would impair proper execution of the Work, broom-clean or vacuum entire work area, as appropriate.
 4. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- C. Installed Work: Keep installed Work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of material or equipment installed, using only cleaning agents and methods specifically recommended by material or equipment manufacturer. If manufacturer does not recommend specific cleaning agents or methods, use cleaning agents and methods that are not hazardous to health and property and that will not damage exposed surfaces.
- D. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration until Substantial Completion.
- E. Cutting and Patching:
1. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.
 2. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- F. During handling and installation of materials and equipment, clean and protect construction in progress and adjoining materials and equipment already in place. Apply protective covering where required for protection from damage or deterioration, until Substantial Completion.
- G. Clean completed construction as frequently as necessary throughout the construction period.

3.02 EXCAVATION WORK NEAR PUBLIC OR PRIVATE PROPERTY

- A. Contractor shall provide cleaning and either temporary or permanent restoration where Work is located in or near streets, right of ways, easements, or private property.
- B. Contractor shall backfill, compact, grade, and restore excavation or disturbed area to functional condition to permit pedestrian or vehicular traffic and original use of the area as the Work progresses.

- C. Temporary storage of excavation spoils, including earth, stones, boulders, and debris, shall be removed from the Site or area of disturbance.

3.03 CLOSEOUT CLEANING

- A. Complete the following prior to requesting inspection for area milestone completion and overall project Substantial Completion:
 - 1. Clean and remove from the Site rubbish, waste material, debris, and other foreign substances.
 - 2. Sweep paved areas broom-clean. Remove petrochemical spills, stains, and other foreign deposits.
 - 3. Hose-clean sidewalks and loading areas.
 - 4. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - 5. Repair pavement, roads, sod, and other areas affected by construction operations and restore to specified condition; if condition is not specified, restore to pre-construction condition.
 - 6. Clean exposed exterior and interior hard-surfaced finishes to dirt-free condition, free of spatter, grease, stains, fingerprints, films, and similar foreign substances.
 - 7. Leave the Site clean, and in neat, orderly condition, satisfactory to Owner and Engineer.

3.04 WASTE MANAGEMENT IMPLEMENTATION

- A. Training: Train all installers, Subcontractors, and Suppliers as required on proper waste management procedures required for the Work.
- B. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, water production areas and other adjacent facilities. Designate and label specific areas of the Site necessary for separating materials to be disposed.

3.05 WASTE DISPOSAL

- A. General: Except for items or materials to be recycled, or otherwise reused, remove waste materials from the Site and properly dispose of waste in facility such as permitted landfill or incinerator or other method acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, remove from the Site all waste and debris from the Work as it accumulates. Upon completion of the Work, remove materials, equipment, waste, and debris and leave the Site clean, neat, and orderly. Comply

with the Contract Documents regarding cleaning and removal of trash, debris, and waste.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Properly dispose of waste materials, surplus materials, debris, and rubbish off the Site.
 4. Do not discharge volatile or hazardous substances, such as mineral spirits, oil, or paint thinner, into storm sewers or sanitary sewers.
 5. Do not discharge wastes into surface waters or drainage routes.
- B. Burying: Do not bury rubbish and waste materials at the Site.
- C. Burning: Do not burn waste materials at the Site.
- D. Disposal: Transport waste materials to proper location at site other than Owner's property for disposal in accordance with Laws and Regulations. Contractor shall be solely responsible for complying with Laws and Regulations regarding storing, transporting, and disposing of waste.

END OF SECTION

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SECTION 01 75 00
CHECKOUT AND STARTUP PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Checkout of products and equipment.
 - 2. Startup procedures of products and equipment
 - 3. Training Owner Staff
- B. Contractor shall initially start up and place equipment installed under the Contract into successful operation, in accordance with the equipment manufacturer's written instructions, and as instructed by Supplier at the Site.
- C. Provide all material, labor, tools, and equipment required to complete equipment checkout and start-up.
- D. Provide chemicals, lubricants, and other required operating fluids.
- E. General activities include:
 - 1. Cleaning, as required under other provisions of the Contract Documents.
 - 2. Training owner staff .
 - 3. Removing temporary protective coatings, if any.
 - 4. Checking and correcting (if necessary) leveling plates, grout, bearing plates, anchorage devices, fasteners, and alignment of piping, conduits, and ducts that may place stress on the connected equipment.
 - 5. All adjustments required.

1.02 ADMINISTRATIVE REQUIREMENTS

- A. Definitions:
 - 1. Displacement, as used herein, shall mean total peak-to-peak movement of vibrating equipment, in mils; velocity or speed of the vibration cycle, measured in G's. Displacement and velocity shall be measured by suitable equipment equal to IRD Mechanalysis, Bentley, Nevada.
- B. Coordination:

1. Coordinate checkout and start-up with other contractors, Owner, and Engineer as necessary.
2. Do not start up system or subsystem for continuous operation until all components of that system or subsystem, including electrical, instrumentation and controls, have been tested to the extent practicable and proven to be operable as intended by the Contract Documents.
3. Owner will provide sufficient personnel to assist Contractor in starting up equipment, but responsibility for proper operation is by Contractor.
4. Supplier shall be present during checkout, start-up, and initial operation, unless otherwise acceptable to Engineer.
5. Do not start up system, unit process, or equipment without submitting acceptable preliminary operations and maintenance manuals by Contractor, in accordance with Section 01 78 23 – Operations and Maintenance Data.
6. Do not start up system, unit process, sub system or equipment without submitting all spare parts, in accordance with Section 01 78 43 – Spare Parts and Extra Material
7. Do not start up system, unit process, sub system or equipment without completion of Owner staff training.

C. Contractor's Requirements Prior to Owner's Responsibility:

1. Owner will assume responsibility for the equipment upon Milestone acceptance and overall project Substantial Completion.
2. Prior to turning over to Owner responsibility for operating and maintaining system or equipment shall be in accordance with this Section and the following requirements:
 - a. Submit acceptable final operations and maintenance manuals in accordance with Section 01 78 23 – Operations and Maintenance Data.
 - b. Provide training of operations and maintenance personnel in accordance with Section 01 79 00 – Instruction of Owner's Personnel.
 - c. Complete system field quality control testing in accordance with the Contract Documents.
 - d. Obtain from Engineer final certificate of Substantial Completion for either entire Work or the portion being turned over to Owner.

1.03 SUBMITTALS

- A. Startup Schedule: Detailed summary of schedule, duration, manpower requirement, and Contractor's means and methods for startup.
- B. Vibration testing results
- C. Closeout Submittals: Manufacturer's certification of installation in accordance with this Section.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 PRELIMINARY REQUIREMENTS

- A. Prior to the start-up of the facilities, Contractor shall have prepared and tested all equipment, subsystems and systems in accordance with the requirements of the Section to check its ability for sustained operation, including inspections and adjustments by Manufacturer's representative.
- B. Contractor shall develop and submit schedule in accordance with this Section.
- C. After the facilities are sufficiently complete to permit start-up, Contractor shall furnish competent personnel to start-up the facilities. Contractor will be responsible for startup of all facilities constructed under this Contract. During the initial start-up period the Contractor shall check and provide for satisfactory mechanical, electrical and controls operation of the plant facilities.

3.02 FIELD QUALITY CONTROL

- A. Manufacturers' Field Services:
 - 1. When specified, furnish services of competent, qualified representatives of material and equipment manufacturers as specified, including supervising installation, adjusting, checkout, start-up, and testing of materials and equipment.
 - 2. Certification:
 - a. When services by manufacturer are required at the Site, within 14 days after first test operation of equipment, submit to Engineer a letter from manufacturer, on manufacturer's letterhead, stating that materials and equipment are installed in accordance with manufacturer's requirements and installation instructions, and in accordance with the Contract Documents.
 - b. Include in the final operations and maintenance manual for the associated equipment a copy of the letter or completed form, as applicable.

3. Manufacturer shall bring any discrepancies to the immediate attention of the Contractor for correction. Contractor shall promptly correct any discrepancies noted by the Manufacturer. Manufacturer shall coordinate correction of discrepancies with the Contractor. Discrepancies and their correction shall be noted in inspection records and in all required reports. Any corrections that result in changes to the work as shown on the Contract Documents shall be approved by the Engineer prior to their execution.

3.03 VIBRATION TESTING (NOT USED)

3.04 SYSTEM START-UP

- A. Equipment and materials shall be provided in conformance with the manufacturer's installation instructions and in accordance with the Contract Documents.
- B. Provide training and start-up services as specified in the individual Specification Sections.
- C. Contractor shall furnish consumables required for startup including, but not limited to, electricity, water, chemicals and lubrication. Contractor shall provide a plan for disposal of water used for testing unless otherwise specified in the Contract Documents.
- D. General system requirements:
 1. Start-up of the plant by Contractor shall include all mechanical systems such as pumps, compressors, and like equipment, and the ventilating, air conditioning (or heating), plumbing, electrical and control systems. Start-up of either the heating or air conditioning systems is dependent upon the time of year that the plant start up is initiated. Contractor will be required to return at the beginning of the next heating or air conditioning season (whichever is applicable) to start the appropriate system.
 2. Cleaning as required under provisions of the Contract Documents.
 3. Remove temporary protective coatings.
 4. Flushing and replacing greases and lubricants as required by Manufacturer
 5. Lubrication.
 6. Verify the following:
 - a. Shaft and coupling alignments and reset where needed.
 - b. Set motor, pump and other equipment rotation, safety interlocks, and belt tensions.
 - c. Leveling plates, grout, bearing plates, anchor bolts, fasteners, and alignment of piping, conduits and ducts that may apply stress on equipment.

7. Valves:
 - a. Tighten packing glands to ensure no leakage but allow valve stems to operate without galling.
 - b. Replace packing in valves to retain maximum adjustment after system is determined to be complete.
 - c. Replace packing on valves that continue to leak.
 - d. Remove and repair bonnets that leak.
 - e. After cleaning, coat packing gland threads and valve stems with surface preparation of "Molycote" or "Fel-Pro".
8. Verify that control valve seats are free of foreign matter and are properly positioned for intended service.
9. Tighten flanges and other pipe joints after system has been placed in operation.
10. Replace gaskets that show signs of leakage after tightening.
11. Inspect all joints for leakage:
 - a. Promptly remake each joint that appears to be faulty; do not wait for rust or other corrosion to form.
 - b. Clean threads on both parts and apply compound and remake joints.
12. After system has been placed in operation, clean valve seats and headers in fluid system to ensure freedom from foreign matter.
13. Remove rust, scale, and foreign matter from equipment and renew defaced surfaces.
14. Repair damaged insulation.

END OF SECTION

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SECTION 01 77 19
CLOSEOUT REQUIREMENTS

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Substantial Completion.
2. Engineers Final Inspection.
3. Georgia Safe Dams Program Final Inspection of embankment and reservoir areas will be coordinated by Engineer based on Contractor input.
4. Cobb County Land Disturbance Permit.
5. Request for final payment.

1.02 REFERENCES

A. Definitions:

1. Substantial completion procedures for requesting and documenting are in the General Conditions, as modified by Supplemental Conditions.
2. Engineers final inspection procedures for requesting and documenting are in the General Conditions, as modified by Supplemental Conditions.
3. Georgia Safe Dams Final Inspection procedures to be in accordance with provisions provided in the Georgia Safe Dams Construction and Operation Permit, Special Conditions.
4. Cobb County Land Disturbance Permit includes associated NPDES Permit requirements and closeout procedures shall be completed by Contractor per the permit requirements including but not limited to submittal of Notice of Termination.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Request for Final Payment:

1. Procedure: Submit request for final payment in accordance with the Agreement and General Conditions, as may be modified by the Supplementary Conditions.

B. Request for final payment shall include:

1. Documents required for progress payments in Section 01 29 76 – Progress Payment Procedures.
2. Documents required in the General Conditions, as may be modified by the Supplementary Conditions.
3. Releases or Waivers of Lien Rights:
 - a. Provide a final release or waiver by Contractor and each Subcontractor and Supplier that provided Contractor with labor, material, or equipment totaling \$10,000 or more.
 - b. Provide list of Subcontractors and Suppliers for which release or waiver of Lien is required.
 - c. Each release or waiver of Lien shall be signed by an authorized representative of the entity submitting release or waiver to Contractor, and shall include Subcontractor's or Supplier's corporate seal, when applicable.
 - d. Release or waiver of Lien may be conditional upon receipt of final payment.
 - e. Manufacturer's Affidavit of Release of Liens – furnish a separate, completed form from the manufacturer.
4. Consent of Surety Company to Final Payment.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 78 23
OPERATION AND MAINTENANCE DATA

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes: Requirements for operation and maintenance data, manuals, and documentation.
1. Submit operation and maintenance data, in accordance with this Section and in accordance with requirements elsewhere in the Contract Documents, as instructional and reference manuals by operations and maintenance personnel at the Site.
 2. Required operation and maintenance data groupings are listed in this Section. At minimum, submit operation and maintenance data for:
 - a. All equipment and systems
 - b. Valves, gates, actuators, and related accessories
 - c. Electrical systems
 3. For each operation and maintenance manual, submit the following:
 - a. Preliminary Submittal: Printed and bound copy of entire operation and maintenance manual or electronic copy, except for test data and service reports by Supplier.
 - b. Final Submittal: Printed and bound copy of complete operations and maintenance manual and electronic copy, including test data and service reports by Supplier.

1.02 ADMINISTRATIVE REQUIREMENTS

- A. Quantity Required and Timing of Submittals:
1. Preliminary Submittal:
 - a. Printed Copies: One copy, exclusive of copies required by Contractor. Submittal shall include the approved Shop Drawings.
 - b. Electronic Copies: One copy as a single PDF file per printed volume.
 - c. Submit to Engineer, whichever occurs first:

- 1) 60 days prior to starting training of operations and maintenance personnel.
 - 2) 30 days prior to field quality control testing at the Site.
 - d. Furnish preliminary operation and maintenance data submittal in acceptable form and content, as determined by Engineer, before associated materials and equipment will be eligible for payment.
2. Preliminary Submittal shall be reviewed by Engineer. One printed or electronic copy shall be returned to Contractor with required revisions noted.
 3. Final Submittal: Provide 14 days prior to checkout and startup procedures specified in Section 01 75 00 – Checkout and Startup Procedures, unless Submittal is specified as required prior to an interim Milestone.
 - a. Printed Copies: Four (4) copies, exclusive of copies required by Contractor. Submittal shall include the approved Shop Drawings.
 - b. Electronic Copies: One copy as a single PDF file per printed volume.

B. Format of Printed Copies:

1. Binding and Cover:
 - a. Bind each operation and maintenance manual in durable, permanent, stiff-cover binder(s), comprising one or more volumes per copy as required. Binders shall be minimum one-inch wide and maximum of three-inch wide. Binders for each copy of each volume shall be identical.
 - b. Provide the following information on cover of each volume:
 - 1) Title: "OPERATING AND MAINTENANCE INSTRUCTIONS".
 - 2) Name or type of material or equipment covered in the manual.
 - 3) Volume number, if more than one volume is required, listed as "Volume __ of __", with appropriate volume-designating numbers filled in.
 - 4) Name of Project and, if applicable, Contract name and number.
 - 5) Name of building or structure, as applicable.
 - 6) Date
 - c. Provide the following information on spine of each volume:

- 1) Title: "OPERATING AND MAINTENANCE INSTRUCTIONS".
 - 2) Name or type of material or equipment covered in the manual.
 - 3) Volume number, if more than one volume is required, listed as "Volume __ of __", with appropriate volume-designating numbers filled in.
 - 4) Project name and building or structure name.
 - 5) Date
2. Drawings:
- a. Bind into the manual drawings, diagrams, and illustrations up to and including 11 inches by 17 inches in size, with reinforcing.
 - b. Documents larger than 11 inches by 17 inches shall be folded and inserted into clear plastic pockets bound into the manual. Mark pockets with printed text indicating content and drawing numbers. Include no more than three drawing sheets per pocket.
3. Copy Quality and Document Clarity:
- a. Contents shall be original-quality copies. Documents in the manual shall be either original manufacturer-printed documents or first-generation photocopies indistinguishable from originals. If original is in color, copies shall be in color.
 - b. Clearly mark in ink to indicate all components of materials and equipment on catalog pages for ease of identification. In standard or pre-printed documents, indicate options furnished or cross out inapplicable content.
4. Organization:
- a. Provide table of contents in each volume for each chapter or section.
 - b. Use dividers and indexed tabs between major categories of information, such as operating instructions, preventive maintenance instructions, and other major subdivisions of data in each manual.
- C. Format of Electronic Copies:
1. Each electronic copy shall include all information included in the corresponding printed copy.
 2. Submit electronic copy via transferable method acceptable to Engineer.

3. File Format:

- a. Acceptable formats include Adobe PDF, Microsoft Word, Autodesk DWF, and AutoCAD.
 - b. Files shall be electronically searchable.
 - c. Submit separate file for each separate document in the printed copy.
 - d. Within each file, provide bookmarks for the following:
 - 1) Each chapter and subsection listed in the corresponding printed copy document's table of contents
 - 2) Each figure
 - 3) Each table
 - 4) Each appendix
4. Also submit drawings and figures in one of the following formats: ".bmp", ".tif", ".jpg", ".gif", ".dwt", or ".dwg". Submit files in a separate directory on the CD.
5. Add Date to the file name

D. General Content Requirements:

1. Prepare each operations and maintenance manual specifically for the Project. Include in each manual all pertinent instructions, as-built drawings as applicable, bills of materials, technical bulletins, installation and handling requirements, maintenance and repair instructions, and other information required for complete, accurate, and comprehensive data for safe and proper operation, maintenance, and repair of materials and equipment furnished for the Project. Include in manuals specific information required in the Specification Section for the material or equipment, data required by Laws and Regulations, and data required by authorities having jurisdiction.
2. Submit complete, detailed written operating instructions for each material or equipment item including: function; operating characteristics; limiting conditions; operating instructions for start-up, normal and emergency conditions; regulation and control; operational troubleshooting; and shutdown. Also include, as applicable, written descriptions of alarms generated by equipment and proper responses to such alarm conditions.
3. Submit written explanations of all safety considerations relating to operation and maintenance procedures.

4. Submit complete, detailed, written preventive maintenance instructions including all information and instructions to keep materials, equipment, and systems properly lubricated, adjusted, and maintained so that materials, equipment, and systems function economically throughout their expected service life. Instructions shall include:
 - a. Written explanations with illustrations for each preventive maintenance task such as inspection, adjustment, lubrication, calibration, and cleaning. Include pre-startup checklists for each equipment item and maintenance requirements for long-term shutdowns.
 - b. Recommended schedule for each preventive maintenance task.
 - c. Lubrication charts indicating recommended types of lubricants, frequency of application or change, and where each lubricant is to be used or applied.
 - d. Table of alternative lubricants.
 - e. Troubleshooting instructions.
 - f. List of required maintenance tools and equipment.
5. Submit complete bills of material or parts lists for materials and equipment furnished. Lists or bills of material may be furnished on a per-drawing or per-equipment assembly basis. Bills of material shall indicate:
 - a. Manufacturer's name, address, telephone number, fax number, and Internet website address.
 - b. Manufacturer's local service representative's or local parts supplier's name, address, telephone number, fax number, Internet website address, and e-mail addresses, when applicable.
 - c. Manufacturer's shop order and serial number(s) for materials, equipment or assembly furnished.
 - d. For each part or piece include the following information:
 - 1) Parts cross-reference number. Cross-reference number shall be used to identify the part on assembly drawings, Shop Drawings, or other type of graphic illustration where the part is clearly shown or indicated.
 - 2) Part name or description.
 - 3) Manufacturer's part number.
 - 4) Quantity of each part used in each assembly.

- 5) Current unit price of the part at the time the operations and maintenance manual is submitted. Price list shall be dated.
6. Submit complete instructions for ordering replaceable parts, including reference numbers (such as shop order number or serial number).
7. Submit manufacturer's recommended inventory levels for spare parts, extra stock materials, and consumable supplies for the initial two years of operation. Consumable supplies are items consumed or worn by operation of materials or equipment, and items used in maintaining the operation of material or equipment, including items such as lubricants, seals, reagents, and testing chemicals used for calibrating or operating the equipment. Include estimated delivery times, shelf life limitations, and special storage requirements.
8. Submit manufacturer's installation and operation bulletins, diagrams, schematics, and equipment cutaways. Where materials pertain to multiple models or types, mark the literature to indicate specific material or equipment supplied. Marking may be in the form of checking, arrows, or underlining to indicate pertinent information, or by crossing out or other means of obliterating information that does not apply to the materials and equipment furnished.
9. Submit original-quality copies of each approved and accepted Shop Drawing, product data, and other submittal, updated to indicate as-installed condition. Reduced drawings are acceptable only if reduction is to not less than one-half original size and all lines, dimensions, lettering, and text are completely legible on the reduction.
10. Submit complete electrical schematics and wiring diagrams, including complete point-to-point wiring and wiring numbers or colors between all terminal points.
11. Submit copy of warranty bond and service contract as applicable.
12. When copyrighted material is used in operations and maintenance manuals, obtain copyright holder's written permission to use such material in the operation and maintenance manual.

1.03 SUBMITTALS

- A. Action/Informational Submittals: Submit preliminary schedule (listing) of operations and maintenance data for Engineer's review. Preliminary operations and maintenance data shall be grouped as major equipment and material systems and divided into sub-systems as required for clarity, subject to Engineer's approval.
- B. Closeout Submittals:

1. Operation and maintenance data: Submit the operations and maintenance data indicated in the Contract Documents, grouped into submittals as approved by Engineer.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 01 78 39
PROJECT RECORD DOCUMENTS

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Requirements for recording changes to record documents.
2. Requirements for electronic files furnished by Engineer.

B. Contractor shall maintain and submit to Engineer with record documents in accordance with the Specifications, General Conditions, and Supplementary Conditions.

1.02 ADMINISTRATIVE REQUIREMENTS

A. Maintenance of Record Documents:

1. The following record documents shall be maintained in the Contractor's field office:
 - a. Drawings, Specifications, and Addenda.
 - b. Shop Drawings, Samples, and other Contractor submittals, including records of test results, approved or accepted as applicable, by Engineer.
 - c. Change Orders, Work Change Directives, Field Orders, photographic documentation, survey data, and all other documents pertinent to the Work.
2. Update record documents on a monthly basis, at a minimum.
3. Provide files and racks for proper storage and easy access to record documents.
4. Make record documents available for inspection upon request of Engineer or Owner.
5. Do not use record documents for purpose other than serving as Project record. Do not remove record documents from Contractor's field office without Engineer's approval.

B. Submittal of Record Documents:

1. Submit to Engineer the following record documents:
 - a. Drawings – Full-size sheets, 22 inches x 34 inches

- b. Drawings – Electronic PDF format. A scanned color PDF of the full-size sheets is acceptable, provided that the scan resolution and quality is such that all original drawing text and markups are legible in the PDF.
 2. Prior to readiness for final payment, submit to Engineer one copy of final record documents. Submit complete record documents; do not make partial submittals.
 3. Submit record documents with transmittal letter on contractor letterhead complying with letter of transmittal requirements in Section 01 33 00 – Submittal Procedures.
 4. Record documents submittal shall include certification, with original signature of official authorized to execute legal agreements on behalf of Contractor.
- C. Electronic Files Furnished by Engineer:
 1. CADD files will be furnished by Engineer upon the following conditions:
 - a. Contractor shall submit to Engineer a letter on Contractor letterhead requesting CADD files and providing specific definition(s) or description(s) of how files will be used, and specific description of benefits to Owner (including credit proposal, if applicable) if the request is granted.
 - b. Contractor shall execute Engineer’s standard agreement for release of electronic files and shall abide by all provisions of the agreement for release of electronic files.
 - c. Layering system incorporated in CADD files shall be maintained as transmitted by Engineer. CADD files transmitted by Engineer containing cross-referenced files shall not be bound by Contractor. Drawing cross-references and paths shall be maintained. If Contractor alters layers or cross-reference files, Contractor shall restore all layers and cross-references prior to submitting record documents to Engineer.
 - d. Contractor shall submit record drawings to Engineer in same CADD format that files were furnished to Contractor.

1.03 SUBMITTALS

- A. Closeout Submittals: Provide record documentation as specified in this Section.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 GENERAL REQUIREMENTS:

- A. At the start of the Project, label each record document to be submitted as, "PROJECT RECORD" using legible, printed letters. Letters on record copy of the Drawings shall be two inches high.
- B. Keep record documents current. Make entries on record documents within two working days of receipt of information required to record the change.
- C. Do not permanently conceal the Work until required information has been recorded.
- D. Accuracy of record documents shall be such that future searches for items shown on the record documents may rely reasonably on information obtained from Engineer-accepted record documents.
- E. Marking of Entries:
 - 1. Use erasable, colored pencils (not ink or indelible pencil) for marking changes, revisions, additions, and deletions to record documents.
 - 2. Clearly describe the change by graphic line and make notations as required. Use straight-edge to mark straight lines. Writing shall be legible and sufficiently dark to allow scanning of record documents into legible electronic files.
 - 3. Date all entries on record documents.
 - 4. Call attention to changes by drawing a "cloud" around the change(s) indicated.
 - 5. Mark initial revisions in red. In the event of overlapping changes, use different colors for subsequent changes.

3.02 RECORDING CHANGES TO DRAWINGS:

- A. Record changes on copy of the Drawings. Submittal of Contractor-originated or -produced drawings as a substitute for recording changes on the Drawings is unacceptable.
- B. Record changes on plans, sections, schematics, and details as required for clarity, making reference dimensions and elevations (to Project datum) for complete record documentation.
- C. Record actual construction including:
 - 1. Depths of various elements of foundation relative to Project datum.
 - 2. Field changes of dimensions, arrangements, and details.
 - 3. Changes made in accordance with Change Orders, Work Change Directives, and Field Orders.

4. Changes in details on the Drawings. Submit additional details prepared by Contractor when required to document changes.

3.03 RECORDING CHANGES FOR SCHEMATIC LAYOUTS:

- A. In some cases, on the Drawings, arrangements of conduits, circuits, piping, ducts, and similar items are shown schematically and are not intended to portray physical layout. For such cases, the final physical arrangement shall be determined by Contractor subject to acceptance by Engineer.
- B. Record on record documents all revisions to schematics on Drawings, including: piping schematics, ducting schematics, process and instrumentation diagrams, control and circuitry diagrams, electrical one-line diagrams, motor control center layouts, and other schematics when included in the Contract. Record actual locations of equipment, lighting fixtures, in-place grounding system, and other pertinent data.
- C. When dimensioned plans and dimensioned sections on the Drawings show the Work schematically, indicate on the record documents, by dimensions accurate to within one inch in the field, centerline location of items of Work such as conduit, piping, ducts, and similar items
 1. Clearly identify the Work item by accurate notations such as “cast iron drain”, “rigid electrical conduit”, “copper waterline”, and similar descriptions.
 2. Show by symbol or note the vertical location of Work item; for example, “embedded in slab”, “under slab”, “in ceiling plenum”, “exposed”, and similar designations. For piping not embedded, also provide elevation dimension relative to Project datum.
 3. Descriptions shall be sufficiently detailed to be related to Specifications.
- D. Engineer may furnish written waiver of requirements relative to schematic layouts shown on plans and sections when, in Engineer’s judgment, dimensioned layouts of Work shown schematically will serve no useful purpose. Do not rely on waiver(s) being issued.

3.04 REQUIREMENTS FOR SUPPLEMENTAL DRAWINGS:

- A. In some cases, drawings produced during construction by Engineer or Contractor supplement the Drawings and shall be included with record documents submitted by Contractor. Supplemental record drawings shall include drawings provided with Change Orders, Work Change Directives, and Field Orders and that cannot be incorporated into the Drawings due to space limitations.
- B. Supplemental drawings provided with record drawings shall be integrated with the Drawings and include necessary cross-references between drawings. Supplemental record drawings shall be on sheets the same size as the Drawings.

- C. When supplemental drawings developed by Contractor using computer-aided drafting/design (CADD) software are to be included in record drawings, submit electronic files for such drawings in AutoCAD (latest version) as part of record drawing submittal. Submit electronic files on compact disc labeled, "Supplemental Record Drawings", together with Contractor name, Project name, and Contract name and number.

3.05 RECORDING CHANGES TO SPECIFICATIONS AND ADDENDA:

- A. Mark each Section to record:
 - 1. Manufacturer, trade name, catalog number, and Supplier of each product and item of equipment actually provided.
 - 2. Changes made by Addendum, Change Orders, Work Change Directives, and Field Orders.

END OF SECTION

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SECTION 01 78 43
SPARE PARTS AND EXTRA MATERIAL

PART 1 – GENERAL

1.01 SUMMARY

- A. Contractor shall furnish spare parts data and extra materials for materials and equipment in accordance with the Contract Documents.
- B. List of Spare Parts and Extra Materials: With the Shop Drawings and product data for each Specification Section, submit a complete list of spare parts, extra stock materials, maintenance supplies, and special tools required for maintenance (“spare parts and extra materials”) for two years of operation (unless otherwise specified in the individual Specification Section), with unit prices in current United States funds, and source(s) of supply for each. Refer to Specification 01 61 00 Product Requirements.
- C. Packaging and Labeling:
 - 1. Furnish spare parts and extra materials in manufacturer’s unopened cartons, boxes, crates, or other original, protective covering suitable for preventing corrosion and deterioration for maximum length of storage normally anticipated by manufacturer.
 - 2. Packaging of spare parts and extra materials shall be clearly marked and identified with name of manufacturer, applicable equipment, part number, part description, and part location in the equipment.
 - 3. Protect and package spare parts and extra materials for maximum shelf life normally anticipated by manufacturer.
- D. Storage Prior to Delivery to Owner: Prior to furnishing spare parts and extra materials to Owner, store spare parts and extra materials in accordance with the Contract Documents and manufacturers’ recommendations.
- E. Delivery Time and Eligibility for Payment:
 - 1. Deliver to Owner spare parts and extra materials prior to the start of any area conversions and provide any spare parts that may have been used during the construction of the project at Substantial Completion.. Do not deliver spare parts and extra materials before commencing start-up for associated equipment or system.
 - 2. Spare parts and extra materials are not eligible for payment until delivered to Owner and Contractor’s receipt of Owner’s countersignature on letter of transmittal.

F. Procedure for Delivery to Owner:

1. Deliver spare parts and extra materials to Owner's permanent storage rooms at the Site or area(s) at the Site designated by Owner.
2. When spare parts and extra materials are delivered, Engineer and Owner will mutually inventory the spare parts and extra materials delivered to verify compliance with the Contract Documents regarding quantity and part numbers.
3. Additional procedures for delivering spare parts and extra materials to Owner, if required, will be developed by Engineer and complied with by Contractor.

G. Transfer Documentation:

1. Furnish on Contractor letterhead a letter of transmittal for spare parts and extra materials furnished under each Specification Section. Letter of transmittal shall accompany spare parts and extra materials. Do not furnish letter of transmittal separate from associated spare parts and extra materials.
2. Furnish three original, identical, signed letters of transmittal for each Specification Section. Upon delivery of specified quantities and types of spare parts and extra materials to Owner, designated person from Owner will countersign each original letter of transmittal indicating Owner's receipt of spare parts and extra materials.
 - a. Owner will retain one fully signed original.
 - b. Contractor shall submit one fully signed original to Engineer.
 - c. Contractor shall retain one fully signed original for Contractor's file.
3. Letter of transmittal shall include the following:
 - a. Information required for letters of transmittal in Section 01 33 00 – Submittal Procedures.
 - b. Transmittal shall list spare parts and extra materials furnished under each Specification Section. List each individual part or product and quantity furnished.
 - c. Provide space for countersignature by Owner as follows: space for signature, space for printed name, and date.

H. Contractor shall be fully responsible for loss or damage to spare parts and extra materials until spare parts and extra materials are received by Owner.

1.02 SUBMITTALS

A. Action/Informational Submittals: Individual Specification Sections that require spare parts, extra material, or tools, Contractor shall submit inventory checklist for each individual Specification Section that includes the following information:

1. Specification Section number and title.
2. Name of spare parts, extra material, or tools.
3. Manufacturer, part number and description.
4. Quantity specified and furnished.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

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SECTION 01 78 59

ASSET REGISTRY

PART 1 – GENERAL

1.01 SCOPE

- A. The Work under this section includes gathering and electronically recording financial and technical information needed to support the Owner's Fixed Asset Registry and Computerized Maintenance Management System (CMMS).

1.02 FIXED ASSETS

- A. The Contractor shall generate the financial information necessary to support the Owner's Fixed Asset Registry and submit the information on a monthly basis with each pay application, or more often as directed by the Engineer.
- B. Financial information (Purchase Price) shall be provided for the following categories of assets:
 - 1. Equipment: All equipment with a purchase value of \$2,000 or more and all equipment that has been assigned an "equipment" or "tag" number on the contract documents. The term "equipment" includes all process equipment, HVAC equipment, instrumentation, valves and gates (including actuators), tanks, electrical panels (including switchgear, MCCs, AFDs, panel boards, automatic transfer switches, heat trace panels, and the like), factory and field control panels, patch panels, control system panels (including PLC and DCS cabinets, marshalling (I/O) cabinets, etc.), roll-up doors, cranes and hoists. The asset value of the equipment shall be the Contractor's actual purchase price without installation, taxes, overheads, or mark-ups. The Contractor shall obtain a breakdown of equipment values from its vendors and suppliers, where possible, and use its best efforts to provide or estimate the actual purchase price. In addition, the Contractor shall provide an estimate of the cost of installation of each equipment item (e.g., setting, aligning, grouting, etc.).
 - 2. Structure: The cost of structures (typically those structures that require individual building permits) including all labor associated with the structure and all materials (including piping, raceway, wiring, supports, and appurtenances) incorporated into the structure. The structure cost shall include all improvements to the structure and, as applicable, the cost of demolition or other changes to the structure, as directed by the Engineer.
 - 3. Site Improvements: The cost of site improvements shall include all earthwork, manholes / handholes, culverts and drainage structures, piping, ductbank and wiring not incorporated in a structure, roads, curbs, sidewalks, grassing and landscaping, demolition, and any other improvements to the site. The site improvements cost shall include all improvements to the site and, as applicable, the cost of demolition or other changes to the site, as directed by the Engineer.

4. Special Items: Certain portions of the construction may have a different useful life (from an accounting standpoint). An example of this is roofing on a structure. These special items, as directed by the Engineer, shall be listed separately. The Contractor shall also provide an estimate of the installation cost of the special item.
 5. General Costs: The Contractor shall provide, as a separate line item when directed by the Engineer, the contractor's general costs (general conditions, field engineering, management, supervision, overhead, profit, mobilization, demobilization, permits, bonds, insurance, etc.), associated with the Project.
- C. The Contractor shall provide the required financial information in an Excel format acceptable to the Engineer, with the cost information displayed individually, distributed, or rolled up as directed by the Engineer.
- D. Information to be included as part of fixed asset reporting shall include, as applicable:
1. Tag Number (equipment number, structure number, other unique identification number, as applicable, and as directed by the Engineer).
 2. Structure Name (for site improvements use "Site Improvements").
 3. Description (equipment description or description of asset).
 4. Manufacturer.
 5. Vendor (or supplier).
 6. Model Number.
 7. Serial Number.
 8. Purchase Price (cost as defined above).
 9. Installed Date (usually the date of Substantial Completion).
 10. Manufacturer's Estimated Life Cycle (years).
 11. Warranty Information.

1.03 COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM

- A. In addition to the Fixed Asset information described above, the Contractor shall collect information needed to support data input for the Owner's Computerized Maintenance Management System and submit the information periodically, as directed by the Engineer.
- B. The Contractor shall take digital photos of all equipment nameplates and electronically file the information by Structure Name and Tag Number. Data (such as serial numbers) must be collected or verified from equipment after it is in its installed location.
- C. A substantial part of the data needed for the CMMS is provided on the equipment nameplates, however, the Contractor may need to refer to submittals, operations and maintenance manuals, and/or other manufacturer information to obtain dimensions, weights, etc., that are not included on nameplates.

- D. Paragraph 1.05 below provides examples of information needed to be recorded for various types of equipment. Multiple forms may be needed for a single piece of equipment. Actual information required will be as directed by the Engineer.

1.04 INFORMATION SUBMITTALS

- A. The Contractor shall record in a Microsoft Excel spreadsheet file, the data collected for the Asset Registry and CMMS to the Owner through the Engineer.
- B. The format of a typical Asset – CMMS Spreadsheet is as shown in the first exhibit under paragraph 1.06 with each asset on a separate row and the various data fields in columns (only the first nine columns of a larger spreadsheet are shown). Due to the nature of instrumentation, a separate detailed Instrumentation Spreadsheet (which allows multiple model / serial numbers and other unique information to be associated with a single instrument) is also shown in the second exhibit under paragraph 1.06. The total cost for instrumentation from the Instrumentation Spreadsheet, in the example, is entered as a line item in the Asset – CMMS Spreadsheet.
- C. A separate Asset – CMMS Spreadsheet shall be prepared for each structure or portion of the Project, including site improvements, as directed by the Owner.
- D. To the extent available, the Contractor should obtain a list(s) of equipment as described in paragraph 1.02.B.1 above from the Owner for importation into the database or spreadsheet(s).
- E. The Contractor shall submit to the Engineer, a draft of the Asset – CMMS Spreadsheet for each structure or portion of the Project, by the 50 percent construction complete stage of the structure or portion of the Project, for review as to form and completeness of the asset list. If requested by the Engineer or Owner, the Contractor shall submit copies of the spreadsheet periodically (but no more than once a month), as a work in progress for the Engineer's and Owner's review. Failure to submit the spreadsheets, as requested by the Engineer or Owner, may result in delayed processing of the most current pay request (until the spreadsheet is submitted and accepted).
- F. The Contractor shall submit, to the Engineer, a preliminary copy of the Asset – CMMS Spreadsheet for any structure or portion of the Project a minimum of 60 days prior to the anticipated Substantial Completion date for that structure or portion of the Project, with all information complete, except for the date of Substantial Completion. The final Asset – CMMS Spreadsheet for each structure or portion of the Project shall be submitted as part of the requirement for Substantial Completion. Failure to submit the spreadsheet as described above may result in delay in achieving Substantial Completion.
- G. At the end of the Project, all Asset – CMMS Spreadsheets pertaining to the work must be complete and have been submitted to and accepted by the Engineer in order to achieve Final Completion of the Project.

1.05 EXAMPLES OF TYPICAL DATA FOR VARIOUS TYPES OF EQUIPMENT

A. Motor Data:

1. Tag No., Description, Location, Manufacturer, Model, Serial No., HP, Speed, Service Factor, Insulation, Noise Level, Enclosure, Frame, Motor Type, Volts, Phase, Amps,

Design Temp., Drive Type, Motor Weight (lbs), Dimensions (LxWxH) in inches, Oil Type, Oil Volume (gal), Frequency of Oil Changes (hrs).

B. Electrical Equipment:

1. Tag No., Description, Location, Manufacturer, Model, Serial No., Type, Volts, Amp Rating, Phase, NEMA Enclosure Rating, Source of Power, Trip Device Description, Specifics: For MCC-No. of Compartments, For Starters-Soft Start or AFD, etc.
2. Electrical Ductbank for 4160 V and 480 V:
 - a. Tag No., Description, Location, No. of Conduits, Size of Conduits, Cable Type, Cable Size, Number of Cables, Cable Manufacturer, Source of Power, Feeding What Equipment,

C. Diesel Generator:

1. Tag No., Description, Location, Engine Manufacturer, Model, Serial No., Generator Manufacturer, Model, Serial No., KW Output, Noise Level within Enclosure, Weight (lbs), Dimensions (LxWxH) in inches, Oil Type, Oil Volume (gal), Frequency of Oil Changes (hrs).

D. Battery System:

1. Tag No., Description, Location, Manufacturer, Model of Charger, Serial No. of Charger, Type of Batteries, Model of Batteries, No. of Batteries, Voltage of System, Amps of System, Battery Life Expectancy.

E. Roof System:

1. Tag No., Description, Location, Manufacturer, Installer, System Type, Life Expectancy.

F. HVAC Equipment:

1. Tag No., Description, Location, Manufacturer, Installer, Model, Serial No., Type (fan, heating, cooling, etc.), Volts, Amps, Source of Power, Weight (lbs), Dimensions (LxWxH) in inches.

1.06 ASSET REGISTRY CMMS SPREADSHEET EXAMPLES:

- A. Examples available upon request.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

- END OF SECTION -

SECTION 01 79 00
INSTRUCTION OF OWNER'S PERSONNEL

PART 1 – GENERAL

1.01 SUMMARY

- A. Contractor shall furnish services of operation and maintenance training specialists to instruct Owner's personnel in recommended operation and maintenance procedures for materials and equipment furnished, in accordance with the Contract Documents.
- B. Contractor shall provide a combination of classroom and field training at the Site, unless otherwise required elsewhere in the Contract Documents.
- C. Owner reserves the right to record training sessions on video for Owner's later use in instructing Owner's personnel.

1.02 ADMINISTRATIVE REQUIREMENTS

- A. Definitions:
 - 1. Training: Manufacturer's verbal, visual, and written presentation of materials to Owner's staff to ensure that any Owner personnel undergoing training understand the Manufacturer's recommended procedures to properly operate and maintain the equipment and systems for the expected service life.
- B. Qualifications:
 - 1. Contractor's instructors shall be factory-trained by manufacturer of material or equipment.
 - 2. Contractor's instructors shall be proficient and experienced in conducting training of type required.
 - 3. Qualifications of instructors are subject to acceptance by Engineer. If Engineer does not accept qualifications of proposed instructor, furnish services of replacement instructor with acceptable qualifications.
- C. Scheduling:
 - 1. General:
 - a. Contractor shall coordinate training services with start-up and initial operation of materials and equipment on days and times, and in manner, acceptable to Owner, in accordance with the Contract Documents.

- b. Training may be required outside of normal business hours to accommodate schedules of operations and maintenance personnel. Furnish training services at the required days and times at no additional cost to Owner.
 - c. Prerequisites to Training: Training of Owner's personnel shall commence after acceptable preliminary operation and maintenance data has been submitted and work required in Section 01 75 00 – Checkout and Startup Procedures is complete.
2. Training Schedule Submittal:
- a. Training Schedule Required: Contractor shall prepare and submit proposed training schedule for review and acceptance by Engineer and Owner. Proposed training schedule shall show all training required in the Contract Documents, and shall demonstrate compliance with specified training requirements relative to number of hours of training, number of training sessions, and scheduling.
 - b. Timing of Training Schedule Submittal: Submit initial training schedule at least thirty days before scheduled start of first training session. Submit final training schedule, incorporating revisions in accordance with Engineer's comments, no later than seven days prior to starting the first training session.
 - c. Owner reserved the right to modify personnel availability for training in accordance with process or emergency needs at the Site.

D. Video Recording

- 1. On-site video recording is not required for this project.
- 2. Manufacturer may submit pre-recorded digital media covering the equipment supplied as part of training. Submitted pre-recorded digital media shall meet the intent of this Section. Owner shall have the right to permanent ownership and use of at least one cope.

1.03 TRAINING REQUIREMENTS

A. General Lesson Plan Requirements:

- 1. Contractor's lesson plan shall describe specific instruction topics, system components for which training will be furnished, and training procedures. Handouts, if any, to be used in training shall be included with the lesson plan. Describe in lesson plan "hands-on" demonstrations planned for training sessions.
- 2. Submit acceptable lesson plan thirty (30) calendar days prior to starting associated training.

3. Lesson plan shall include estimated duration of each training segment.
- B. Specific Lesson Plans Requirements:
1. Equipment overview shall cover the following:
 - a. Equipment's operating (process) function, performance objectives, and fundamental operating principles.
 - b. Equipment's mechanical, electrical, and electronic components and features. Group related components into subsystems and describe function of subsystem and subsystem's interaction with other subsystems.
 - c. Support equipment and appurtenances.
 - d. Safety and potential hazards.
 - e. Safety and control interlocks.
 2. Operations personnel training shall cover the following:
 - a. Equipment overview: As described in this Section.
 - b. Operation:
 - 1) Principles, operating, start-up, and shutdown procedures.
 - 2) Abnormal or emergency start-up, operating, and shutdown procedures.
 - 3) Alarm conditions and responses.
 - 4) Monitoring and recordkeeping.
 - 5) Housekeeping.
 - c. Troubleshooting: Required corrective maintenance or an operating parameter adjustment.
 3. Maintenance personnel training:
 - a. Equipment overview: As described in this Section.
 - b. Equipment preventive maintenance:
 - 1) Inspection procedures:
 - a) Operation.
 - b) Trouble symptoms and anticipate breakdowns.

- c) Predictive maintenance.
 - 2) Preventative maintenance intervals.
 - 3) Lubricant and replacement parts.
 - 4) Cleaning practices and intervals.
 - 5) Special tools required.
 - 6) Removal, installation, and disassembly and assembly procedures.
 - 7) “Hands-on” demonstrations of preventive maintenance procedures.
 - 8) Measuring instruments and procedures
 - 9) Torquing, mounting, calibrating, and aligning procedures and settings requirements.
 - 10) Check and test equipment following corrective maintenance.
4. Equipment Troubleshooting:
- a. Systematic troubleshooting procedures.
 - b. Checklists.
 - c. Testing and diagnostic procedures.
 - d. Corrective maintenance procedures with “hands on” demonstrations.

C. Training Aids:

- 1. Contractor’s instructor shall incorporate training aids as appropriate to assist in the instruction. Provide handouts of text, tables, graphs, and illustrations as required. Other appropriate training aids include:
 - a. Audio-visual aids
 - b. Equipment cutaways and samples
 - c. Tools, including special tools
- 2. Podium presentation aids: Presentation shall cover equipment, products and materials provided. Provide electronic version of presentation material to Engineer.
- 3. Handouts:

- a. Contractor's instructor shall distribute and use descriptive handouts during training.
 - b. Handouts should be coordinated with the instruction
 - c. Provide at least ten copies of handouts for each training session
4. Audio-visual Equipment: Training provider shall provide audio-visual equipment required for training sessions.

1.04 SUBMITTALS

A. Action/Informational Submittals:

1. Training Schedule: Detailed schedule of training sessions, demonstrating compliance with number of training sessions, hours required in the Contract Documents, and complying with the Contract Times. Submit training schedule submittals in accordance with timeframes specified in this Section.
2. Lesson Plan: Acceptable lesson plan for training on each material or equipment item, in accordance with the Contract Documents. Lesson plan shall comply with requirements of this Section. Include with lesson plan copy of handouts that will be used during training sessions. Provide lesson plan submittals in accordance with timeframes specified in this Section.
3. Podium presentation material, electronic version.
4. Qualifications: Credentials of Contractor's proposed operations and maintenance instructor(s). Credentials shall demonstrate compliance with requirements of this Section and shall include brief resume and specific details of instructor's operating, maintenance, and training experience relative to the specific material and equipment for which instructor will provide training.

B. Closeout Submittals:

1. Trainee sign-in sheet for each training session. Submit to Owner's training coordinator.

C. Quality Assurance Submittals:

1. Qualifications: Credentials of Contractor's proposed operations and maintenance instructor(s). Credentials shall demonstrate compliance with requirements of this Section and shall include brief resume' and specific details of instructor's operating, maintenance, and training experience relative to the specific material and equipment for which instructor will provide training.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 “HANDS-ON” DEMONSTRATIONS

- A. Contractor’s instructor shall provide “hands-on” demonstration of operations and maintenance of equipment and materials for each training session.
- B. Contractor shall furnish tools and appurtenances required for demonstrations.

3.02 SCHEDULE

- A. Contractor shall furnish the hours of training and number of sessions indicated, at a minimum. Travel time and expenses are the responsibility of the manufacturer and are excluded from required training time indicated in the Contract Documents.
- B. Owner’s operations at the Site occur 24 hours per day, divided into three shifts. Training shall be scheduled during day shift, normal working hours unless otherwise approved by Engineer.
- C. Training shall be provided for a minimum of two identical sessions, unless otherwise specified, with each session scheduled for different weeks.

END OF SECTION